

# EMALAHLENI LOCAL MUNICIPALITY



## PROJECT NO: ELM 46/2023 CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (Phase 1) TENDER DOCUMENT

NAME OF TENDERER: .....

### PREPARED FOR :

**EMALAHLENI LOCAL MUNICIPALITY**  
CNR Mandela & Arras Street  
P.O. Box 3  
**EMALAHLENI,**  
1035



Telephone: 013 690 6300  
Fax: 013 690 6207  
Contact: Mr. Edwin Sedupane  
e-mail address: sedupaneme@emalahleni.gov.za

### PREPARED BY:

**NKP Consulting Engineers (Pty) Ltd.**  
Plot 76, The Best of Rest  
P.O Box 11  
Nelspruit,  
1200



**NKP**  
CONSULTANTS

Telephone: 013 492 0492  
Fax: 086 554 6578  
Contact: Mr Keagan Smith  
e-mail address: [paulos@nkpsa.co.za](mailto:paulos@nkpsa.co.za)

Tenderer: .....

CIDB Registration Number: .....

Total of the prices inclusive of value added tax: R .....

Amount in words: .....

CSD Registration Number: .....

Preferences claimed for tendered contract participation goal of : NOT APPLICABLE

## EMALAHLENI LOCAL MUNICIPALITY



### TENDER NO: ELM 46/2023 CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS EMPUMELELWENI (PHASE 1)

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**  
**CIDB REFERENCE NO: 100087417**  
**CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN**  
**EMPUMELELWENI (PHASE 1)**

<b>T1.1 PROJECT NOTICE</b>
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EMALAHLENI LOCAL MUNICIPALITY MPUMALANGA INVITES TENDERS FOR THE CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI PHASE 1

It is estimated that tenderers should have a cidb contractor grading of 6CE or higher. 5CE Potentially Emerging Enterprises who satisfy criteria stated in the Tender Data may submit Tender offers.

Preferences are offered to tenderers who have a grading of 6CE/5CE PE

Tender documents will be obtainable from Friday, 08 September 2023 from [www.emalahleni.gov.za](http://www.emalahleni.gov.za) or [www.etenders.gov.za](http://www.etenders.gov.za).

Duly completed tenders enclosed in a sealed envelope marked "CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI PHASE 1, BID NO. ELM 46/2023, CLOSING DATE: 06 OCTOBER 2023" with the name of the Tenderer, shall be deposited in the clearly marked tender box situated at Emalahleni Local Municipality, Civic Centre, 29 Mandela Street, eMahahleni, 1035 before 11h00 on the closing date. The tenders will thereafter be opened in public.

A non-compulsory virtual clarification meeting with representatives of the Employer will take place on Wednesday, 13 September 2023 starting at 10h00 via Microsoft Teams. Tenderers are required to register for attending the virtual briefing to be conducted by the Clients Representative by sending details (email address and representative name and surname) of the bidding entity to [paulos@nkpsa.co.za](mailto:paulos@nkpsa.co.za). A Microsoft Teams invite will be sent to the bidding entities registered not later than Tuesday, 12 September 2023 at 12:00.

A preferential point system shall apply whereby a contract will be allocated to a tenderer in accordance with the Preferential Procurement Regulations, 2022 and as defined in the Conditions of Tender in the tender document, read in conjunction with the Supply Chain Management Policy of ELM where 80 points will be allocated in respect of price and 20 points in respect of Specific goals.

T1.1.1

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

No awards will be made to a person :

- Who is in the service of the state;
- If that person not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state and or;
- who is an advisor or consultant contracted with the municipality or municipal entity.

The Municipality reserves the right to withdraw any invitation to tender and /or to re-advertise or to reject any tender or to accept a part of it.

Queries relating to the issues of these documents may be addressed to:

Mr M.E Sedupane

Tel No. 013 690 6298

Fax No. 013 690 6207

E-mail. [sedupaneme@emalahleni.gov.za](mailto:sedupaneme@emalahleni.gov.za)

OR

Ms Z. Moroku

Tel No. 013 690 6497

Fax No. 013 690 6207

E-mail. [masangonz@emalahleni.gov.za](mailto:masangonz@emalahleni.gov.za)

OR

NKP Consulting Engineers (Pty) Ltd

Tel No. 013 492 0492

Fax No. 086 554 6578

E-mail. [paulos@nkpsa.co.za](mailto:paulos@nkpsa.co.za)

The closing time for receipt of Tenders is 11h00 on Friday, October 6, 2023.

Emailed and Late Tenders will not be accepted.

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

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

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T1.1.2

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2



## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)**

<b>T1.2    TENDER DATA</b>
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The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (Feb 2008) as published in Government Gazette No: 30692, Board Notice 9 of 2008 of 1 February 2008. (See [www.cidb.org.za](http://www.cidb.org.za)).

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

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

Clause Number	
F.1.1	<b>The Employer is:</b> <b><i>Emalahleni Local Municipality</i></b> <b><i>P.O Box 3</i></b> <b><i>Emalahleni</i></b> <b><i>1035</i></b>

T1.2.1

<small>Contractor</small>

<small>Witness 1</small>

<small>Witness 2</small>

<small>Employer</small>

<small>Witness 1</small>

<small>Witness 2</small>

F.1.2	<p><b>The Tender documents issued by the Employer comprise the following documents:</b></p> <p><b>THE TENDER</b></p> <p><b>Part T1 : Tendering Procedures</b></p> <p><b>T1.1 Project Notice</b></p> <p><b>T1.2 Tender Data</b></p> <p><b>Part T2: Returnable Documents</b></p> <p><b>T2.1 List of Returnable documents</b></p> <p><b>T2.2 Returnable schedules</b></p> <p><b>THE CONTRACT</b></p> <p><b>Part C1: Agreements and Contract Data</b></p> <p><b>C1.1 Form of offer and acceptance</b></p>	
F.1.2	<p>C1.2 Contract Data</p> <p>C1.3 Performance guarantee</p> <p><b>Part C2: Pricing Data</b></p> <p>C2.1 Pricing Instructions</p> <p>C2.2 Bill of Quantities</p> <p><b>Part C3: Scope of Work</b></p> <p>C3 Scope of Work</p> <p><b>Part C4: Site Information</b></p> <p>C4 Site Information</p> <p><b>Part C5 : Relevant Documentation</b></p> <p>Health and Safety Specifications</p> <p>Pro-forma agreement in terms of Occupational Health and Safety Act</p> <p>Notification of construction work</p> <p>Pro-forma contract between contractor and worker</p> <p>Pro-forma attendance register</p> <p>Contract person days calculation format</p> <p>Contractor's monthly report format</p>	
F.1.3	<p><b>Interpretation</b></p> <p>The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these tender conditions.</p>	
F.1.4	<p><b>The Employer's Agent is:</b></p>	
	<p><b>NKP Consulting Engineers (Pty) Ltd</b>  <b>Tel: 013 492 0492</b>  <b>Fax: 086 554 6578</b></p>	<p><b>Portion 76, The Rest Road</b>  <b>P.O. Box 11</b>  <b>Nelspruit, 1200</b></p>
F.1.5	<p><b>The Employer's right to accept or reject any tender offer</b></p> <p>The employer has the right not to accept the lowest tender and to accept the whole or part of any tender or not to consider any tender not suitably endorsed is fully reserved by EMALAHLENI LOCAL MUNICIPALITY.</p>	
F.2.2	<p><b>Compensation of tendering</b></p> <p>Accept that the Employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements.</p>	

T1.2.2

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.2.3	<b>Check documents</b> Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.
F.2.4	<b>Confidentiality and copyright</b> Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.
F.2.5	<b>Reference documents</b> Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.
F.2.6	<b>Acknowledge Addenda</b> Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary, apply for an extension of the closing time stated in the tender data, in order to take the addenda into account.
F.2.7	<b>Site briefing meeting</b> A compulsory clarification meeting will be held on:  <div style="display: flex; justify-content: space-between;"> <div style="width: 20%;">Date:</div> <div>Refer to T1.1 TENDER NOTICE AND INVITATION TO TENDER for date and time.</div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 20%;">Location:</div> <div>EMALAHLENI LOCAL MUNICIPALITY CNR Mandela &amp; Arras Street EMALAHLENI, 1035</div> </div>
F.2.11	<b>Alterations to documents</b> Not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

T1.2.3

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

F2.13	<p><b>Submitting tender offer:</b></p> <p>No Tender document will be considered unless submitted on Council's Official Tender Document. Return all the returnable documents to the employer after completing them. Tenders must be deposited in the tender box clearly marked with project description.</p> <p><b>Tender No: ELM 46/2023-CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (Phase 1).</b></p> <p>Location of tender Box: Main Entrance Ground Floor Emalahleni Local Municipality Building Physical Address: EMALAHLENI LOCAL MUNICIPALITY, CNR Mandela &amp; Arras Street EMALAHLENI, 1035</p> <p>Telephonic, telegraphic, telex, facsimile or emailed tenders will not be considered</p> <p>All tender received by the EMALAHLENI LOCAL MUNICIPALITY will remain in the Municipality's possession until after the stipulated closing date and time.</p> <p>Accept that a tender submitted to the employer cannot be withdrawn or substituted. No substitute tenders will be considered</p>
F.2.16	The Tender offer validity period is 90 Days.
F.2.18	The tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the Labour Intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
F2.20	<p>The tenderer is required to submit a Performance Guarantee from an approved insurer within <b>14</b> days from appointment. A format is included in Part C1.3 of this document.</p> <p>The tenderer is to submit to the employer before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.</p>

T1.2.4

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

F.3.11

**Tender evaluation points**

The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 system shall be applicable.

Preference points for this bid shall be awarded for:

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

The maximum points for this bid are allocated as follows:

	POINTS
<b>PRICE</b>	<b>80</b>
<b>SPECIFIC GOALS</b>	<b>20</b>
<b>Total points for Price and Specific goals</b>	<b>100</b>

**Evaluation of Tenders**

The Tenderers notice is drawn to the fact that the evaluation, adjudication and awarding of this tender will be in terms of the Supply Chain Management Policy of the ELM.

The following steps will be followed in evaluation;

1. Determination of whether or not tender offers are complete.
2. Determination of whether or not tender offers are responsive.
3. Determination of the reasonableness of tender offers.
4. Confirmation of the eligibility of preferential points claimed by tenderers.
5. Determination of expertise and experience of tenderers.
6. Awarding of points for financial offer.
7. Ranking of tenderers according to the total points
8. Performance of risk analysis by checking the credit record of the tenderers

**Evaluation Criteria**

Tenders are adjudicated in terms of ELM Supply Chain Management Policy, and the following framework is provided as a guideline in this regard.

T1.2.5

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

	<p><b>Size of enterprise and current workload</b></p> <ul style="list-style-type: none"> <li>▪ Evaluation of the Tenderer's position in terms of:</li> <li>▪ Previous and expected current annual turnover</li> <li>▪ Current contractual obligations</li> <li>▪ Capacity to execute the contract</li> </ul> <p><b>Staffing profile</b></p> <p>Evaluation of the Tenderer's position in terms of:</p> <ul style="list-style-type: none"> <li>▪ Staff available for this contract being Tendered for</li> <li>▪ Qualifications and experience of key staff to be utilised on this contract.</li> </ul> <p><b>Proposed Key Personnel</b></p> <p>In this part of the tender, the Tenderer shall also supply Curriculum Vitae (CV's) for the Staff available named and working on full time basis for the Tenderer. The CV should follow the normal Professional Format.</p> <p>Each CV should give at least the following:</p> <ul style="list-style-type: none"> <li>• Position in the firm and within the organisation of this assignment</li> <li>• PDI status (describing population group, gender and disabilities)</li> <li>• Educational qualifications</li> <li>• Professional Registrations</li> <li>• Relevant experience (actual duties performed, involvement and responsibility), including locations, dates and durations of assignments, starting with the latest.</li> <li>• Language proficiency and</li> <li>• References (company name, individual name, position held, contact details)</li> </ul> <p>Much importance will be placed on the experience of the staff proposed. The Tender must ensure that, if selected, the nominated staff will be assigned as proposed. Failure to do so may result in the annulment of any acceptance of the Tenders' proposal and/ or Agreement entered into by the Client for the execution of the services</p> <p><b>Previous experience</b></p> <p>The procedure for the evaluation of responsive Bids will be on the previous projects where the firm was involved for EMALAHLENI LOCAL MUNICIPALITY (ELM) projects or other clients. Reference of clients other than ELM MUST be provided.</p> <p>The tenderer shall list in the appropriate Forms the appropriate related projects undertaken by the member firms of the tenderer within the last five (5) years.</p> <p>Evaluation of the Tenderer's position in terms of his previous experience. Emphasis will be placed on the following:</p> <ul style="list-style-type: none"> <li>• Experience in the relevant technical field</li> <li>• Experience of contracts of similar size</li> <li>• Some or all of the references will be contacted to obtain their input.</li> </ul> <p>The tenderer shall provide documentation of company experience of each member of the Consortium/Joint Venture related projects</p>
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T1.2.6

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

	<p>If the Tender does not meet the requirements contained in the ELM Procurement Policy, and the mentioned framework, it will be rejected by the Council, and may not subsequently be made acceptable by correction or withdrawal of the non-conforming deviation or reservation.</p> <p>Penalties</p> <p>The EMALAHLENI LOCAL MUNICIPALITY will if upon investigation it is found that a preference in terms of the Act and these regulations has been obtained on a fraudulent basis, or any specified goals are not attained in the performance of the contract, on discretion of the Municipal Manager, one or more of the following penalties will be imposed:</p> <ul style="list-style-type: none"> <li>• Cancel the contract and recover all losses or damages incurred or sustained from the Tenderer.</li> <li>• Impose a financial penalty at the discretion of Council</li> </ul> <p>Restrict the contractor, its shareholders and directors on obtaining any business from the EMALAHLENI LOCAL MUNICIPALITY for a period of 5 years</p>
F.3.11.5	<p><b>Evaluation Method 4</b></p> <p>Which entails the balance between financial offer, preferences and Quality and 80-20 points system, will be adopted.</p>
F.3.18	<p>The number of paper copies of the signed contract to be provided by the Employer is one.</p>
	<p>The additional conditions of Tender are:</p> <ol style="list-style-type: none"> <li>1 Emalahleni Local Municipality may also request that the Tenderer provide written evidence that his financial, labour and resources are adequate for carrying out the project.</li> <li>2 The Emalahleni Local Municipality reserves the right to appoint a firm of chartered accountants and auditors and / or execute any other financial investigations on the financial resources of any Tenderer. The Tenderer shall provide all reasonable assistance in such investigations.</li> <li>3 The Emalahleni Local Municipality reserves the right to appoint a different Contractor for each project. The Tenderer shall be required to complete the form of offer (C1.1) and the Bill of Quantities (C2.2) for each project.</li> </ol>
	<p>The tenderer is to note that the following <b>Additional Relevant Documents</b> attached into Part 5 of this document will form part of this contract:</p> <ol style="list-style-type: none"> <li>(i) Health and Safety Specifications</li> <li>(ii) Pro-forma agreement in terms of Occupational Health and Safety Act</li> <li>(iii) Notification of construction work</li> <li>(iv) Pro-forma contract between contractor and worker</li> <li>(v) Pro-forma attendance register</li> <li>(vi) Contract person days calculation format</li> <li>(vii) Contractor's monthly report format</li> </ol>

T1.2.7

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

F.3.11.6	<b>Evaluation Criteria</b>	
	The Construction Firm's tender responsiveness in relation to points is therefore summarized as follows:	
	Organising and Staffing	20
	Plant	10
	Experience of Firm	30
	Bank Ratings	10
	<b>Sub-Total</b>	<b>70</b>

**A firm must obtain a minimum of 50 points out of the 70 points above to be considered for price and Specific goals.**

T1.2.8

<div></div> <div>Contractor</div>	<div></div> <div>Witness 1</div>	<div></div> <div>Witness 2</div>	<div></div> <div>Employer</div>	<div></div> <div>Witness 1</div>	<div></div> <div>Witness 2</div>
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**Organising and Staffing (Maximum points obtainable 20)**

**Project Manager / Team Leader:** .....

Evaluation Criteria	Minimum Required	Elimination Factor	Points obtainable	Points Claimed
Academic Qualifications	Diploma in Civil or equivalent	No	3	
Academic Qualifications	Diploma in Project Management or equivalent	No	2	
	Matric		0	
<b>Sub-total</b>			<b>5</b>	
Experience of Team Leader in similar projects		<b>Elimination Factor</b>		
Involvement in comparable projects (Technical)	0 - 1	No	0	
	1 - 2	No	1	
	3 - 4	No	2	
	5 upwards	No	3	
<b>Sub-total</b>			<b>3</b>	
<b>Total</b>			<b>8</b>	

**Site Agent:** ..... *(Maximum Points obtainable 4, minimum 2)*

**Name:** .....

Evaluation Criteria	Minimum Required	Elimination Factor	Points obtainable	Points Claimed
Academic Qualifications	Diploma in civil works or equivalent	No	2	
Academic Qualifications	No formal Education in Construction	No	0	
<b>Sub-total</b>			<b>2</b>	
Years of experience in similar projects	0 - 1	No	0	
	1 - 2	No	1	
	3 and above	No	2	
<b>Sub-total</b>			<b>2</b>	
<b>Total</b>			<b>4</b>	

**Note:** Should the Site Agent be the same as Contractor Manager zero points will be allocated.

T1.2.9

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**Site Foreman:** **(Maximum Points obtainable 4; minimum 1)**

**Name:** .....

Evaluation Criteria	Minimum Required	Elimination Factor	Points obtainable	Points Claimed
Academic Qualifications (Note 10)Form L	N6 in Civil or equivalent	No	2	
<b>Sub-total</b>			<b>2</b>	
Years of experience after qualification	0-1	No	0	
	1 – 2	No	1	
	3 upwards	No	2	
<b>Sub-total</b>			<b>2</b>	
<b>Total</b>			<b>4</b>	

**Note: Should the Site Foremen be the same Site Agent and Team leader zero points will be allocated**

**Safety Officer:** **(Maximum Points obtainable 4; minimum 2)**

**Name:** .....

Evaluation Criteria	Minimum Required	Elimination Factor	Points obtainable	Points Claimed
Academic Qualifications	Occupational Health and Safety Certificate or equivalent (SAMTRAC)	No	2	
<b>Sub-total</b>			<b>2</b>	
Years of experience after qualification	0-1	No	0	
	1-2	No	1	
	3 upwards	No	2	
<b>Sub-total</b>			<b>2</b>	
<b>Total</b>			<b>4</b>	

**Note: Should the Safety Officer be the same as Team leader, Site Agent, Site Foreman zero points will be allocated.**

T1.2.10

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ORGANISING AND STAFFING/PERSONNEL		
PERSONNEL	TOTAL	SCORES
Construction Manager/Team Leader	8	
Site Agent	4	
Health and Safety Officer	4	
Site Foreman	4	
<b>TOTAL</b>	<b>20</b>	

#### **PLANT (Maximum Points obtainable 10)**

It must be noted that total points of **10** are obtainable by the Construction Firm in relation to the requirements as mentioned on the table below, failure to submit evidential supporting documents is not an eliminating factor **BUT** a zero point will be scored. Letter of intent or quotation from the lessor must be attached.

Evaluation Criteria	Minimum Required	Elimination Factor	Points obtainable (Own)	Points obtainable (leased)	Points Claimed
Firm's plant and equipment – <b>Note:</b> Proof of ownership the firm's equipment must be attached and failure to do so will result in forfeiting the plant points	Firm's number of Grader x 1	No	2.5	1.5	
	Firm's number of TLBs x 2	No	2.5	1.5	
	Firm's number of Tipper Trucks x 2	No	2.5	1.5	
	Water tanker x 1	No	2.5	1.5	
<b>Sub-total</b>			<b>10</b>	<b>6</b>	
<b>Total</b>			<b>10</b>	<b>6</b>	

#### **EXPERIENCE OF FIRM (Maximum Points obtainable 30)**

##### **Note: Company's previous completed projects**

It must be noted that the experience of the firm carries a maximum of **30 points** as indicated in the table below. If proof of testimonials and appointment letters, in reference to Form E not provided, then the bidder shall obtain zero points on the experience of the firm.

Provide proof of the company's previous completed projects which is in the form appointment letters and completion certificates. Verifiable references (appointment letters and completion certificates) with contact details must be attached.

T1.2.11

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Evaluation Criteria	Evaluation Criteria	Elimination Factor	Points obtainable	Points Claimed
Company experience in terms of road and stormwater projects completed.	1 Roads & Stormwater related project with min value of R 5m	No	5	
	2 Roads & Stormwater with min value of R 7,5m	No	10	
	1 Roads & Stormwater related project with min value of R 10m	No	20	
	2 Roads & Stormwater related projects with min value of R 10m	No	30	
<b>Sub-Total</b>			<b>30</b>	
<b>TOTAL</b>			<b>30</b>	

<b>Bank Ratings – Financial Performance</b>	
<b>10 point</b> – Points are allocated for the cash flow management demonstrated by the tenderer from bank rating	
Rating	Points
<b>C</b>	<b>10</b>
<b>D</b>	<b>6</b>
<b>E</b>	<b>4</b>
<b>F</b>	<b>0</b>

TOTAL SCORE: \_\_\_\_\_/70

T1.2.12

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)

#### **T2.1 LIST OF RETURNABLE DOCUMENTS**

The Tenderer must complete the following returnable Schedules:

#### Returnable Schedules required for Tender evaluation purposes

Form A	Compulsory Enterprise Questionnaire <b>Compulsory</b>
Form B	Record of Addenda to Tender Documents <b>Evaluation</b>
Form C	Authority for Signatory <b>Compulsory</b>
Form D	Audited financial statements if required by law <b>Compulsory</b>
Form E	Schedule of Previous Experience <b>Evaluation</b>
Form F	Schedule of Current Projects <b>Evaluation</b>
Form G	Certificate of Attendance at Site Meeting <b>Not Compulsory</b>
Form H	Proposed Key Personnel <b>Evaluation</b>
Form I	Schedule of Plant and Equipment <b>Evaluation</b>
Form J	Schedule of Proposed Sub-Contractors <b>Not Compulsory</b>
Form K	Financial References <b>Evaluation</b>
Form L	Certificate of Authority of Joint Ventures/ Close corporations/ Partnership/ Company/ Sole proprietor (Certified Copies of the Identity Documents in the Case of sole proprietor) <b>Compulsory</b>
Form M	Certificate of Registration with CIDB in this case <b>6 CE/5CE PE or Higher Compulsory</b>
Form N	Registration on National Treasury Central Supplier Database <b>Compulsory</b>
Form O	Municipal Rates and Taxes <b>Compulsory</b>
Form P	Annual Audited Financial Statement (AFS) for the past three years/since establishment/ if established in less than three years as required by law <b>Compulsory</b>

T2.1.1

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

### Municipal Bid Documents

MBD1	Invitation to BID <b>Compulsory</b>
MBD4	Declaration of Intrest <b>Compulsory</b>
MBD5	Declaration for Procurement above R10 Million <b>Compulsory</b>
MBD6.1	Preference points claim form in terms of the preferential procurement regulations 2022 <b>Compulsory</b>
MBD8	Declaration of bidder's past supply chain management practices <b>Compulsory</b>
MBD9	Certificate of Independent bid determination <b>Compulsory</b>

### Returnable Documents that will be incorporated into the contract

C1.1	Form of Offer and Acceptance <b>Compulsory</b>
C1.2	Contract Data (Part 2) <b>Contract</b>
C1.3	Form of Guarantee <b>Contract</b>
C2.2	Bill of Quantities <b>Contract</b>

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T2.1.2

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)

**T2.2      RETURNABLE DOCUMENTS**

RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

**FORM A    COMPULSORY ENTERPRISE QUESTIONNAIRE**

In the case of a Joint Venture – This questionnaire is to be completed and submitted in respect of each partner.

1.    **Name of Enterprise:** .....
2.    **VAT Registration number, if any:** .....
3.    **CIDB Registration number:** .....
4.    **Particulars of sole proprietors and partners in partnership:**

Name	Identity Number	Personal Income Tax Number

\* Complete only if sole proprietor or partnership and attach separate page if more than 4 partners.

5.    **Particulars of companies and close corporations:**

Company Registration Number: .....

Close Corporation Number: .....

Tax reference Number: .....

T2.2.1

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**6. Record in the service of the state:**

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

- a member of any municipal council
- a member of any provincial legislature
- a member of the National Assembly or the National Council of Province
- a member of the board of Directors of any Municipal entity
- an official of any municipality or municipal entity
- an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- a member of an accounting authority of any national or provincial public entity
- an employee of Parliament or a provincial legislature

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

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

Name of Tenderer: ..... Date: .....

Signature : ..... Position: .....

Full name of signatory: .....

---

T2.2.2

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*



**ATTACH THE FOLLOWING DOCUMENTS HERETO**

1.     For Joint Venture Agreements
- Copy of the Joint Venture Agreement between all the parties, as well as the documents in (1) or (2) of each Joint Venture member.
2.     Audited Financial Statements for the past three (3) years
3.     CSD Audit Report

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T2.2.3

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM B    RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communication received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

	Date	Title of Details

Name of Tenderer: .....

Date: .....

Signature : .....

Position: .....

Full name of signatory: .....

## FORM C AUTHORITY OF SIGNATORY

Details of person responsible for tender process:

Name : \_\_\_\_\_

Contact number : \_\_\_\_\_

Office address : \_\_\_\_\_

Signatories for close corporations and companies shall confirm their authority by attaching to this form a **duly signed and dated original or certified copy on the Company Letterhead** of the relevant resolution of their members or their board of directors, as the case may be.

### PRO-FORMA FOR COMPANIES AND CLOSE CORPORATIONS:

"By resolution of the board of directors passed on (date).....

Mr .....

has been duly authorized to sign all documents in connection with the Tender for Contract Number .....and any Contract which may arise there from on behalf of .....

(BLOCK CAPITALS)

SIGNED ON BEHALF OF THE COMPANY .....

IN HIS CAPACITY AS .....

DATE .....  
: .....

FULL NAMES OF SIGNATORY .....

AS WITNESSES: 1. ....

2. ....

T2.2.5

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**PRO-FORMA FOR JOINT VENTURES:**

**Certificate of Authority for Joint Ventures**

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms ....., authorised signatory of the company ....., acting in the capacity of lead partner, to sign all documents in connection with the tender offer an any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead Partner:  CIDB Reg No: .....		Signature: ..... Name: ..... Designation: .....
  CIDB Reg No: .....		Signature: ..... Name: ..... Designation: .....
  CIDB Reg No: .....		Signature: ..... Name: ..... Designation: .....
  CIDB Reg No: .....		Signature: ..... Name: ..... Designation: .....
  CIDB Reg No: .....		Signature: ..... Name: ..... Designation: .....

T2.2.6

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**ATTACH HERETO THE DULY SIGNED AND DATED**  
**ORIGINAL OR CERTIFIED COPY OF AUTHORITY OF**  
**SIGNATORY ON COMPANY LETTERHEAD**

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T2.2.7

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM D    AUDITED FINANCIAL STATEMENTS

**AUDITED FINANCIAL STATEMENTS**

I/We agree, if required, to furnish an audited copy of the last 3 years' set of financial statements together with my/our Directors' and Auditors' report for consideration by the Client.

Name of Tenderer: ..... Date: .....

Signature : .....

Full name of signatory: .....

## FORM E SCHEDULE OF PREVIOUS EXPERIENCE

Provide the following information on relevant previous experience (indicate specifically projects of similar or larger size and/or which is similar with regard to type of work. **This information is material to the award of the Contract.** Appointment letters and Completion certificates should be attached.

Description	Value (R) VAT excluded	Year(s) work executed	Reference		
			Name	Organisation	Tel no

Name of Tenderer: .....

Date: .....

Signature : .....

Full name of signatory: .....

T2.2.9

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## FORM F SCHEDULE OF CURRENT PROJECTS

Provide the following information on current projects. **This information is material to the award of the Contract.**

[illegible]

Name of Tenderer: .....

Date: .....

Signature : .....

Full name of signatory: .....

---

T2.2.10

\_\_\_\_\_

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**Contractor**

\_\_\_\_\_

**Witness 1**

\_\_\_\_\_

**Witness 2**

\_\_\_\_\_

Employer

\_\_\_\_\_

**Witness 1**

**Witness 2**



FORM G    CERTIFICATE OF ATTENDANCE AT SITE MEETING

I / We acknowledge that the tender briefing was attended by a company representative able to relay the presentation of the works and/ or matters incidental to doing the works in the tender document in order for me/ us to take account of everything necessary when compiling our rates and prices included in the tender.

I/we acknowledge that the attendance register will be used to confirm our company's presence and if found to be absent, will lead to our tender being disqualified.

Name: ..... Signature: .....

Capacity: ..... Date and Time: .....

Capacity: ..... Date and Time: .....

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T2.2.11

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

## FORM H PROPOSED KEY PERSONNEL

**Please attach CVs of the proposed key personnel.**

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

CATEGORY OF EMPLOYEE	NUMBER OF PERSONS					
	KEY PERSONNEL, PART OF THE CONTRACTOR'S ORGANISATION		KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY		UNSKILLED PERSONNEL TO BE RECRUITED FROM LOCAL COMMUNITY	
	HDI	NON-HDI	HDI	NON-HDI	HDI	NON-HDI
Site Agent, Project Managers						
Foremen, Quality Control and Safety Personnel						
Technicians, Surveyors, etc						
Artisans and other Skilled workers						
Plant Operators						
Others:..... ..... ..... ..... ....						

The Tenderer shall attach hereto the *curricula vitae*, in the form included hereafter, of at least the site agent, the foreman, safety officer and the project manager. The information is necessary for evaluation of the tender.

Name of Tenderer: .....

Date: .....

Signature : .....

Full name of signatory: .....

T2.2.12

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## FORM I SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of major items of relevant equipment that I / we presently own or lease and will have available for this contract if my / our tender is accepted.

(a) Details of major equipment owned by me / us and immediately available for this contract.

DESCRIPTION (type, size, capacity etc)	QUANTITY	YEAR OF MANUFACTURE

*Attach additional pages if more space is required*

(b) Details of major equipment that will be hired, or acquired for this contract if my / our tender is accepted

DESCRIPTION (type, size, capacity etc)	QUANTITY	HOW ACQUIRED	
		HIRE/ BUY	SOURCE

*Attach additional pages if more space is required*

The Tenderer undertakes to bring onto site without additional cost to the Employer any additional plant not listed but which may be necessary to complete the contract within the specified contract period.

***Failure to complete this form properly and correctly, will lead to the conclusion that the tenderer does not have the necessary plant and equipment resources at his disposal, which will prejudice his tender.***

Name of Tenderer: ..... Date: .....

Signature : .....

Full name of signatory: .....

T2.2.13

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

## FORM J SCHEDULE OF PROPOSED SUB-CONTRACTORS

Appointment of the proposed sub-contractors is subject to approval by EMALAHLENI LOCAL MUNICIPALITY (ELM) in accordance with ELM Supply Chain Management Policy.

[illegible]

Name of Tenderer: .....

Date: .....

Signature : .....

Full name of signatory: .....

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T2.2.14

\_\_\_\_\_

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**Contractor**

\_\_\_\_\_

**Witness 1**

\_\_\_\_\_

**Witness 2**

--	--

**Employer**

\_\_\_\_\_

**Witness 1**

**Witness 2**

## FORM K FINANCIAL REFERENCES

### DETAILS OF TENDERERS BANKING INFORMATION

I/We hereby authorise the Client/Engineer to approach all or any of the following banks for the purposes of obtaining a financial reference:

<b>BANK NAME:</b>									
<b>ACCOUNT NAME:</b> (e.g. ABC Civil Construction cc)									
<b>ACCOUNT TYPE:</b> (e.g. Savings, Cheque etc)									
<b>ACCOUNT NO:</b>									
<b>ADDRESS OF BANK:</b>									
<b>CONTACT PERSON:</b>									
<b>TEL. NO. OF BANK / CONTACT:</b>									
How long has this account been in existence:	<table border="1" style="display: inline-table; vertical-align: top;"> <tr> <td>0-6 months</td> <td style="width: 40px;"></td> </tr> <tr> <td>7-12 months</td> <td></td> </tr> <tr> <td>13-24 months</td> <td></td> </tr> <tr> <td>More than 24 months</td> <td></td> </tr> </table> <div style="display: inline-block; vertical-align: top; margin-left: 10px;">(Tick which is appropriate)</div>	0-6 months		7-12 months		13-24 months		More than 24 months	
0-6 months									
7-12 months									
13-24 months									
More than 24 months									

Name of Tenderer: .....

Date: .....

Signature : .....

Full name of signatory: .....

T2.2.15

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM L    Certificate of Authority of Joint Ventures/ Close corporations/ Partnership/ Company/ Sole proprietor**

Indicate the status of the Tenderer by ticking the appropriate box hereunder. The Tenderer must complete the certificate set out below for the relevant category.

(I) COMPANY	(II) CLOSE CORPORATION	(III) PARTNERSHIP	(IV) JOINT VENTURE	(V) SOLE PROPRIETOR

**(I)    CERTIFICATE OF COMPANY**

I, ....., chairperson of the Board of Directors of ....., hereby confirm that by resolution of the Board (copy attached) taken on ..... 20....., Mr/Ms ....., acting in the capacity of....., was authorized to sign all documents in connection with the tender for Contract No. ELM 46/2023 and any contract resulting from it on behalf of the company.

**Chairman:** .....

**As Witnesses:** 1.....

2.....

**Date:** .....

---

T2.2.16

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

## (II) CERTIFICATE FOR CLOSE CORPORATION

We, the undersigned, being the key members in the business trading as .....  
..... hereby authorize Mr/Ms ..... , acting in  
the capacity of....., to sign all documents in  
connection with the tender for Contract No. ELM 46/2023 and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

**Note :** *This certificate is to be completed and signed by all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.*

## (III) CERTIFICATE FOR PARTNERSHIP

We, the undersigned, being the key partners in the business trading as,  
....., hereby authorize Mr/Ms ..... ,  
acting in the capacity of ..... , to sign all documents in connection with  
the tender for Contract No. ELM 46/2023 and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

**Note :** *This certificate is to be completed and signed by all of the key partners upon whom rests the direction of the affairs of the Partnership as a whole.*

---

T2.2.17

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

#### (IV) **CERTIFICATE FOR JOINT VENTURE**

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms . . .  
 . . . . . , authorised signatory of the company . . . . .  
 . . . . . , acting in the capacity of lead  
 partner, to sign all documents in connection with the tender offer and any contract resulting from it on  
 our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORIZED SIGNATORY
Lead partner		Signature. . . . . Name . . . . . Designation. . . . . .....
		Signature. . . . . Name . . . . . Designation. . . . . .....
		Signature. . . . . Name . . . . . Designation. . . . . .....
		Signature. . . . . Name . . . . . Designation. . . . . .....

**Note :** *This certificate is to be completed and signed by all of the key partners upon whom rests the direction of the affairs of the Joint Venture as a whole.*

#### (V) **CERTIFICATE FOR SOLE PROPRIETOR**

I, . . . . . , hereby confirm that I am the sole owner of the Business  
 trading as . . . . .

**Signature** of Sole owner: . . . . .

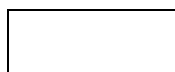
As Witnesses:

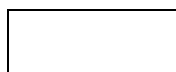
Date:

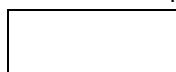
1. . . . .

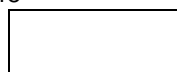
2. . . . .

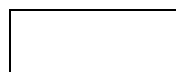
T2.2.18

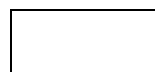
  
Contractor

  
Witness 1

  
Witness 2

  
Employer

  
Witness 1

  
Witness 2



<b>FORM M    Certificate of Registration with CIDB</b>
--

The tenderer shall provide a printed copy of the Active Contractor's Listing off the CIDB website. ([www.cidb.org.za](http://www.cidb.org.za)). Tenderers whose CIDB registration expires within 21 days after close of tender should attach proof of their application for re-registration (refer to Tender Data Clause F.2.1). In the case of a Joint Venture, a printed copy of the Active Contractor's Listing must be provided for each member of the Joint Venture.

Name of Contractor: .....

Contractor Grading Designation: .....

CIDB Contractor Registration Number: .....

Expiry Date: .....

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T2.2.19

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*Contractor*

--

*Witness 1*

--

*Witness 2*

--

*Employer*

--

*Witness 1*

--

*Witness 2*

FORM N    Registration on National Treasury Central Supplier

The tenderer shall provide a printed copy of the Active Supplier Listing on the National Treasury Central Supplier Database. ([www.treasury.gov.za](http://www.treasury.gov.za)). Tenderers who are not registered on the Central Supplier Database should attach proof of their application for registration. In the case of a Joint Venture, a printed copy of the Active Supplier Listing must be provided for each member of the Joint Venture.

Name of Contractor: .....

Central Supplier Database Supplier Number: .....

Expiry Date: .....

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T2.2.20

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

## FORM O    Municipal Utility Account

### DECLARATION BY THE TENDERER

I the undersigned \_\_\_\_\_, has been duly authorized to sign all documents with the Tender for Contract Number \_\_\_\_\_ on behalf of \_\_\_\_\_ hereby make a declaration as follows:  
(referred to herein as "the Bidder")

1. I declare that the bidder and /or any of its director(s) / member(s) does not owe the municipality, or any other municipality and/or municipal entity any amount which is in arrears in respect of any municipal rates and taxes or municipal service charges.
2. I understand and accept that in the event that this declaration is proved to be false, the bid shall be rejected forthwith. All other rights of the municipality (including but not limited to the right to claim damages where applicable) shall remain reserved in full.

SIGNED ON BEHALF OF THE COMPANY

IN HIS CAPACITY AS

DATE

FULL NAMES OF SIGNATORY

Utility Account Number	Name of Municipality	Name of Owner

**ATTACH AN ORIGINAL OR A CERTIFIED COPY OF A MUNICIPAL UTILITY ACCOUNT (NOT OLDER THAN THREE (3) MONTHS)**

**Important: Note the following**

- List Account(s) registered either in the name(s) of the Director(s) or the Company on the declaration form attached hereto.

Attach Municipal Utility account of Company's registered office (if applicable) and in case of leased premises, attach lease agreement and the services account of leased premises. (issued in the name of the bidding company)

T2.2.21

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## INVITATION TO BID

<b>YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE</b> (NAME OF MUNICIPALITY/ MUNICIPAL ENTITY)					
BID NUMBER:	ELM 46/2023	CLOSING DATE:	06 October 2023	CLOSING TIME:	11H00
DESCRIPTION	Construction of Stormwater works for Internal Roads in Empumelelweni (Phase 1)				
<b>THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).</b>					

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

<b>SUPPLIER INFORMATION</b>					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		OR	CSD No:	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	<input type="checkbox"/> Yes		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	<input type="checkbox"/> Yes	
	<input type="checkbox"/> No			<input type="checkbox"/> No	
<b>[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES &amp; QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]</b>					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3 ]	
SIGNATURE OF BIDDER	.....		DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					
<b>BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:</b>			<b>TECHNICAL INFORMATION MAY BE DIRECTED TO:</b>		
DEPARTMENT			CONTACT PERSON		
CONTACT PERSON			TELEPHONE NUMBER		
TELEPHONE NUMBER			FACSIMILE NUMBER		
FACSIMILE NUMBER			E-MAIL ADDRESS		
E-MAIL ADDRESS					

## PART B

### TERMS AND CONDITIONS FOR BIDDING

<b>1.</b>	<b>BID SUBMISSION:</b>
1.1.	BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
1.2.	<b>ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR ONLINE</b>
1.3.	THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
<b>2.</b>	<b>TAX COMPLIANCE REQUIREMENTS</b>
2.1	BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
2.2	BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
2.3	APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE <a href="http://WWW.SARS.GOV.ZA">WWW.SARS.GOV.ZA</a> .
2.4	FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.
2.5	BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
2.6	IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
2.7	WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
<b>3.</b>	<b>QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS</b>
3.1.	IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>
3.2.	DOES THE ENTITY HAVE A BRANCH IN THE RSA? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>
3.3.	DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>
3.4.	DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>
3.5.	IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? <span style="float: right;"><input type="checkbox"/> YES <input type="checkbox"/> NO</span>
<p><b>IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.</b></p>	

**NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID. NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.**

**SIGNATURE OF BIDDER:**

.....

**CAPACITY UNDER WHICH THIS BID IS SIGNED:**

.....

**DATE:**

.....

## MBD 4

### DECLARATION OF INTEREST

1. Any legal person, including persons employed by the state<sup>1</sup>, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-

- the bidder is employed by the state; and/or
- the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.

2. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

2.1 Full Name of bidder or his or her representative: .....

2.2 Identity Number: .....

2.3 Position occupied in the Company (director, trustee, shareholder<sup>2</sup>):

.....

2.4 Company Registration Number : .....

2.5 Tax Reference Number : .....

2.6 VAT Registration Number: .....

2.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below.

<sup>1</sup>"State" means –

(a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);

(b) any municipality or municipal entity;

(c) provincial legislature;

(d) national Assembly or the national Council of provinces; or

(e) Parliament.

<sup>2</sup>"Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercises control over the enterprise.

2.7 Are you or any person connected with the bidder presently employed by the state? **YES / NO**

2.7.1 If so, furnish the following particulars:

Name of person / director / trustee / shareholder/ member:

.....

Name of state institution at which you or the person connected to the bidder is employed:

.....

Position occupied in the state institution:

.....

Any other particulars:

.....

.....

.....

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? **YES / NO**

2.7.2.1 If yes, did you attached proof of such authority to the bid document? **YES / NO**

(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.

2.7.2.2 If no, furnish reasons for non-submission of such proof:

.....

.....

.....

2.8 Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? **YES / NO**

2.8.1 If so, furnish particulars:

.....

.....

.....

**YES / NO**

.....

.....

.....

**YES/NO**

.....

.....

.....

**YES/NO**

.....

[illegible]



#### 4 DECLARATION

I THE UNDERSIGNED (NAME).....

CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2 and 3  
ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME

IN TERMS OF PARAGRAPH 23 OF THE GENERAL CONDITIONS OF

CONTRACT SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....  
Signature

.....  
Date

.....  
Position

.....  
Name of bidder

**Declaration FOR Procurement above R10 Million**

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire:

1 Are you by law required to prepare annual financial statements for auditing?

**\*YES / NO**

1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

.....

.....

2 Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?

**\*YES / NO**

2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.

2.2 If yes, provide particulars.

.....

.....

.....

.....

3 Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?

**\*YES / NO**

3.1 If yes, furnish particulars

.....

.....

4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? ?

**\*YES / NO**

4.1 If yes, furnish particulars

.....

.....

**CERTIFICATION**

**I, THE UNDERSIGNED (NAME)**

.....  
**CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS  
CORRECT.**

**I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION  
PROVE TO BE  
FALSE.**

Signed ..... Date .....

Name ..... Position .....

*Tenderer*  
.....

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

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

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

### 1. GENERAL CONDITIONS

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

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

### 1.2 To be completed by the organ of state

- a) The applicable preference point system for this tender is the **80/20** preference point system.

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

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

### 1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
<b>Total points for Price and SPECIFIC GOALS</b>	<b>100</b>

- 1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

## 2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

## 3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

### 3.1. POINTS AWARDED FOR PRICE

#### 3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

$$\begin{array}{ccc}
 \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\
 \\
 \mathbf{Ps = 80 \left( 1 - \frac{Pt - P_{min}}{P_{min}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left( 1 - \frac{Pt - P_{min}}{P_{min}} \right)}
 \end{array}$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

### 3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

#### 3.2.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

$$\begin{array}{ccc} \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\ \mathbf{Ps = 80 \left( 1 + \frac{Pt - P_{max}}{P_{max}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left( 1 + \frac{Pt - P_{max}}{P_{max}} \right)} \end{array}$$

Where

Ps = Points scored for price of tender under consideration  
Pt = Price of tender under consideration  
Pmax = Price of highest acceptable tender

### 4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
  - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system, then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

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

***Note to tenderers: The tenderer must indicate how they claim points for each preference point system.***

Item no.	The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system)	Number of points claimed (80/20 system) (To be completed by the tenderer)
A total of 15 preference points shall be allocated on a proportional or pro rata basis for contracting an enterprise owned by historically disadvantaged persons or individuals who meet the following requirements -			
1.	for 100% black person or people owned enterprise	5 points	
2.	for at least 30% woman or women shareholding or owned enterprise	5 points	
3.	For at least 30% youth shareholding or owned enterprise	2.5 points	
4.	for at least 30% people living with disability shareholding or owned enterprise	2.5 points	
A total of 5 preference points shall be allocated on a proportional or pro rata basis for implementing of programmes for RDP -			
7.	for enterprise regarded as EME located within the local area of jurisdiction.	5 points	
<b>The Municipality will utilize the CSD report for the above-mentioned information.</b>			

#### **DECLARATION WITH REGARD TO COMPANY/FIRM**

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

4.4. Company registration number: .....

4.5. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –

- (a) disqualify the person from the tendering process;
- (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
- (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
- (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
- (e) forward the matter for criminal prosecution, if deemed necessary.

-----  
**SIGNATURE(S) OF TENDERER(S)**

**SURNAME AND NAME:** .....

**DATE:** .....

**ADDRESS:** .....

.....

.....

.....



## MBD 8

### DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Standard Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be disregarded if that bidder, or any of its directors have-
  - a. abused the institution's supply chain management system;
  - b. committed fraud or any other improper conduct in relation to such system; or
  - c. failed to perform on any previous contract.
- 4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's database as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the <i>audi alteram partem</i> rule was Applied).	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? To access this Register enter the National Treasury's website, <a href="http://www.treasury.gov.za">www.treasury.gov.za</a> , click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 3265445.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		

4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply With the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		

### CERTIFICATION

**I, THE UNDERSIGNED (FULL NAME).....**

**CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND CORRECT.**

**I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.**

.....

**Signature**

.....

**Date**

.....

**Position**

.....

**Name of Bidder**

## **MBD 9**

### **CERTIFICATE OF INDEPENDENT BID DETERMINATION**

- 1 This Municipal Bidding Document (MBD) must form part of all bids<sup>1</sup> invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
  - a. Disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
  - b. Cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

<sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

<sup>2</sup> Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

## **MBD 9**

### **CERTIFICATE OF INDEPENDENT BID DETERMINATION**

I, the undersigned, in submitting the accompanying bid:

---

(Bid Number and Description)

in response to the invitation for the bid made by:

---

(Name of Institution)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

## **MBD 9**

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a bid;
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
  - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

## MBD 9

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)**

## **C. THE CONTRACT**

#### **Part C1: Agreements and Contract Data**

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Form of Guarantee

#### **Part C2: Pricing Data**

- C2.1 Pricing Instructions
- C2.2 Bills of quantities

#### **Part C3: Scope of Work**

- C3 Scope of Work

#### **Part C4: Site Information**

- C4 Site Information

#### **Part C5 : Relevant Documentation**

- C5 Health & Safety Specifications

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C1

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)

<b>C1      AGREEMENTS AND CONTRACT DATA</b>
---

- C1.1    Form of Offer and Acceptance
- C1.2    Contract Data
- C1.3    Form of Guarantee

C1.1

--

Contractor

--

Witness 1

--

Witness 2

--

Employer

--

Witness 1

--

Witness 2



## C1.1 FORM OF OFFER AND ACCEPTANCE

### OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works: **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1).**

The Tenderer, identified in the Offer signature block below, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

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

.....  
..... Rand (in words); R ..... (in figures).

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature(s)		
Name(s)		
Capacity		
For the tenderer		
	(Name and address of organisation)	
Name & Signature Of Witness		
	Name	Date

### C1.2

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

## ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the contract are contained in:

Part 1 Agreements and Contract Data (which includes this Agreement)

Part 2 Pricing Data

Part 3 Scope of Work

Part 4 Site information

Part 5 Additional Documentation

and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Tenderer shall within two weeks after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at or just after the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations. Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

Signature(s) \_\_\_\_\_

Name(s) \_\_\_\_\_

Capacity \_\_\_\_\_

For the tenderer \_\_\_\_\_

(Name and address of organisation)

Name & Signature

Of Witness \_\_\_\_\_

Name

Date

---

C1.3

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

## SCHEDULE OF DEVIATIONS

**Notes:**

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

**1 Subject**

---

Details

---

**2 Subject**

---

Details

---

**3 Subject**

---

Details

---

**4 Subject**

---

Details

---

**5 Subject**

---

Details

---

**6 Subject**

---

Details

---

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer

C1.4

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the Offer agreed by the Tenderer and the Employer during this process of Offer and Acceptance. It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

**FOR THE TENDERER:**

Signatures (s) \_\_\_\_\_

Name(s) \_\_\_\_\_

Capacity \_\_\_\_\_

\_\_\_\_\_  
(Name and address of Organisation)

Name & Signature  
Of Witness \_\_\_\_\_ Date \_\_\_\_\_

**FOR THE EMPLOYER**

Signatures (s) \_\_\_\_\_

Name(s) \_\_\_\_\_

Capacity \_\_\_\_\_

\_\_\_\_\_  
(Emalahleni Local Municipality – Mandela Street)

Name & Signature  
Of Witness \_\_\_\_\_ Date \_\_\_\_\_

C1.5

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

\_\_\_\_\_  
Employer

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

## C1.2 CONTRACT DATA

### PART 1: DATA PROVIDED BY THE EMPLOYER

#### CONDITIONS OF CONTRACT

The Conditions of Contract are the *General Conditions of Contract for Construction Works (2015)* published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institute of Civil Engineering (Tel: 011 805 5947).

Each item of data given below is cross-referenced to the clause in the Conditions of Contract to which it mainly applies.

#### PART 1: Data provided by the Employer

Clause	Data
1.1.1.15	The Name of the Employer is <b>Emalahleni Local Municipality</b>
1.2.1.2	The address of the Employer is: CNR Mandela & Arras Street eMalahleni 1035 Telephone: 013 690 6300 Facsimile: 013 690 6207
1.1.1.16	The name of the Engineer is <b>NKP Consulting Engineers (Pty) Ltd</b>
1.2.1.2	The address of the Engineer is: <b>Portion 76, The Rest Road</b> <b>P.O Box 11</b> <b>Nelspruit</b> <b>1200</b>  Telephone : <b>013 492 0492</b> Facsimile : <b>086 554 6578</b>
5.8.1	The special non-working days are the official builder's holiday plus all statutory public holidays. The year end break commences on <b>15 December 2023</b> and ends on <b>5 January 2024</b>
5.13.1	The penalty for failing to complete the works is 3,75c per R100 per day of the contract value.
6.2.1	The liability of the guarantee shall be 10%.
5.2.1	The Contractor shall commence executing the Works within 14 days from the Commencement Date.
5.5.1 1.1.1.14	The Works shall be completed within the timeframe stated by the contractor at tender stage.
5.6.1	The Contractor shall deliver his programme of work within 14 days.
8.6.1.1.2	The value of the materials supplied by the Employer to be included in the insurance sum is nil.

C1.6

[Signature Box]  
Contractor

[Signature Box]  
Witness 1

[Signature Box]  
Witness 2


[Signature Box]  
Employer


[Signature Box]  
Witness 1


[Signature Box]  
Witness 2


<b>8.6.1.1.3</b>	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is nil.
<b>8.6.2</b>	The limit of indemnity for liability insurance is R <b>10 000 000.00</b> .
<b>5.1.1</b>	The Works shall be completed within <b>the timeframe stated by the contractor</b>
<b>6.10.3</b>	The percentage retention on the amounts due to the Contractor is <b>10 %</b> .
<b>6.10.3</b>	The limit of retention money is <b>10 %</b> of the contract value.
<b>1.1.1.13</b>	The Defects Liability Period is <b>12</b> months.
<b>5.11</b>	A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Engineer, all progress on an item or items of work on the critical path of the working programme of the contractor has been brought to a halt. Delays on working days only (based on a five-day working week) will be taken into account for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of "n" working days caused by normal rainy weather, for which he will not receive any extension of time, where "n" equals ..... days. Extension of time during working days will be granted to the degree to which actual delays, as defined above, exceed the number of "n" workings days.


C1.7


  
Contractor

  
Witness 1

  
Witness 2

  
Employer

  
Witness 1

  
Witness 2

## **PART 1: DATA PROVIDED BY THE CONTRACTOR**

The Contractor is advised to read the *General Conditions of Contract for Construction Works 3<sup>rd</sup> Edition (2015)*, published by the South African Institution of Civil Engineering, in order to understand the implications of this Data which is required to be completed.

Each item of data given below is cross-referenced to the clause of Conditions of Contract to which it mainly applies.

Clause	Data
<b>1.1.1.9</b>	The Contractor is: Name: .....
<b>1.2.1.2</b>	The Address of the Contractor is:  Address (physical): ..... .....  Address (postal): .....  Telephone: ..... Facsimile: .....  E-mail: .....
<b>6.5.1.2.3</b>	The percentage allowance to cover overhead charges is .....

C1.8

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## C1.3 FORM OF GUARANTEE

### FORM OF GUARANTEE

**Tender No: ELM 46/2023**

#### **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)**

WHEREAS .....at  
**EMALAHLENI LOCAL MUNICIPALITY**  
(Hereinafter referred to as "the Employer")

entered into, on the ..... Day of .....2020, at .....

a Contract with .....

at .....  
(Hereinafter called "The Contractor")

for the CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN  
EMPUMELELWENI (Phase 1) as per Scope of work AND WHEREAS it is provided by such Contract  
that the Contractor shall provide the Employer with security by way of suretyship for the due and  
faithful fulfilment of such Contract by the Contractor;

AND WHEREAS .....  
has/have at the request of the Contractor, agreed to give such security;

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

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorised and/or contemplated by the terms of the said contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Due Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the Due Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. The Employer shall be entitled, without reference to us, to release any securities held by it, and to give time to or compound or make any other arrangement with the Contractor.

C1.9

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



3. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
4. Our total liability hereunder shall not exceed the sum of (R.....).
5. We hereby choose domicilium citandi et executandi for all purposes arising hereof at  
.....

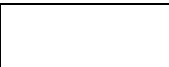
**IN WITNESS WHEREOF** this guarantee has been executed by us at ..... on  
this..... day of ..... 20 .....

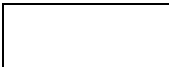
As witnesses:

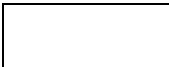
- |         |   |
|---------|---|
| 1. .... | Signature .....                               |
| 2. .... | Duly authorised to<br>sign on behalf of ..... |
|         | Address .....                                 |
|         | .....   |
|         | .....   |

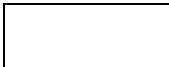
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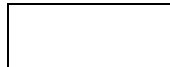
C1.10

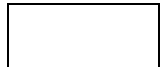
  
Contractor

  
Witness 1

  
Witness 2

  
Employer

  
Witness 1

  
Witness 2

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)

**C2    PRICING DATA**

C2.1    PRICING INSTRUCTIONS

C2.2    BILL OF QUANTITIES

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C2.1

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)**

#### **C2.1 PRICING INSTRUCTIONS**

1. Measurement and payment shall be in accordance with the relevant provisions of the COLTO sections.
2. The units of measurement described in these Bills of Quantities are metric units. Abbreviations used in these Bills of Quantities are as follows:

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

3. For the purpose of these Bills of Quantities, the following words shall have the meanings hereby assigned to them:

Unit: The unit of measurement for each item of work as defined in the COLTO.

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C2.1.1

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Quantity: The number of units of work for each item.  
 Rate: The agreed payment per unit of measurement.  
 Amount: The product of the quantity and the agreed rate for an item.  
 Lump sum: An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
5. It will be assumed that prices included in the bills of quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to [www.stanza.org.za](http://www.stanza.org.za) or [www.iso.org](http://www.iso.org) for information on standards)
6. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
7. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items
8. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
9. The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in these Bills of Quantities.
10. Reasonable compensation will be received where no pay item appears in the Bills of Quantities in respect of work required in terms of the Contract and which is not covered in any other pay item.
11. The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
12. The payment reference numbers appearing in the Bills of Quantities refer to the corresponding item numbers in the COLTO.
13. Those parts of the contract to be constructed using labour-intensive methods have been marked in the Bills of Quantities with the letter L in a separate column filled in against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letter L are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour intensive specification in the Scope of Works.
14. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

## C2.1.2

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)**

<b>C2.2 BILL OF QUANTITIES</b>
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C2.2.1

<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SCHEDULE A: ROADWORKS				SECTION 1200	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1200</b>	<b>GENERAL REQUIREMENTS AND PROVISIONS</b>				
B12.01	<b>Relocation, protection or replacement of existing services</b> (a) Existing services to be relocated, protected or replaced as ordered by the engineer:  (iii) Municipal services (iv) Private property services  (b) Handling cost and profit in respect of B12.01(a)	Prov. Sum Prov. Sum  %	1 1  40 000	30000.00 10000.00	R 30 000.00 R 10 000.00
B12.02	<b>Excavation for services:</b> a) Excavating material within the following depth ranges below ground level for the exposing of/or searching for services i) 0m to 2m (1) Soft Material (2) Hard Material  (b) Extra over item B12.02(a) for excavation by means of hand tools such as picks, crowbars and pneumatic tools or mechanical breakers in close vicinity of services where no blasting or machine excavation is permitted: (i) Soft Material (ii) Hard Material	m <sup>3</sup> m <sup>3</sup>    m <sup>3</sup> m <sup>3</sup>	20 8    20 8		
B12.04	<b>Provision for a Community Liaison Officer</b> (a) Remuneration of CLO (b) Handling cost and profit in respect of subitem B12.04(a)	Prov. Sum %	1 30 000	30000.00	R 30 000.00
B12.05	Provision of Social Facilitation Services by External Service Provider as approved by the Engineer % mark-up on above items for contractors overheads, administration charge and profit	Prov. Sum %	1 60 000	60 000	R 60 000.00
<b>TOTAL SECTION 1200 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 1300	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1300</b>	<b>CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS</b>				
<b>B13.01</b>	<b>THE CONTRACTOR'S GENERAL OBLIGATIONS:</b>				
	(a) Fixed obligations	Lump Sum	1		
	(b) Value-related obligations	Lump Sum	1		
	(c) Time-related obligations	Month	6		
	<b>NB: The combined total tendered for subitems (a), (b) and (c) shall not exceed 15% of the Tender Sum</b>				
<b>B13.02</b>	<b>Additional Design Fees for additional works in terms of the final scope for Provision For Engineering Designs and Professional Engineering Services as per ECSA Guidelines</b>	Prov. Sum	1	R 485 874.25	R 485 874.25
	Handling cost and profit in respect of subitem B13.02(a)	%	485 874.25		
<b>B13.02</b>	<b>Supply, transport to site and erect contract signboards.</b>	No.	2		
<b>TOTAL SECTION 1300 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 1400	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1400</b>	<b>HOUSING, OFFICES AND LABORATORY FOR THE ENGINEER'S SITE PERSONNEL</b>				
<b>14.01</b>	<b>Office and laboratory</b>				
	(a) Offices (interior floor space only)	m <sup>2</sup>	40		
	(e) Ablution units	No	2		
<b>14.02</b>	<b>Office and laboratory furniture</b>				
	(a) Chairs	No	10		
	(d) Desks, complete with drawers and locks	No	2		
<b>B14.03</b>	<b>Office and laboratory fittings, installations and equipment</b>				
	(a) Items measured by number				
	(i) 220/250 volt power points	No	4		
	(iii) Double 80 watt fluorescent light fittings complete with ballast and tubes	No	2		
	(vi) Wash-hand basins complete with taps and drains	No	2		
	(x) Fire extinguishers, 9,0 kg, all purpose dry powder type, complete, mounted on wall with brackets	No	1		
	(xix) Rain gauge	No	1		
	(xx) Plan holder	No	1		
	(xxi) Floodlights complete with poles and 500Watt minimum globes	No	3		
<b>B14.03</b>	<b>(b) Prime-cost items and items paid for in a lump sum:</b>				
	(ix) Cell phones costs, including pro-rata rentals, for calls in connection with contract administration	PC Sum	1	R 2 500.00	R 2 500.00
	(x) Handling cost and profit in respect of sub- item B14.03(b)(ix) above	%	2500.00		
	(xi) Laptop to the engineer	Prov. Sum	1	R27 000.00	R 27 000.00
	(xii) Handling cost and profit in respect of sub- item B14.03(b)(xi) above	%	27000.00		
	(xiii) Internet connection (ADSL or mobile LTE) for email connectivity	PC Sum	1	R 2 000.00	R 2 000.00
	(xiv) Handling cost and profit in respect of sub- item B14.03(b)(xiii) above	%	2000.00		
<b>TOTAL SECTION 1400 CARRIED FORWARD TO NEXT PAGE</b>					



SCHEDULE A: ROADWORKS				SECTION 1400	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL SECTION 1400 BROUGHT FORWARD FROM PREVIOUS PAGE					
14.04	Car ports				
	(a) Car ports, as specified, at offices and laboratory buildings	No	3		
14.07	Rented, hotel and other accommodation				
	(a) Provisional sum for providing rented housing, hotel or other accommodation	Prov. Sum	1	32000.00	R 32 000.00
	(b) Handling costs and profit in respect of subitem 14.07(a)	%	32000.00		
B14.10	Provision of photostat facilities	Month	6		
TOTAL SECTION 1400 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 1500	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1500</b>	<b>ACCOMMODATION OF TRAFFIC</b>				
<b>B15.01</b>	<b>Accommodation of traffic and maintaining temporary deviations</b>				
	(a) Empumelelweni Access Road	km	0.80		
<b>B15.03</b>	<b>Temporary traffic-control facilities</b>				
	(a) Flagmen	man-day	40		
	(b) Portable STOP and GO-RY signs	No	2		
	(d) Amber flicker lights (100 W)	No	2		
	(e) Road signs, R-and TR-series	No	2		
	(f) Road signs, TW-series (1 500)	No	2		
	(g) Road signs, STW-, DTG-, TGS- and TG-series (excluding delineators and barricades)	m <sup>2</sup>	8		
	(h) Delineators				
	(i) Single (800x200)	No	6		
	(ii) Mounted back to back	No	4		
	(i) Moveable barricade/road sign combination	No			Rate Only
	(m) Two-way communication devices	No			Rate Only
	(n) Road signs, TW-series, 1500 mm Triangular sides including TIN, 1500 x 400	No	2		
	(n) Amper rotatng flashing light width magnet base as specified for engineer's use	No			Rate Only
	(o) Provision of robot system	No			Rate Only
	(p) Road signs, TW-series, 1 200 x 1 600 including TIN, 1 200 x 400	No			Rate Only
<b>B15.04</b>	<b>Relocation of traffic-control facilities</b>				
	(a) Relocation of traffic-control facilities, excl. robot	Lump Sum			Rate Only
	(b) Relocation of robot system in excess of 100m	No			Rate Only
<b>B15.10</b>	<b>Accommodation of traffic where the road is constructed in half-widths</b>	km			Rate Only
<b>B15.14</b>	<b>Penalty to be deducted for non-compliance with requirements for accommodation of traffic</b>				
	(a) Fixed penalty per occurrence	No		-5000.00	
	(b) Time-related penalty	hour		-500.00	
<b>B15.15</b>	<b>Provision of traffic safety equipment for visitors</b>				
	(a) Safety jackets	No	5		
<b>TOTAL SECTION 1500 CARRIED FORWARD TO NEXT PAGE</b>					

