



Otjozondjupa Regional Council



Tel: 067-303702
Fax: 067-302760

P.O. Box 1682
Otjiwarongo,
Namibia

REQUEST FOR QUOTATIONS FOR WORKS:

CONSTRUCTION OF WATER RETICULATION IN OKATJORUU SETTLEMENT

Procurement Reference No: W/RFQ/OTRC-11/2025/2026

Issued on: 21 November 2025
Closing Date & Time: 15 December 2025 at 10h00 a.m.
Cost: N\$0.00 (Not for Sale)

NAME OF BIDDER	
POSTAL ADDRESS OF BIDDER	
CONTACT NUMBERS OF BIDDER	
EMAIL ADDRESS OF BIDDER	
AUTHORISED REPRESENTATIVE OF BIDDER (Attach letter / power of attorney)	
VAT REGISTRATION NO.	
TOTAL BID PRICE EXCLUDING VAT (N\$)	
TOTAL BID PRICE INCLUDING VAT (N\$)	
SIGNATURE OF BIDDER	

INFORMATION TO THE BIDDERS:

Bidders shall enclose TWO Bidding documents (clearly marked as "ORIGINAL" and "COPY") with all supporting documents in a single sealed envelope, with the Procurement Reference Number: W/RFQ/OTRC-11/2025/2026. The envelopes shall bear the Bidder's name and address, to be deposited in the Bid Box at the Otjozondjupa Regional Council, 22 Henk Willems Street, Otjiwarongo, on or before 15 December 2025 at 10h00.



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Namibia

Letter of Invitation

TO WHOM IT MAY CONCERN

PROCUREMENT REFERENCE NO: W/RFQ/OTRC-11/2025/2026

21 November 2025

Dear Sir/Madam,

Request for Quotations for Construction of Water Reticulation in Okatjoruu Settlement

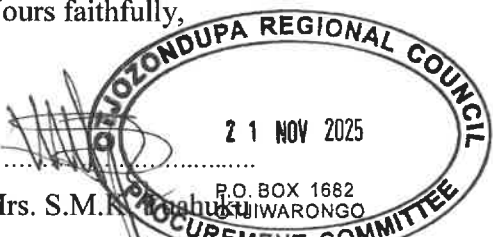
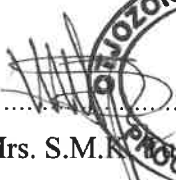
The Otjozondjupa Regional Council invites you to submit your best quote for the works described in detail in the bidding document hereunder.

Please prepare and submit your quotation on or before 15 December 2025 at 10h00, in accordance with the instructions given.

Any resulting contract shall be subject to the terms and conditions referred to in the bidding document.

Queries, if any, should be addressed to **Ms. H. Kalumbu** via email: hkalumbu@otjozondjuparc.gov.na or **Mr B. Ausiku** via email: bausiku@otjozondjuparc.gov.na

Yours faithfully,


Mrs. S.M. N. 
Head of Procurement Management Unit

SECTION I: INSTRUCTIONS TO BIDDERS (ITB)

1. Rights of Public Entity

The Otjozondjupa Regional Council reserves the right:

- (a) to accept or reject any quotation or to cancel the quotation process and reject all quotations at any time prior to contract award.

2. Preparation of Quotations

You are requested to quote for the works mentioned in Section III, by completing, signing and returning:

- (a) the Quotation Letter in Section II with its annexure for Bid Securing Declaration;
- (b) the Priced Bill of Quantities in Section IV;
- (c) the Specifications and Compliance Sheet in Section V;
- (d) any other attachment as deemed appropriate.

You are advised to carefully read the complete Request for Quotations document, including the Special Conditions of Contract in Section VII, before preparing your Quotation.

3. Validity of Quotations

The quotation validity period shall be ninety (90) calendar days from the date of bid submission deadline.

4. Bid Securing Declaration

Bidders are required to submit a Bid Securing Declaration for this procurement process.

5. Works Completion Period

The completion period for works shall be 45 calendar days after the date of site handover. Deviation in completion period shall be considered only if such deviation is reasonable and approved by the Otjozondjupa Regional Council.

6. Sealing and Marking of Quotations

Bids (original & copy) should be sealed in a single envelope, clearly marked with the Procurement Reference Number and Description of the project, addressed to the Otjozondjupa Regional Council with the Bidder's name and address at the back of the envelope.

7. Submission of Quotations

Quotations should be deposited in the Bid Box located at the Otjozondjupa Regional Council, 22 Henk Willems Street, Otjiwarongo, on or before **15 December 2025 at 10h00**. Quotations by post or hand delivered should reach the Otjozondjupa Regional Council, 22 Henk Willems Street, Otjiwarongo by the same date and time at latest. Late quotations will be rejected. Quotations received by e-mail will not be considered.

8. Opening of Quotations

Quotations will be opened internally by the Otjozondjupa Regional Council immediately after the closing time referred to in ITB 8 above. A record of the Quotation Opening stating the name of the bidders, the amount quoted, the presence or absence of a Bid Securing Declaration will be posted on the website of the Otjozondjupa Regional Council (<https://otjozondjuparc.gov.na>) and available to any bidder on request within three working days of the Opening.

9. Evaluation of Quotations

This section contains criteria that the Otjozondjupa Regional Council shall use to evaluate the quotations in compliance with the provided Specifications, Drawings, and Bill of Quantities.

The Employer reserves the right to check the information provided by the bidders. In the event that the bidder supplied wrong information, the Employer reserves the right to reject the quotation.

The Request for Quotations will be evaluated in terms of 5 stages: Mandatory Documents / Eligibility Criteria; Technical Evaluation; Range of Bid; Financial Evaluation; and Final Bid Scores & Award of Contract. Non-compliance will result in disqualification of the bid.

9.1. Stage 1 - Mandatory Documents / Eligibility Criteria

Table 1 below illustrates all the mandatory documentation that needs to be attached to the bid.

The bidders are required to meet the requirements for each item listed in the table below.

Failure to adhere to all the requirements in Table 1 below will lead to automatic disqualification.

Table 1: Preliminary Examination of Bids / Mandatory Documents

Document	YES	NO
Bidder, including partnership has submitted only one bidding document		
- Bidder has duly completed the bidding document and all the bidding forms, and in English language. - Signed all pages where applicable, and initialled all pages of the bidding document and annexures.		
Original and all copies of the bid are written in indelible black ink only and signed by a person duly authorised to sign on behalf of the Bidder		
Submitted written statement by a power of attorney (or notary statement, etc.) proving that the person who signed the bid on behalf of the company/joint venture/consortium is duly authorised to do so. <i>Take note: this requirement is not applicable to sole proprietors</i>		
Submitted a valid certified copy of Certificate indicating SME Status. <i>Take note: this requirement is only applicable to SMEs.</i>		
Certified copy of the valid Founding Statement or Company Registration Certificate (indicating the stream of business in which the company is engaged and which shall be related to the procurement works), and issued by the Ministry of Industrialization, Trade and SME development or Business and Intellectual Property Authority (BIPA), certified by the Namibian Police		
Original valid or certified copy by the Namibian Police of Good Standing Tax Certificate		
Original valid or certified copy by the Namibian Police of Good Standing Social Security Tax Certificate, clearly indicating the correct procurement reference number for this project, which is: W/RFQ/OTRC-11/2025/2026		
Certified copy of valid 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		
Submitted the duly filled, signed, stamped, and dated Bid Securing Declaration; and Written Undertaking in terms of Section 138 of the Labour Act, 2015		

Attached certified copies of Identification Documents (IDs) and Qualifications of owner(s) and proposed employees, certified by the Namibian Police		
Attached Curriculum Vitae (CVs) of the bidder or owners, and the proposed employees		
Attached certified copies of valid Completion Certificates; Practical Completion Certificate; or reference letters from the Clients for similar work done in the past.		
Submitted the Bank rating letter with C or better rating		
Bidder has attached the Letter of Intent for the provision of a Performance Guarantee of at least 10% of the bid amount from one of the following Commercial Banks: • First National Bank Namibia Ltd. • Standard Bank Namibia Ltd. • Nedbank Namibia Ltd. • Bank Windhoek • Trustco Bank Namibia Ltd. • Banco Atlantico (branch of foreign banking institution) • Bank BIC Namibia Ltd. • Letshego Bank Namibia Ltd. <i>Note: the performance guarantee must state the guarantee amount or percentage, and this amount must be at least 10% of the bidder's bid amount.</i>		
Attached proof of ownership of the relevant equipment or a valid letter of intent from a reputable equipment hire firm that such equipment will be provided during the contract period. Relevant equipment are: hydraulic excavator Min. 26 tons; tipper truck Min. 10m ³ ; Pick-up Truck; Concrete Mixer; and Plate compactor.		

9.2. Stage 2 - Technical Evaluation

Quotations will be evaluated on the basis of a maximum of 70% using the following Technical Criteria in order to get the Technical Score (TS). Note: 1 Mark = 1%.

Criteria	Scoring	Max Marks
Similar Experience Requirements		
Experience in work of similar nature	Firm related working experience or previous work done. Reference letters for completed projects or completion certificates. • Four (4) Reference letters or completion certificates = 20 Points • Three (3) Reference letters or completion certificates = 15 Points • Two (2) Reference letters or completion certificates = 10 Points	20

	= 10 Points One (1) Reference letter or completion certificate = 5 Points <i>Note: Reference letters and Completion Certificates must indicate the description of works, contract period (start to end), and contract amount. Only completed projects will be considered.</i>	
Experience in other civil related work completed	Firm related working experience or previous work done. Reference letters for completed projects or completion certificates. - Two (2) Reference letters or completion certificates = 10 Points - One (1) Reference letter or completion certificate = 5 Points <i>Note: Reference letters and Completion Certificates must indicate the description of works, contract period (start to end), and contract amount. Only completed projects will be considered.</i>	10
Team Competency Requirements		
Site Agent	1. Minimum of a National Diploma in Civil Engineering/ Construction Management or related qualification with at least 7 years of working experience in Water Infrastructure or related projects (Cv and certified copies of qualifications to be attached). <i>Note: No point/mark will be allocated for listed personnel without CV or copies of qualifications.</i>	10
Foreman	Minimum of a Grade 10 Certificate with at least 5 years of working experience in water infrastructure projects or projects of related nature.	10
Plumber	Minimum of a Plumbing & Pipe Fitting at NQF Level 3 or similar qualification with at least 3 years of working experience in water Infrastructure projects	10
Health and Safety Officer	Relevant qualification at NQF Level 3 with at least 3 years of working experience as Safety Officer in projects of similar size and complexity	10
Plant Capacity Requirements		
Minimum plant equipment required	Proof of Ownership or Proof of Leasing/letter of intent to hire must be attached: - Excavator / Tractor Loader Backhoe (TLB) = 10 - Tipper truck = 10 - Light Delivery vehicle = 10 <i>Note: No points/marks will be allocated for a plant listed without proof of ownership/letter of intent/lease agreement.</i>	30
Total Technical Score (TS) = 70% <i>Note: 1 Mark = 1 %</i>		70%

The minimum pass mark for the Technical Evaluation shall be 40% and only those quotations having scored the minimum pass mark shall be retained for financial evaluation etc. Bids having scored less than the pass mark shall not be evaluated further.

9.3. Stage 3 - Range of Bid

At this stage, all Technically Responsive bids will be checked for arithmetic errors first by computing the completed pricing schedule/Bill of Quantities. Any errors will be recorded and corrected to determine the corrected bid amount. If the corrected bid amount differs from the bidder's bid amount, then the bidder will be required to acknowledge the changes before the bid is evaluated further.

In addition, all Technically Responsive bids will be checked to determine whether they are within the acceptable bid range. Bids with the prices that fall within a range of 15% below or 5% above the Standard Benchmark Price, including provisional sums, contingencies, escalation, and VAT, will be considered for award.

Bid prices that fall outside of this acceptable range shall not be considered for award and such Quotations shall consequently not be evaluated in the next stages.

A = Employer's Budget Amount

$$B = \frac{T_1 + T_2 + \dots + T_n}{n}$$

(where T is the corrected / arithmetic bid amount of the bidders)

$$\text{Standard Benchmark Price} = \frac{A + B}{2}$$

9.4. Stage 4 - Financial Evaluation

Quotations will be evaluated on the basis of a maximum of 30% using the following formula to determine the Financial Score (FS) of each Quotation (Note: the lower the price, the higher the scores):

$$\text{Financial Score (FS)} = \text{Lowest Bid Price} / \text{Price of Quotation under consideration} \times 30\%$$

9.5. Stage 5 - Final Bid Scores & Award of Contract

Two Step Evaluation Process considering both Technical and Financial scores will then follow, whereby the Technical Score and the Financial Score of each Quotation will be added together to determine the Total Bid Scores for each Bid, as follow:

$$\text{Total Bid Score of each bid} = \text{Technical Score of each bid} + \text{Financial Score of each bid}$$

Finally, the bidder scoring the highest percentage (after adding both Technical and Financial scores) shall be the Bidder that has submitted the lowest evaluated substantially responsive quotation and qualified to perform the works, and shall be selected for award of contract. In the case where another section of this bidding document contradicts an item in the following evaluation criteria, the evaluation criteria shall hold preference.

10. Technical Compliance

The Specifications and Compliance Sheet details the minimum specifications of the works to be carried out. The specifications have to be met, but no credit will be given for exceeding the specifications.

11. Prices and Currency of Payment

Prices for the execution of works shall be fixed in Namibian Dollars (N\$) as quoted.

Quotations shall cover all costs of labour, materials, equipment, overheads, profits and all associated costs for performing the works, and shall include all duties. The whole cost of performing the works shall be included in the items stated, and the cost of any incidental works shall be deemed to be included in the prices quoted.

12. Margin of Preference

The margins of preference and their application methodology are not applicable.

13. Award of Contract

The Bidder having submitted the lowest evaluated substantially responsive quotation as per ITB 9 above shall be selected for award of contract. Award of contract shall be by issue of a Purchase Order/Letter of Acceptance in accordance with terms and conditions contained in Section VI: Contract Agreement and General Conditions of Contract.

14. Performance Security (Bank Guarantee)

The successful bidder shall submit a Performance Security/ Bank Guarantee of at least 10% of the contract amount within seven (7) days after acceptance of the offer and before signing the contract, as per the format contained in Form 7 of this document. Failure to submit the performance guarantee within the stipulated time may result in forfeiture of the bid security and the award will be given to the next-ranked bidder.

15. Notification of Award and Debriefing

The Otjozondjupa Regional Council shall after award of contract promptly inform all unsuccessful bidders in writing of the name and contract amount of the successful bidder and post a notice of award on its website within 14 days. Furthermore, the Otjozondjupa Regional Council shall attend to all requests for debriefing made in writing within 7 days of the unsuccessful bidders being informed of the award.

SECTION II: QUOTATION LETTER

(to be completed by Bidders)

A signature and authorisation on this form will confirm that the terms and conditions of the RFQ prevail over any attachments. **If your quotation is not authorised, it will be rejected.**

Quotation addressed to:	Otjozondjupa Regional Council P.O. Box 1682, Otjiwarongo, Namibia
Procurement Reference Number:	W/RFQ/OTRC-11/2025/2026
Subject matter of Procurement:	Construction of Water Reticulation in Okatjoruu Settlement

We offer to execute the Works detailed in the Technical Specifications, Performance Requirements and Drawings, in accordance with the terms and conditions stated in your Request for Sealed Quotations referenced above.

We confirm that we are eligible to participate in this Quotation exercise and meet the eligibility criteria specified in ITB 1: Instructions to Bidders

We undertake to abide by the Conduct of Bidders and Suppliers as provided under the Public Procurement Act during the procurement process and the execution of any resulting contract.

We have read and understood the content of the Bid Securing Declaration (BSD) attached hereto and subscribe fully to the terms and conditions contained therein. We further understand that this subscription could lead forfeiture of the security amount / disqualification on the grounds mentioned in the BDS.

The validity period of our Quotation is **ninety (90) calendar days** from the date of the bid submission deadline.

We confirm that the prices quoted in the Priced Bill of Quantities are fixed and firm and will not be subject to revision or variation, if we are awarded the contract **prior to the expiry** date of the quotation validity.

Works will commence within **seven (7) calendar days** after signing the Contract.

Works will be completed within **sixty (45) calendar days** from the date of site handover to Contractor.

Quotation Authorised by:

Name of Bidder		Company's Address and Stamp	
Contact Person			
Name of Person Authorising the Quotation:		Position:	Signature:
Date		Phone No./E-mail	

BID SECURING DECLARATION

(Section 45 of Act)

(Regulation 37(1) (b) and 37(5))

Date: _____

Procurement Ref No.: W/RFQ/OTRC-11/2025/2026

To: **Otjozondjupa Regional Council****P.O. Box 1682,****Otjiwarongo, Namibia**

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) **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 procurement contract in accordance with the terms and conditions set forth**
- (d) **in the bidding document, should I/We* be successful bidder; or**
- (e) **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 authorised to sign the bid for and on behalf of [insert complete name of Bidder]:

Dated on _____ day of _____

[insert date of signing]

Corporate Stamp here (if available):

[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 or a duly authorised assigned member/partner of that close corporation]



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: Page 11 of 76

Procurement Description:

.....

.....

Anticipated Contract Duration:

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

.....

3. UNDERTAKING

I *[insert full name]*, owner/representative

of *[insert full name 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.*

PROJECTS OF SIMILAR NATURE COMPLETED IN THE PAST 5 YEARS

Bidder should complete this form by starting with the most recent projects of similar nature completed, which is construction of water reticulation, sewer reticulation, etc.

CONTRACT NAME		NAME OF CLIENT AND CONTACT DETAILS OF REFERENCE	TYPE OF WORK PERFORMED	CONTRACT AMOUNT (N\$)
1				
2				
3				
4				
5				

Note: No points will be given in bid evaluation where copies of valid completion certificate and/or defects liability certificates are not attached. Bidders will be penalised for failing to provide names and contact details of contactable client's references.

KEY PERSONNEL PROPOSED

POSITION		NAME AND SURNAME	YEARS OF EXPERIENCE IN CIVIL WORK	YEARS OF EXPERIENCE IN PROPOSED POSITION
1				
2				
3				
4				
5				
6				
7				
8				

Note: A bidder will be disqualified where the Curriculum Vitae (CV), as well as certified copies of valid qualifications, training certificates and IDs of all the proposed personnel are not attached.

VEHICLES, PLANT AND EQUIPMENT AVAILABLE FOR CONTRACT

Bidders must provide proof of ownership of equipment. If any equipment is not owned by the bidder, the bidder must attach a valid letter of intent from a reputable equipment hire firm that such equipment will be provided during the contract period. Employer reserves the right to validate any information submitted.

TYPE OF VEHICLE / EQUIPMENT		MAKE AND REGISTRATION NUMBER	CONDITION OF EQUIPMENT (NEW/GOOD/POOR)	OWNED / LEASED
1				
2				
3				
4				
5				
6				
7				
8				

Note:

For the equipment owned, no points will be given where certified copies of valid registration certificates or license discs are not attached. Such documents will only be considered if registration is in the name of the bidder or owner(s).

For the equipment to be leased, no points will be given where the proof / letter of intent to hire relevant equipment for this contract period is not attached.

PERFORMANCE SECURITY (BANK GUARANTEE)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

Date: *[insert date (as day, month, and year) of Bid Submission]*

Procurement Reference No. and title: *[insert no. and title of bidding process]*

Bank's Branch or Office: *[insert complete name of Guarantor]*

Beneficiary: *[insert complete name of Purchaser]*

PERFORMANCE GUARANTEE No.: *[insert Performance Guarantee number]*

We have been informed that *[insert complete name of Supplier]* (hereinafter called "the Supplier") has entered into Contract No. *[insert number]* dated *[insert day and month]*, *[insert year]* with you, for the supply of *[description of goods and related services]* (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 *[insert amount(s)¹ in figures and words]* 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 *[insert number]* day of *[insert month]* *[insert year]*,² 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)**.....