SCHEDULE A: ROADWORKS				SECTION 1500	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL SECTION 1500 BROUGHT FORWARD FROM PREVIOUS PAGE					
B15.16	Provision of traffic safety  (a) Traffic safety officer (b) Traffic safety vehicle (one LDV only at nominal monthly kms of 3000km per month)	Month	6		
		Month	6		
B15.17	Non-specified signage ordered by the Engineer and Site Safety officer:  (a) Provisional sum for non-specified signage or arrangements asordered by the Engineer (b) Handling cost and profit in respect of Item B15.17(a)	Prov. Sum	1	2500.00	R 2 500.00
		%	2 500		
TOTAL SECTION 1500 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 1700	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1700</b>	<b>CLEARING AND GRUBBING</b>				
<b>B17.01</b>	<b>Clearing and grubbing of:</b>				
	(a) Using normal construction machinery	ha	0.4		
	(b) Using hand methods	ha	0.4		
<b>17.02</b>	<b>Removal and grubbing of large trees and tree stumps</b>				
	(a) Girth exceeding 1m up to and including 2m	No.	1		
	(b) Girth exceeding 2m up to and including 3m	No.	1		
<b>17.04</b>	<b>Clearing and grubbing at inlets and outlets of hydraulic structures</b>	m <sup>2</sup>	2		
<b>B17.07</b>	<b>Trimming of existing trees</b>				
	(a) Chainsaw	hr	2		
	(b) By hand	hr	2		
<b>TOTAL SECTION 1700 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 1800	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>1800</b>	<b>DAYWORKS</b>				
<b>B18.01</b>	<b>Labourers:</b>				
	(i) Unskilled	hr	8		
	(ii) Semi-skilled	hr	8		
	(iii) Skilled	hr	8		
<b>B18.02</b>	<b>Foreman</b>	hr	10		
<b>B18.03</b>	<b>Tipper trucks:</b>				
	(i) 3 - 5 ton	hr	5		
	(ii) 5,1 - 10 ton	hr	2		
<b>B18.04</b>	<b>Loader (0,5m³) (55kW) - TLB</b>	hr	8		
<b>B18.05</b>	<b>Grader (CAT 140G or similar)</b>	hr			Rate Only
<b>B18.06</b>	<b>LDV</b>	hr			Rate Only
<b>B18.07</b>	<b>Compaction Rollers:</b>				
	(b) Rubber tyred loader (60kW)	hr			Rate Only
	(e) Pedestrian vibrating roller (1,4 ton)	hr	12		
	(f) Self propelled vibrating roller (80kW)	hr			Rate Only
	(g) Pneumatic tyred roller (60kW, 20 ton)	hr			Rate Only
	(j) 250 cmf compressor (7m³/min) complete with 2 tools and operator	hr			Rate Only
	(k) 600 cmf compressor (7m³/min) complete with 2 tools and operator	hr			Rate Only
	(l) Excavator (92kW)	hr	2		
	(m) Dozer (123kW)	hr			Rate Only
<b>B18.08</b>	<b>Hand Controlled Compactors</b>				
	(i) Pedestrian roller (Bomag BW90 or similar)	hr	5		
	(ii) Vibratory plate	hr			Rate Only
	(iii) Rammers	hr			Rate Only
<b>B18.09</b>	<b>Water truck (min 10 000 l )</b>	hr			Rate Only
	<b>WET RATE MINIMUM HOURS 6hrs</b>				
<b>TOTAL SECTION 1800 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 2100	
ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>B21.01</b>	<b>SECTION 2100: DRAINS</b>				
	<b>Excavation for open drains:</b>				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m <sup>3</sup>	20		
	(ii) Exceeding 1,5 m and up to 3,0 m	m <sup>3</sup>	10		
	(b) Extra over subitem B21.01(a) for excavation in hard material, irrespective of depth	m <sup>3</sup>	5		
<b>21.02</b>	<b>Clearing and shaping existing open drains</b>	m <sup>3</sup>	4		
<b>21.03</b>	<b>Excavation for subsoil drainage systems:</b>				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m <sup>3</sup>			Rate Only
	(b) Extra over subitem 21.03(a) for excavation in hard material irrespective of depth	m <sup>3</sup>			Rate Only
<b>B21.04</b>	<b>Impermeable backfilling to subsoil drainage systems</b>				
	(a) Unstabilised natural gravel	m <sup>3</sup>			Rate Only
	(b) G5 material stabilised with 4% stabilising agent	m <sup>3</sup>			Rate Only
<b>21.05</b>	<b>Banks and dykes</b>	m <sup>3</sup>	4		
<b>21.06</b>	<b>Natural permeable material in subsoil drainage systems (crushed stone):</b>				
	(b) Crushed stone obtained from commercial sources				
	(i) 19mm nominal size	m <sup>3</sup>			Rate Only
<b>TOTAL SECTION 2100 CARRIED FORWARD TO NEXT PAGE</b>					

SCHEDULE A: ROADWORKS				SECTION 2100	
ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL SECTION 2100 BROUGHT FORWARD FROM PREVIOUS PAGE					
21.08	Pipes in subsoil drainage system				
	(b) Unplasticised PVC pipes and fittings, normal duty complete with couplings				
	(i) 150 mm internal dia. perforated or slotted	m			Rate Only
	(ii) 150 mm internal dia. unperforated	m			Rate Only
21.09	Polyethylene sheeting, 0,15mm thick, or similar approved material, for lining subsoil drainage systems	m <sup>2</sup>			Rate Only
21.10	Synthetic-fibre filter fabric - grade 2: Kaytech U14 or approved equivalent	m <sup>2</sup>			Rate Only
B21.12	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems:				
	(a) Cleaning eyes	No			Rate Only
21.13	Concrete caps for subsoil drain pipes	No			Rate Only
21/B16.02	Overall for material hauled in excess of 5,0km	m <sup>3</sup> -km	85		
TOTAL SECTION 2100 CARRIED TO SUMMARY					

<b>SCHEDULE A: ROADWORKS</b>				<b>SECTION 2200</b>	
<b>ITEM NO</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
<b>2200</b>	<b>PREFABRICATED CULVERTS</b>				
	<b>EXCAVATION</b>				
<b>B22.01</b>	<b>Excavation</b> (a) Excavating soft material situated within the following depth ranges below the surface level  (i) 0m up to 1,5m (ii) Exceeding 1,5m and up to 3,0m  (b) Extra over subitem 22.01(a) for excavation in hard material irrespective of depth	m³ m³  m³	3000 1050  729		
	<b>BACKFILLING</b>				
<b>B22.02</b>	<b>Backfilling</b> (a) Using the excavated material (b) Using imported selected material (c) Extra over subitems 22.02(a)&(b) for soil cement backfilling (ii) 8% OPC	m³ m³  m³	2300 800  20		
	<b>PIPE CULVERTS</b>				
<b>22.03</b>	<b>Concrete pipe culverts</b> (b) On class B bedding (i) Ogee class 50 D (i) 300mm dia Class 50D (ii) 450mm dia Class 50D (iii) 600mm dia Class 50D (iv) 750mm dia Class 50D (v) 900mm dia Class 50D (vi) 1050mm dia Class 50D (vii) 1200mm dia Class 50D  (ii) Ogee class 100 D (i) 300mm dia Class 100D (ii) 450mm dia Class 100D (iii) 600mm dia Class 100D (iv) 750mm dia Class 100D (v) 900mm dia Class 100D (vi) 1050mm dia Class 100D (vii) 1200mm dia Class 100D	m m m m m m m m  m m m m m m m m	   235 75 659 242 1248   116 34 28 30 60		Rate Only Rate Only
<b>SECTION 2200 TOTAL CARRIED FORWARD</b>					



SCHEDULE A: ROADWORKS				SECTION 2200	
ITEM NO		UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
22.07	<b>CONCRETE AND FORMWORK</b>				
	<b>Cast in situ concrete and formwork</b>				
	(a) In Inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks excluding formwork but including class U2 surface finish				
	(i) Class 25/19	m <sup>3</sup>	15		Rate Only
	(ii) Class 30/19	m <sup>3</sup>			
	(d) Formwork of concrete under subitem 22.07(c) above				
	(i) Class F2	m <sup>2</sup>	50		
	(i) Horizontal				
	(ii) Vertical	m <sup>2</sup>	45		
SECTION 2200 TOTAL CARRIED FORWARD					

SCHEDULE A: ROADWORKS				SECTION 2200	
ITEM NO		UNIT	QTY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>					
<b>22.17</b>	(ii) Class F1	m <sup>2</sup> m <sup>2</sup>			Rate Only Rate Only
	(i) Horizontal				
	(ii) Vertical				
	<b>CONCRETE BACKFILL</b>				
	<b>MANHOLES, CATCHPITS, Etc.</b>				
	<b>Manholes, catchpits, precast inlet and outlet structures complete</b>				
	(a) Manholes as per drawing NKP394 XXX				
	(i) Type A, up to 2.5m deep	no	12		
	(ii) Type A, up to 5.0m deep	no	8		
	(b) Grid inlet	no	26		
<b>22.18</b>	(c) Precast outlet structures				
	(ii) For Pipe culverts upto 750mm dia. Outlets. As per Typical DWG xxxx	no	1		
	(d) Field inlet structure as per drawing NKP394 XXX	no	2		
	<b>Brickwork</b>				
	LI (a) 115mm Thick	m <sup>2</sup>	85		Rate Only
LI	(b) 230mm Thick	m <sup>2</sup>			
LI	(c) 345mm Thick	m <sup>2</sup>			Rate Only
<b>22.19</b>	<b>PLASTER AND BENCHING</b>				
	<b>Plaster</b>	m <sup>2</sup>	85		
<b>22.20</b>	<b>Benching (20mm average thick)</b>	m <sup>2</sup>	30.0		
<b>ACCESSORIES</b>					
<b>SECTION 2200 TOTAL CARRIED FORWARD</b>					

SCHEDULE A: ROADWORKS				SECTION 2200	
ITEM NO		UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
	<b>ACCESSORIES</b>				
<b>22.21</b>	<b>Accessories</b>				
	(a) Manhole cover and frame as per drawing	no	14		
	(b) Grid inlet steel frame and cover	no	26		
<b>22.23</b>	<b>Service ducts</b>				
	(a) Ordinary pipes				
	(i) uPVC pipes				
	(ii) 160mm Diameter	m			Rate Only
<b>B22.29</b>	<b>Removing and disposal of existing concrete pipe culverts of diameters:</b>				
	i) 450 mm	m			
	ii) 600 mm	m	20		Rate Only
	<b>OVERHAUL</b>				
<b>22.25</b>	Overhaul on excavated material carted to spoil, backfill existing structures demolished and removed to spoil, and removing and relaying, and removing and stacking existing prefabricated culverts, for haul in excess of the free haul distance	m <sup>3</sup> -km	6360		
TOTAL SECTION 2200 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 3100	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>3100</b>	<b>BORROW MATERIALS</b>				
<b>31.01</b>	<b>Excess overburden</b>	m <sup>3</sup>	10		
	<b>FINISHING OFF</b>				
<b>31.03</b>	<b>Finishing off borrow areas in</b>				
	(a) Hard material	ha	0.2		
	(c) Soft material	ha	0.2		
<b>B31.04</b>	<b>Construction and maintenance of haul roads for materials from borrow pits and quarries</b>	km	1.0		
<b>B31.05</b>	<b>Exploration of borrow pits</b>				
	(a) Sampling of borrow materials by an approved materials laboratory	PC Sum	1	10000	R 10 000.00
	(b) Handling cost and profit in respect of sub-item B31.05(a) above	%	10 000.00		
<b>B31.06</b>	<b>Royalties for the use of borrow pit</b>				
	(a) Royalty as agreed with Employer	Prov Sum	1	10000	R 10 000.00
	(b) Handling cost and profit in respect of sub-item B31.06(a) above	%	R 10 000.00		
<b>TOTAL SECTION 3100 CARRIED TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 5200	
ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>5200</b>	<b>GABIONS</b>				
<b>52.01</b>	<b>Foundation trench excavation and backfilling:</b>				
	(b) In all other classes of materials	m <sup>3</sup>	100		
<b>52.02</b>	<b>Surface preparation for bedding the gabions</b>	m <sup>2</sup>	200		
<b>52.03</b>	<b>Gabions:</b>				
	(a) Galvanized gabion boxes				
	(1) 1m x 1m x 1m boxes, using 2.7mm diameter wire and 80mm x 100mm mesh size	m <sup>3</sup>			Rate Only
	(2) 2m x 1m x 0.5m boxes, using 2.7mm diameter wire and 80mm x 100mm mesh size	m <sup>3</sup>			Rate Only
	(c) Galvanized gabion mattresses, 6000mm x 2000mm x 500mm, using 2.7mm diameter wire and 80mm x 100mm mesh size	m <sup>3</sup>	10		
<b>52.04</b>	<b>Filter fabric (Bidim U34 or similar)</b>	m <sup>2</sup>	30		
<b>TOTAL SECTION 5200 CARRIED FORWARD TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 5500	
ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>5500</b>	<b>FENCING</b>				
<b>55.04</b>	<b>Moving of existing fences and gates, replace damaged sections with new</b>				
	a) Fences:				
	i) Stock-proof fences	km	0.5		
	b) Gates	No.	1		
	Concrete panels	m <sup>2</sup>	450		
<b>55.05</b>	<b>Dismantling of existing fences</b>				
	i) Stock-proof fences	km	0.5		
	b) Gates	No.	1		
	Concrete panels	m <sup>2</sup>	450		
<b>TOTAL SECTION 5500 CARRIED FORWARD TO SUMMARY</b>					

SCHEDULE A: ROADWORKS				SECTION 5900	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
59.01	Finishing the road and road reserve:				
	(b) Single carriageway road	m <sup>2</sup>	1060		
TOTAL SECTION 5900 CARRIED TO SUMMARY					

SCHEDULE A: ROADWORKS				SECTION 8100	
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>8100</b>	<b>TESTING MATERIALS AND WORKMANSHIP</b>				
81.04	(a) Acceptance control testing by the Engineer	PC Sum	1	R 20 000	R 20 000.00
	Handling cost and profit in respect of subitem B81.04(a)	%	20 000		
	<b>Note:</b>  <b>The cost for process control by the contractor must be included in his tendered rates.</b>				
<b>TOTAL SECTION 8100 CARRIED TO SUMMARY</b>					



SCHEDULE B: ENVIRONMENTAL MANAGEMENT					
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>PART B</b>	<b>ENVIRONMENTAL MANAGEMENT</b>				
B10.01	Environmental Control Officer				
	(a) Payment of Environmental Officer	Prov. Sum	1	80000.00	R 80 000.00
	(d) Handling cost and profit in respect of subitem C10.01(a)	%	80 000		
B10.02	<b>Negotiations with affected land owners and authorities</b>				
	(a) Compensation to the land owners (excluding royalties associated to borrow materials)	Prov. Sum	1	25000.00	R 25 000.00
	(d) Handling cost and profit in respect of subitem C10.02(a)	%	25 000		
<b>TOTAL SCHEDULE B CARRIED TO SUMMARY</b>					

SCHEDULE C: OHS ACT OBLIGATIONS					
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>PART C</b>	<b>OCCUPATIONAL HEALTH AND SAFETY ACT OBLIGATIONS (As and when required by the client)</b>				
C10.01	(a) Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Lump Sum	1.00		
	(b) Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Months	6		
	(c) Submission of the Health and Safety File	Lump Sum	1.00		
	(d) Provision for personal protection equipment and clothing	Lump Sum	1.00		
	(e) OHS training	Lump Sum	1.00		
C10.02	<b>Occupational Health &amp; Safety Agent on behalf of the Employer</b>				
	(a) Payment of OHS Agent	Prov. Sum	1	160000.00	R 160 000.00
	(d) Handling cost and profit in respect of subitem E10.02(a)	%	160 000		
<b>TOTAL SCHEDULE C CARRIED TO SUMMARY</b>					

SCHEDULE D: TRAINING					
ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>PART D</b>	<b>STRUCTURED TRAINING</b>				
D10.01	<b>Training</b>				
	(a) CETA Accredited training				
	(i) Generic skills	Prov Sum	1	60000.00	R 60 000.00
	(ii) Entrepreneurial skills	Prov Sum	1	20000.00	R 20 000.00
	(iii) Experiential training for S4 civil students.	Prov Sum	1	60000.00	R 60 000.00
	(d) Handling cost and profit in respect of subitems F10.01(i) to (iii)	%	140000		
	(e) Training venue	Lump Sum	1		
	(f) Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity of the site	Prov. Sum	1	10000.00	R 10 000.00
	(g) Handling cost and profit in respect of subitem F10.01(f)	%	10 000		
<b>TOTAL SCHEDULE D CARRIED TO SUMMARY</b>					

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

## CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)

### SUMMARY OF BILL OF QUANTITIES

SCHEDULE A : ROADWORKS		
SECTION	DESCRIPTION	AMOUNT
1200	General requirements and provisions	
1300	Contractor's establishment on site and general obligations	
1400	Offices and laboratory for site personnel	
1500	Accommodation of traffic	
1700	Clearing and grubbing	
1800	Dayworks	
2100	Drains	
2200	Prefabricated culverts	
3100	Borrow materials	
5200	Gabions	
5500	Fencing	
5900	Finishing the road and road reserve and treating old roads	
8100	Testing materials and workmanship	
<b>TOTAL SCHEDULE A</b>		
<b>TOTAL SCHEDULE B: ENVIRONMENTAL MANAGEMENT</b>		
<b>TOTAL SCHEDULE C: OHS ACT OBLIGATIONS</b>		
<b>TOTAL SCHEDULE D: TRAINING</b>		
<b>TENDER (CONTRACT) SUM</b>		
ADD 10% FOR CONTINGENCIES (This amount is under the sole control of the employer)		
<b>SUBTOTAL</b>		
ADD 15% VAT		
<b>TENDER (CONTRACT) PRICE TO FORM OF OFFER</b>		

C2.2.9

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)**

#### **C3 SCOPE OF WORK**

All definitions, interpretations and general provisions for the General Conditions of Contract for Construction Work (2015) (3<sup>rd</sup> edition) are applicable.

#### **C 3.1 DESCRIPTIONS OF WORKS**

##### **C3.1.1 Project purpose**

Emalahleni has experienced major integrated housing developments in Empumelelweni, hence the urgent need for the municipality to improve the road network system in and around these areas.

##### **C3.1.2 Overview of the Works**

Phase 1 entails the construction approximately total length combined 2406 m of stormwater pipes, including Grid inlets and junction boxes. A summary of the works is as follow:

##### **Stormwater:**

- Excavation of trenches for sub-surface infrastructure and stormwater pipes;
- Installation of stormwater pipes.
- Installation of Grid-inlet structures;
- The construction of storm water junction boxes;
- The construction of storm water outlet structures;
- Finishing of the road reserve.

##### **C3.1.3 Extent of the Works**

The major items of work to be executed by the Contractor are as follows:

##### **a) General**

- i) Erecting of construction board, position to be confirmed with Local Authority.
- ii) Get all the Contractual requirements in order.
- iii) Arrange and allocate all the Sub-contractors.
- iv) Allocate all the material and plant to be utilised in the project.

- v) Arrange the Health and Safety Officer, Health and Safety plan and Risk assessment for the project.
  - vi) Establishment of Contractor's camp and the moving of plant to the Site.
  - vii) Provide accredited training to labourers as per client's requirements.
- b) Project specific**

### **C3.1.3 Location of the Works**

The project is located within the jurisdictional boundaries of Emalahleni Local Municipality (ELM) and Nkangala District Municipality in Mpumalanga Province.

The proposed area's Longitude (E): 29°05'53.22" and Latitude (S): 25°52'42.67" for the start of the proposed road.







#### **C3.1.4 Change in works**

The Engineer may, from time to time by order in writing without in any way vitiating the Contract or giving to the Contractor any claim for additional payment, require the Contractor to proceed with the execution of the works in such order as in his opinion may be necessary, and may alter the order of or suspend any part of the Works at such time and times as he may deem desirable and the Contractor shall not, after receiving such written order, proceed with work ordered to be suspended until he shall receive a written order to do so from the Engineer. Where the work must of necessity be carried out in conjunction with work of other Contractors, or with that of the Employer, it shall be co-ordinated and arranged in such a manner as to interfere as little as possible with the progress of such other work so as to offer every reasonable facility to other Contractors or to employees of the Employer.



## **C3.2 ENGINEERING**

### **C3.2.1 Design services and activity matrix**

<b>Description</b>	<b>Responsibility</b>
Design of Works	Engineer
Concept, feasibility and overall process	Client
Basic Engineering and detail layouts to tender stage	Engineer
Final Design of Works	Engineer
Final Design to approved for construction stage	Client
Preparation of tender documentation & adverts	Engineer
Appointment of soil test / topographical surveyors	Client
Appointment of sub-contractors	Contractor
Supervision	Engineer
Preparation of as-built drawings	Contractor / Engineer
Completion certificate	Engineer / Client / Contractor

### **C3.2.2 Drawings**

A full set of drawings will be used exclusively for the recording of as built information by the Contractor.

Only dimensions, positions, levels, co-ordinates etc. that change from the original values, will be required to be entered on these drawings. These drawings, fully marked up, will be handed to the Engineer at the issue of the Certificate of completion, which will not be issued until the as-built information has been received.

The following drawings are applicable to this contract:

- 01NKP394 – GML01 – Locality Plan
- 02NKP394 – GL01 – Layout Plan01
- 03NKP394 – GL02 – Layout Plan02
- 04NKP394 – GSW01 – Stormwater Layout Plan01
- 05NKP394 – GSW02 – Stormwater Layout Plan02
- 06NKP394 – CS01 – Typical Cross Sections and Pavement
- 07NKP394 – LS01 – Longitudinal Section – Access Road
- 08NKP394 – LS01 – Longitudinal Section – Ramp A and B
- 09NKP394 – LS01 – Longitudinal Section – Ramp C, D and Link Road
- 10NKP394 – LSW01 – Stormwater Long Section – System A
- 11NKP394 – LSW02 – Stormwater Long Section – System A
- 12NKP394 – LSW03 – Stormwater Long Section – System A
- 13NKP394 – LSW04 – Stormwater Long Section – System A - AJ
- 14NKP394 – GBC01 – Proposed N4 Bridges Height Restriction Cross section
- 15NKP394 – GBC02 – Height Testing Structure
- 16NKP394 – DX01 – Detail Cross sections01
- 17NKP394 – DX02 – Detail Cross sections02
- 18NKP394 – INT01 – Intersection Ramp A and B

19NKP394 – INT02 – Intersection Ramp C and D  
 20NKP394 – INT03 – Intersection Link Road  
 21NKP394 – SH01 – Speed Hump  
 22NKP394 – RD01 – Road Sign (Sheet 1 of 7)  
 23NKP394 – RD02 – Road Sign (Sheet 2 of 7)  
 24NKP394 – RD03 – Road Sign (Sheet 3 of 7)  
 25NKP394 – RD04 – Road Sign (Sheet 4 of 7)  
 26NKP394 – RD05 – Road Sign (Sheet 5 of 7)  
 27NKP394 – RD06 – Road Sign (Sheet 6 of 7)  
 28NKP394 – RD07 – Road Sign (Sheet 7 of 7)  
 29NKP394 – TR01 – Traffic Accommodation  
 30NKP394 – RM01 – Road Making (Sheet 1 of 3)  
 31NKP394 – RM02 – Road Making (Sheet 2 of 3)  
 32NKP394 – RM03 – Road Making (Sheet 3 of 3)  
 33NKP394 – DR01 – Pipe Laying Details  
 34NKP394 – DR02 – V-Drain Details  
 35NKP394 – DR03 – Sub-surface Drainage (Sheet 1 of 4)  
 36NKP394 – DR04 – Sub-surface Drainage (Sheet 2 of 4)  
 37NKP394 – DR05 – Sub-surface Drainage (Sheet 3 of 4)  
 38NKP394 – DR06 – Sub-surface Drainage (Sheet 4 of 4)  
 39NKP394 – DR07 – Side Drain Grid Inlet Details  
 40NKP394 – DR08 – Reinforcement of Manhole, Grid Inlet Chambers and Junction Box

#### Slabs

41NKP394 – DR09 – Manhole Grid and Frame Details (Sheet 1 of 3)  
 42NKP394 – DR10 – Manhole Grid and Frame Details (Sheet 2 of 3)  
 43NKP394 – DR11 – Manhole Grid and Frame Details (Sheet 3 of 3)

### **C3.3 PROCUREMENT**

The Tenderers notice is drawn to the fact that the awarding of this tender will be in terms of the Supply Chain Management Policy of the Emalahleni Local Municipality and The Standard Conditions of Tender as contained in Annexure F of the September 2005 edition of the CIDB Standard for Uniformity in Construction Procurement.

### **C3.4 SUB-CONTRACTING**

Nominated sub-contractors will be proposed by the client pending a sub-contractor tender phase. No additional sub-contracting will be allowed after tender closure.

The rates provided by the sub-contractors are not final rates but will be negotiated and averaged before awarding the contracts to the successful bidders.

After appointment the contractor will need to supply the client with an agreement/contract between the contractor and sub-contractor. The agreement will solely be between the contractor and sub-contractor. Disputes will be mediated by the engineer and conditions of contract will be based on GCC 2015. Non-performance of sub-contractor to be communicated to the engineer timeously to ensure quick dispute resolution.

### **C3.5 CONSTRUCTION**

### **C3.5.1 Work Specifications**

Although not bound in nor issued with this document, the following standardised specifications will form part of the contract document:

***COLTO – Standard Specifications for Road & Bridge Works for State Road Authorities***

### **C3.5.2 Plant and materials**

All materials shall comply with the requirements of the South African Bureau of Standards and shall bear the official standardization mark. Where SABS standard does not exist for a certain material, or a material does not bear the official standardization mark, the Engineers approval of such material must be gained before use thereof.

### **C3.5.3 Construction Equipment**

All equipment on site shall be in a good working order and is to be in such a condition that it can achieve production rates which are typical of the industry standards.

Should any equipment, in the opinion of the Engineer, be substandard or breaks down frequently to such an extent that it affects the progress on the project, the Engineer may instruct the Contractor to replace such equipment.

### **C 3.5.4 Existing Services**

The services existing on the site will be either shown on the drawings or pointed out on site by the Engineer and / or the Municipality. No excavation work will commence unless a representative of the Municipality and/or the Engineer have been requested to point out existing services in the area under construction. Written confirmation of services that have been pointed out by the Municipality is to be obtained by the Contractor.

All existing services on the site may not be shown on the drawings or be visible on the site. The Engineer may order excavation by hand in order to search for and expose services. An item has been included in the Schedule of Quantities to cover the cost of such work if so ordered by the Engineer. Where a service is damaged because of the Contractors negligence he shall be liable for the cost involved in the repair of the services and any other consequent cost that may arise due to the interruption of the damaged services.

No excavation is to take place until a representative from the Municipality has been contacted and he has pointed out the existing services to the Contractor and confirmed it in writing. The same shall apply to all Telkom services in the area.

### **C3.5.5 Site Establishment**

- Source of Water Supply

Water is available from the existing water network. The Contractor is to arrange with the Local Authority for a connection point. The Contractor will be responsible for the costs of the connection as well as the use of water for construction purposes. The Contractor's attention is drawn to the fact that the potable water supply is erratic in this area. Under no circumstances may potable water be used for construction, unless written permission is granted by the Engineer.

- Sources of power supply

Electricity is available from the existing network. The Contractor is to arrange with the Local Authority for a connection. The Contractor will be responsible for the costs of electricity consumed as well as the connection costs.

- Location of camp and depot

The Contractor's camp is to be located on a site acceptable to Emalahleni Local Municipality. Written approval needs to be obtained from Emalahleni Local Municipality. No workers will be permitted to live in this camp.

- Sanitary facilities

The Contractor is to provide the necessary sanitary facilities at his camp, all of which will be governed by the requirements of the Local Authority. The contractor shall pay all sanitary fees and charges due.

It is not required that specific sanitary facilities be provided for the Engineer, and the facilities for the Contractor will be shared by both parties. The facilities are, however, to be kept in a clean and hygienic condition, to the satisfaction of the Engineer. All sanitary facilities are to conform to the by-laws of the Local Authority.

- Temporary offices

The Contractor is not required to provide any specific office space for the Engineers, but the Contractors' offices shall have adequate space and facilities for the holding of site meetings, and for the Engineer to perform administrative functions on an ad hoc basis.

Neither housing nor shelters will be provided for the contractor's employees, and the Contractor shall make his own arrangements to house his employees and transport them to the Site.

- Name Boards

One name board shall be provided at the position as ordered by the Engineer. The Engineer will provide the lettering required once the tender is awarded.

- Survey assistant and equipment

The Contractor will not be required to make any survey equipment available specifically for the use of the Engineer. The Contractor will however make 2 survey

assistants available to the Engineer as and when required, as well as the theodolite and/or level plus accessories

#### **C3.5.6 Site Usage**

- Ground and access to the works

The Contractor shall where necessary on or adjacent to roads which carry traffic, provide all the necessary barricades and signs in accordance with the stipulations of the South African Road Traffic Signs Manual, and in strict accordance with the requirements of the Protective Services of the Local Municipality.

The Contractor shall further ensure that all public roads that are used for access to the site are kept free of debris at all times. The Contractor shall also take adequate measures to ensure that dust is kept to an acceptable level. The term acceptable is to be deemed as acceptable to the Engineer.

- Care, damage and protection

The Contractor shall at his own cost make full provision for all watching and lighting necessary for the protection of all persons, animals, vehicles, etc., from injury by reason of the Works. He shall provide ample warning signs, guard rails, etc., around open excavations, stacks of materials, excavated material, debris or the like, and he shall be held liable for all claims made upon himself or upon the Employer by reason of his neglect of all such precautions and provisions.

During the periods of construction of the Works and the repair of defects, the Contractor shall, at his own cost, to the satisfaction of the Engineer and the relevant Authority, take sufficient and adequate measures to avoid interrupting the use of all roads, footpaths, water courses, drains, pipes, telephones, electric wires and cables, premises, places and works, public or private, which may in any way be interfered with by the operations; and shall also afterwards permanently restore all structures and everything which may have been temporarily displaced or otherwise interfered with, all to the satisfaction of the Engineer and the relevant Authority, without extra charge beyond the Contract price.

- Survey beacons

The Contractor shall take care to safeguard any permanent survey beacons such as erf boundary pegs and reference beacons. Should the Contractor disturb any such pegs and beacons, he shall have them replaced at his own cost by a registered Land Surveyor. The Contractor is to provide the Engineer with written confirmation from the Land Surveyor that he has replaced the relevant beacons.

The Contractor's attention is drawn to article 35(i) of the Land Surveying Act No. 9 of 1927 (as amended) in this regard.

- Access to individual erven

Access to all public and private property must be maintained at all times. Where trenches cross the access point to any property, the Contractor is to arrange for adequate and safe vehicular and pedestrian crossings over the trenches.

The Engineer must approve the method of providing access before any excavation commences.

- Use of construction vehicles and equipment

The contractor shall ensure that all construction vehicles and mobile plants

- (a) are of an acceptable design and construction;
- (b) are maintained in a good working order;
- (c) are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
- (d) are operated by workers who-
  - (i) have received appropriate training and been certified competent and been authorised to operate such machinery; and
  - (ii) are physically and psychologically fit to operate such construction vehicles and mobile plant by being in possession of a medical certificate of fitness;
- (e) arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;
- (f) are prevented from falling into excavations, water or any other area lower than the working surface by installing adequate edge protection, which may include guardrails and crash barriers;
- (g) where appropriate, are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
- (h) are equipped with an electrically operated acoustic signalling device and a reversing alarm; and
- (i) are on a daily basis inspected prior to use, by a competent person who has been appointed in writing and the findings of such inspection is recorded in a register.
- (j) no person rides or be required or permitted to ride on any construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
- (k) every construction site is organised in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;
- (l) the traffic routes are suitable for the persons using them, sufficient in number, in suitable positions and of sufficient size;
- (m) every traffic route is, where necessary indicated by suitable signs for reasons of health or safety;
- (n) bulldozers, scrapers, loaders, and other similar mobile plant are, when being repaired or when not in use, fully lowered or blocked with controls in a neutral position, motors stopped and brakes set;

- (o) whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
- (p) when workers are working on or adjacent to public roads, reflective indicators re provided and worn by the workers.

### **3.5.7 Permits and Way leaves**

To be arranged with the relevant authorities.

## **3.6 MANAGEMENT**

### **C3.6.1 Management of the Works**

- Setting out of the works

Generally, the positions of the works have been fixed on the plans according to the existing stand boundaries. The Engineer is to approve all setting out prior to commencement of excavation.

- Excavation of works & safety

The contractor shall ensure that all excavation work is carried out under the supervision of a competent person who is been appointed in writing. The Contractor will evaluate, as far as is reasonably practicable, the stability of the ground before excavation works begin and he/she shall not permit any person to work in an excavation which has not been adequately shored or braced.

The Contractor will cause convenient and safe means of access to every excavation area in which person are required to work and such access hall not be further than 6m from the point where any worker within the excavation is working.

The Contractor must ascertain as far as is reasonably practicable the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and shall before the commencement of excavation work that may affect any such service, take the steps that may be necessary to render the circumstances safe for all persons involved;

The Principal Contractor shall cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, to be:

- (i) Adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
- (ii) provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor;

The Principal Contractor shall cause warning signs to be positioned next to an excavation within which persons are working or carrying out inspections or tests.

- Inspection by Engineer

No stage of construction shall be proceeded with until the Engineer or his representative has examined and approved the previous stage. If any work is covered or hidden from view before the Engineer has inspected same, the Contractor shall at his own cost open the covered work for inspection. The Contractor shall also be responsible for making good any work damaged by such uncovering.

- Employment of local labour

It is a specific criterion of this project that should as far as possible adhere to RDP principles, and to meet these principles the following procedures will be followed:

All labour is to be sourced from the Emalahleni Local Municipal area of jurisdiction and the Contractor may only bring in key personnel from outside this area. The Contractor's attention is drawn to the standard rates specification (*Civil Engineering Industry Minimum Wage rates per hour; as per Government Notice R1202, 16 October 2015.*) found on the SAFSEC website at [www.safcec.org.za](http://www.safcec.org.za). These standard rates should be implemented for payment of all employees of the Contractor.

Key personnel would typically include the Contracts Manager, Site Agent, and Supervisor for each discipline and operators of plant where the operator must be seated.

A Monthly labour report on all local labour i.e. payments and labour days should be submitted to the Engineer at the end of each month in order for the Engineer to submit a report to the Employer.

None of the Works shall be executed except between sunrise and sunset on Monday to Saturday, inclusive, of any week, and none of the Works shall be executed on any special non-working days stated in the Contract Data, unless:

- ✓ The Engineer's permission in writing is obtained, subject to such conditions as may be laid down by the Engineer; or
- ✓ Provision is specifically made for it in the Contract; or
- ✓ Work is unavoidable or necessary for the saving of life or property or for the safety of the Works.

- Site Meetings

Regular meetings will be held between all relevant parties to establish the progress and / or delays and problems that might occur on site. Any problems of delays will be address accordingly and the Contractor will receive proper instructions with reference to this matter.

- Communication

The Engineer's representative on this project will be: Mr. K.C Smith

Contact No: 082 906 5967

The contact person for the Employer is: Mr. Edwin Sedupane



Contact No: 013 690 6911

- Daily Records

Daily records of resources (equipment and people employed) must be kept and must be available on site at all times. These records will include i.e. site instruction book, site diary, site visit register, contractual documentation and minutes of all project meetings. Labour information should be kept updated at all times.

- Compliance with applicable laws

The Contractor shall, in performance of the Contract, comply with all applicable laws, regulations and statutory provisions and agreements, and shall in particular, on the request of the Engineer, provide proof that he has complied therewith with regard to amongst others:

- ✓ Wages and conditions of work; and
- ✓ Safety

- Payment Certificates

As consideration for the construction, completion and defects correction of the Works, the Employer shall pay the Contractor in terms of the provisions of the Contract.

- Clearance of site

On completion of the Works, the Contractor shall clear away and remove from the site all Construction Equipment, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a safe condition. All streams and watercourses (where applicable) shall be cleaned and restored to the condition as at the commencement of the Works. If the Contractor does not, within a reasonable time, comply with this requirement, the Employer may have the site cleared and recover the cost thereof from the Contractor.

## EPWP labour intensive specification

### Labour intensive competencies of supervisors and management staff

Contractors having a CIDB contractor grading designation of 6 CE and higher shall only engage supervisory and management staff in labour intensive works who have either completed, or for the full duration of the contract, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a contractor grading designation of 1CE, 2CE, 3CE and 4CE shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such contractors must have completed, or for the full duration of the contract be registered on a skills programme for, the NQF level 2-unit standards or NQF level 4 unit standards.

**Table 1: Skills programme for supervisory and management staff**

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, <b>and</b>
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	} any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques	This unit standard must be completed, <b>and</b>
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	} any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site Agent / Manager (i.e the contractor's most senior representative that is resident on the site)	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

- Health & Safety Issues

All work is to be carried out in accordance with the Occupational Health and Safety Act and Regulations (Act 85 of 1993) (a copy of which must be kept on site), the Explosive Material Act of (Act 26 of 1956), the Minerals Act of 1991, and the Factories Machinery and Building Work Act (No 22 of 1941).

The Contractor's notice is drawn to the stipulations of the Construction Regulations 2003, a regulation of the Health and Safety Act 1993 (Gov Notice No R1010 of 18 July 2003). The construction regulation will be applied vigorously on the project.

The Contractor to be appointed must have made provision for the cost of health and safety measures during the construction process. The contractor must have the necessary skills, competencies and resources to carry out the work safely. A proper Safety Plan is to be submitted by the Contractor and a copy thereof is to be made available to all applicable appointed labourers and permanent workers on this project.

The Contractor is to ensure that the legal compliance for the Health and Safety issues are in place. Audits will be carried out to ensure that the Contractor is registered and in good standing with the Workmen's Compensation fund and that the Contractor has affected insurance indemnifying the Employer against penalties levied upon the Employer due to the acts of omissions of the Contractor in failing to comply with the provisions of the OHS regulations 2003. A compliance audit will also be carried out to ensure that the Contractor has appointed a full-time competent person in writing to deal with the issues of the OHS and that a risk assessment has been conducted and a copy of the Safety plan is on site before any work commences.

Operational audits will be carried out on the following important issues:

- ✓ That the Safety Plan is on site at all times
- ✓ That the Contractor's Safety file is on site at all times
- ✓ That the Safety Officer is on site at all times
- ✓ That Safety meetings are conducted as per the Safety Plan
- ✓ That employees are working under safe conditions
- ✓ That the public is not placed in danger
- ✓ That there is no harm to the environment

## **C3.8 PROJECT SPECIFICATIONS**

### **C3.8.1 Work Specifications**

a) COLTO – Standard Specifications for Road & Bridge Works for State Road Authorities

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**SECTION 1100: DEFINITIONS AND TERMS****B1115 GENERAL CONDITIONS OF CONTRACT*****Replace Clause 1115 with the following:***

“The General Conditions applicable to this contract are the “General Conditions of Contract for Construction Works (Third edition 2015), issued by the South African Institution of Civil Engineering (SAICE). Accordingly, all reference in the Standard Specifications to any other General Conditions of Contract (GCC) has to be amended. The Standard Specifications have been scrutinized and clauses which refer to another GCC identified. These are tabulated below together with the relevant equivalent clause in the SAICE Conditions of Contract. The context of the reference to the GCC is also noted.

Whereas every effort has been made to include all of the affected clauses in the table, there may be some omissions. In every case, however, the SAICE Conditions of Contract for Construction, as amended by the Particular Conditions of Contract in Section C1.2, Contract Data of this Volume, shall apply and the contractor shall be responsible for interpretation of the equivalent clause

**CHANGES TO REFERENCES BY THE COLTO STANDARD SPECIFICATIONS TO THE COLTO GENERAL CONDITIONS OF CONTRACT AND SAICE GENERAL CONDITIONS**

COLTO Standard Specification		COLTO General Conditions of Contract 1998 (GCC)		SAICE Conditions of Contract for Construction works 3 <sup>rd</sup> edition 2015	
Clause No	Page No	Clause No	Description or Reference	Clause No	Description or Reference
1115	1100-2		Definition of GCC	1	Definition of SAICE
1204	1200-2	15	Construction programme	5.6	Construction programme
1204	1200-2		General reference to GCC		Applicable to SAICE
1206	1200-3	14	Setting out of works		Not covered
1209(a)	1200-4		General references to GCC		Applicable to SAICE
1209(e)	1200-5	52(2)	Valuation of material brought onto site	6.9	Valuation of material brought onto site
1210	1200-5	54 (1)	Certificate of practical completion	5.14	Certificate of practical completion
1212(1)	1200-7	49 (2)	CPA on alternative designs		Not covered.
1215	1200-9	45 (2)	Extension of time for completion due to abnormal rainfall.	5.12	Extension of time for practical completion due to abnormal climatic conditions.
1217	1200-10	35	Care of the works	8.2	Care of the works
1303(ii)	1300-1		General reference to GCC		Applicable to SAICE
1303(iii)	1300-1	49	Price adjustment Item 13.01 (a)	6.8	Adjustment in rates and/or prices.
1303 (iii)	1300-2	49	Price adjustment Item 13.01 (b)	6.8	Adjustment in rates and/or prices.
1303 (iii)	1300-1	53	Variations exceeding 20%	6.11	Variations exceeding 15%
1303 (iii)	1300-2	53	Variations exceeding 20%	6.11	Variations exceeding 15%
1303	1300-2	12	Payment Item 13.01 (c)	6	Payments
1303	1300-2	45	Payment Item 13.01 ( c)	6	Payments
1403(c) (ii)	1400-4	40 (1)	Variation for rented accommodation	6.3&6.6	Variations and provisional sums
1505	1500-3	40 (1)	Variation for temporary drainage	6.3	Variation
Item 15.08	1500-8	48	Payment of Provisional Sum	6.6	Provisional Sums
Item 15.09	1500/8	48	Payment of Provisional Sum	6.6	Provisional Sums
Item 15.11	1500-8	48	Payment of Provisional Sum	6.6	Provisional Sums
Note (2)	3100-4	40	Payment for prospecting for materials	6.3	Variations
3204(b) (iii)	3200-2	40	Payment for oversize material	6.3	Variations
3303(b)	3300-2	2	Engineer's decisions, with reference to materials classification	3.2	Functions of the Engineer
Item 44.06	4400-3		General reference to GCC, PC Sums	6.6	Provisional Sums
Item 45.06	4500-3		General reference to GCC, PC Sums	6.6	Provisional Sums
5803 (c)	5800-3	40	Variation, for landscaping	6.3	Variations
5805 (d)	5800-4	40	Variation, for grassing	6.3	Variations
Item 58.10	5800-10	48	Payment for Extra Work	6.3	Variations

COLTO Standard Specification		COLTO General Conditions of Contract 1998 (GCC)		SAICE Conditions of Contract for Construction works 3 <sup>rd</sup> edition 2015	
Clause No	Page No	Clause No	Description or Reference	Clause No	Description or Reference
				6.5	Dayworks
8103 (c )	8100-1	40	Variation, for testing material	6.3	Variation, for testing material
Item 81.02	8100-26		General reference to GCC, Provisional Sums	6.6	Provisional Sums
Item 81.03	8100-26	22	Clearance of site on completion, with reference to core drilling	5.15	Clearance of site.

*Amend the following clauses:*

#### **“B1131 RECYCLING**

The process of recycling shall also mean the breaking up of existing pavement layers and/or the mixing of pavement layer materials with a recycling machine.

#### **B1155 WORK IN RESTRICTED AREAS**

Under this contract, no additional or extra over payment will be made for work in restricted areas.”

*Add the following clauses:*

#### **“B1156 OTHER DEFINITIONS**

The COLTO Standard Specification for Roads and Bridges has been written for all contractors, employers and engineers. Similarly, the works and the site are not defined and the general nature of the entities and elements that collectively constitute construction under a contract are characterized by the use of lower case letters throughout.

These project specifications continue to use lowercase spellings in order to avoid the appearance of the capitalized and non-capitalized words to describe or prescribe the same elements of work required on this project. However, for the purposes of this contract the following definitions shall apply:

##### **Contractor**

The Contractor and the contractor is the same persona defined under clause 1.1.1.9 of the Conditions of Contract, but who will only be formally identified by the formal Letter of Acceptance which will be bound into the final contract document.

##### **Employer**

The Employer and employer is the same persona and is defined in Section C1.2.2, Contract Data and clause 1.1.1.15 of the Conditions of Contract.

##### **Engineer**

The Engineer and engineer is the same persona and is defined in Section C1.2.2, Contract Data and clause 1.1.1.16 of the Conditions of Contract.

##### **Site**

The site is defined in clause 1.1.1.29 of the Conditions of Contract. It is bound by the limits of

construction as shown in the drawings or the description of the project and extends to also include the following:

All areas necessary for accommodating the traffic as prescribed in section 1500 of the specification and the drawings.

### **Works**

The works is described in **PART C3.2** of this document and is as defined in clause 1.1.1.28 of the Conditions of Contract.”

### **Process Control**

Process control means all testing required to be carried out by the contractor at his cost in order to ensure that the completed permanent works comply with the specifications and drawings. All such testing will be subject to inspection and approval by the engineer.

### **Acceptance Control**

Acceptance control means whatever testing the engineer carries out over and above the process control testing already carried out by the contractor in order to decide on the acceptability of any work submitted by the contractor. Such testing will be carried out at the cost of the employer in either the engineer's laboratory or one approved by him.

### **B1159                      AGGREGATE SIZE**

Where reference is made in this specification or the standard specifications to aggregate size, nominal aggregate size or maximum aggregate size, the aggregate size as listed shall be replaced with the new corresponding aggregate size as indicated in the following table:

<b>Aggregate size</b>	<b>New aggregate size</b>
75	75
63	63
53	50
37,5	37,5
26,5	28
19	20
13,2	14
9,5	10
6,7	7.1
4,75	5
2,36	2
1,18	1 ”

## **SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS**

### **B1202 SERVICES**

Delete and replace the words:

“Clause 12 of the general conditions of contract” in the first sentence of the eleventh paragraph with Clause 5.6 of the General Conditions of Contract for construction works 2015 edition.”

In the second paragraph, delete the word “utility” at the end of the second line.

*Add the following:*

“Provision is made in the pricing schedule for relocation and/or adjustment of existing services under Provisional and Prime Cost Sums. The work is to be undertaken by the contractor himself or by a nominated sub-contractor, depending on required know-how for each case.”

### **B1204 PROGRAMME OF WORK**

#### **(a) General requirements**

*Insert the following before the first paragraph:*

"A network-based programme in accordance with the precedence method shall be provided showing the various activities in such detail as may be required by the engineer. The programme shall be updated monthly in accordance with the progress made by the contractor.

Failure to comply with these requirements will entitle the employer to invoke clause 5.3.2 in the GCC. Alternatively, and upon the employers instruction, request the engineer to apply a programme based on his own assumptions for the purpose of evaluating claims for extension of time for completion of the works, or for additional compensation."

*Add the following as a continuation of the first paragraph:*

"In drawing up the programme the contractor shall make allowance for the following general requirements:

- (i) All special non-working days defined in Part C1.2.2 Contract Data.
- (ii) Allowance to be made in terms of clause B1215, dealing with inclement weather delays.
- (iii) No construction will be allowed during the December break.
- (iv) The requirement that chemically stabilized layers have to be cured by covering with the subsequent layer which, for subbase layers, consists of crushed-stone base material and for base layers, consist of prime or watering thrice per day.
- (v) Phasing of construction work in terms of material utilisation will be the responsibility of the contractor, e.g. cut to fill operations, obtaining commercially supplied pavement layer materials, etc.
- (vi) Asphalt surfacing to be completed prior to construction of road surface drainage concrete structures in cuttings and on fills.
- (vii) All levels, dimensions and coordinates shall be checked and confirmed on site with the Engineer before construction commences.
- (viii) A risk assessment with specific focus on the construction activities within an urban area, pedestrian and traffic management, to be compiled with assistance from the Employer's Agent.



- (ix) Communications and liaison with the local PCS.

**(b) Programme of work for rehabilitation work**

*Add the following new third paragraph to this section:*

"In addition to the requirements of clause B1204(a) the programme of work shall include the following details:

- (i) A work breakdown structure that identifies all major activities.
- (ii) Scheduled start and end dates for each activity on every phase / section.
- (iii) Linkages between activities that clearly identify sequence, floats and critical path.
- (iv) Intended working hours and resource allocations (plant and labour).
- (v) Monthly cash flow projections.
- (vi) Key dates in respect of information required or due delivery.
- (vii) The contractor's payment weekends and non-work days (periods)
- (viii) Complete finishing of borrow pits for approval by DMR

**B1205 WORKMANSHIP AND QUALITY CONTROL**

*Add the following:*

Quality control (Scheme 1) as detailed in Section 8200 will be used for determining the acceptance levels with respect to the properties of the materials and workmanship executed by the contractor.

*Delete the second, third, fourth and fifth paragraphs and replace with the following:*

"The contractor shall submit the quality assurance plan and system he proposes using to the engineer for his approval within two weeks of site handover. Once accepted it shall not be deviated from unless written notification of proposed changes have similarly been submitted and approved. The system shall record lines and levels of responsibility and indicate the method by which testing procedures will be conducted."

*Add the following to the end of this clause:*

"The engineer shall for the purpose of acceptance control on products and workmanship, assess test results and measurements in accordance with the provisions of section 8200 of the standard specifications. Where small quantities of work are involved, a lot shall mean a full day's production for a specific item of work subject to acceptance control testing.

**B1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS**

*Delete the entire contents of the first paragraph and the following words in the first sentence of the sixth paragraph.*

"and of clause 5.3 of the general conditions of contract."

*Add the following at the end of the fourth paragraph:*

The repair method of this route is to reconstruct the road to existing levels with some localised section to be indicated by the Engineer to be constructed to redesigned lines and levels.

**B1207 NOTICES, SIGNS AND ADVERTISEMENTS**

One signboard shall be erected and maintained for the duration of the contract at points to be indicated by the engineer. Details of the signboards are included in the contract drawings.

*Delete the last paragraph and replace with the following:*

"All signboards erected in accordance with the drawings or as ordered by the Safety Officer / Engineer shall be removed at the same time as the de-establishment of the contractor's camp. Payment under

item 13.01 for the final instalment of 15% of the tendered lump sum shall not be made unless all the advertisements, notices and temporary signs have been removed.”

## **B1209 PAYMENT**

### **(b) Rates to be inclusive**

*Add the following to the first paragraph:*

“VAT shall be excluded from the rates.”

*Amend sub clause (e) Materials on site by deleting and replacing the words:*

“Clause 52 of the general conditions of contract” in the first sentence of the first paragraph with Clause 6.10 of the General Conditions of Contract for construction works third edition (2015).

## **B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS**

*Delete and replace the words in the first paragraph:*

“Clause 54 of the general conditions of contract” in the fourth line of the first sentence with Clause 5.14 of the General Conditions of Contract for construction works third edition (2015).

*Add the following to subclause (e) before the semicolon:*

“(Including road studs)”

*Add the following paragraphs under new item (h):*

“Notwithstanding that there might be natural or programmed sections or portions of the works that will result in them being completed in their entirety before other sections of the works, no consideration shall be given to the issuing of practical completion certificates for sections of the works. The use of any completed roadway or sections of the work, whether for unhindered use by the public or for accommodation of traffic while other sections are being constructed, shall not constitute use or occupation by the employer.

In addition to the listed specified items of work and regardless of the degree of beneficial occupation by the employer, the works shall be considered for practical completion only if the following criteria have also been met:

- (i) The estimated cost to complete the outstanding work is less than 2% of the tendered sum for the work plus the cost of any variation or extra work orders, but excluding CPA and VAT.
- (ii) The written list of outstanding items of work can be completed within 30 calendar days of the list having been accepted in writing by the contractor.
- (iii) Any information in the contractor’s possession, which is required by the engineer and has been requested in writing, has been supplied.
- (iv) The Regional Manager of the Department of Mineral Resources (DMR) has issued written confirmation to the contractor that they are satisfied with the final shaping to all quarries, borrow pits, stockpile areas, and spoil sites used or intended to be used under this contract. In the event of this written confirmation is not obtained from DMR within 60 days, the acceptance by the Independent Environmental Practitioner (IEP) will be sufficient for the issuing of the Certificate of Completion. The confirmation from DMR will be a condition of the issue of the Certificate of Completion.”

## **B1211 TRAFFIC OVER COMPLETED LAYERS**

*Add the following after the first paragraph:*

“No construction traffic shall be allowed on completed recycled subbases or base prior to the final

asphalt overlay being completed. In the event that access to properties result in traffic having to be accommodated over stabilised layers, the contractor shall make allowance for a protection layer of at least 50mm sand layer on top of the stabilised layer."

#### **B1212            ALTERNATIVE DESIGNS AND OFFERS**

*Add the following to the end of sub clause (m):*

"The provision for contract price adjustment in the original tender summary must not under any circumstances be altered in an alternative tender"

#### **B1214            CONTRACTOR'S ACTIVITIES IN RESPECT OF PROPERTY OUTSIDE THE ROAD RESERVE AND OF SERVICES MOVED, DAMAGED OR ALTERED**

*Add the following to the last paragraph of sub clause (d)*

"These written statements shall be handed to the engineer before the final certificate will be issued. Failing to obtain these written statements from all landowners and authorities concerned, the period of maintenance will be extended including all conditions related to such an extension, until such time that all these statements are obtained.

The obtaining of any such written statements will not relieve the contractor of the execution of any of his obligations to the satisfaction of the landowner or authority concerned, and to the approval of the engineer."

#### **B1215            EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL**

*Delete and replace the words in the first paragraph:*

"Clause 45 of the general conditions of contract" in the first line of the first sentence with Clause 5.12 of the General Conditions of Contract for Construction Works Third edition (2015).

*Add the following after the first paragraph:*

Method (ii) (Critical-path method) shall be used on this contract.

##### **Method (ii) (Critical-path method)**

*Delete and replace the words in the second paragraph with the following:*

Replace the word "five-day" in the second paragraph with "six-day".

The value of "n" is twenty (20) days.

Refer to historical data included in **PART C4** of this document.

#### **B1217            PROTECTION OF THE WORKS AND REQUIREMENTS TO BE MET BEFORE CONSTRUCTION OF NEW WORK ON TOP OF COMPLETED IS COMMENCED**

*Delete and replace the words in the first paragraph:*

"Clause 35 of the general conditions of contract" in the second line of the first sentence with Clause 8 of the General Conditions of Contract for construction works third edition (2015)."

#### **B1219            WATER**

*Add the following:*

"Water for use on site other than municipal, shall be subject to required permits from DWA submitted to the Contract Engineer by the Contractor. This shall include such extraction points as rivers, privately owned dams, streams, and boreholes. Farmers along the existing rivers could be operating

under a quota system of DWA and the contractor shall make his own arrangements for obtaining water from landowners who are not utilizing their quotas to the full or who are willing to provide water. All related arrangements and cost shall be included in the tender rates as applicable."

Use Table B1219 below to determine the suitability of water for construction purposes.

Property	Unit	Water Quality Classification Code						Method
		H0	H1	H2	H3	H4	H5	
		Pure water (AR)	Clean water (Rain)	Treated water (Municipal)	Silty (muddy) water with low salt content	Highly mineralised chloride sulphate water (brackish)	Waste brack, sewage, marsh, sea, etc. water	
PH*	-	7.0	5.7 – 7.9	4.5 – 6.5	4.5 – 8.5	9.0	-	SABS M113 SM 11 - 1990
Dissolved solids*	ppm	0	1000	1500	3000	-	-	SABS 213 SM213 - 1990
Total hardness*	-	None	None	Temporary	Temporary	Permanent	-	SABS 215 SM 215 – 1971
Suspended matter	ppm	0	2000	2000	5000	-	-	SABS 1049 SM 1049 – 1990
Electrical conductivity	mS/m	0	200	200	500	-	-	SABS 1057 SM 1057 – 1982
Sulphates (SO4)	ppm	0	200	300	500	1000	-	SABS 212 SM 212 – 1971
Chlorides (Cl)	ppm	0	500	1000	3000	5000	-	SABS 202 SM 202 – 1983
Alkali Carbonates (CO3) & Bicarbonates (HCO3)	ppm	0	500	1000	1000	2000	-	SABS 241 – 1999
Sugar	-	Negative	Negative	Negative	Negative	Negative	-	SABS 833
Quality of water required	Untreated layer works	✓	✓	✓	✓	Investigate the effect on the quality of the material	References: 1. Concrete Technology – Dr S Fulton (1989) 2. Materials Manual (PAWC)	
	Chemically treated layer works	✓	✓	✓	Investigate the effect on the quality of the material			
	Concrete mass	✓	✓	✓	Investigate the effect on the quality of the material			
	Concrete prestressed	✓	✓					
	Slurry & emulsion	✓	✓					
	Soil/gravel tests	✓	✓					
	Chemical or control tests	✓	✓					

- A primary property. The quality of the water is that quality where all three of the primary properties are within the limits.
- The tabulated single values are maximum value except in the case of the pH value for pure water, which must be 7.0

## **B1222      USE OF EXPLOSIVES**

*Add the following subclauses:*

### **“(h) Definitions**

- (i) **"Specified excavation or Payment line"** means the excavation profile given on the Drawings or determined by the engineer for the Works, within which no unexcavated or loose material shall occur after the excavation is complete except as allowed within the specified tolerances. It is also the line to which payment for excavation will be made.
- (ii) **"Pre-splitting"** comprises drilling a line of closely spaced parallel holes of appropriate diameter, spaced not more than ten times the hole diameter or 600mm, whichever is the smaller and charging the holes with an appropriate amount (decoupled if necessary) and type of explosive to shear the rock, forming a surface along the line of drill holes.

Either all the holes in a presplit line shall be drilled, charged and detonated simultaneously prior to drilling the production holes for the excavation adjacent to the presplit line, or pre-splitting shall be accomplished by delaying detonation in the production holes to allow the presplit holes to fire first. The first line of production holes next to the presplit face shall be lightly charged to ensure that the presplit face is not damaged when the charges in the production holes are detonated.

- (iii) **"Smooth blasting"** comprises the drilling of a number of closely spaced parallel holes along the required excavation surface, with a suitable burden/spacing ratio, loading all the holes lightly with a uniform continuous charge of small diameter explosive and detonating all these charges simultaneously, after the detonation of the main production blast.
- (iv) **"Line Drilling"** comprises drilling a line of holes of appropriate diameter spaced not more than twice the hole diameter to form a surface of weakness along which the rock will break. Blasting is not permitted in the line drilled holes, and the first line of production holes next to the line drilled holes shall be lightly charged to avoid damage to the line drilled break surface.
- (v) **"Cushion Blasting"** comprises the separate removal of a protective zone of rock which has been purposely left within the specified limits of excavation for flat areas and shallow slopes. Drilling for cushion blasting shall consist of a regular pattern of holes at appropriate spacings and angles and to accurate depths. The holes shall be lightly charged and detonated in relays to lift the rock progressively to form the final excavated surface without shattering the surrounding rock.
- (vi) **"Overbreak"** means any excavation area which extends beyond the payment line, irrespective of the reason for such excavation.

### **(i)            General**

The design of blasts shall be undertaken by a suitably qualified person. A copy of all certificates issued to workmen to permit them to undertake blasting, and to the contractor to cover the purchasing, storage and transport of explosives shall be handed to the engineer before any blasting work is undertaken.

The contractor shall submit to the Engineer at least 28 days before the commencement of any excavation work or drilling, full details of his proposed methods and sequence of excavation and programme for the use of explosives.

Within 2 weeks of receipt of the proposals, the engineer shall indicate acceptance in part or in whole, in writing, to the contractor. The engineer reserves the right to reject the proposals if, in his opinion, undesirable damage to permanent rock surfaces or existing structures will result from carrying out the blasting as proposed. If acceptance is withheld, new proposals in whole or in part shall be submitted.

No drilling or blasting shall be carried out in areas for which the proposals have not been accepted by the engineer, and any changes to the accepted methods shall be subject to the engineer's approval.

The work shall be programmed so as to minimise blasting adjacent to previously constructed sections of the Works.

Where blasting is necessary every precaution including the use of blast mats, timber boarding or other means shall be exercised to protect the Works and persons, animals and property in the vicinity of the Site. The contractor shall accept responsibility for all injury or damage occasioned by any blasting operations and shall make good such damage without any additional payment.

The contractor shall, in particular, note the requirement that he must limit to the maximum extent practicable the spillage of material from surface excavations, whether by blasting or other means. To this end the contractor shall take all necessary precautions including, if necessary, covering the rock prior to blasting with sufficient loose material to prevent the blasted material being thrown. If, however, during the course of excavation on a hillside, the engineer is of the opinion that insufficient precautions are being taken to minimise the spillage of material, he may instruct the contractor to adopt further measures to reduce the spillage. No separate payment will be made for any such measures required.

Each separate blast shall be designed in accordance with modern blasting practice to break out the rock with the minimum explosive force. Full details of each blast, unless such blast is unchanged from the previous one, shall be submitted to the engineer for scrutiny not later than 24 hours prior to the commencement of drilling for that blast. The details shall include the location, depth and area of blast holes, the type, strength, amount, column load and distribution of explosives to be used per hole, per delay and per blast, the sequence and pattern of delays, the maximum expected level of shockwaves on adjacent structures, and the description and purpose of any special methods to be adopted by the contractor.

The consent by the engineer to any blasting proposals shall not relieve the contractor of his responsibilities under the Contract and the law.

Should the contractor excavate to dimensions in excess of those specified or instructed by the engineer, whether to remove damaged material or for reasons of safety or for his own convenience, he shall at his own expense and when required by the engineer, fill in the excess excavation with concrete or sprayed concrete of approved quality or with other material approved by the engineer, or carry out additional trimming to the satisfaction of the engineer.

The contractor shall provide the engineer each day with a copy of the record for the previous day's excavations. Where applicable the following data shall be recorded for each working area together with such other data as the engineer may request.

- (i) location of the excavation and position within the excavation
- (ii) drilling pattern
- (iii) type and amount of explosive used, including blasting pattern and delays used
- (iv) details of rock support
- (v) surface area of sprayed concrete and location
- (vi) number and classification of labour and plant
- (vii) unusual occurrences, rockfalls, unstable or soft ground and inflows of water
- (viii) progress, delays and reasons for delays
- (ix) name and permit number of blaster
- (x) date
- (xi) distance of blasts to structures and existing services

#### **(j) Quality of Excavated Surface**

Unless otherwise instructed by the engineer all blasting work shall be carried out using controlled blasting techniques to minimise any damage to the final profile.

Use shall be made of approved special explosives and/or blasting techniques which will minimise blasting induced fractures, or disturbance, on the rock faces outside the excavation line so preserving the rock in the soundest possible condition. No separate payment will be made for cushion blasting.

The cost of using cushion blasting techniques shall be included in the rates for excavation.

The surface after blasting shall exhibit a regular fracture plane between barrels without back break and with half barrels visible over the major portion of the surface. The surface shall be scaled down of all loose and hollow sounding rock to leave a solid, intact surface. Light charges shall be used for enlarging or correcting the excavated profile and also for excavating trenches.

If in the opinion of the engineer, the methods of blasting are at any time causing excessive or undesirable disturbance of the rock mass surrounding the excavated space, he may order the contractor to change his methods of blasting and/or carry out blasting trials until the desired results are achieved. No additional payment shall be made for any change or further trials ordered by the engineer or any delays resulting there from.

The spacing of holes and explosive charges shall be adjusted so that a minimum of oversize material is produced (a maximum particle size of 600mm). The engineer shall have the right to order the contractor to adjust his blasting pattern and/or carry out secondary blasting at his own cost, should he be of the opinion that the contractor is not taking sufficient care to produce rock of the required size.

#### **(k) Monitoring of Blasts**

The contractor shall supply and operate an approved tri-axial particle velocity meter equipped with a permanent paper trace output, which shall be used as and where directed by the engineer to monitor blasting work.

The paper trace output records shall show the time and location of each blast, the type and amount of explosive used, together with any other relevant data. Copies of these records shall accompany the daily records required in terms of Clause (i) above.

The contractor shall 7 days prior to submission of blast designs, complete a single hole detonation for each blast site. This blast is to be accurately monitored by the contractor in order to obtain the rock factor (k), which will be used in Langefors' formula to estimate the peak particle velocities.

#### **(l) Notification of Blasts**

Prior to any blasting, 28 days' notice is to be given to the engineer and relevant authorities. The contractor shall further notify the engineer of the intention to blast at least 48 hours before that operation is carried out. The notification shall show the location of and the intended time of each blast and the name of the licensed blaster and shift foreman responsible. No blasting shall be undertaken during any known peak hour days on specific peak hours (long weekends).

The contractor shall distribute written notification to all organisations on site, and relevant authorities, 24 hours prior to undertaking blasting. Any delay or postponement of any blasts shall be notified to all organisations immediately. The firing of explosives shall be restricted as detailed in Item B1222(r) of this specification.

#### **(m) Blasting near Structures**

The amount of explosives that may be detonated shall not result in a ground vibration with a peak particle velocity in excess of 25mm/sec at the nearest point of any part of Permanent Works. Where circumstances dictate, such as when blasting near to partially cured concrete, the peak particle velocity permitted may be reduced by the engineer.

Blasting shall not be carried out within 10m of any Works, unless otherwise agreed to in writing by the engineer.

#### **(n) Controlled Blasting**

Controlled blasting methods shall comprise pre-splitting, smooth blasting, line drilling or cushion blasting techniques.

All charges shall be accurately made up and inserted into the holes at the correct spacing, and all holes shall be correctly stemmed and connected in the correct sequence, with detonators being correctly delayed.



If at any time the methods of drilling and blasting do not produce the desired results of a uniform profile and shear face without overbreak, all within the tolerances specified, the contractor shall be required to undertake tests as until a technique is arrived at that will produce the desired results.

Controlled blasting shall be used in the widening of the cuttings or otherwise where called for by the engineer.

**(o) Drilling**

In all controlled blasting, drilling accuracy of perimeter holes is of prime importance and the contractor shall take particular care and make use of sight lines and guide rails in surface work to control the alignment and depth of blast holes. Holes which are likely to protrude more than 100mm beyond the excavation profile, shall not be charged up, but shall be redrilled.

The blast pattern shall be accurately set out and holes shall be collared within 50mm of the required position. Holes which are overdrilled shall be fully stemmed to the required depth before charging up takes place.

The length of perimeter holes for any individual lift shall not exceed 10m or any lesser depth detailed on the drawings. All perimeter holes for surface blasting shall be drilled to a depth of 1m below the bottom of any production holes adjacent to the perimeter plane.

**(p) Use of Explosives**

Both cartridge and bulk explosives may be used where appropriate.

In controlled blasting the type, size, decoupling and charge concentration of perimeter and bulk charges shall be within established parameters unless otherwise proven acceptable by site trials.

The bottom charge of a pre-split hole shall not be larger than the line charges unless otherwise directed. The top charge of the pre-splitting hole shall be placed far enough below the collar to avoid overbreaking the final profile.

Adequate stemming shall be used to avoid blow-outs.

**(q) Checking and Correcting the Excavated Profile**

The excavated profile shall be checked for line, level and underbreak using methods approved by the engineer. No projections of rock shall protrude within the payment line, except as allowed within the specified tolerances.