¹ The Bank shall insert the amount(s) specified in the SCC and denominated, as specified in the SCC, in the currency of the Contract.

² 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."

SECTION III: TECHNICAL SPECIFICATIONS, PERFORMANCE REQUIREMENTS AND DRAWINGS

CONTENTS

PS 1. SCOPE	19
PS 2. PORTION 1	19
PS 3. PORTION 2	19
PS 4. PORTION 3	Error! Bookmark not defined.
PS 5. STATUS	19
PS 6. INTRODUCTION	20
PS 7. LOCATION OF THE PROJECT & ACCESS	Error! Bookmark not defined.
PS 8. TOPOGRAPHY, GEOLOGY AND VEGETATION	Error! Bookmark not defined.
PS 9. CLIMATE	Error! Bookmark not defined.
PS 10. NATURE OF GROUND AND SUBSOIL CONDITIONS	Error! Bookmark not defined.
PS 11. GENERAL DESCRIPTIONS OF THE WORKS	20
PS 12. CONSTRUCTION PROGRAMME	Error! Bookmark not defined.
PS 13. EXISTING SERVICES	Error! Bookmark not defined.
PS 14. SITE FACILITIES AVAILABLE	20
PS 15. SITE FACILITIES REQUIRED	20
PS 16. FEATURES REQUIRING SPECIAL ATTENTION	21
PS 17. CERTIFICATES OF PAYMENT	Error! Bookmark not defined.
PS 18. CONSTRUCTION IN RESTRICTED AREAS	23
PS 19. WORKING HOURS	Error! Bookmark not defined.
PS 20. NON-WORKING DAYS	23
PS 21. DISPOSAL OF SPOIL OR SURPLUS MATERIAL	24
PS 22. DRAWINGS	24
PS 23. SAMPLES	Error! Bookmark not defined.
PS 24. NOTICES, SIGNS, BARRICADES AND ADVERTISEMENTS	24
PS 25. WORKMANSHIP AND QUALITY CONTROL	24
PS 26. TRENCHES	25
PS 27. CLASSIFICATION OF EXCAVATION	25
PS 28. INFORMATION SUPPLIED BY EMPLOYER	25
PS 29. REPORTING	25
PS 30. LABOUR	25
PS 31. NOMENCLATURE	Error! Bookmark not defined.

PS 32. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN	26
PS 33. COPYRIGHT	28
PS 34. APPLICABLE SPECIFICATIONS	28

preface to the project specifications

PS 1. SCOPE

These Project Specifications consists of following three parts: Portions 1 and 2.

PS 2. PORTION 1

Portion 1 contains a general description of the project, site conditions, available and required site facilities, aspects requiring specific attention, requirements to be met by the Contractor as well as a list of the Standardized and Particular Specifications applicable to this Contract.

PS 3. PORTION 2

Portion 2 contains amendments and additions to the Standardized Specifications, applicable to the Contract.

Portion 2 of the Project Specifications supplements the Standardized Specifications and forms an integral part of the Contract.

Should any requirements of the Project Specifications conflict with the requirements of the Standardized Specifications, the requirements of the Project Specifications shall take precedence.

PS 4. STATUS

In the event of a discrepancy between the Project Specifications and a part or parts of the SANS 1200 or equivalent SANS 2001 Standardised Specifications, the Schedule of Quantities or the Drawings, the various documents, lists and schedules comprising the contract documents shall have the following order of precedence (from highest to the lowest order):

- ❑ Contract of Agreement;
- ❑ Letter of Acceptance;
- ❑ The Notice(s) to bidders;
- ❑ Special Conditions of Contract;
- ❑ General Conditions of Contract;
- ❑ Project Specifications;
- ❑ SABS 1200 (or equivalent SABS 2001);
- ❑ The priced Schedule Of Quantities; and
- ❑ Bid Drawings.

PORTION 1: THE WORKS

PS 5. INTRODUCTION

The project scope of work under this Contract comprises the construction of Water reticulation infrastructure in Okatjoruu Settlement, Otjozondjupa Region.

The full scope of the works required to be carried out under the contract, may increase or decrease depending on budgetary constraints of the project.

PS 7. GENERAL DESCRIPTIONS OF THE WORKS

The Contractor should take note that the 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 Construction Drawings for a detailed description of the Works. The following activities shall form part of the Contract:

a) Water works:

- ☐ *Excavation of water line trenches;*
- ☐ *Laying water lines (110mm, 90mm, 75mm, 40mm and 25mm;*
- ☐ *Installing specials/ fittings (tees, bends, etc...);*
- ☐ *Backfilling and compaction; and*
- ☐ *Cleaning and finishing.*

PS 8. SITE FACILITIES AVAILABLE

PS 8.1 CONTRACTOR'S CAMP

The Contractor will establish his site camp and material storage area at a location on Site that shall require the prior approval of the Engineer.

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

PS 8.2 ACCOMMODATION OF EMPLOYEES

With the exception of a night watchman, employees may not be housed or accommodated on the site of the Works.

PS 8.3 WATER, ELECTRICITY AND SEWAGE

The Contractor shall make his own arrangements for the supply of water, sewer, 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, upon making arrangements with the local authorities or other applicable authorities. The costs incurred for usage and in installing water, telecommunications and electrical supply lines from the supply points to the construction camp and/or Works shall be borne by the Contractor. The Contractor will be held responsible for any damages to the supply lines and fittings for the duration of the Contract.

Note: *No separate payment will be made for the distribution and consumption of water and electricity. The cost for the above shall be deemed to be included in the tendered rates.*

PS 9. SITE FACILITIES REQUIRED

Page 20 of 76

PS 9.1 ENGINEER'S SITE OFFICE AND ASSOCIATED FACILITIES

A site office will not be required by the Engineer. However, the Contractor must provide adequate office facilities to ensure the smooth running of the works. The Contractor will also provide a conference room of at least 18 square meters with a boardroom table and seating for at least ten (10) people at no additional cost to the Employer. All contract related documentation and drawings shall be kept available in this office.

PS 9.2 WATER, ELECTRICITY, TELECOMMUNICATIONS AND SEWAGE

The Contractor shall make his own arrangements for the supply of water, sewer, electricity and telecommunications for the execution of the Works. The distribution of water and sewage shall be carried out in accordance with the applicable laws of the Republic of Namibia.

Note: *No separate payment will be made for the distribution and consumption of water and electricity. The cost for the above shall be deemed to be included in the tendered rates.*

PS 9.3 CONTRACTOR'S SITE SANITARY FACILITIES

The Contractor shall provide and maintain adequate and proper ablution facilities for his site personnel.

If at any time the Contractor fails to observe the previously mentioned conditions and after being notified by the Engineer, fails to rectify conditions, the Engineer 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 borne by the Contractor.

PS 9.4 LABORATORY FACILITIES

The Contractor will not be required to have a testing laboratory on site. A recognised and approved testing laboratory shall be appointed by the Contractor to carry out all acceptance control as required by the Project Specifications. The Contractor shall carry out sufficient checks and tests to satisfy himself that the materials used and workmanship (i.e. the quality of construction and adherence to the specified tolerances) complies with the provisions of the SABS 1200 (or SANS 2001).

All testing methods and frequency shall be strictly in accordance with the methods specified in the applicable SABS 1200 (or SANS 2001) standard. No additional payments will be made towards the testing of work and the Contractor should allow for the required testing in his Bid.

The Engineer shall (from time to time and as deemed necessary), within the provisions of the Contract, carry out acceptance control testing to verify the testing certificates produced by the approved independent laboratory as well as the materials produced by the Contractor for the incorporation into the Works.

Note: *A prime cost sum has been provided in the Schedule of Quantities for any tests directed by the Engineer.*

PS 9.5 REQUEST FOR APPROVAL OF WORKS BOOK

A request for approval of works form shall be availed by the Engineer to record and request formal inspections of the completed works. No formal inspections of the completed works shall be conducted prior to the completion of the form.

PS 9.6 REQUEST FOR INFORMATION (WORKS)

A request for information form pertaining to the Works shall be availed by the Engineer to the Contractor to request critical information pertaining to the Works. Formal replies shall be recorded in this book and followed with a written site instruction (if required).

PS 10. FEATURES REQUIRING SPECIAL ATTENTION

PS 10.1 SITE MAINTENANCE

All rubbish, tools, tackle, plant, and material must be removed immediately from each section of the work as soon as it is completed. Each completed section of the work is to be left in a neat, tidy, and orderly state.

PS 10.2 RESTORING SURFACES

The Contractor will be held responsible for all damage to existing surfaces outside the specified excavation dimensions and the work has to be restored at his own expense to the satisfaction of the Engineer.

PS 10.3 SUPERVISORY STAFF

The Contractor shall ensure that sufficient supervisory staff, the required transport, instruments, equipment and tools are available to control works on site. The Engineer 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.

PS 10.4 QUALITY ASSURANCE

The quality of work and workmanship will be strictly monitored and in no way will work quality be compromised. All work shall meet the requirements of the specifications. The quality of work is not negotiable.

The Quality Assurance System shall consist of procedures and checks and balances to ensure compliance with all requirements of the contract. Such procedures and checks and balances shall be documented in a manual for the implementation by all key staff members of the contractor. The contractor shall ensure that all key staff members are trained and equipped to implement the Quality Assurance System. The Quality Assurance System shall address all requirements of the Contract, but particularly the following:

- ❑ Minimum requirements;
- ❑ Quality control system;
- ❑ Measurement system;
- ❑ Approval system;
- ❑ Site administration.

The quality assurance system shall be divided into “general” and “project specific” parts. The “general” part shall contain the Contractor’s standard best practice. The “project specific” part shall contain project specific requirements, especially with regards to the Quality Control System, which shall reflect the requirements of the Standard and Project Specifications.”

PS 10.5 SOURCES OF MATERIALS

PS10.5.1 MATERIALS

The Contractor shall identify his own source for material to be used. These materials must be tested and the results submitted to the Engineer for approval prior to the construction activity involving these material. The bid rate for the materials must include all cost including hauling.

PS 10.2 QUANTITIES

The quantities as set out in the Schedule of Quantities are mere estimates only. The quantities of work finally accepted and certified for payment and not the quantities given in the Schedule of Quantities shall be used for the determining payments to the Contractor.

The amount of quantities of material stated in the Schedule of Quantities shall not be considered as restricting or extending the amount of work to be done or quantity of material to be supplied by the Contractor.

The stating of quantities of material or amount of work in the Schedule of Quantities shall not be regarded as authorisation for the Contractor to order material or to execute the Works. The Contractor shall check the quantities of material required before ordering any materials. The order in which the Works are to be carried out shall be subject to the approval of the Engineer.

The validity of the Contract shall in no way be affected by difference between quantities in the Schedule of Quantities and the quantities certified for payment. Work shall be valued at the rates or lump sums tendered and accepted by the Employer, subject to the provisions of the General and Special Conditions of Contract.

PS 10.3 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. The Contractor shall provide security guards for this Contract as he deems fit.

PS 10.4 SAFETY AND SAFEGUARDING OF EXCAVATIONS

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

Any excavation or spoiled material (dumps) that may, in the opinion of the Engineer, be a danger to the public or property must be barricaded in such a way that no accident or damages will occur to the public or property during construction.

The Contractor will be responsible for the safety of his personnel and the site in general at all times. 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 11. CONSTRUCTION IN RESTRICTED AREAS

Working space during construction is sometimes restricted. The construction method used in these restricted areas largely depends on the Contractor's equipment. However the Contractor must note that the measurement and payment shall be made in accordance with the specified cross sections and dimensions irrespective of the method used, and that the rates and prices tendered will be deemed to include the full compensation for the difficulties encountered while working in restricted areas. Neither extra payment nor any claim for working in restricted areas shall be considered.

PS 12. NON-WORKING DAYS

The Contractor shall not work on the statutory public holidays as listed below:

- ☐ New Year's Day (1 January);
- ☐ Independence Day (21 March);
- ☐ Good Friday (25 March)
- ☐ Easter Monday (28 March)
- ☐ Workers Day (1 May);
- ☐ Cassinga Day (4 May);
- ☐ Ascension Day (5 May);
- ☐ Africa Day (25 May);
- ☐ Heroes Day (26 August);
- ☐ International Human Rights Day (10 December) and
- ☐ Christmas Day and Family Day (25/26 December).

Note: Where any of these days fall on a Sunday the following Monday will be a special non-working day.

PS 13. DISPOSAL OF SPOIL OR SURPLUS MATERIAL

No indiscriminate disposing of material shall be permitted. Surplus or unsuitable materials shall be spoiled at an approved site selected by the Contractor. Unused and good quality surplus material obtained from on-site excavations can be spread on site upon approval of the Engineer.

Building rubble and domestic waste shall be removed from site and be dumped at approved municipal waste disposal sites and no additional payment will be made, as all costs (excavating, loading and hauling irrespective of distance) will be deemed to be included in the tendered rates. Burning of any kind of waste on site is prohibited.

PS 14. DRAWINGS

All information in the possession of the Contractor that is required by the Engineer or his representative to complete the as-built drawings must be submitted to him before a Certificate of Completion is issued.

Only figured dimensions shall be used and drawings shall not be scaled unless required by the Engineer. The Engineer will provide the dimensions that may have been omitted from the drawings.

PS 15. NOTICES, SIGNS, BARRICADES AND ADVERTISEMENTS

The Contractor shall erect the necessary signs, notices and barricades for the duration of the contract to safeguard the works and public.

The Engineer has the right to have any sign, notice or advertisement moved to another position, should they in any way prove to be unsatisfactory, inconvenient or dangerous to the general public. Such barricades shall be provided at the Contractor's own expense.

PS 16. WORKMANSHIP AND QUALITY CONTROL

PS 16.1 WORKMANSHIP

The onus shall rest on the Contractor to produce work that conforms to the requirements of the specifications and drawings. The Contractor shall at his own expense institute quality control system to provide experienced Engineers, foremen, surveyors, materials technicians, other technicians and technical staff (with all transport, instruments and equipment) to ensure adequate supervision and control of the works at all times. The cost of supervision and process control and including testing carried out by the Contractor shall be deemed to be included in the rates tendered for the related items of work.

The Contractors' attention is drawn to the provision of the various standardised specifications regarding the minimum frequency of testing required for his process control. The Contractor shall at all times at his own discretion increase this frequency where necessary to ensure adequate control. On completion and submission of every part of the work to the Engineer for examination, the Contractor shall furnish the Engineer with the results of the relevant tests, measurement and levels to indicate compliance with the specifications.

PS 16.2 ENGAGEMENT OF AN APPROVED QUALITY CONTROL LABORATORY

In addition, to the above quality control, the Contractor shall engage the services of an approved independent laboratory for the testing of materials and quality testing to ensure that his work complies with the specifications.

PS 16.3 PROVISION OF SURVEY INSTRUMENTS

The Contractor shall avail the Engineer's representative with good quality survey equipment as may be necessary to carry out routine spot checks of the Works. The survey equipment shall be maintained in good order at all times.

The Contractor shall provide at his expense two (2) persons to assist the Engineer's representative when checking any section of the Works.

PS 17. TRENCHES

The responsibility of safeguarding of excavations lies entirely with the Contractor. No trenches may be left open during the Builder's Holidays.

The onus shall rest with the Contractor to protect the public against dangerous on-site conditions such as open trench excavations, manholes etc. Special attention is drawn to the fact that the Contractor needs to ensure safe pedestrian and vehicular movement and access at all times especially at night. The Contractor should therefore identify and safeguard potential hazards before the end of each working day especially on weekends.

PS 18. CLASSIFICATION OF EXCAVATION

Excavation in this Contract shall be classified as soft and hard.

PS 19. INFORMATION SUPPLIED BY EMPLOYER

Certain information contained in these documents or provided separately, is being offered in good faith. However pertaining to the information supplied, no guarantee can be given that all the information necessary is correct or representative. More specification the above is applicable to all materials surveys and reports and similar information, the accuracy of which is necessarily subject to the limitation of testing, sampling and the natural variation of the material of the formations being investigated and the measure of confidence with which the respective conclusions can be drawn for the investigations carried out.

The Employer accepts no liability for the correctness or otherwise information supplied or for any resulting damages, whether direct or consequential, should it prove that during the course of the Contract that information supplied is incorrect or not representative. Any reliance placed by the bidder on this information shall be at the Contractor's own risk.

PS 20. REPORTING

The Contractor shall submit the following reports on a monthly basis:

- (i) Labour statistics, including the number and gender split of all employees; a breakdown by age group; functions and skills; the number of unskilled people employed specifically for the project; and any other statistic required by the Employer.
- (j) An accurate cash flow forecast, taking into account the work done to date and any programme revisions.

PS 21. LABOUR

PS 21.1 EMPLOYMENT OF LOCAL LABOUR

The Contractor should as far as practicable make use of the local labour force that is presently unemployed. The Contractors attention is drawn to the utilisation of the local labour residing in the immediate project area.

To this end, the Contractor shall be required to limit non-local employees to key personnel only and to employ and train local labour on this Contract.

It is the intention of the Government of the Republic of Namibia to provide scarce employment opportunities to local inhabitants in the project area. Only with the written consent of the Employer may the Contractor import and employ unskilled labour not residing permanently in the project area. The contractor has to submit evidence that he has unsuccessfully tried to recruit such persons from the project area if he wants to import labour into the project area.

Additional employment objectives of this project are to ensure that gender equality is achieved and that equal opportunities are afforded to all ages that are fit and able to work under Namibian legislation. The Contractor shall be tasked to ensure that these objectives are met as far as possible during the recruitment process, and to submit proof thereof to the Engineer.

The same shall apply to semi-skilled labour. Only with the written consent of the Engineer may he then import such semi-skilled labour to the project area.

PS 21.2 LABOUR RELATIONS AND COMMUNITY LIAISON

Before the start of the project, public relations work must be carried out to ensure a good perception of the project by the local people and establish effective systems for community liaison. The community involvement in the implementation of the project will help facilitate improved relations with labourers, instill a sense of participation and ownership of the road among community members. This will also equip the site management with a deeper understanding of cultural, social and economic backgrounds of the communities involved.

Workers' Committees proved in the past to be effective for promoting good labour relations, to inform the workers and to receive feedback from the workers. The Contractor is therefore advised to establish Workers' Committees early during the contract period and to use these committees to foster and promote good labour relations.

PS 21.3 HIV / AIDS AWARENESS TRAINING

The contractor shall arrange that HIV / AIDS awareness training sessions are presented to workers once every two (2) months for the full duration of the Contract. The Contractor shall liaise with the Engineer's Representative regarding dates and venues for the awareness training.

The Contractor shall provide a suitable venue and ensure that all workers attend the training sessions. The Contractor shall ensure that all attendees sign an attendance register, and shall provide the Engineer's Representative with a copy of the attendance register as well photographs.

The cost of arranging the HIV / AIDS awareness training shall be deemed to be included in the payment items *8.3.1: Scheduled Fixed Charge and Value Related Items* of the schedule of quantities.

PS 22. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Contractor shall be held accountable for any costs arising from his negligence with regards to the adverse effects to the environment. The Employer reserves the right to recover any such costs by deducting the relevant amount from Interim Payment Certificates. To minimise the potential negative environmental impacts the Contractor shall be required to implement the following actions:

PS 22.1 PUBLIC NUISANCE

The Contractor's staff (including Sub-contractors, drivers and operators visiting the site) shall not cause any unnecessary nuisance to residents or other people in the project area. Any complaints received by the Engineer shall be addressed immediately and the associated guilty party may face possible suspension from the project.

PS 22.2 TEMPORARY VEHICLE TRACKS AND HAUL ROADS

As far as possible, only existing tracks and haul roads shall be used. If new tracks and/or haul roads are required, they shall require the prior approval of the Engineer.

Upon the completion of the works, all new tracks and/or haul roads are to be ripped in order to reinstate the natural environment.

PS 22.3 REMOVAL OF TREES

Before any trees are removed from site, the Contractor shall mark all trees requiring to be felled for inspection by the Engineer. As far as practicable, no indigenous trees are to be uprooted.

PS 22.4 FAUNA AND FLORA

Flora and fauna should be protected wherever possible. The excavation of material from the water courses may only be done with the approval of the Engineer and in such a manner that they do not affect the natural water flow of water or the adjacent vegetation.

PS 22.5 REMOVAL AND TRANSPLANTING OF ALOES AND BULBOUS PLANTS

Aloes are a protected species and shall not be destroyed under any circumstances. Aloes and other plants shall not be sold or removed for private usage.

All aloes and bulbous plants that are affected by construction shall be removed and transplanted to a safe location.

The Contractor shall give the Engineer notice for the inspection and removal to be carried out prior to the commencement of the construction in each area.

The relocated plants shall be planted at suitable locations and soils. For each aloe, a hole shall be (large enough to accommodate the plant roots). The plant shall then be placed in the hole about 100 mm deeper than it was originally (i.e. the highest of the old roots to be placed 100 mm below the surface). The soil shall be filled in around the roots, firmly pressed down and watered to expel the air and settle the soil around the roots.

PS 22.6 CONSERVATION OF TOPSOIL (“OR SEED LAYER”)

The topsoil or overburden containing seed and organic matter is very important in rehabilitating the site and establishing vegetation cover so that soil erosion is prevented.

In many cases an organic layer (or a horizon) ranging between 100 to 250 mm is present. Therefore a nominal 120 mm to 200 mm of the top material shall be stripped and stockpiled prior to construction:

Note: *The stockpiled top soil may not be removed from the site.*

PS 22.7 MANAGEMENT OF SURFACE RUNOFF

The Contractor shall be mindful of activities that may lead to soil erosion. As a result he shall seek to:

- ❑ Avoid concentrated flow of water such that it may result in soil erosion;
- ❑ Minimise the area that is cleared of vegetation;
- ❑ Minimise the time over which any cleared area is exposed to the weather;
- ❑ Trim of the slopes and of borrow pits and spoil sites to the Engineer’s requirements and spread the stockpiled topsoil over these slopes.

PS 22.8 DUST

The following measures shall be taken in all areas where dust may give rise to visibility of nuisance factors, including public roads and construction sites close to residences and other buildings:

- ❑ Exposed surfaces shall be sprayed with water to control the escape of dust;
- ❑ Avoid clearing vegetation beyond the minimum area that is necessary;
- ❑ Avoid clearing vegetation earlier than is necessary; and
- ❑ Replace topsoil and rehabilitation as soon as possible after each section of the works is completed.

PS 22.9 NOISE

Noise levels shall be kept to an absolute minimum near residences or other buildings. In addition, vehicles with high noise level emissions shall be fitted with silencers, which shall be at all times properly maintained.

Near residences or any other area where noise may be a nuisance, the working hours shall be restricted to daylight hours, unless otherwise authorised by the Engineer.

PS 22.10 PUBLIC SAFETY

The Contractor shall take all reasonable precautionary measures to ensure the safety of the public, which includes roads users, residents and other people in the project area.

The construction works shall be well sign-posted, good visibility shall be maintained; potential hazards shall be barricaded and well lit.

All vehicles connected with the project or serving the project shall comply with speed limits load restrictions and all other relevant road ordinances.

PS 22.11 HEALTH AND SAFETY MEASURES FOR SITE PERSONNEL

The Contractor shall ensure that all relevant health and safety standards are applied on the site as required in terms of the Namibian Labour Act.

PS 22.12 REHABILITATION

All areas disturbed by the Works shall be rehabilitated to prevent soil erosion and encourage the growth of natural vegetation, heal any unsightly scars in the landscape and restore the environment to near-natural conditions as far as possible.

PS 23. 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 24. APPLICABLE SPECIFICATIONS

The applicable specifications for this contract will be “SABS 1200 or Equivalent SANS 2001 Standardized Specification for Civil Engineering Construction”, latest version.

Note 1: *Any reference/s to or parts of the SABS 1200 shall be deemed to include the equivalent SANS 2001 standardised specifications.*

Note 2: *None of the above-mentioned standard specifications are included into this document.*

The following sections of the SABS 1200 will be applicable (and if necessary any other section of SABS 1200 not listed here that may be applicable on the project):

SABS 1200 A	GENERAL
SABS 1200 AB	ENGINEER’S OFFICE
SABS 1200 C	SITE CLEARANCE
SABS 1200 D	EARTHWORKS
SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)
SABS 1200 DE	SMALL EARTH DAMS
SABS 1200 DK	GABIONS AND PITCHING
SABS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)
SABS 1200 GA	CONCRETE SMALL WORKS
SABS 1200 L	MEDIUM PRESSURE PIPELINES
SABS 1200 LB	BEDDING (PIPES)

SABS 1200 LD	SEWERS
SABS 1200 LE	STORMWATER DRAINAGE
SABS 1200 ME	SUBBASE
SABS 1200 MM	ANCILLARY ROAD WORKS

Variations and additions to the SABS 1200 standardised specifications are given in portion 2 of the project specifications.

SABS 1200 A	GENERAL
SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)
SABS 1200 D	EARTHWORKS
SABS 1200 L	MEDIUM PRESSURE PIPELINES

PSA GENERAL

PSA 3 MATERIALS

PSA 3.3: ORDERING OF MATERIALS

Add the following subclauses:

The quantities set out in the schedule of quantities have been carefully determined from calculations based on data available at the time and should therefore be considered to be approximate quantities only. Before ordering materials of any kind the Contractor shall check with the Engineer whether or not the scope of the work for which the materials are required is likely to change substantially. No liability or responsibility whatsoever shall be attached to the Employer for materials ordered by the Contractor except when ordered in accordance with written confirmation issued by the Engineer.

PLANT

PSA 4.1: CONTRACTOR'S OFFICES, STORES AND SERVICES

No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees off site and to transport them to site. Only night watchmen will be allowed on site overnight and over weekends.

The Employer will place an area of ground of approximately 0.1 ha at the disposal of the Contractor. 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 the area allocated by the Engineer.

The Contractor shall provide one (1) toilet per 10 workmen and must be screened from public view and its use shall be enforced. The Contractor shall, where applicable, make the necessary arrangements for the removal of night soil.

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.

construction

PSA 5.4: PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES

Replace the heading and the contents of this subclause with the following:

"PSA 5.4.1: LOCATION AND PROTECTION OF EXISTING SERVICES"

Prior to the commencement of the works, the Contractor shall be required, to expose all existing services situated in the road servitude that may directly or indirectly affect the construction.

In addition, the Contractor shall be required to compile a program of works incorporating the time frame (to be stipulated by the Contractor) required for the searching for and exposing of the existing services on the project.

Once the services have been located, their respective positions shall be recorded and their respective positions confirmed by the Engineer.

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 coordinated 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 has to 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 authorized 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.

PSA 5.4.2: PROTECTION AND CONSTRUCTION

The Contractor shall exercise all the necessary care to prevent damage to known services during construction operations. Major excavating equipment and other plant shall not be operated dangerously close to these services. Where necessary, excavation in close proximity to these services shall be carefully carried out with suitable hand tools, excluding picks wherever their use could damage the services. No additional payment will apply to such more difficult work.

Services left exposed shall be suitably protected from damage.

PSA 5.4.3: ALTERATIONS AND REPAIRS TO EXISTING SERVICES

Unless the contrary is clearly specified or ordered, the Contractor shall not carry out alterations to existing services. When this is necessary, the Contractor shall inform the Engineer, who will either make arrangements for such work to be executed by the owner of the service, or instruct the Contractor to make such arrangements himself.

When existing services are damaged by the Contractor, he shall immediately inform the Engineer, or when this is not possible, the relevant authority, and obtain instructions as to who should carry out repairs. In urgent cases the Contractor shall take the necessary steps to minimize damage to and interruption of the service. No repairs of telecommunication cables or electric power lines and cables shall be attempted.

The Employer will accept no liability for damages due to a delay in having such alterations or repairs affected. The Contractor shall provide all reasonable opportunity, access and assistance to persons carrying out alterations or repairs of existing services.

Add the following subclause:

“PSA 5.9: SITE MEETINGS

“The Contractor will be required to attend regular site meetings, normally held once a month to discuss general progress, quality of work, problems, claims, payments, etc., but not matters concerning the day-to-day running of the contract. The Contractor must be represented at the site meetings by a duly authorized person that is empowered to take decisions on behalf of the firm/company.”

tolerances

PSA 6.1: Degrees of Accuracy

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

PSA 6.4: GENERAL

No guarantee is given that the full specified tolerances will be available independently of each other, and the Contractor is cautioned that the liberal or full use of any one or more of the tolerances may deprive him of the full or any use of tolerances relating to other aspects of the work.

Except where the contrary is specified or when clearly not applicable, all quantities and measurements shall be determined in accordance with the 'authorized' dimensions. These are the specified dimensions or those shown on the drawings or, if changed, as finally prescribed by the Engineer, without any allowance for the specified tolerances. Except if otherwise specified, all measurements for determining quantities for payment will be based on the 'authorized' dimensions.

If the work is therefore constructed in accordance with the 'authorized' dimensions plus or minus the tolerances allowed, quantities will be based on the 'authorized' dimensions regardless of the actual dimensions to which the work has been constructed.

When the work is not constructed in accordance with the 'authorized' dimensions plus or minus the tolerances allowed, the Engineer may nevertheless, at his sole discretion, accept the work for payment. In such cases no payment shall be made for quantities of work or material in excess of those calculated for the 'authorized' dimensions, and where the actual dimensions are less than the 'authorized' dimensions minus the tolerance allowed, quantities for payment shall be based on the actual dimensions as constructed.

testing

PSA 7.1: PRINCIPLES

PSA 7.1.1: Checking

Replace the last sentence with the following:

"The Contractor shall obtain the services of an independent laboratory at his own expense (clause PS 13.4 of Portion 1 of the Project Specifications) to carry out the checks prescribed in the various standardized specifications."

PSA 7.1.2: Standard of finished work not to specification. Replace the words:

"Where the Engineer's checks reveal ..." with "Where the checks by the approved laboratory reveal"

PSA 7.2: APPROVED LABORATORIES ADD THE FOLLOWING:

"An independent laboratory used by the Contractor and approved by the Engineer shall be deemed as an approved laboratory. The Contractor shall appoint an approved laboratory to carry out all required quality control (acceptance) tests. All these tests results shall be submitted to the engineer for approval. Only after the engineer has approved the work may the Contractor commence with subsequent work.

The employer shall appoint an approved laboratory to carry out check testing to confirm the results of the Contractor's laboratory. "

MEASUREMENT AND PAYMENT

PSA 8.1: MEASUREMENT

PSA 8.1.2: Preliminary and general items or section

PSA 8.1.2.2: Tendered sums

Replace the contents of this subclause with the following:

"The Contractor's tendered sums under items PSA 8.3 and PSA 8.4 shall collectively cover all charges for:

- ❑ risks, costs and obligations in terms of the general conditions of contract and of this standardized specification, except where provision is made in these project specifications to cover compensation for any of these items;
- ❑ head-office and site overheads and supervision profit and financing costs;
- ❑ expenses of a general nature not specifically related to any item or items of permanent or temporary work;
- ❑ providing facilities on site for the Contractor's personnel, including offices, storage facilities, workshops, ablutions, for providing services such as water, electricity, communication, sewerage, sewage and rubbish disposal, for access roads and all other facilities required, as well as for the maintenance and removal on completion of the works of these facilities and the cleaning-up of the camp site on completion of the works; and
- ❑ providing facilities for the Engineer and staff (refer to PS 13.1)

PSA 8.2: PAYMENT

PSA 8.2.1: Fixed-charge and value-related items

Replace the contents of this subclause with the following:

"Payment of fixed charges in respect of item 8.3.1 will be made as follows:

1. The first installment, 50% of all items listed under Section 1 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 installment, 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 in terms of clause B 2.4.1 of the Conditions of Contract Part B.
3. The third and final installment, 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."

Payment for the value related sum tendered under item 8.3.2 will be made as follows:

Payment for value-related charges in respect of item PSA 8.3.2 will be made monthly on a percentage basis calculated as the ratio of the value of the completed work (excluding all fixed-charge and time-related items) to the tendered amount.

Should the value of the measured work finally completed be more or less than the tender sum, the sum tendered under item 8.3.2 will be adjusted up or down in accordance with the provisions of the general conditions of contract and this adjustment will be applied to the third installment. No adjustment will apply to item 8.3.1 in respect of variations in the value of work done or the finally authorized time for completion."

PSA 8.2.2: Time-related items

Replace the contents of this subclause with the following:

"Subject to the provisions of subclauses 8.2.3 and 8.2.4, payment under item 8.4.1 (time-related item) will be made monthly in equal amounts, calculated by dividing the sum tendered for the item by the tendered contract period (and the extension of time granted in accordance with the provisions of the Contract, if applicable) in months, provided always that the total of the monthly amounts so paid for the item is not out of proportion with the progress of the work as a whole.

Should the Engineer grant an extension of time for completion of the works, the Contractor will be entitled to an increase in the sum tendered for the time-related item, which increase shall be in the same proportion to the original tendered sum as the extension of time is to the original time for completion of the works.

Payment of such increased amounts will be deemed full compensation for all additional timerelated preliminary and general costs due to the circumstances pertaining to the extension of time granted."

PSA 8.3: SCHEDULED FIXED-CHARGE AND VALUE-RELATED ITEMS

Replace the items with the following:

"PSA 8.3.1: Fixed preliminary and general charges Unit: Sum

PSA 8.3.2: Value-related preliminary and general charges Unit: Sum

The sums tendered shall include full compensation for all fixed and value-related preliminary and general charges as described in subclause PSA 8.1.2.2. Payment will be made as described in subclause PSA 8.2.1."

PSA 8.4: SCHEDULED TIME-RELATED ITEMS

Replace the items with the following:

Page 55 of 70

"PSA 8.4.1: Time-related preliminary and general charges Unit: Sum

The sum tendered shall include full compensation for all time-related preliminary and general charges as described in subclause PSA 8.1.2.2. Payment will be made as described in subclause PSA 8.2.2."

PSA 8.5: SUMS STATED PROVISIONALLY BY THE ENGINEER

Replace this item with the following:

"PSA 8.5: Sums stated provisionally by the engineer:

PSA 8.5 (i) Additional tests required by the Engineer	Unit : Prov Sum
PSA 8.5 (ii) Charge required by Contractor on subitem PSA 8.5(i):	Unit : %

Note in connection with subitem (i):

The Contractor is otherwise responsible for both the cost of normal testing as described in subclause PS 22.2 and clause PS 20 in portion 1 of the project specifications and for the cost of any additional test that indicates that the specifications have not been complied with."

PSA 8.8: TEMPORARY WORKS

PSA 8.8.2: Accommodation of traffic

Add the following:

"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 organize his work so as 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 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.

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 (1998) or Namibian Road Traffic Signs Manual.

Replace item 8.8.4 with the following:

"PSA 8.8.4: LOCATION AND PROTECTION OF EXISTING SERVICES:

PSA 8.8.4.2: Hand excavation necessary for locating and exposing, existing services in all material:

PSA 8.8.4.2(c)(ii) In roadways	Unit: m ³
PSA 8.8.4.2(c)(iii) In all other areas	Unit: m ³

The rates shall cover the cost of excavating by means of hand tools within authorized dimensions, for all precautionary measures to protect the services from damage during excavation and backfilling, and for subsequent backfilling and compacting. Compacting of material in all areas except in roadways shall be to 90% of the modified AASHTO density,

The rate for hand excavation in roadways shall include compensation for compacting excavated or selected backfill material to 93% of modified AASHTO density. Reinstating layerworks and surfacing shall be measured and paid for under SABS 1200 DB.

The tendered rates shall also include for keeping excavations safe, for dealing with surface and subsurface water, for removing surplus excavated material from the site, for transporting all material within the free-haul distance, and for supplying adequate supervision during both excavation and backfilling operations.

In cases where an exposed service cannot be backfilled before nightfall due to delays thereof by a service department, it shall be properly secured and made safe."

PSC: SITE CLEARANCE

PSC 3: MATERIALS

PSC 3.1: DISPOSAL OF MATERIAL

Add the following:

The Contractor shall make his own arrangements with the Settlement for the disposal of material emanating from the construction works. All costs for the disposal thereof shall be deemed to be included in the rates tendered for site clearance."

PSC 5: CONSTRUCTION

PSC 5.1: AREAS TO BE CLEARED AND GRUBBED

Add the following:

"Pipeline routes shall be cleared to a distance of 1,5 m on both sides of the pipeline center line. Route pegs or markers shall not be destroyed or damaged during clearing operations. Only areas where actual clearing was required along the route shall be payable."

PSC 5.2: CUTTING OF TREES

PSC 5.2.3: Preservation of trees

PSC 5.2.3: Individual trees

Replace the last sentence with the following:

"The Contractor shall obtain written permission from the Engineer to remove trees and an amount of N\$ 1,500.00 will be deducted from moneys due to the Contractor as a penalty for every tree that is damaged or removed unnecessarily."

PSC 8: MEASUREMENT AND PAYMENT

PSC 8.2.1: Clear and grub

Replace with the following:

"The area designated by the Engineer to be cleared and grubbed will be measured in square meter to the nearest square meter or meter to the nearest meter.

The rate shall cover the cost of clearing the surface, removing grass, shrubs, bushes and other vegetation including roots, removing boulders of size up to 0,15 m³, grubbing of trees and tree stumps (except large trees and stumps as specified in SABS 1200C 8.2.2), cutting of trunks and branches exceeding 0,5 m in girth into transportable lengths, backfilling of cavities, demolishing structures (except where otherwise provided for in the project specification) and removing, transporting, and disposing of material thus cleared, grubbed, cut, and demolished.

Boulders, rock outcrops and rock slabs over 0,15 m³ will be dealt with as cut to spoil in terms of the items scheduled for bulk earthworks and extra-over items for breaking down and excavation of material in hard excavation.

The rate shall cover the cost of loading, transporting, dumping, and any charges for the use of municipal dumping sites where applicable.

PSD EARTHWORKS

PSD 3: MATERIALS

PSD 3.1.2: Classes of Excavation

The classification "soft", "intermediate", "boulder excavation class A" and "boulder excavation class B" shall not be applicable to this Contract. All material which does not classify as "hard rock excavation" in terms of clause 3.1.2 (c) shall be classified as "soft excavation" for this Contract.

PSD 5:CONSTRUCTION

PSD 5.1.1.2: Safeguarding of excavations

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

PSD 5.2.2.3: Disposal

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

PSD 5.2.5.2: Overhaul

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

PSD 6:TOLERANCES

PSD 6.1: Positions, dimensions, levels etc.

All excavations shall comply with the requirements for finishing to degree 2.

PSD 8:MEASUREMENT AND PAYMENT

PSD 8.1: Basic Principles

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

PSD 8.3.8: Restricted hand excavation

Excavate by hand in soft material to expose existing services and pipeline. Unit: m³

PSD 8.3.14: Reinstatement of road surfaces

Payment will be measured per m² of road surface reinstated. No payment for excavations wider than the normal trench width will be made. The rate shall include all backfilling, layerworks and tarring.