The contractor shall submit his proposals for removing any underbreak to the engineer for his consent prior to carrying out any such work of removal. Any work executed or delays, which are due to the contractor having to re-excavate underbreak and then re-install support shall be carried out without additional payment, and no extension of time will be allowed for this work.

**(r) Accommodation and Protection of Existing Services and Infrastructure**

In the event of the laid-down vibration parameters as detailed in (m) above being exceeded or in the event of a valid recording not being made available as stipulated above, the engineer reserves the right to ascertain by whatever means, whether damage was caused by the blast to the service or structure. All costs incurred in establishing such possible resultant damage and the repair thereof will be to the contractor's account.

**(s) Specific blasting**

If considered necessary by the Engineer to order a specific type of blasting method it shall be indicated in the documents and/or pricing schedule. The ordering of a specific type of blasting method by the Engineer shall not relieve the Contractor from his obligations relating to the accuracy of the excavated profile.

**(t) Blasting near Roads**

Blasting near existing roads shall be undertaken during off peak traffic hours. Reference shall be

made to sub-clause B1502(m) of these specifications.”

#### **B1224 THE HANDING-OVER OF THE ROAD RESERVE**

*Add the following:*

“The full extent of the road reserve will be handed over to the Contractor at the beginning of the contract. The total area taken up by the road reserve and borrow pits as well as quarries are applicable. He shall be responsible for the maintenance along this portion of the road until completion of the contract.”

#### **B1227 MONTHLY SITE MEETINGS**

*Add the following to this clause:*

“The contractor’s representative attending site meetings shall have the authority to take decisions and make commitments on behalf of the contractor. The contractor shall prepare and submit progress and information reports as required by the engineer five days before the meeting date agreed. These report sheets shall be discussed and reviewed at the monthly meeting or at any other meeting if deemed necessary by the engineer.”

#### **B1229 SABS CEMENT SPECIFICATIONS**

The standard cement specifications SABS 471, SABS 626, SABS 831 and SABS 1466 have been withdrawn and are replaced by the new SANS 50197-1 and -2: Common cements, and SANS 50413-1 and -2: Masonry cement. These specifications will be applicable to this contract, and the descriptions and types of cements specified, will be based on the designations as defined in these specifications.

*Add the following clauses:*

#### **“B1230 MATERIALS**

##### **(a) General**

The contractor, when using materials that are required to comply with any standard specification, shall, if so ordered, furnish the engineer with certificates showing that the materials do so comply.

Where so specified, materials shall bear the official mark of the appropriate authority. Samples ordered or specified shall be delivered to the Contract Engineer's office on the site, free of charge.

Where proprietary products have been specified, similar products may be used subject to the prior written approval of the engineer (as allowed for in an alternative tender).

Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the relevant manufacturer's current published instructions.

Unless anything to the contrary is specified, all manufactured articles or materials supplied by the contractor for the permanent works shall be unused or new materials.

Earth, stone, gravel, sand, and all other materials excavated or present on the site or within the road reserve, or in borrow areas shall not become the property of the contractor, but will be at his disposal only in so far as they are approved for use on the contract.

Existing structures on the site shall remain the property of the employer and except as and to the extent required elsewhere in the contract, shall not be interfered with by the contractor in any way (except for structures to be fully or partially broken down).

Materials to be included in the works shall not be damaged in any way and, should they be damaged on delivery or by the contractor during handling, transportation, storage, installation or testing they shall be replaced by the contractor at his own expense.

All places where materials are being manufactured or obtained for use in the works, and all the processes in their entirety connected therewith shall be open to inspection by the engineer (or other persons authorised by the engineer) at all reasonable times, and the engineer shall be at liberty to suspend any portion of work which is not being executed in conformity with these specifications.

The contractor shall satisfy himself that any quarry or commercial source selected and identified for use provides the specified quality material in accordance with the specification.

All road signs used for accommodation of traffic shall be serviceable in terms of reflectivity, unbroken in any manner and to the correct sizes as specified. Signs not fit for purpose or damaged during use shall be replaced and removed from the site at the contractor's cost.

**(b) Compaction**

All references to “% of modified AASHTO density” made in the standard specifications and project documents shall be read as “% of MDD”.

**B1231 ENVIRONMENTAL IMPACT CONTROL**

Respect for the environment is an important aspect of this contract. The environmental control of the site shall comply to the following list of activities.

- (a) The Contractor must allow for the satisfactory combating of dust and noise nuisance throughout the contract length during construction.
- (b) The Contractor must make provision for the prevention of excessive erosion and siltation throughout the Contract and in particular on adjacent land. Should excessive erosion and/or siltation take place outside the road reserve as a direct result of the Contractor's construction activities it will be the Contractor's responsibility to make good the erosion/siltation to the satisfaction of the landowner and the Engineer.
- (c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer.
- (d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the veld for this purpose shall not, under any circumstances be allowed.
- (e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area.

Emergency measures in the event of spillage must be set out and the responsible person made aware of the required action. The construction of temporary and or permanent dams must be done with the necessary approvals from the Department of Water Affairs and Forestry and Environmental Affairs and Tourism.

- (f) Bituminous and/or other hazardous products shall not be spoiled on site and may only be disposed of in licensed authorised disposal facilities.
- (g) Control of invader species of plants.
- (h) Clearing shall be limited to the road prism and, where applicable, detours, which shall be sited in consultation with the Engineer and the local communities.

No separate payment will be made for observing these requirements as it is deemed to be included in the amount tendered for Item 13.01(c) but any avoidable non-compliance with these rules may be considered sufficient grounds for withholding payment of part or all of the amounts to be paid for the above item.

**B1232 WORKMEN'S COMPENSATION ACT**

All labour employed on the site shall be covered by the Workmen's Compensation Act. The Contractor shall pay in full, including the payment of the necessary levies, such amounts as are due in terms of the Act.

The manner in which Workmen's Compensation shall be handled shall be resolved by the Contractor at the commencement of the contract.

**B1233 CARE OF WORKS, DAMAGE, INJURY AND INSURANCE**

Compliance with Road Traffic Act:

When a service necessitates vehicles or plant travelling or working on a public road the following shall apply:

- The vehicles and plant shall be licensed in terms of the National Road Traffic Act 1996 (Act No. 93 of 1996) as amended.
- Every driver and operator of a vehicle or an item of plant shall be in possession of a valid permit in respect of the class of vehicle or item of plant he is driving or operating.

The contractor shall provide, erect and maintain sufficient road signs, barricades, fencing and guarding as may be necessary or required by the Engineer or by any act, regulation or statutory authority in order to minimise the danger and inconvenience caused to vehicle and pedestrian traffic.

The Contractor by accepting this contract shall be deemed to have indemnified the Employer and the Engineer against any claims, damages and / or costs that may arise in this regard.

**B1231 MEASUREMENT AND PAYMENT**

<b>Item</b>		<b>Unit</b>
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**B12.01 Relocation, protection or replacement of existing services:**

- (a) Existing services to be relocated, protected or replaced as ordered by the engineer:  
(specify service) ..... provisional sum (prov sum)
- (b) Handling cost and profit in respect of:  
(specify sub-subitem) .....percentage (%)

The provisional sum item shall be paid in accordance with the provisions of the General Conditions of contract as amended if applicable. The tendered percentage is a percentage of the amount actually spent under the items agreed and shall include full compensation including profit etc. for providing equipment, if required, labour transport, supervision, accommodation of traffic and incidentals."

<b>Item</b>		<b>Unit</b>
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**B12.02 Excavation:**

Excavating material within the following depth ranges below ground level for the exposing of/or searching for services

- (a) 0m to 2m:
  - (i) Soft material .....cubic metre (m<sup>3</sup>)
  - (ii) Hard material.....cubic metre (m<sup>3</sup>)
- (b) Extra over item B12.02(a) for excavation by means of hand tools such as picks, crowbars and pneumatic tools or mechanical breakers in close vicinity of services where no blasting or machine excavation is permitted:
  - (i) Soft material .....cubic metre (m<sup>3</sup>)
  - (ii) Hard material.....cubic metre (m<sup>3</sup>)

Measurement and payment shall be as specified for item 22.01 in the standard specifications.

<b>Item</b>		<b>Unit</b>
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**B12.03 Excavation of test pits and sampling thereof along the Road as instructed by the engineer**

- (a) Sampling by approved materials laboratory .....prime cost sum (PC sum)
- (b) Handling cost and profit in respect of  
(specify sub-subitem) .....percentage (%)

The PC sum items shall be paid in accordance with the provisions of the General Conditions of Contract as amended by Particular Conditions of Contract. The tendered percentage is a percentage of the amount actually spent under the prime cost sum and provisional sum items, which shall include full inclusive compensation including profit to the contractor in connection with providing the specified service.

<b>Item</b>		<b>Unit</b>
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**B12.04 Community Liaison Officer (CLO)**

- (a) Remuneration of Community Liaison Officer Month

(b) Handling costs and profit in respect of sub-item B12.04 (a)." percentage (%)

The CLO shall be paid at a rate as determined by the Employer.

The following General Requirements and Provisions refer to section C3.3 of this document.

**SECTION 1300: CONTRACTOR'S SITE ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS**

**B1303 PAYMENT**

*Add the following at the end of Item 13.01(1).*

"..... and provided the Contractor has fulfilled his obligations as far as the Engineer's office, laboratory and housing accommodation is concerned".

Add the following:

"The contractor shall, at each area where work is being undertaken, provide on a daily basis at least one portable chemical latrine unit for use by construction workers employed on the project. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the satisfaction of the engineer. No separate payment shall be made for this requirement and shall be deemed to be included in the rates tendered for the contractor's time-related obligations.

Tenderers shall allow under the rates in this section for the costs involved in complying with the health and safety requirements".

*Add the following new pay item:-*

<b>Item</b>	<b>Unit</b>
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<b>B13.01</b>	<b>The contractor's general obligations</b>
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*Add the following paragraph after the fourth paragraph, i.e. after the paragraph numbered as (iii):*

"(iv) Should the combined total tendered for sub items (a), (b) and (c) exceed 15% of the tender sum (excluding VAT), the tenderer shall state his reasons in writing for tendering in this manner."

<b>Item</b>
<b>Unit</b>

<b>B13.02</b>	<b>Supply, transport to site and erect contract signboards</b>	Number (No.)
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The item shall cover all costs in regard to producing and erecting the signboards in accordance with the drawing and leave them erected at the end of the contract.

**SECTION 1400:           HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE  
PERSONNEL**

**B1402 OFFICES AND LABORATORIES**

**B1402           OFFICES AND LABORATORIES**

**a)     Offices**

*Amend sub-clause (xii) to read as follows:*

“(xii) A complete telephone service capable of delivering electronic and facsimile data, together with ...”

*Amend sub-clause (xvii) to read as follows:*

“(xvii) A combination colour printer/copier/scanner/facsimile machine for A3 and A4 size documents.”

*Add the following sub-clauses:*

“(xviii) Plan holders which shall be able to accommodate 30x A0 – sized drawings hanging vertically and of a robust construction to withstand continuous use over the duration of the contract.

(xix) An electric refrigerator of specified capacity.

(xx) Floodlights which are to be controlled by a photocell for security purposes at the offices and laboratory.

**b)     Laboratories**

*In the second paragraph, second line substitute “drawings” with “figures included in the project document”*

**B1404           SERVICES**

**c)     Water electricity and gas**

*Add the following to the end of the third paragraph:*

“The power supply shall be regulated by a suitable voltage regulator in order to maintain a constant current and voltage level at all times to prevent damage to the office and laboratory equipment and related machinery during power surges. In the event of damage to the office and laboratory equipment and related machinery because of a faulty voltage regulator, the contractor shall be liable for payment of all repair or replacement costs of such damaged items.”

*Add the following paragraph:*

“The supply of electricity and water to the offices and laboratories of the engineer’s supervisory staff shall be maintained 24 hours per day”

**B1405           GENERAL**

*Add the following to paragraph (e):*

“In addition, the offices and laboratories shall be supplied with approved burglar proofing and the whole site shall be guarded full time during the day and night, as well as over weekends and holidays. The site shall also be fenced with a 2,4m high security fence with a razor-cut wire being used as strands or with a brick wall. The cost of this protection shall be included in item B13.01.”

**B1406           MEASUREMENT AND PAYMENT**



Item	Unit
<b>B14.03</b>	<b>Office and laboratory fittings, installations and equipment</b>

**a) Items measured by number**

*Add the following subitems:*

- “(xix) Rain Gauge ..... number (No)  
 (xx) Floodlights complete with poles and 500Watt minimum globes ..... number (No)

The tendered rate for subitem B14.03(a)(xx) shall include for the operation of the lights from sunset to sunrise for the full duration of the contract.”

**b) Prime cost items and items measured and paid for in a lump sum**

*Add the following subitems:*

- “(ix) Cell phones costs, including pro-rata rentals, for  
 calls in connection with contract administration .....prime cost sum (PC)sum

- (x) Handling costs and profit in respect of  
 subitem 14.03(b)(ix) above.....percentage (%)

Payment of B14.03(b)(ix) shall include for the cost of all cellular telephone calls in connection with contract administration, as well as pro rata fixed costs.

Payment of B14.03(xi) for the engineer’s laptop shall be as specified by the engineer.

Payment of B14.03(xiii) shall include cost of ADSL or 4G modem and monthly connection contract of the resident engineer

The tendered percentage for pay item B14.03(b)(x), (xii) and (xiv) shall be a percentage of the amount actually spent under sub item B14.03(b)(ix) which shall include full compensation for the profit and handling costs incurred in managing provision of the cellular phones and monthly billings.”

Item	Unit
<b>B14.10</b>	<b>Provision of Photostat facilities</b>

Amend this pay item description to read “Provision of copying facilities” and in the payment prescription, amend “photocopier” to read “combination colour printer/copier/scanner/facsimile machine”.

## **SECTION 1500: ACCOMMODATION OF TRAFFIC**

### **B1501 SCOPE**

*Add the following:*

"It is a condition of this contract that traffic is accommodated taking into account the provisions of the latest edition of the South African Road Traffic Signs Manual (SARTSM). The latest version for use in the accommodation of traffic is volume 2, chapter 13 of the June 1999 edition. Copies of this publication are available from Government Printers  
Tel: (012) 334 4507/8/9 or (012) 3344510 Fax: (012) 323 9574.

Although drawings are included in the contract, these drawings are taken to be indicative only and shall not in any way relieve the contractor from his obligations in terms of the contract related to safe passage of traffic and regulations in Chapter 13 of Traffic Signs manual as specified below:

Arrangements expected to be most commonly used are given in the drawings. The Contractor shall assess the drawings in terms of actual site conditions and traffic and amend the drawings as required for the safe passage of traffic. Any amendment or addition to the drawings shall be with the approval of the Contract Engineer.

This section also covers the provision of additional information signs for motorists and the release of any notices to the media and public."

### **B1502 GENERAL REQUIREMENTS**

*Insert the following:*

"The whole of the site will be handed over to the contractor at the beginning of the contract. The sequence in which various parts of the site may be occupied by the contractor for the execution of the different items of work shall be subject to the requirements of the contract documents regarding, inter alia, working hours and the number, spacing and length of the work areas which may be occupied at any particular time.

The contractor shall programme his work taking due cognizance of restrictive conditions indicated in Clause B1204. The contractor's tendered rates shall include full compensation for all possible additional costs which may arise from the above and no claims for extra payment as a result of this modus operandi will be considered. The contractor shall in particular note that no additional compensation shall be made for work that could be considered as half-width construction."

#### **(a) Safety**

*Add the following as an introductory sentence to this sub clause:*

"Traffic shall be accommodated in accordance with the South African Road Traffic Signs Manual with the least delay and discomfort to the public."

#### **(b) Providing Temporary Deviations**

*Add to Sub-clause 1502(b) the following:*

The contractor shall keep the provincial traffic police, the municipal traffic departments and the engineer fully informed with regard to any changes in the normal traffic flow and obtain their approval for these changes.

During the non-working hours, all unnecessary obstructions to the traffic shall be removed and all signs no longer applicable to the situation shall be removed or effectively covered.

**(i) Traffic Safety Officer**

*Add the following to the end of the second paragraph:*

“The contractor shall submit a CV of the candidate to the engineer for approval before the candidate is appointed as the traffic safety officer. “

*Insert the following as the opening phrase to sub-sub-clause (i):*

“make himself available to discuss road safety and traffic accommodation matters whenever required by the engineer and shall be responsible...”

*Delete sub-sub-clauses (ii) and (iii) and replace with the following:*

- “(ii) Record on neat and dimensioned sketches and submits to the engineer the position and sign reference number, where applicable, of each sign, barricade, delineator, cone, amber flicker light, guardrail and permanent or temporary painted road marking feature. The position of each shall be adequately referenced from the marker boards or other surveyed points on the site of the works.

These records shall also show the date and time at which the recorded traffic accommodation features are certified correct by the traffic safety officer, and shall be signed by the traffic safety officer before being submitted to the engineer.

The records shall similarly account for whatever changes are made in the field. Such changes shall record the position of flagmen and stop/go control men and their associated traffic accommodation equipment wherever they are used.

- (iii) Personally inspect the position and condition of each traffic accommodation feature on the whole site of works twice each day by 9h30 and by 16h30, to record all irregularities discovered and the remedial action taken, and to sign off as correct and submit to the engineer such record sheets by midday of the next working day. The traffic safety officer shall keep a duplicate book for this specific purpose.

The traffic safety officer shall also submit with this report the daily labour returns of flagmen, stop/go and traffic signal control men employed.”

*Add the following sub-sub-clauses:*

- “(ix) The traffic safety officer shall be equipped with a cellular telephone and shall have a vehicle and sufficient labour at his disposal 24 hours a day, including all prescribed non working days, and shall not be utilised for other duties. He shall be directly answerable to the contractor's site agent. The traffic safety vehicle shall be a 1 ton LDV and shall be equipped with a high visibility rear panel in accordance with the requirements of the SARTSM. The words TRAFFIC CONTROL shall be written on a warning sign in highly legible letters, not less than 150 mm high, and the sign shall be mounted on the vehicle at least 1,5 m above ground level. The proposed sign and letter dimensions shall be submitted to the engineer for his approval.

The vehicle shall also be equipped with an amber-coloured flashing light of the rotating parabolic reflector type with a minimum intensity of 100 W. The warning light shall be switched on at all times and the sign shall be displayed when the vehicle is used on site.

The traffic safety officer shall have a direct line of communication at all times with the police and traffic officers responsible for the area within limits of the contract. The provision of the road safety vehicle, driver, labourers and the cost of the cellular telephone shall be deemed to be included in the rates tendered for the contractor's establishment on site.

- (xii) Ensure that all obstructions related to the contractor's activities be removed before nightfall where applicable as instructed by the engineer and that the roads are safe for night traffic.
- (xiii) The traffic safety officer shall, in addition to the duties listed in paragraph 1502 (i), also be responsible for the removal of broken down vehicles off the roadway and implementing actions

requested by the traffic authorities with regard to the work to be carried out, be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic.

- (xiv) In the advent of an accident the traffic officer shall record in a written report the details of the accident, record the position of all temporary road signs, barricades, delineators, flagmen and any other devices used for traffic accommodation. In addition the report shall include a neat dimensional sketch, photographs, identifiable permanent features, and any other relevant information."

*Add the following subclause:*

**"(j) Site Personnel**

The contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and yellow or orange overalls as well as safety head gear at structural sites and that these are worn at all times when working on or near to the travelled way. Any person found not wearing a reflective jacket or safety head gear under these circumstances shall be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets and head gear shall be kept in good condition and any that are, in the opinion of the engineer, ineffective shall be immediately replaced by the contractor."

**(k) Failure to comply with provisions**

Failure or refusal on the part of the contractor to take the necessary steps to ensure the safety and convenience of the travelling public, accommodation of traffic, plant and personnel in accordance with these specifications or as required by statutory authorities or ordered by the engineer, shall be sufficient cause for the engineer to apply penalties as follows:

A fixed penalty of R5 000,00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of section 1500 of the standard specifications and section B1500 of the project specifications.

In addition, a time-related penalty of R500,00 per hour over and above the fixed penalty shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after the engineer has given an instruction to this effect. The engineer's instruction shall state the allowable time, which shall be the time in hours for reinstatement of the defects. Should the contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given."

**(l) Blasting**

Blasting could be necessary. Blasting notification to the public shall be displayed visibly on signage approved by the Engineer. And displayed for 14 days prior to the blast date.

All traffic shall be stopped outside the blast area prior to the detonation of the blast. The Contractor shall ensure that it is not possible for any vehicle or pedestrians to enter this area at this time.

No blasting shall be undertaken without required suitable plant and labour available to clear / clean the road surface after blasting.

On completion of the blast and after the blaster has given the go-ahead, the Contractor shall inspect the road surface for debris and clear this away before opening the road again to traffic.

**(m) Public traffic**

The contractor must plan and conduct his activities so as to bring about the least possible disruption to the traffic on the road. All halting of traffic will require the prior approval of the engineer and must be pre-arranged with the appropriate traffic authorities.

In all dealings with the public the Contractor shall bear in mind the public's right to enjoy the use of the road, and the Employer's desire to interfere as little as possible with this right. At all points of contact

with the public, the Contractor shall deal with deliberate courtesy and understanding in any discussions or disputes.

**(n) Access to work area**

Construction traffic will only be permitted to enter or leave the work area at points approved by the Engineer and as clearly indicated on the traffic management plans. When any access point is in use, flagmen shall be provided for each such point. At least two flagmen shall be stationed at the access point to control the movement of construction traffic, and to warn public traffic on both lanes of the existing road. It is not the purpose of these flagmen to stop public traffic flow.

**(o) Extension of time for completion**

Accommodation of public traffic on the works or any delays caused thereby, as well as any suspensions due to failure by the Contractor to comply with the provisions for the accommodation of traffic, will not be regarded as special circumstances for an extension of time.

**(p) Handing over site (additional sub clause):**

The entire road reserve within the construction limits will be handed over to the contractor on commencement of the contract. The contractor will then be responsible for the accommodation of traffic on, and maintenance and repair work to be done on the existing roadways, from the date of handing over up to the issue of the Certificate of Completion.

The contractor's programme for the accommodation of traffic and any proposed deviation therefrom must be approved by the engineer on the site.

The Road Safety Officer to be appointed by the contractor shall be on full-time duty and shall be responsible for traffic control and safety on site, and for ensuring that all the requirements for accommodation are met.

**B1503 TEMPORARY TRAFFIC-CONTROL FACILITIES**

**(e) Warning devices**

*Add the following:*

"All construction vehicles and plant used on the works shall be equipped with amber flashing lights and warning boards as specified. All vehicles and plant, before being allowed onto the site, shall obtain a clearance permit from the engineer.

**(i) Vehicle mounted flashing lights**

Flashing lights shall have an amber lens of minimum height of 200 mm and shall be mounted in such a way as to be highly visible from all directions. The lights on construction vehicles shall not be switched on while vehicles are being operated on unrestricted sections of a public road, but shall be switched on while construction vehicles are operating within the accommodation of traffic area or public road, as the vehicles decelerate to enter a construction area, and as the vehicles accelerate to the general speed when entering the road from a construction area. Lights on plant shall operate continuously while the plant is working alongside sections of road open to public traffic.

All LDV's and cars operating on site shall also be equipped with amber flashing lights which shall be placed so as to be highly visible and operated continuously while the vehicles are manoeuvring in or out of traffic or are travelling or parked alongside roads open to public traffic. The lights and application thereof shall comply with the National Road Traffic Act No.93 of 1996/ Regulations/ GNR225 of 17 March 2000: National Road Traffic Regulations, 2000/176. Identification lamps.

Flashing lights and the "construction vehicle" signs on the contractor's vehicles and plant shall not be paid for separately but shall be included in the rates for traffic accommodation.

The contractor shall apply and maintain lights together with temporary mounting brackets, to the approval of the engineer. Vehicles and plant that do not comply with these requirements shall be removed from the site.

*Add the following sub clauses:*

**“(g) Other traffic control measures ordered by the Engineer**

The OHS Officer or Engineer may instruct the Contractor to provide any other road sign, reflective tape, etc. not measured in standard pay items and/or shown on the drawings or indicated in the mentioned Road Sign manual. A provisional sum is allowed for in the pricing schedule for this purpose (Item B15.17). Such road signs shall conform to the requirements of the SARTSM, or specification provided by the engineer. Similarly, in order to ensure that the travelling public is kept fully informed and warned on matters relating to the accommodation of traffic, construction sign posting and the effect of the construction on the free flow of traffic through the site, the Engineer may arrange for advertising in the press and/or for other forms of publicity.

**(h) Flagmen**

Flagmen shall be provided where shown on the drawings or required by the specification or circumstances requiring flagmen.

Flagmen shall be adequately trained in the standard flagging techniques as described in the SARTSM (refer to figure 13.23 of detail 13.23.1) and be provided with conspicuous clothing such as safety jackets utilizing retro-reflective and / or fluorescent panels in red, yellow and / or white.

Flags shall be made from bright red or red-orange material and shall be square with a minimum side length of 600 mm. The flag shall be attached to a staff at least 1,0 m in length.

In terms of lateral clearance and safety, flagmen shall stand on the shoulder of the lane of traffic that is being controlled and under no circumstances shall flagmen be permitted to stand within the traffic lane. In order to obtain maximum visual impact for the travelling public, flagmen shall stand-alone. Flagmen shall not be paid for separately with the cost included in item B1501.”

**B1511 MAINTENANCE OF GRAVEL TEMPORARY DEVIATIONS AND EXISTING GRAVEL ROADS USED AS TEMPORARY DEVIATIONS**

*Add to Clause 1511 the following:*

Where applicable, all references to gravel roads and/or diversions shall also include gravel shoulders used as diversions.

**B1513 ACCOMMODATION OF TRAFFIC WHERE THE ROAD IS CONSTRUCTED IN HALF WIDTHS**

Where the work on the road surface is undertaken for rehabilitation of the pavement, such work shall be carried out in areas as indicated on the drawings.

All work adjoining the carriageway shall be undertaken only when the shoulder is barricaded and the required road signs, barricades and cones have been installed as shown on the drawings or as instructed by the engineer.

During construction, when work is in progress on one portion of the carriageway and shoulder of the road, the other portion of the road shall remain open at all times to allow for safe one-way traffic flow.

The speed of vehicles alongside actual construction areas must be limited to a maximum of 40 km/h. STOP/GO signs and flagmen shall be employed at the points where construction traffic enter the working area thus creating a potential danger situation for public traffic.

In the case of intersections, provision shall be made, where necessary, for STOP/GO signs. Intersections shall also, at all times, be able to safely carry traffic.

As soon as a section of road has been repaired or treated, the centreline shall immediately be indicated by means of pre-marking.

*Amend Clause 1513 as follows:*

In the third line of the third paragraph, delete “4 km” and replace with “2 km”.

In the second line of the fourth paragraph, delete the word “four” and replace with “two”. Also, delete “2 km” and replace with “2 km”.

#### **B1517: MEASUREMENT AND PAYMENT**

*Amend item 15.01 to read as follows:*

<b>Item</b>	<b>Unit</b>
<b>B15.01 Accommodating traffic and maintaining temporary deviations:</b>	
(a) .....	On the route
.....	kilometre (km)

*Replace the first paragraph with the following:*

“The unit of measurement shall be the kilometre, measured along the centre lines of the road, where work is carried out. Accommodation of traffic shall be measured once only, that is no separate payments shall be made for lane and shoulder rehabilitation, slurry, reseal, asphalt overlay, side drains, etc. The bypass for abnormal vehicles and gravel service roads shall not be measured. Only the net distance of the road shall be measured and overlapping distances during staged rehabilitation shall not be measured. A distinction shall be made between accommodation of traffic on the through road and accommodation of traffic on the ramps and cross roads of interchanges.

In the second paragraph, replace the comma after “deviations” at the start of the third line with a full stop and delete the remainder of this first sentence. Also delete the whole of the second sentence, which refers to compensation for the traffic safety officer.

In the third paragraph second sentence, insert a full stop after “use” and delete the remainder of the sentence.”

#### **B15.03 Temporary traffic-control facilities**

*Add the following sub-items:*

<b>Item</b>	<b>Unit</b>
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*Replace the payment description according to the following:*

“(a) Flagmen .....man-day

The unit of measurement shall be a full day and night worked by flagmen. A man-day shall be deemed to comprise of three eight hour shifts in a twenty-four-hour period. Three shifts of eight hours per flagman equates to one man-day. Shorter single portion shifts (6 to 10 hours) shall be measured as a half man-day.”

<b>Item</b>	<b>Unit</b>
“(n) Amber rotating flashing lights with magnet base as specified for the engineer’s use number .....	(No)

The unit of measurement is the number of amber rotating flashing lights with magnet bases supplied to the engineer as specified. The tendered rate shall include full compensation for supplying the amber rotating flashing lights to the engineer on site as well as maintenance and, if necessary replacement, thereof to keep it in a good working condition at all times for the duration of the contract.

<b>Item</b>	<b>Unit</b>
(o) Provision of a robot system .....	Number (No)

The unit of measurement shall include full compensation for the procurement, erecting, operating and maintaining a set of traffic lights, consisting of two units erected on both ends of a deviation.

Payment for the traffic lights shall include a set of radio's or any other equipment that will enable the operators to effectively communicate and operate the robots over the distance that the robots are apart, when the system is not operated automatically.

The robot system shall be an automatic system of which the cycle time are adjustable in order to optimize the green time for traffic with variation in the length of road under construction. The robot system shall be reliable to operate 24 hours per day continually.

*Amend the following notes under the subheading "(b), (d), (e), (f) and (h)" in the measurement paragraphs as follows:*

The tendered rate for sub item (h) shall also include full compensation for the sign stand, for the provision of two sandbags per delineator to hold it in position and for their replacement when necessary due to whatever reason. Only the standard plastic type road signs TW 401/402 (Old DTG 50 J) will be allowed on this contract.

*Amend payment paragraph (j) to read as follows:*

"The unit of measurement shall be the number of cones provided over and above those indicated on the drawings as required by the engineer. Payment for these cones shall include supply, re-use or removal of the traffic cones as necessary."

*Under the subheading "General" add the following to the last paragraph:*

"Only items additional to those shown on the drawings are scheduled for payment."

#### **B15.04 Relocation of traffic-control facilities**

*Divide item B15.04 in the following sub items:*

Item	Unit
(a) Relocation of traffic-control facilities, excluding robot systems .....	Lump sum
(b) Relocation of robot systems in excess of 100 m .....	number (No)

Sub-item (a) is only applicable to those items ordered by the engineer and for which the cost of relocation is not already included in Item 15.03 (or B15.03)

Sub-item (b) for the relocation of the robot systems shall only be applicable upon removal of the system to an entirely new position approved by the engineer. No payment shall be made for their removal to a new position if the distance moved is less than 100 meters.

The tendered rate for sub-item (b) shall include full compensation for the number of robot sets relocated in excess of 100 m. Payment under this item shall be full compensation for all labour, plant, equipment, tools, transport or any other cost to remove and re-erect the robot system to its new position.

Item	Unit
<b>B15.14 Penalty to be deducted for non-compliance with requirements for accommodation of traffic</b>	

- |  |             |
|--|-------------|
| (a) Fixed penalty per occurrence ..... | number (No) |
| (b) Time related penalty .....         | hour (h)    |

In subitem B15.14(a) a fixed penalty of R5 000.00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of section 1500 of the standard specifications and section B1500 of the project specifications.

In addition, in subitem B15.14 (b), a time-related penalty of R500.00 per hour over and above the fixed



penalty in subitem B15.14 (a) shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within reasonable time after the engineer has given an instruction to this effect. The engineer's instruction shall state the time in hours for re-instatement of the defects. Should the contractor fail to adhere to the instruction, the time-related penalty will be applied from the time the instruction was given.

#### **B15.15 Provision of traffic safety equipment for visitors**

<b>Item</b>	<b>Unit</b>
(a) Safety jackets.....	number (No)

The unit of measurement shall be the number of each item provided as specified, and approved by the engineer.

The tendered rates for the various safety items shall include full compensation for provision thereof and maintenance in good working order.

#### **B15.16 Provision of traffic safety**

<b>Item</b>	<b>Unit</b>
(c) Traffic safety officer .....	month

The unit of measurement shall be the month (or part thereof) that the specified duties of the traffic safety officer are performed, irrespective of the number of traffic safety officers employed in any 24-hour day.

The tendered rate shall include full compensation for the cost of the traffic safety officer(s) to conduct the duties as specified in sub-clause B1502(i) and includes the provision of his own vehicle, fuel, vehicle maintenance and insurance and the cost of the cellular telephone and all other incidentals related to the performance of his duties.

(d) Traffic safety vehicle(s) .....	month
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The unit of measurement shall be the month (or part thereof) that the safety vehicle is on site and in continuous use in the performance of traffic safety.

The rate tendered shall include the provision of the traffic safety vehicle, fuel, vehicle maintenance and insurance costs, drivers, labourers and all other incidentals related to the performance of the traffic safety duties.

<b>Item</b>	<b>Unit</b>
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#### **B15.17 Non-specified signage ordered by the Engineer and Site Safety officer:**

..... (a)Provisional sum for non-specified signage or arrangements as .....ordered by the Engineer .....provisional sum (prov. Sum)	
..... (b)Handling cost and profit in respect of Item B15.17(a) .....Percentage (%)	

The provisional sum items shall be paid in accordance with the provisions of the General Conditions of contract as amended if applicable. The tendered percentage is a percentage of the amount actually spent under the items agreed and shall include full compensation including profit etc. for items as ordered by the engineer."

**SECTION B1600:      OVERHAUL**

**B1602              DEFINITIONS**

**(b)    Overhaul**

*Replace the sub-clause with:*

“Payment shall only be made for material hauled in excess of 5 kilometres. Overhaul shall be measured as the product of the volume of material hauled and the overhauled distance.

**(d)    Free-haul distance**

*Replace the last sentence with:*

“This distance shall be 5 kilometres in the case of all overhaul materials”

## **SECTION 1700:        CLEARING AND GRUBBING**

### **B1702:        DESCRIPTION OF WORK**

#### **(a)    Clearing**

*Add the following:*

“Clearing shall not be undertaken outside the road prism finishing toe line. Clearing shall include the removal of material to a thickness of up to 150mm in-situ material as ordered by the engineer before roadbed compaction below existing ground level or excavation of cuttings commences. No payment shall be made for temporary stockpiling of topsoil material in the case where this material is applied as topsoil after completion of roadside slopes.

Should the required depth exceed 150mm, the total volume of material removed shall either be classified as “temporary stockpiling of topsoil” or “unsuitable roadbed material” or “cut to spoil” whichever is applicable as allowed for in the standard specifications. In these cases no payment shall be made for clearing and grubbing.

Clearing as described shall in all cases be undertaken in such a manner that the topsoil is preserved and not contaminated with other debris or rubbish. Cross-sections for the determination of earthworks quantities, where applicable, shall be taken after clearing (topsoil or unsuitable roadbed material) and roadbed preparation if applicable.”

#### **(c)    Conservation of Topsoil**

*Add to the end of the 1st paragraph:*

“The contractor will not be required to remove topsoil to more than an average depth of 200mm, from any particular area. The depth of topsoil removed shall be reliant on the terrain, suitability of material and topsoil requirements of the work.”

*Replace the second paragraph of this clause with the following:*

“After clearing and grubbing, all topsoil shall be removed to stockpiles as agreed with the Engineer. Where ordered by the engineer, any topsoil that shall be required for the top soiling of new banks and cuts, but which cannot be accommodated within the construction site, shall be loaded and hauled to the designated stockpile area where it shall be placed in temporary stockpiles for later use in the rehabilitation of the site affected by construction activities. Where new borrow pits are to be opened up the topsoil shall first be removed (independently of the overburden) and placed in temporary stockpiles inside the parameters of the borrow pit. The moving of topsoil from windrow or the loading of topsoil from temporary stockpiles and the placing and spreading thereof on cut or fill slopes or on borrow pit soil sites, is covered in Section 5800.

Reference to clause 5802 (g) of this project specification and stipulations of relevant documentation are required”.

*Add the following new subclause:*

#### **“(e)    Clearing and grubbing by hand or similar means**

Where clearing and grubbing cannot be undertaken by means of normal construction machinery, the engineer may order clearing and grubbing to be undertaken using hand methods. This method of clearing and grubbing will normally apply to existing steep fill embankments or cut slopes where widening of the existing road is specified or other restricted areas indicated by the engineer. Separate payment for this method of clearing and grubbing is allowed under payment item B17.01(b) of these project specifications.”

### **B1704        MEASUREMENT AND PAYMENT**

*Amend item 17.01 to read as follows:*

Item	Unit
<b>B17.01</b>	<b>Clearing and grubbing</b>

**B17.01 Clearing and grubbing:**

.....	(a) Using normal construction machinery
.....	hectare (ha)
.....	(b) Using hand methods
.....	hectare (ha)

Measurement and payment for subitem B17.01(a) shall be as specified for item 17.01 of the standard specifications. The unit of measurement for subitem B17.01(b) shall be the hectare of clearing and grubbing using hand methods. The tendered rate shall include full compensation for all labour and appropriate hand-held tools to execute clearing and grubbing by hand to the standard as specified for normal clearing and grubbing.

*Add to Payment Item 17.01 the following:*

“Clearing and grubbing of the construction camp sites shall not be measured separately and shall be deemed to be included in the rates tendered for item B13.01

Within the road reserves clearing and grubbing will only be measured and paid for where required for road works. All topsoil removed in this process must be stockpiled in heaps not exceeding 1 m height for later use during rehabilitation and landscaping.”

*Add the following new items:*

**SECTION 1800: DAYWORKS**

Refer to the particular specification Part D: Dayworks.

## **SECTION 2100: DRAINS**

*Amend the first paragraph to read:*

"This section covers all work both rehabilitative and new work in connection with the excavation and construction of open drains, subsoil drainage and banks and dykes at the locations and to the sizes, shapes, grades and dimensions as shown on the drawings or as directed by the engineers, and the test flushing of subsoil drains."

### **B2104 SUBSOIL DRAINAGE**

#### **(a) Materials**

##### **(i) Pipes**

*Amend this sub-clause by adding the following to the end of the third paragraph:*

"(category-heavy duty) or SABS 1601 (stiffness class 350)

The pipes to be used shall be either slotted u PVC pipes or perforated HDP pressure pipes, 100 mm ID."

##### **(ii) Natural permeable material**

*Add the following to the 3rd paragraph:*

"The crushed stone shall coarse (19mm nominal) and shall be washed clean of all fines", conforming to the following specification:

Percentage passing through a 26,5mm sieve: 100 %.

Percentage passing through a 19,0mm sieve: 60-85 %.

##### **(iii) Synthetic-fibre filter fabric**

*Under item (4) Selection, of this sub-clause, replace the 1st paragraph with the following:*

"The filter-fabric used for subsoil drains shall be grade 2 and shall satisfy the criteria for a grade 2 geotextile as given in Table 2104/2."

#### **(b) Construction of subsoil drainage systems**

*Add the following sub-clause:*

##### **"(v) Proving of pipes in subsoil drainage systems**

On completion of the pipe laying and prior to backfilling, all pipe joints shall be surveyed as proof of their installation to line and level. After backfilling the pipes shall be proved by pulling through a cylindrical cleaning brush followed by a wooden mandrill  $\pm$  400mm long and 5mm in dia less than the bore of the pipe. Proving of pipes shall not be paid for separately and the cost thereof shall be deemed to be included in the rate tendered for laying the pipe."

**B2107            MEASUREMENT AND PAYMENT**

<b>Item</b>	<b>Unit</b>
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<b>B21.01            Excavation for open drains</b>	
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*Add the following to the penultimate paragraph:*

“The tendered rate shall also include full compensation for trimming the open drains and preserving excavated material for shoulder reconstruction”

## **SECTION 2200:        PREFABRICATED CULVERTS**

### **B2201        SCOPE**

*Add to Clause 2201 the following:*

This section also covers work associated with the removal of existing pipes and their inlet and outlet structures. Due to the nature of the project, the Contractor can expect that works associated with the installation of pipe culverts will have to be carried out under traffic.

### **B2204        CONSTRUCTION METHODS**

*Add to Clause 2204 the following:*

Generally, prefabricated stormwater drainage pipes and rectangular culverts will be installed using the 'trench method'. Installation in half widths can be anticipated.

### **B2210        LAYING AND BEDDING OF PREFABRICATED CULVERTS**

#### **(f)        General**

*Add to Sub-clause 2210(f) the following:*

Pipe culverts have been designed to the positions, lengths and elevations shown on the drawings. However, site conditions may dictate that changes are necessary. Any such changes will be agreed with the Engineer and recorded in writing.

### **B2211        BACKFILLING OF PREFABRICATED CULVERTS**

*Add to the fourth paragraph of Clause 2211 the following:*

Where backfilling is done in the upper layers of the road formation, the quality and strength of the backfill material shall at least match that of the surrounding layers.

### **B2212        INLET AND OUTLET STRUCTURES, CATCHPITS AND MANHOLES**

*Add to Sub-clause 2212(c) the following:*

"Under this contract, no inlet and outlet structures at culverts (head- and wingwalls) shall be constructed from brickwork"

*Add to Clause 2212 the following new sub-clause (j):*

#### **(i)        Subsurface drain outlet into catch-pits and manholes**

Where required, sub-surface drain pipes shall be led into standard stormwater catchpits or manholes, as shown on the drawings or as directed by the Engineer. This shall be done either by making provision during the construction of the chamber, or by breaking out and making good after completion of the chamber.



Item	Unit
<b>B22.01 (c) Extra over subitem 22.01(a) for excavation by hand using hand tools</b>	

- (i)..... In soft material  
.....cubic metre (m<sup>3</sup>)
- (ii)..... In hard material  
.....cubic metre (m<sup>3</sup>)

Measurement and payment shall be as specified for item 22.01 of the standard specifications.”

Item	Unit
<b>B22.02 Backfilling</b>	

*Replace the last sentence in the fourth paragraph with:*

“....including a free haul of 5,0km.”

*Add the following subitem to item 22.12:*

Item	Unit
<b>B22.12 Removing existing concrete</b>	

*Add the following item:*

- (c). Brick ..... metre (m)
- (type and size indicated) ..... metre (m)

The unit of measurement shall be the metre of existing concrete and bricks removed.

The tendered rates shall include full compensation for all demolition and for loading, transporting and disposing of the products of demolition, including free haul of 1,0km  
Payment shall distinguish between plain, reinforced concrete and bricks. For the purpose of this item, reinforced concrete shall be defined as concrete containing at least 0.2% of steel reinforcement measured by volume.

The tendered rates shall also include full compensation for cutting straight grooves of the specified depth at joint positions where shown on the drawings.

Item	Unit
<b>B22.29 Removing existing pipes</b>	

*Add the following item:*

- (a) ..... Concrete pipes up to 300mm in diameter.....metre (m)
- (b) ..... Concrete pipes in excess of 300mm in diameter .....metre (m)

The unit of measurement shall be the metre of existing pipe removed.

The tendered rate shall include full compensation for the removal, lifting, loading and disposing for a free-haul distance of 5,0km

**SECTION 2300 : CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND  
DOWNPIPES AND CONCRETE LININGS FOR OPEN DRAINS**

**B2304 CONSTRUCTION**

**(g) Concrete-lined open drains**

*Add the following:*

"Before construction of concrete open drains, the bedding shall be prepared as described in Clause 2102. The bedding shall be compacted for at least 150mm to a minimum density of 93% of modified AASHTO density.

Before placing the concrete, the bedding shall be watered without having pools of water standing in the excavation."

**(k) Cutting existing bituminous surfacing and pavement layers**

*Add the following:*

"All concrete side drains, adjacent to the pavement, shall be constructed after completion of the asphalt surfacing that shall be trimmed as specified. The asphalt shall be protected by placing a polyethylene sheet, at least 600mm wide inside the cut face and folded back over the asphalt. After the concrete has dried, the sheet shall be neatly cut level with the surface."

*Add the following new subclauses:*

**(l) Shrinkage joints for cast in-situ concrete work.**

Unless shown otherwise on the drawings, cast in situ channels shall be provided with shrinkage joints spaced a maximum of 2m apart. Shrinkage joints shall be constructed so that shrinkage cracks are generated at the joints. Sections of channel which have cracked between shrinkage joints shall be removed and replaced by the contractor at his own cost.

**(m) Formwork and finish**

All visible edges of cast in-situ channels shall be rounded with a rounding tool. Formwork and finish of concrete kerbs and linings shall comply with the requirements of section 6200. Templates for cast in-situ drains shall consist of 3mm thick steel plate. All visible edges on the sides or at joints of cast in-situ concrete kerbs or channels shall be neatly rounded with a rounding tool.

**B2307 MEASUREMENT AND PAYMENT**

**Item**

**B23.07 Trimming of excavations for concrete-lined open drains**

*Delete the second sentence of the second paragraph and replace with the following:*

"All excavation, backfilling, compaction and other requirements to establish the bedding for concrete-lined drains shall be included in the tendered rates for trimming of excavations."

*Amend the following pay items*

**Item**

**Unit**

**B23.16 .....Demolition and removal of existing kerbs  
.....and/or channel ..... cubic(m<sup>3</sup>)**

The unit of measurement shall be the cubic metre (m<sup>3</sup>) of concrete measured in situ before demolition/breaking up.

The tendered rates shall include full compensation for breaking up the existing concrete or reinforced

concrete, removal from site to an approved spoil site, clearing the excavation of all loose debris and to backfill the excavation where new concrete is not required. Overhaul will be paid under item B16.02

Item	Unit
<b>B23.17</b> ..... <b>Concrete edge beam (300mm x 200mm)</b> ..... <b>Class 30/19 concrete</b> .....metre(m)	

The unit of measurement shall be the cubic metre of concrete edge beam complete as constructed, measured along the front face of the concrete edge beam.

The tendered rate for each per metre of concrete edge beam shall include full compensation for the necessary excavation, backfilling, preparation of bedding, formwork, furnishing and installing all materials, protecting it against staining, protecting the existing road surface from contamination with concrete, placing of concrete, curing of concrete and protecting the concrete edge beam from damage by traffic.

The tendered rate shall also include full compensation for cutting the edge of the surfacing with a mechanical saw to a minimum depth of 75 mm.”

## **SECTION 3100: BORROW MATERIALS**

### **B3102 NEGOTIATIONS WITH OWNERS AND AUTHORITIES**

*Add to Sub-clause 3102(a) the following:*

The Contractor may be required to effect the payment of compensation to the affected land owners when ordered to do so by the Engineer. In this case, the costs will be recovered via the Provisional Sum allowed in PART C of the Schedule of Quantities.

The Contractor will be responsible for the arrangements associated with constructing suitable accesses to the borrow pits.

### **B3103 OBTAINING BORROW MATERIALS**

#### **(a) General**

*Add to Sub-clause 3103(a) the following:*

The Contractor shall note that natural materials which meet the requirements for the selected and sub-base layers are scarce, even when the properties are improved via stabilisation. Therefore, careful selection of materials will be required in the borrow pits. The Contractor shall refer to Section 3200 of the standard specifications with regard to his liabilities in respect of the contamination of good quality materials.

### **B3104 OPENING AND WORKING BORROW PITS AND HAUL ROADS**

#### **(a) Removing topsoil**

*Add to Sub-clause 3104(a) the following:*

The topsoil to be stockpiled shall be placed between the Road and the physical borrow pit area so as to provide a temporary visual screen in front of the borrow activities. The topsoil shall not be stockpiled for longer than 3 months, nor shall the stockpile be higher than 2,5m.

#### **(g) Unproclaimed private access roads**

The Contractor is responsible for proper maintenance of haul roads in cases where the material from the borrow pit areas has to be transported over secondary, tertiary, private or access roads. At the completion of activities in the borrow pits, the haul roads shall be restored to their original state and to the satisfaction of the Engineer.

Expropriation of borrow pits on private property by the Employer, will include access roads to the borrow pits. However, the Contractor is fully responsible for negotiating details of the right of access to the borrow pits with the private owners as well as for the building, maintenance and later removal of all access roads.

No additional payment will be made for this work and full remuneration will be deemed to be included in the tendered rates for the various items where the material is to be used.

### **B3105 FINISHING OFF BORROW AREAS**

There shall be no measurement of Intermediate class finishing. All finishing that is not Hard shall be deemed as Soft.

### **B3108 MEASUREMENT AND PAYMENT**

*Add the following new pay items:*

Item	Unit
<b>B31.04</b> ..... <b>Construction and maintenance of haul roads</b> ..... <b>for materials from borrow pits and</b> ..... <b>quarries (specify type)</b> ..... kilometre (km)	

The unit of measurement for items B31.04 shall be the km of haul road constructed and maintained.

The tendered rate shall include for all items required to construct and maintain the road such as clearing and grubbing, roadbed preparation, cut and fill, pavement layers, watering and frequently blading and re-graveling to keep the road to an acceptable standard for the use of public traffic.

Payment shall be made in two instalments. The first payment of 80% after the road has been completed to an acceptable standard and the final instalment after completion of the earthworks, the borrow pit has been finished off and the haul road has been treated as agreed with land owners and the engineer.

Item	Unit
<b>B31.05</b> ..... <b>Exploration of borrow pits:</b>	
(a) Sampling of borrow materials by an approved ..... materials laboratory ..... prime cost sum (P.C. Sum)	
(b) ..... Handling cost and profit in respect of Item B31.05(a) ..... Percentage (%)	

The prime cost sum item shall be paid in accordance with the provisions of the General Conditions of contract as amended if applicable. The tendered percentage is a percentage of the amount actually spent under the items agreed and shall include full compensation for handling costs and profit and all other incidentals for arranging and making payments for the exploration of borrow pits.

Item	Unit
<b>B31.06</b> <b>Royalties for the use of borrow pit</b>	
(a) Royalty as agreed with Employer . . . . .	Provisional sum
(b) Handling Cost and profit in respect of Sub-item B31.06(a) .....	percentage (%)

The provisional sum item shall be paid in accordance with the provisions of the General Conditions of contract as amended if applicable. The tendered percentage is a percentage of the amount actually spent under the items agreed and shall include full compensation including profit etc. for items as ordered by the engineer."

*Add to the notes at the end of the payment items under Clause 3108 the following:*

(3) The tendered rate shall include full compensation for all moneys payable and all expenses incurred by the Contractor for the acquisition of all material for the proper completion of the works, irrespective of whether the material is obtained from borrow pits indicated in the Materials Information included in this document, from additional borrow pits identified by the Engineer, from commercial sources, or from borrow pits obtained by the Contractor himself.

**5900 : FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS**

**B5902**

**FINISHING THE ROAD AND ROAD RESERVE**

Add the following to the first paragraph:

“The contractor shall pay special attention to the collection and removal of all waste materials originating from the construction activities. All materials trimmed or excavated from the road shall be collected and removed from the road reserve to the satisfaction of the engineer.

This requirement shall be deemed to be incorporated in the tendered rates for item 59.01 of the bill of quantities or such other items as the contractor may decide upon.

The engineer may order additional finishing of the road reserve which will entail the collection and disposal of loose rocks etc. Payment for this work will be made under daywork items included in section 5900 of the bill of quantities as described in section 1800 of these project specifications.”

**SECTION 8100:        TESTING MATERIALS AND WORKMANSHIP**

**B8117            MEASUREMENT AND PAYMENT**

*Add the following new payment item:*

<b>Item</b>	<b>Unit</b>
<b>B81.04..... Acceptance control</b>	
..... (a) Testing by the engineer	
..... Prime-Cost Sum (PC Sum)	
.....(b) Handling cost and profit in respect of subitem B81.04(a)	
..... Percentage (%)	

The prime-cost shall be paid in accordance with the provisions of the general conditions of contract. The tendered percentage is a percentage of the amount actually spent under the prime-cost item, which shall include full compensation for the handling cost of the contractor, and the profit in connection with providing the specified service.

#### **C3.8.4          PARTICULAR SPECIFICATIONS**

In addition to the Standardised and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

**PART C          ENVIRONMENTAL MANAGEMENT SPECIFICATION**

**PART D          DAYWORKS**

**PART E          OHSA 1993 SAFETY SPECIFICATION**

**PART F          SMALL CONTRACTOR DEVELOPMENT, TRAINING AND COMMUNITY LIAISON**



## **PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION GENERIC ENVIRONMENTAL**

### **SPECIFICATION**

#### **1. Method Statements**

The Contractor shall not commence the activity until the Method Statement has been approved and shall, except in the case of emergency activities, allow a period of two weeks for approval of the Method Statement by the Engineer/ECO. Such approval shall not unreasonably be withheld.

The Engineer/ECO may require changes to a Method Statement if the proposal does not comply with the specification or if, in the reasonable opinion of the Engineer/ECO, the proposal may result in, or carries a greater than reasonable risk of, damage to the environment in excess of that permitted by the Specifications.

Approved Method Statements shall be readily available on the site and shall be communicated to all relevant personnel. The Contractor shall carry out the Works in accordance with the approved Method Statement. Approval of the Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the Contract.

#### **2. Environmental Awareness Training**

It is a requirement of this contract that environmental awareness training courses are run for all personnel on site. All employees who spend more than 1 day a week or four days in a month on Site must attend the training. Two types of course shall be run: one for the Contractors and Subcontractors management and the other one for all site staff and labourers. Courses shall be run during normal working hours at a suitable venue provided by the Contractor.

All attendees shall remain for the duration of the course and sign an attendance register that early indicates participant's names on completion, a copy of which shall be handed to the Engineer/ECO. The size of each session shall be limited to the numbers shown in the Project Specification and the Contractor shall allow for sufficient sessions to train all personnel. Subsequent sessions shall be run for any new personnel coming onto site. A Method Statement with respect to the organisation of these courses shall be submitted. Conduct revised training as and when required.

Notwithstanding the specific provisions of this clause it is incumbent upon the Contractor to convey the sentiments of the EMP to all personnel involved with the works.

##### **2.1. Training course for management and foremen**

The environmental awareness training course for management shall include all management and foremen. The course, which shall be presented by the Engineer/ECO/EO or his designated representative, is of approximately one-hour duration. The initial course shall be undertaken not more than 7 days prior to commencement of work on site.

##### **2.2. Training course for site staff and labour**

The environmental awareness training course for site staff and labour shall be presented by the Contractor from material provided by the Engineer/ECO/EO unless otherwise indicated in the Project Specification. The course is approximately one-hour long. The course shall be run not more than 7 days after commencement of work on site with sufficient sessions to accommodate all available personnel.

#### **3. Contractor's Environmental Representative**

The Contractor shall appoint an environmental representative (called an Environmental Site Officer) who shall be responsible for undertaking a daily site inspection to monitor compliance with this Specification and the relevant Project Specification. The Contractor shall forward the name of the environmental representative to the Engineer/ECO/EO for his approval seven days prior to the date of the environmental awareness training course. The Contractor's environmental representative shall complete daily Site Inspection Forms and these shall be submitted to the Engineer/ECO/EO once a

week.

#### **4. Site division, demarcation and no-go areas**

The Contractor shall restrict all his activities, materials, equipment and personnel to within the area specified. The area of the site shall be fenced where possible.

A Method Statement detailing the layout and method of establishment of the construction camp (including all buildings, hostels, offices, lay down yards, vehicle wash areas, fuel storage areas, batching areas and other infrastructure required for the running of the project) shall be provided.

As required by the Project Specification, the Contractor shall erect and maintain permanent and/ or temporary fences of the type and in the locations directed by the Engineer/ECO/EO. Such fences shall, if so specified, be erected before undertaking designated activities.

If so required by the Project Specification, certain areas shall be "no go" areas. The Contractor shall ensure that, insofar as he has the authority, no person, machinery, equipment or material enters the "no go" areas at any time.

#### **5. Access routes/ haul roads**

On the Site, and, if so required by the Project Specification, within such distance of the Site as may be stated, the Contractor shall control the movement of all vehicles and plant including that of his suppliers so that they remain on designated routes, are distributed so as not to cause an undue concentration of traffic and that all relevant laws are complied with. In addition, such vehicles and plant shall be so routed and operated as to minimise disruption to regular users of the routes not on the Site. On gravel or earth roads on Site and within 500m of the Site, the vehicles of the Contractor and his suppliers shall not exceed a speed of 45 km/hr. as far as possible the Contractor shall use existing access and haul routes. Damage to the existing access roads as a result of construction activities shall be repaired to the satisfaction of the Engineer/ECO/EO, using material similar to that originally used. The cost of the repairs shall be borne by the Contractor.

#### **6. Construction personnel information posters**

As required by the Project Specification, the Contractor shall erect and maintain information posters for the information of his employees depicting actions to be taken to ensure compliance with aspects of the Specifications. Such posters shall be erected at the eating areas and any other locations specified by the Engineer/ECO/EO.

#### **7. Fire control**

No fires may be lit on site. Any fires, which occur, shall be reported to the Engineer/ECO/EO immediately. Smoking shall not be permitted in those areas where it is a fire hazard. Such areas shall include the workshop and fuel storage areas and any areas where the vegetation or other material is such as to make liable the rapid spread of an initial flame. In terms of the National Environmental Management: Air Quality Act and Community Fire Safety Bylaw, burning is not permitted as a disposal method.

The Contractor shall appoint a Fire Officer who shall be responsible for ensuring immediate and appropriate actions in the event of a fire and shall ensure that employees are aware of the procedure to be followed. The Contractor shall forward the name of the Fire Officer to the Engineer/ECO/EO for his approval.

The Contractor shall ensure that there is basic fire-fighting equipment available on Site at all times. This shall include at least rubber beaters when working in urban open spaces and fynbos areas, and at least one fire extinguisher of the appropriate type when welding or other "hot" activities are undertaken.

1. The Contractor shall ensure that the basic fire-fighting equipment is to the satisfaction of the Local Fire Services.
2. The Contractor shall supply all living quarters, site offices, kitchen areas, workshop areas, materials, stores and any other areas identified by the Engineer/ECO/EO with tested

and approved fire fighting equipment.

3. Fire and "hot work" shall be restricted to a site approved by the Engineer/ECO/EO.
4. A braai facility may be considered at the discretion of the Engineer/ECO/EO.

## **8. Emergency procedures**

The Contractor shall submit Method Statements to the Engineer/ECO/EO covering the procedures for the following emergencies:

### **i) Fire**

The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it. The Contractor shall ensure that his employees are aware of the procedure to be followed in the event of a fire.

### **ii) Accidental leaks and spillages**

The Contractor shall ensure that his employees are aware of the procedure to be followed for dealing with spills and leaks, which shall include notifying the Engineer/ECO/EO and telephoning relevant people (from a cell phone) and the relevant authorities. The Contractor shall ensure that the necessary materials and equipment for dealing with spills and leaks is available on Site at all times. Treatment and remediation of the spill areas shall be undertaken to the reasonable satisfaction of the Engineer/ECO/EO.

In the event of a hydrocarbon spill, the source of the spillage shall be isolated, and the spillage contained. The area shall be cordoned off and secured. The Contractor shall ensure that there is always a supply of absorbent material readily available to absorb/ breakdown and where possible is designed to encapsulate minor hydrocarbon spillage. The quantity of such materials shall be able to handle a minimum of 200 l of hydrocarbon liquid spill.

## **9. Safety**

Telephone numbers of emergency services, including the local firefighting service, shall be posted conspicuously in the Contractor's office near the telephone. In the event of an emergency, the Contractor shall contact the emergency call centre availed for that specific emergency available in the area.

No unauthorised firearms are permitted on Site.

## **10. Community relations**

If so required by the Project Specification, the Contractor shall erect and maintain information boards in the position, quantity, design and dimensions specified. Such boards shall include contact details for complaints by members of the public in accordance with details provided by the Engineer/ECO/EO. The Contractor shall keep a "Complaints Register" on Site. The Register shall contain all contact details of the person who made the complaint, and information regarding the complaint itself.

## **11. Protection of natural features**

The Contractor shall not deface, paint, damage or mark of any natural features (e.g. rock formations) situated in or around the Site for survey or other purposes unless agreed beforehand with the Engineer/ECO/EO. Any features affected by the Contractor in contravention of this clause shall be restored/ rehabilitated to the satisfaction of the Engineer/ECO/EO.

The Contractor shall not permit his employees to make use of any natural water sources (e.g. springs, streams, open water bodies) for the purposes of swimming, personal washing and the washing of machinery or clothes.

## **12. Protection of flora and fauna**

Except to the extent necessary for the carrying out of the Works, flora shall not be removed,

damaged or disturbed nor shall any vegetation be planted.

Trapping, poisoning and/ or shooting of animals is strictly forbidden. No domestic pets or livestock are permitted on Site.

Where the use of herbicides, pesticides and other poisonous substances has been specified, the Contractor shall submit a Method Statement.

### **13. Erosion and sedimentation control**

The Contractor shall take all reasonable measures to limit erosion and sedimentation due to the construction activities and shall, in addition, comply with such detailed measures as may be required by the Project Specification. Where erosion and/or sedimentation, whether on or off the Site, occurs despite the Contractor complying with the foregoing, rectification shall be carried out in accordance with details specified by the Engineer/ECO/EO. Where erosion and/or sedimentation occur due to the fault of the Contractor, rectification shall be carried out to the reasonable requirements of the Engineer/ECO/EO.

Any runnels or erosion channels developed during the construction period or during the vegetation establishment period shall be backfilled and compacted, and the areas restored to a proper condition. Stabilisation of cleared areas to prevent and control erosion shall be actively managed. The method of stabilisation shall be determined in consultation with the Engineer/ECO/EO.

### **14. Aesthetics**

The Contractor shall take reasonable measures to ensure that construction activities do not have an unreasonable impact on the aesthetics of the area

### **15. Recreation**

If so required by the Project Specification, the Contractor shall take measures to reduce disruption to recreational users of the area abutting the Site.

### **17. Temporary site closure**

If the Site is closed for a period exceeding one week, the Contractor in consultation with the Engineer/ECO/EO shall carry out the checklist procedure required by the Project Specification. In the event of temporary site closure, the Contractor's Safety Officers (as defined by the Occupational Health and Safety Act) shall check the site, ensure that the conditions contained in the Detailed Specification.

### **18. Tolerances**

Environmental management is concerned not only with the final results of the Contractor's operations to carry out the Works but also with the control of how those operations are carried out. Tolerance with respect to environmental matters applies not only to the finished product but also to the standard of the day-to-day operations required to complete the Works.

It is thus required that the Contractor shall comply with the environmental requirements on an ongoing basis and any failure on his part to do so will entitle the Engineer/ECO/EO to certify the imposition of a fine subject to the details set out in the Project Specification

## **PART D: DAYWORKS**

This part of the Project Specifications deals with the provision for Dayworks in the Bill of Quantities. Rates for Dayworks shall be entered in Dayworks Schedule of the Bill of Quantities in accordance with the following specifications.

### **D. 1 SCOPE**

According to clause 6.5 of the General Conditions of Contract (GCC) for construction works third edition (2015), certain work may be carried out using rates tendered in the daywork schedule. A schedule of personnel, plant and equipment which may be necessary to perform work on a daywork basis is included in the schedule of quantities. The quantities used in the schedule are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 6.4 of the GCC.

No work will be paid for as Dayworks without the written instruction or approval of the Engineer.

### **D. 2 TYPE OF WORK**

The Engineer may order daywork in certain cases where it is necessary to vary or to extend the works due to new or unforeseen circumstances to such an extent that the tendered rates for specific items of work are no longer applicable, or where no suitable combination of tendered rates can be used to pay for such work.

As a general rule, applicable rates for additional work items will be agreed between the Contractor and the Engineer. Dayworks will only be used in exceptional circumstances.

### **D. 3 MATERIALS**

Materials for use in works carried out under Daywork shall be purchased by the Contractor who shall also arrange for delivery to site, and shall be responsible for any other requirements associated with specific materials. A Provisional Sum has been allowed in Dayworks Schedule for Daywork materials. The Contractor shall enter a tendered percentage in the schedule to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

Materials shall be paid for using the method described in the Pricing Data. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in Dayworks with his dayworks claim to the Engineer. Further, if specific materials are required for Dayworks, quotations will be called for as per Clause 6.5.2 of the GCC.

### **D. 4 CONSTRUCTION PLANT HIRE**

Where daywork is ordered, the tendered rates for plant hire in Section 1800 of Schedule A shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the schedule for a particular piece of equipment, and where no other rate or combination of rates would provide suitable compensation, then the daywork method of payment described in Clause 6.5.1.3 of the GCC will be used.

The tendered rates for each item of constructional plant shall include for all operating costs associated with the said item of plant. Such costs are deemed to include fuel, re-fuelling costs, lubrication and routine servicing / maintenance, breakdowns and spares, all overhead costs, site management costs and administration costs. The tendered rates shall also include the plant operator and the general supervision of the plant while it is engaged in the dayworks.

### **D. 5 SALARIES AND WAGES OF WORKMEN**

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in Section 1800 of Schedule A. The tendered rates shall include for all costs associated with the employment of personnel, including salaries, wages, allowances,

workmen's compensation, medical aid and pension contributions, government levies and taxes, training costs and any costs associated with living on the site. The tendered rates shall also include for the transportation of the workmen to the site of the dayworks.

All overhead costs, administration costs, site management costs and the Contractor's profit are deemed to be covered by the Dayworks rates and no additions or mark ups will be made to the tendered rates.