PSDB: EARTHWORKS (PIPE TRENCHES)

PSDB 3: MATERIALS

PSDB 3.5: BACKFILL MATERIALS

PSDB 3.5: Backfill materials

Add the following paragraphs:

"(c) Cement-stabilized backfilling

Backfilling shall be stabilized with 5% cement where directed by the Engineer. The aggregate shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed with 5% cement and shall be compacted in layers of 100 mm thick to 90% of modified AASHTO density.”

“(d) Soilcrete backfilling

The aggregate for soilcrete shall be mixed with 5% cement and shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed in a concrete mixer with the cement and enough water to acquire a consistency that allows the mixture to be placed with vibrators to fill all voids between the pipe and the sides of the trench. Shuttering shall be used where necessary."

PSDB 3.7: SELECTION

Replace the words "if he so wishes" in the first line of the second paragraph with the words "at his own cost".

PSDB 5: CONSTRUCTION

PSDB 5.1: PRECAUTIONS

Add the following subclause:

PSDB 5.1.5: Existing pipelines

The existing pipes that have to be removed shall be carefully opened up by machine excavation to 300 mm above the pipes after which the whole pipe shall be fully exposed by means of hand excavation. The excavation width shall comply with subclause 8.2.3.

The pipes shall be removed from the trench in a manner approved by the engineer, and brought to the surface for inspection by the engineer.

Pipes removed from trenches shall be disposed of as determined by the engineer."

PSDB 5.6: BACKFILLING

PSDB 5.6.3: Disposal of soft excavation material

Replace the contents of this subclause with the following:

"Surplus excavated material from the trench shall be used as fill if suitable or shall be disposed of at an approved Site provided by the Contractor."

PSDB 5.7: COMPACTION

Add the following:

"Where pipelines cross existing gravel roads, backfilling shall be carried out as specified in subclause 5.7.2 and payment will be made under subclause PSDB 8.3.3.3."

PSDB 8: MEASUREMENT AND PAYMENT

PSDB 8.3.2(b) Extra over item (a) above for:

Add the following subitems:

	PSDB 8.3.2(b)(ii)	Hard rock excavation	Unit: m ³
.03	PSDB 8.3.2(b)(iii)	Hand excavation and backfill where ordered by the engineer	Unit: m ³

PSB 8.3.2(b)(iv) Backfill stabilized with 5% cement where directed Unit: m³

by the engineer

The tendered rate for sub item (iv) shall include full compensation for supplying the cement and for selecting, mixing, backfilling and compacting the stabilized material to, 90% of modified AASHTO density.

PSDB 8.3.3: Excavation ancillaries

PSDB 8.3.3.1: Make-up deficiency in backfill material

Delete the words "all within free haul distance" from this paragraph.

PSDB 8.3.3.3: Compaction in road reserves

Replace the heading of this subitem with the following:

"PSDB 8.3.3.3: Compaction in road crossings"

Replace the sentence, "The volume will be measured as specified in 8.2.2, 8.2.3 and 8.3.3.1", with the following:

"In the case of gravel roads, the volume will be measured from the underside of the gravel wearing course to the top of the fill blanket, and in the case of bitumen roads, from the underside of the subbase to the top of the fill blanket.

The rest of the trench shall be backfilled as specified in clauses 5.9.3, 5.9.4 and 5.9.5, as applicable, and payment will be made under item 8.3.6.1."

PSL: MEDIUM PRESSURE PIPELINES

PSL3: MATERIALS

PSL 3.1: GENERAL

The materials for pipes and fittings shall be manufactured in accordance with the Codes of Practice listed in Appendix A of SABS 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.

PIPES

Pressure pipes used shall be:

uPVC Class 9 and Class 12

VALVES

The following shall apply to valves:

Resilient Seal Gate Valves:

(a) AVK valves or similar approved

Valves will close clockwise

Valves will have a non-rising spindle, and fitted with a cap top or hand wheel as applicable

Valves to be class 16 (PN16) valves and shall comply with the requirements of SABS 664:1974

Valves must be highly resistant to corrosion and abrasion

Valves must have parts manufactured from the following materials:

- Spheroidal graphic iron: Body gate, bonnet and hand wheel
- Stainless steel: Spindle
- Plastic: Bush, Friction rings
- Nitrite rubber: All “O” –rings, profile ring, scraper ring and sealing ring
- Bronze: Spindle nut

Valves must receive an electrostatic epoxy powder coating as surface protection – internal and external

Butterfly Valves:

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

The materials shall be:

- Make: COMPACT or similar and approved by City of Windhoek
- Body: Cast Iron with nitrite rubber liner
- Disc: Spheroidal graphite with nylon coating
- Shaft: Stainless steel with shaft mounted replaceable O-rings
- Gearbox: Weatherproof with spoked hand wheel. Gear ration 30:1 minimum

Hydrants:

- (a) Hydrants will be suitable for working pressures of 1600 kPa (16 Bar)
- (b) Flanges will be raised face and drilled to SANS 1123, table 1000-3 or BS 4504, table 10
- (c) Inside diameters will be either 65mm or 80mm
- (d) Stopper mechanism will be of mushroom type encapsulated with EPDM rubber (Flat type stopper fitted with a nylon or flat rubber washer is not acceptable)
- (e) Spindles will be right hand closing, non-rising type and fitted with cap tops
- (f) An electronic epoxy coating to DIN 30677 internally and externally as surface protection will be applied.
- (g) Bayonets will be fitted with a dust cap, which will be attached to the body by means of a cable, chain or strap.
- (h) Material utilized in the manufacturing of hydrants will be as follows:
 - Ductile iron (BS 2789, grade 500-7): Body and bonnet
 - Cast iron (BS 1452, grade 220:225): Cap and bayonet
 - Stainless steel (DIN x 20 Cr 13): Stem

- NBR rubber: All "O" rings
- EPDM rubber: Stopper rubber
- Gun metal (BS 1400, LG 2-C): or dezintified resistant brass
Spindle and nut
- Stainless steel: All washers, clamps, circlips
and seat screws

General:

Flanged valves will be drilled to the nominal pressure class of BS 4504 table 10 or SABS 1123, table 1000-3

All valves 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.

TVT butterfly valves will not be accepted. Valves shall be Compact or equivalent.

PSL 3.8: JOINTING MATERIALS

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

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.

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 3.8.2: Flexible Couplings

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.

PSL 3.8.3 Flanges and accessories

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.

PSL 3.8.4 Loose flanges

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 "Klingeringite" or approved similar material.

PSL 3.9.3: PROTECTION AGAINST ELECTROLYTIC CORROSION

Replace subclause 3.9.3 as below:

PSL 3.9.3: PROTECTION OF PIPES IN CONTACT WITH SOIL

Page 41 of 76

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 3.9.5: JOINTS, NUTS, BOLTS AND WASHERS

Replace subclause 3.9.5 with the following:

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 5: CONSTRUCTION

PSL 5.1: LAYING

Add the following to clause 5.1.1 General

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 5.1.3: KEEPING PIPELINES CLEAN

Add the following to subclause 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 passersby.

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 pipework 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 valve, scour valve and off-take tees with 3mm 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 5.2: JOINTING METHODS

Add the following to 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 pipework, 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 5.3: SETTING OF VALVES, SPECIALS AND FITTINGS

Add the following to 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 5.11: MISCELLANEOUS

Add clause 5.11 as follows:

PSL 5.11.1: 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 5.11.2: 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 pipework.

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

PSL 5.11.3: 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 5.11.4: 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 5.11.5: 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 7: TESTING

PSL 7.3.1: STANDARD HYDRAULIC PIPE TEST

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 pipelaying 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 design pressure but shall be not less than 6 bar.

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

- i. in-line isolating valves open, except where used to isolate a test length
- ii. scour isolating valves closed
- iii. air valve isolating valves open
- iv. 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.

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 12mm 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.

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 watertightness.

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 8: MEASUREMENT AND PAYMENT

PSL 8.2: SCHEDULED ITEMS

PSL 8.2.1: Supply, lay and bed pipes complete with couplings

Add the following:

The rates shall also cover the costs for the complete corrosion protection of steel pipes and fittings as specified in PSL 3.1, 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.

No extra payment will be made for testing of pipelines.

PSL 8.2.11: Anchor Blocks / Thrust Blocks and Pedestals

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

PSLB: BEDDING (PIPES)

PSLB 1: SCOPE

In Clause 1.1 add "and ducts and cables" after the word "gravity"

PSLB 3: MATERIALS

PSLB 3.1: SELECTED GRANULAR MATERIAL

Page 46 of 76

Replace the contents of this subclause with the following:

"Selected granular material shall have a PI not exceeding 6 and shall be free from sharp-edged particles exceeding 19 mm."

PSLB 3.3: Bedding

Add the following:

"uPVC and HDPE pipes are deemed to be flexible pipes for the purposes of this subclause."

PSLB 3.4.1: Suitable material available from trench excavation

Replace the words:

"(but is not required)" in the fifth line with the words "(at his own cost)".

PSLB 8: MEASUREMENT AND PAYMENT

PSLB 8.1.5: Disposal of displaced material

Replace the contents of this subclause with the following:

"Material displaced by the pipeline and by imported material from sources other than trench excavation, shall be disposed of at an approved site to be furnished by the Contractor. No haulage shall be payable for transporting such material."

PSLB 8.1.6: Free-haul

Replace the contents of this subclause with:

" PSLB 8.1.6: Free-haul

Freehaul shall be unlimited for this project.

PSLB 8.2: SCHEDULE ITEMS

PSLB 8.2.2: Supply only of bedding by importation

PSLB 8.2.2.2: From borrow pits

Delete the words in brackets in the first four lines.

Add the following:

"The opening up of borrow pits and the removal of overburden are paid for under item 8.3.4 of SABS 1200 D."

DRAWINGS

Take Note: The project drawings are attached at the end of the bidding document, and must be submitted together with the bidding document as they form part of this contract.

SECTION IV: PRICED BILL OF QUANTITIES

Procurement Reference Number: **W/RFQ/OTRC-11/2025/2026**

PREAMBLE TO BILL OF QUANTITIES

1. This Bill of Quantities forms part of, and must be read in conjunction with the General Conditions of Contract, Special Conditions of the Contract, the Project Specifications, and the Drawings.
2. The Bidder shall insert his/her rates and total prices for each item listed below, including the profits thereon, off-cuts, wastage and everything necessary for the completion of that item. VAT shall be indicated separately in the VAT column.
3. The bidder is at liberty to insert a rate of his own for each item in the bill and such prices and rates shall cover all costs and expenses required for the material, labour, and construction of the project including the risks, liabilities and obligations set forth in the document on which the bid is based.
4. For "Rate Only" items, the quoted rate shall apply in the event of work under this item being required. The Bidder shall however note that in terms of the Bid Data the Bidder may be asked to reconsider any such rates which the Employer may regard as unbalanced.
5. The hyphen - sign is used in the "Quantity" column to indicate that quantities of such items cannot be determined at the stage of bidding. Thus, the bidder shall only provide his rate for such items, in case the items would be required.
6. A Bid may be rejected if the unit rates or lump sums for some of the items in the Bill of Quantities are unreasonable or out of proportion in the opinion of the Employer, and if the Bidder fails to adjust the unit rates or lump sums for such items within a period of 7 days of having been notified in writing by the Employer to make such adjustments.
7. Only major items have been scheduled, but the required work shall be carried out completely by the Contractor, whether specified in detail or not. The amount of work or the quantities of materials stated in the Bill of Quantities shall not restrict or extend the amount of work to be done or the quantities of materials to be supplied by the Contractor. No extra price will be considered for the provision thereof, unless detailed in writing by the Contractor, in a cover letter submitted with his offer.
8. All items in the Bill of Quantities are deemed to include supply, installation and connection where appropriate, unless stated to the contrary.
9. Bidders are advised to check their item extensions and total additions since no claim for mathematical errors will be considered.
10. The quantities shown in the bill below are approximates, meaning payment to Contractor shall strictly be for the work completed.
11. The quantities of materials or the amount of work listed in the Bill of Quantities shall not be regarded as authorisation for the Contractor to order materials or to execute work. The Contractor shall obtain the Project Manager's instructions and/or construction drawings for all work before ordering any materials, executing work or making necessary arrangements accordingly.
12. Contingencies and each Provisional Sum shall only be used, in whole or in part, in accordance with the Project Manager's instructions, and the Contract Amount shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Contingencies/Provisional Sum relates, as the Project Manager shall have instructed.
13. During the execution of the works, the Employer reserves the right to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.
14. Bidder must use black ink to insert rates and changes will only be acceptable if the original rates are crossed out, new rate is indicated next to it, and bidder has signed next to the change made.
15. The rates that the bidders do not wish to complete must be indicated with NIL.
16. If the Bidder omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price.
17. Currency of Bid: Namibian Dollars
18. Bidder must authorise the prices quoted by signing in the signature block below.

19. Completion of the Bill of Quantities below means that the bidder has done a market research on all required items and has familiarised himself with the site, for appropriate rates for the required works to be shall be inserted in the Bill of Quantities.
20. The units of measurement described in the Bill of Quantities are metric units for which the standard international abbreviations are used. Non-standard abbreviations used in the Bill of Quantities are:
- No. = number
 - % = percent
 - Sum = Lump sum
 - PC sum = Prime cost sum
 - Prov sum = Provisional sum

SCHEDULE OF QUANTITIES

PART 1: PRELIMINARY & GENERAL

SECTION 1200 A

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
SABS 1200 A		<u>SECTION A: PRELIMINARY AND GENERAL</u>				
8.3	A1.	SCHEDULE FIXED CHARGE AND VALUE RELATED ITEMS				
8.3.1	A1.1	Contractual Requirements	Sum	1		
8.3.2	A1.2	Provision of Facilities on Site				
		(a) Facilities required by Contractor				
	A1.2.1	(i) Site Offices and storage area	Sum	1		
	A1.2.4	(iv) Ablution and latrine facilities	Sum	1		
	A1.2.5	(v) Tools and equipment	Sum	1		
	A1.2.6	(vi) Water supplies, electrical power and communications	Sum	1		
8.3.3	A1.3	General Responsibilities and Other Fixed Charge Obligations	Sum	1		
8.3.4	A1.4	Removal of Site Establishment	Sum	1		
8.4	A2.	SCHEDULED TIME-RELATED ITEMS:				
8.4.1	A2.1	Contractual Requirements	month	1.5		
8.4.2	A2.2	Operation and Maintenance of Facilities on Site				
		(a) Facilities required by Contractor				
	A2.2.1	(i) Offices and storage sheds	month	1.5		
8.4.2	A2.2.4	(iv) Ablution facilities	month	1.5		
Carried Forward						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
Brought Forward						
8.4.2	A2.2.5	(v) Tools and equipment	month	1.5		
	A2.2.6	(vi) Water supplies, electrical power and communications	month	1.5		
8.4.3	A2.3	Supervision for Duration of Construction	month	1.5		
8.4.4	A2.4	Company and Head Office Overhead Costs	month	1.5		
8.4.5	A2.5	General Responsibilities and Other Time Related Obligations	month	1.5		
8.6	A3.	PRIME COST SUMS				
	A3.1	(i) Additional tests required by the Engineer			PC Sum	7,500.00
	A3.2	(ii) Charge required on item (i) above:	%	7,500.00		
8.8.4	A5.	LOCATION AND PROTECTING OF EXISTING SERVICES				
	A5.1	(a) Hand excavation necessary for locating and exposing existing services in all material:				
	A5.1.1	(i) In Roadways	m ³	30		
	A5.1.1	(ii) In all other areas	m ³	30		
TOTAL SECTION (A) SABS1200 CARRIED TO SUMMARY						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
SABS 1200 A		<u>SECTION B: DAYWORKS</u>				
8.7	B1.	DAYWORKS				
8.7.1	B1.1	Labourer Charges				
	B1.1.1	(a) Foreman	h	10		Rate only
	B1.1.2	(b) Surveyor	h	10		Rate only
	B1.1.3	(c) Surveyor Assistant	h	10		Rate only
	B1.1.4	(d) Driver - LDV	h	10		Rate only
	B1.1.5	(e) Driver - Heavy motor vehicle	h	5		Rate only
	B1.1.6	(f) Chargehand	h	10		Rate only
	B1.1.7	(g) Labourer - skilled	h	10		Rate only
	B1.1.8	(h) Labourer - semi skilled	h	10		Rate only
	B1.1.9	(i) Labourer - unskilled	h	20		Rate only
8.7.3	B1.3	Plant Charges				
	B1.3.1	(a) Backhoe CAT 428 or similar	h	15		Rate only
	B1.3.2	(b) Excavator CAT 325 or similar	h	10		Rate only
	B1.3.3	(c) 10m ³ Tipper truck	h	10		Rate only
	B1.3.4	(d) 1ton LDV	h	10		Rate only
	B1.3.5	(e) 1m ³ Concrete mixing plant	h	10		Rate only
	B1.3.6	(f) 8ton mobile crane	h	5		Rate only
Carried Forward						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
Brought Forward						
8.7.3	B1.3	Plant Charges continues				
	B1.3.7	(g) Lowbed tractor and trailer combination	h	10		Rate only
	B1.3.8	(h) 7ton Flatbed truck	h	10		Rate only
	B1.3.9	(i) 14,000l Water Truck	h	10		Rate only
	B1.3.10	(j) 25KVA Generator set	h	10		Rate only
	B1.3.11	(k) Centrifugal water pump or equivalent	h	10		Rate only
	B1.3.12	(l) Aircompressor	h	10		Rate only
	B1.3.13	(m) Construction Lights	h	10		Rate only
TOTAL SECTION (B) SABS1200 CARRIED TO SUMMARY						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
SABS 1200 C		<u>SECTION A: SITE CLEARANCE</u>				
8.2	A1.	CLEAR AND GRUB SITE (incl. removal of vegetation):				
8.2.1	A1.1	(a) Clear and grub Water Pipeline Route	m	1500		
	A1.2	(b) Clear and grub area as per Engineers indication	ha			Rate Only
8.2.2	A2.	CUT AND GRUB LARGE TREES AND TREE STUMPS OF GIRTH (removal included) :				
	A2.1	(a) over 1 m up to 2 m	No	5		
	A2.2	(b) over 2 m up to 3 m	No			Rate Only
8.2.2	A3.	REMOVAL OF REDUNDANT MATERIALS				
	A3.1	(a) Transport all redundant materials to approved municipal dumpsite	t.km			Rate Only
TOTAL SECTION (A) SABS1200 C CARRIED TO SUMMARY						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
SABS 1200 DB		SECTION B: EARTHWORKS (PIPE TRENCHES)				
8.3.2	B1.	EARTHWORKS (PIPE TRENCHES) (a) Excavate in all materials for trenches, backfill, compact, and dispose of surplus material for:				
	B1.1	Water distribution pipeline up to 300mm dia for trench:				
	B1.1.1	(a) Not exceeding 1,5 m depth, as indicated on relevant drawings	m	1450		
	B1.1.2	(b) Extra-over item (a) above for :				
		(i) Hand excavation in all material for the existing buried pipes	m ³	140		
	B1.1.3	(ii) Hard rock excavation	m			Rate Only
8.3.3	B2.	EXCAVATION ANCILLARIES Make up deficiency in backfill material (Provisional)				
8.3.3.1	B.2.1	(a) from other necessary excavations on site	m ³			Rate Only
	B.2.2	(b) by importation from designated borrow pit	m ³			Rate Only
	B.2.3	(c) by importation from commercial or off site sources selected by the Contractor	m ³			Rate Only
8.3.6	B3.	FINISHING Reinstate road surfaces complete with all courses				
8.3.6.1	B.3.1.	(a) Gravel wearing course roads	m ³	30		
TOTAL SECTION (B) SABS1200 DB CARRIED TO SUMMARY						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
SABS 1200 LB		<u>SECTION C: BEDDING (PIPES)</u>				
8.2.1	C1.	PROVISION OF BEDDING Available from trench within 0.5km (Sub-clause 3.4.1)				
	C1.1	(a) Selected Granular material	m ³	320		
8.2.2	C1.2	(b) Selected fill material	m ³	205		
8.2.1	C2.	Commercial or off-site sources (Provisionla)				
	C2.1	(a) Selected Granular material	m ³	20		
	C2.2	(b) Selected fill material	m ³			Rate Only
PSDB 3.5	C3.1	(b) Soilcrete Backfilling (5% cement) (Provisional)	m ³			Rate Only
TOTAL SECTION (C) SABS1200 LB CARRIED TO SUMMARY						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
SABS 1200 L		<u>SECTION D: MEDIUM PRESSURE PIPELINES</u>				
	D1.	Expose & connect to existing services:				
	D1.1	(a) 90mm diameter uPVC pipelines	No.	2		
	D1.2	(b) 110mm diameter uPVC pipelines	No.	3		
	8.2.1	D2. Supply, lay and joint uPVC class 9 pipes (SABS 966) socketed for mechanical jointing complete with rubber ring sealers:				
	D2.1	(a) 75mm diameter	m	204		
	D2.2	(b) 90mm diameter	m	970		
	D2.3	(c) 110mm diameter	m	184		
	D2.4	(d) 160mm diameter	m			Rate Only
	D2.5	(e) 200mm diameter	m			Rate Only
	8.2.1	D3. Supply, lay and joint HDPE class 10 pipes (SABS 966) socketed for mechanical jointing complete with couplings and test:				
	D3.1	(a) 40mm diameter	m	40		
	D3.2	(b) 25mm diameter	m	140		
	8.2.5	D4. Supply, lay and joint uPVC class 16 bends socketed for mechanical jointing complete with with rubber ring sealers:				
	D4.1	(a) 11.25°, 90mm diameter	No.	2		
	D4.2	(b) 11.25°, 110mm diameter	No.	0		Rate Only
	D4.3	(c) 22.5°, 90mm diameter	No.	2		
	D4.4	(d) 11.25°, 75mm diameter	No.	2		
	D4.5	(e) 45°, 75mm diameter	No.	2		
	D4.6	(f) 45°, 90mm diameter	No.	5		
Carried Forward						

PART 5 WATER RETICULATION INFRASTRUCTURE

SECTION 1200 L

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
Brought Forward						
8.2.5	D4.7	(g) 45°, 110mm diameter	No.			Rate only
	D4.8	(h) 45°, 160mm diameter	No.			Rate only
	D4.9	(i) 90°, 90mm diameter	No.	2		
	D4.10	(j) 90°, 110mm diameter	No.			Rate only
	D4.11	(k) 90°, 200mm diameter	No.			Rate only
	D5.	SGI Reducers socketed for mechanical jointing complete with rubber ring sealers:				
	D5.1	(a) 75 x 90mm diameter	No.			Rate Only
	D5.2	(b) 90 x 110mm diameter	No.			Rate Only
	D5.3	(c) 63 x 90mm diameter	No.	1		
	D6.	SGI Equal Tee socketed for mechanical jointing complete with rubber ring sealers:				
	D6.1	(a) 90mm diameter	No	3		
8.2.5	D6.2	(b) 110mm diameter	No	1		
	D6.3	(c) 160mm diameter	No			Rate Only
	D6.4	(d) 200mm diameter	No			Rate Only
	D7.	SGI Reducing Tee socketed for mechanical jointing complete with rubber ring sealers:				
8.2.5	D7.1	(a) 90 x 63mm diameter	No			Rate Only
	D7.2	(b) 110 x 75mm diameter	No	2		
	D7.3	(c) 110 x 90mm diameter	No	1		
	D7.4	(d) 160 x 110mm diameter	No			Rate Only
8.2.5	D8.	SGI Flange Adaptors socketed for mechanical jointing complete with rubber ring sealers:				
	D8.1	(a) 90mm diameter	No	2		
	D8.1	(a) 110mm diameter	No	2		
Carried Forward						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
Brought Forward						
8.2.5	D9.	Supply & Install Resilient Seal Gate Valve, (AVK or similar approved), inclusive of all nuts, bolts & gasket seals:				
	D9.1	(a) 65mm Nominal Bore PN10	No	2		
	D9.2	(b) 80mm Nominal Bore PN10	No	8		
	D9.3	(c) 100mm Nominal Bore PN10	No	2		
	D9.4	(d) 150mm Nominal Bore PN10	No			Rate Only
	D9.5	(e) 200mm Nominal Bore PN10	No			Rate Only
8.2.5	D10.	Supply & Install Full-Bore Ball Valve, both ends BSP Female Threaded, (Cobra ITAP or similar approved), inclusive of all nuts, bolts & gasket seals:				
	D10.1	(a) 40mm Nominal Bore	No	2		
	D10.2	(b) 50mm Nominal Bore	No			Rate Only
8.2.5	D11.	Supply & Install Free Shaft Swing Check Valve, (AVK or similar approved), inclusive of all nuts, bolts & gasket seals:				
	D11.1	(a) 100mm Nominal Bore PN10	No			Rate Only
	D11.2	(b) 150mm Nominal Bore PN10	No			Rate Only
8.2.5	D12.	Supply & Install Air Valve (Variant or similar approved) inclusive of all pipeworks. Valve chamber/box measured elsewhere:				
	D12.1	(a) 80mm Nominal Bore PN25	No	1		
	D12.2	(b) 100mm Nominal Bore PN25	No	1		
8.2.5	D13.	SGI End Caps socketed for mechanical jointing complete with rubber ring sealers:				
	D13.1	(a) 90mm diameter	No	4		
	D13.2	(b) 110mm diameter	No	1		
	D13.3	(c) 160mm diameter	No			Rate Only
Carried Forward						

PART 5 WATER RETICULATION INFRASTRUCTURE

SECTION 1200 L

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
Brought Forward						
8.2.5	D14.	Supply and install Class 16 Saddles to fit over uPVC pipe, threaded outlet to suit HDPE compression fittings, inclusive of all seals and pipework:				Rate Only
	D14.1	(a) 25mm Diameter to fit 90mm uPVC	No.	8		
	D14.2	(b) 25mm Diameter to fit 110mm uPVC	No.	2		
	D14.3	(c) 25mm Diameter to fit 75mm uPVC	No.	1		
	D14.4	(d) 40mm Diameter to fit 75mm uPVC	No.	6		
	D14.5	(e) 40mm Diameter to fit 90mm uPVC	No.	10		
	D14.6	(f) 40mm Diameter to fit 110mm uPVC	No.	4		
	D14.7	(g) 40mm Diameter to fit 160mm uPVC	No.			
8.2.11	D15.	Grade 20/19 Concrete for Thrustblocks, to be cast into open trench and against undisturbed soil, inclusive of formwork as required:				
	D15.1	(a) For 11.25° bends	m³	2.5		
	D15.2	(b) For 22.5° bends	m³	1		
	D15.3	(c) For 45° bends	m³	3		
	D15.4	(d) For 90° bends	m³	1		
	D15.5	(e) For T-pieces and End Caps, Other sizes as may be specified in writing	m³	4.5		
	D15.6	Valve/ waterline route marker	No.	22		
	D16	Pipeline Ancillaries				
	D16.1	Erf connection markers	No.	28		
TOTAL SECTION (D) SABS1200 L CARRIED TO SUMMARY						

PAY ITEM REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (N\$)	AMOUNT (N\$)
8.2.14 SABS 1200 LF 8.2.1	D17	Valve boxes Construct valve boxes complete with cover and frame				
	D17.1	Gate valve box	No	14		
	D17.2	Air valve box	No	1		
	D18.	Construct Fire Hydrant complete inclusive of excavation, concrete and pipeworks as indicated in typical drawings:	No.	2		
		<u>SECTION E: ERF CONNECTION (WATER)</u>				
	E1.	Erf connections (Erf connections complete with end caps as per the typical drawing. Rate to include excavation and backfilling, pipe works measured elsewhere.				
	E1.1	(a) Single erf connection	No	10		
	E1.2	(b) Double erf connection	No	18		
	E1.	Cleaning & Finishing of entire pipeline route	m	1,450		
TOTAL SECTION (E) SABS1200 LF CARRIED TO SUMMARY						

PART	SABS REFERENCE	DESCRIPTION	AMOUNT (N\$)
PART 1: PRELIMINARY & GENERAL OBLIGATIONS			
PART 1 - SECTION (A)	SABS 1200	PRELIMINARY & GENERAL	
PART 1 - SECTION (B)	SABS 1200	DAYWORKS	
TOTAL FROM THE SCHEDULE OF QUANTITIES (PART 1)			
PART 2: WATER RETICULATION INFRASTRUCTURE			
PART 5 - SECTION (A)	SABS 1200 C	SITE CLEARANCE	
PART 5 - SECTION (B)	SABS 1200 DB	EARTHWORKS (WATER PIPE TRENCHES)	
PART 5 - SECTION (C)	SABS 1200 LB	BEDDING (WATER RETICULATION)	
PART 5 - SECTION (D)	SABS 1200 L	MEDIUM PRESSURE PIPELINES	
PART 5 - SECTION (E)	SABS 1200 LF	ERF CONNECTION (WATER)	
TOTAL FROM THE SCHEDULE OF QUANTITIES (PART 2)			
SUMMARY OF SCHEDULES			
PART 1: PRELIMINARY & GENERAL = A1			
PART 2: WATER RETICULATION INFRASTRUCTURE = A2			
TOTAL OF SCHEDULES (A1 + A2) = A			
CONTINGENCIES (B = 10% of A)			
SUB-TOTAL (C = A + B)			
VALUE ADDED TAX (VAT), (D =15% of C)			
TOTAL BID SUM = (C + D)			

Total Bid Price in Words:.....

Priced Bill of Quantities Authorised By:

Name:		Signature:	
Position:		Date:	
Authorised for and on behalf of the below mentioned company: 		<i>Company seal / stamp</i>	

SECTION VI: GENERAL CONDITIONS OF CONTRACT AND CONTRACT AGREEMENT

Any resulting contract shall be placed by means of a Purchase Order/Letter of Acceptance and shall be subject to the General Conditions of Contract (GCC) for the Procurement of Works (Reference number: **W/RFQ/OTRC-11/2025/2026**), available on the website of the Otjozondjupa Regional Council at the following website link: https://otjozondjuparc.gov.na/downloads/-/document_library/xbkq/view/804148, except where modified by the Special Conditions of Contract in Section VII below.

SECTION VII SPECIAL CONDITIONS OF CONTRACT

Procurement Reference Number: **W/RFQ/OTRC-11/2025/2026**

The clause numbers given in the first column correspond to the relevant clause number of the General Conditions of Contract.

GCC Clause Reference	Special Conditions
A. GENERAL	
Employer GCC 1.1(r)	Otjozondjupa Regional Council
Intended Completion Date GCC 1.1(v)	The intended Contract completion period is sixty (45) calendar days after the date of site handover.
Project Manager GCC 1.1(y)	The Project Manager is Ms. Hilma Kalumbu
Site GCC 1.1(aa)	The Site is located at: Okatjoruu Settlement, Otjozondjupa Region.
Start Date GCC 1.1(dd)	The Start Date shall be within: 7 days after signing of Contract Agreement by Contractor
The Works GCC 1.1(hh)	The Works consist of: Construction of Water Reticulation in Okatjoruu Settlement
Interpretation GCC2.3	The following additional documents shall form part of the contract: (a) Agreement, (b) Letter of Acceptance, (c) Contractor's Bid, (d) Particular Conditions of Contract, (e) General Conditions of Contract, (f) Specifications, (g) Drawings, (h) Bill of Quantities and (i) any other documents forming part of Contract, such as the bidding forms, etc.
Language and Law	The language of the contract is English The law that applies to the Contract is the law of Namibia.

GCC Clause Reference	Special Conditions
GCC 3.1	
Project Manager's Decisions 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.
Delegation GCC 5.1	The Project Manager may delegate his duties.
Communications GCC 6.1	All Communication shall be by letter or e-mail, with proof of receipt, which shall be sent: By the Contractor through the Project Manager to The Chief Regional Officer; Otjondjupa Regional Council; P.O. Box 1682; Otjiwarongo, Or By Otjondjupa Regional Council to the Contractor, on the address indicated on the first page of the Purchase Order/Letter of Acceptance.
Insurance GCC 13	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: Full Contract Amount plus 10%. (b) for loss or damage to Equipment: Contractor's own responsibility for the replacement value of the equipment that the Contractor intends to use on site until the taking over by the Employer. (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract: Contractor's own responsibility for an amount equivalent to the value of the properties that are exposed to the action of the Contractor in the execution of the works including the Employer's property. (d) for personal injury or death: (i) of the Contractor's employees: The Contractor shall take an adequate insurance cover for its employees for any claim arising in the execution of the works (ii) of other people: This cover shall be for an adequate amount for Third Party extended to the Employer and its representatives. (e) for loss or damage to materials on-site and for which payment have been included in the Interim Payment Certificate, where applicable: shall be covered by insurance for the Works, Plant and Materials indicated above.

GCC Clause Reference	Special Conditions
	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.
Site Data GCC 14.1	In addition to the site data on the drawings, the Bidders are strongly advised to visit the site and acquaint himself with the site conditions. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions, or alignment of the Works. If the Contractor suffers delay and/or incurs cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or cost, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 41.1 to: (i) an extension of time for any such delay, if completion is or will be delayed, under GCC Clause 26; and (ii) payment of any such cost, plus profit, which shall be included in the Contract Amount and Final Account. After receiving this notice, the Project Manager shall proceed in accordance with GCC Sub-clause 4.1 to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent. The area of the works to be occupied by the Contractor, any restriction on the area and the limit of access or exit will be pointed out to the Contractor by the Project Manager on handing over of the Site. The Contractor must have the positions of services and structures on the drawings as confirmed by the Project Manager. The location of existing services and structures are shown at their approximate positions on the Drawings. However, it is the responsibility of the Contractor to find the exact position of existing services.
Possession of the Site GCC 20	The possession of site shall be seven (7) days after signing of the Contract. The Sign Board shall be erected by the Contractor as per the drawings, 14 days after the date of site handover to contractor, at the site to be determined by the Project Manager.
Procedure for Disputes GCC 24	No Adjudicator shall be appointed under the contract and arbitration shall not apply. If any dispute arises between the Employer and the Contractor in connection with or arising out of the Contract, the parties shall seek to resolve any such dispute by amicable agreement. If the parties fail to resolve such dispute by amicable agreement, within 14 days after one party has notified the other in writing of the dispute, then the dispute shall be referred to court by either party.
B. TIME CONTROL	
Program	The Contractor shall submit for approval a Program for the Works within seven

GCC Clause Reference	Special Conditions
GCC 25.1	(7) days from the date of the site handover.
GCC 25.3 Program Updates	The period between Program updates is thirty (30) calendar days or unless otherwise instructed by the Project Manager.
Defects Liability Period GCC 33.1	The Defects Liability Period is twelve (12) months from the practical completion date.
C. COST CONTROL	
Payment Certificates GCC 39.1	Interim Payment Certificates shall be submitted for works completed, and the Project Manager shall certify the amount to be paid to the Contractor.
Payments GCC 40	The amount certified by the Project Manager shall be paid in full within thirty (30) days of receipt by the Employer of a Tax invoice and Progress Report by the Contractor, supported by the certified payment certificate/voucher.
Adverse weather Conditions GCC 41.1 (I)	Adverse weather conditions will be determined at each occurrence and will be confirmed within twenty-four (24) hours of occurrence with the Project Manager. The meaning of “adverse weather conditions” will be deemed to be the weather which is not only extreme or severe but exceeding that which, on evidence of past years, could be reasonably not have been expected. The Contractor is expected to always have a rain gauge on site during the duration of Contract. In the case of excessive rain, readings will be compared with the local meteorological data for verification. The Contractor is, in addition to the above, to make allowance for normal vagaries of the weather (e.g. rainfall, wind, etc.) in his program of works.
Price Adjustment GCC 44	The Contract is not subject to price adjustment. The Bidder must therefore allow for any future escalations in pricing.
Retention GCC 45	The portion to be retained from each payment is 10% of the value of the Works and Materials. Half of the retention money will be released upon issuing of a Practical Completion Certificate to the Contractor, and the remaining half shall be released after the Defects Liability Period, subject to the Contractor making good all defects as approved by the Project Manager, and upon being issued a Defects Liability Certificate/Completion Certificate.
Liquidated Damages GCC 46	The liquidated damages for the whole of the Works are 0.2% of Contract Amount per calendar day. The maximum amount of liquidated damages for the whole of the Works is 6% of the Contract Amount.
Bonus GCC 47	Bonus payments are not applicable under this Contract.
Advance Payment GCC 48.1	Advance payments are not applicable under this Contract.
Performance Security	The successful bidder shall submit a Performance Security/ Bank Guarantee of at least 10% of the contract amount within seven (7) days after acceptance of the

GCC Clause Reference	Special Conditions
GCC 49.1	offer and before signing the contract, as per the format contained in Form 7 of this document. Failure to submit the performance guarantee within the stipulated time may result in forfeiture of the bid security and the award will be given to the next-ranked bidder.
Dayworks GCC 50	(i) For work of a minor or incidental nature, the Project Manager may instruct that a variation shall be executed on a dayworks basis. The work shall then be valued in accordance with the rates tendered for Dayworks, and the following procedure shall apply: (ii) Project Manager shall instruct the required work to the Contractor in writing. (iii) Before ordering any goods for the work, the Contractor shall submit quotations, or as agreed with the Project Manager. When applying payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any goods. (iv) The Contractor shall then deliver each day to the Project Manager accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work: (a) the names, occupations and time of Contractor's personnel (b) the identification, type and time of Contractor's equipment and temporary works (c) the quantities and types of plant and materials used (v) One copy of each statement will, if correct or when agreed, be signed by the Project Manager and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Project Manager, prior to their inclusion in the next Payment Certificates.
D. FINISHING THE CONTRACT	
Operating and Maintenance Manuals GCC 56	“As built” drawings/records, as agreed with the Project Manager, are required, and shall be submitted within a period of 14 calendar days after practical completion date by the Contractor to the Project Manager for approval. As-Built drawings shall be submitted by the contractor in three (3) copies of A1 paper size (laminated on both sides), as well as the georeferenced CAD file to be provided to the Project Manager. Failure by Contractor to submit “As built” drawings within the stipulated period means that the Contractor's invoice/claim at practical completion will not be paid, and the Completion Certificate will not be issued to the Contractor until “As built” drawings are submitted.
Payment upon Termination 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 is 10%.