The tendered rates shall also include any hand tools normally associated with the workmen's job description e.g. picks, shovels, hammers, saws, spirit levels, etc. The tendered rate for labourers shall also include for the casual supervision by a gang boss or foreman. Only when specifically called for by the Engineer, will payment be made for the use of a gang boss or foreman supervising on a continuous basis.

#### **D. 6 MEASUREMENT AND PAYMENT**

The following principles shall also apply to the measurement and payment of Dayworks.

The unit of measurement for plant shall be the number of vibroclock hours worked and each item of plant shall be fitted with a vibroclock, the cost of which shall be included in the rates. Excessive non-productive time when the engine is idling will not be paid for. Where there is ambiguity between the flywheel horsepower and mass of the machine, the flywheel horsepower shall govern the measurement category. Where width and mass are specified, mass shall govern the measurement category.

The Contractor's attention is drawn to the requirements of Sub-clauses 6.5.3 and 6.5.4 of the GCC with regard to the submission of Dayworks claims.

## **PART E            OHSA 1993 SAFETY SPECIFICATION**

### **Generic occupational health and safety specification for construction work contracts**

#### **1            Scope**

This health and safety specification in respect of a construction work contract:

- a) provides the overarching framework within which the contractor is required to demonstrate compliance with certain requirements for occupation health and safety established by the Occupational Health and Safety Act of 1993 during construction;
- b) establishes the manner in which the contractor is to manage the risk of health and safety incidents in during the construction; and
- c) establishes the manner in which the employer's health and safety agent will interact with the contractor.

Note 1 This specification establishes generic requirements to enable the employer and the contractor to satisfy aspects of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Construction Regulations, 2014. The contractor is required to develop, implement and maintain package specific health and safety plans. The employer is required to provide certain package specific information to the contractor or a health and safety specification for the works to enable such plans to be formulated. Accordingly, this generic specification on its own cannot ensure compliance with the requirements of the aforementioned Act (See Annexure A).

Note 2 The Construction Regulations, 2014, require an employer to stop any contractor from executing construction work which is not in accordance with the contractor's health and safety plan for the site or which poses to be a threat to the health and safety of persons.

Note 3 This specification establishes generic health and safety requirements. Site specific requirements for health and safety are stated in the scope of work associated with a contract (see Annexure A).

Note 4 The South African Council for the Project and Construction Management Professions has established the following specified categories of registration in terms of the Project and Construction Management Professions Act of 2000 (Act No. 48 of 2000):

- a) a Construction Health and Safety Agent who may be appointed by an employer to act as his agent in terms of the Occupational Health and Safety Act of 1993 and the Construction Regulations issued in terms of that Act;
- b) a Construction Health and Safety Manager who may be appointed by an employer to complement his professional team or by a contractor to manage company or project health and safety performance and compliance in accordance with the Occupational Health and Safety Act and Regulations; and
- c) a Construction Health and Safety Officers who may be appointed by an employer to mitigate the risk on a project or by a contractor to monitor and assist on-site health and safety performance and compliance in accordance with the Occupational Health and Safety Act and Regulations and services.

#### **2            Definitions**

**Act:** The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

**contractor:** person or organization that contracts to provide the work covered by the contract

**contract manager:** person appointed by the employer to administer the contract on his behalf

**competent person:** any person who:

- a) has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications specific to that work or task; and
- b) is familiar with the Act and applicable regulations made in terms of the Act

Note: The Regulations stipulate that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act of 2000, those qualifications and training must be regarded as the required qualifications and training.

**danger:** anything which may cause injury or damage to persons or property

**employer:** person or organisation that enters into a contract with the contractor for the provision of the work covered by the contract

**employer's health and safety agent:** the person appointed as agent by the employer in terms of Regulation 4(5) of the Construction regulations and named in the contract data as the being the employer's agent responsible for health and safety matters

**ergonomics:** the application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimise human well-being and overall system performance

**hazard:** a source of or exposure to danger

**hazard identification:** the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed

**health and safety plan:** a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified

**health and safety specification:** a site, activity or project specific document pertaining to all health and safety requirements related to construction work which is included in the contractor's contract with the employer or an order issued in terms of framework agreement

**healthy:** free from illness or injury attributable to occupational causes

**incident:** an event or occurrence occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequence of which:

- a) any person dies, becomes unconscious, suffers the loss of a limb or part of a limb or is otherwise injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed or is usually employed;
- b) a major incident occurred; or
- c) the health or safety of any person was endangered and where:
  - i) a dangerous substance was spilled;
  - ii) the uncontrolled release of any substance under pressure took place;
  - iii) machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or machinery ran out of control

**Inspector:** a person designated as such under section 28 the Act

**Major incident:** an occurrence of catastrophic proportions, resulting from the use of plant or machinery, or from activities at a workplace

**Reasonably practicable:** practicable having regard to:

- a) the severity and scope of the hazard or risk concerned;
- b) the state of knowledge reasonably available concerning that hazard or risk and of any means of removing or mitigating that hazard or risk;
- c) the availability and suitability of means to remove or mitigate that hazard or risk; and
- d) the cost of removing or mitigating that hazard or risk in relation to the benefits deriving therefrom;



**Risk:** the probability that injury or damage will occur

**Safe:** free from any hazard

**Scaffold:** any temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both

**Structure:**

- a) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- b) any false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
- c) any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling

**Substance:** any solid, liquid, vapour, gas or aerosol, or combination thereof

**Suitable:** capable of fulfilling or having fulfilled the intended function or fit for its intended purpose

**Temporary works:** any false work, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction

**Workplace:** any premises or place where a person performs work in the course of his employment

### **3 Interpretation**

- 1.1 The Act and its associated regulations shall have precedence in the interpretation of any ambiguity or inconsistency between it and this specification.

**3.2 Compliance** with the requirements of this specification does not necessarily result in compliance with the provisions of the Act.

## **4 Requirements**

### **4.1 General requirement**

The contractor shall:

- a) create and maintain as reasonably practicable a safe and healthy work environment,
- b) execute the work in a manner that complies with all the requirements of the Act and all its associated regulations, and in so doing, minimize the risk of incidents occurring;
- c) conspicuously display any site specific number assigned to the construction site in terms of the Construction Regulations 2014 at the main entrance to the site; and
- d) respond to the notices issued by the employer's health and safety agent as follows:
  - 1) Improvement Notice: improve health and safety performance over time so that repeat notices are not issued;
  - 2) Contravention Notice: rectify contravention as soon as possible;
  - 3) Prohibition Notice: terminate affected activities with immediate effect and only recommence activities when it is safe to do so.

Note: Financial penalties can be applied should Contravention Notices be issued. This should be dealt with in the Contract Data.

### **4.2 Administration**

#### **4.2.1 Notification of intention to commence construction work**

**4.2.1.1** The contractor shall on sites where no construction work permit has been issued by the Provincial Director of the Department of Labour notify such director in writing using a form similar to that contained in Annexure 2 of the Construction Regulations issued in terms of the Act before construction work commences and retain proof of such notification in the health and safety file where the work includes:

- a) excavation work;
- b) working at height where there is a risk of falling;
- c) the demolition of a structure;
- d) the use of explosives; or
- e) a single storey dwelling for a client who is going to reside in such dwelling upon completion

**4.2.1.2** The contractor shall ensure that no work commences on an electrical installation which requires a new supply or an increase in electricity supply before the person who supplies or contracts or agrees to supply electricity to that electrical installation has been notified of such work.

**4.2.1.3** The contractor shall ensure that no asbestos work is carried out before the Provincial Director of the Department of Labour has been notified in writing.

#### **4.2.2 Copy of the Act**

The contractor shall ensure that a copy of the Act and relevant regulations is available on site for inspection by any person engaged in any activity on the site.

#### **4.2.3 Good standing with the compensation fund or a licensed compensation insurer**

The contractor shall before be commencing with any work on the site provide the employer's health and safety representative with proof of good standing with the compensation fund or with a licensed compensation insurer.

#### **4.2.4 Emergency procedures**

**4.2.4.1** The contractor shall submit for acceptance to the employer's health and safety agent an emergency procedure which include but are not limited to fire, spills, accidents to employees, exposure to hazardous substances, which:

- a) identifies the key personnel who are to be notified of any emergency;
- b) sets out details including contact particulars of available emergency services; and c) the actions or steps which are to be taken during an emergency.

**4.2.4.2** The contractor shall within 24 hours of an emergency taking place notify the employer's health and safety agent in writing of the emergency and briefly outline what happened and how it was dealt with.

#### **4.2.5 Health and safety file**

**4.2.5.1** The contractor shall establish and maintain on site a health and safety file which contains copies, as relevant of:

- a) The following documents which shall be placed in the file prior to commencing with physical construction activities
  - 1) Copy of the contraction work permit issued in terms of the Construction Regulations 2014;
  - 2) the contractor's health and safety policy, signed by the chief executive officer, which outlines the contractor's objectives and how they will be achieved and implemented by the contractor;
  - 3) Copies of all risk assessments that were conducted

- 4) The notification made to the Provincial Director of Labour, and if relevant, the notification of the person who supplies or contracts or agrees to supply electricity to that electrical installation;
  - 5) The letters of appointment, as relevant, together with a brief curriculum vita (CV) of:
    - the construction manager and any assistant construction managers;
    - the construction health and safety manager
    - the construction health and safety officer
    - the risk assessor who is tasked to perform the risk assessments; and
    - the registered person responsible for the electrical installation covered by the Electrical Installations Regulations;
    - the authorised persons responsible for gas appliances, gas system gas reticulation system covered by the Pressure Equipment Regulations;
  - 6) A copy of the certificate of registration of the registered person responsible for the electrical installation covered by the Electrical Installations Regulations;
  - 7) The approval of the design of the part of an electrical installation which has a voltage in excess of 1 kV by a person deemed competent in terms of the Electrical Installations Regulations;
  - 8) proof of registration of the electrical contractor who undertakes the electrical installation in terms of the Electrical Installations Regulations;
  - 9) the preliminary hazard identification undertaken by a competent person;
  - 10) The organogram which outlines the roles of the construction supervisor's assistants and safety officers; and
  - 11) The contractor's health and safety plan;
  - 12) The emergency procedures;
  - 13) The procedure for the issuing and replacement of lost, stolen, worn or damaged personal protective clothing and equipment; and
  - 14) Proof that the contractor and all the subcontractors are registered and in good standing with the compensation fund or with a licensed compensation insurer relevant to the type of work performed;
- b) The following documents, as relevant, which shall be placed in the file after construction activities have commenced
- 1) the letters of appointments, if relevant, together with a brief curriculum vita (CV) of:
    - persons who are required to assist the construction supervisor;
    - construction supervisor for the site in respect of construction work covered by the Construction Regulations;
    - competent persons;
    - assistants of construction supervisor; and
    - designers of temporary works;
  - 2) Any revisions to the organogram which outlines the roles of the construction supervisor's assistants and safety officers;
  - 3) Each and every subcontract agreement and each and every subcontractor's approved health and safety plan;
  - 4) Proof that every subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer relevant to the type of work performed;
  - 5) Proof of all subcontractor's induction training whenever it is conducted;
  - 6) Copies of the minutes of the contractor's subcontractor's health and safety meetings;
  - 7) Copies of each of the contractor's subcontractors' health and safety policy, signed by

the chief executive officer, which outlines the contractor's objectives and how they will be achieved and implemented by the contractor;

- 8) The health and safety plans of all the contractor's subcontractors who are required to provide such plans;
- 9) Copies of the fall protection plan and each revision thereof;
- 10) A comprehensive and updated list of all the subcontractors employed on site by the contractor, indicating the type of work being performed by such sub-contractors;
- 11) The outcomes of the monthly audits for compliance with the approved health and safety plan of each and every sub-contractor working on the site;
- 12) Any report made to an inspector by the health and safety committee;
- 13) The minutes of all health and safety meetings and any recommendations made to the contractor by the health and safety committee;
- 14) The findings of all audit reports made regarding the implementation of the contractor's or a subcontractor's health and safety plan;
- 15) The inputs of the safety officer, if any, into the health and safety plan;
- 16) Details of induction training conducted whenever it is conducted including the list of attendees;
- 17) Proof of the following where suspended platforms are used:
  - a certificate of system design issued by a professional engineer, professional certificated engineer or a professional engineering technologist;
  - proof of competency of erectors, operators and inspectors;
  - proof of compliance of operational design calculations with requirements of the system design certificate;
  - proof of performance test results;
  - sketches indicating the completed system with the operational loading capacity of the platform;
  - procedures for and records of inspections having been carried out;
  - procedures for and records of maintenance work having been carried out;
  - proof that the prescribed documentation has been forwarded to the provincial director;
- 18) Letters of appointments for competent persons to supervise the activities which law requires to be so supervised;
- 19) A copy of risk assessments made by competent persons;
- 20) Records of the register of inspections made by a competent person immediately before and during the placement of concrete or any other load on formwork;
- 21) The names of the first aiders on site and copies of the first aid certificates of competency;
- 22) The names of the persons who are in possession of valid certificate of competency in first aid and copies of such certificates;
- 23) Medical certificates of fitness for the contractor's and subcontractors' employees specific to the construction work to be performed and issued by an occupational health and safety practitioner;
- 24) Details of all incidents together with the Contractor's investigative report on such incident;
- 25) The record of inspections carried out by the designers of structures to ensure compliance with designs; and
- 26) any other documentation required in terms of regulations issued in terms of the Act

including a record of all drawings, designs, materials used and other similar information concerning the completed structure;

**4.2.5.2** The health and safety file shall be made available for inspection by any inspector, subcontractor, the contract manager, the employer's health and safety agent or employee of the contractor upon the request of such persons.

**4.2.5.3** The health and safety file shall be updated to ensure that its contents always reflect the latest available information.

**4.2.5.4** The contractor shall hand over a copy of the health and safety file to the employer's health and safety agent upon completion of the contract and if relevant, a certificate of compliance accompanied by a test report for the electrical installation in accordance with the provisions of the Electrical Installation Regulations.

#### **4.2.6 Health and safety committee**

**4.2.6.1** The contractor shall convene health and safety meetings whenever more than two health and safety representatives have been appointed for the site. These meetings shall be attended by all health and safety representatives and persons nominated by the contractor. Such meetings shall be convened whenever necessary but at least once every month to:

- a) Make recommendations to the contractor regarding any matter affecting the health or safety of persons on the site; and
- b) Discuss any incident on the site in which or in consequence of which any person was injured, became ill or died.

**4.2.6.2** The contractor shall consult with the health and safety committee on the development, monitoring and review of the risk assessment.

**4.2.6.3** The contractor shall ensure that minutes of the health and safety committee meetings are kept.

The employer's health and safety agent shall be invited to attend such meetings as an observer.

#### **4.2.7 Inspections, formal enquires and incidents**

**4.2.7.1** The contractor shall inform the relevant safety representative:

- a) Beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector; and
- b) as soon as reasonably practicable of the occurrence of an incident on the site.

**4.2.7.2** The contractor shall record all incidents and notify the employer's health and safety agent of any incident, except in the case of a traffic accident on a public road, as soon as possible after it has occurred and report such incidence to an inspector of the department of labour and notify the Provincial Director of the Department of Labour of such incident within 7 days on the prescribed form

**4.2.7.3** The contractor shall investigate all incidents and issue the employer's health and safety agent with copies of such investigations.

**4.2.7.4** The contractor shall in the event of an incident in which a person dies, or is injured to such an extent that he is likely to die, or suffered the loss of a limb or part of a limb:

- a) Notify the Provincial Director of the Department of Labour of such incident by telephone, facsimile or similar means of communication;
- b) Ensure that no person disturbs the site at which the incident occurred or remove any article or substance involved in the incident therefrom, without the consent of an inspector, unless an action is necessary to prevent a further incident, to remove the injured or dead, or to rescue persons from danger; and
- c) Provide the Provincial Director of the Department of Labour with a report which includes the measures that the contractor or his subcontractor intend to implement to ensure a safe site as reasonably practicable.

**4.2.7.5** The contractor shall notify the Provincial Director of the Department of Labour of the death of any person which results from injuries sustained in an incident.

#### **4.2.8 Personal protective equipment and clothing**

The contractor shall ensure that:

- a) All workers are issued with the necessary personal protective clothing;
- b) All workers are identifiable at all times by having the company for which they work for printed on the back or front of their overalls; and
- c) Clear procedures are in place for the replacement of lost, stolen, worn or damaged personal protective clothing.

### **4.3 Appointments**

#### **4.3.1 Construction manager**

The contractor shall appoint in writing one full time competent person as the construction manager with the duty of managing all the construction on a single site including that of ensuring occupational health and safety compliance. Where appropriate, the contractor shall appoint in writing one or more assistant construction managers.

#### **4.3.2 Appointment of construction health and safety officers**

The contractor shall after consultation with the employer after considering the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, prior to commencing the work and if necessary, appoint a full-time or a part-time suitably qualified health and safety officer to assist in the control of all health and safety related aspects on the site.

#### **4.3.3 Construction supervisors**

**4.3.3.1** The construction manager shall in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

**4.3.3.2** A contractor shall after considering the size of the project and if considered necessary, appoint in writing one or more competent employees for different sections of the work to assist the construction supervisor.

#### **4.3.4 Competent persons**

**4.3.4.1** The contractor shall appoint in writing competent persons to supervise or inspect, as relevant, any of the following:

- a) Formwork and support work operations;
- b) Excavation work;
- c) Demolition work;
- d) Scaffolding work operations;
- e) Suspended platform work operations;
- f) Material hoists;
- g) bulk mixing plants;
- h) temporary electrical installations;
- i) the stacking and storage of articles on the site; and

- j) fire equipment.

**4.3.4.2** The contractor shall appoint in writing competent persons to:

- a) Induct employees in health and safety; and
- b) Prepare and update as necessary a fall protection plan and to provide the construction manager with a copy of the latest version of such plan.

#### **4.3.5 Health and safety representatives**

**4.3.5.1** The contractor shall appoint in writing one health and safety representative for every 50 employees working on the site, whenever there are more than 20 employees on the site, to:

- a) Review the effectiveness of health and safety measures;
- b) Identify potential hazards and potential major incidents;
- c) In collaboration with his employer, examine the causes of incidents;
- d) Investigate complaints by any employee of the contractor relating to that employee's health or safety on the site;
- e) Make representations to the contractor on matters arising from a), b), c) or d) or on general matters affecting the health or safety of the employees at the workplace;
- g) Inspect the site with a view to, the health and safety of employees, at regular intervals;
- h) Participate in consultations with inspectors at the workplace and accompany inspectors on inspections of the workplace; and
- i) Participate in any internal health or safety audit.

**4.3.5.2** The contractor shall provide the health and safety representatives with the necessary assistance, facilities and training to carry out the functions established in 4.3.1

#### **4.4 Employer's health and safety agent**

**4.4.1** The employer's health and safety agent shall:

- a) audit the contractor's compliance with the requirements of this specification prior to the commencement of any physical construction activities on the site;
- b) accept or reject the contractor's health and safety plans, giving reasons for rejecting such plans;
- c) monitor the effective implementation of all safety plans;
- d) conduct periodic and random audits on the health and safety file to establish compliance with the requirements of this specification;
- e) visit the site at regular intervals to conduct site inspections, and based upon such visits issue, wherever necessary, Improvement Notices, Contravention Notices and Prohibition Notices, to the contractor or any of the contractor's subcontractors with a copy to the contract manager and, where relevant, to the contractor.

**4.4.2** The contractor shall invite the employer's health and safety agent to audit compliance with the requirements of this specification before commencing with any physical construction activity on the site.

#### **4.5 Creating and maintaining a safe and healthy work environment**

##### **4.5.1 General**

**4.5.1.1** The contractor shall with respect to the site and the construction work that are contemplated:

- a) cause a preliminary hazard identification to be performed by a competent person before commencing any physical construction activity;
- b) evaluate the risks associated with the identified hazard to the health and safety of such employees and the steps that need to be taken to comply with the Act; and
- c) as far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure.

**4.5.1.2** The contractor shall ensure that:

- a) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
- b) no structure or part of a structure is loaded in a manner which would render it unsafe; and
- c) account of information, if any, provided by the designer of the structure is taken into account in the risk assessment;

Note: The information provided by the designer should outline known or anticipated dangers or hazards relating to the work and make available all information required for the safe execution of the work. It should provide as relevant, geotechnical information (or make reference to reports provided in the site information), the loading the structure is designed to withstand, the methods and sequence of construction.

**4.5.1.3** The contractor shall carry out regular inspections and audits to ensure that the work is being performed in accordance with the requirements of this specification.

## **4.5.2 Risk assessment**

**4.5.2.1** The contractor shall before the commencement of any work on site and during construction work, cause a risk assessment to be performed by a competent person appointed in writing. Such an assessment shall as a minimum:

- a) identify hazards to which persons may be exposed to;
- b) analyse and evaluate the identified risks associated with the identified hazards;
- c) document a plan of safe work procedures, including the use of any personal protective equipment or clothing and the undertaking of periodic "toolbox talks" or inductions before undertaking hazardous work, to mitigate, reduce or control the risks and hazards that have been identified;
- d) provide a monitoring plan; and
- e) provide a review plan.

Note: A risk assessment is an important step in protecting workers as well as complying with the law. It helps to focus on the risks that really matter in a particular workplace – the ones with the potential to cause real harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures. The following four steps are suggested:

- 1) Identify the hazards by looking at what could reasonably be expected to cause harm, ask employees or their representatives what they think, obtain advice from trade associations or publications on health and safety, check manufacturer's instructions or data sheets for chemicals and equipment as they can be very helpful in spelling out the hazards and



putting them in their true perspective, review accident and ill-health records, think about long-term hazards to health (eg high levels of noise or exposure to harmful substances) as well as safety hazards etc.

- 2) Identify who may be harmed and how by identifying how individuals and groups of people might be harmed i.e. what type of injury or ill health might occur.
- 3) Evaluate the risks and decide on precautions by doing everything 'reasonably practicable' to protect people from harm i.e. by looking at how things are done, what controls are in place and how the work is organised and comparing this against good practice to see if more can be done to bring practices up to standard. Consider if the hazard can be removed all together, and if not how can the risks be controlled so that harm is unlikely, e.g. try a less risky option (e.g. switch to using a less hazardous chemical); prevent access to the hazard (e.g. by guarding); organise work to reduce exposure to the hazard (e.g. put barriers between pedestrians and traffic); issue personal protective equipment (e.g. clothing, footwear, goggles etc.); and provide welfare facilities (e.g. first aid and washing facilities for removal of contamination).
- 4) Record the findings by writing down the findings of the risk assessment.

**4.5.2.2** The contractor shall ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

**4.5.2.3** Notwithstanding the provisions of the fall protection plan, the contractor shall ensure that:

- a) all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;
- b) no person works in an elevated position, unless such work is performed safely as if working from a scaffold or ladder;
- c) notices are conspicuously placed at all openings where the possibility exists that a person might fall through such openings;
- d) fall prevention and fall arrest equipment is:
  - suitable and of sufficient strength for the purpose or purposes for which it is being used having regard to the work being carried out and the load, including any person, it is intended to bear; and
  - securely attached to a structure or plant and the structure or plant and the means of attachment thereto is suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who is liable to fall;
- e) fall arrest equipment is only used where it is not reasonably practicable to use fall prevention equipment; and
- f) suitable and sufficient steps are taken to ensure, as far as is reasonably practicable, that in the event of a fall by any person, the fall arrest equipment or the surrounding environment does not cause injury to the person.

**4.5.2.4** Where roof work is being performed on a construction site, the contractor shall ensure that it is indicated in the fall protection plan that:

- a) the roof work has been properly planned;
- b) the roof erectors are competent to carry out the work;
- c) no employees are permitted to work on roofs during inclement weather conditions or if weather conditions are a hazard to the health and safety of the employees;
- d) prominent warning notices are to be placed where all covers to openings are not of sufficient strength to withstand any imposed loads and where fragile material exists;
- e) the areas mentioned in paragraph (d) are to be suitably barricaded off to prevent persons

- from entering;
- f) suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and
- g) there is suitable and sufficient guard-rails or barriers and toe-boards or other similar means of protection to prevent, so far as is reasonably practicable, the fall of any person, material or equipment.

#### **4.5.3 Health and safety plans**

**4.5.3.1** The contractor shall prior to commencing the work to which this specification applies, submit to the employer's health and safety agent for approval a suitable and sufficiently documented health and safety plan, based on this specification, the health and safety specification and the risk assessment that is conducted.

**4.5.3.2** The health and safety plan shall as a minimum provide:

- a) the information contained in Table 1 in respect of each of the hazards associated with work falling within the scope of the contract); and
- b) an outline of the manner in which the contractor intends complying with the requirements of this specification.

**Table 1: Example of the format of a health and safety plan**

<b>What are the hazards relating to work tasks?</b>	<b>Who might be harmed and how?</b>	<b>What are the safe work procedures for the site?</b>	<b>What further action is necessary (monitoring and review)?</b>	<b>Action by whom</b>	<b>Action by when</b>

**4.5.3.3** The contractor shall discuss the submitted health and safety plan with the employer's health and safety agent, modify such plan in the light of the discussions and resubmit the modified plan for approval.

**4.5.3.4** The contractor shall apply the approved health and safety plan from the date of its commencement and for the duration of the work to which this specification applies.

**4.5.3.5** The contractor shall conduct periodic audits for compliance with the approved health and safety plan at intervals agreed upon with the employer's health and safety agent, but at least once every month.

**4.5.3.6** The contractor shall review and update the health and safety plan whenever changes to the works are brought about or following the occurrence on an incident.

#### **4.5.4 Responsibilities towards employees and visitors**

**4.5.4.1** The contractor shall as far as is reasonably practicable, cause every employee to be made conversant with the hazards to his health and safety attached to any work which he has to perform, any article or substance which he has to produce, process, use, handle, store or transport and any plant or machinery which he is required or permitted to use, as well as with the precautionary measures which should be taken and observed with respect to those hazards or safe work procedures.

**4.5.4.2** The contractor shall ensure that all employees under his or her control and the employees of his subcontractors who are performing construction work are:

- a) informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment; and
- b) issued with proof of health and safety induction training issued by a competent person and carry proof of such induction when working on site.

**4.5.4.3** The contractor shall cause a record of training to be kept which indicates the training dates, the names, identity numbers and job description of all those who attended such training and the name, identity number and competence of the person who provided the training.

**4.5.4.4** The contractor shall not allow or permit any employee to enter the site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

**4.5.4.5** The contractor shall ensure that each visitor to a construction site, save where such visitor only visits the site office and is not in direct contact with the construction work activities:

- a) undergoes health and safety instruction pertaining to the hazards prevalent on the site; and b) is provided with the necessary personal protective equipment.

**4.5.4.6** The contractor shall provide suitable on-site signage to alert workers and visitors to health and safety requirements. Such signage shall include but not be limited to:

- a) unauthorized entrance prohibited;
- b) signage to indicate what personal protective equipment is to be worn; and
- c) activity related signs.

**4.5.4.7** The contractor shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.

#### **4.5.5 Subcontractors**

**4.5.5.1** The contractor may only subcontract work in terms of a written subcontract and shall only appoint a subcontractor should he be reasonably satisfied that such a subcontractor has the necessary competencies and resources to safely perform the work falling within the scope of the contract. Such a subcontract shall require that the subcontractor:

- a) co-operate with the contractor as far as is necessary to enable both the contractor and sub- contractor to comply with the provisions of the Act; and
- a) as far as is reasonably practicable, promptly provide the contractor with any information which might affect the health and safety of any person at work carrying out work or any person who might be affected by the work of such a person at work or which might justify a review of the health and safety plan.

**4.5.5.2** The contractor shall provide any sub-contractor who is submitting a tender or appointed to perform a sub-contract falling within the scope of the contract, with the relevant sections of this specification and the health and safety specification.

**4.5.5.3** The contractor shall discuss and negotiate with each subcontractor performing construction work the subcontractor's health and safety plan and approve that plan for implementation.

**4.5.5.4** The contractor shall take reasonable steps as are necessary to ensure that:

- a) potential contractors submitting tenders have made sufficient provision for health and safety

measures during the construction process;

- b) each subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to their performance of work on site;
- c) all the subcontractor's employees have a valid medical certificate of fitness specific to the construction work which are to be performed which is issued by an occupational health and safety practitioner;
- d) all sub-contractors co-operate with each other to enable each of those sub-contractors to comply with the requirements of the Act and associated regulations;
- e) each subcontractor performing construction work has and maintains a health and safety file containing the relevant information described in 4.2.5; and
- f) each sub-contractor's health and safety plan is implemented and maintained.

**4.5.5.5** The contractor shall conduct periodic document verifications and audits for compliance with the approved health and safety plan of each and every sub-contractor working on the site at intervals agreed upon with such subcontractors, but at least once per month.

**4.5.5.6** The contractor shall stop any subcontractor from executing construction work which is not in accordance with the contractor's or subcontractor's health and safety plan for the site or which poses a threat to the health and safety of persons.

**4.5.5.7** The contractor shall ensure that where changes to the works occur including design changes, sufficient health and safety information and appropriate resources are made available to subcontractor to execute the work safely.

**4.5.5.8** The contractor shall ensure that:

- a) every subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site;
- b) potential subcontractors submitting tenders have made provision for the cost of health and safety measures during the construction process; and
- c) every subcontractor has in place a documented health and safety plan prior to commencing any work on site which falls within the scope of the contract.

**4.5.5.9** The contractor shall receive, discuss and approve health and safety plans submitted by subcontractors.

**4.5.5.10** The contractor shall ensure that all subcontractors are informed regarding any hazard as stipulated in the risk assessment before any work commences, and thereafter at such times as may be determined in the risk assessment.

**4.5.5.11** The contractor shall reasonably satisfy himself that all employees of subcontractors are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

**4.5.5.12** The contractor shall satisfy himself and ensure that all subcontractor employees deployed in the site are:

- a) informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment; and
- b) issued with proof of health and safety induction training issued by a competent person and carry proof such induction when working on site.

**4.5.5.13** The contractor shall undertake a risk assessment together with subcontractors whenever subcontractors are working in close proximity to other subcontractors particularly activities involve excavations, the moving of earth, the movement of heavy machinery and working at heights.

#### **4.5.6 First aid, emergency equipment and procedures**

**4.5.6.1** The contractor shall where more than five employees are employed at a workplace, provide a first aid box or boxes at or near the workplace which shall be available and accessible for the treatment of injured persons at that workplace. Such first aid boxes shall contain suitable first aid equipment which includes the items listed in the General Safety Regulations issued in terms of the Act.

**4.5.6.2** The contractor shall ensure that where there are more than 10 employees employed on the site that for every group of up to 50 employees at that workplace, at least one person is readily available during normal working hours, who is in possession of a valid certificate of competency in first aid.

#### **4.5.7 Facilities for workers**

**4.5.7.1** The contractor shall provide and keep clean and fit for use at or within reasonable access of the site:

- a) at least one shower facility for every 15 workers;
- b) at least one sanitary facility for every 30 workers;
- c) changing facilities for each gender; and
- d) sheltered eating areas.

**4.5.7.2** A contractor shall provide reasonable and suitable living accommodation for the workers at construction sites which are remote from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

#### **4.6 Design of temporary work**

The contractor shall:

- a) provide the health and safety agent with the names and contract particulars of the designers involved in the design of temporary works;
- b) issue the designers with a copy of the health and safety specification as well as any pertinent information contained in the contract; and
- c) provide the health and safety agent with certificates issued by the designer of the temporary works that such works are fit for purpose before such works are used in support construction activities.

**PART F: SMALL CONTRACTOR DEVELOPMENT, TRAINING AND COMMUNITY LIAISON**

**D1001 SCOPE**

This section covers construction aspects relating to the processes by which the construction industry develops emerging and established small contractors, preferably from the Target Area. It also deals with labour enhanced construction by encouraging the engagement and training of labour recruited from local communities.

**D1002 DEFINITIONS AND APPLICABLE LEGISLATION**

(a) Definitions

Unless inconsistent with the context, in these specifications, the following terms, words or expressions shall have the meanings hereby assigned to them:

**Contract Participation**

Contract Participation is a process by which the Employer implements Government's objectives by setting targets relating to small contractor development and labour enhancement which the Contractor shall achieve as a minimum.

**Labour**

Labour is the Contractor's and Subcontractor's personnel whose monthly earnings are derived from hours worked for a fixed hourly rate which is adjusted from time to time by legislation (as a statutory minimum) and the Contractor's and Subcontractor's employment policies.

**Target Area**

Target Area is a defined area from which the Contractor is expected to recruit Targeted Labour. The Target Area for this contract is as indicated in the Appendix to Tender.

**Targeted Enterprise**

An enterprise which:

- is a contractor registered with the Construction Industry Development Board in a contractor grading designation from 2 to 7 and status as potentially emerging; and
- the Contractor has no equity holding in; and
- is a sub-contractor who undertakes work within its registered CIDB category; and
- is registered in terms of the Company's Act, 2008 (Act No. 71 of 2008) or Close Corporation Act, 1984 (Act No. 69 of 1984); and
- is registered with the South African Revenue Service.

**Target Groups**

A Target Group is a specific section of the population who are South African citizens or have the legal right to work in South Africa and who are distinguished by gender, age or disability.

**Targeted Labour**

Targeted Labour is Labour recruited from the Target Area, who permanently reside in the Target Area or who are recognized as being residents of the Target Area on the basis of identification and association with and recognition by the residents of the Target Area.

(b) Applicable Legislation

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

The following Acts, as amended from time to time, are predominant amongst those which apply to the construction industry and are listed here for reference purposes only:

The Constitution of South Africa;  
Public Finance Management Act No. 1 of 1999;  
Preferential Procurement Policy Framework Act No. 5 of 2000;  
Construction Industry Development Board Act No. 38 of 2000;  
Broad-Based Black Economic Empowerment Act No. 53 of 2003.

#### **D1003      COMMUNITY liaison**

“The purpose of community liaison is to create awareness between the Contractor and communities through which the contract passes. There is no need on this contract to create a project liaison committee (PLC), although it may be advisable that a community relations officer (CRO) is appointed from the Contractor’s ranks, for the specific purpose of acting as liaison between management and hired labour.”

##### **(a)      Purpose**

In order to give effect to the need for transparency in the process of delivering services, the contractor should liaise with the community throughout the life cycle of the contract. This may be achieved through structured engagement between those responsible for the delivery of the contract and the communities adjacent to the contract.

##### **(b)      Structure and composition**

A public liaison committee (PLC) or Public steering committee (PSC) may be established as a communication structure that interacts with all parties involved with the contract. The composition of the PLC comprises representation by the Employer, the Contractor, the engineer and formal structures within the communities. The Contractor is advised to make use of established community communication channels and appoint from among his site personnel a responsible person, (community relations officer (CRO)), to participate in the PLC business. Should the locality and size of the contract warrant the need for a project liaison officer (PLO) such appointment will be made by the engineer as part of the engineer’s staff.

##### **(c)      Use of the PLC or PSC**

The Contractor is encouraged to utilise the community liaison process in order to facilitate harmonious relationships on the contract. Some of the suggested elements of construction activity that should be discussed by the PLC are,

- Targeted Enterprises with whom the Contractor is already contractually committed prior to the commencement of the contract,
- Assist the contractor with the recruitment of Targeted Labour,
- Assistance with general community/project liaison,
- The need for training.

##### **(d)      Use of the PLO**

The purpose of the PLO is to facilitate liaison between the community, community structures, local authorities, the contractor and the engineer. The engineer and contractor shall, at the start of the contract, agree on the duties of the PLO which may include the following:

communicating the labour requirements with regards to numbers and skills to the community;  
determining, in consultation with the contractor, the needs of the labour for training;  
identifying possible labour disputes and to assist in their resolution;  
informing labour of their conditions of temporary employment and to inform labourers as soon as possible when their period of employment will be terminated;  
attending disciplinary proceedings to ensure that hearings are fair and reasonable;  
attending meetings in which the community and/or labour is present or is required to be represented;

In terms of the Conditions of Contract, all labour recruitment, employment and associated risks shall remain the sole responsibility of the contractor.

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C3.83

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

## **D1004        TRAINING**

### **(a)     Purpose of training**

The Employer has no service agreement or memorandum of understanding with any education and training quality assurance body and, therefore, does not function as the employer as defined under any three-party-agreement between the learner, the training provider and the employer. But the Employer desires similar outcomes to such agreements; specifically, to train Targeted Enterprises and Targeted Labour and equip them with residual skills that can be used to gain meaningful future employment and qualifications that permit continued access to further learning and qualifications within a defined programme.

The Employer will facilitate training and, in this capacity, demands continuous involvement in the necessary decision making and quality control process of the anticipated training within a skills program which identifies multiple but connected and full learnerships.

The training shall be at both a theoretical and practical level and in accordance with the various laws and regulations contained in the South African Qualification Authority (SAQA) statutes.

Wherever in this section reference is made to the selection and training of learners, any person, employed by any national, provincial or local authority, being it full time or part time, is expressly excluded from being considered for this training.

The complete training programme shall be approved by the engineer before training can commence.

### **(b)     Skills analysis**

Before any training programmes can be approved the contractor shall complete a skills audit of his own employees and those of his subcontractors to determine existing qualifications and education received. The outcome of the analysis shall be used to create a training programme that will benefit both the employee and the construction industry at large.

A separate skills analysis shall be conducted for the Targeted Enterprises with the specific purpose of identifying programmes that will develop and improve the ability of the owners of those enterprises to better manage their companies.

The skills analyses and subsequent training programmes must be provided by a suitably qualified training practitioner (the training manager) whose services the contractor shall procure.

### **(c)     The training provider**

The training manager shall be the training provider in terms of his obligations and commitment to undertake the training required. In the event that the training manager does not himself have the requisite training qualifications he may include as part of his management team a person who does. Such person may be an institution/organisation, company, collaborative partnership or consultancy in which case, whoever is approved from that entity shall be dedicated to provide all training once the programme has been approved by the engineer.

The training provider must be accredited and have in its employ Practitioners and/or Assessors registered with the Construction Education Training Authority (CETA) and who must have the necessary certified proof. Accreditation and registration proof shall be current, valid and list the NQF levels and unit standards for which he/she is accredited.

The training and competency levels required of the training provider are given in the table below:

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C3.84

<i>Contractor</i>	<i>Witness 1</i>	<i>Witness 2</i>	<i>Employer</i>	<i>Witness 1</i>	<i>Witness 2</i>



**TABLE D1005/1: QUALIFICATIONS FOR TRAINING PERSONNEL**

Designation	Title & Unit Standard No	NQF Level	Credit
Practitioner	Train the trainer; No 7384	4	16
Assessor	Conduct outcome base assessment; No 115753	5	15
Moderator	Conduct moderation of outcome based assessment; No 115759	6	10

In addition to the above qualifications, and in keeping with current CETA practical experience requirements for registration as a trainer, NQF level 4 training courses shall only be provided by a practitioner/assessor with NQF Level 5 (one level up) credentials. For this project the Employer requires the further qualification that assessors/moderators means persons who have been employed for at least 5 years as a site agent managing construction processes in the specific fields of roads maintenance, roads new construction, roads rehabilitation, structures, etc.

It may be appropriate and effective to have different calibre/experienced personnel for each of the fundamental, core and elective training and assessment elements. In other words because the elective unit standards are more vocationally orientated and require specialist input, it is not expected that a single trainer/assessor will have all the necessary skills. In such cases, the training provider shall acquire an appropriate Practitioner/Assessor to perform elective training duties. Such appointments shall be approved by the Employer.

(d) Training

(i) Skills programme

Recognised Prior Learning of each employee shall be investigated, and taken into account and incorporated into each skills programme along with the additional competencies identified as being capable of providing a full learnership outcome.

It is recognised that the programme may consist of several unit standards but totalling insufficient credits for a full learnership qualification. Nevertheless, the competencies and credits achieved in a skills program should contribute to a full learnership by a later acquisition of the outstanding Unit Standards required for the full learnership.

The skills programme must also be geared in such a way that a selected number of applicable and urgently required unit standards will equip a learner with the minimum skills to become economically involved in the execution of the works as soon as possible.

Studying for any learnership requires minimum literacy and numeracy competencies as defined by SAQA. The actual literacy and numeracy levels inform the training provider on how to conduct the selection process. Learners with grade 12 literacy, numeracy and computer skills will, in most cases, comply with the minimum learning necessities. However, a baseline assessment (for example by conducting mini RPL enquiries and tests) may be required to ensure that the competency levels still exist. Some fill-in skills programme of fundamental unit standards may be needed.

Learners identified as having already acquired some tertiary training, particularly in the field of civil engineering, may be better suited to a more specialised learner programme. In other words the skills programme must reflect a degree of flexibility to cater for the different levels of competencies the selected learners will have and a single programme suitable for all learners should not be considered.

All training shall take place within normal working hours, or as agreed with the trainees.

(ii) Targeted learnerships

C3.85

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

The essential SAQA learnership criteria that must be applied by the training provider are given below for the sake of providing sufficient detail for the contractor to understand the Employer's requirements:

- minimum credits for qualification;
- fundamental unit standards and credit values;
- core unit standards and credit values;
- elective units standards and credit values;
- assumption that NQF level 3 language, computer and mathematical competencies exist;
- RPL processes;
- exit level outcomes;

Notwithstanding the appearance of the above criteria in the contract document, they are not exhaustive and the training provider must apply the systems and processes provided by the relevant SAQA and other related legislation pertinent to training. The training provider shall constantly consult the SAQA website ([www.saqa.org.za](http://www.saqa.org.za)) page to ensure that the most current unit standard is used. In the event of any conflict, the legislated requirements shall apply.

Before qualifying, the learners will be expected to demonstrate competence in a practical situation that integrates the assessment of all specific outcomes, for all unit standards in the learnership programme.

When considering learnerships and skills programmes the training provider shall distinguish between levels of learning required. NQF level 5 training is not anticipated but may be applicable for some members of existing small contractors' staff. The main training focuses on NQF levels 4 and 3. The former level is for the qualification title National Certificate: Supervision of Construction Processes, and is the prerequisite qualification for NQF level 5, National Diploma: Management of Civil Engineering Construction Processes. The NQF level 3 qualification title is National Certificate: Construction Roadworks.

It may be necessary to include additional core unit standards (e.g. "tendering" as an additional unit standard for NQF level 4) in order to achieve project development objectives and identification of any additional unit standards shall be discussed with the engineer and cannot be implemented without prior approval.

(iii) Learning material

Learning material is required for each unit standard. This learning material is like prescribed books for other qualifications. It is a requirement for all the learners to receive a copy, to learn the contents, and also to serve as a reference source after qualification.

The SAQA unit standards define the content of the learning material. The learning material must not only comply with the SAQA and CETA guidelines but must, and most importantly, be technically and practically aligned to road construction or road maintenance. Any input from a subject matter expert required to ensure the appropriateness of a particular unit standard subject is to be included in the training provider's costs.

The requirements to be addressed in learning material as outlined by the SAQA unit standard are, amongst others, the following:

- The purpose of the unit standard;
- Each of the specific outcomes (normally 4 per unit standard);
- Each of the assessment criteria (normally 4 per specific outcome);
- The range as is defined for each specific outcome;
- The critical cross-field outcomes for the unit standard;
- The unit standard essential embedded knowledge.

(iv) Student experiential training

The Employer may provide students to the contractor to provide experiential training. The contractor is required to provide experiential training to the university or university of technology undergraduate students in accordance with the academic institution requirements.

The contractor shall also provide the students with all the tools (including appropriate information technology hardware and software) and space necessary to carry out engineering work as if they were the contractor's own permanent staff

C3.86

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Reporting on training progress of each student shall be compiled according to the formats and intervals set be the relevant academic institution.

(e) Training facilities

The Contractor shall be responsible for the provision of everything necessary for the delivery of the various training workshops and modules including:

A suitable venue with sufficient furniture, lighting and power

All necessary stationery consumables and study material

Transport for attendants

Before commencing with any structured training the Contractor shall submit his intended programme to the engineer for approval of its subject content and proposed trainers, and the Contractor shall, if so instructed by the engineer, alter or amend the programme and/or course content.

(f) Generic skills training

Generic skills shall be taught where the need for these has been identified as being necessary.

In this regard the contractor shall make representation to the engineer, who shall approve candidates that should attend such courses as thought appropriate. Those selected shall receive formal generic skills training in a programmed and progressive manner. The PLC and/or the engineer may also identify a need for generic skills training.

Typical training programmes could comprise some or all of the following modules:

- Basic hygiene and HIV/AIDS awareness
- Road safety
- Basic management of the environment
- Tourism awareness and opportunities
- Managing personal finance

(g) Keeping of records

The training provider shall keep comprehensive records of the training given to each trainee and ensure that trainees' successful completion of successive unit standards are entered onto the national database. With successful completion of generic skills courses each trainee shall be issued with a certificate indicating the course contents as proof of attendance and completion. The contractor shall keep a register of certificates issued in this regard. Whenever required, the contractor shall provide copies of such records to the engineer.

## **D1005 LABOUR ENHANCED CONSTRUCTION**

The Contractor's attention is drawn to the fact that it is an objective of the contract to maximise the labour content of certain operations or portions thereof. In this regard, where the specified work allows for a choice between mechanical or labour-enhanced means, the former should generally be kept to the practical minimum.

Before commencing with any labour enhanced operations the Contractor shall discuss his intentions with the engineer, and shall submit to the engineer on a monthly basis, daily labour returns indicating the numbers of temporary personnel employed on the works and the activities on which they were engaged.

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

C3.8.2 Particular specifications

**PART OF ROAD WORKS TO BE SUB-CONTRACTED**

**PS A SUB-CONTRACTING OF WORK**

Nominated sub-contractors will be proposed by the client pending a sub-contractor tender phase. No additional sub-contracting will be allowed after tender closure.

After appointment the contractor will need to supply the client with an agreement/contract between the contractor and sub-contractor. The agreement will solely be between the contractor and sub-contractor. Disputes will be mediated by the engineer and conditions of contract will be based on GCC 2015. Non-performance of sub-contractor to be communicated to the engineer timeously to ensure quick dispute resolution.

Contractor to price this item as a handling fee on sub-contracted rates for management of sub-contracted works.

## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)**

<b>C4      SITE INFORMATION</b>
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**Locality plan**

The proposed area's Longitude (E): 29°05'53.22" and Latitude (S): 25°52'42.67" for the start of the proposed road.

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



C4.2

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2





C4.3

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## EMALAHLENI LOCAL MUNICIPALITY



**TENDER NO: ELM 46/2023**

### **CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (PHASE 1)**

<b>C5      RELEVANT DOCUMENTATION</b>
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The following documents are attached hereto and form part of the Contract:

- (i) Annexure A - Health and Safety Specifications
- (ii) Annexure B - Pro-forma agreement in terms of Occupational Health and Safety Act
- (iii) Annexure C - Notification of construction work
- (iv) Annexure D - Pro-forma contract between contractor and worker
- (v) Annexure E - Pro-forma attendance register
- (vi) Annexure F - Contract person days calculation format
- (vii) Annexure G - Contractor's monthly report format

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2



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# **ANNEXURE A**

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## **Health and Safety Specifications**

# HEALTH AND SAFETY SPECIFICATIONS

## 1. OH&S MANAGEMENT

Structure and Organization of OH&S Responsibilities

### 1.1.1. Overall Supervision and Responsibility for OH&S

The Client is to ensure that the Principal Contractor, appointed in terms of Construction Regulation 4(1)(c), implements and maintains the agreed and approved OH&S Plan.

The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the Act is to ensure that the Employer (as defined in the Act) complies with the Act. Annexure 2 - "Legal Compliance Audit" may be used for this purpose.

Any OH&S Act (85 /1993), Section 16 (2) appointee/s as detailed in his/her respective appointment forms.

The Construction Supervisor and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 6.

Further (Specific) Supervision Responsibilities for OH&S

#### **Appointments required by the Act and Regulations:**

- OH&S Representatives (Sections 17/18 of the Act)
- OH&S Committees (Sections 19/20 of the Act)
- Risk Assessor (Construction Regulation. 7(1))
- Accident/Incident Investigations Co-ordinator (General Administrative Regulation 9 (2))
- Form/Support work Supervisor (Construction Regulation 10(a))
- Batch Plant Supervisor (Construction Regulation 18(1))
- Stacking & Storage Supervisor (Construction Regulation 26(a))
- Fire Equipment Inspector (Construction Regulation 27(h))
- Electrical Installations, Machinery & Appliances Inspector (Construction Regulation 22)
- Excavations Supervisor (Construction Regulation 11(1))
- Demolition Supervisor (Construction Regulation 12(1))
- OH & S Officer (where necessary) (Construction Regulation 6(6))
- Person Responsible for Machinery (General Machinery Regulation 2)
- Emergency, Security and Fire Co-ordinator (Construction Regulation 27(h) & Environmental Regulation 9)
- Fire Equipment Inspector (Construction Regulation 27(h) Environmental Regulation 9)
- First Aider (General Safety Regulation 3(2))
- Hazardous Chemical Substances Supervisor (HCS Regulations)
- Ladders Inspector (General Safety Regulation 13A)
- Lifting Equipment Inspector (Construction Regulation 20)
- Operators & Drivers of Construction Plant & Vehicles (Construction Regulation 21 (i))
- Structures Supervisor (Construction Regulation 9)
- Users Operators of Construction Equipment (Construction Regulation 21(i))
- Welding Supervisor (General Safety Regulation 9)
- Communication and Liaison

OH&S liaison between the Client, the Principal Contractor, the other Contractors, the Consulting Engineer and other concerned parties will be through the OH&S Committee as in 3.10.

In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S Committee and their elected Trade Union Representatives, if any.

The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and the Consulting Engineer,

instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

### **1.3. OH & S File**

The Principal Contractor must, in terms of Construction Regulation 5 (7), keep a health and safety file on site at all times that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done.

#### **The following documents must be kept in the OH & S file:**

- 1) Notification of Construction Work (Construction Regulation 3.)
- 2) Copy of OH&S Act (updated) (General Administrative Regulation 4.)
- 3) Proof of Registration and good standing with a COID Insurer (Construction Regulation 4 (g))
- 4) Copy of health and safety plan (construction regulation 5 (1))
- 5) OH&S Programme agreed with Client including the underpinning Risk Assessment and Method Statements (Construction regulation 5 (1))
- 6) Designs/drawings (Construction Regulation 5 (8))
- 7) A list of Contractors (Subcontractors) including copies of the agreements between the parties and the type of work being done by each contractor (Construction Regulation 9)
- 8) Appointment / Designation forms as per 3.1.1. and 3.1.2. above.

#### **Registers as follows:**

- Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
- OH & S Representatives Inspection Register
- Form/Support work Inspection
- Excavations Inspection
- Lifting Equipment
- Demolition Inspections
- Designer's Inspection of Structures Record
- Batch Plant Inspections
- Arc & Gas Welding & Flame Cutting Equipment Inspections
- Construction Vehicles & Mobile Plant Inspections
- Electrical Installation and Machinery Inspections
- Fire Equipment Inspection & Maintenance
- First Aid
- Hazardous Chemical Substances
- Lifting Tackle and Equipment Inspections
- Inspection of Cranes
- Inspection of Ladders
- Inspection of Vessels under Pressure
- Machinery Inspections
- Drivers/Operators of Mobile Plant/Construction Vehicles Daily Inspections

The Principal Contractor will be required to submit the abovementioned registers monthly to the chairperson of the OH&S Committee for endorsement.

The Health & Safety File must be handed over to the Client on completion of the contract. It must contain all the documentation handed to the Principal Contractor by any subcontractors together with a record of all drawings, designs, materials used and other similar information concerning the completed project.

### **1.4. OH & S Goals and Objectives and Arrangements for Monitoring and Review of OH&S Performance**

The Principal Contractor is required to maintain a Compensation Incidence Frequency Rate (CIFR) of at least 8 (Refer Annexure 3 - "Measuring Injury Experience") and to report on this to the Client on a monthly basis.

Identification of Hazards and Development of Risk Assessments, Standard Working Procedures (SWP) and Method Statements

The Principal Contractor is required to develop Risk Assessments, Standard Working Procedures (SWP) and Method Statements for each activity executed in the contract or project (Refer to Section 4. below "Project/Site Specific Requirements")

Arrangements for Monitoring and Review

Monthly Audit by Client

The Client will be conducting a Monthly Audit to comply with Construction Regulation 4 (1) (d) to ensure that the Principal Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

Other Audits and Inspections by Client

The Client reserves the right to conduct other ad hoc audits and inspections as deemed necessary.

A representative of the Principal Contractor must accompany the Client on all Audits and Inspections and may conduct his/her own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results.

### **1.6.3 Reports**

The Principal Contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 4: "SHE Risk Management Report"

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious
- loses a limb or part of a limb

is injured or becomes ill to such a degree that he/she is likely either to die, or to suffer a permanent physical defect, or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

**or where:**

- a major incident occurred
- the health or safety of any person was endangered
- where a dangerous substance was spilled
- the uncontrolled release of any substance under pressure took place
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- machinery ran out of control

To the Provincial Director of the Department of Labour within seven days. (Section 24 of the General Administrative Regulation 8.). The Principal Contractor is required to provide the Client with copies of all statutory reports required in terms of the Act.

The Principal Contractor is required to provide the Client with copies of all internal and external accident/incident investigation reports including the reports contemplated in 3.9. below.

### **1.6.4 Review**

The Principal Contractor is to review the Hazard Identification, Risk Assessments and SWP's at each two weekly site inspection/meeting as the construction work develops and progresses and each time that changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client, other Contractors and all other concerned parties with copies of any changes, alterations or amendments.

Site Rules and Other Restrictions

Site OH&S Rules

The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the OH&S aspects of the construction.

### **1.7.2. Security and Emergency Arrangements**

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period.

Access control must include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of security rules and procedures and maintain these throughout the construction period.

The Principal Contractor must appoint a competent Emergency Controller who must develop emergency contingency plans for any emergency that may arise on site as indicated by the risk assessments. These must include a monthly practice/testing programme for the plans e.g. January: trench collapse, February: flooding etc. and practiced/tested with all persons on site at the time, participating.

## **1.8 Training**

The contents and syllabi of all training required by the Act and Regulations must be included in the Principal Contractor's OH&S Plan.

General Induction Training

All employees of the Principal and other Contractors to be in possession of proof of General Induction Training

Site Specific Induction Training

All employees of the Principal and other Contractors to be in possession of Site Specific OH&S Induction Training.

Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment to be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations to be in possession of valid proof of training.

### **OH&S TRAINING REQUIREMENTS: (AS REQUIRED BY THE CONSTRUCTION REGULATIONS AND AS INDICATED BY THE OH&S SPECIFICATION AND THE RISK ASSESSMENT/S):**

- General Induction (Section 8 of the Act)
- Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
- Site/Project Manager
- Construction Supervisor
- OH&S Representatives (Section 18 (3) of the Act)
- Training of the Appointees indicated in 3.1.1. & 3.1.2. above
- Operation of Cranes (Driven Machinery Regulations 18 (11))
- Operators and Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
- Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction regulation 27)
- Basic First Aid (General Safety Regulations 3)
- Storekeeping Methods & Safe Stacking (Construction Regulation 26)
- Emergency, Security and Fire Co-ordinator

## **1.9. Accident and Incident Investigation**

The Principal Contractor is responsible for the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she had to be referred for medical treatment by a doctor, hospital or clinic. (General Administrative Regulation 9).

The results of the investigation to be entered into the Accident/Incident Register. (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

### **OH & S Representatives and Committees**

#### **Designation of OH&S Representatives**

Where the Principal Contractor employs more than 20 persons (including the employees of other contractors (sub-contractors) he has to appoint one OH&S Representative for every 50 employees or part thereof. General Administrative Regulation 6 requires that the appointment or election and subsequent designation of the OH&S Representative is executed in consultation with Employee Representatives or Employees. (Section 17 of the Act and General Administrative Regulation 6. & 7.)

OH & S Representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

#### **Duties and Functions of the OH&S Representatives**

The Principal Contractor must ensure that the designated OH&S Representatives conduct a minimum monthly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor.

OH & S representatives must be included in accident/incident investigations.

OH & S representatives must attend all OH&S committee meetings.

### **1.10.3. Appointment of OH&S Committee**

The Principal Contractor must establish an OH & S Committee consisting of all the designated OH&S Representatives together with a number of management representatives (this number is not to exceed the number of OH&S representatives on the committee) and a representative of the Client who shall act as the chairperson without a vote. The members of the OH&S committee must be appointed in writing.

#### **THE OH&S COMMITTEE MUST MEET MINIMUM MONTHLY AND CONSIDER, AT LEAST, THE FOLLOWING AGENDA:**

- 1) Opening and welcome
- 2) Present/Apologies/Absent
- 3) Minutes of previous meeting
- 4) Matters arising from the previous minutes
- 5) OH&S Representatives Reports
- 6) Incident Reports & Investigations
- 7) Incident /Injury statistics
- 8) Other matters
- 9) Endorsement of Registers and the statutory documents by a representative of the Principal Contractor
- 10) Close/Next Meeting

## **PROJECT / SITE SPECIFIC REQUIREMENTS**

The following is a list of specific activities and considerations that have been identified for the project and the construction site and for which Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) have to be developed by the Principal Contractor:

Clearing & Grubbing of the Area/Site

### **SITE ESTABLISHMENT INCLUDING:**

- Office/s
- Secure/safe storage for materials, plant & equipment
- Ablutions
- Sheltered eating area
- Maintenance workshop
- Vehicle access to the site
- Dealing with existing structures (NB: the existing pipeline is also a structure.)
- Location of existing services
- Installation and maintenance of temporary construction electrical supply, lighting and equipment
- Adjacent land uses/surrounding property exposures
- Boundary and access control/Public Liability Exposures (NB: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)

### **HEALTH RISKS ARISING FROM NEIGHBOURING AS WELL AS OWN ACTIVITIES AND FROM THE ENVIRONMENT E.G. THREATS BY DOGS, BEES, SNAKES, LIGHTNING ETC.**

- Exposure to noise
- Exposure to vibration
- Protection against dehydration and heat exhaustion
- Protection from wet & cold conditions
- Dealing with HIV/Aids and other diseases
- Use of Portable Electrical Equipment including
- Angle grinder
- Electrical drilling machine
- Skill saw
- Excavations including
- Ground/soil conditions
- Trenching
- Shoring
- Drainage of trench
- Welding including
- Arc Welding
- Gas welding
- Flame cutting
- Use of LP gas torches and appliances
- Loading & offloading of trucks
- Aggregate/sand and other materials delivery
- Manual and mechanical handling
- Lifting and lowering operations
- Driving & operation of construction vehicles and mobile plant including
- Trenching machine
- Excavator
- Bomag roller
- Plate compactor
- Front end loader
- Mobile cranes and the ancillary lifting tackle
- Parking of vehicles & mobile plant
- Towing of vehicles & mobile plant
- Use and storage of flammable liquids and other hazardous substances

- Layering and bedding of trench floor
- Installation of pipes in trench
- Pressure testing of pipeline
- Installing heat shrink joint sleeves
- Backfilling of trench
- Protection against flooding
- Gabion work
- Use of explosives
- Protection from overhead power lines
- As discovered by the Principal Contractor's hazard identification exercise
- As discovered from any inspections and audits conducted by the Client or by the Principal Contractor or any other Contractor on site
- As discovered from any accident/incident investigation.

**Annexure 1:** Safety Agreement

**Annexure 2:** Construction Occupational Health – Safety – Environment Audit System

**Annexure 3:** Guidelines for the development of a Health and Safety Plan.

**Annexure 4:** Guide to Risk Assessment



## **ANNEXURE 1**

**EMALAHLENI LOCAL MUNICIPALITY**

**TENDER NO: ELM 46/2023**

**CONSTRUCTION OF STORMWATER WORKS FOR INTERNAL ROADS IN EMPUMELELWENI (Phase 1)**

### **SAFETY AGREEMENT**

**MEMORANDUM OF AGREEMENT CONCLUDED BY AND BETWEEN:  
EMALAHLENI LOCAL MUNICIPALITY  
(HEREINAFTER REFERRED TO AS THE CLIENT)**

herein represented by \_\_\_\_\_  
in his capacity as \_\_\_\_\_  
of the Client, he being duly authorized thereto  
and

\_\_\_\_\_  
(hereinafter referred to as the Mandatory)  
herein represented by \_\_\_\_\_  
in his capacity as \_\_\_\_\_  
of the Mandatory, he being duly authorized thereto

#### **WHEREAS:**

The Client and the mandatory entered into a written, alternatively oral agreement on the.....Day of  
.....20..... in terms of which the Mandatory undertook to carry out the  
following work for the client , viz. (give a short description of the type of contract work to be done as well as  
the address where work will be done)

\_\_\_\_\_  
\_\_\_\_\_

(The said contract work is hereinafter referred to as the **Work**)

The Occupational Health and Safety Act, Act 85 of 1993 as amended (hereinafter referred to as **the Act**) contains amongst others certain provisions with regard to the health and safety of people at work and in connection with the usage of plant and machinery, as well as the protection of other persons than persons at work against hazards to health and safety that originates from or in connection with the activities of persons at work.

Section 37(2) of the Act makes provision for the exclusion by the parties, by way of a written agreement, of supposition and accompanying liability of the Client as stipulated in section 37(1) of the Act.

The parties have reached consensus with regard to the terms and conditions to which they agree in terms of the provisions of section 37(2) of the Act.

## **NOW THEREFOR THE PARTIES AGREE AS FOLLOWS**

### **1. WRITTEN AGREEMENT**

The parties herewith agree in terms of section 37(2) of the Act on the arrangements and procedures that must be followed to ensure compliance with the provisions of the Act by the Mandatory.

### **2. ACKNOWLEDGEMENT BY THE MANDATARY**

The mandatory acknowledge herewith that he is fully acquainted with the contents of the Act, as well as with all regulations and SABS codes of practice that have been made in terms of section 43 of the Act.

### **3. UNDERTAKING BY MANDATARY**

- (a) The Mandatory hereby undertakes and binds himself to the Client to ensure prompt and strict compliance with the provisions of the Act and the said regulations as well as with the provisions included in this Safety Agreement at all times during the execution of the Works
- (b) It is hereby recorded that the provisions of this Safety Agreement as set out hereinafter are in no way intended to restrict the duties of the Mandatory, nor to exempt the Mandatory from his obligation in accordance with the Act and the said regulations

### **4. PERSONAL PROTECTIVE EQUIPMENT**

- (a) It is compulsory to wear equipment for eye protection when working in an eye protection zone or where the Work requires eye protection.
- (b) It is compulsory to wear safety helmets when working in a safety helmet zone or where the Work requires safety helmets.
- (c) It is compulsory to wear hearing protection when working in a noise zone or where the Work requires hearing protection.
- (d) The wearing of other protective clothing and equipment as prescribed by the Occupational Health and Safety Officer of the Client is compulsory.
- (e) The Mandatory shall ensure that the statutory requirements are complied with at all times.

### **5. FENCING AND GENERAL MACHINERY PROTECTION**

No shield or fencing may be removed from or be moved at any machinery or installation without written permission.

### **6. SCAFFOLDING, LADDERS, TOOLS, ET CETERA**

The Mandatory without the written permission of the Client may use no equipment or tools that belong to the Client.

Except where agreed before hand the Mandatory shall provide enough tools and equipment to enable him to complete the Works and the Mandatory shall provide all storerooms, offices and eating halls that he may need. The Mandatory will be responsible for all his material on site.

In special case where the Client may lend equipment, tools or materials to the Mandatory, the Mandatory will use such equipment, tools and/or materials at his own risk and the Mandatory herewith indemnifies the Client against any liability of whichever nature or from any cause whatsoever, whether direct or indirect, that may arise from such usage.

### **7. SERVICES AND WORKING METHODS**

The written permission of the Chief Executive/Town Clerk of the Client shall be obtained where any work which must be undertaken by the Mandatory is connected with a working process or machinery or any other service in connection therewith, or may possibly affect it, before he commences with such work.

Approval shall be obtained from the City Electrical Engineer of the Client before any equipment is connected to the electrical supply of the Client. All equipment shall be isolated before any equipment is connected to the electrical supply of the Client.

It shall be isolated and be provided with earth leakage protection. Electrical machinery, portable electrical tools and portable lights must comply with the requirements of the applicable regulations.

Work permits must be issued in terms of the Occupational Health and Safety Act and Regulations when the nature of the work requires it. Permits must be issued by the relevant departmental head where necessary.

## **8. EXCAVATIONS**

Written permission for excavations shall be obtained from the City Engineer of the Client and the Mandatory shall make sure of the existence and position of electrical cables, discharge pipes, gas lines, water conduits, et cetera before he commences with any excavation work.

All excavations and obstructions and/or any openings in platforms or floors shall be enclosed in a safe way and warning notices shall be erected to ensure absolute safety. An adequate number of red or orange caution lights shall be provided when it is dark or should bad light prevail.

The area surrounding excavations shall be kept in a safe, orderly and tidy condition. No walkways or workplaces.

Nobody may enter into any restricted area in which hazardous fumes or a shortage of oxygen exists without a permit giving permission to do so, issued by the head of the relevant department of the Client and until it has been certified safe for entrance by the Occupational Health and Safety Officer and the Health Inspector of the Client.

## **9. RESTRICTION TO WORKPLACE**

Employees of the Mandatory shall be restricted to their workplaces except when they have to leave their area for work purposes or when they visit toilets.

## **10. SUBCONTRACTORS**

The Mandatory shall ensure that all subcontractors receive a copy of this safety agreement and must ensure they comply with it.