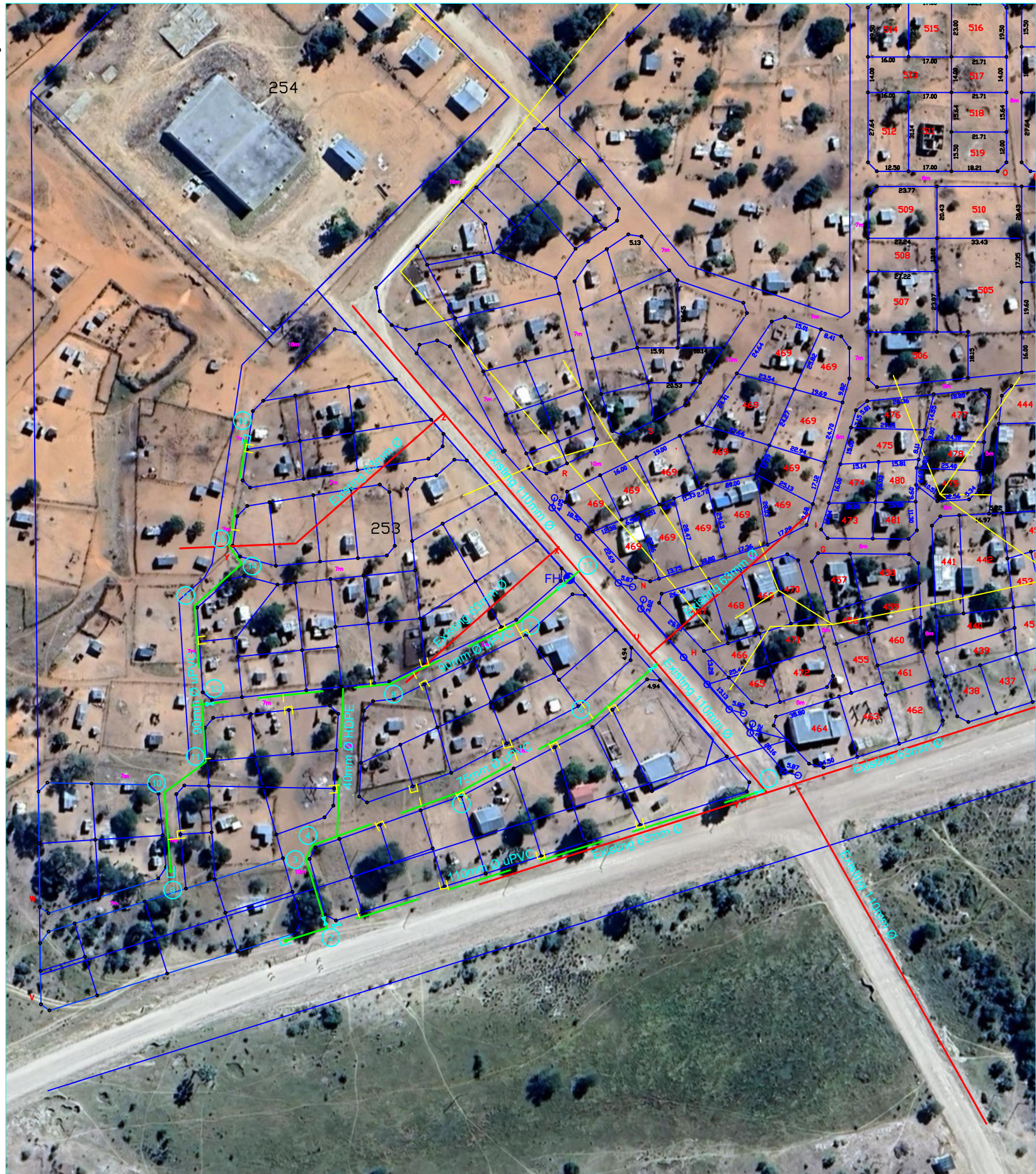
QUOTATION CHECKLIST

Procurement Reference No: W/RFQ/OTRC-11/2025/2026

This Checklist provides a list of some documents required from the bidders, and it shall be completed by the bidder by means of a tick symbol in the appropriate box.

Description	Attached	Not Attached
Original bid document issued by the Otjozondjupa Regional Council		
Quotation letter		
Priced Bill of Quantities		
Specification and Compliance Sheet		
Founding Statement or Company Registration Certificate		
Good Standing Tax Certificate		
Good Standing Social Security Tax Certificate		
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		
Bid Securing Declaration		
Written Undertaking in terms of Section 138 of the Labour Act, 2015		
Other required documents such as qualifications, Identity, and CVs of bidder/owner and key proposed personnel; equipment ownership proof or hire letter if applicable; proof of experiences; bidding forms and any other attachments as deemed appropriate or required in the bidding document.		

Disclaimer: The list defined above is meant to assist the Bidder in submitting the relevant documents and shall not be a ground for the bidder to justify its non-submission of major documents for its quotation to be responsive. The onus remains on the Bidder to ascertain that it has submitted all the documents that have been requested and are needed for its submission to be complete and responsive.



1. ALL WATER LINES TO BE uPVC CLASS 9.
2. ALL ERF CONNECTIONS TO BE 250 HDPE CLASS 10.
3. ALL WATER LINES TO BE 1000mm BELOW NGL, EXCEPT LINES AND CONNECTIONS CROSSING THE ROAD WHICH ARE TO BE MINIMUM 1200mm BELOW NGL.
4. FOR ROAD RESERVES 10m AND LESS:
 - a) WATER ONLY: 1.3m FROM ERF BOUNDARY
 - b) SEWER ONLY: 1.5m FROM ERF BOUNDARY
 - c) COMBINED SEWER AND WATER: 1.2m FOR SEWER AND 1.8m FOR WATER LINES.
5. FOR ROAD RESERVES WIDER THAN 10m:
 - a) WATER ONLY: 1.6m FROM ERF BOUNDARY
 - b) SEWER ONLY: 1.5m FROM ERF BOUNDARY
 - c) COMBINED SEWER AND WATER: 1.5m FOR SEWER AND 2.3m FOR WATER LINES.
6. THRUST BLOCKS AT EVERY REDUCER, VALVE, HYDRANT, BEND, TEE AND ENDCAP.
7. DRAWING TO BE READ IN CONJUNCTION WITH TYPICAL DRAWINGS 1-5
8. ALL WORK TO BE INSPECTED & APPROVED BY THE ENGINEER PRIOR TO CLOSING UP OF THE LINES.
9. ALL LEVELS TO BE CONFIRMED ON SITE

	ERF CONNECTION
	VALVE
	FIRE HYDRANT
	AIR VALVE
	NEW WATER LINE
	EXISTING WATER LINE

NO.	REVISIONS	DATE	INIT.

OTJOZONDJUPA REGIONAL COUNCIL

22 HENK WILLEMS ST, OTJIJARONGO
PO BOX 1682
Otjiwarongo

Tel: 067 - 303 702
Fax: 067 302 760

PROJECT TITLE

CONSTRUCTION OF WATER
RETICULATION INFRASTRUCTURE
IN OKATJORUU SETTLEMENT

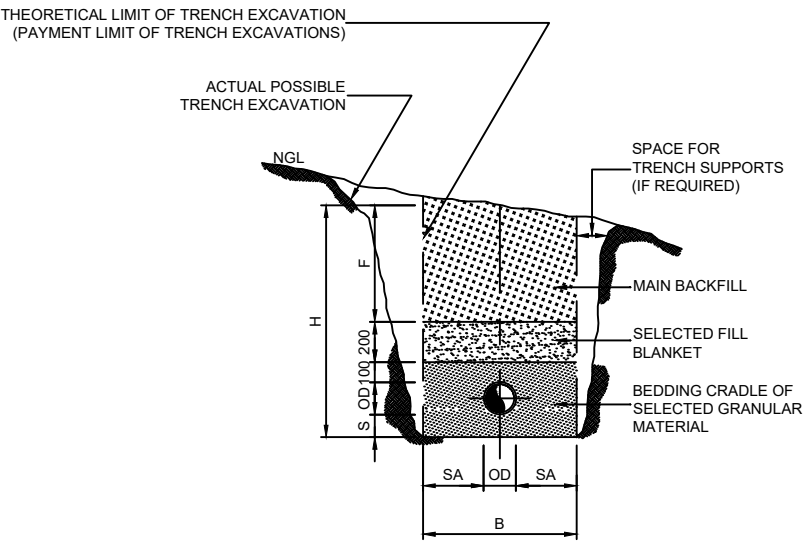
DRAWING TITLE

WATER LAYOUT AND NODES DETAILS (2)

SCALE	DRAWN	CHECKED	DATE
AS SHOWN	-	-	
DRAWING NUMBER			
OUW02			11/2025
			REVISION
			B

DRAWING PATH:

ISSUE DATE OF DRAWING:



TYPICAL STANDARD FOR TRENCH EXCAVATIONS
NTS

LEGEND FOR TRENCH EXCAVATIONS:

H = EXCAVATION DEPTH
F = MAIN FILL DEPTH
SA = SIDE ALLOWANCE
B = TRENCH WIDTH
OD = OUTSIDE DIAMETER OF PIPE
S = DEPTH OF BEDDING CRADLE BELOW 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 CRADLE OF COMPACTED SELECTED GRANULAR MATERIAL: (S + OD + 0.100) x B

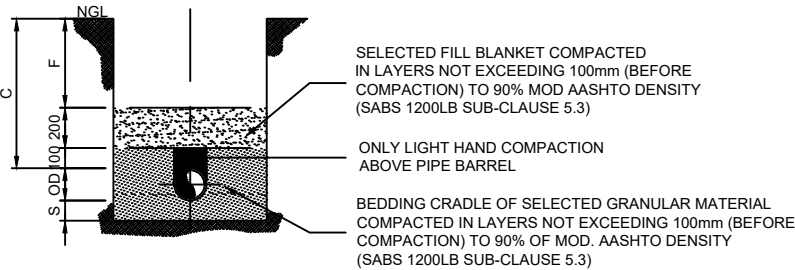
MEASUREMENT OF SELECTED FILL BLANKET: 0.200 x B

MEASUREMENT OF MAIN BACKFILL: F x B

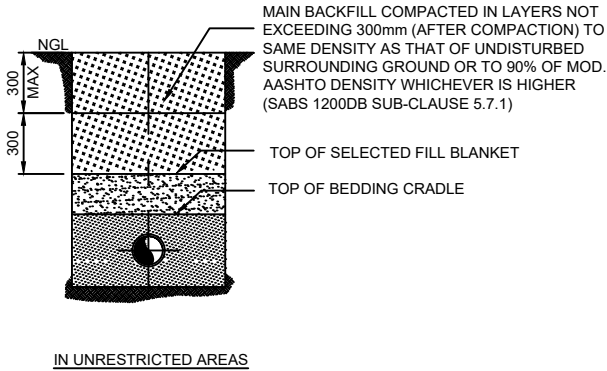
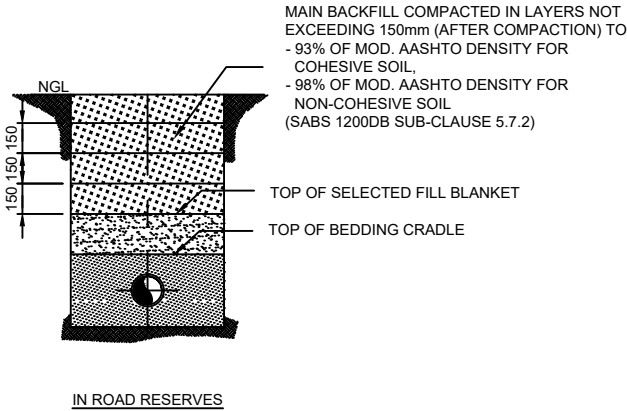
S = OD/4 BUT NOT LESS THAN 100mm AND NOT MORE THAN 200mm

TABLE FOR SIDE ALLOWANCE FOR FLEXIBLE PIPES
(SABS 1200DB SUB-CLAUSE 5.2)

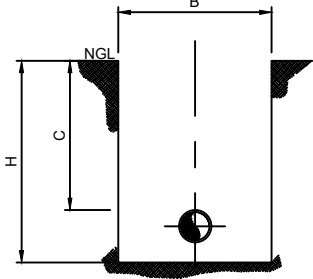
NOMINAL PIPE DIAMETER		SIDE ALLOWANCE
FROM	TO	SA
0	125	300
125	700	300
700	1000	400
1000	2000	500
MORE THAN	2000	600



STANDARD PLACING OF BEDDING MATERIAL FOR FLEXIBLE PIPES
NTS



STANDARD PLACING OF MAIN BACKFILL FOR FLEXIBLE PIPES
NTS



MINIMUM COVER TO PIPES
NTS

LEGEND FOR MINIMUM COVER TO PIPES:
C = MINIMUM REQUIRED COVER TO PIPE (NORMAL CONDITIONS)

NOTE:
VALUES IN TABLE ARE APPLICABLE UNLESS OTHERWISE SPECIFIED IN THE PROJECT SPECIFICATION:

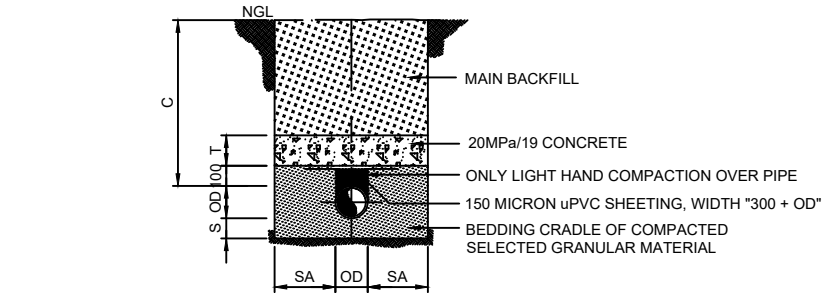
LOCATION	C (mm)
UNRESTRICTED AREAS	1000
ROAD RESERVES	1000
UNDER ROADS	1000

TABLE FOR PROTECTIVE CONCRETE SLAB

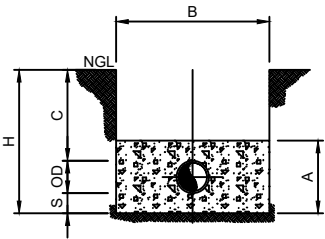
OD (mm)	S (mm)	SA (mm)	B (mm)	T (mm)
110	100	300	710	140
160	100	300	760	150
200	100	300	800	160
250	100	300	850	170
315	100	300	915	180
355	100	300	955	190
400	100	300	1000	200
450	110	300	1050	210

TABLE FOR CONCRETE ENCASEMENT

OD (mm)	A (mm)	S (mm)	SA (mm)	B (mm)
110	250	75	300	710
160	325	75	300	760
200	400	75	300	800
250	500	90	300	850
315	550	100	300	915
355	625	100	300	955
400	675	150	300	1000
450	725	150	300	1050



PROTECTIVE CONCRETE SLAB FOR FLEXIBLE PIPES
FOR 400 < C < 700
NTS

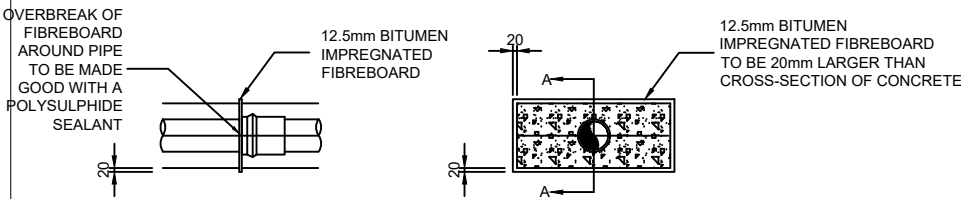


STANDARD DETAIL FOR CONCRETE ENCASEMENT FOR FLEXIBLE PIPES
(ONLY UPON WRITTEN INSTRUCTIONS OF ENGINEER)
NTS

LEGEND FOR MINIMUM COVER
C = COVER TO PIPE

NOTES:
CONCRETE ENCASEMENT MUST BE CAST MONOLITHICALLY.

VERTICAL EXPANSION JOINTS SHALL BE PLACED AT EACH FLEXIBLE PIPE JOINT.



SECTION A-A
SECTION THROUGH ENCASEMENT
VERTICAL EXPANSION JOINT DETAIL
NTS

NOTE

- ALL DIMENSIONS, SETTING OUT OF WORKS AND LEVELS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR AND CONFIRMED BY THE ENGINEER BEFORE COMMENCING WITH ANY WORK
- ALL WATER LINES TO BE uPVC CLASS 9 OR HDPE PE80/PN10 AS SPECIFIED.
- FOR ROAD RESERVES 10m AND LESS:
 - WATER ONLY: 1.3m FROM ERF BOUNDARY
 - SEWER ONLY: 1.5m FROM ERF BOUNDARY
 - COMBINED SEWER AND WATER: 1.2m FOR SEWER AND 1.8m FOR WATER LINES.
- FOR ROAD RESERVES WIDER THAN 10m:
 - WATER ONLY: 1.6m FROM ERF BOUNDARY
 - SEWER ONLY: 1.5m FROM ERF BOUNDARY
 - COMBINED SEWER AND WATER: 1.5m FOR SEWER AND 2.3m FOR WATER LINES.
- CONCRETE ENCASEMENT ONLY ON INSTRUCTION OF THE ENGINEER.
- ALL WORK TO BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO CLOSING UP OF THE LINES.

NO.	REVISIONS	DATE	INIT.



OTJOZONDJUPA REGIONAL COUNCIL

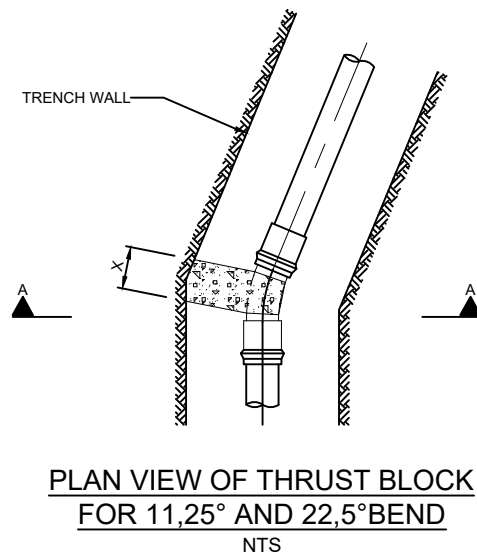
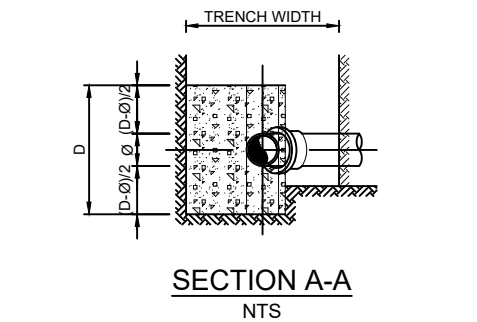
22 HENK WILLEMS ST, OTJIWARONGO
PO BOX 1682
Otjiwarongo

Tel: 067 - 303 702
Fax: 067 302 760

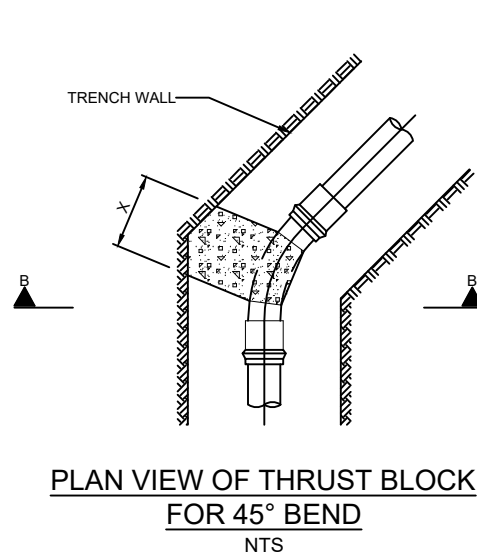
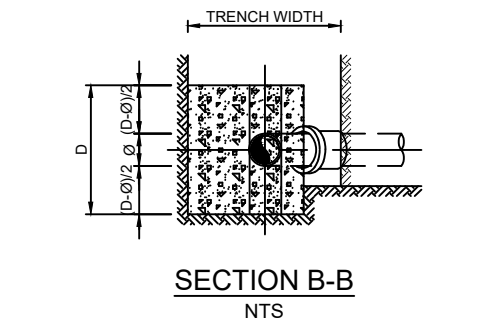
CONSTRUCTION OF WATER RETICULATION INFRASTRUCTURE IN OKATJORUU SETTLEMENT