## **11. OCCUPATIONAL HEALTH AND SAFETY OFFICER AND THE REPORTING OF ALL ACCIDENTS**

The Occupational Health and Safety Officer of the Client is available for consultation and he will make periodical visits to the workplace of the Mandatory. Any hazardous occurrence or incident to the employees of the Mandatory that results in absence from work for a period longer than three days shall be reported in writing to the Occupational Health and Safety Officer of the Client within forty eight hours as well as to the Department of Labour as specified by the Act. Every user, employer, occupier, builder or excavator must, under this Act, keep record of all accidents that occur.

In the case of an accident that results in loss of life, nobody may disturb the scene of the accident or any articles involved in the accident prior to the arrival of the Occupational Health and Safety Officer and the Inspector, unless it is to prevent another accident from happening or the prevention of loss of life or to remove corpses.

The Occupational Health and Safety Officer will issue contravention notices to the Mandatory or a sub contractor when there is a non compliance and will specify the time in which it must be rectified.

The Occupational Health and Safety Officer will issue work stop notices to the Mandatory or sub contractor whenever he is of the opinion that the health and safety of any person at work is threatened or that the contravention notices are not adhered to.

## **12. FIRST AID**

Where five or more persons are employed at a workplace, the Mandatory shall provide and maintain an adequately equipped first-aid box that meets the following requirements:

- (a) Every first-aid box shall contain the minimum contents as prescribed by the Occupational Health and Safety Act.
- (b) Nothing except articles and equipment required for first-aid purposes may be kept in the first-aid box.
- (c) Each first-aid box shall be kept in a place readily accessible in case of an accident.  
All first-aid boxes shall be placed under control of a responsible person except where five or less persons are at work. The responsible person must be in the possession of a valid first-aid certificate issued by one of the following organizations:

- A South-African Red Cross Society**
- B St. John's Ambulance Foundation**
- C South-African First-Aid League**

A notice indicating where the first-aid box is kept as well as the name of the person in charge shall be affixed in a conspicuous place. The first-aid facilities of the Client may be used during emergencies.

## **13. FIRE PREVENTION MEASURES AND STORAGE OF FLAMMABLE MATERIAL**

The Fire department of the Client shall be notified before any welding, oxyacetylene welding, cutting, burning of paint or tar from floors or roofs is undertaken so that the necessary fire prevention measures can be arranged. All "NO SMOKING AND OPEN SURFACE FIRES/LIGHTS PROHIBITED" notices shall be adhered to. The Mandatory and his senior employee shall acquaint themselves and their fellow workers with the fire prevention measures of the Client, which will also include fire alarm notices and exits in case of fire, and they shall ensure that these rules are strictly complied with.

## **14. COMPLETION OF WORK**

Before the mandatory or his sub-contractors leaves the site they shall inform the Head of the relevant Department of the Client and obtain his/her written approval that the work has been completed satisfactory and that the site of the work is left in a good condition.

## **15. SALVAGED MATERIAL AND EQUIPMENT**

Any building demolished or equipment or materials that are salvaged whilst carrying out the work shall remain the property of the Client, unless the contract specifically provides otherwise.

## **16. BREAKING OF THESE RULES AND POOR CONDUCT**

The Mandatory is warned that no behaviour that causes danger to their own employees, to the employees of the Client or general public will be tolerated. The Occupational Health and Safety Officer of the Client reserves the right of the withdrawal of any employees of the Mandatory or Client from the premises in the case of any default or breach of the agreement and to order that the completion of the work be stayed, pending compliance with this agreement; alternatively to cancel the agreement referred to in par.2 in which event the Client will be entitled to appoint an alternative contractor to complete the work and recover the costs thereof from the mandatory, without prejudice to any alternative or additional right or action or remedy to the Client, to recover from the mandatory damages for the default or breach and the cancellation.

The senior employees of the Mandatory shall sign a note of acknowledgement of this safety agreement to certify that they have received the regulations as included herein and that they understand the regulations

## **17. INTOXICATION**

Nobody that is in a state of intoxication or that is in any other condition that causes or may cause his/her incapability to control him/herself or persons under his control may and shall not be permitted on the premises of the Client. The Occupational Health and Safety Officer of the Client reserves the right to the withdrawal of any employees of the Mandatory or Client from the premises in the case of any transgression of this nature.

## **18. CONFIDENTIALLY**

The Mandatory shall at all times treat data and information that have been made known to him or that he requires in connection with his work from the Client as confidential and he may not make unauthorized use thereof. He must also ensure that such data and information are not communicated to anybody else that is not an employee of the Mandatory without obtaining prior written approval from the Client and he must further ensure that such persons do in fact know that the said information is confidential and that they are obliged to treat it as such.

The Mandatory shall provide for adequate physical protection for any confidential documents, sketches, et cetera that he receives from the Client in connection with the work as well as for any copies thereof that he makes. He shall hand back all documents sketches and copies thereof to the Client upon completion of the work, or earlier, if so requested by the Client. The Mandatory shall inform the Client immediately should any such documents or sketches become lost.

## **19. INDEMNIFICATION BY THE MANDATORY**

The following conditions will be applicable to the Mandatory:

- (a) The Mandatory is liable and herewith indemnifies the Client irrevocably and in full against any claim for loss or damage to property or arising from death or injury of any person and any associated loss or damage suffered, and against all lawsuits, claims, demands, costs, expenses, and charges that may arise when the said occurrences are caused on purpose or through the negligence, violation of legal obligations or failure by the Mandatory or its employees.
- (b) Whenever any of the employees of the Client is busy with work to, or with the supply of material that will be used during the execution of the work by the Mandatory, or otherwise busy with work under the instruction and supervision of the Mandatory, in as far as they may be negligent or fail to do there duty, they will be regarded as employees of the mandatory
- (c) All installations, equipment, hoisting-apparatus and other implements, scaffolding, ladders, material, et cetera that are borrowed from the Client by the Mandatory for usage during the execution of the work, will be used entirely at the risk of the Mandatory or employees of the Mandatory and the Mandatory herewith indemnifies the Client irrevocably and in full against any liability that may arise from such usage.

## **20. AMENDMENTS MUST BE IN WRITING**

The parties agree herewith that this safety agreement is the only safety agreement between them and that no amendment thereof will be valid unless it is in writing and signed by both parties.

## **20. JURISDICTION AND LEGAL COSTS**

In the event of any legal action being instituted pertaining to the this agreement the party in default or breach will be liable for the other party's legal costs on the scale as between attorney and own client and the parties consent to the jurisdiction of the magistrate's court for purpose of any legal action being instituted.

## PARTICULARS OF THE MANDATORY

Name (Mandatory) \_\_\_\_\_

C.E.O. (Section 16(1)) \_\_\_\_\_

ID NO. : \_\_\_\_\_

Designation: \_\_\_\_\_

Name of Business \_\_\_\_\_

Address of Business :

\_\_\_\_\_  
\_\_\_\_\_

Tel number (h) \_\_\_\_\_ (w) \_\_\_\_\_ e-mail \_\_\_\_\_

Number of employees employed \_\_\_\_\_

Registration number as allocated to the Mandatory by the Workman's Compensation

Commissioner \_\_\_\_\_

Date allocated \_\_\_\_\_

Thus done and signed on this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_

As witnesses:

\_\_\_\_\_ (Signature) \_\_\_\_\_ (Name in print)

\_\_\_\_\_ (Signature) \_\_\_\_\_ (Name in print)

\_\_\_\_\_ (Signature) \_\_\_\_\_ (Name in print)

**THE MANDATORY**

Thus done and signed on this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_

As witnesses

\_\_\_\_\_ (Signature) \_\_\_\_\_ (Name in print)

\_\_\_\_\_ (Signature) \_\_\_\_\_ (Name in print)

\_\_\_\_\_ (Signature) \_\_\_\_\_ (Name in print)

**THE CLIENT**

Acknowledgement of receipt of the agreement:

\_\_\_\_\_  
**THE MANDATORY**

## **ANNEXURE 2**

### **CONSTRUCTION OCCUPATIONAL HEALTH - SAFETY - ENVIRONMENT AUDIT SYSTEM**

(Based on the New Construction Regulations)

*\* Denotes items applicable to both Construction sites and Contractors Plant/Storage*

#### **1. ADMINISTRATIVE & LEGAL REQUIREMENTS**

<b>Section/Regulation</b>	<b>Subject</b>	<b>Requirements</b>	<b>Yes/No</b>
Construction. Regulation 3	Notice of carrying out Construction work	Department of Labour notified Copy of Notice available on Site	
General Admin. Regulation 3	*Copy of OH&S Act (Act 85 of 1993)	Updated copy of Act & Regulations on site Readily available for perusal by employees	
COID Act Section 80	*Registration with Compels. Insurer	Written proof of registration / Letter of good standing available on Site	
Construction. Regulation 4 & 5(1)	OH&S Specification & Plan	OH&S Specification received from Client OH&S plan developed Updated regularly	
Section 8(2)(d) and Construction. Regulation 6	*Hazard Identification & Risk Assessment	Hazard Identification carried out/Recorded Risk Assessment and Plan drawn up/Updated Risk Assessment Plan available on Site Employees/Subcontractors informed/trained	
Section 16(2)	*Assigned duties (Managers)	Responsibility of complying with the OH&S Act assigned to other person/s by CEO.	
Construction. Regulation 5(2)	Designation of Person Responsible on Site	Competent person appointed in writing as Construction Supervisor	
Construction. Regulation 5(5)(a)	Designation of Subordinate Person	Competent person appointed in writing as Sub-ordinate Construction Supervisor	
Section 17 & 18	*Designation of Occupational Health & Safety Representatives	More than 20 employees - one OH&S Representative, one additional OH&S Rep. for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified. Meaningful OH&S Rep. reports. Reports actioned by Management.	
Section 19 & 20	*Occupational Health & Safety Committee/s	OH&S Committee/s established. Members appointed in writing. Meetings held monthly. Minutes kept. Actioned by Management.	

<b>Section/Regulation</b>	<b>Subject</b>	<b>Requirements</b>	<b>Yes/No</b>
Section 37	*Agreement with Mandatories (Sub-Contractors)	Written agreement with Subcontractors. List of Subcontractors displayed.  Proof of Registration with Compensation Insurer/Letter of Good Standing Construction Work Supervisor designated Written arrangements concerning OH&S Reps & OH&S Committee Written arrangements regarding First Aid	
Construction. Regulation 7	Fall Prevention & Protection	Competent person appointed to draw up and supervise the Fall Protection Plan Proof of appointees competence available on Site Risk Assessment carried out for work at heights Fall Protection Plan drawn up/updated Available on Site	
Construction. Regulation 8	Roofwork	Competent person appointed to plan & supervise Roofwork. Proof of appointees competence available on Site Risk Assessment carried out Roofwork Plan drawn up/updated Roofwork inspect before each shift. Inspection register kept Employees medically examined for physical & psychological fitness. Written proof available	
Construction. Regulation 9	Structures	Information re. the structure being erected received from the Designer including: - geo-science technical report where relevant - the design loading of the structure - the methods & sequence of construction - anticipated dangers/hazards/special Measures to construct safely Risk Assessment carried out Method statement drawn up All above available on Site Structures inspected before each shift. Inspections register kept	
Construction. Regulation 10	Formwork & Support work	Competent person appointed in writing to supervise erection, maintenance, use and dismantling of Support & Formwork Design drawings available on site Risk Assessment carried out Support & Formwork inspected: - before use/inspection - before pouring of concrete - weekly whilst in place - before stripping/dismantling. Inspection register kept	



Section/Regulation	Subject	Requirements	Yes/No
Construction. Regulation 11	Scaffolding	Competent persons appointed in writing to: - erect scaffolding (Scaffold Erector/s) - act as Scaffold Team Leaders - inspect Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Written Proof of Competence of above appointees available on Site Copy of SABS 085 available on Site Risk Assessment carried out Inspected weekly/after bad weather. Inspection register/s kept	
Construction. Regulation 12	Suspended Scaffolding	Competent persons appointed in writing to: - erect Susp.scaffolding (Scaffold Erector/s) - act as Susp.Scaffold Team Leaders - inspect Susp.Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Risk Assessment conducted Certificate of Authorization issued by a registered professional engineer available on Site/copy forwarded to the Department of Labour The following inspections of the whole installation carried out by a competent person - after erection and before use - daily prior to use. Inspection register kept The following tests to be conducted by a competent person: - load test of whole installation and working parts every 12 months - hoisting ropes/hooks/load attaching devices quarterly. Tests log book kept Employees working on Susp.Scaffold medically examined for physical & psychological fitness. Written proof available	
Construction. Regulation 13	Excavations	Competent person/s appointed in writing to supervise and inspect excavation work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out Inspected: - before every shift - after any blasting - after an unexpected fall of ground - after any substantial damage to the shoring - after rain. Inspections register kept Method statement developed where explosives will be/ are used	
Constructions . Regulation 14	Demolition Work	Competent person/s appointed in writing to supervise and control Demolition work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out Engineering survey and Method Statement available on Site Inspections to prevent premature collapse carried out by competent person before each shift.	

Section/Regulation	Subject	Requirements	Yes/No
		Inspection register kept	
Construction. Regulation 16	Materials Hoist	Competent person appointed in writing to inspect the Material Hoist Written Proof of Competence of above appointee available on Site. Materials Hoist to be inspected weekly by a competent person. Inspections register kept.	
Construction. Regulation 17	Caissons & Cofferdams	Competent person appointed in writing to supervise, control & inspect the construction, installation/dismantling of caissons/coffer dams Written Proof of Competence of above appointee available on Site Risk Assessment carried out To be inspected daily by a competent person. Inspections register kept	
Construction. Regulation 18	Explosive Powered Tools	Competent person appointed to control the issue of the Explosive Powered Tools & cartridges and the service, maintenance and cleaning. Register kept of above Empty cartridge cases/nails/fixing bolts returns recorded Cleaned daily after use	
Construction. Regulation 19	Batch Plants	Competent person appointed to control the operation of the Batch Plant and the service, maintenance and cleaning. Register kept of above Risk Assessment carried out Batch Plant to be inspected weekly by a competent person. Inspections register kept	
Construction. Regulation 20/ Mine Health & Safety Act (29 of 1996)	Tunneling	Complying with Mines Health & Safety Act (29 of 1996) Risk Assessment carried out	
Construction. Regulation 21/ Driven Machinery Regulations 18 & 19	Cranes & Lifting Machines Equipment	Competent person appointed in writing to inspect Cranes, Lifting Machines & Equipment Written Proof of Competence of above appointee available on Site. Cranes & Lifting tackle identified/numbered Register kept for Lifting Tackle Log Book kept for each individual Crane Inspection: - All cranes - <b>daily by operator</b> - Tower Crane/s – <b>after erection/6monthly</b> - Other cranes – <b>annually by comp. person</b> - Lifting tackle(slings/ropes/chain slings etc.) - <b>3 monthly</b> Risk Assessment carried out	
Construction. Regulation 22/Electrical Machinery Regulations 9 &	*Inspection & Maintenance of Electrical Installation & Equipment (including portable electrical tools)	Competent person appointed in writing to inspect/test the installation and equipment. Written Proof of Competence of above appointee available on Site. Inspections:	

Section/Regulation	Subject	Requirements	Yes/No
10/Electrical Installation Regulations		- Electrical Installation & equipment inspected after installation, after alterations and quarterly. Inspection Registers kept Portable electric tools and -lights and extension leads identified/numbered. Monthly visual inspection by User/Issuer/Storeman. Register kept.	
Construction. Regulation 2 Diving Regulations	Water Environments	Competent person appointed in writing to supervise diving operations and ensure maintenance, statutory inspection and testing by an Approved Inspection Authority of equipment used Written Proof of Competence of above appointee available on Site Proof of registration of all divers present on site available Risk Assessment carried out Diving Manual produced. Available on Site Record of Voice Communications kept Diving Operations record kept Each Diver keeps a personal logbook. Entries countersigned by the Diving Supervisor Decompression tables available on Site Records of any Decompression illness kept Certificate of Manufacture of any Compression Chamber or Diving Bell in use available on Site	
Construction. Regulation 30/ General Safety Regulation 8(1)(a)	*Designation of Stacking & Storage Supervisor.	Competent Person/s with specific knowledge and experience designated to supervise all Stacking & Storage Written Proof of Competence of above appointee available on Site	
Construction. Regulation 31/ Environmental Regulation 9	*Designation of a Person to  Co-ordinate Emergency Planning  And Fire Protection	Person/s with specific knowledge and experience designated to co-ordinate emergency contingency planning and execution and fire prevention measures Emergency Evacuation Plan developed: - Drilled/Practiced - Plan & Records of Drills/Practices available on Site Fire Risk Assessment carried out All Fire Extinguishing Equipment identified and on register. Inspected weekly. Inspection Register kept Serviced annually	
Construction. Regulation 32/ General Safety Regulation 3	*First Aid	Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed) First Aid freely available Equipment as per the list in the OH&S Act. One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed) List of First Aiders and Certificates	

Section/Regulation	Subject	Requirements	Yes/No
		Name of person/s in charge of First Aid box/es displayed. Location of F/Aid box/es clearly indicated. Signs instructing employees to report all Injuries/illness including first aid injuries	
Construction. Regulation 33/ General Safety Regulation 2	Personal Safety Equipment (PSE)	PSE Risk Assessment carried out Items of PSE prescribed/use enforced Records of Issue kept Undertaking by Employee to use/wear PSE	
Construction. Regulation 34/ General Safety Regulation 9	*Inspection & Use of Welding/Flame Cutting Equipment	Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment Written Proof of Competence of above appointee available on Site Equipment identified/numbered and entered into a register Equipment inspected monthly. Inspection Register kept	
Construction. Regulation 35/ Hazardous Chemical Substances (HCS)	*Control of Storage & Usage of HCS	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of <b>HCS</b> Written Proof of Competence of above appointee available on Site Risk Assessment carried out Register of HCS kept/used on Site	
Construction. Regulation 36/Vessels under Pressure Regulations	Vessels under Pressure (VUP)	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections & testing of VUP's Written Proof of Competence of above appointee available on Site Risk Assessment carried out Certificates of Manufacture available on Site Register of VUP's on Site Inspections & Testing by Approved Inspection Authority (AIA): <ul style="list-style-type: none"> <li>- after installation/re-erection or repairs</li> <li>- every 36 months.</li> <li>- Register/Log kept of inspections, tests. Modifications &amp; repair</li> </ul>	
Construction. Regulation 37	Construction Vehicles & Earth Moving Equipment	Operators/Drivers appointed to: <ul style="list-style-type: none"> <li>- Carry out a daily inspection prior to use</li> <li>- Drive the vehicle/plant that he/she is competent to operate/drive</li> </ul> Written Proof of Competence of above appointee available on Site Record of Daily inspections kept	
Construction. Regulation 38/	*Inspection of Ladders	Competent person appointed in writing to inspect Ladders	

<b>Section/Regulation</b>	<b><i>Subject</i></b>	<b><i>Requirements</i></b>	<b><i>Yes/No</i></b>
General Safety Regulation 13D		Ladders inspected at arrival on site and monthly there after . Inspections register kept	
Construction. Regulation 39/ General Safety regulation 13B	Ramps	Competent person appointed in writing to Supervise the erection & inspection of Ramps. Inspection register kept.	

## **ANNEXURE 2**

### **GUIDELINES FOR THE DEVELOPMENT OF A HEALTH & SAFETY PLAN**

#### **1. PROJECT BACKGROUND**

In terms of the Construction Regulations [Regulation 4 (1) (a)] of the Occupational Health and Safety Act, No 85 of 1993, the Client is required to compile an Occupational Health and Safety specification for each of its projects and the Principle Contractor, appointed by the Client in terms of Regulation 4 (1) (c), is required to prepare an Occupational Health and Safety Plan. This plan has to be prepared in terms of Regulation 5 (1) as well as the Client's Occupational Health & Safety Specification. In terms of Regulation 4 (2), the Client and the Principle Contractor are required to agree on the Occupational Health and Safety Plan before any work may commence.

#### **2. FRAMEWORK FOR AN OCCUPATIONAL HEALTH AND SAFETY PLAN**

##### **2.1 INTRODUCTION**

The Principal Contractor has to demonstrate to the Client that he has a suitable and sufficiently documented Occupational Health and Safety Plan as well as the necessary competencies, experience and resources to perform the construction work safely. The Principle Contractor could be required to submit the following documentation for perusal and verification by the Client:

- *Management Structure*
- *Quality Plan*
- *Human Resources Plan*
- *Registered Workplace Skills Plan*
- *“Letter of good standing” from the Compensation Commissioner or licensed compensation insurer.*
- *Proof of induction and other training of employees*
- *Example copy minutes of previous Occupational Health and Safety Committee meetings and copies of Incident Investigation Reports*

##### **2.2 CONTENTS OF AN OCCUPATIONAL HEALTH AND SAFETY PLAN**

###### **2.2.1 Occupational Health and Safety Management Programme**

- Management of Occupational Health and Safety risks
- Occupational Health and Safety structures and appointments
- Programme of Occupational Health and Safety inspections
- Occupational Health and Safety Representatives
- Occupational Health and Safety committee

###### **2.2.2 Communication and Management of the Work**

- Management structure and responsibilities
- Occupational Health and Safety goals for the project and arrangements for monitoring and review of Occupational Health and Safety performance.
- **Arrangements for:**
  - Regular liaison between parties on site
  - Consultation with the workforce
  - The exchange of design information between the Client, engineer, supervisors and contractors on site

- Handling design changes during the project
- Selection and control of contractors
- The exchange of Occupational Health and Safety information between all contractors
- Security
- Site induction and onsite training
- Facilities and first-aid
- The reporting and investigation of accidents and incidents
- The production and approval of risk assessments and method statements
- Site OH&S rules
- Fire and emergency procedures
- Reporting to the Client i.e. results of Occupational Health and Safety inspections, incident and incident investigations and committee meetings
- Reporting of incidents to the Department of Labour and Compensation insurer where appropriate

### **2.2.3 Arrangements for controlling significant site risks**

The following are some examples of the arrangements for controlling the most significant site risks:

- **SAFETY RISKS**
  - Services, including temporary electrical installations
  - Preventing employees from falling into excavations, from trucks etc.
  - Work with, on or near fragile materials
  - Control of lifting operations
  - The maintenance of plant and equipment
  - Poor ground conditions
  - Traffic routes and segregation of vehicles and pedestrians
  - Storage of hazardous materials
  - Dealing with existing unstable structures/land
  - Accommodating adjacent land use
  - Other significant safety risks as and when identified
- **HEALTH RISKS**
  - Storage and use of hazardous chemical substances
  - Dealing with contaminated land or material
  - Manual handling
  - Reducing noise and vibration
  - Provision of adequate lighting
  - Ventilation considerations
  - Extreme heat and cold temperature considerations
  - Dealing with HIV/Aids and other illnesses
  - Provision of and maintaining ablution and eating facilities
  - Other significant health risks as and when identified

### **2.2.4 Preparation of an Occupational Health and Safety Operational Reference File/Manual**

**THE FOLLOWING ARE SOME OF THE REQUIREMENTS TO BE ADDRESSED:**

- Layout, format and content requirements
- Arrangement for the collection and gathering of information
- Storage and archiving of all the information
- Copy to the Client at completion of project

**SUGGESTED CONTENTS OF AN OH&S FILE/MANUAL**

- OH&S Policy
- Notice of new project
- Site start-up
- Security measures
- Written designations & appointments
- Arrangements with contractors/mandatories
- OH&S rules and procedures
- Induction
- OH&S training
- OH&S promotion
- OH&S representatives
- OH&S committees
- Workplace facilities e.g. ablutions, sheltered eating areas etc.
- Protective equipment
- Workplace inspections and audits
- Investigation & reporting of incidents/accidents
- Mechanical safeguarding
- Electrical safeguarding
- Safeguarding against hazardous substances
- Lifting machinery & equipment
- Construction vehicles & mobile plant
- Welding, heating & flame cutting
- Excavations
- Protection of the environment affected by construction activities
- Keeping of records in terms of the OH&S Act (85 of 1993)



## ANNEXURE 3

### GUIDE TO RISK ASSESSMENT

#### 1. HOW TO DO IT?

#### 2. STEPS TO EFFECTIVE RISK ASSESSMENT

- Step 1 : Identifying the hazards
- Step 2 : Aim to identify major hazards, don't waste time on the minor & detail
- Step 3 : Involve as many people as possible in the process especially those at risk
- Step 4 : Gather all the information and analyze it
- Step 5 : Look at what actually occurs including non-routine operations
- Step 6 : Use a systematic approach to ensure all hazards are adequately addressed
- Step 7 : Assess the risks arising taking into account the effectiveness of controls
- Step 8 : Ensure the process is practical and realistic
- Step 9 : Always record the assessment in writing including assumptions and why

#### 3. HOW SERIOUS IS IT?

##### PROBABILITY

- A Common
- B Has Happened
- C Could Happen
- D Not Likely
- E Practically impossible

##### CONSEQUENCES

- 1 Fatality or permanent disability
- 2 Major injury
- 3 Average Lost Time Injury
- 4 Minor Injury
- 5 Medical Treatment or less

		PROBABILITY				
		A	B	C	D	E
C O N S E Q U E N C E S	1	1	2	3	4	5
	2	2	3	4	5	6
	3	3	4	5	6	7
	4	4	5	6	7	8
	5	5	6	7	8	9

Risk Rating:	1 – 3 =	Serious	<b>ACTION</b>
	4 - 5 =	High	Immediate (within 1 week)
	6 – 7 =	Moderate	Within 1 month
	8 – 9 =	Acceptable	> 4 weeks
			No action

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## **ANNEXURE B**

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**Pro-forma agreement in terms of Occupational Health and Safety Act**

**PRO-FORMA AGREEMENT IN TERMS OF**

**OCCUPATIONAL HEALTH AND SAFETY ACT 1993 – SECTION 37 (2)**

**NEW CONSTRUCTION SAFETY REGULATIONS**

The above-mentioned regulations were promulgated in the Govt. Gazette on Friday, 18 July 2003 under the Occupational Health & Safety Act (85 of 1993) and are now in force.

The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act 1993 (Act 85 of 1993, hereinafter referred to as the Act), that the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the Act, namely:

- (a) The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all the relevant provisions of the Act and the regulations promulgated in terms of the Act, and the Employer's Health and Safety Specifications included in the contract documents.
- (b) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations and the Employer's Health and Safety Specifications included in the contract documents will be complied with in all respects.
- (c) In relation to any work or activity performed by the Contractor, his workmen or any other person for whose acts or omissions the Contractor is responsible in terms of the Contract, the Contractor hereby accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from itself being obliged to comply with any of the aforesaid duties, obligations and prohibitions.
- (d) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the Contractor has complied with his undertakings as set out more fully in paragraphs (a) and (b) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or to inspect any appropriate records held by the Contractor.
- (e) The Contractor shall be obliged to report forthwith in writing to the Representative/Agent full details of any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this Contract.
- (f) Forward "safety meeting" minutes to the representative/Agent.

For the Employer: \_\_\_\_\_

Date: \_\_\_\_\_

Witnesses: 1) : \_\_\_\_\_

2) \_\_\_\_\_

For the Contractor: \_\_\_\_\_

Date: \_\_\_\_\_

Witnesses: 1) : \_\_\_\_\_

2) \_\_\_\_\_

---

## **ANNEXURE C**

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**Notification of construction work**

## **NOTIFICATION OF CONSTRUCTION WORK**

(Regulation 3 of the Construction Regulations, 2003)

### **1. CONTRACTOR**

1.1 Name and postal address of Contractor :

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1.2 Name and telephone number of Contractor's contact person :

---

1.3 Contractor's compensation registration number :

---

1.4 Name and telephone number of Contractor's Construction Supervisor :

---

1.5 Physical address of the construction site or site office:

---

---

---

1.5 Estimated number of persons on the construction site :

---

1.6 Estimated number of Subcontractors on the construction site accountable to the Contractor :

---

### **2. EMPLOYER**

2.1 Name and postal address of Employer :

---

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2.2 Name and telephone number of Employer's Principal

Agent:\_\_\_\_\_

### **3. DESIGN CONSULTANTS**

3.1 Name and postal address of design consultants:

3.1.1 Construction project managers:

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3.1.2 Architects:

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3.1.3 Structural engineer :

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3.1.4 Electrical engineer:

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3.1.5 Mechanical engineer :

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3.1.6 Civil engineer :

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3.1.7 Security engineer

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3.1.8 Other (if any) :

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3.2 Name and telephone number of design consultant's contact person :

3.2.1 Construction project managers :

---

3.2.2 Architects :

---

3.2.3 Structural engineer :

---

3.2.4 Electrical engineer :

---

3.2.5 Mechanical engineer :

---

3.2.6 Civil engineer :

---

3.2.7 Security engineer :

---

3.2.8 Other (if any) :

---



#### 4. THE WORKS

Nature of the works :

---

---

---

Commencement date :

---

Completion date :

---

Contractor: \_\_\_\_\_ Date: \_\_\_\_\_

Employer: \_\_\_\_\_ Date: \_\_\_\_\_

THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR **PRIOR TO COMMENCEMENT** OF WORK ON SITE.

ALL CONTRACTORS THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER CONTRACTOR ON THE SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK.

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## **ANNEXURE D**

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**Pro-forma Contract between Contractor and Worker**

## SPECIAL PUBLIC WORKS PROGRAMMES

### CONTRACT OF EMPLOYMENT BETWEEN

#### CONTRACTOR

Name:

Address:

ID:

AND

#### WORKER

Name:

Details

ID:

I am pleased to confirm that you have been appointed to work on a task based employment contract within a Special Public Works Programme (SPWP) project. Within this contract you will undertake numerous groups of tasks.

This contract must be read in conjunction with the standard terms and conditions of employment on SPWP attached.

The project where you will be employed is located at .....

The contract will start on .....

You must be aware that this contract is a limited term contract and not a permanent job. The contract may be terminated for one of the following reasons:

- a) If the contractor does not get additional contracts from the SPWP.
- b) Funding for the programme in your area comes to an end.
- c) You repeatedly do not perform in terms of the tasks set out in your work programme.

6 You will be employed as a ..... within the team.

7 While you are working you will report to .....

8 Payment

- a) You will be paid a fixed amount of R..... for completing a fixed amount of work .
- b) The amount of work required for the agreed rate of pay will vary from task to task. You will be informed at the beginning of each task or group of tasks how much work you are expected to complete per day.
- c) You will only be paid for work completed.
- d) You will be paid the amount for the number of days quoted in the contract even if you finish the work before the time or after the estimated date of completion.
- e) A contractor must pay you the production bonus (the extra days if the work is finished early) if you have completed your share of tasks.
- f) The contractor will be paid within 30 days after the work is completed. You will be paid within 5 days of the contractor being paid.

9 In addition to the conditions above all the terms and conditions of employment on SPWP apply to your employment. If you breach any of these terms your contract may be terminated.

10 Signatures:

Signed on this day ..... of ..... 20.....

Contractor: ..... Date: .....

Worker: ..... Date. ....

Witness: ..... Date: .....

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## **ANNEXURE E**

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### **Pro-forma Attendance Register**

EXPANDED PUBLIC WORKS PROGRAMME - POVERTY RELIEF PROJECT

CONTRACTOR'S PERSON-DAYS, TRAINING AND ATTENDANCE REGISTER

PARK:		MONTH:	
PROJECT:		CONTRACTOR:	

[illegible]

CODE	CATEGORY
W = WORKING (PAID)	SC = SUPERVISOR / CONTRACTOR
I = ABSENT INJURED / SICK	SW = SKILLED WORKER
X = ABSENT / SENT HOME (UNPAID)	SS = SEMI SKILLED
T = OFF-SITE TRAINING (PAID 100%)	CL = CLERICAL
	UL = UNSKILLED LABOURER

CONTRACTOR	SIGNATURE	DATE
PROJECT MANAGER	SIGNATURE	DATE



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## **ANNEXURE F**

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**Contractor's monthly report format**



## CONTRACTOR'S MONTHLY REPORT

### Part 1

Tender number:	46/2023
Project name:	Construction of Stormwater works for Internal roads in Empumelelweni (Phase 1)
Project description:	Construction of Stormwater works for Internal roads in Empumelelweni (Phase 1)
Contract number:	46/2023
Name of Contractor:	
Payment certificate number:	
For month ending:	
Date of report:	

***The Contractor's monthly report comprises an integral part of the Contractor's payment certificate and must be submitted together with the payment claim. The payment certificate will not be processed without this signed report, i.e. "NO REPORT – NO PAYMENT".***

Attachments:

Part 2: Overall Project Worker Schedule: Schedule of all local labourers employed since the start of the project

Part 3: Weekly Task Wage Register

Part 4: Local Labour Schedule

## Part 2

### OVERALL PROJECT WORKER SCHEDULE (local labourers only)

Sheet: ...

Names of all **Local Workers** employed **at any time on the project** are to be entered in the table below irrespective of how long they worked on the project.

No.	Name of local worker	Identity number	Month worker started	Age of worker	Age (tick applicable column)			
					Woman		Man	
					Over 35 years  2A	35 years & under 2B	Over 35 years 2C	35 years & under 2D
Totals for this sheet								
Totals brought forward from previous sheet								
Totals carried forward to next sheet								

Total number of workers employed =

**Completed by:**

*signed*

*initials and surname*

*capacity*

*date*

Part 3

WEEKLY TASK WAGE REGISTER (local labourers only)

Sheet: ..

Entries in this portion to be completed by Foreman									Entries in this portion to be Completed by Contractor				
No.		Day Tasks Worked							Payment				
		Mo n	Tue	Wed	Th u	Fri	Sat	Su n	Total DAY TASKS worked this week	Rate per DAY TASK	Total payment due to worker	Workers signature on receipt of payment	Date payment received by worker
Totals for this sheet													
Totals brought forward from previous sheet													
Totals carried forward to next sheet													

3(A)

3(B)

Completed by:

.....  
signed

.....  
initials and surname

.....  
capacity

.....  
date

## Part 4

### LOCAL LABOUR AND SUPPLIER SCHEDULE

#### 1. Summary of day tasks worked and amount spent on local labour this month

Week No.	Week Ending	Total Day Tasks / Person Days Worked <i>Total of 3(A) from Part 3 for each week</i>	Total Amount Paid <i>Total of 3(B) from Part 3 for each week</i>
1			
2			
3			
4			
5			
Total this month			

#### 2. Summary of amount spent on local labour to date

1. Previous amount spent on local labour (from previous claim)	R
2. Amount spent on local labour this month (from total above)	R
3. Total amount spent on local labour to date (3) = (1+2)	R

#### 3. Local labour schedule

Summary of Local Labour Employed <i>Refer to Part 2</i>	Number of local workers who worked on the project to date	% of Total
1. Total number of <b>individual local workers</b> who have worked on the project		100%
2. Number of <b>local youth</b> (35 yrs and under) (columns B plus D)		
3. Number of <b>local women</b> (columns A plus B)		

**4. Summary of amount spent on local suppliers to date**

<b>1. Previous amount spent on local suppliers (from previous claim)</b>	R
<b>2. Amount spent on local suppliers this month (from total above)</b>	R
<b>3. Total amount spent on local suppliers to date (3) = (1+2)</b>	R

**Completed by:**

.....  
*Signed*

.....  
*initials and surname*

.....  
.....  
*Capacity*

*date*



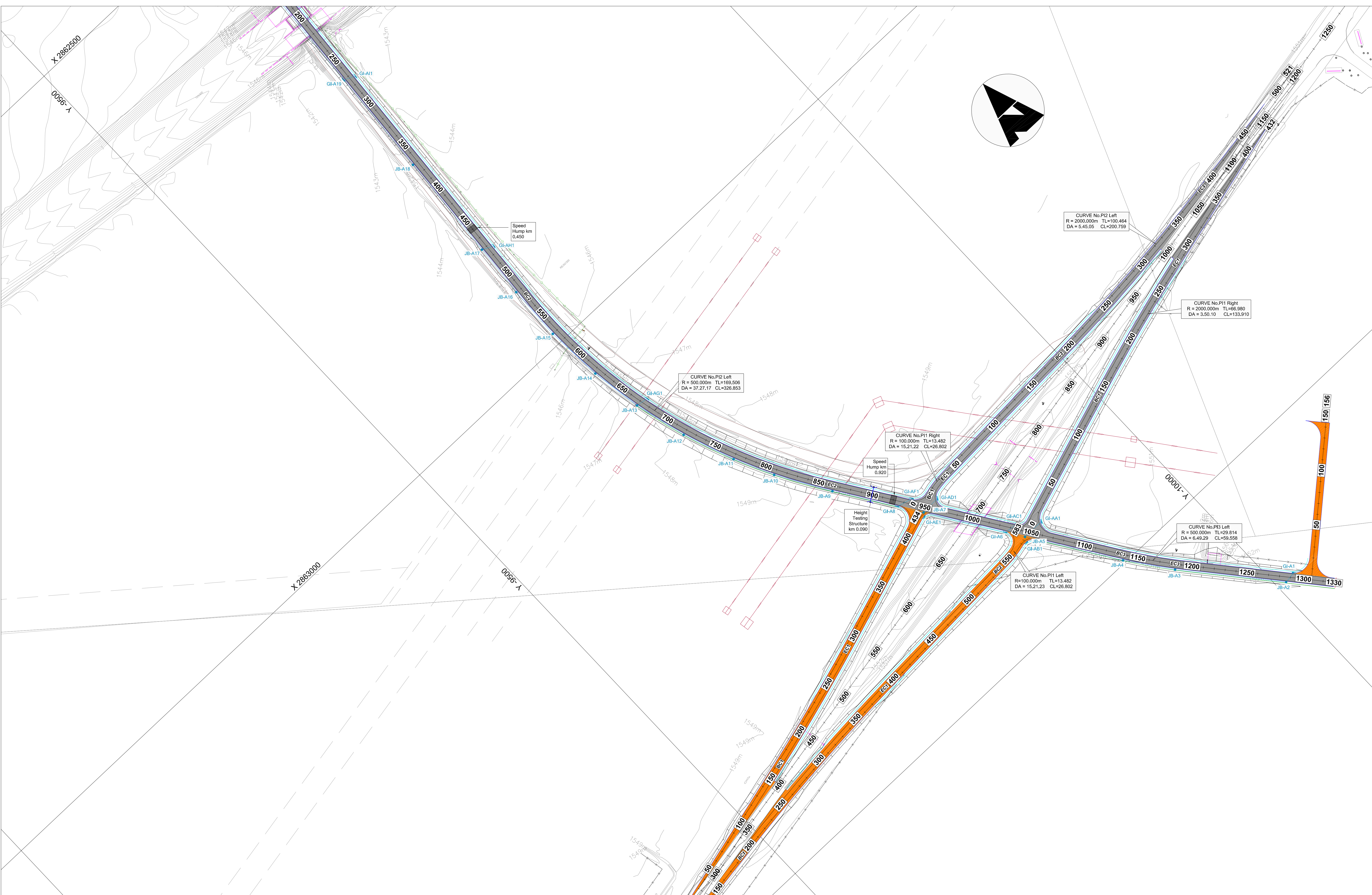
Access Road				
Position	SV(m)	Y-Coord	X-Coord	R(m)
Start	-115	-9793.147	2862320.731	0.000
	-100	-9787.504	2862334.629	
	0	-9749.887	2862427.284	
BCC1	65.458	-9725.264	2862487.934	
PI1	96.820	-9713.369	2862517.233	200.000
	100	-9715.092	2862520.900	
ECC1	128.182	-9711.093	2862548.773	
	200	-9705.924	2862620.404	
	300	-9698.727	2862720.145	
	400	-9691.529	2862819.886	
	500	-9684.332	2862919.626	
BCC2	528.467	-9682.283	2862948.020	
	600	-9682.246	2863019.492	
PI2	681.894	-9670.082	2863117.087	500.000
	700	-9699.238	2863117.869	
	800	-9735.435	2863210.909	
ECC2	855.320	-9763.212	2863258.717	
	900	-9787.760	2863296.049	
	1000	-9842.702	2863379.604	
	1100	-9897.644	2863463.159	
BCC3	1134.512	-9916.606	2863491.995	
PI3	1164.291	-9932.986	2863516.906	500.000
ECC3	1194.070	-9952.211	2863539.694	
	1200	-9956.034	2863544.227	
	1300	-10020.516	2863620.660	
PI4	1330.547	-10040.213	2863644.008	
Link RD				
Position	SV(m)	Y-Coord	X-Coord	R(m)
Start	0	-10028.863	2863268.183	0.000
	100	-10101.862	2863562.038	
*End	156.324	-10144.104	2863524.783	
Ramp A				
Position	SV(m)	Y-Coord	X-Coord	R(m)
Start	0	-9397.398	2863457.033	0.000
	100	-9494.217	2863432.010	
BCC1	161.447	-9553.709	2863416.635	
	200	-9590.940	2863406.629	
PI1	228.405	-9618.561	2863399.874	2000.000
ECC1	295.363	-9682.146	2863378.812	
	300	-9686.548	2863377.354	
	400	-9781.476	2863345.909	
*End	433.796	-9813.558	2863335.282	
Ramp B				
Position	SV(m)	Y-Coord	X-Coord	R(m)
Start	0	-9813.558	2863335.282	0.000
BCC1	8.545	-9821.669	2863332.595	
PI1	21.946	-9834.467	2863328.356	100.000
ECC1	35.347	-9847.930	2863327.657	
	100	-9912.497	2863324.306	
BCC2	185.988	-9998.369	2863319.850	
	200	-10012.360	2863319.075	
PI2	286.368	-10098.698	2863314.643	2000.000
	300	-10111.998	2863310.700	
ECC2	386.747	-10198.000	2863299.408	
	400	-10211.100	2863297.399	
	500	-10309.943	2863282.234	
*End	520.814	-10330.516	2863279.078	
Ramp C				
Position	SV(m)	Y-Coord	X-Coord	R(m)
Start	0	-9868.500	2863418.837	0.000
	100	-9963.428	2863387.392	
BCC1	145.995	-10007.089	2863372.930	
	200	-10058.578	2863356.642	
PI1	212.950	-10070.672	2863351.868	2000.000
ECC1	279.905	-10135.521	2863335.108	
	300	-10154.977	2863330.080	
	400	-10251.796	2863305.057	
*End	432.243	-10283.012	2863296.989	
Ramp D				
Position	SV(m)	Y-Coord	X-Coord	R(m)
Start	0	-9290.521	2863484.943	0.000
	100	-9389.369	2863468.906	
BCC1	193.318	-9481.611	2863454.781	
	200	-9488.218	2863453.781	
PI1	293.415	-9580.637	2863439.617	2000.000
	300	-9587.444	2863441.453	
ECC1	393.512	-9680.683	2863434.425	
	400	-9687.163	2863434.089	
	500	-9787.028	2863428.906	
BCC2	547.162	-9834.127	2863426.461	
PI2	560.563	-9847.591	2863425.763	100.000
ECC2	573.964	-9860.388	2863421.524	
*End	582.509	-9868.500	2863418.837	

Stormwater Schedule											
Name	Y-Coord	X-Coord	Cover	Inlet	Depth	Length	Slope	Type	Size		
GI-A1	-10024.594	2863606.736	1551.848	1549.898	1.950	16.544	0.822 %	100D Concrete	600 mm		
JB-A2	-10008.181	2863608.817	1551.220	1549.762	1.458	97.767	1.409 %	50D Concrete	600 mm		
JB-A3	-9944.800	2863534.378	1550.434	1548.384	2.050	48.307	1.350 %	50D Concrete	600 mm		
JB-A4	-9914.573	2863496.696	1550.939	1547.732	3.207	88.316	1.251 %	50D Concrete	600 mm		
JB-A5	-9865.400	2863423.336	1548.179	1546.627	1.552	22.163	0.726 %	100D Concrete	750 mm		
GI-A6	-9853.241	2863404.806	1547.936	1546.466	1.470	74.188	0.900 %	50D Concrete	750 mm		
JB-A7	-9812.748	2863342.644	1547.541	1545.798	1.743	27.494	0.789 %	100D Concrete	900 mm		
GI-A8	-9797.338	2863319.874	1547.729	1545.581	2.148	60.536	0.871 %	50D Concrete	900 mm		
JB-A9	-9763.956	2863269.374	1548.545	1545.054	3.491	55.209	0.869 %	50D Concrete	900 mm		
JB-A10	-9735.495	2863222.066	1548.898	1544.574	4.324	39.764	0.878 %	50D Concrete	900 mm		
JB-A11	-9718.333	2863186.196	1548.422	1544.225	4.197	50.762	0.877 %	50D Concrete	900 mm		
JB-A12	-9700.166	2863138.796	1547.631	1543.780	3.851	50.428	0.876 %	50D Concrete	900 mm		
GI-A13	-9687.374	2863090.017	1546.273	1543.338	2.935	47.943	0.876 %	50D Concrete	900 mm		
JB-A14	-9679.399	2863042.742	1544.836	1542.918	1.918	53.235	0.877 %	50D Concrete	900 mm		
JB-A15	-9676.085	2862989.610	1543.646	1542.451	1.195	50.566	0.876 %	50D Concrete	900 mm		
JB-A16	-9677.935	2862939.078	1543.061	1542.008	1.053	50.009	0.878 %	50D Concrete	900 mm		
GI-A17	-9681.576	2862889.202	1542.359	1541.569	0.790	99.990	0.877 %	50D Concrete	900 mm		
JB-A18	-9688.723	2862789.468	1541.170	1540.692	0.478	100.166	0.870 %	50D Concrete	900 mm		
GI-A19	-9695.928	2862689.561	1540.178	1539.821	0.357	99.834	0.800 %	50D Concrete	1050 mm		
JB-A20	-9703.056	2862589.982	1539.801	1539.022	0.779	49.997	0.800 %	50D Concrete	1050 mm		
JB-A21	-9707.044	2862540.144	1540.968	1538.622	2.346	35.538	0.799 %	50D Concrete	1050 mm		
JB-A22	-9713.620	2862505.220	1540.443	1538.338	2.105	56.793	0.799 %	50D Concrete	1050 mm		
GI-A23	-9734.371	2862452.354	1539.707	1537.884	1.823	13.353	1.198 %	50D Concrete	1200 mm		
GI-A24	-9729.178	2862440.052	1539.754	1537.724	2.030	120.018	1.256 %	50D Concrete	1200 mm		
JB-A25	-9628.540	2862374.659	1538.290	1536.217	2.073	119.996	1.693 %	50D Concrete	1200 mm		
JB-A26	-9527.525	2862309.891	1536.500	1534.186	2.314	63.058	1.881 %	50D Concrete	1200 mm		
GI-A27	-9475.703	2862273.963	1535.200	1533.000	2.200	55.471	1.803 %	50D Concrete	1200 mm		
GI-A28	-9435.247	2862236.011	1533.800	1532.000	1.800	146.823	1.975 %	50D Concrete	1200 mm		
KI-A29	-9375.122	2862102.063	1530.900	1529.100	1.800	48.149	1.869 %	50D Concrete	1200 mm		
JB-A30	-9362.503	2862055.597	1530.000	1528.200	1.800	144.815	1.899 %	50D Concrete	1200 mm		
JB-A31	-9345.974	2861911.728	1527.350	1525.450	1.900	226.779	2.095 %	50D Concrete	1200 mm		
JB-A32	-9320.468	2861686.388	1522.500	1520.700	1.800	11.605	3.447 %	50D Concrete	1200 mm		
JB-A33	-9310.123	2861681.129	1522.100	1520.300	1.800	93.213	1.846 %	50D Concrete	1200 mm		
JB-A34	-9217.594	2861692.398	1520.379	1518.579	1.800	129.222	4.936 %	50D Concrete	1200 mm		
JB-A35	-9089.060	2861705.710	1514.000	1512.200	1.800	75.629	4.958 %	50D Concrete	1200 mm		
JB-A36	-9022.500	2861741.620	1509.250	1508.450	0.800	17.246	1.142 %	100D Concrete	600 mm		
GI-AA1	-9882.564	2863425.020	1549.424	1546.824	2.600	17.246	1.142 %	100D Concrete	600 mm		
JB-A5	-9865.400	2863423.336	1548.179	1546.627	1.552						
GI-AB1	-9863.917	2863425.956	1549.810	1546.660	3.150						
JB-A5	-9865.400	2863423.336	1548.179	1546.627	1.552						
GI-AC1	-9867.191	2863406.812	1548.071	1546.571	1.500	14.093	0.745 %	100D Concrete	600 mm		
GI-A6	-9853.241	2863404.806	1547.936	1546.466	1.470						
GI-AD1	-9827.736	2863344.609	1548.629	1546.057	2.572						
JB-A7	-9812.748	2863342.644	1547.541	1545.798	1.743						
GI-AE1	-9811.670	2863344.648	1548.324	1545.874	2.450	2.276	3.339 %	100D Concrete	600 mm		
JB-A7	-9812.748	2863342.644	1547.541	1545.798	1.743						
GI-AF1	-9812.145	2863324.197	1547.442	1545.692	1.750						
GI-A8	-9797.338	2863319.874	1547.729	1545.581	2.148						
GI-AG1	-9697.893	2863091.597	1545.158	1543.408	1.750	15.425	0.720 %	100D Concrete	600 mm		
GI-A13	-9687.374	2863090.017	1546.273	1543.338	2.935						
GI-AH1	-9691.170	2862893.767	1544.356	1541.765	2.591						
GI-A17	-9681.576	2862889.202	1542.359	1541.569	0.790						
GI-AI1	-9705.637	2862694.262	1541.486	1539.961	1.525	10.787	1.298 %	100D Concrete	600 mm		
GI-A19	-9695.928	2862689.561	1540.178	1539.821	0.357						
GI-AJ1	-9741.508	2862461.360	1539.741	1538.241	1.500						
GI-A23	-9734.371	2862452.354	1539.707	1537.884	1.823						





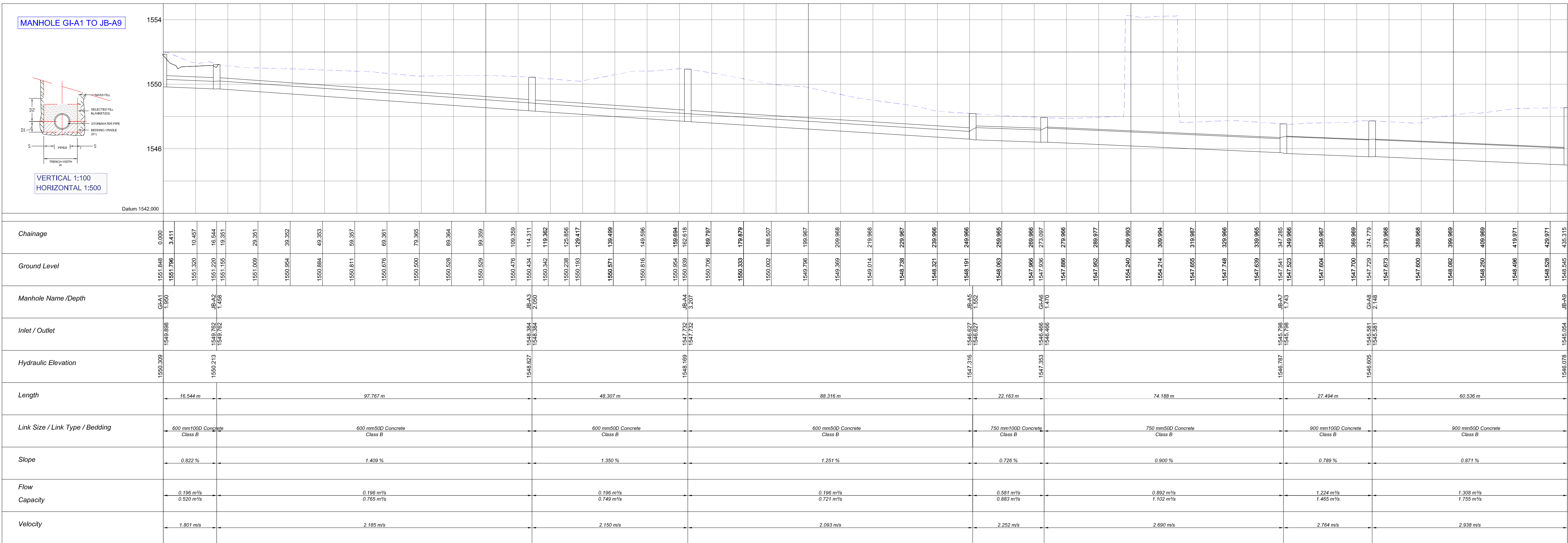
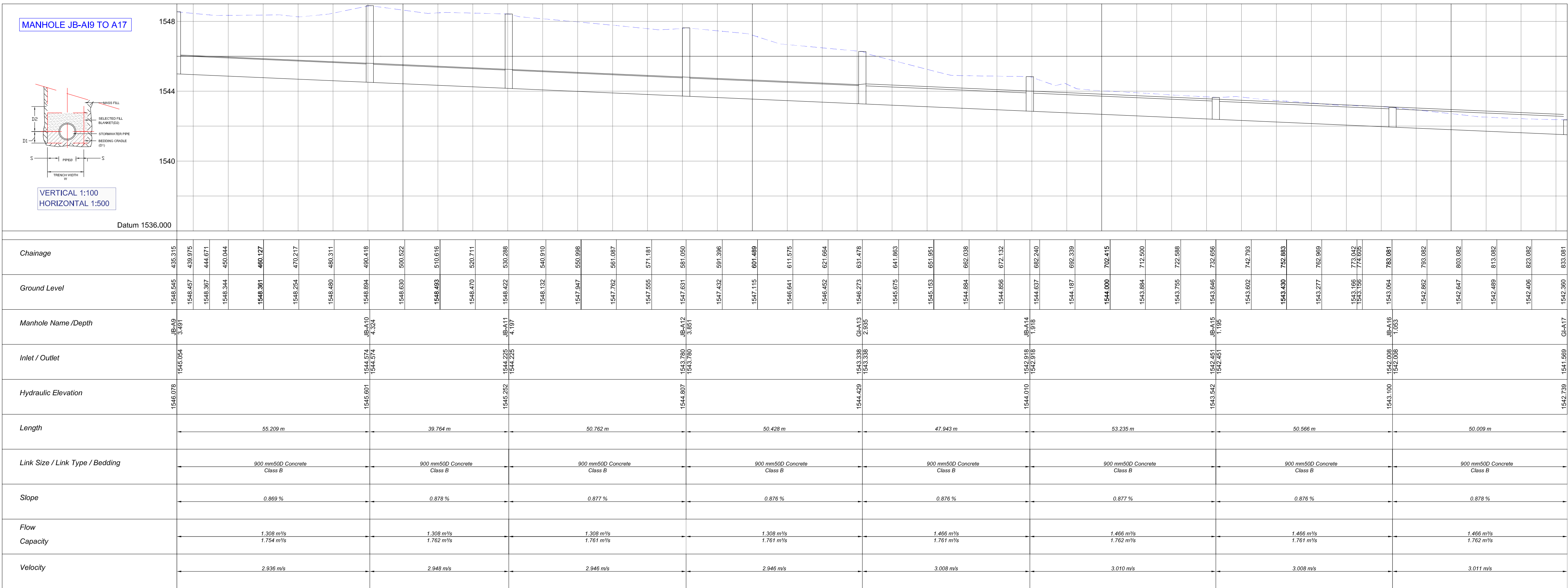




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PROJECT TITLE:

R104 INTERSECTION

DRAWING TITLE:

STORMWATER LONG SECTION -  
SYSTEM A

DESIGNED:

P TSHABALALA

DRAWN:

R VAN ZYL

CHECKED:

F BURGER  
PRENG. 20090094

SIGN:

SCALE:

FEBRUARY 2023

DATE:

AS SHOWN

DRAWING NO:

NKP394\_LSW01

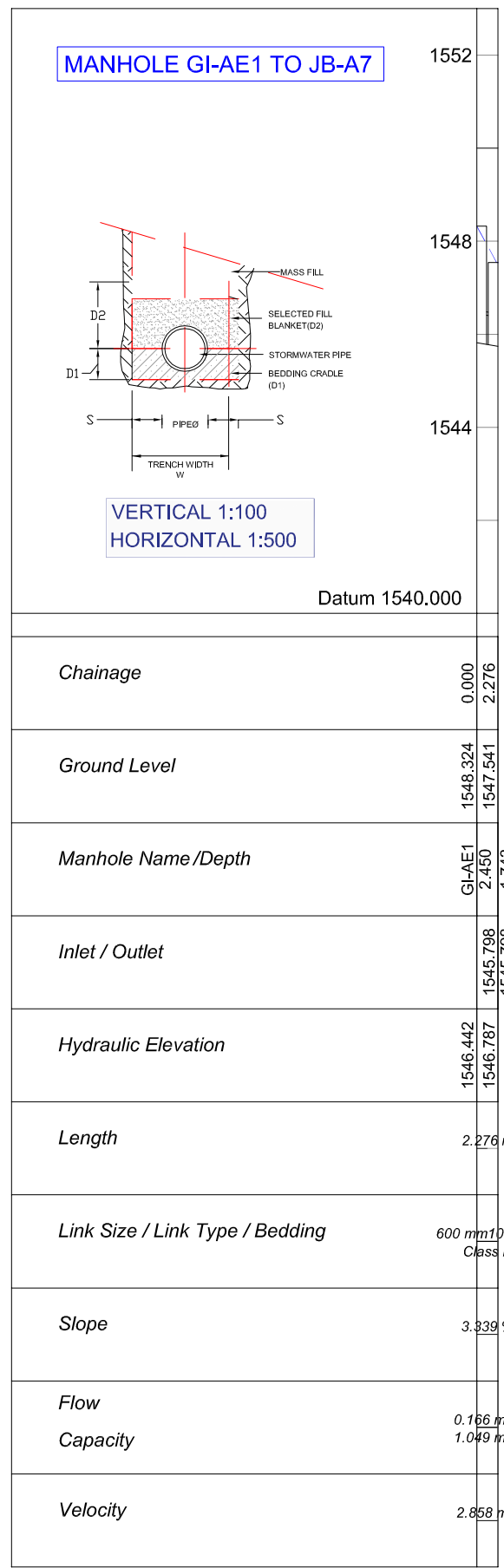
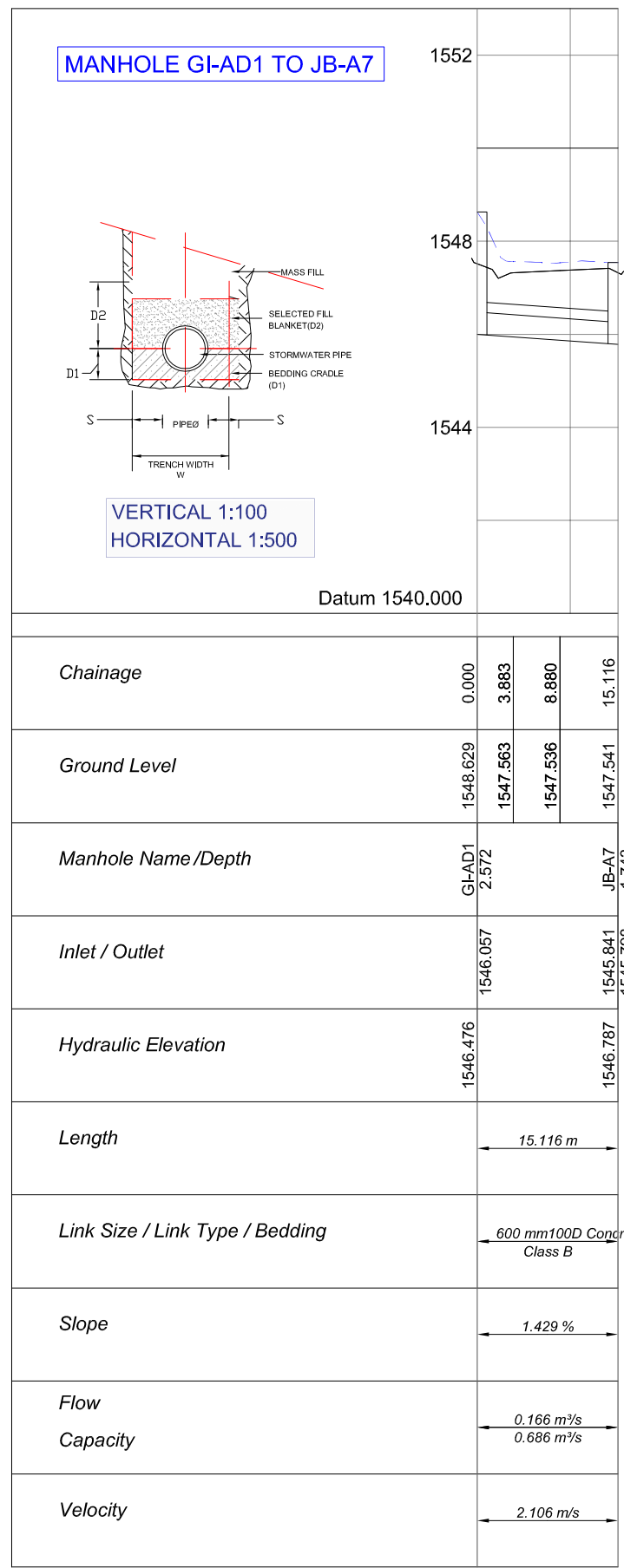
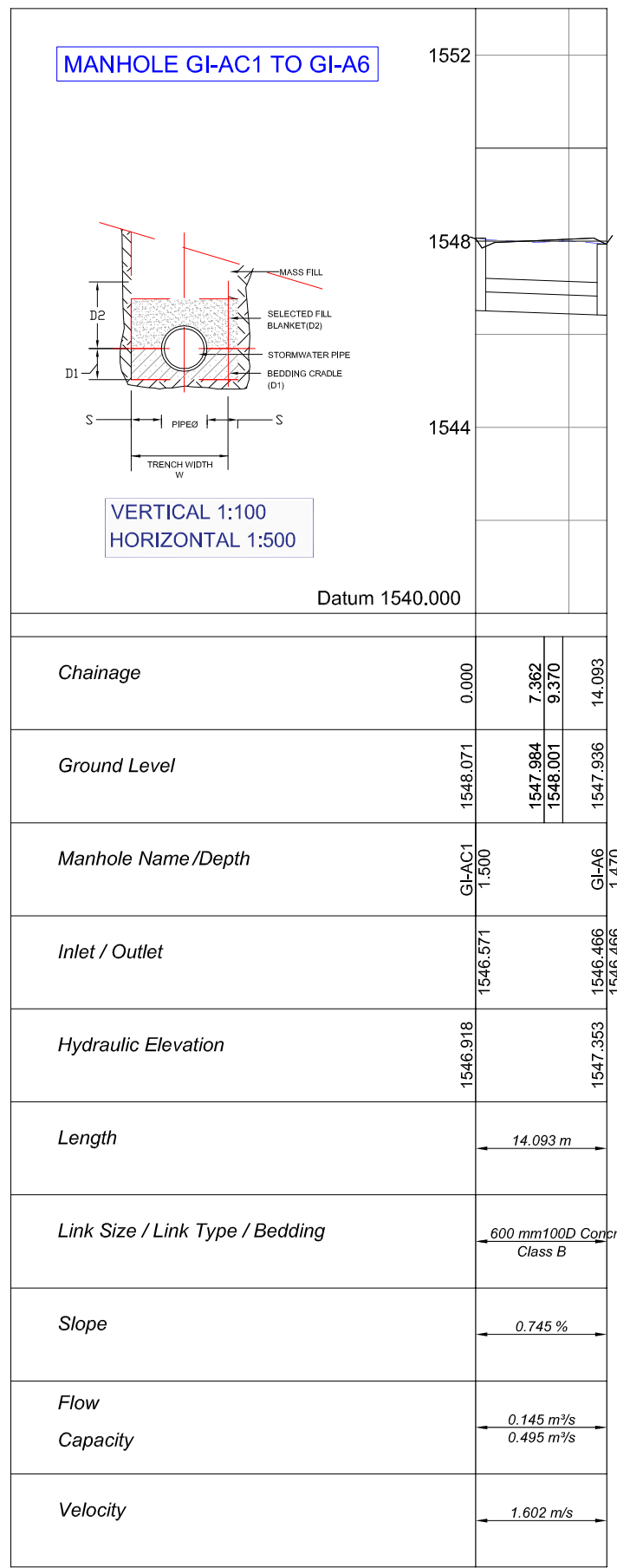
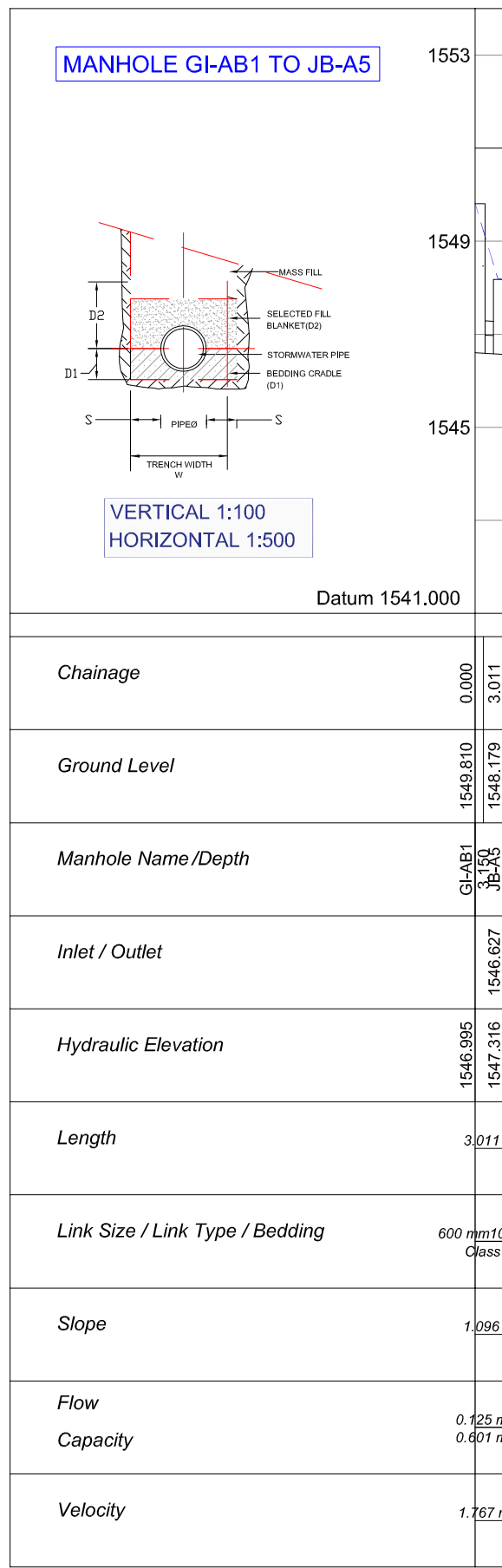
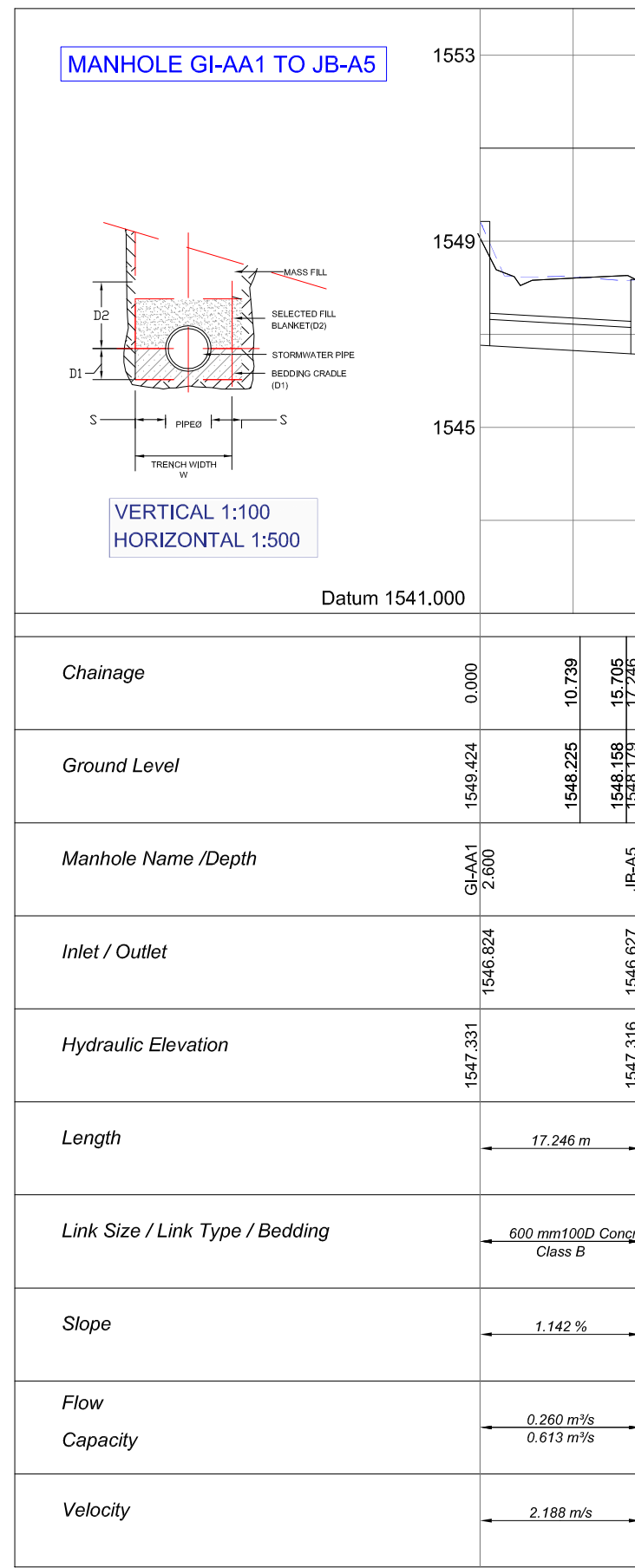
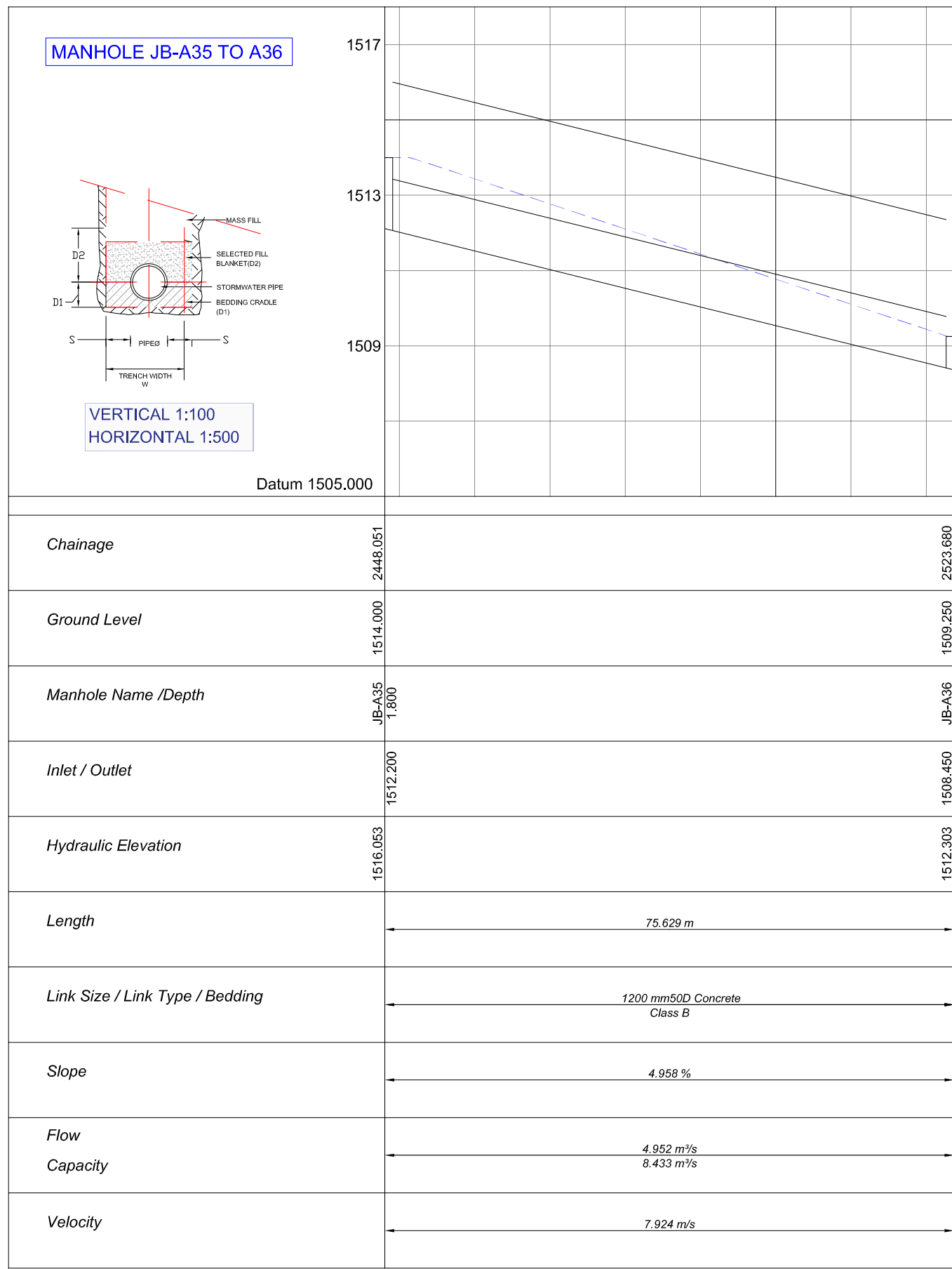
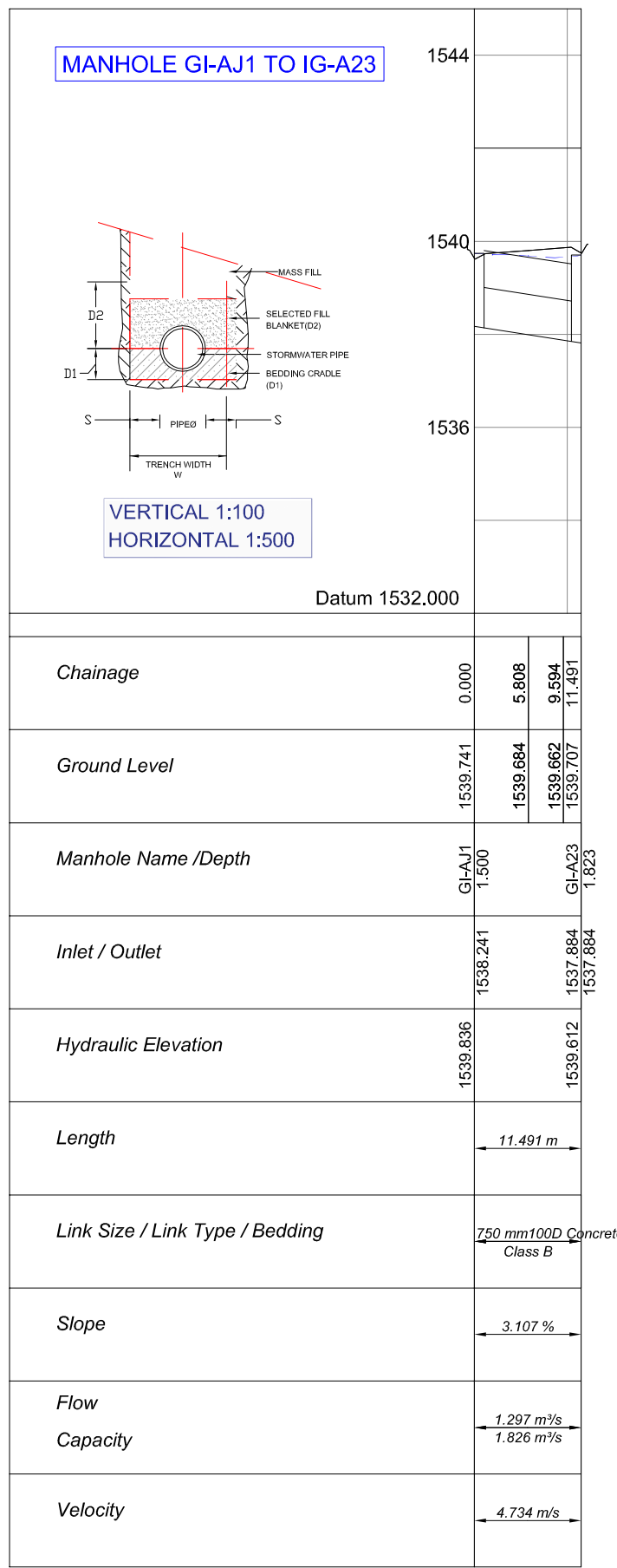
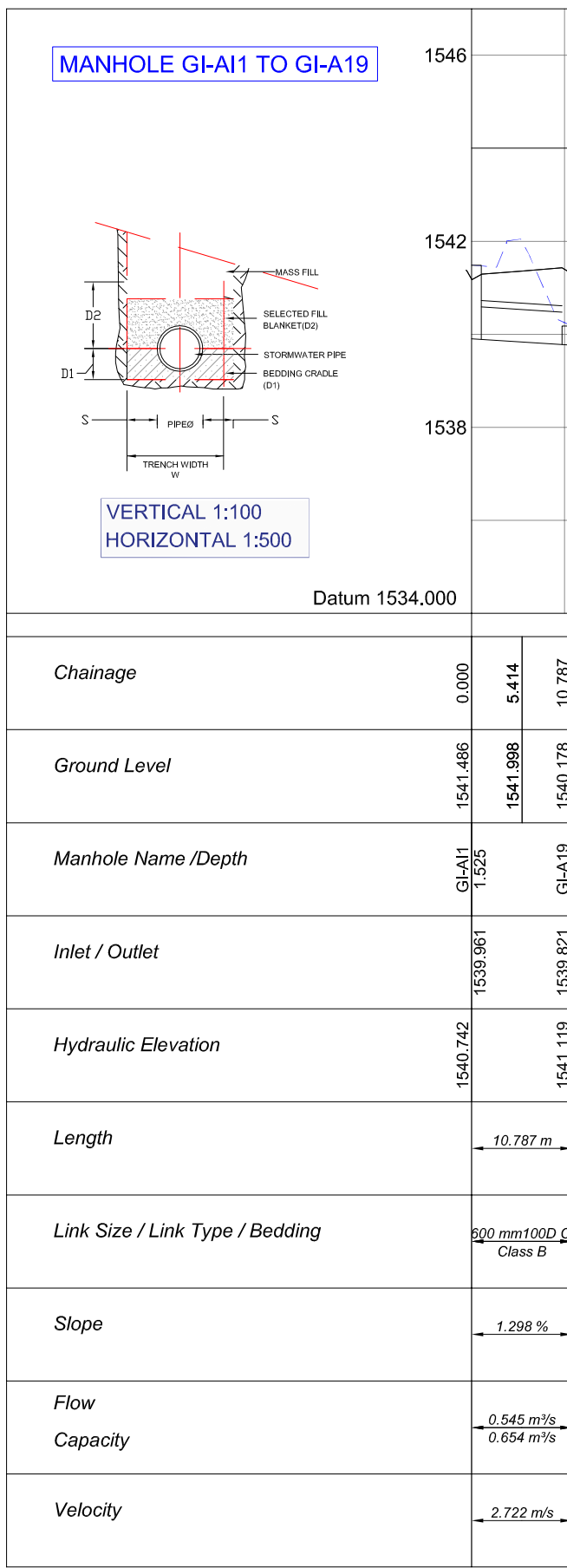
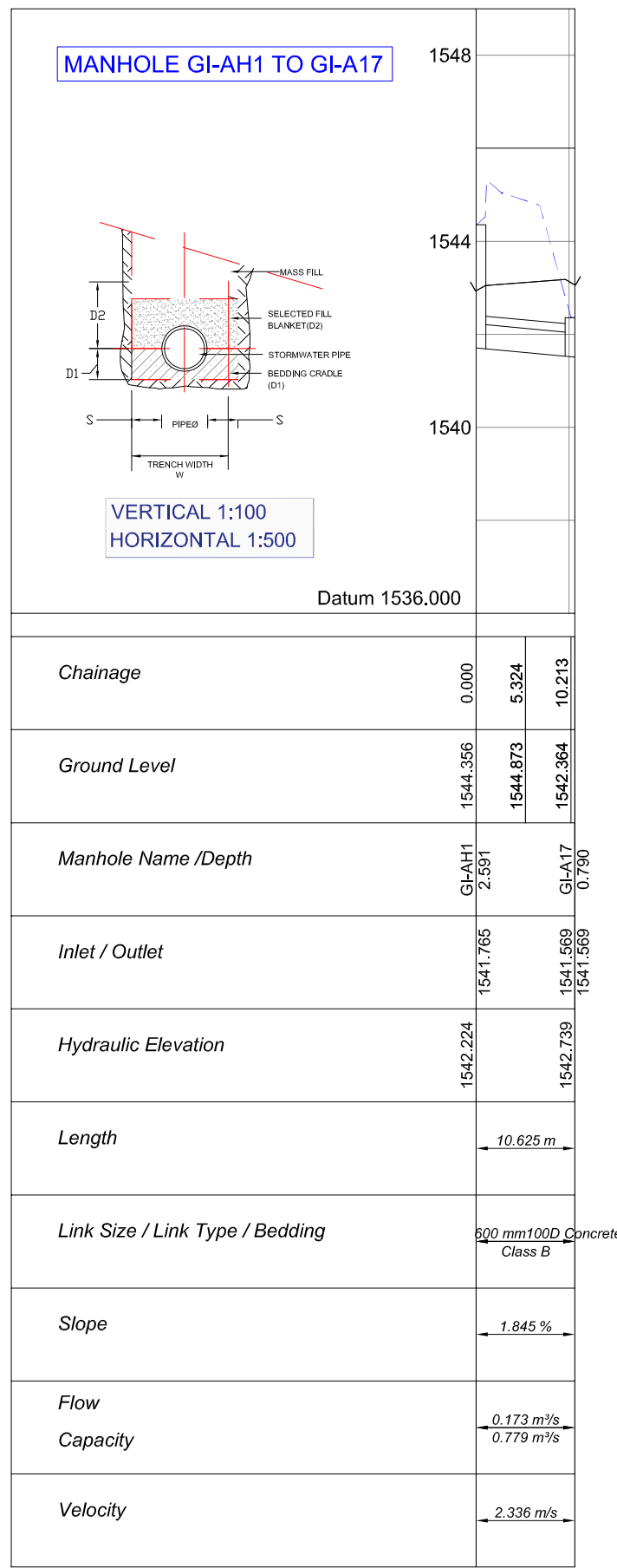
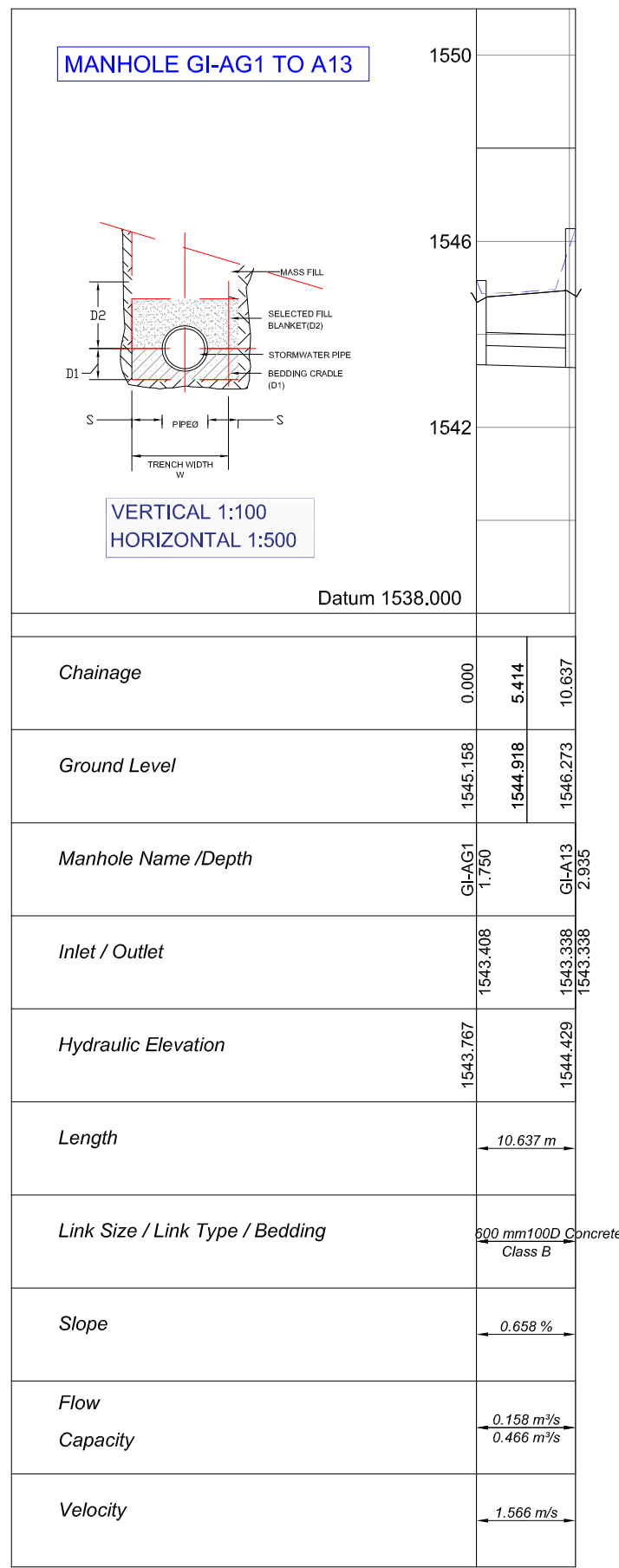
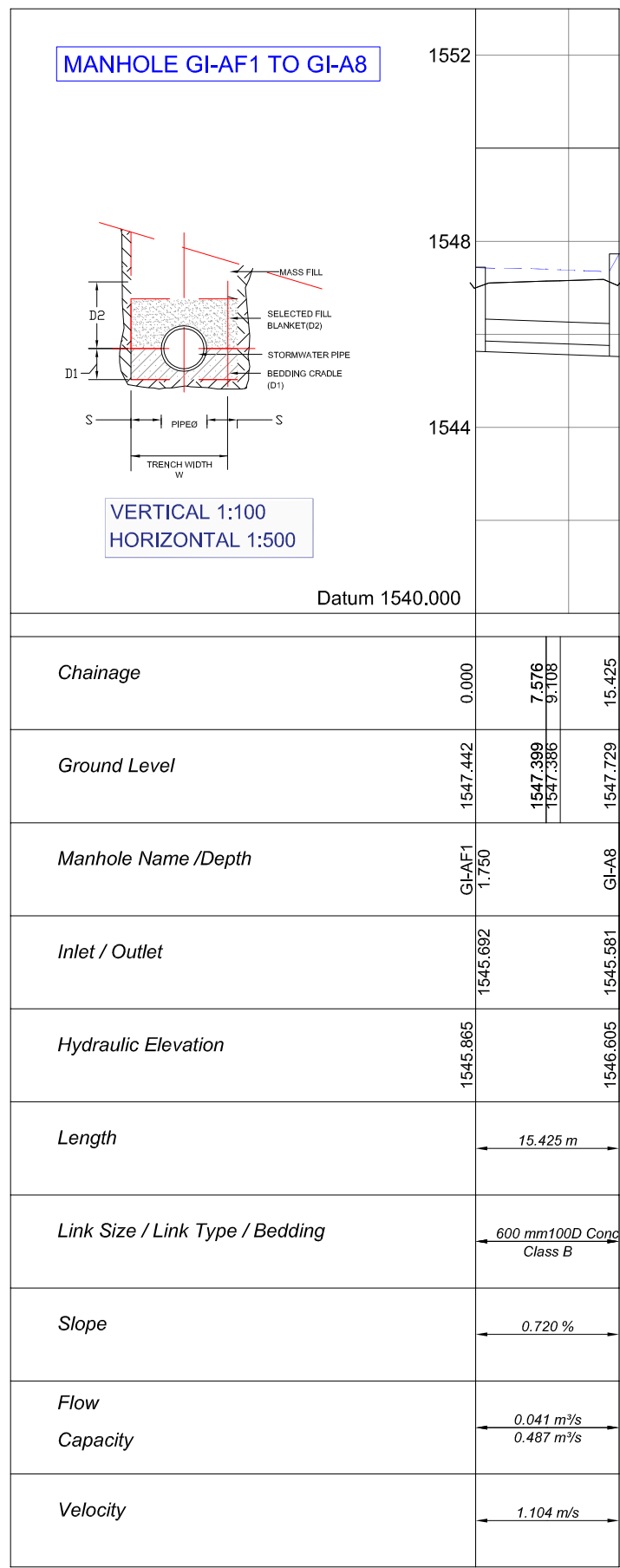
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PROJECT TITLE:

R104 INTERSECTION

DRAWING TITLE:

STORMWATER LONG SECTION -  
SYSTEM A - AJ

DESIGNED:

P TSHABALALA

DRAWN:

R VAN ZYL

CHECKED:

F BURGER  
P.R.E.G. 2009/0094

SIGN:

SCALE:

FEBRUARY 2023

DATE:

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DRAWING NO:

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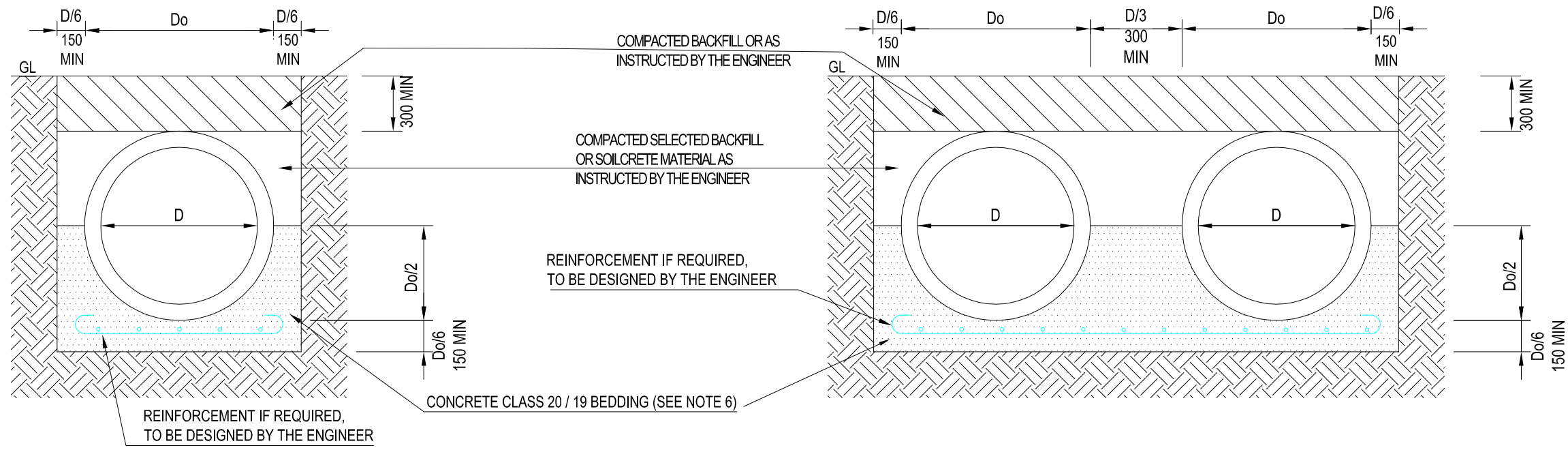
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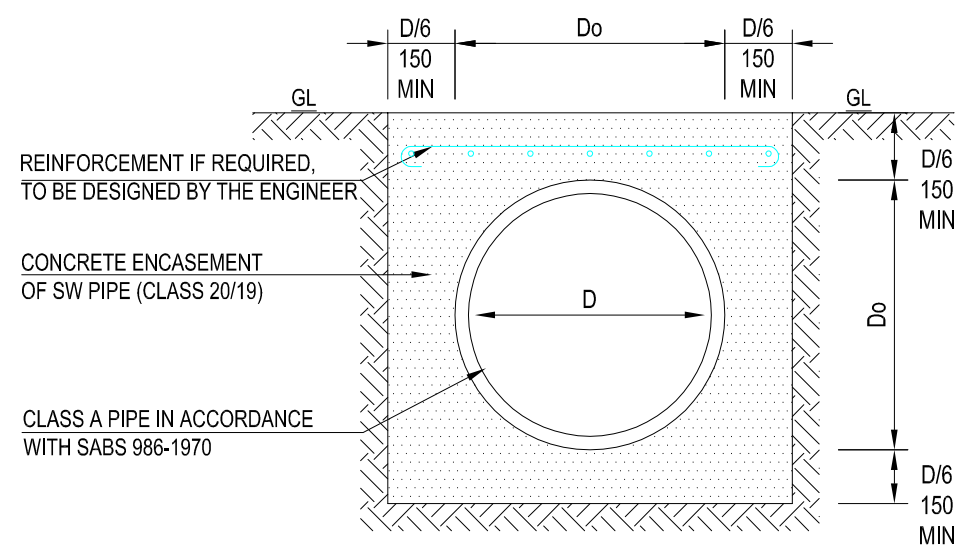




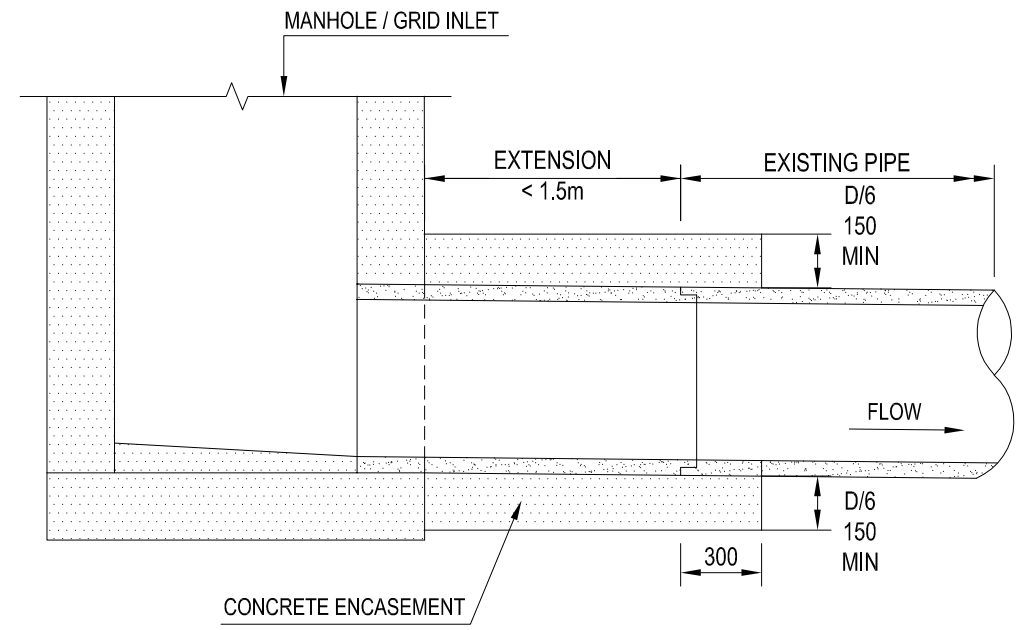


CLASS "A" BEDDING  
FOR SOFT EXCAVATIONS (SINGLE PIPE)  
N.T.S.

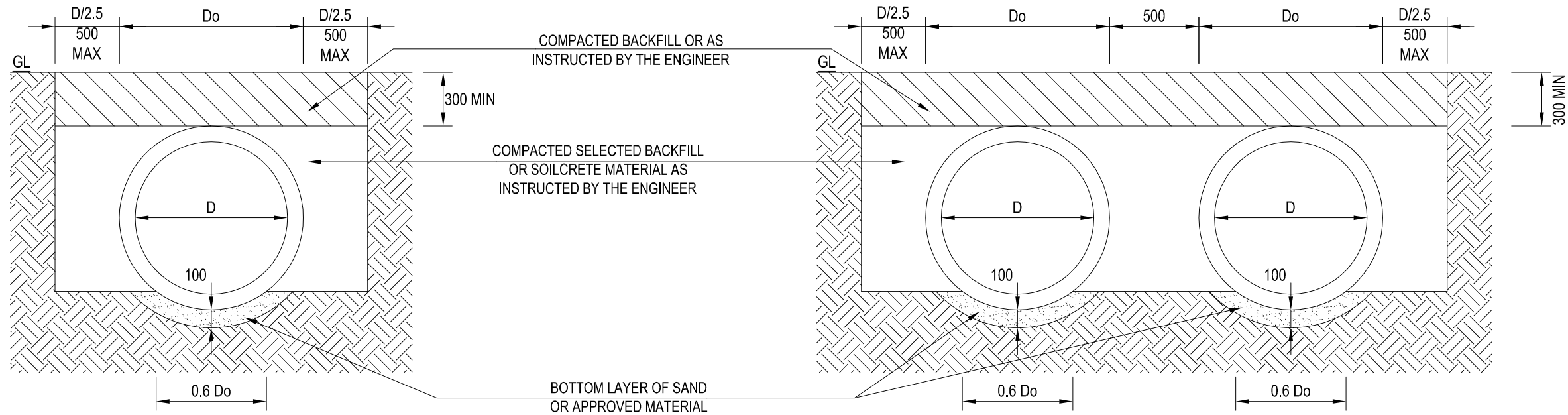
CLASS "A" BEDDING  
FOR SOFT EXCAVATIONS (DOUBLE PIPE)  
N.T.S.



CONCRETE ENCASEMENT OF PIPES  
SCALE : N.T.S.

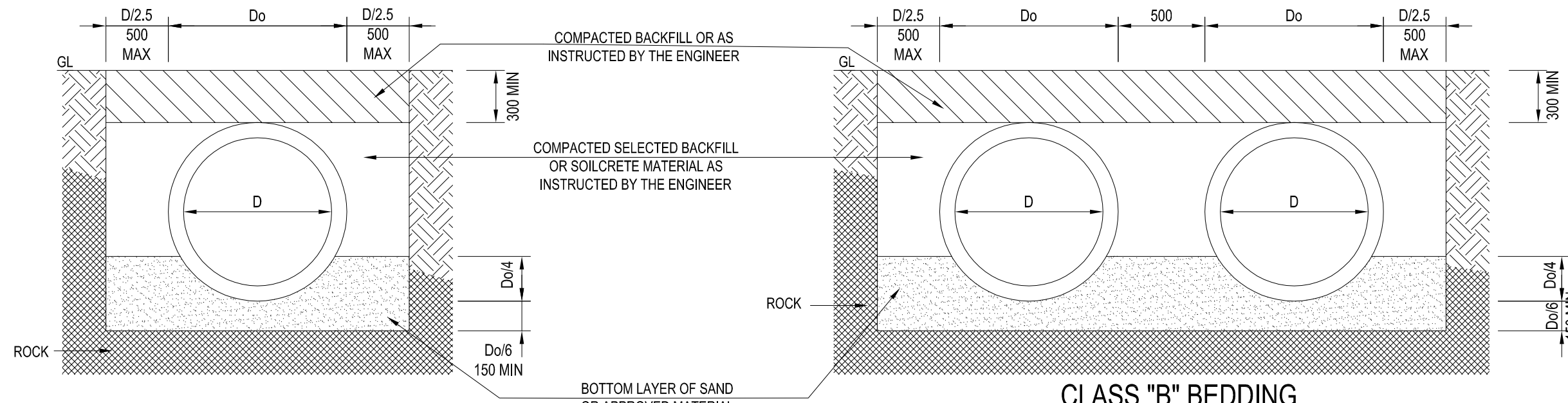


TYPICAL CROSS SECTION  
CONCRETE ENCASEMENT OF PIPE  
EXTENSIONS LESS THAN 1.5m IN LENGTH  
NTS



CLASS "B" BEDDING  
FOR SOFT EXCAVATIONS (SINGLE PIPE)  
N.T.S.

CLASS "B" BEDDING  
FOR SOFT EXCAVATIONS (DOUBLE PIPE)  
N.T.S.



CLASS "B" BEDDING  
FOR HARD EXCAVATIONS (SINGLE PIPE)  
N.T.S.

CLASS "B" BEDDING  
FOR HARD EXCAVATIONS (DOUBLE PIPE)  
N.T.S.

LEGEND:

- H = TOTAL COVER OVER THE PIPE BELOW THE FINAL ROAD LEVEL  
D = INTERNAL BARREL DIMENSION  
Do = OUTSIDE BARREL DIMENSION  
GL = GROUND LEVEL MEANING EITHER OF THE FOLLOWING:  
AN INTERMEDIATED FILL LEVEL IN ORDER TO PROVIDE  
THE MINIMUM COVER OVER THE PIPE FOR A TRENCH CONDITION OR  
THE UNDERSIDE OF THE SELECTED SUBGRADE OR SUBBASE.

NOTES:

- ALL CONCRETE PIPES SHALL COMPLY WITH THE REQUIREMENTS OF SANS 667 - 1986. STANDARD SPECIFICATIONS FOR NON-PRESSURE PIPES.
- THE BEDDING TYPE SHALL BE DESIGNED IN ACCORDANCE WITH SANS 0102 PART II - 1987 IN CONJUNCTION WITH THE CONCRETE PIPE AND PORTAL CULVERT HANDBOOK (2006 REVISION) OF THE CONCRETE MANUFACTURERS.
- THE PIPE CLASS MUST BE DETERMINED FROM THE WEIGHT OF THE PRISM OF FILL ABOVE THE CULVERT PLUS THE SNABC LOADINGS IN ACCORDANCE WITH TMH 7 (PARTS 1 & 2) "CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IN SOUTH AFRICA".
- THE MAXIMUM WHEEL LOAD ALLOWED ON THE PIPE IS 90 KN WITH A MINIMUM FILL OF 300MM ON TOP OF THE PIPE.
- CONCRETE IN CLASS A BEDDING AND IN CONCRETE ENCASEMENT SHALL BE CLASS 20/19.
- CONCRETE IN CLASS A BEDDING CAN EITHER BE REINFORCED OR UN-REINFORCED DEPENDING ON THE PREVAILING CONDITIONS.
- MINIMUM 300MM SELECTED BACKFILL OR SOILCRETE MATERIAL OVER PIPES.
- IN CASES WHERE H < 600MM THE PIPE SHALL BE ENCASED IN CLASS 20/19 CONCRETE AS SHOWN

NOMINAL PIPE DIA (D) Ø	DIA OUTSIDE (Do) (approx)	SIDE ALLOWANCE PER SIDE		
		ENCASE 150min	BEDDING	
			CLASS A Do/6 150min	CLASS B Do/2.5 150max
600	700	150	150	275
750	870	150	150	350
900	1030	175	175	400
1050	1195	200	200	500
1200	1360	225	225	500
1350	1525	250	250	500
1500	1680	300	300	500

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PROJECT TITLE:

ACCESS ROAD FROM R104  
UNDER THE N4 TO  
EMPUMELELWENI

DRAWING TITLE:

PIPE LAYING DETAILS

DESIGNED:

P TSHABALALA

DRAWN:  
R VAN ZYL

CHECKED:

F BURGER  
PR.ENG. 20090094

SIGN:

SCALE: JANUARY 2023

DATE: AS SHOWN

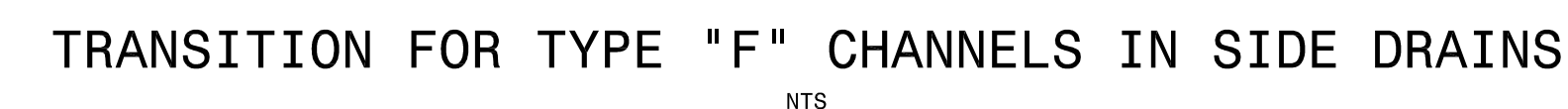
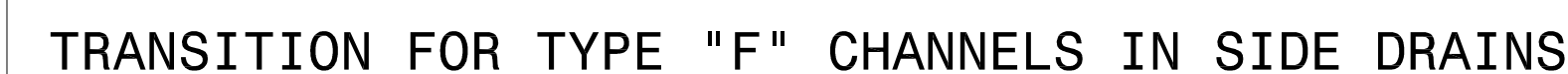
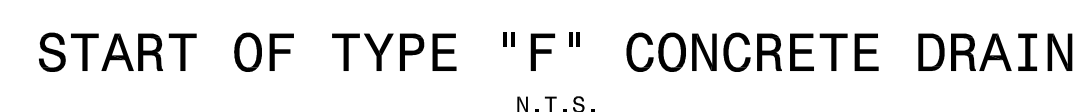
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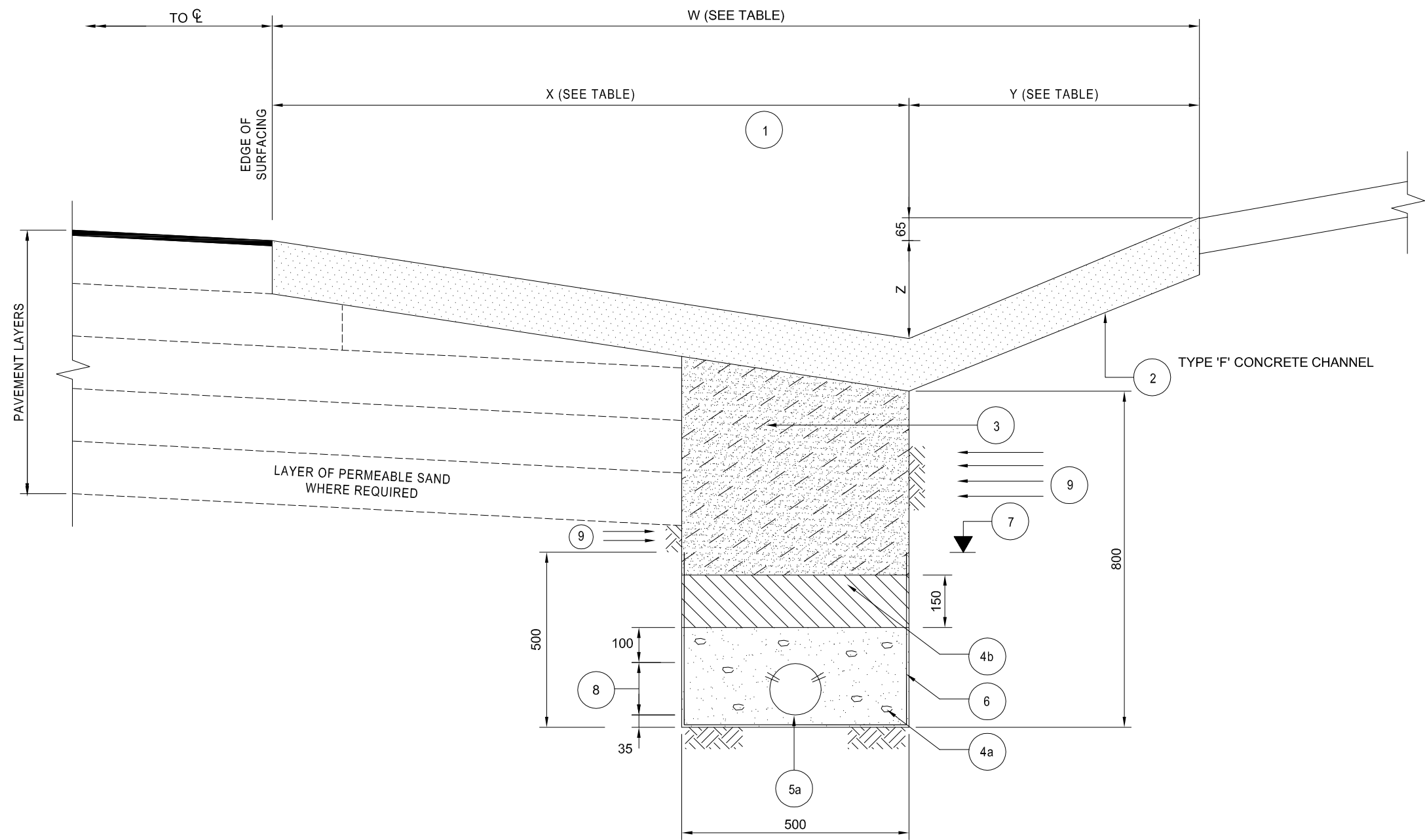


### DIMENSIONS OF TYPE "F" CONCRETE CHANNELS



- NOTES :
1. ALL CONCRETE CHANNELS AND OTHER DRAINAGE STRUCTURES ON THIS PLAN TO BE CAST USING CLASS 30/19 CONCRETE.
  2. TYPES 'E' AND 'F' CONCRETE MUST BE CAST IN ALTERNATIVE LENGTHS OF 2.0m MAXIMUM WITH EXPANSION JOINTS EVERY 5th PANEL (10 m)
  3. ALL EXPOSED CORNERS MUST BE ROUNDED OFF TO A MINIMUM RADIUS OF 10mm.
  4. THE TYPE OF SURFACE FINISH IS INDICATED AS F1 & U2.  
F - FORMED SURFACES  
U - UNFORMED SURFACES
  5. PRECAST KERBING FIG. 5 & FIG. 7 REFER SANS. 927





W	X	Y	Z	D UNREINFORCED	D REINFORCED
1000	670	330	110	125	100
1500	1000	500	170	125	100
2000	1330	670	220	150	100
2500	1670	830	280	150	100

DIMENSIONS OF TYPE 'F'  
CONCRETE CHANNEL

#### FILTER CRITERIA

A. "D x" IS THE SIZE OF SIEVE THROUGH WHICH  
x % OF THE FILTER MATERIAL WILL PASS.  
0 50(GF) = AVERAGE SIZE OF THE OPENINGS  
OF THE SYNTHETIC FIBRE FILTER FABRIC.

B. FILTER SAND (FS) IN RELATION TO WATER  
BEARING STRATA (WS)

- FOR D 85 (WS) > 0.05mm:  
(a) TO PREVENT BLOCKING OF FILTER SAND:  
D 15 (FS) < 5 x D 85 (WS)  
D 50 (FS) < 25 x D 50 (WS)  
(b) FOR PERMEABILITY OF FILTER SAND:  
D 15 (FS) > 5 x D 15 (WS)
- FOR D 85 (WS) < 0.05mm:  
(a) TO PREVENT BLOCKING OF FILTER SAND:  
D 15 (FS) < 0.25mm  
D 05 (FS) > 0.075mm  
(b) PERMEABILITY REQUIREMENTS NOT  
NECESSARY

C. FILTER STONE (FSN) IN RELATION TO  
FILTER SAND (FS)

- (a) TO PREVENT BLOCKING OF FILTER STONE:  
D 15 (FSN) < 5 x D 85 (FS)  
D 50 (FSN) < 25 x D 50 (FS)  
(b) PERMEABILITY: FILTER STONE MUST BE  
COARSER THAN SAND AT ALL PERCENTAGES

D. FILTER STONE (FSN) IN RELATION TO  
PERFORATIONS IN PIPES  
TO PREVENT BLOCKING OF PERFORATIONS IN  
PIPES:  
D 85 (FSN) > 1.2 x DIAMETER OF ROUND  
PERFORATIONS  
D 85 (FSN) > 1.2 x WIDTH OF SLOTS

E. SYNTHETIC FIBRE FILTER FABRIC (SF) IN  
RELATION TO FILTER SAND (FS)

- (a) TO PREVENT CLOGGING OF SYNTHETIC  
FIBRE FILTER FABRIC:  
O 50 (SF) < D 85 (FS)  
(b) FOR PERMEABILITY OF SYNTHETIC FIBRE  
FILTER FABRIC:  
O 50 (SF) > D 15 (FS)

No	DESCRIPTION
1	THIS DIMENSION MAY BE REDUCED TO A MINIMUM OF PIPE DIAMETER + 200mm PROVIDED THAT THE CROSS-SECTIONAL AREA IS ADEQUATE
2	IMPERMEABLE BACKFILL MATERIAL. (MIN 150mm THICK) TAKEN TO TOP OF WATER BEARING LAYER IN CASES WHERE NO CONCRETE SIDE DRAIN IS PROVIDED.
3	FILTER SAND OF APPROVED SOURCE AND GRADE.
4a	14mm CRUSHED STONE
4b	10mm CRUSHED STONE
5a 5b 5c	PERFORATED / SLOTTED SUBSOIL DRAINAGE PIPES. (POSITION OF PERFORATIONS INDICATED).
6	POLYETHYLENE 0.15mm THICKNESS
7	LEVEL TO WHICH SURROUNDING AREA IS TO BE DRAINED.
8	INTERNAL PIPE DIAMETER: 150mm
9	WATER BEARING STRATA.

#### NOTES:

- ALL CRITERIA ASSUMES THAT FILTER SAND AND FILTER STONE ARE CONTINUOUSLY GRADED FROM COARSE TO FINE.
- USE THE ENVELOPE CURVES FOR THE WATER BEARING STRATA, FILTER SAND AND FILTER STONE GRADINGS AND APPLY TO MOST CRITICAL COMBINATIONS.
- IF REQUIRED BY THE ENGINEER, SUBSOIL DRAINAGE MUST ALSO BE PROVIDED ON THE INSIDE OF BENCHING, WHERE USED.
- WHERE SUBSOIL DRAINAGE IS INSTALLED IN SOLID ROCK THE POLYETHYLENE LINING MAY BE OMITTED.
- TYPE A OUTLET PREFERABLY TO BE USED WHERE THE NATURAL GROUND LEVELS ALLOW IT. OUTLETS MAY ALSO BE COMBINED WITH CULVERT IN- OR OUTLETS.
- ALL CONCRETE SHALL BE CLASS 20/19.
- SPACING OF CLEANING EYES TO BE AS FOLLOWS:  
(a) 100m MAX ON STRAIGHT SECTIONS.  
(b) AT ALL BENDS.  
(c) OR AS DIRECTED BY THE ENGINEER.
- TRANSVERSE SUBSOIL DRAINAGE TO BE PROVIDED AT ALL CUT TO FILL TRANSITIONS.
- PLATE WITH THE INSCRIPTION "CLEANING EYE FOR SUBSOIL DRAIN". STAMPED ON TO BE AFFIXED TO CONCRETE COVER.
- LETTER SIZE ON PLATE: 10mm SERIES C, CAPITAL LETTERS.
- STEEL PLATE TO BE FIXED TO TOP PORTION OF FENCE LINE OPPOSITE THE SUBSOIL OUTLET STRUCTURE.
- GEOPIPE ID (mm) 150,100, AND 65, AS SPECIFIED BY AN ENGINEER.
- BACKGROUND : MATT-WHITE  
TEXT : DIN A, MATT-BLACK

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NOTES

LEGEND

CLIENT:



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PROJECT TITLE:

**ACCESS ROAD FROM R104  
UNDER THE N4 TO  
EMPUMELELWENI**

DRAWING TITLE:

SUBSURFACE DRAINAGE

DESIGNED:

P TSHABALALA

DRAWN:

R VAN ZYL

CHECKED:

F BURGER  
PR-ENG. 200900094

SIGN:

SCALE:

FEBRUARY 2023

DATE:

AS SHOWN

DRAWING NO:

NKP394\_DR03

CONTRACT NO:

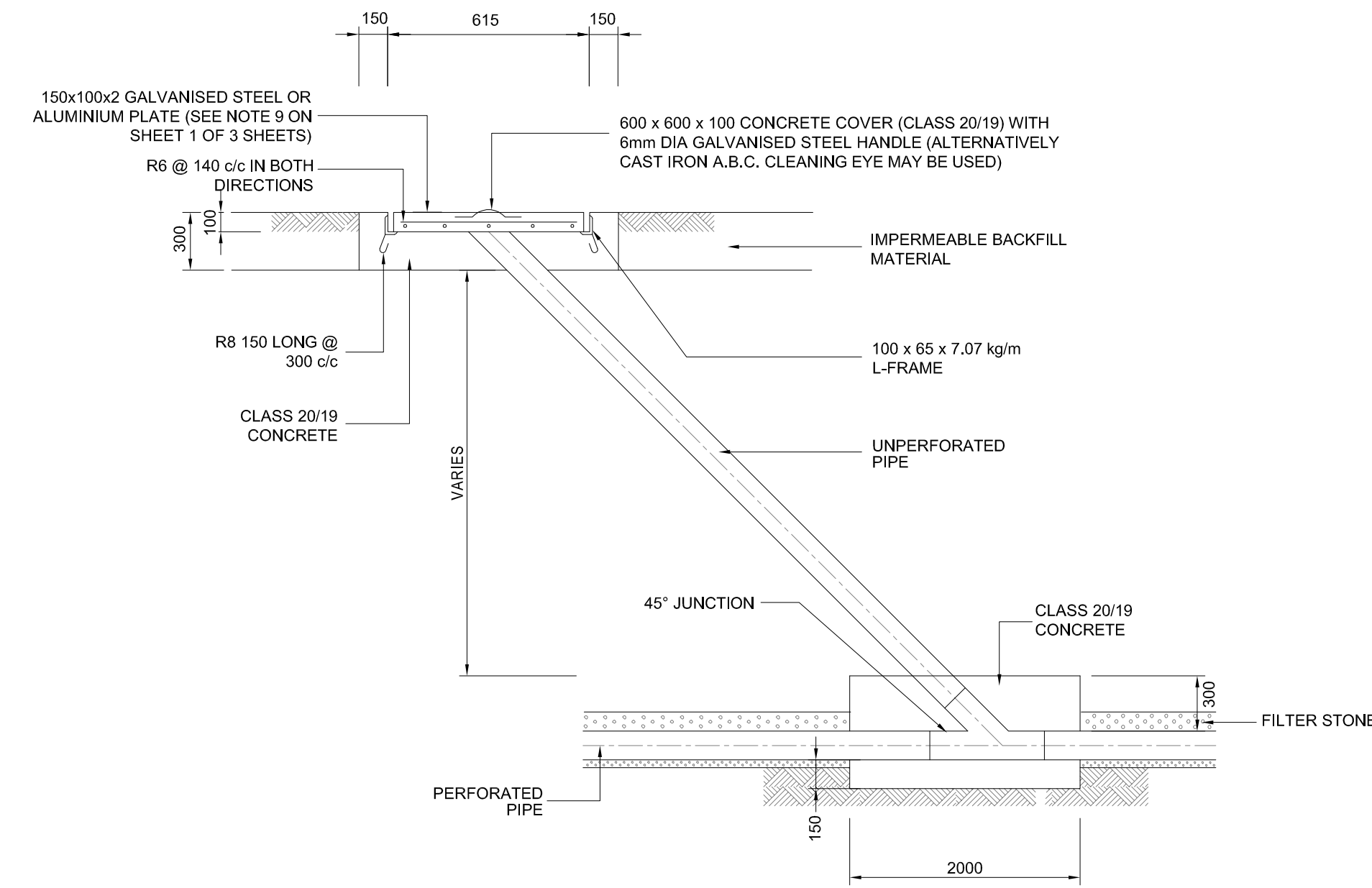
AS SHOWN

REVISION:

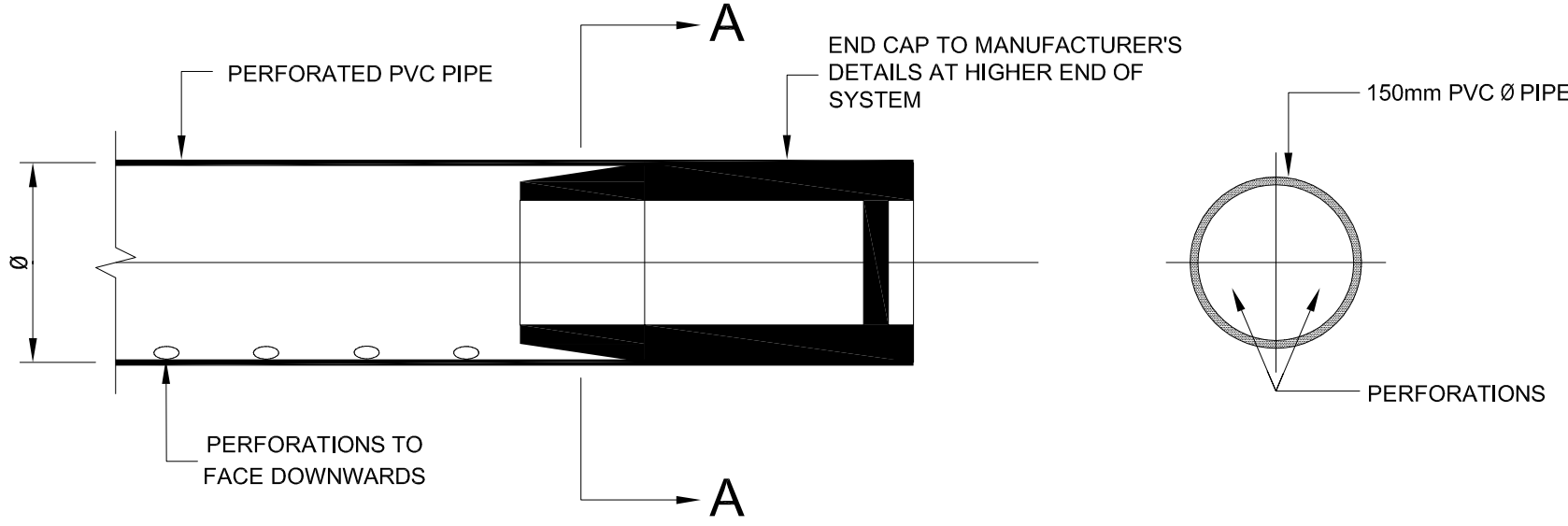
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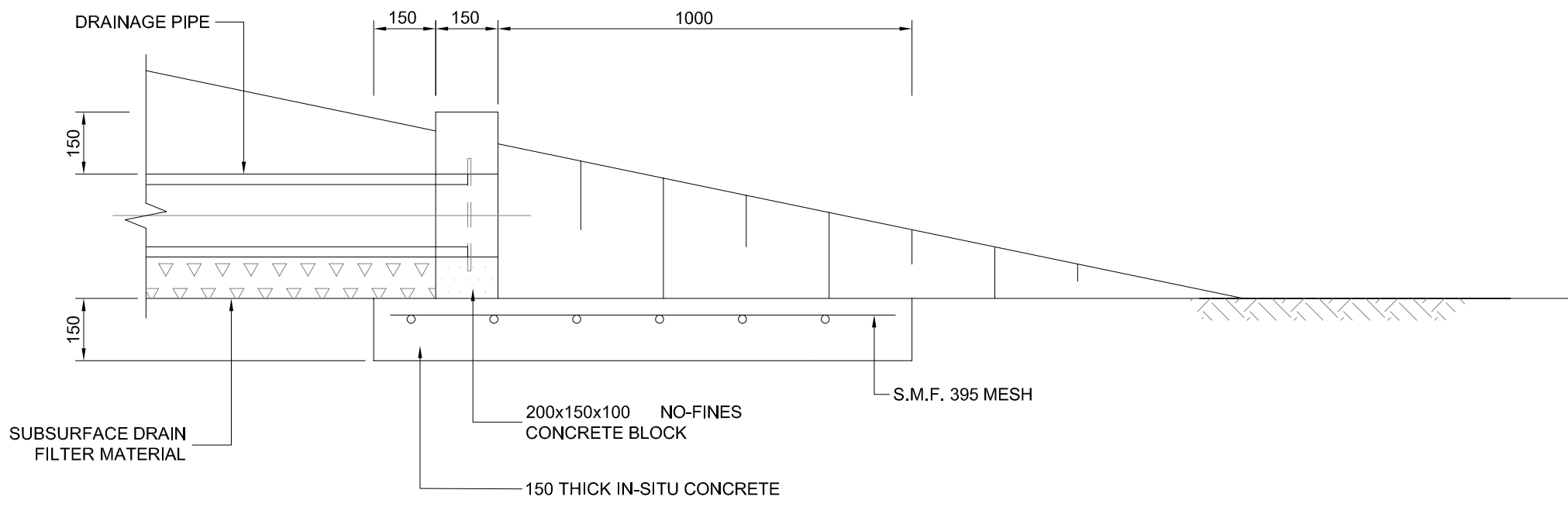
CLEANING EYE IN SUBSOIL DRAIN  
SCALE 1:20



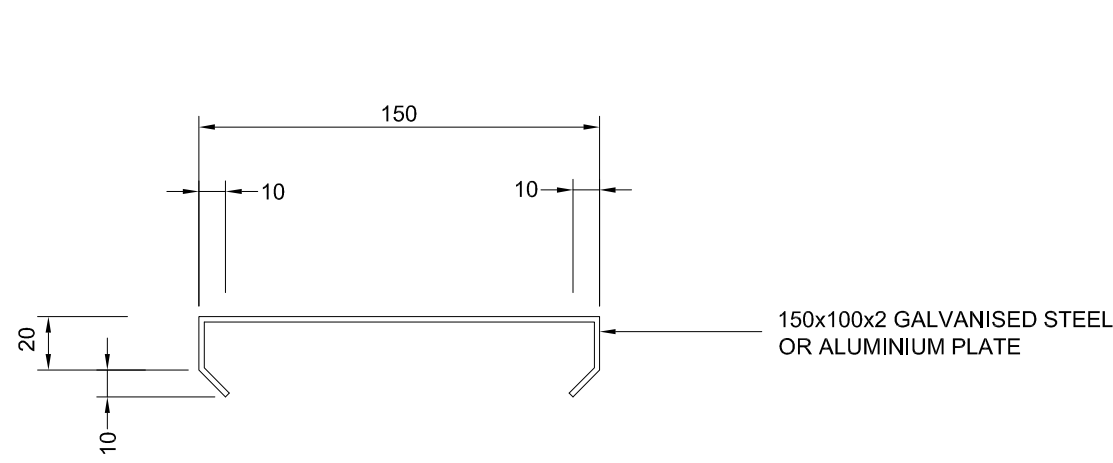
LONGITUDINAL SECTION  
THROUGH PIPE CENTRE LINE