DRAWING TITLE
TYPICAL TRENCH EXCAVATIONS AND BEDDING DETAILS FOR FLEXIBLE WATER PIPES

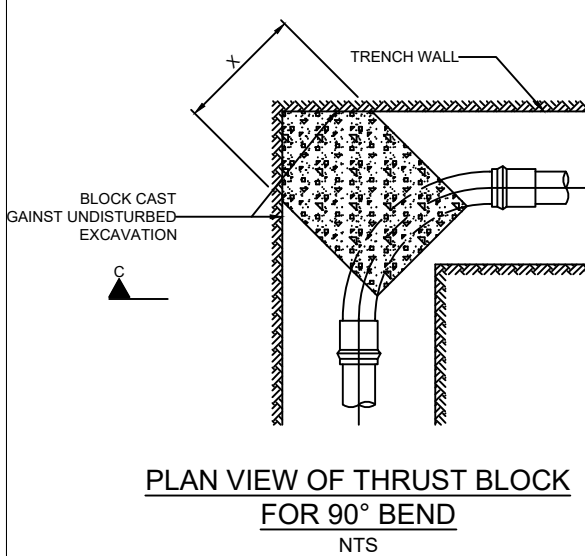
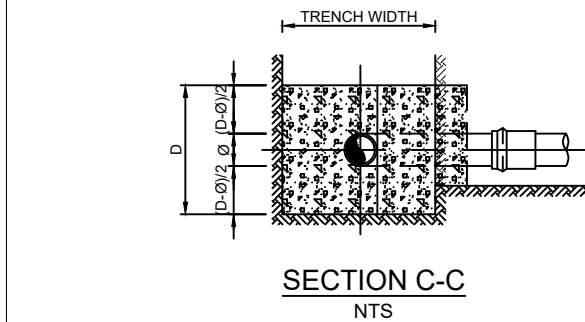
SCALE AS SHOWN	DRAWN	CHECKED	DATE
DRAWING NUMBER			
OUW03			11/2025
			REVISION
			B



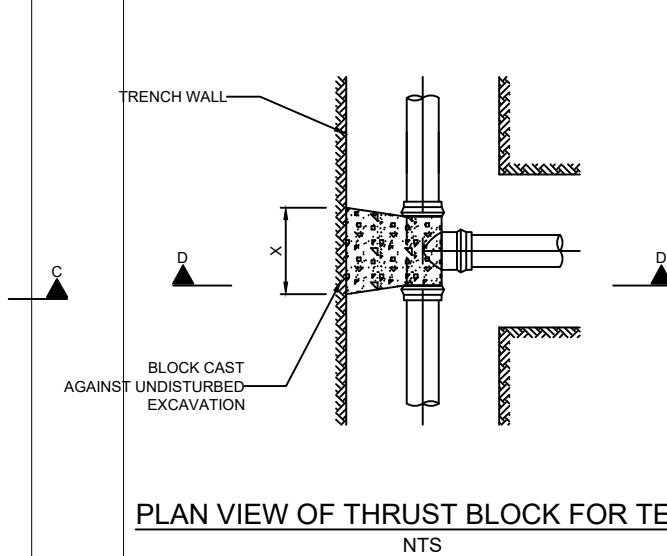
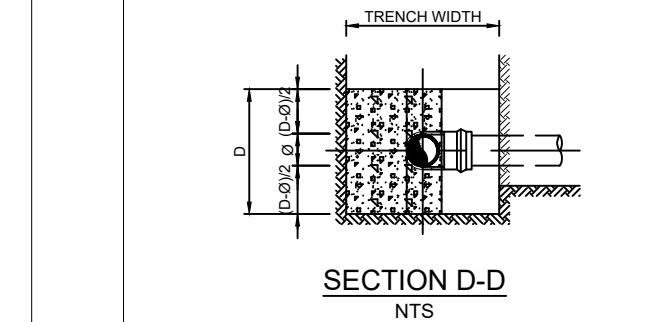
NOMINAL DIAMETER Ø(mm)	DEPTH OF BLOCK D(mm)	MAXIMUM TESTING PRESSURE
		1350 kPa X(mm)
600	1400	410
500	1400	390
400	1200	370
315	1200	352
200	800	250
160	640	210
110	440	120
90	360	100
63	252	100



NOMINAL DIAMETER Ø(mm)	DEPTH OF BLOCK D(mm)	MAXIMUM TESTING PRESSURE
		1350 kPa X(mm)
600	1400	710
500	1400	690
400	1200	670
315	1200	652
200	800	450
160	640	370
110	440	270
90	360	210
63	252	126



NOMINAL DIAMETER Ø(mm)	DEPTH OF BLOCK D(mm)	MAXIMUM TESTING PRESSURE
		1350 kPa X(mm)
600	1400	2160
500	1400	1810
400	1200	1460
315	1200	1200
200	800	750
160	640	630
110	440	440
90	360	360
63	252	252



NOMINAL DIAMETER Ø(mm)	DEPTH OF BLOCK D(mm)	MAXIMUM TESTING PRESSURE
		1350 kPa X(mm)
600	1400	1200
500	1400	1200
400	1200	1000
315	1200	840
200	800	550
160	640	430
110	440	330
90	360	270
63	252	190

- NOTE
1. ALL DIMENSIONS, SETTING OUT OF WORKS AND LEVELS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR AND CONFIRMED BY THE ENGINEER BEFORE COMMENCING WITH ANY WORK
 2. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 3. ALL WORK TO BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO CLOSING UP OF THE LINES.
 4. THRUST BLOCKS SHALL BE CAST ON AND AGAINST UNDISTURBED GROUND.
 5. THRUST BLOCKS AT EVERY REDUCER, VALVE, HYDRANT, BEND, TEE AND END CAPS.
 6. THE TABLES ARE VALID FOR 1000 kPa EARTH PRESSURE.
 7. X-DIMENSIONS MAY BE REDUCED FOR HIGHER EARTH BEARING PRESSURE.
 8. HALF OF THE DEPTH OF THE BLOCK SHALL BE BELOW THE PIPE AXIS.
 9. KEEP COUPLINGS AND FLANGES 25mm CLEAR FROM CONCRETE.
 10. THRUST BLOCKS SHALL BE MADE USING CLASS 15/19 CONCRETE.

NO.	REVISIONS	DATE	INIT.



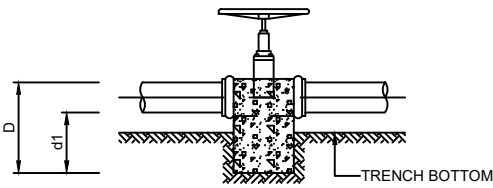
OTJOZONDJUPA REGIONAL COUNCIL
22 HENK WILLEMS ST, OTJIWARONGO
PO BOX 1682
Otjiwarongo
Tel: 067 - 303 702
Fax: 067 302 760

CONSTRUCTION OF WATER RETICULATION INFRASTRUCTURE IN OKATJORUU SETTLEMENT

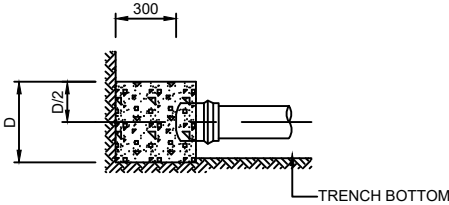
DRAWING TITLE
TYPICAL THRUST BLOCK DETAILS (1)

SCALE AS SHOWN	DRAWN	CHECKED	DATE
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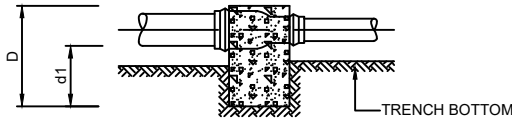
DRAWING NUMBER OUW04	REVISION B
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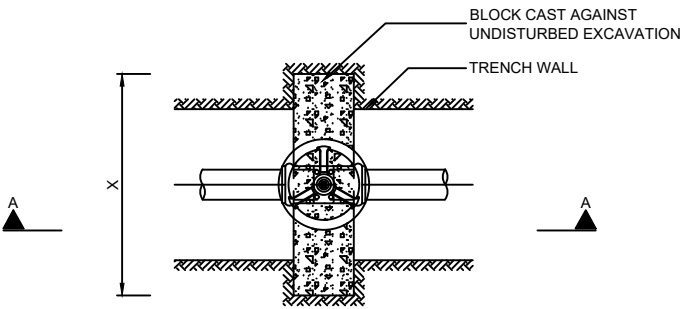
SECTION A-A
N.T.S



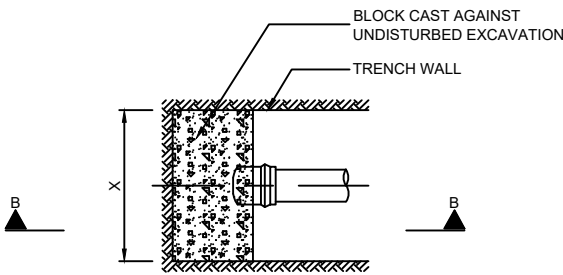
SECTION B-B
N.T.S



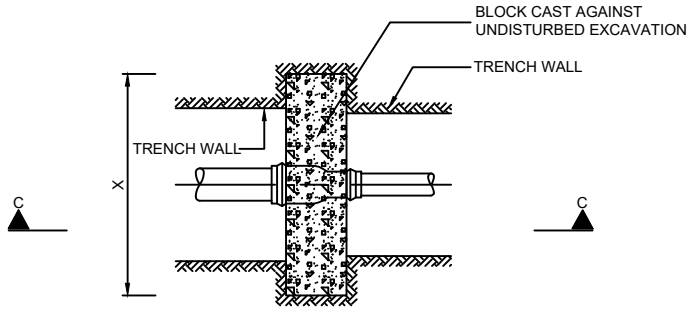
SECTION C-C
N.T.S



PLAN VIEW OF THRUST BLOCK FOR VALVES
N.T.S



PLAN VIEW OF THRUST BLOCK FOR END CAPS
N.T.S



PLAN VIEW OF THRUST BLOCK FOR REDUCERS
N.T.S

NOMINAL DIAMETER Ø(mm)	DEPTH OF BLOCK D(mm)	d1 (mm)	MAXIMUM TESTING PRESSURE
			1350 kP
400	700	300	1500
355	650	300	1400
315	600	300	1250
250	550	300	1150
200	500	300	1100
160	450	300	1100
110	400	300	1050
50 to 90	300	200	950

NOMINAL DIAMETER Ø(mm)	DEPTH OF BLOCK D(mm)	MAXIMUM TESTING PRESSURE
		1350 kP
400	800	1500
355	600	1400
315	600	1000
250	450	850
200	450	800
160	400	750
110	350	700
50 to 90	250-300	650-700

NOMINAL DIAMETER Ø(mm)	DEPTH OF BLOCK D(mm)	d1 (mm)	MAXIMUM TESTING PRESSURE
			1350 kP
400	800	300	1500
355	750	300	1400
315	700	300	1250
250	600	300	1150
200	550	300	1100
160	500	300	1100
110	450	300	1050
50 to 90	300	200	950

NOTE

1. ALL DIMENSIONS, SETTING OUT OF WORKS AND LEVELS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR AND CONFIRMED BY THE ENGINEER BEFORE COMMENCING WITH ANY WORK
2. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
3. ALL WORK TO BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO CLOSING OF THE LINES.
4. THRUST BLOCKS SHALL BE CAST ON AND AGAINST UNDISTURBED GROUND.
5. THRUST BLOCKS SHALL BE PROVIDED AT EVERY REDUCER, VALVE, HYDRANT, BEND, TEE AND END CAP.
6. THE TABLES ARE VALID FOR EXCAVATION IN MEDIUM LOAM.
7. KEEP COUPLINGS AND FLANGES 25mm CLEAR FROM CONCRETE.
8. THRUST BLOCKS SHALL BE MADE OF CLASS 15/19 CONCRETE.

NO.	REVISIONS	DATE	INIT.



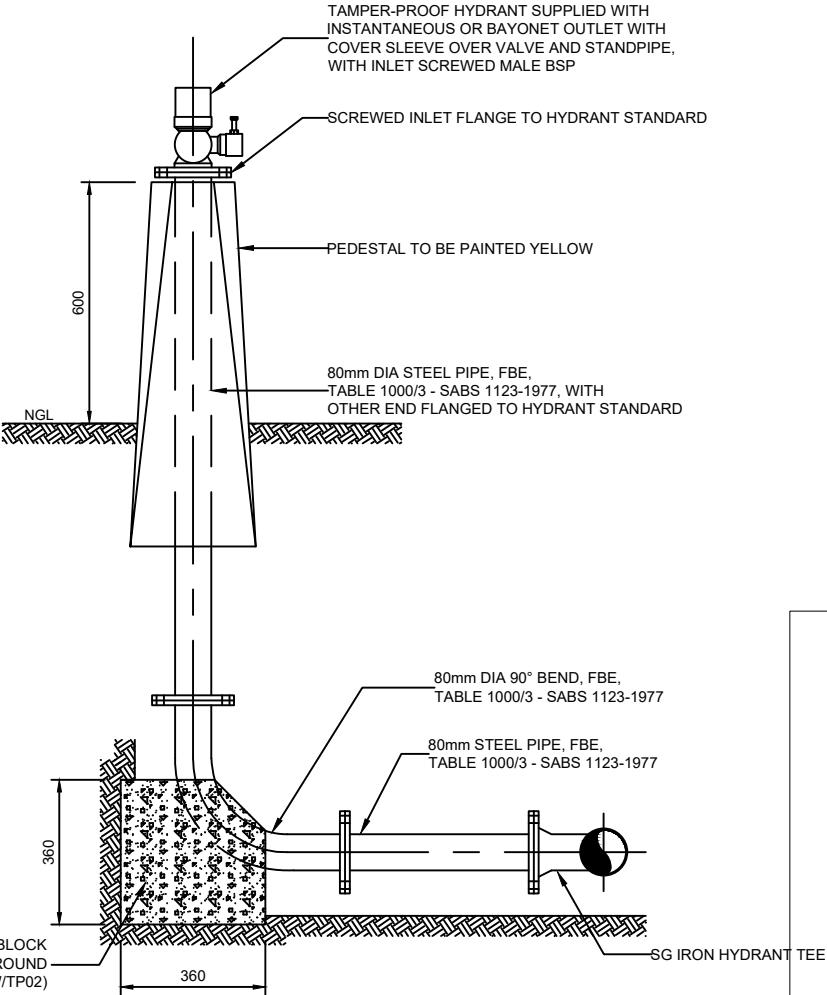
OTJOZONDJUPA REGIONAL COUNCIL

22 HENK WILLEMS ST, OTJIWARONGO
PO BOX 1682
Otjiwarongo

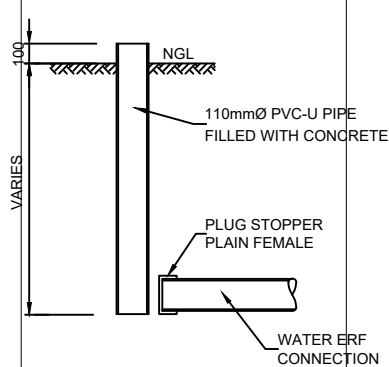
Tel: 067 - 303 702
Fax: 067 302 760

CONSTRUCTION OF WATER
RETICULATION INFRASTRUCTURE
IN OKATJORUU SETTLEMENT

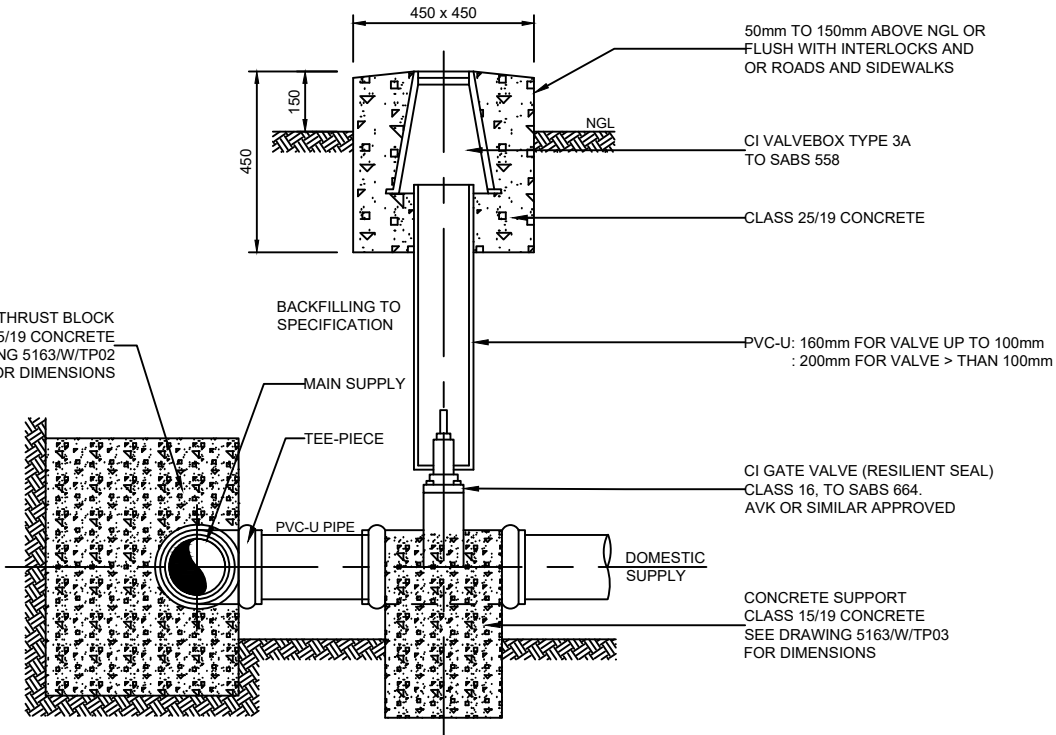
DRAWING TITLE			
TYPICAL THRUST BLOCK DETAILS (2)			
SCALE	DRAWN	CHECKED	DATE
AS SHOWN			
DRAWING NUMBER			REVISION
OUW05			11/2025
			B



TYPICAL PEDESTAL TYPE FIRE HYDRANT
NTS



TYPICAL ERF
CONNECTION MARKER
SCALE 1:20



TYPICAL PVC-U PIPE CONNECTION TO
MAIN SUPPLY/ ISOLATING VALVE DETAIL
NTS

- NOTE
1. ALL DIMENSIONS, SETTING OUT OF WORKS AND LEVELS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR AND CONFIRMED BY THE ENGINEER BEFORE COMMENCING WITH ANY WORK
 2. ALL WATER LINES TO BE PVC-U CLASS 9 OR AS SPECIFIED.
 3. ALL WATER LINES AND ERF CONNECTIONS TO BE 1000mm MINIMUM BELOW NGL.
 4. UNDERGROUND STEEL PIPES AND FITTINGS AND CONCRETE ENCASED STEEL PIPES AND FITTINGS SHALL BE PROTECTED AGAINST ELECTROLYTIC CORROSION WITH DENSO PETROLATUM TAPE ON DENSO PRIMING SOLUTION. SPECIALS SHALL BE FIRST TREATED WITH DENSO S105 PASTE.
 5. ALL WORK TO BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO CLOSING UP OF THE LINES.

NO.	REVISIONS	DATE	INIT.