SECTION A-A

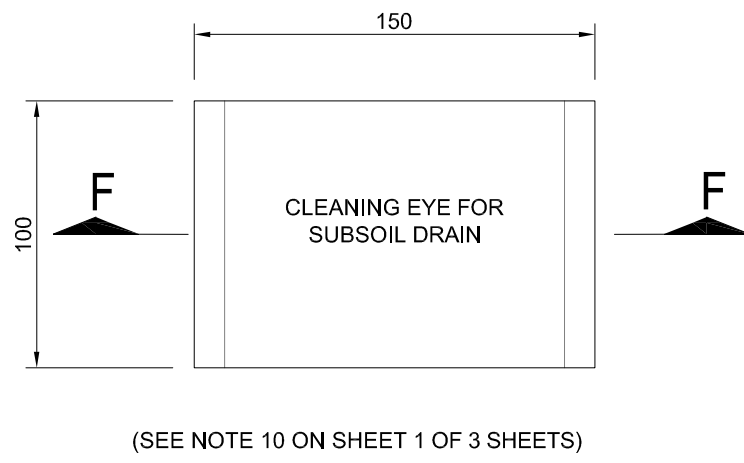
END CAP DETAIL  
SCALE 1:800



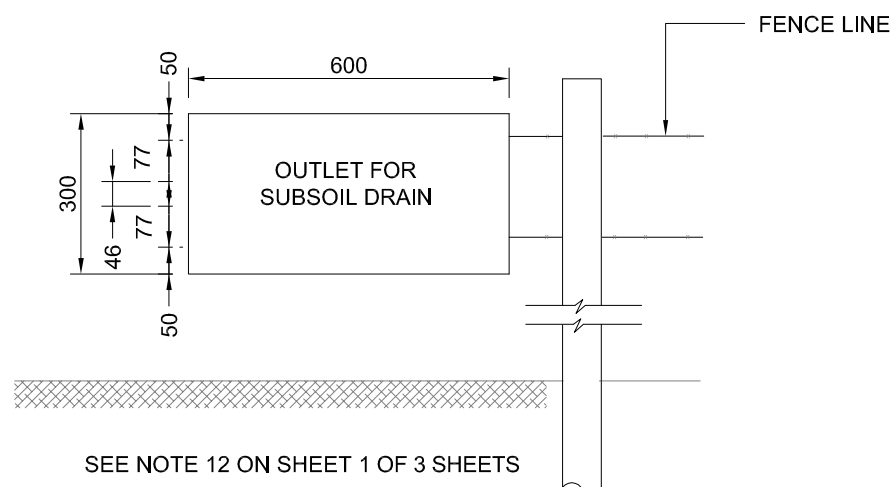
SECTION B-B  
SCALE 1:10



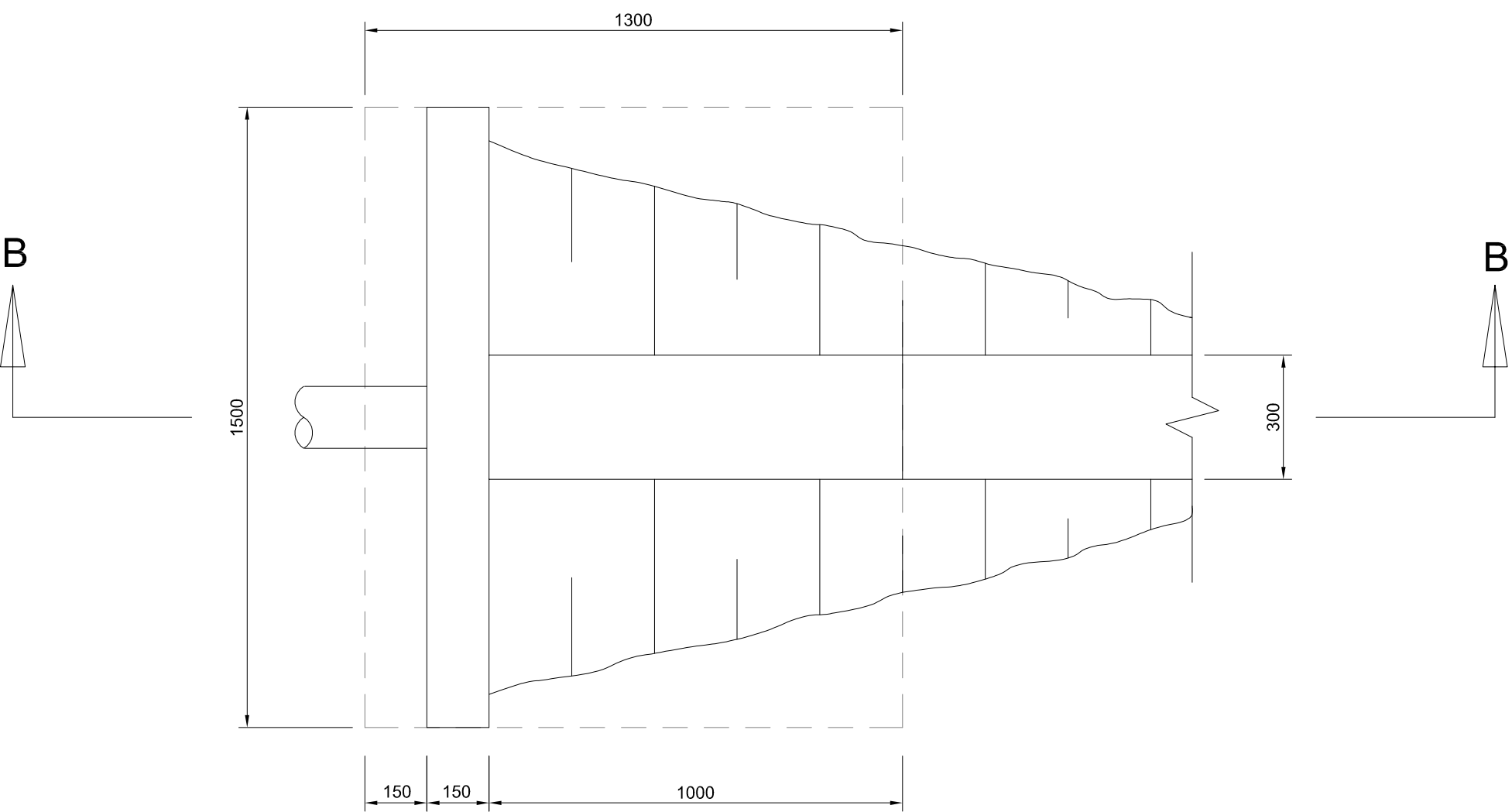
SECTION F-F  
SCALE 1:2



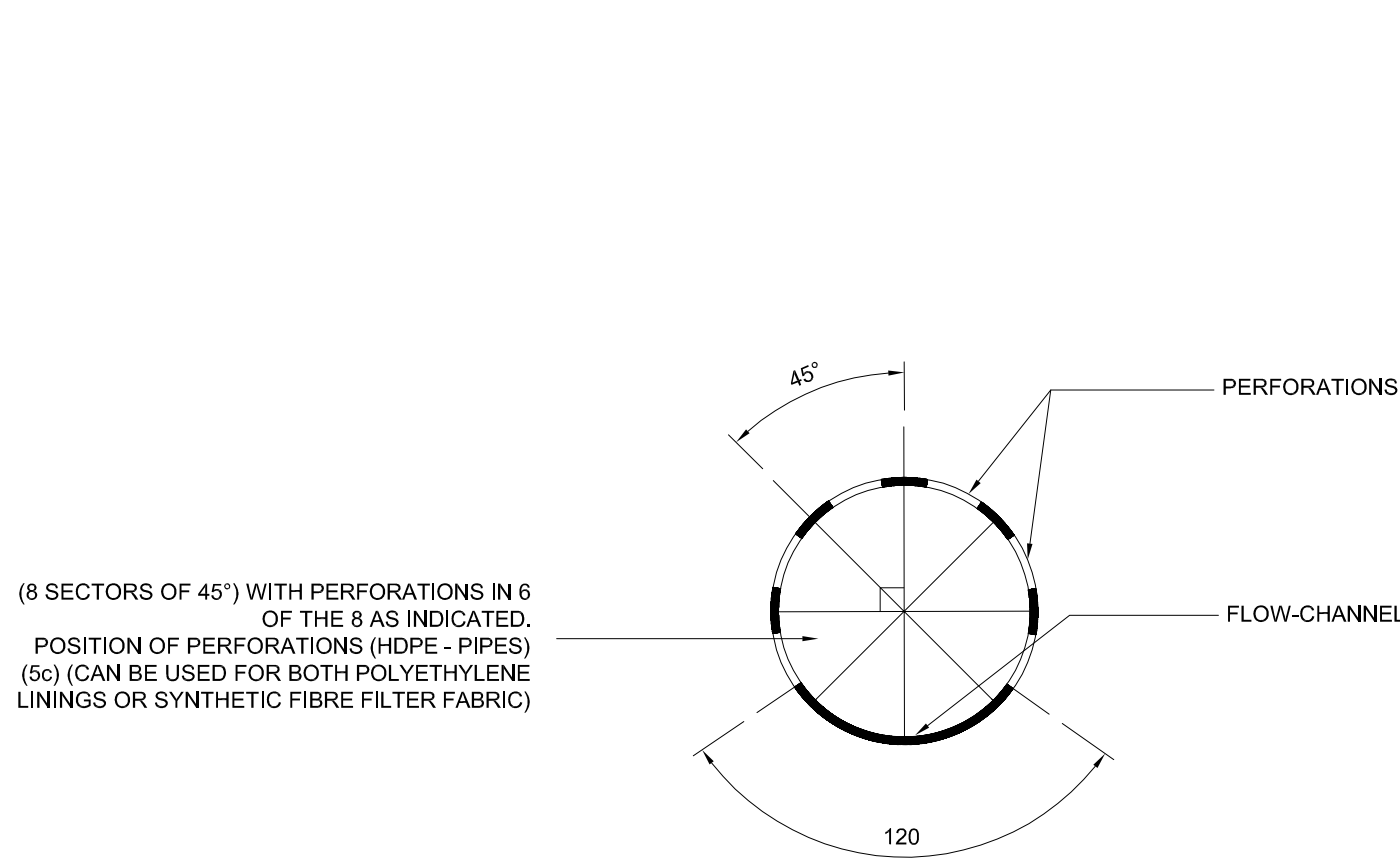
PLAN  
SCALE 1:2



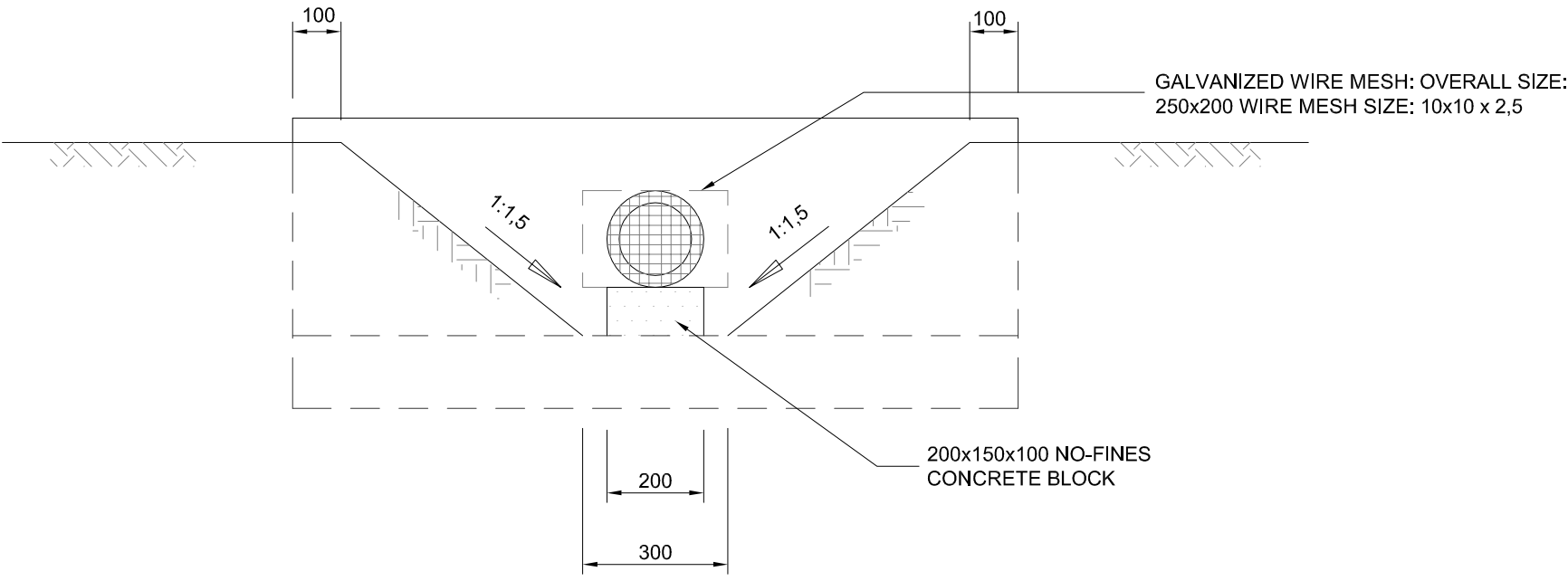
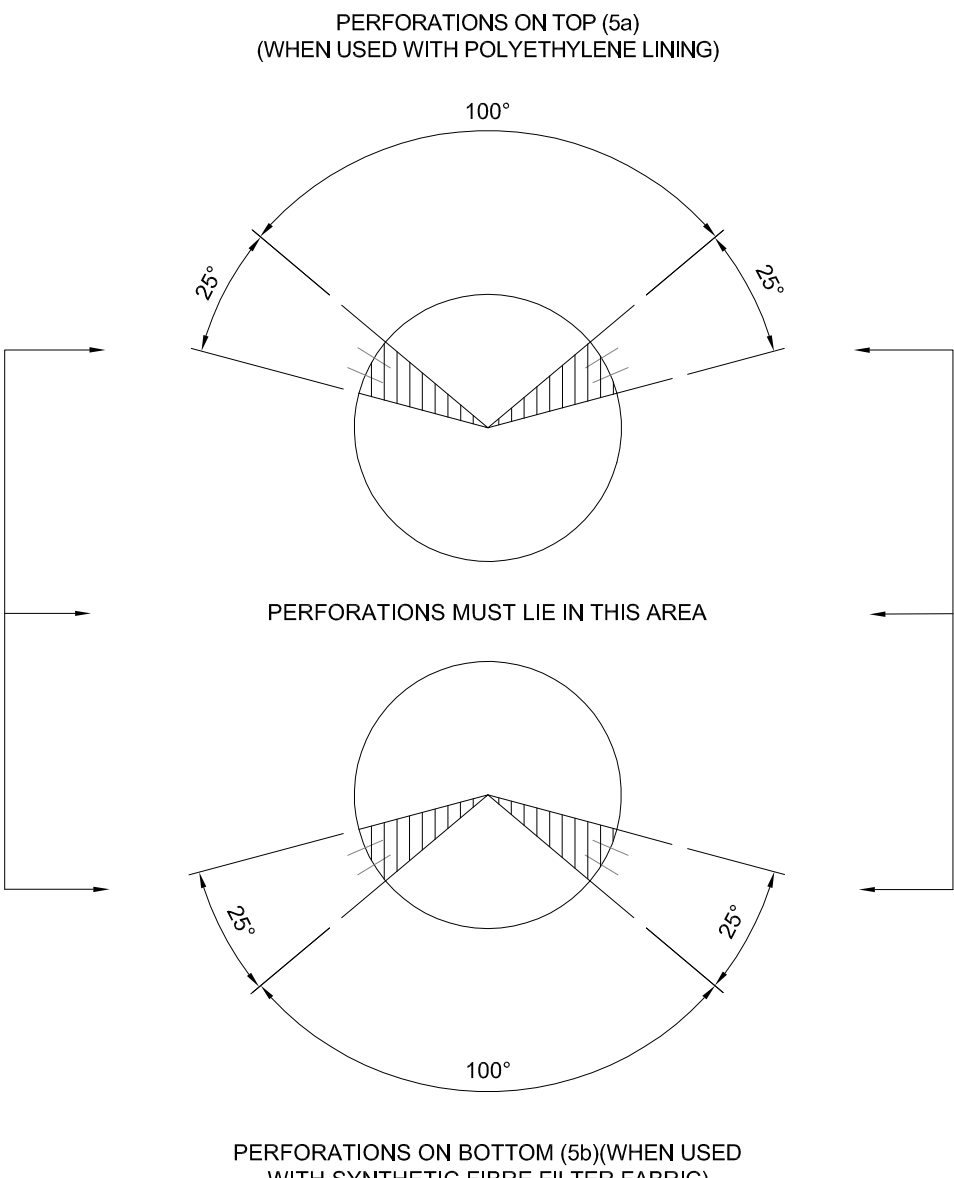
SUBSOIL OUTLET MARKER BOARD  
SCALE 1:10



PLAN



POSITION OF PERFORATION IN SUBSOIL DRAINAGE PIPES  
SCALE 1:2

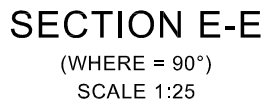
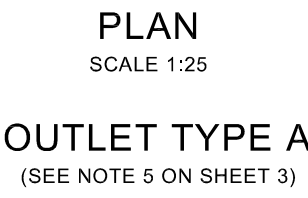


FRONT ELEVATION

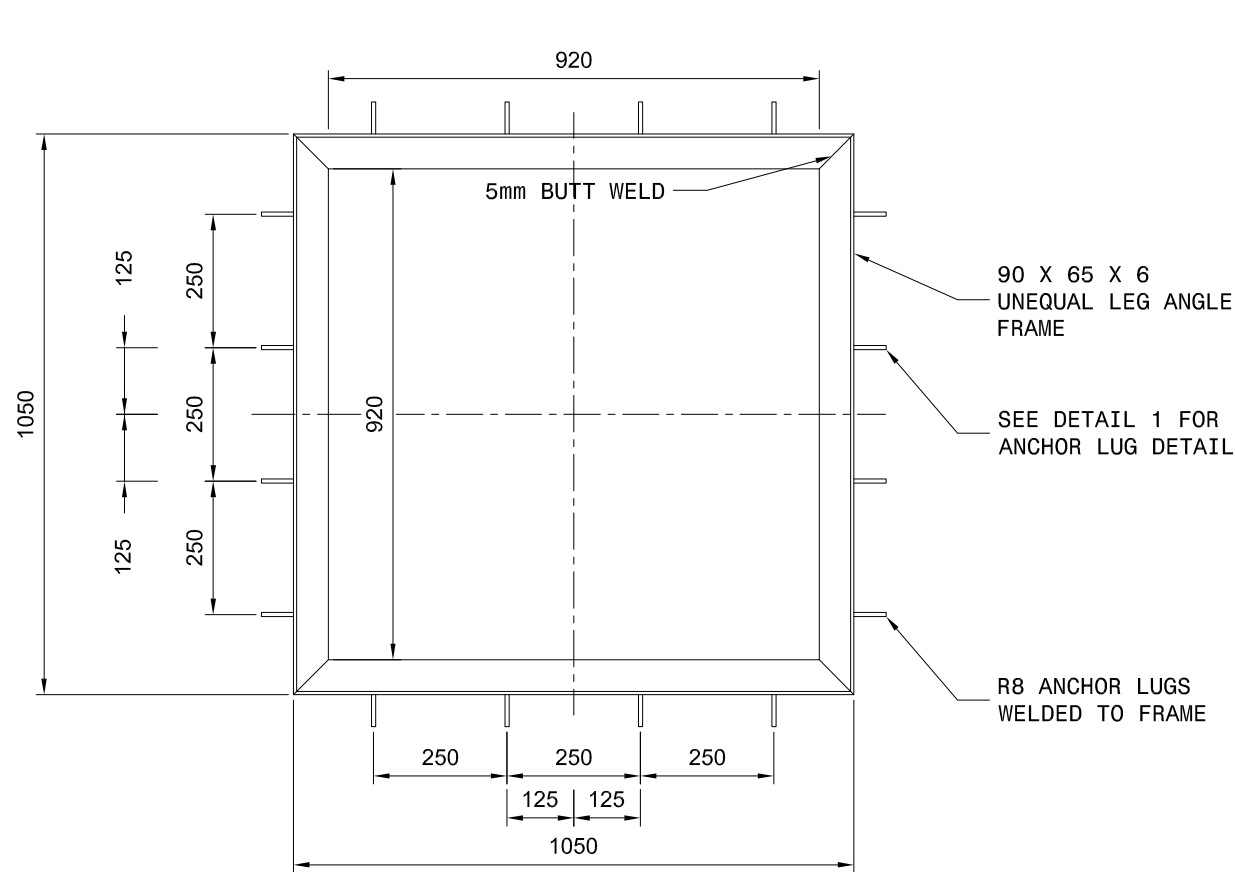
TYPE "A" OUTLET  
SCALE 1:10

ORIGINAL SCALE : 1 : 100

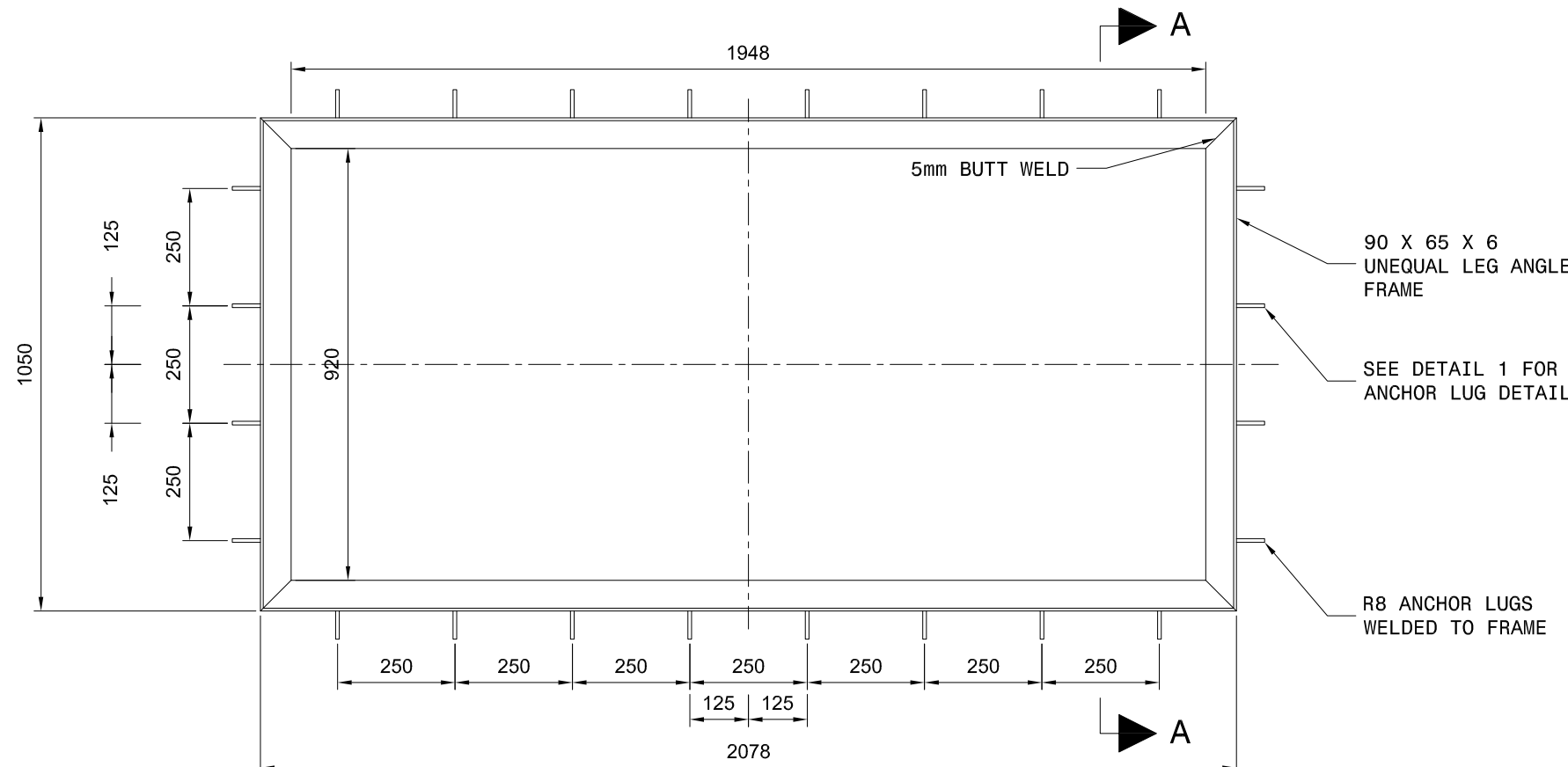
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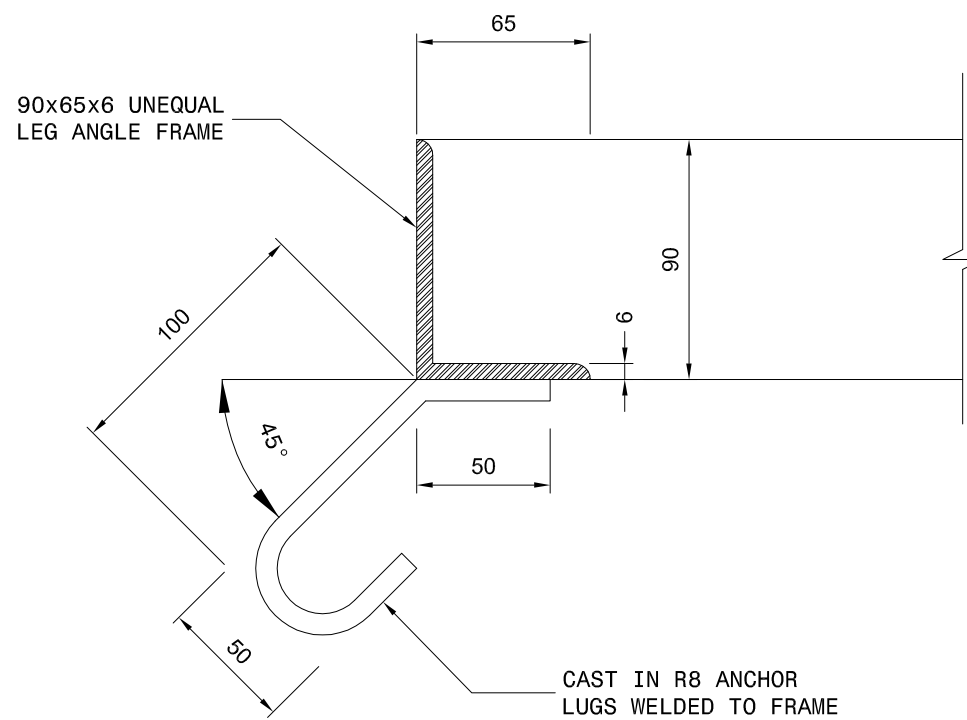




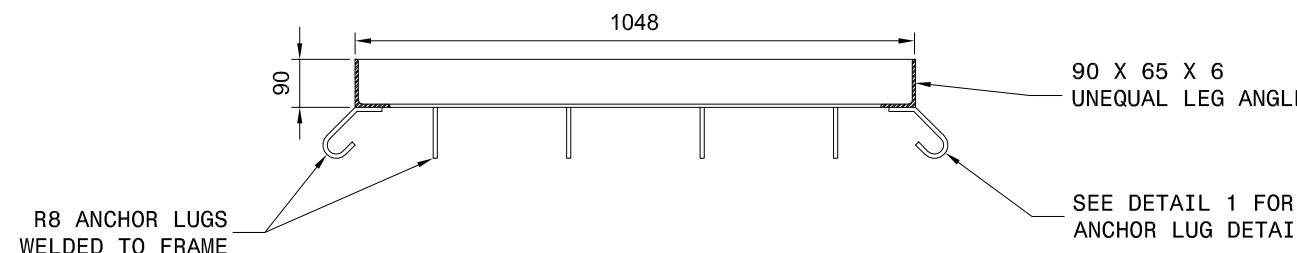
PLAN  
FRAME DETAIL FOR SINGLE GRID  
SCALE 1:10



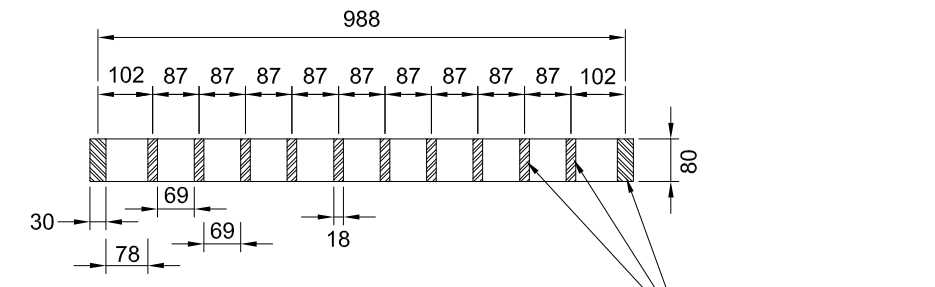
PLAN  
FRAME DETAIL FOR DOUBLE GRIDS  
SCALE 1:10



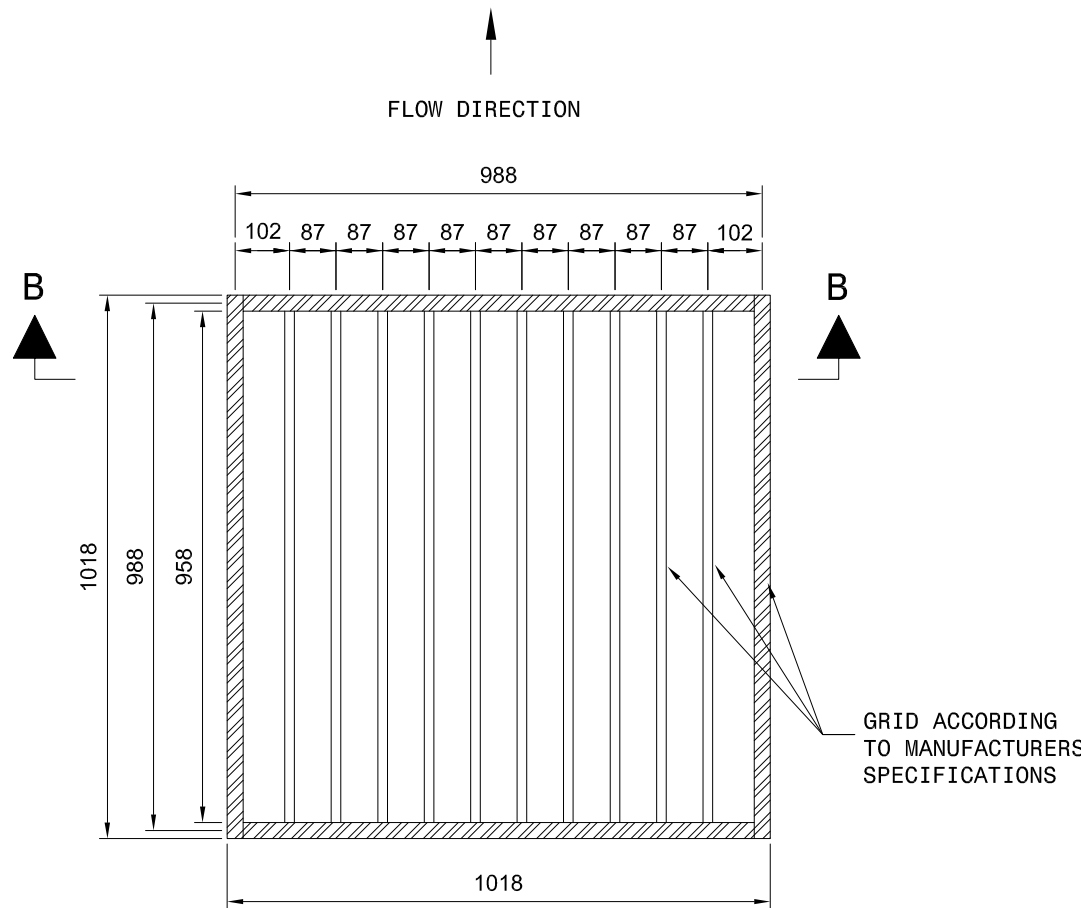
DETAIL 1  
ANCHOR LUG  
SCALE 1:2



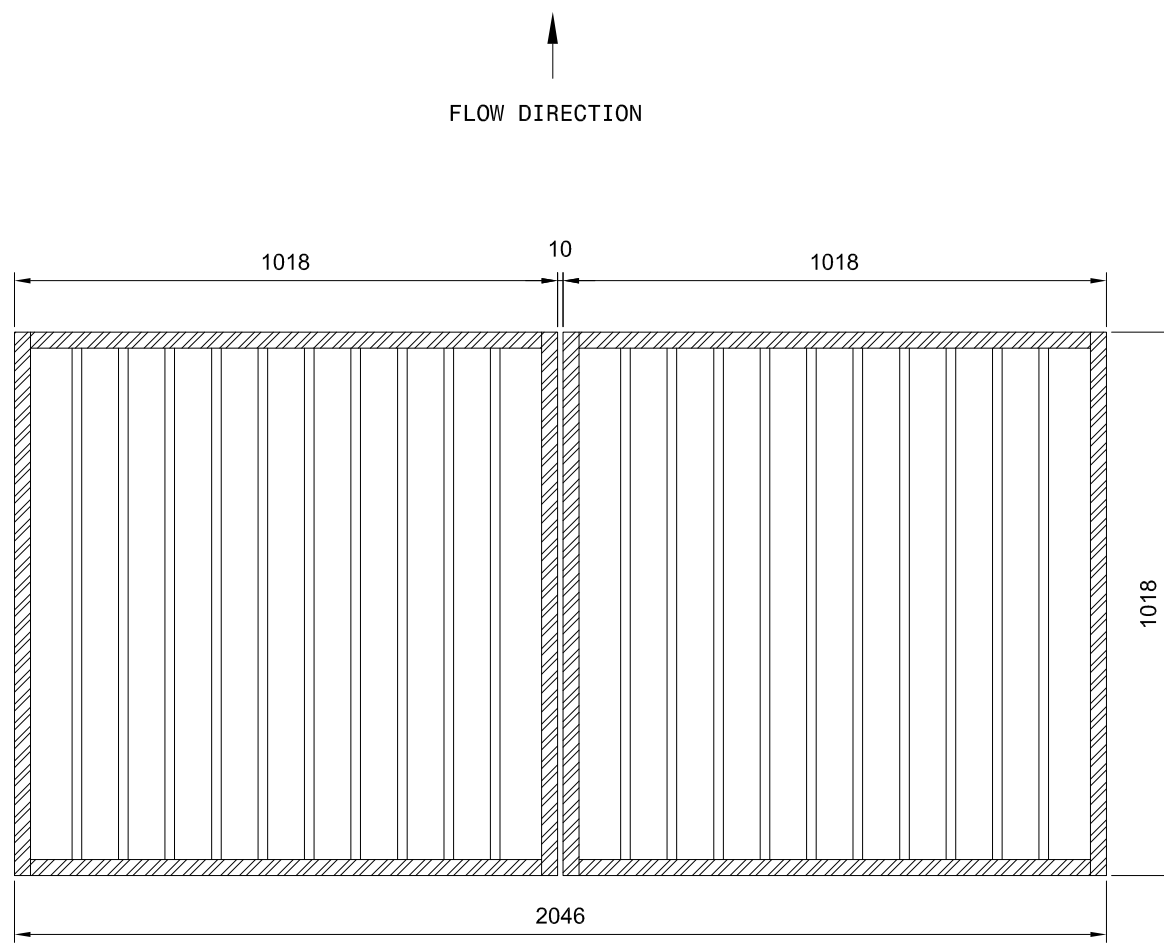
SECTION A-A  
FRAME DETAIL  
SCALE 1:10



SECTION B-B  
GRID DETAIL  
SCALE 1:10

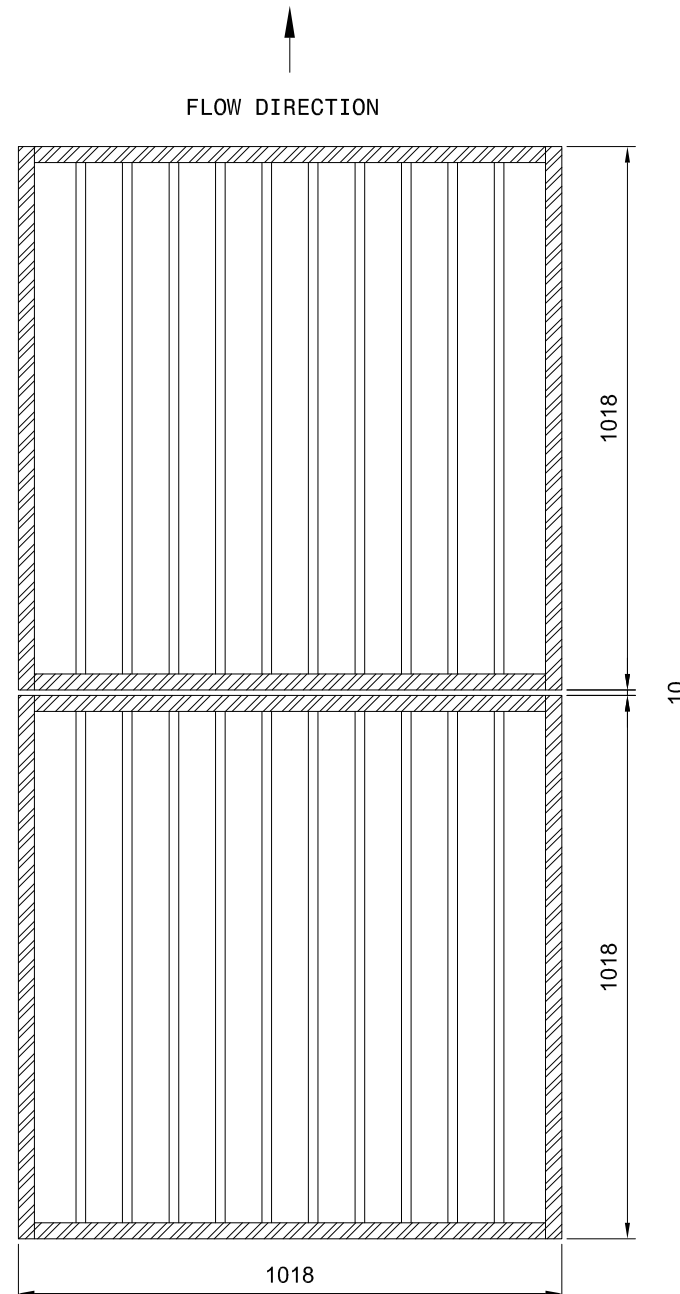


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GRID DETAIL FOR SINGLE GRID  
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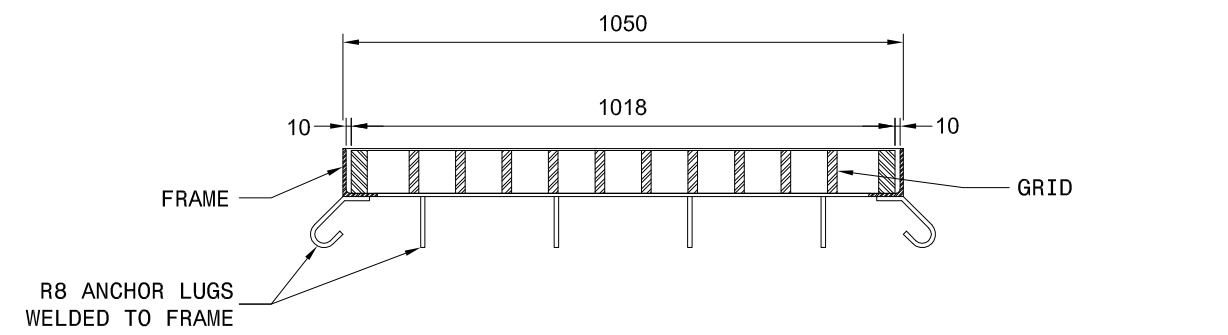


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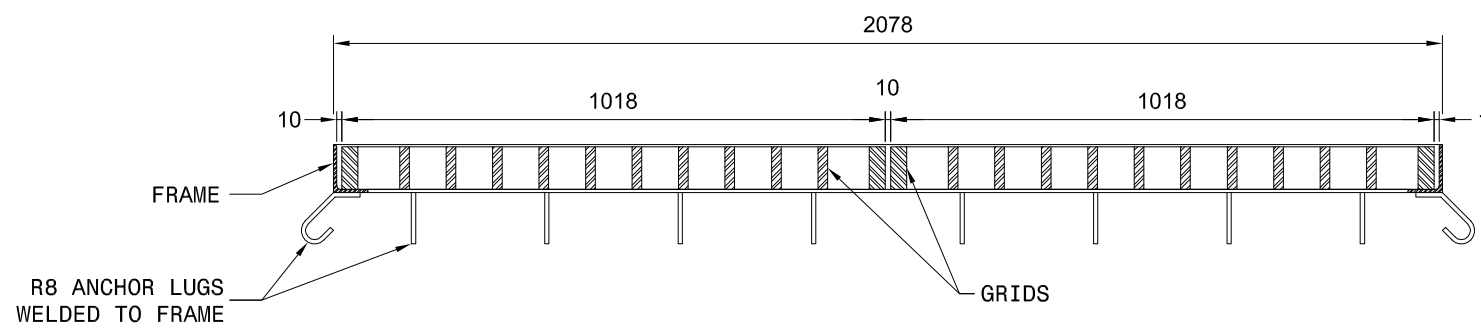
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GRID DETAIL FOR DOUBLE GRIDS  
SCALE 1:10



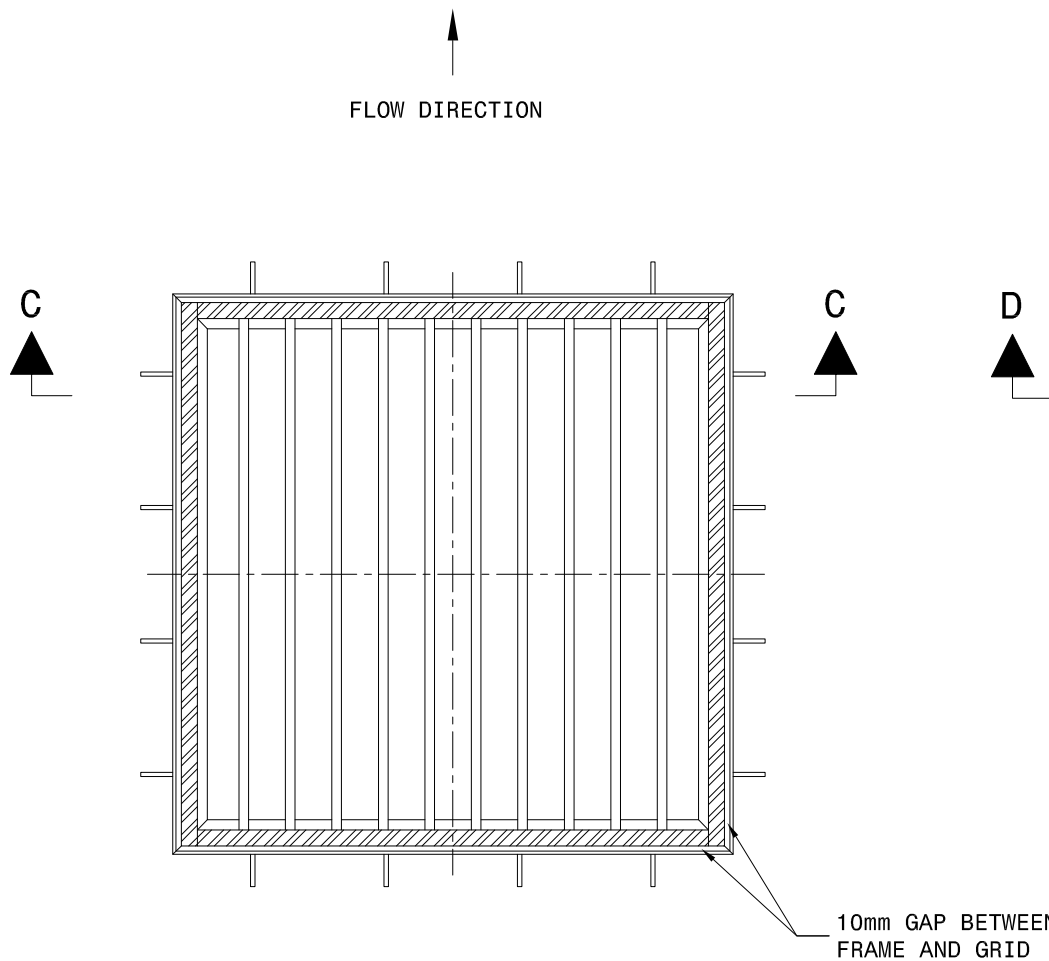
TYPE B



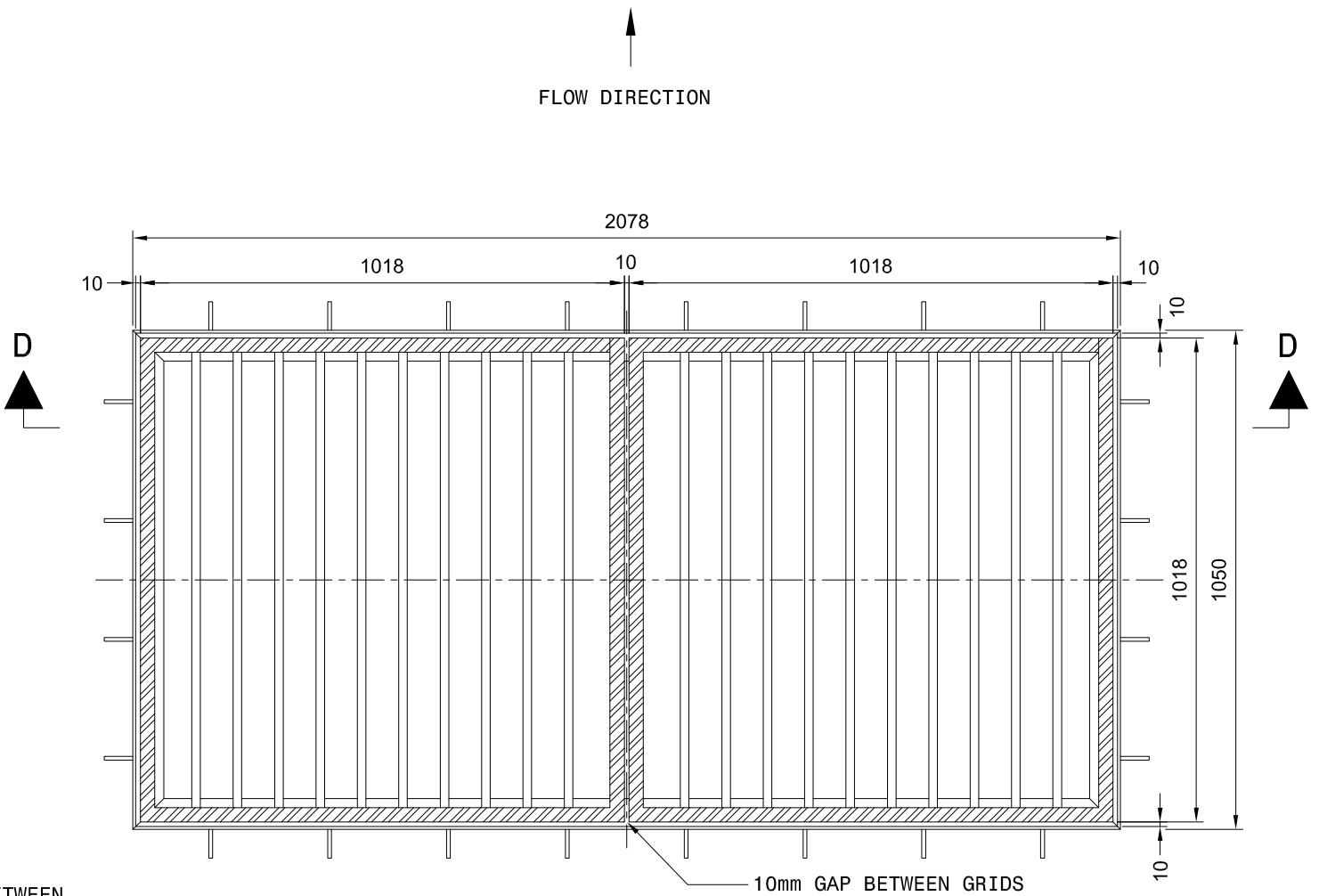
SECTION C-C  
FRAME WITH GRID DETAIL  
SCALE 1:10



SECTION D-D  
FRAME WITH GRIDS DETAIL  
SCALE 1:10

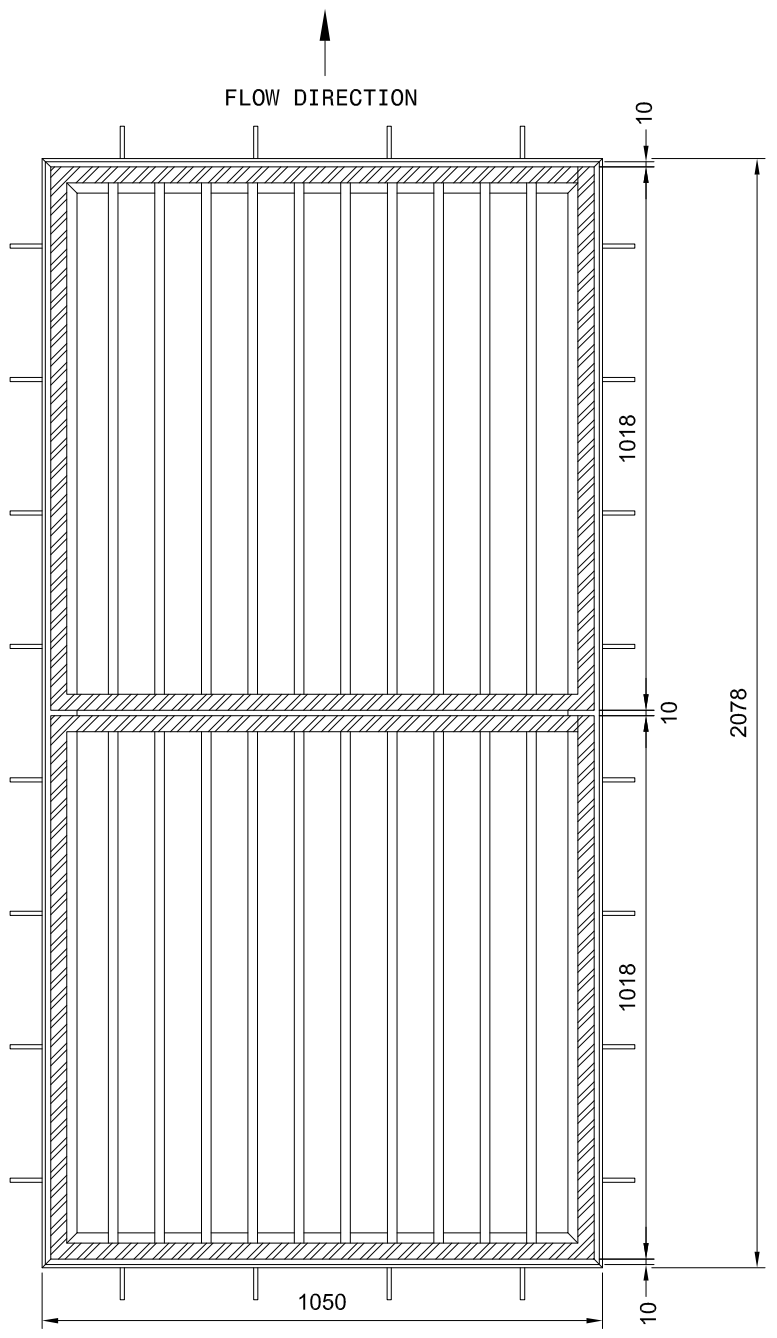


PLAN  
FRAME WITH GRID DETAIL FOR  
SINGLE GRID  
SCALE 1:10



TYPE A

PLAN  
FRAME WITH GRID DETAIL FOR  
DOUBLE GRIDS  
SCALE 1:10



TYPE B

#### NOTES

1. FRAMES FOR SINGLE AND DOUBLE TYPES A AND B TO BE MANUFACTURED FROM MILD STEEL GRADE: 350 IN COMPLIANCE WITH THE REQUIREMENTS OF BS 4360 PART 2. GRIDS TO BE MANUFACTURED FROM FIBREGLASS POLYMER CONCRETE TO LOADING SPECIFICATIONS AS INDICATED.
2. THE MANUFACTURING, ASSEMBLY AND FIXING OF THE FRAMES SHALL COMPLY WITH SANS 0162.
3. ALL WELDING SHALL BE FULL-JOINT PENETRATION CONTINUOUS BUTT-JOINTS (FRAMES), CONTINUOUS FILLET WELDS (ANCHOR LUGS TO FRAME) CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF BS 5135.
4. STEEL MEMBERS SHALL BE HOT-DIP GALVANIZED WITH AN 85µ COATING IN ACCORDANCE WITH SANS 763, ONLY AFTER ALL THE MEMBERS HAVE BEEN WELDED TOGETHER.
5. LOADING FOR SINGLE AND DOUBLE GRID TYPES A AND B = 40 kN WHEEL LOAD.
6. SINGLE GRID FITS SINGLE FRAME AND DOUBLE FRAME TYPE A AND B.
7. THE GRIDS MUST BE POSITIONED IN THE FRAME WITH THE GRID ELEMENTS PARALLEL TO THE FLOW OF THE WATER AS INDICATED ON THE DRAWING.
8. THE GRIDS MUST BE WELDED TO THE INSTALLED FRAMES WITH 6 X 50mm FILLET WELDS AS INDICATED ON THE DRAWING. THE WELDS MUST BE CLEANED AND RECOATED WITH A SUITABLE CORROSION PREVENTION PAINT.
9. REFERENCE DRAWINGS : THIS DRAWING MUST BE READ WITH DRAWINGS FOR INLETS.

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PROJECT TITLE:

ACCESS ROAD FROM R104  
UNDER THE N4 TO  
EMPUMELELWENI

DRAWING TITLE:

MANHOLE GRID AND FRAME  
DETAILS

DESIGNED:

P TSHABALALA

CHECKED:

F BURGER  
PR-ENG. 200900094

DRAWN:

R VAN ZYL

SIGN:

SCALE:

FEBRUARY 2023

DATE:

AS SHOWN

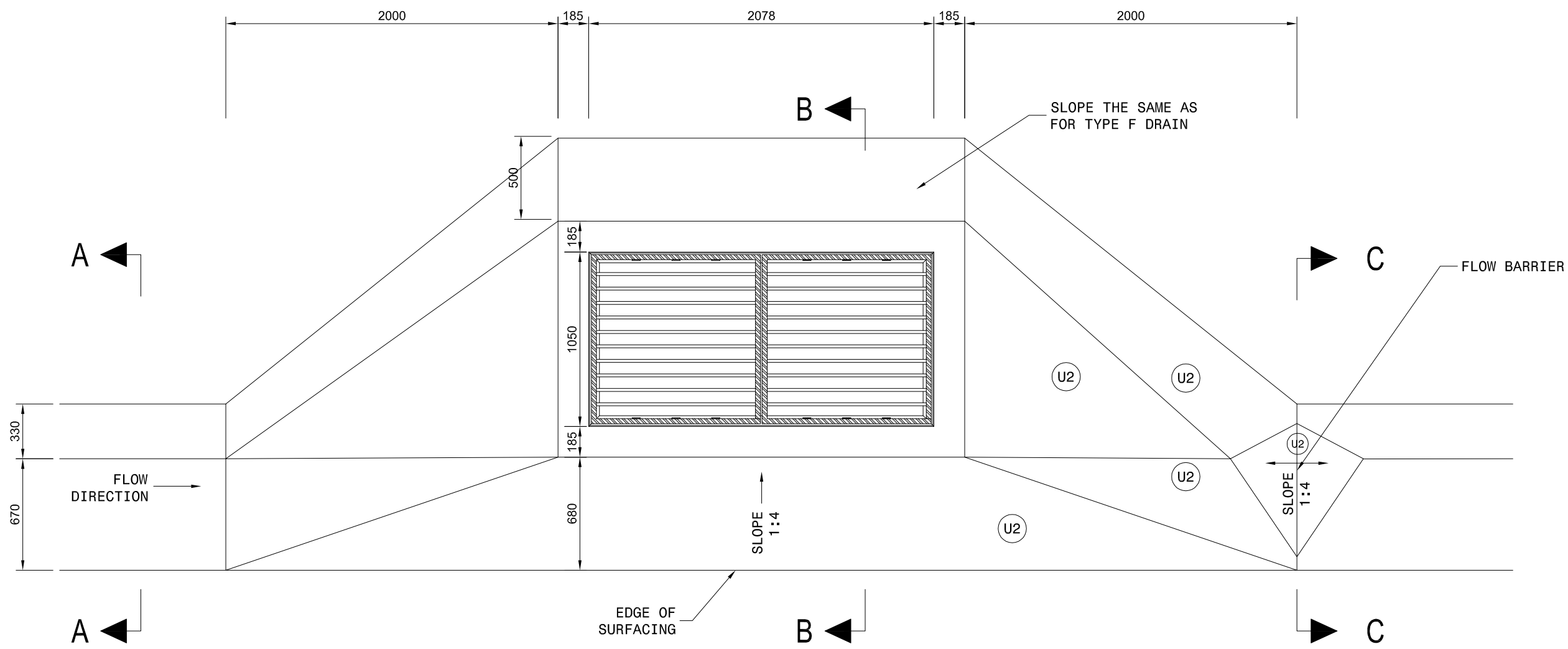
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NKP394\_DR09

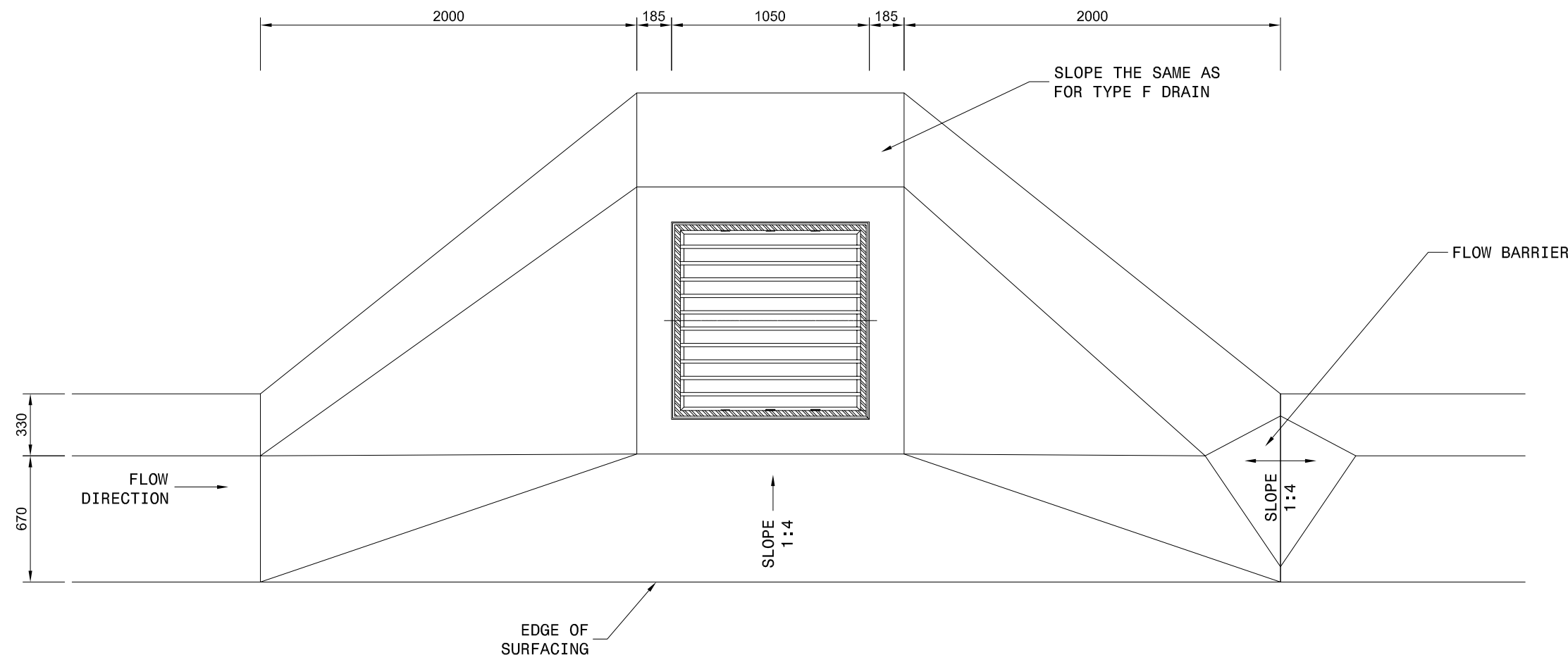
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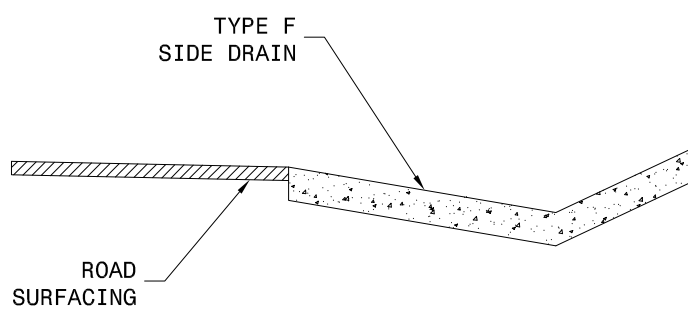
REVISION:



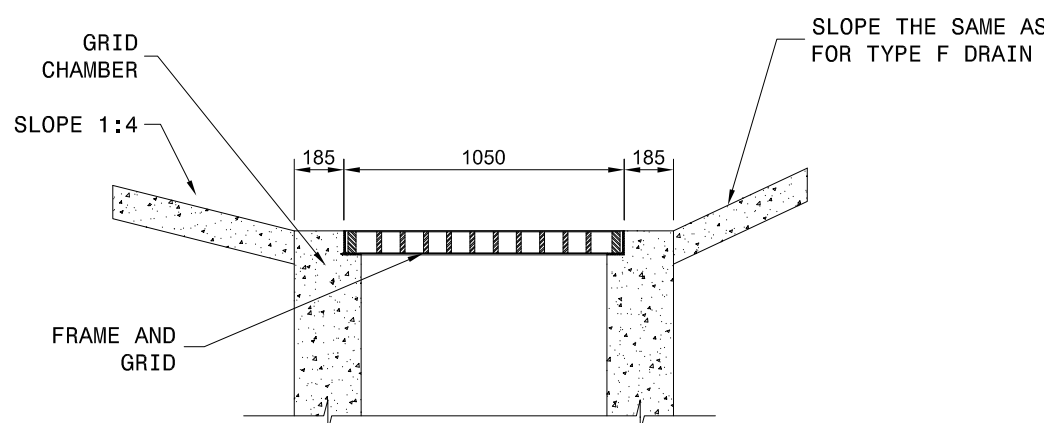
SIDE DRAIN WITH DOUBLE GRID INLET  
SCALE 1:20



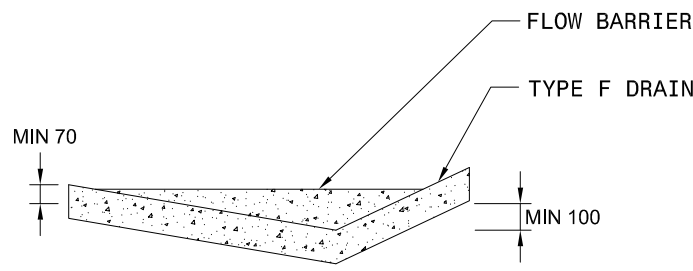
SIDE DRAIN WITH SINGLE GRID INLET  
SCALE 1:20



SECTION  
A-A  
SCALE 1:20



SECTION  
B-B  
SCALE 1:20



SECTION  
C-C  
SCALE 1:20

**NOTES:**

MATERIAL:

REINFORCEMENT: SABS 920, LATEST REVISION.

CONCRETE: (CAST IN SITU)

: GRID INLET CHAMBERS - CLASS 30/19.

: BENCHING - CLASS 15/19.

THE TYPE OF SURFACE FINISH IS INDICATED AS F1, F2 & U2.

F - FORMED SURFACES.

U - UNFORMED SURFACES.

MINIMUM CONCRETE COVER TO MAIN RE-INFORCEMENT IS 50mm.

ALL EXPOSED CORNERS MUST BE ROUNDED OFF TO A MINIMUM RADIUS OF 10mm OR BE CHAMFERED 25mm x 25mm.

FOR GRID AND FRAME DETAILS REFER TO DRAWINGS NKP\_Dr/08 AND 09.