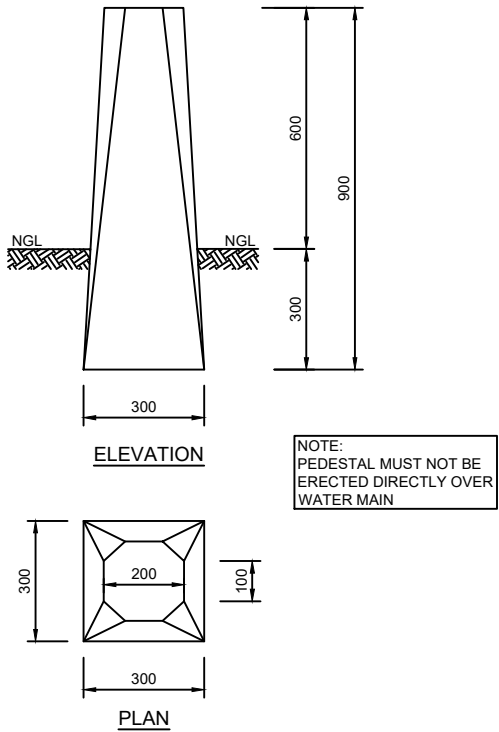
OTJOZONDJUPA REGIONAL COUNCIL

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Otjiwarongo

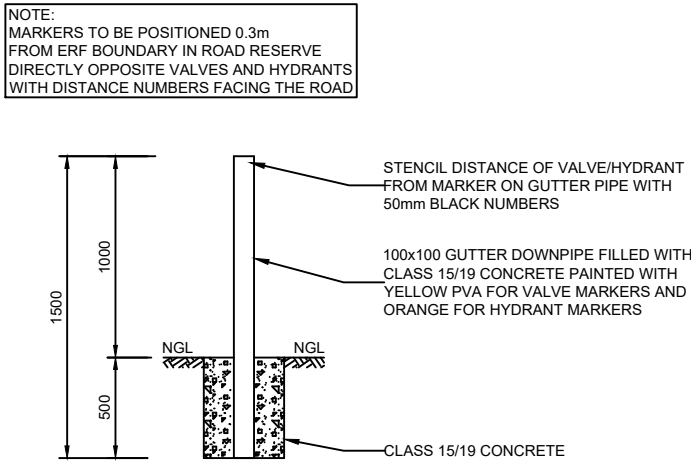
Tel: 067 - 303 702
Fax: 067 302 760

CONSTRUCTION OF WATER
RETICULATION INFRASTRUCTURE
IN OKATJORUU SETTLEMENT

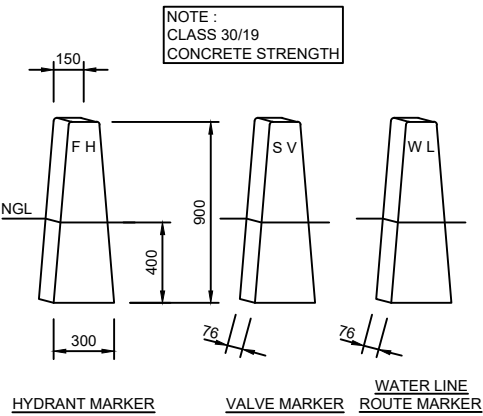
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FIRE HYDRANT, VALVE DETAILS AND PRECAST CONCRETE MARKERS DETAILS			
SCALE AS SHOWN	DRAWN	CHECKED	DATE
DRAWING NUMBER			REVISION
OUW06			11/2025
			B



CONCRETE PEDESTAL FOR FIRE HYDRANT
NTS

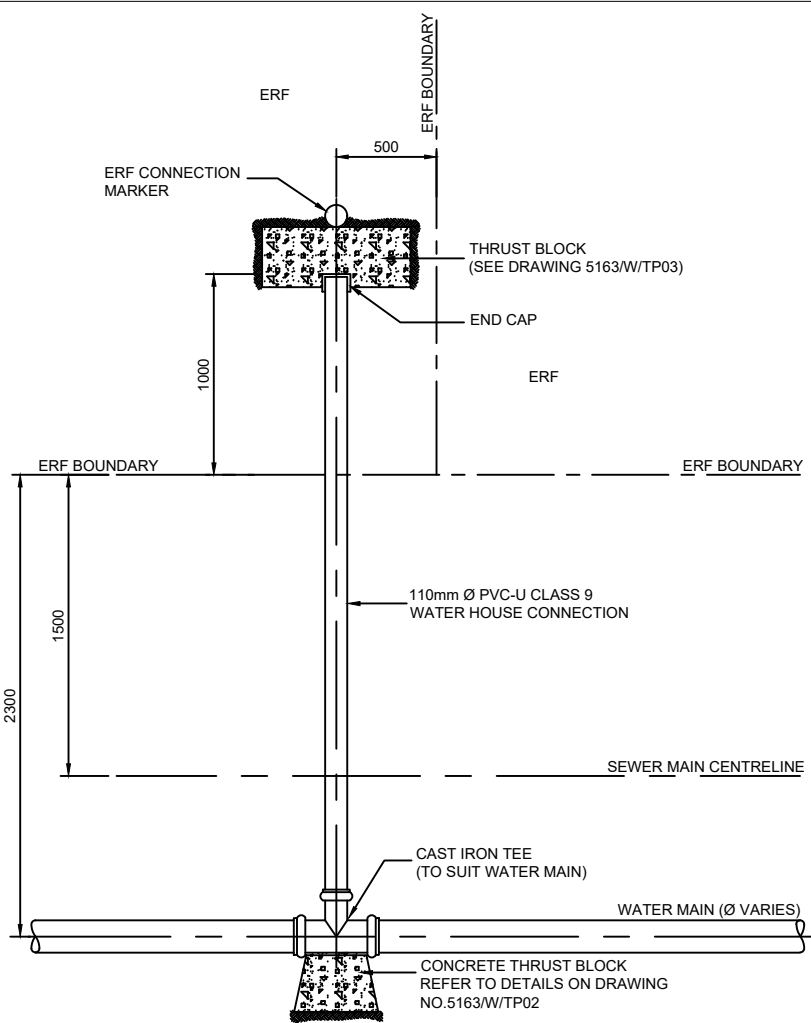


TYPICAL VALVE/HYDRANT MARKER
SCALE 1:20

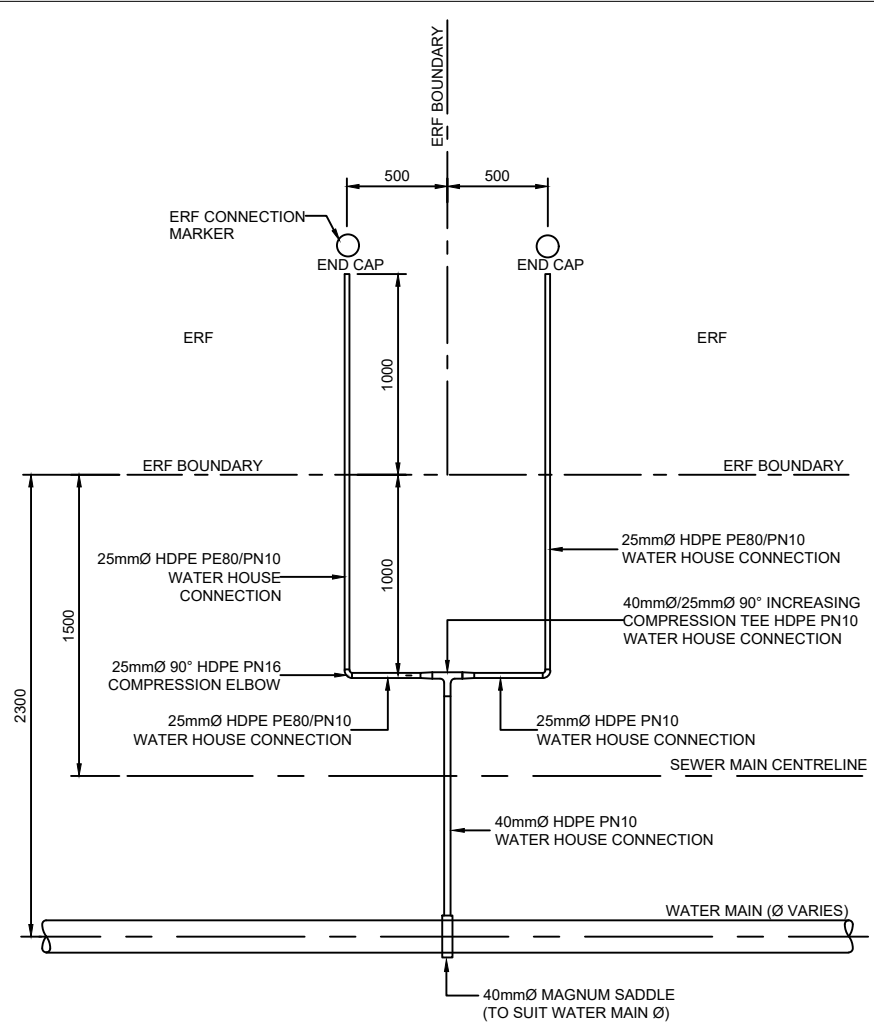


PRECAST CONCRETE MARKERS
SCALE 1 : 20

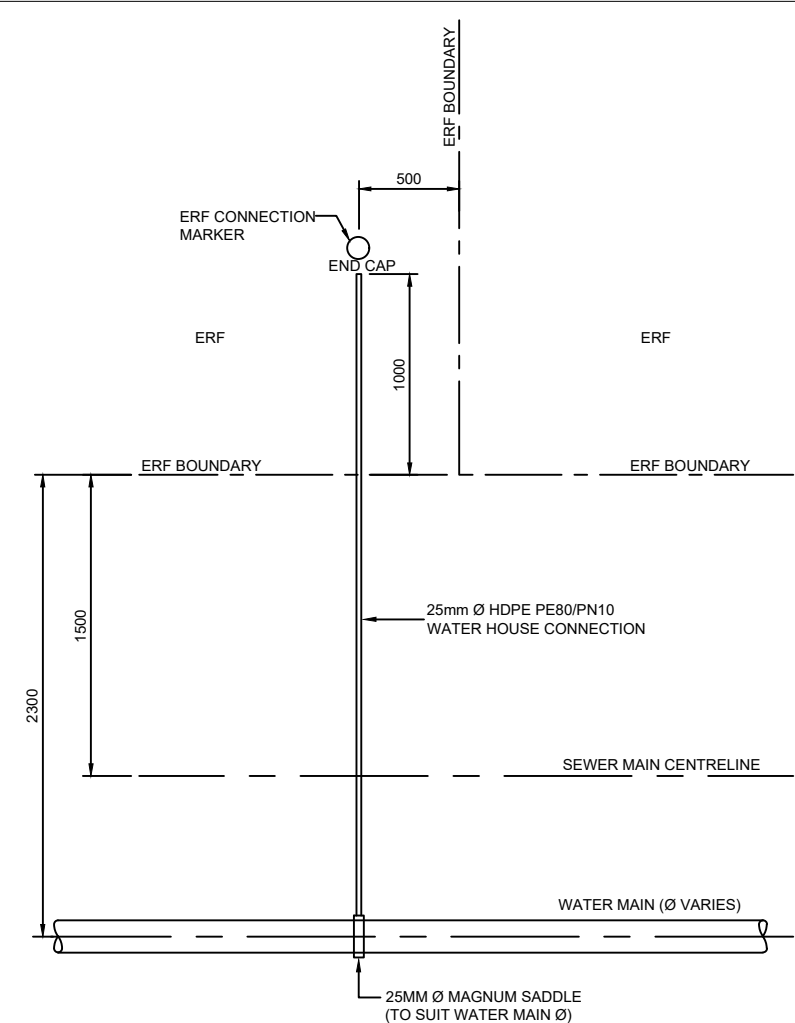
- CONSTRUCTION NOTE:
- VALVE, HYDRANT & WATER LINE MARKERS SHALL BE PRECAST, USING CLASS 30/19 CONCRETE
- LETTERWORK:
MIN. HEIGHT = 75mm
MIN. ENGRAVED DEPTH = 5mm
- PAINTWORK:
WL LETTERS = BLACK
FH LETTERS = RED
SV LETTERS = BLACK
MARKERS = YELLOW
- POSITION:
HYDRANT AND VALVE MARKERS SHALL BE PLANTED IN THE GROUND ON STREET BOUNDARIES, OPPOSITE FIRE HYDRANTS AND VALVE BOXES.



MULTIPLE UNIT ERF CONNECTION
(GENERAL RESIDENTIAL)
SCALE 1 : 20

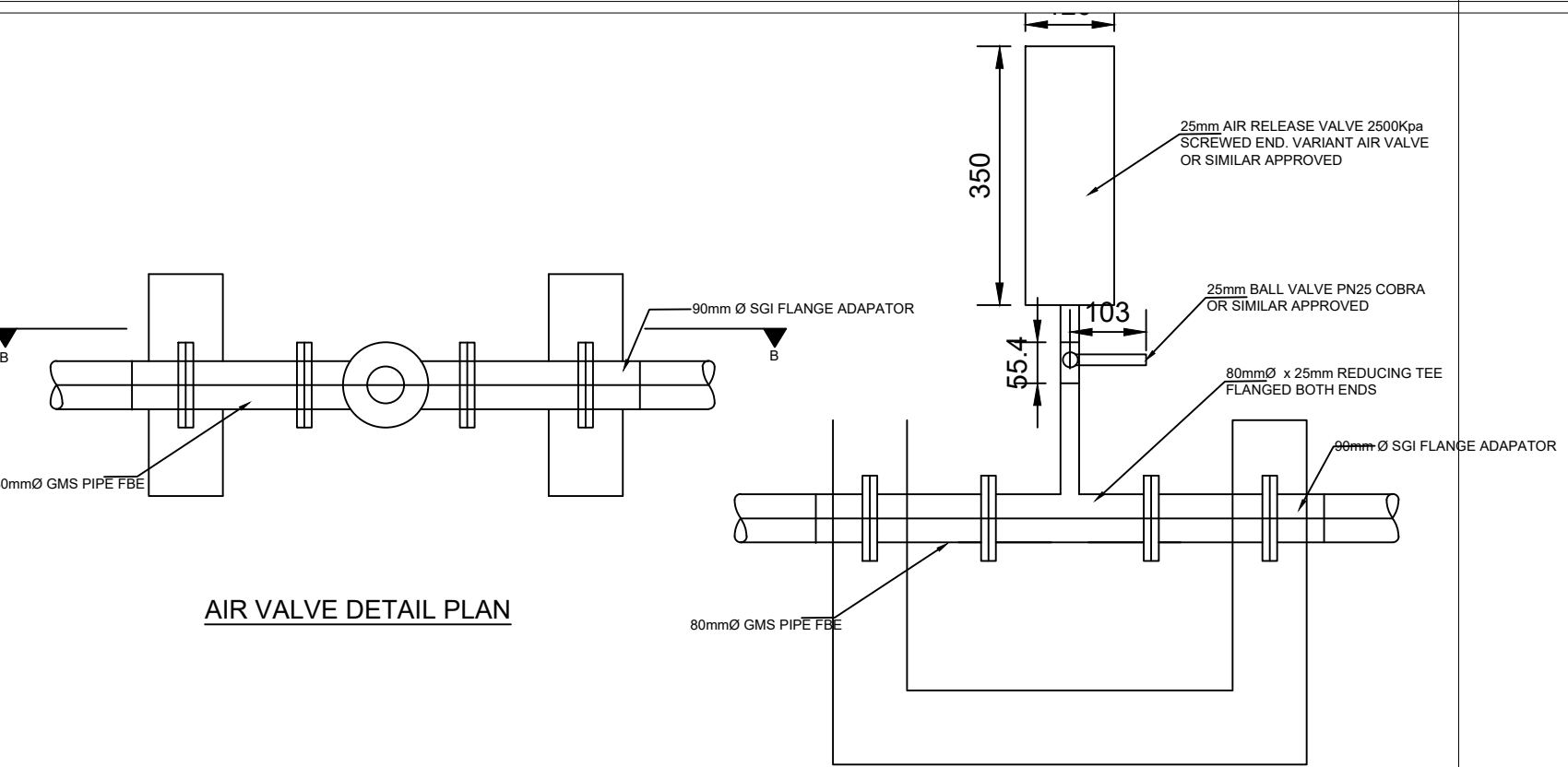


DOUBLE ERF CONNECTION
SCALE 1 : 20



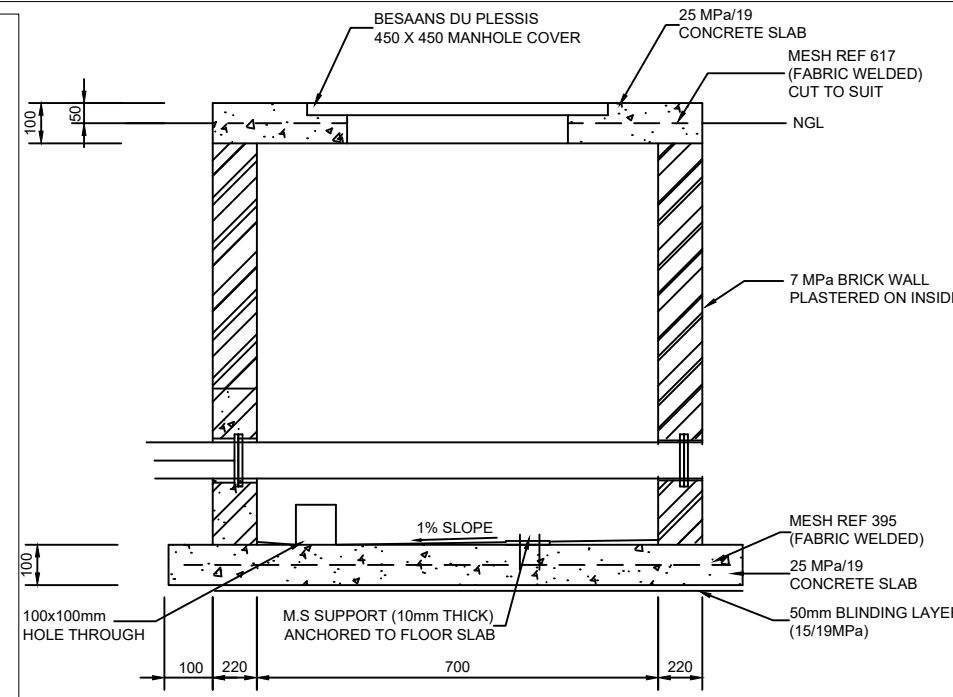
SINGLE ERF CONNECTION
SCALE 1 : 20

- NOTE
1. ALL DIMENSIONS, SETTING OUT OF WORKS AND LEVELS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR AND CONFIRMED BY THE ENGINEER BEFORE COMMENCING WITH ANY WORK
 2. ALL WATER LINES AND ERF CONNECTIONS TO BE 1000mm MINIMUM BELOW NGL.
 3. ALL WORK TO BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO CLOSING UP OF THE LINES.
 4. PIPE SPECIFICATIONS
 - PVC-U PRESSURE PIPES - SANS966 CLASSES 9 OR 12 AS SPECIFIED
 - POLYETHELENE PIPES - SANS4427 PE80/PN10 FOR 25 & 32 mm DIAMETER PIPES OR AS SPECIFIED.



AIR VALVE DETAIL PLAN

SECTION
SCALE 1:5



AIR VALVE CHAMBER TYPICAL DETAIL
SCALE 1:10

NO.	REVISIONS	DATE	INIT.
OTJOZONDJUPA REGIONAL COUNCIL 22 HENK WILLEMS ST, OTJIWARONGO PO BOX 1682 Otjiwarongo Tel: 067 - 303 702 Fax: 067 302 760			
CONSTRUCTION OF WATER RETICULATION INFRASTRUCTURE IN OKATJORUU SETTLEMENT			
DRAWING TITLE			
ERF CONNECTION AND AIR VALVE DETAILS			
SCALE AS SHOWN	DRAWN	CHECKED	DATE
DRAWING NUMBER			REVISION
OUW07			11/2025
			B