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PROJECT TITLE:

ACCESS ROAD FROM R104  
UNDER THE N4 TO  
EMPUMELELWENI

DRAWING TITLE:

SIDE DRAIN GRID INLET DETAILS

DESIGNED:

P TSHABALALA

DRAWN:

R VAN ZYL

CHECKED:

F BURGER  
PR-ENG. 20090094

SIGN:

SCALE:

FEBRUARY 2023

DATE:

AS SHOWN

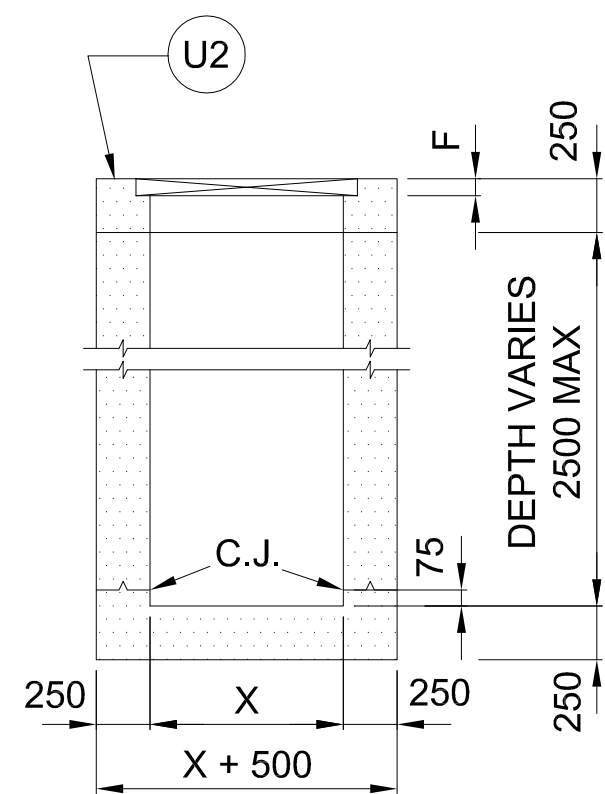
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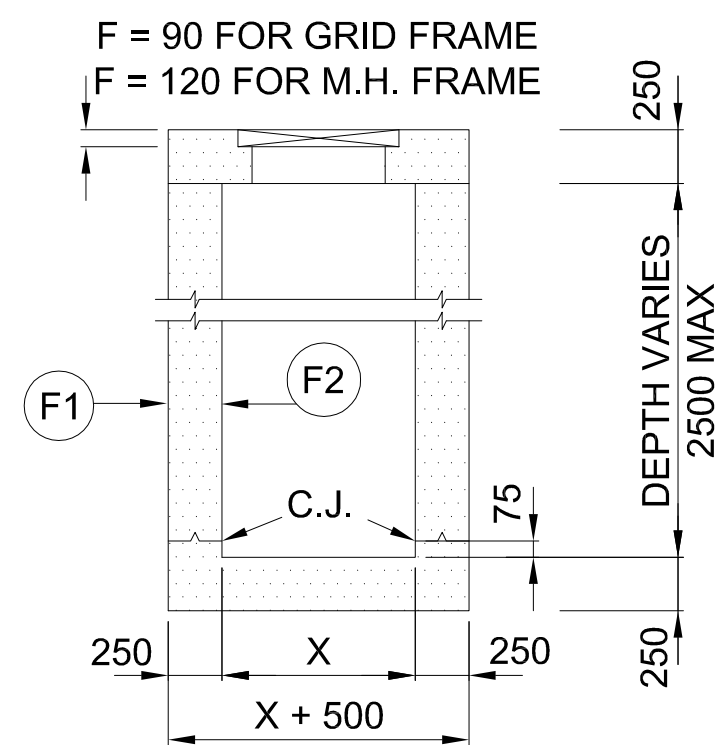
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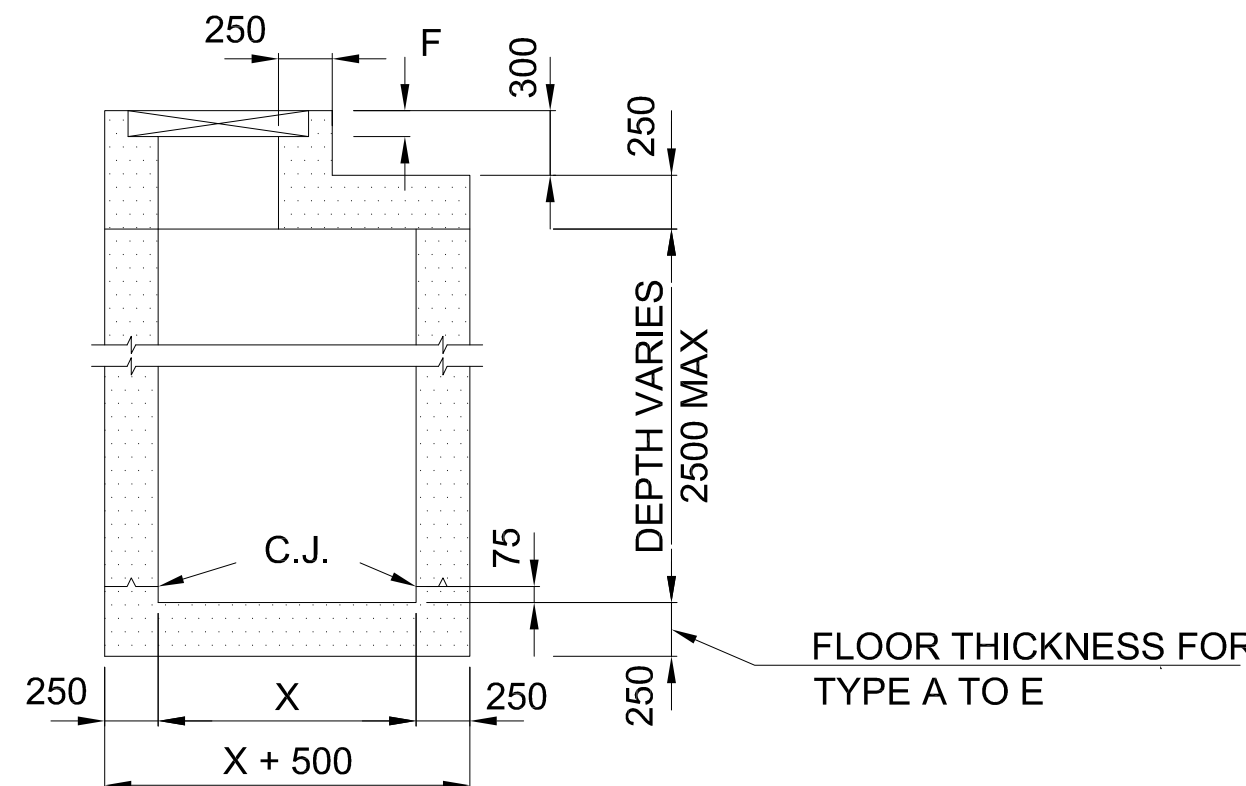
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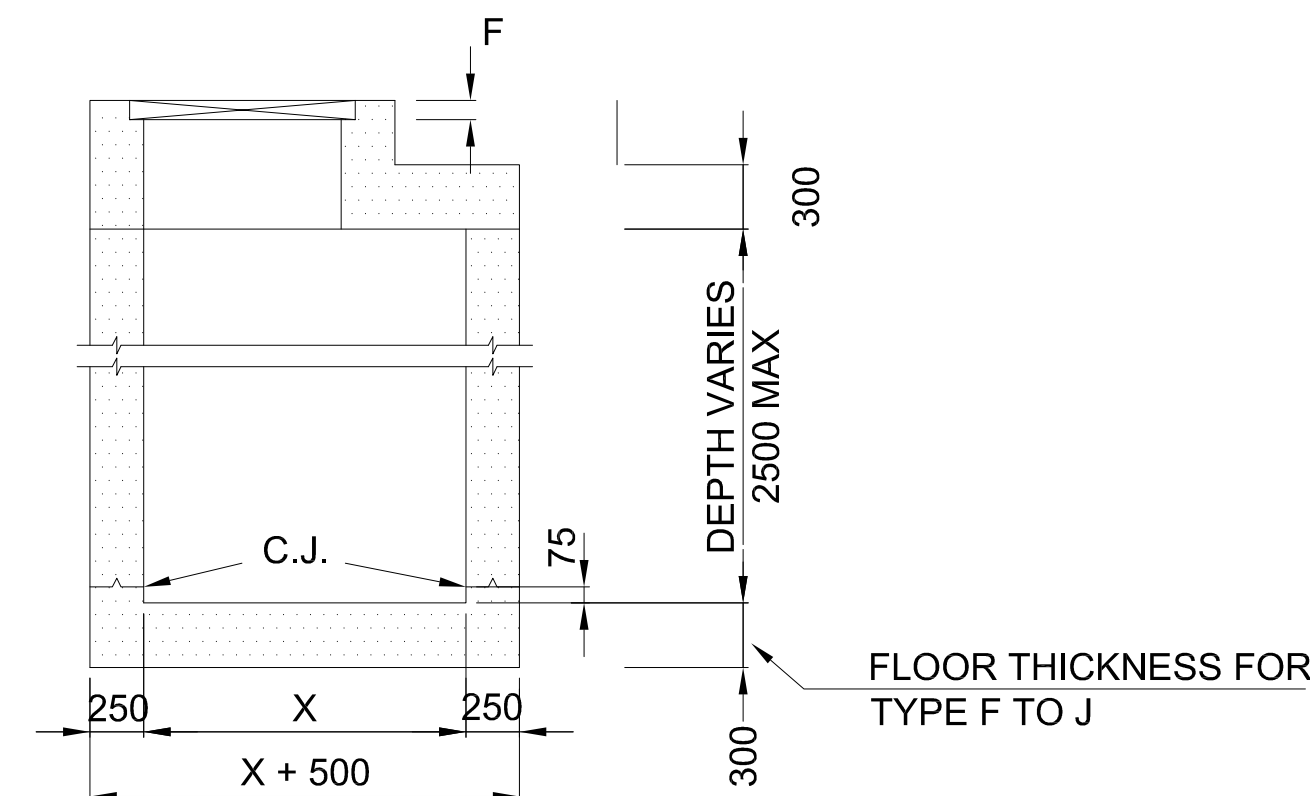
SECTION A-A  
SCALE 1:50



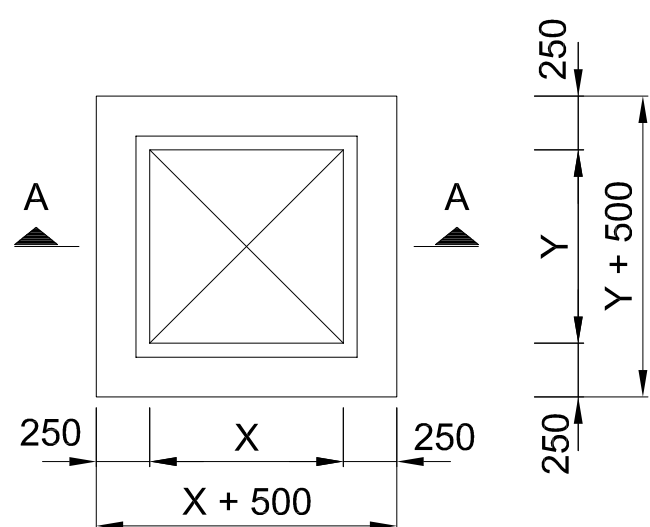
SECTION B-B  
SCALE 1:50



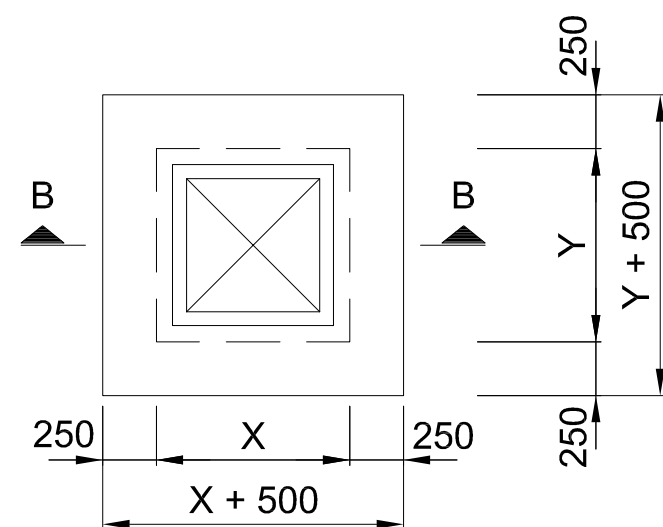
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SCALE 1:50



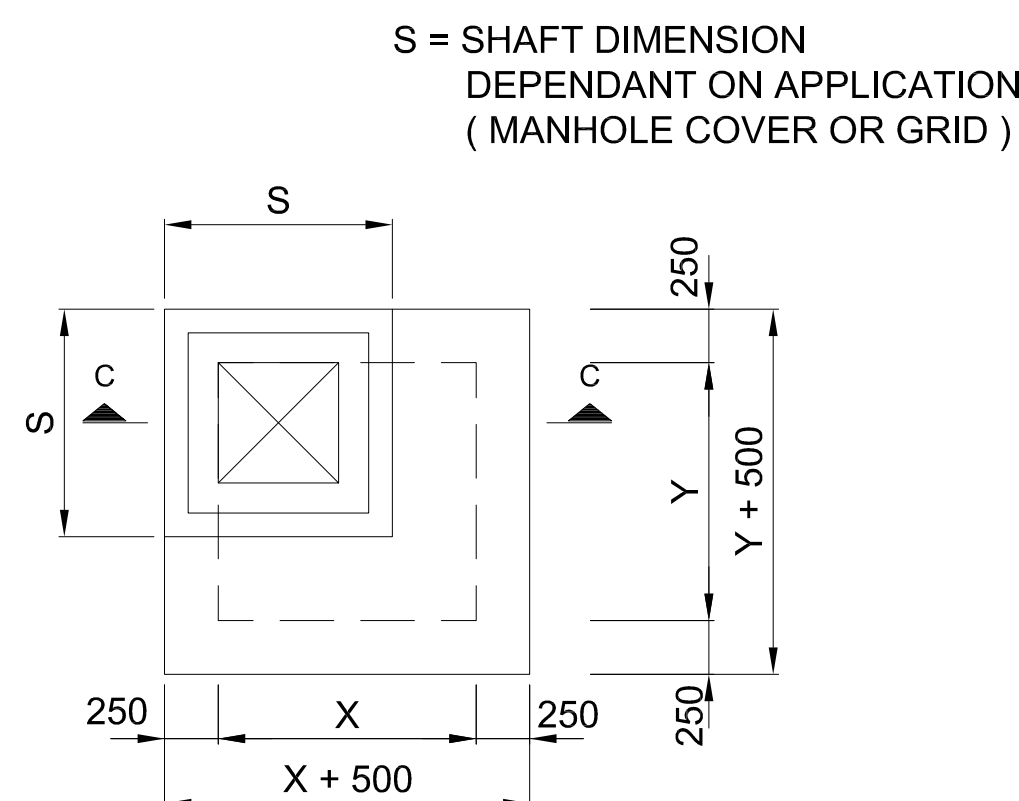
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SCALE 1:50



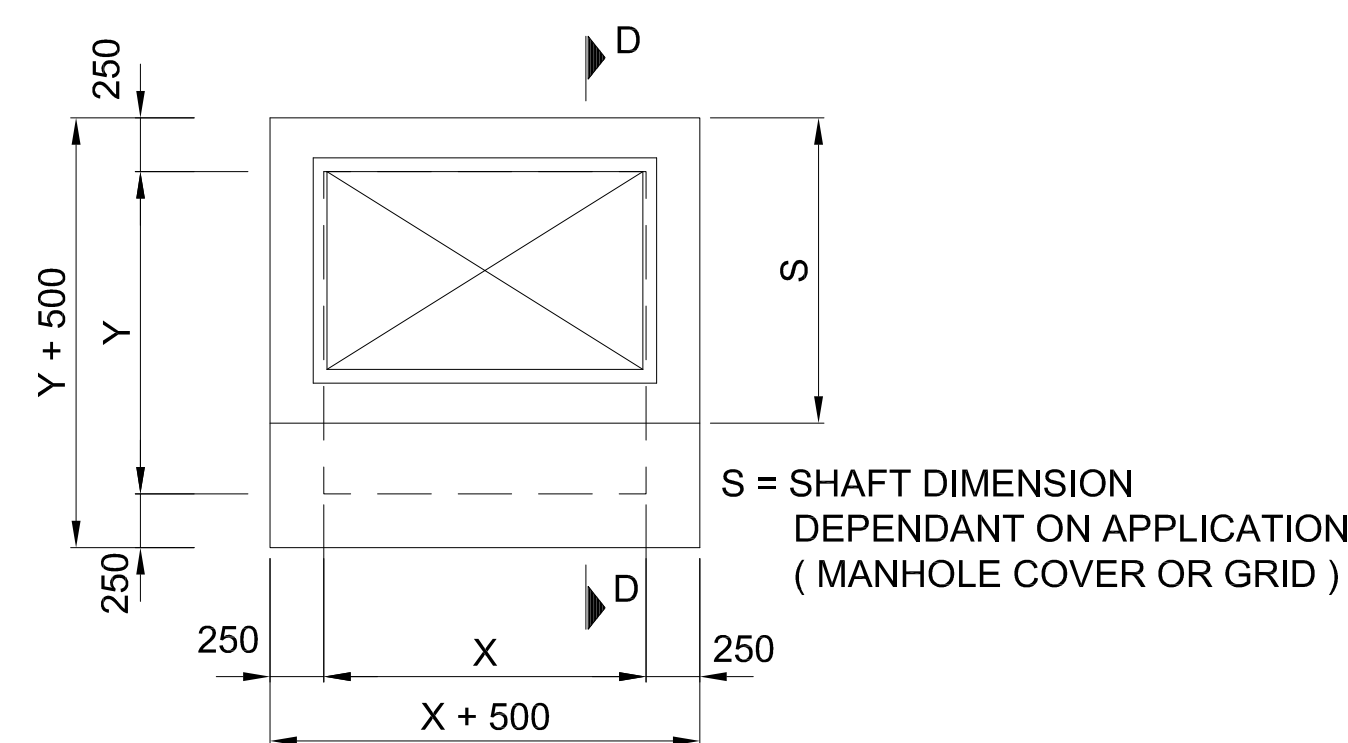
POSITION 1  
SCALE 1:50



POSITION 2  
SCALE 1:50



POSITION 3  
SCALE 1:50



POSITION 4  
(DOUBLE GRID INLET)  
SCALE 1:50

TYPICAL POSITION OF FRAME ON COVER SLAB  
FOR MANHOLES AND GRID INLETS

CHAMBER TYPE	DIMENSION					MANHOLES		INLETS WITH SINGLE GRID		INLETS WITH DOUBLE GRID	
	CHAMBER		EXTERNAL		FLOOR	Position of frame	300mm shaft on cover slab	Position of frame	300mm shaft on cover slab	Position of frame	300mm shaft on cover slab
	X	Y	X+500	Y+500							
A	900	900	1400	1400	250	2	NO	1	NO	NOT APPLICABLE (N/A)	
B	1200	900	1700	1400	250	3	NO	4	NO		
C	1200	1200	1700	1700	250	3	YES	2	NO		
D	1500	1200	2000	1700	250	3	YES	3	YES		
E	1500	1500	2000	2000	250	3	YES	3	YES		
F	2000	1500	2500	2000	300	3	YES	3	YES	4	YES
G	2000	2000	2500	2500	300	3	YES	3	YES	4	YES
H	2500	2000	3000	2500	300	3	YES	3	YES	4	YES
I	2500	2500	3000	3000	300	3	YES	3	YES	3	YES
J	2000	1000	2500	1500	300	N/A		N/A		2	NO

## NOTES

- CONCRETE FOR CHAMBERS TO BE REINFORCED.
- FOR TRAFFIC LOADING REFER TO TMH 7 PART 1 AND 2, LATEST REVISION 3.
- DETAILS OF REINFORCEMENT AND CONCRETE CLASS TO BE PROVIDED BY THE DESIGN CONSULTANT.
- 840 x 840 x 120 RECESS TO ACCOMMODATE MANHOLE COVER AND FRAME TYPE 2A ACCORDING TO SABS 558.
- FOR GRID DETAILS REFER TO DRAWING NO. TD-D-SG-1001 AND TD-D-SG-1002.
- FOR SELECTION OF CHAMBER SIZE REFER TO DRAWING NO: TD-D-MC-1001.
- THE TYPE OF SURFACE FINISH IS INDICATED AS F1 & U2  
F- FORMED SURFACES  
U- UNFORMED SURFACES

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PROJECT TITLE:

**ACCESS ROAD FROM R104  
UNDER THE N4 TO  
EMPUMELELWENI**

DRAWING TITLE:

PIPE LAYING DETAILS

DESIGNED:

P TSHABALALA

DRAWN:

R VAN ZYL

CHECKED:

**F BURGER**  
PR.ENG. 20090094

SIGN:

SCALE: AS SHOWN

DATE: JANUARY 2023

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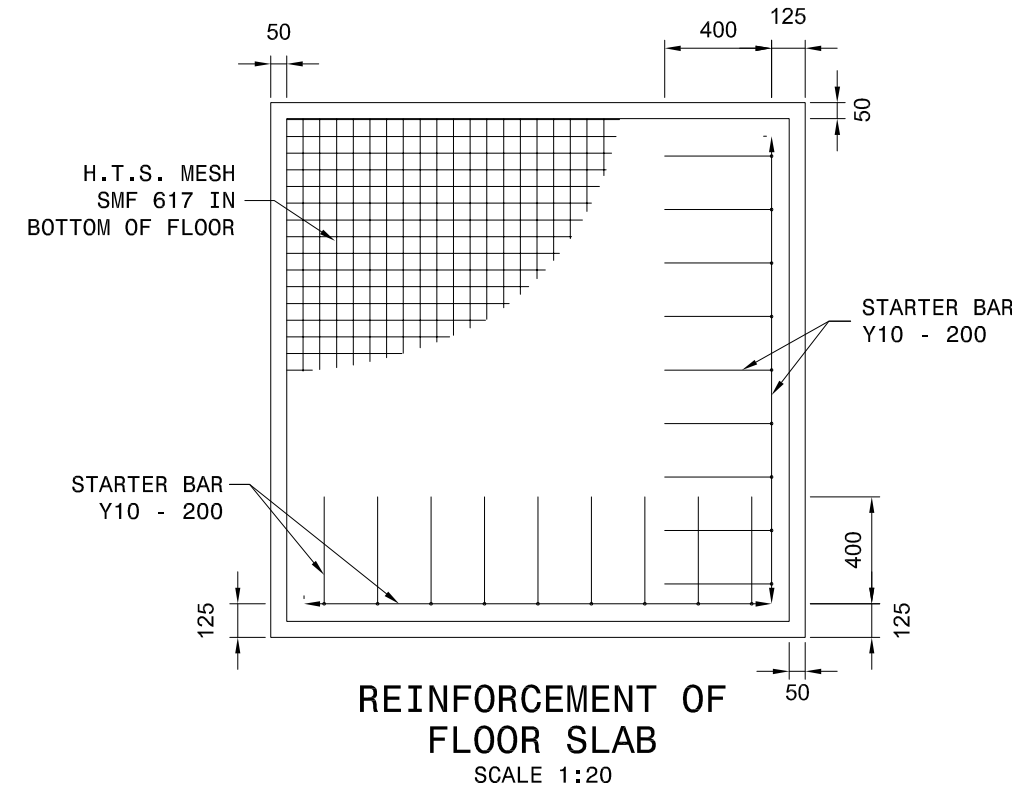
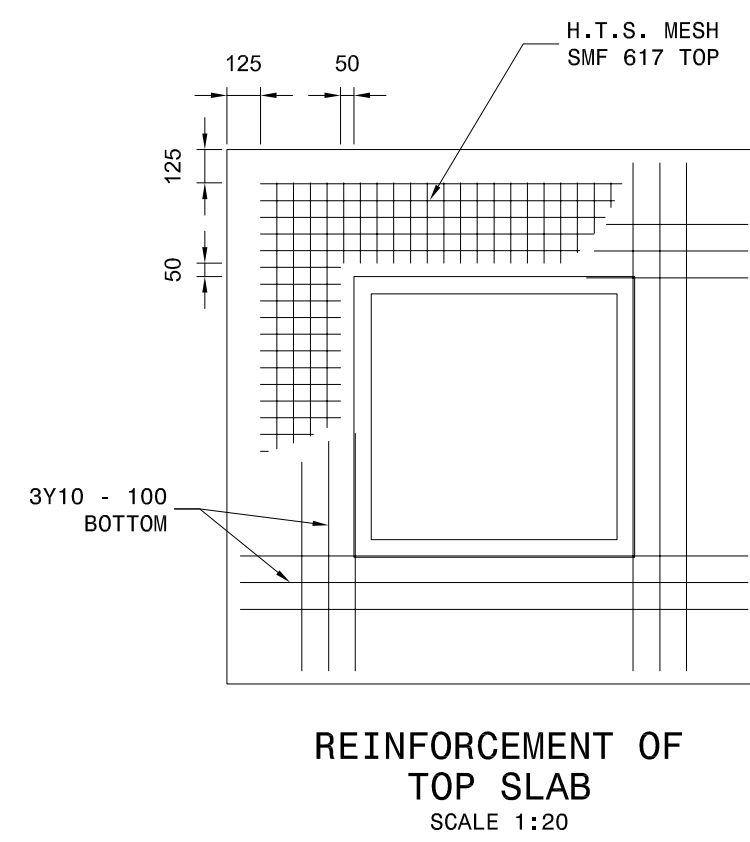
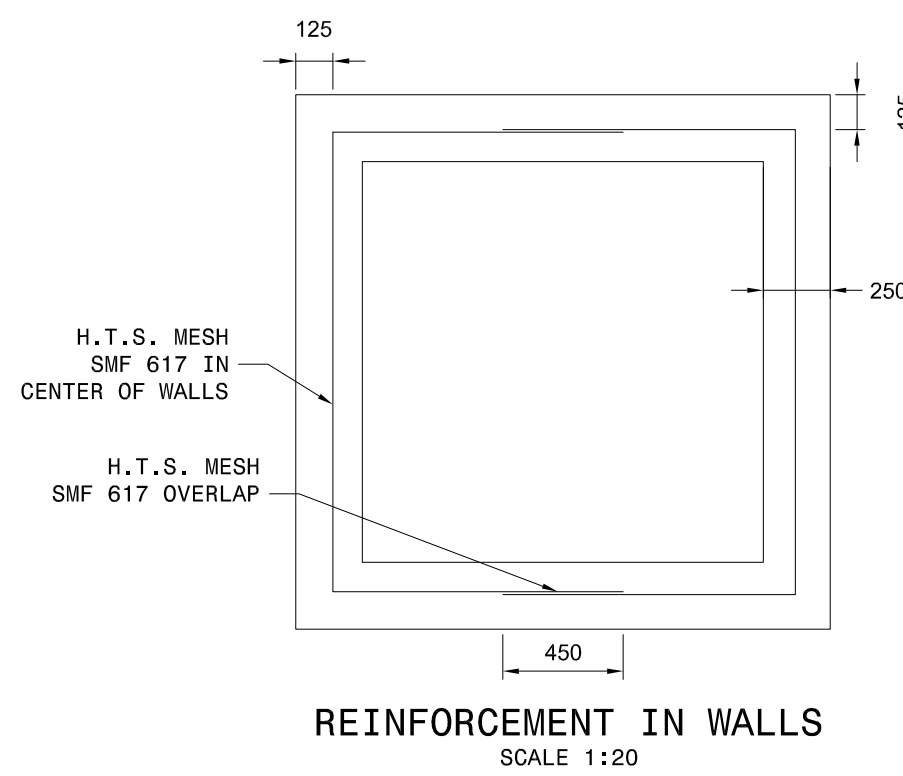
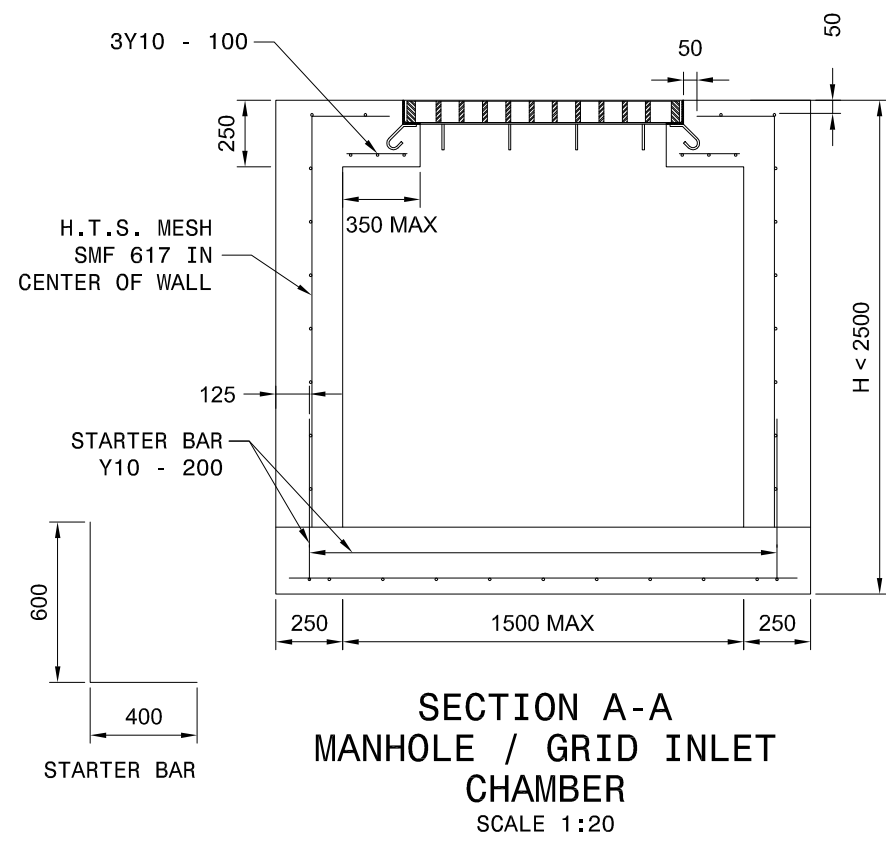
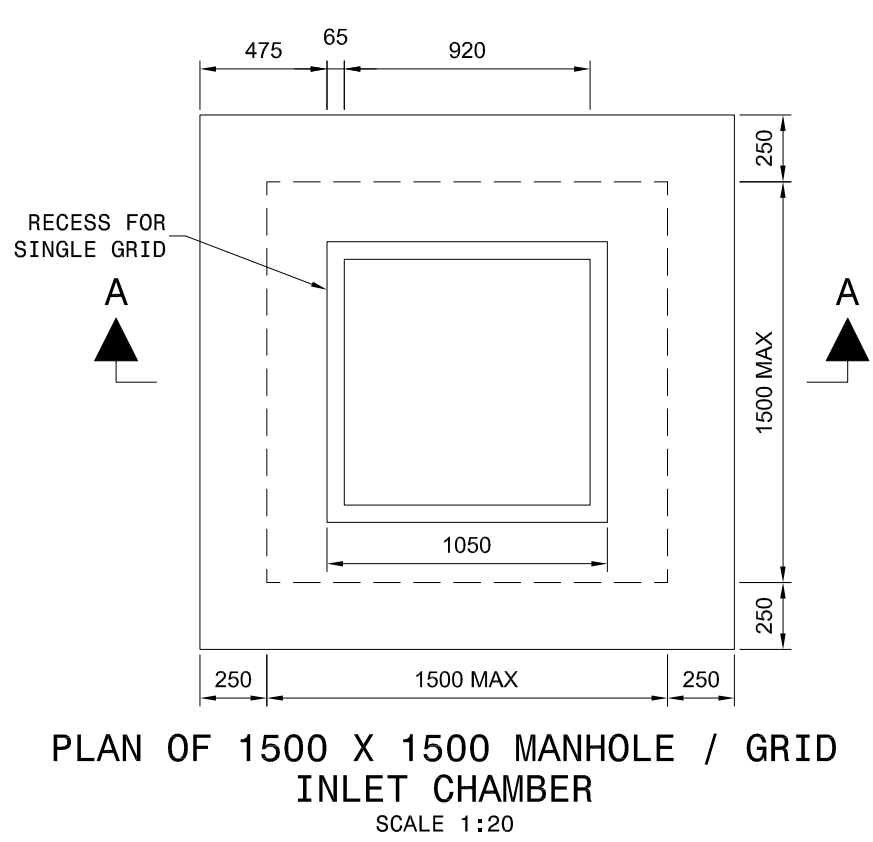
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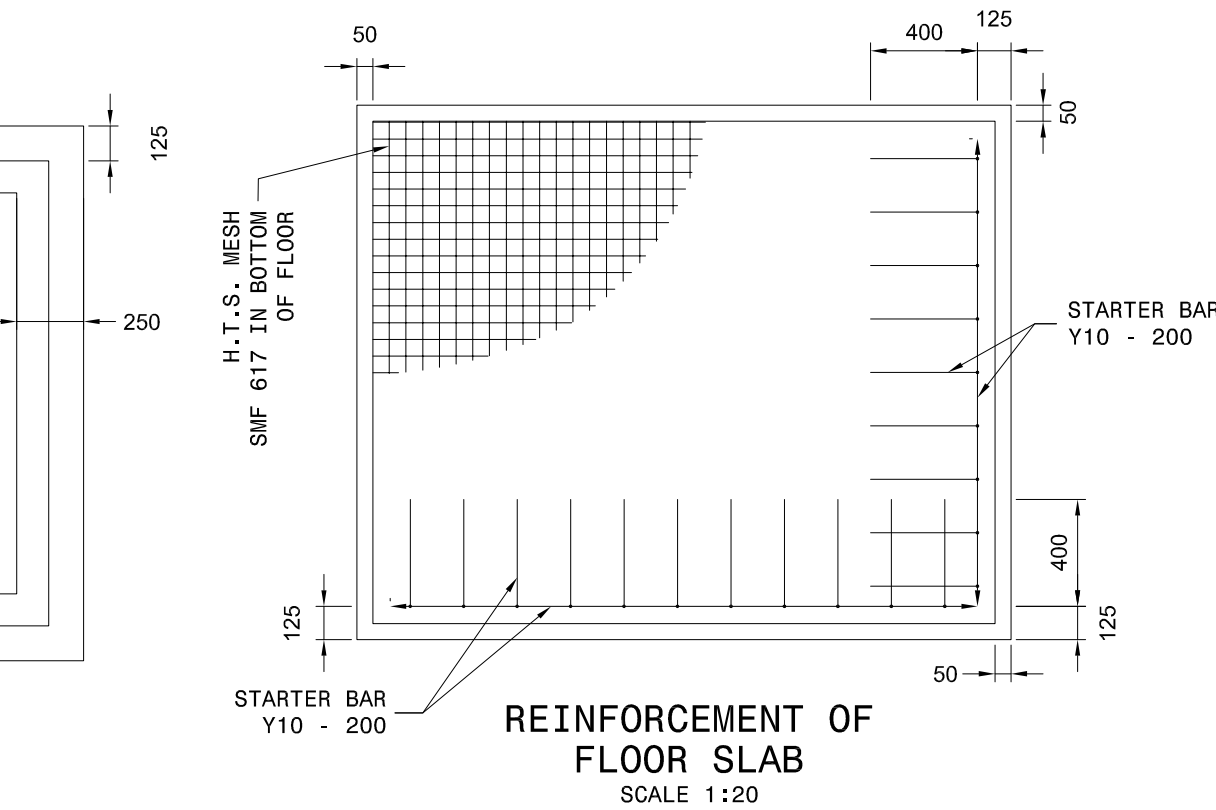
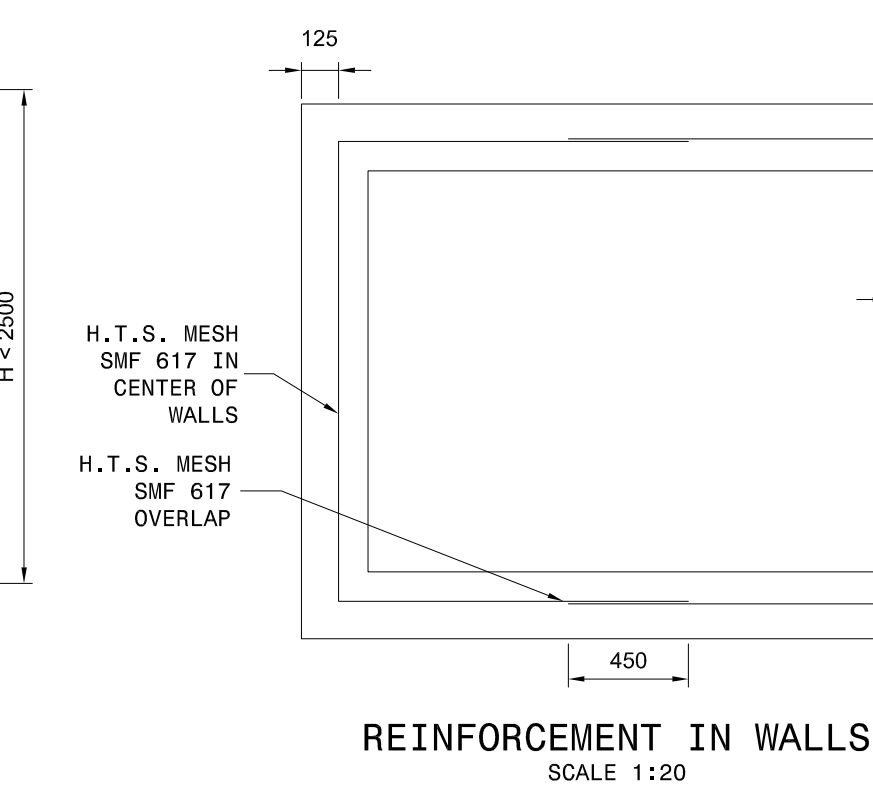
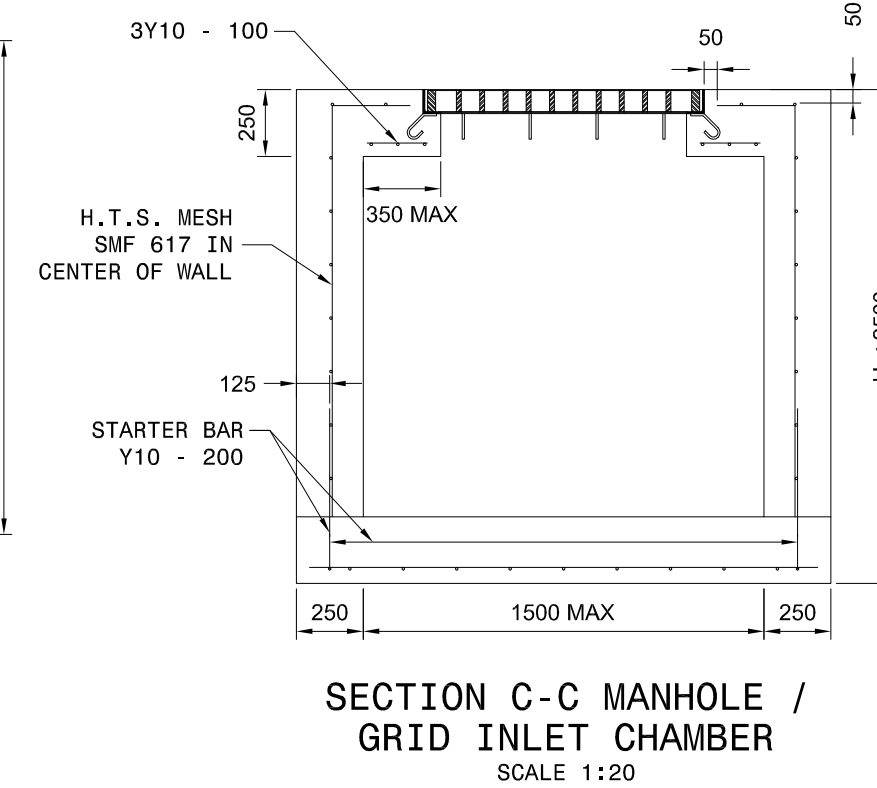
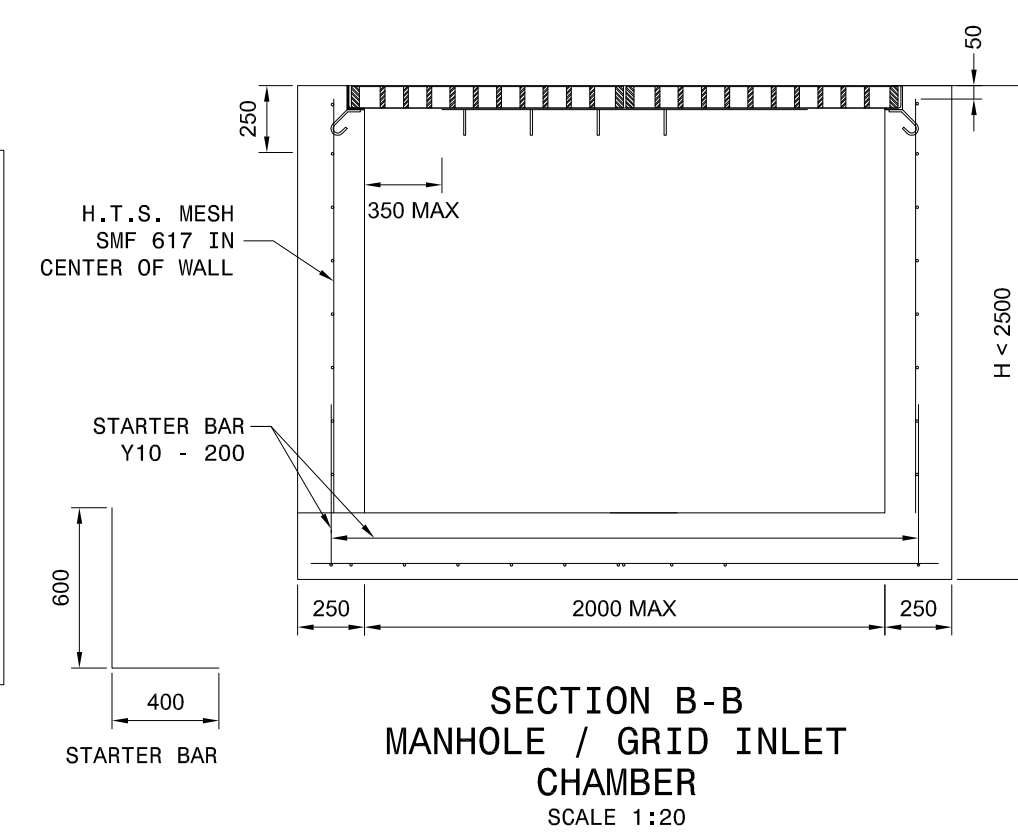
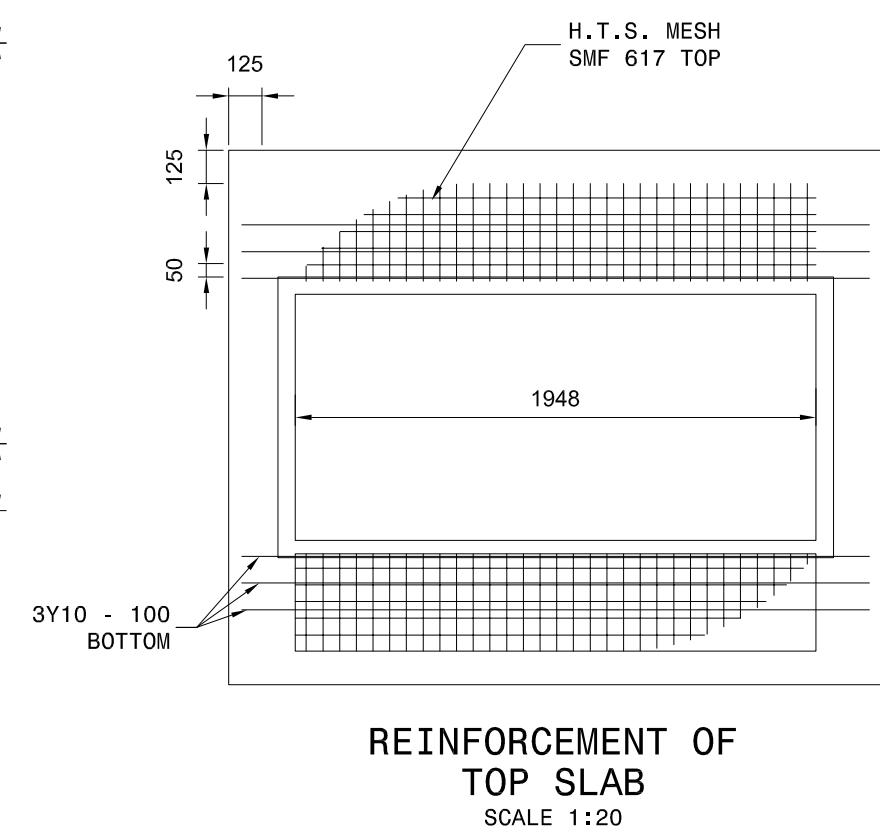
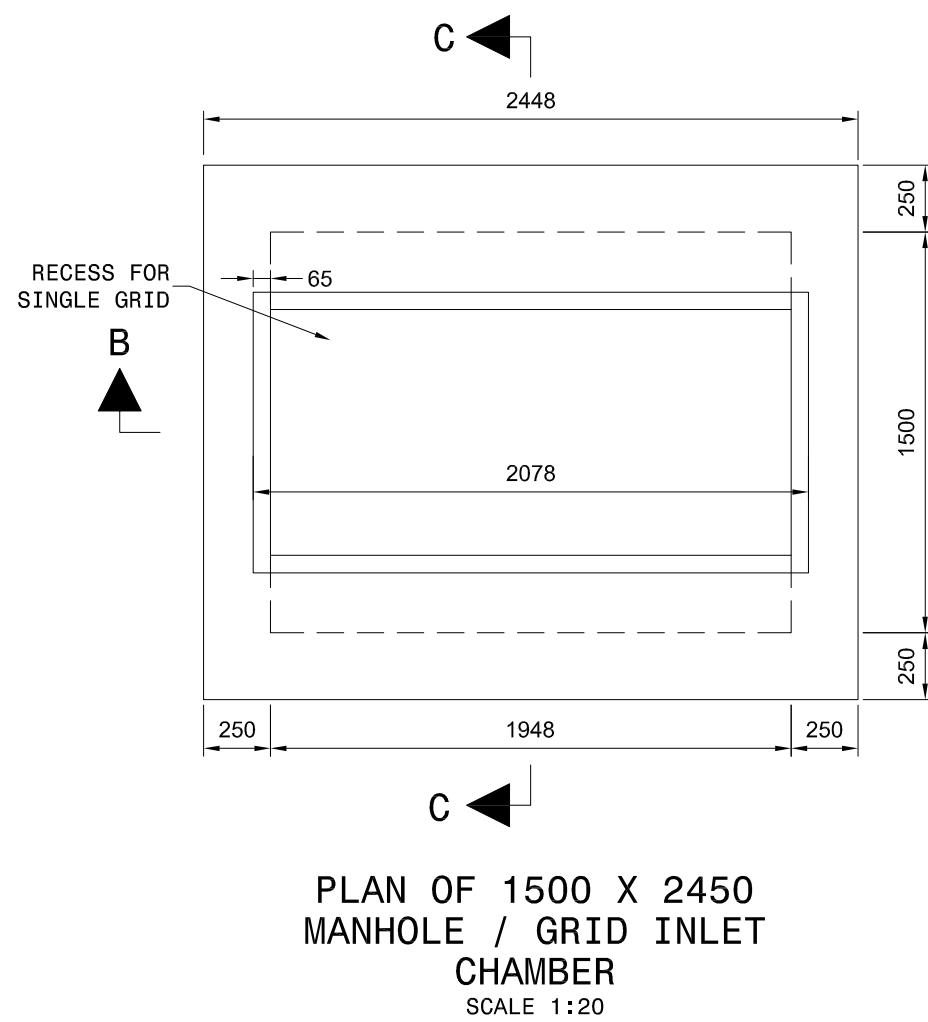
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REVISION:

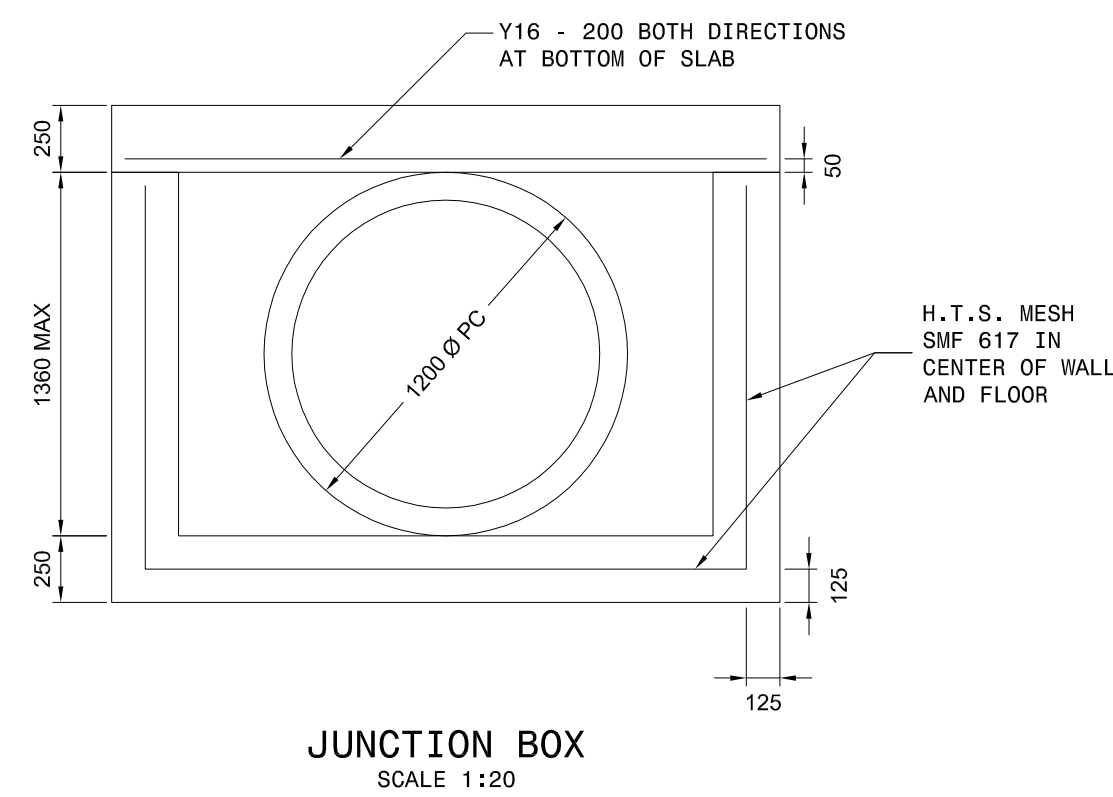
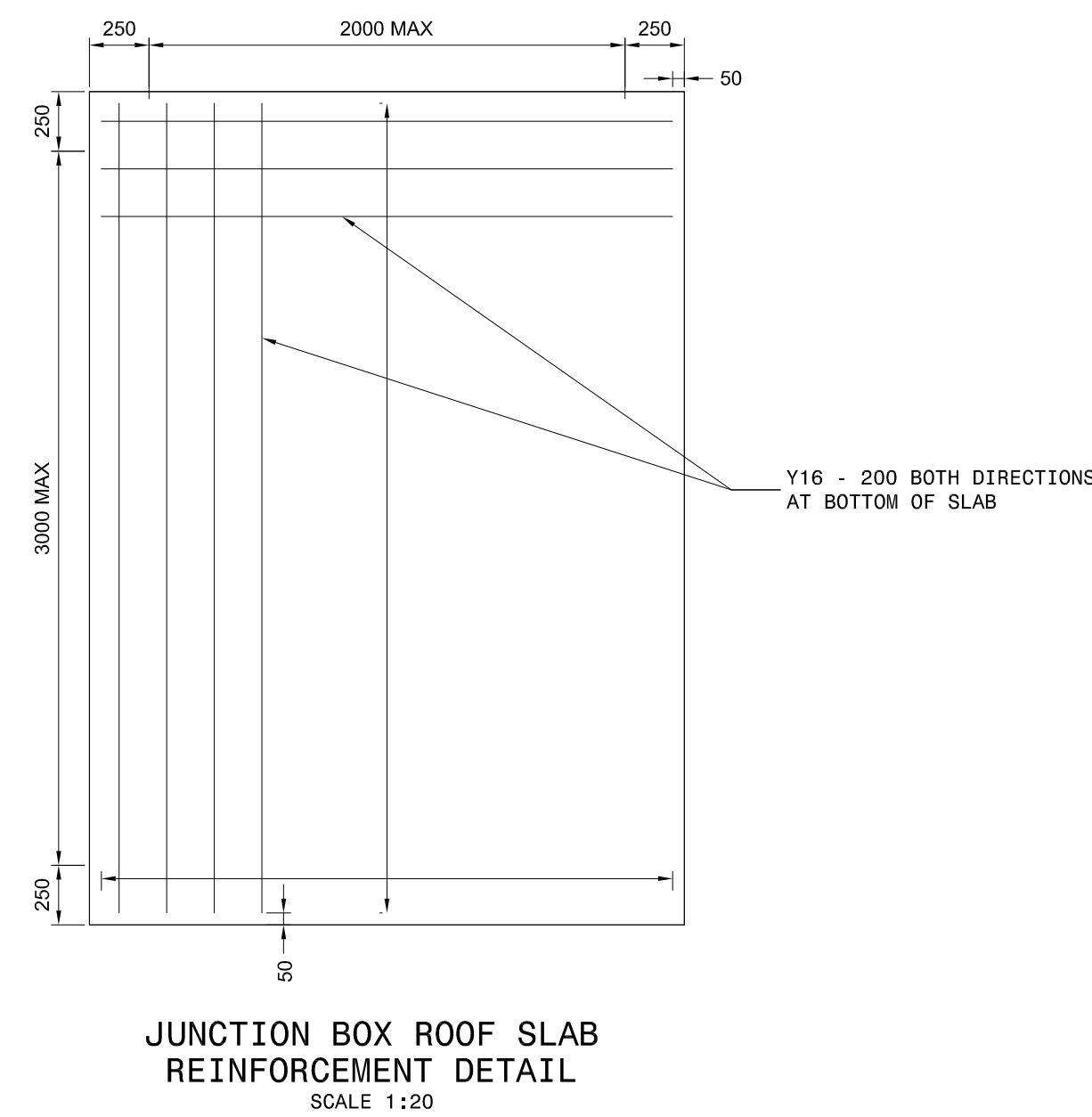




REINFORCEMENT DETAIL FOR SINGLE GRID MANHOLES / CHAMBERS WITH MAXIMUM INTERNAL DIMENSIONS OF 1500 X 1500



REINFORCEMENT DETAIL FOR SINGLE DOUBLE MANHOLES / CHAMBERS WITH MAXIMUM INTERNAL DIMENSIONS OF 1500 X 2000



NOTE:  
1. MINIMUM CONCRETE COVER TO MAIN REINFORCEMENT IS 50mm  
2. CONCRETE (CAST IN SITU) GRID INLET CHAMBERS : CLASS 30/19  
BENCHING : CLASS 15/19

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NOTES

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PROJECT TITLE:

ACCESS ROAD FROM R104  
UNDER THE N4 TO  
EMPUMELELWENI

DRAWING TITLE:

REINFORCEMENT OF MANHOLE,  
GRID INLET CHAMBERS AND  
JUNCTION BOX SLABS

DESIGNED:

P TSHABALALA

DRAWN:

R VAN ZYL

CHECKED:

F BURGER  
PR.ENG. 200900394

SIGN:

SCALE:

FEBRUARY 2023

DATE:

AS SHOWN

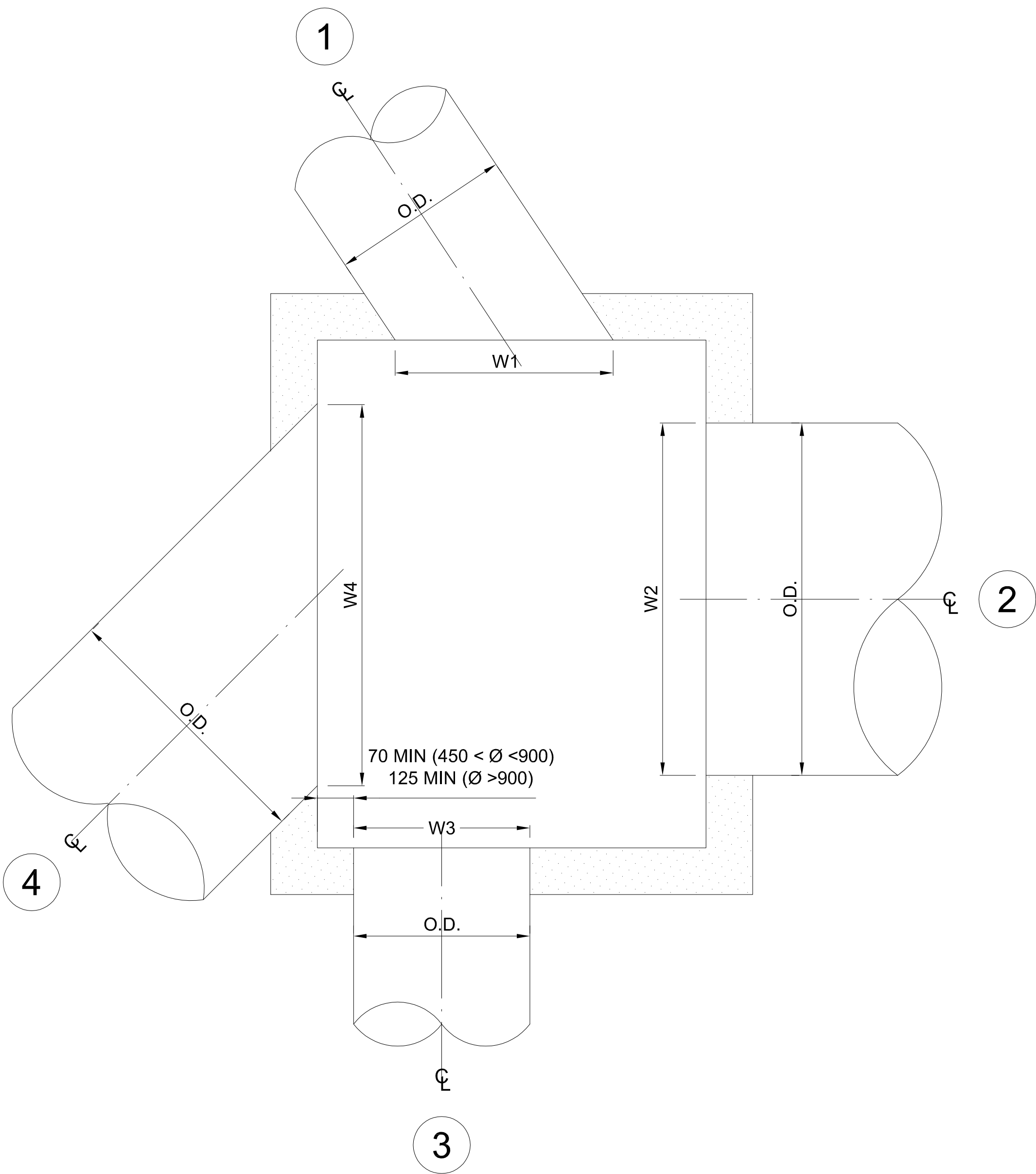
DRAWING NO:

NKP394\_DR08

CONTRACT NO:

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REVISION:



## LAYOUT OF CHAMBER

TABLE 1

NOMINAL DIAMETER	ANGLE OF SKEW $\Theta$			
	0°	15°	30°	45°
450 Ø	533	552	615	754
600 Ø	699	724	807	989
750 Ø	870	901	1005	1230
900 Ø	1029	1065	1188	1455
1050 Ø	1194	1236	1379	1689
1200 Ø	1359	1407	1569	1922
1350 Ø	1524	1578	1760	2155

VALUES OF EXTERNAL PIPE ENTRY / EXIT  
WIDTHS (Wx) FOR DIFFERENT PIPE DIAMETERS (Ø )

TABLE 2

Ø			SELECT PIPE DIAM. WITH LARGEST VALUE OF W <sub>1</sub> OR W <sub>3</sub>																																			
			450				600				750				900				1050				1200				1350											
SELECT PIPE DIAM. WITH LARGEST VALUE OF W <sub>2</sub> OR W <sub>4</sub>	450	0°	0	15	30	45	0	15	30	45	0	15	30	45	0	15	30	45	0	15	30	45	0	15	30	45	0	15	30	45	0	15	30	45				
		0	A	A	A	A	A	A	B	B	B	B	B	D	B	B	D	F	D	D	F	F	F	F	F	F	H	F	F	F	F	F	H					
	15	A	A	A	A	A	A	B	B	B	B	B	D	B	B	D	F	D	D	F	F	F	F	F	F	H	F	F	F	F	F	H						
	30	A	A	A	A	A	A	B	B	B	B	B	D	B	B	D	F	D	D	F	F	F	F	F	F	H	F	F	F	F	F	H						
	45	A	A	A	A	A	A	B	B	B	B	B	D	B	B	D	F	D	D	F	F	F	F	F	F	H	F	F	F	F	F	H						
	600	0	A	A	A	A	A	A	B	B	B	B	B	D	B	B	D	F	D	D	F	F	F	F	F	F	H	F	F	F	F	F	H					
		15	A	A	A	A	A	A	B	B	B	B	B	D	B	B	D	F	D	D	F	F	F	F	F	F	H	F	F	F	F	F	H					
		30	B	B	B	B	B	B	C	C	C	C	C	D	C	C	D	F	D	D	F	F	F	F	F	F	H	F	F	F	F	F	H					
		45	B	B	B	B	B	B	C	C	C	C	C	D	C	C	D	F	D	D	F	F	F	F	F	F	H	F	F	F	F	F	H					
	750	0	B	B	B	B	B	B	C	C	C	C	C	D	C	C	D	F	D	E	F	F	F	F	F	F	H	F	F	F	F	F	H					
		15	B	B	B	B	B	B	C	C	C	C	C	D	C	C	D	F	D	E	F	F	F	F	F	F	H	F	F	F	F	F	H					
		30	B	B	B	B	B	B	C	C	C	C	C	D	C	C	D	F	E	E	F	F	F	F	F	F	H	F	F	F	F	F	H					
		45	D	D	D	D	D	D	D	D	D	D	D	E	D	D	E	F	E	E	F	F	F	F	F	F	H	F	F	F	F	F	H					
	900	0	B	B	B	B	B	B	C	C	C	C	C	D	C	C	D	F	E	E	F	F	F	F	F	F	H	F	F	F	F	F	H					
		15	B	B	B	B	B	B	C	C	C	C	C	D	C	C	D	F	E	E	F	F	F	F	F	F	H	F	F	F	F	F	H					
		30	D	D	D	D	D	D	D	D	D	D	D	E	D	D	E	F	E	E	F	F	F	F	F	F	H	F	F	F	F	F	H					
		45	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	G	H	G	G	G	G	G	H					
	1050	0	D	D	D	D	D	D	D	D	D	D	E	E	D	D	E	F	E	E	F	F	F	F	F	F	H	F	F	F	F	F	H					
		15	D	D	D	D	D	D	D	D	D	D	E	D	D	E	F	E	E	F	F	F	F	F	F	H	F	F	F	F	F	H						
		30	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	H	G	G	G	G	G	H						
		45	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	H	G	G	G	G	G	H						
	1200	0	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	G	H	G	G	G	G	G	H					
		15	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	H	G	G	G	G	G	H						
		30	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	H	G	G	G	G	G	H						
		45	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	I	H	H	H	H	I						
	1350	0	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	H	G	G	G	G	G	H						
		15	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	H	G	G	G	G	G	H						
		30	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	G	F	F	G	G	G	G	G	H	G	G	G	G	G	H						
45		H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	I	H	H	H	H	I							

CHAMBER TYPE	INTERNAL CHAMBER SIZE
A	900 x 900
B	1200 x 900
C	1200 x 1200
D	1500 x 1200
E	1500 x 1500
F	2000 x 1500
G	2000 x 2000
H	2500 x 2000
I	2500 x 2500
J*	2000 x 1000

## INTERNAL CHAMBER SIZES

### PROCEDURE:

1. CONSIDER PIPES 1 AND / OR 3 FROM TABLE 1, DETERMINE WHICH PIPE HAS THE LARGEST EXTERNAL PIPE ENTRY / EXIT WIDTH (Wx).
2. REPEAT THE PROCEDURE FOR 2 AND / OR 4.
3. USING THE TWO PIPES WITH THE LARGEST EXTERNAL PIPE ENTRY / EXIT WIDTH, READ FROM TABLE 2 THE SIZE OF THE CHAMBER REQUIRED.
4. IN CASE EITHER PIPES 1 AND 3 OR 2 AND 4 DO NOT EXIST, SELECT THE CHAMBER TYPE FROM THE COLUMN OR ROW FOR A 450 Ø PIPE AT 0° SKEW FROM TABLE 2.
5. REFER TO DRAWING NO: TD-D-MC-1002 FOR CHAMBER DIMENSIONS.
6. SMALLER CHAMBERS THAN TYPE 'A' FOR USE AT MISCELLANEOUS INLET STRUCTURES MAY BE CONSIDERED.

### LEGEND:

- Ø = NOMINAL DIAMETER OF PIPE  
Θ = SKEW ANGLE  
Wx = PIPE ENTRY / EXIT WIDTH  
O.D. = OUTSIDE DIAMETER

### NOTES:

1. TABLE 1 IS CALCULATED USING CLASS 100 "D" PIPES.
2. TYPE J\* CHAMBERS FOR USE AT MEDIAN CATCHPITS (INLET TYPE 3: REFER TO DWG MC-1004)

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PROJECT TITLE:

**ACCESS ROAD FROM R104  
UNDER THE N4 TO  
EMPUMELELWENI**

DRAWING TITLE:

MANHOLE GRID AND FRAME  
DETAILS

DESIGNED:

P TSHABALALA

DRAWN:

R VAN ZYL

CHECKED:

F BURGER  
PR.ENG. 20090094

SIGN:

SCALE:

FEBRUARY 2023

DATE:

AS SHOWN

DRAWING NO:

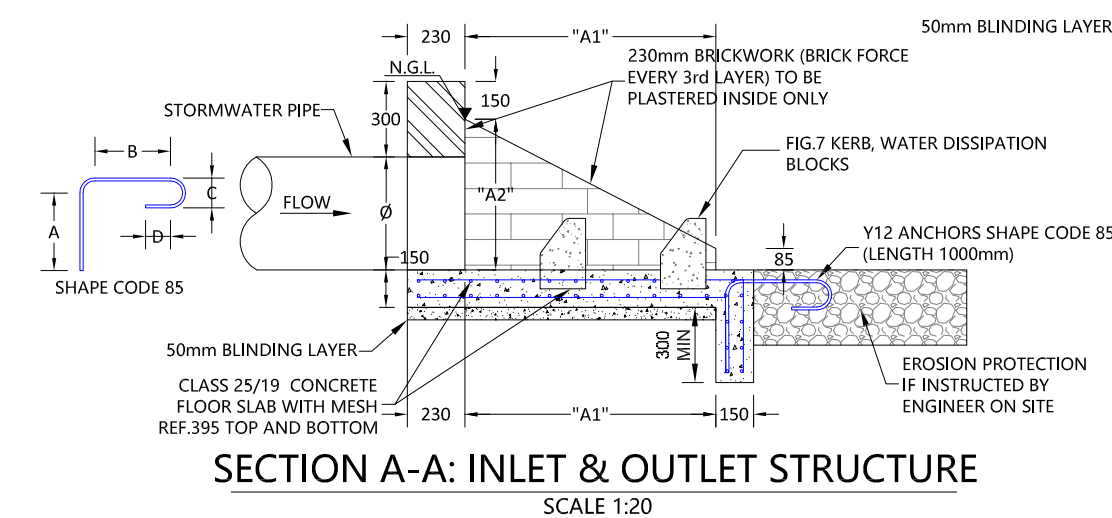
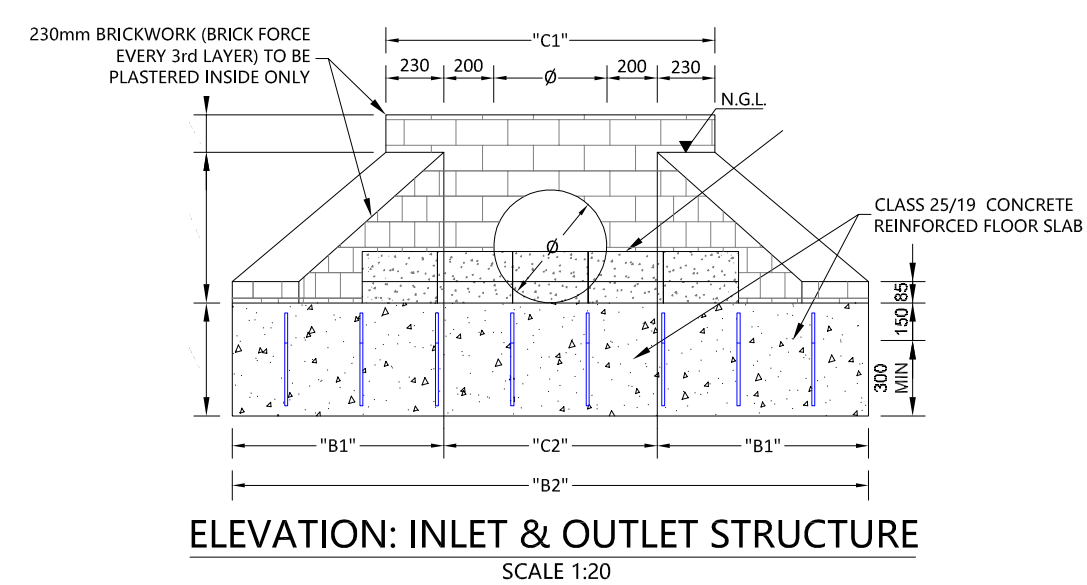
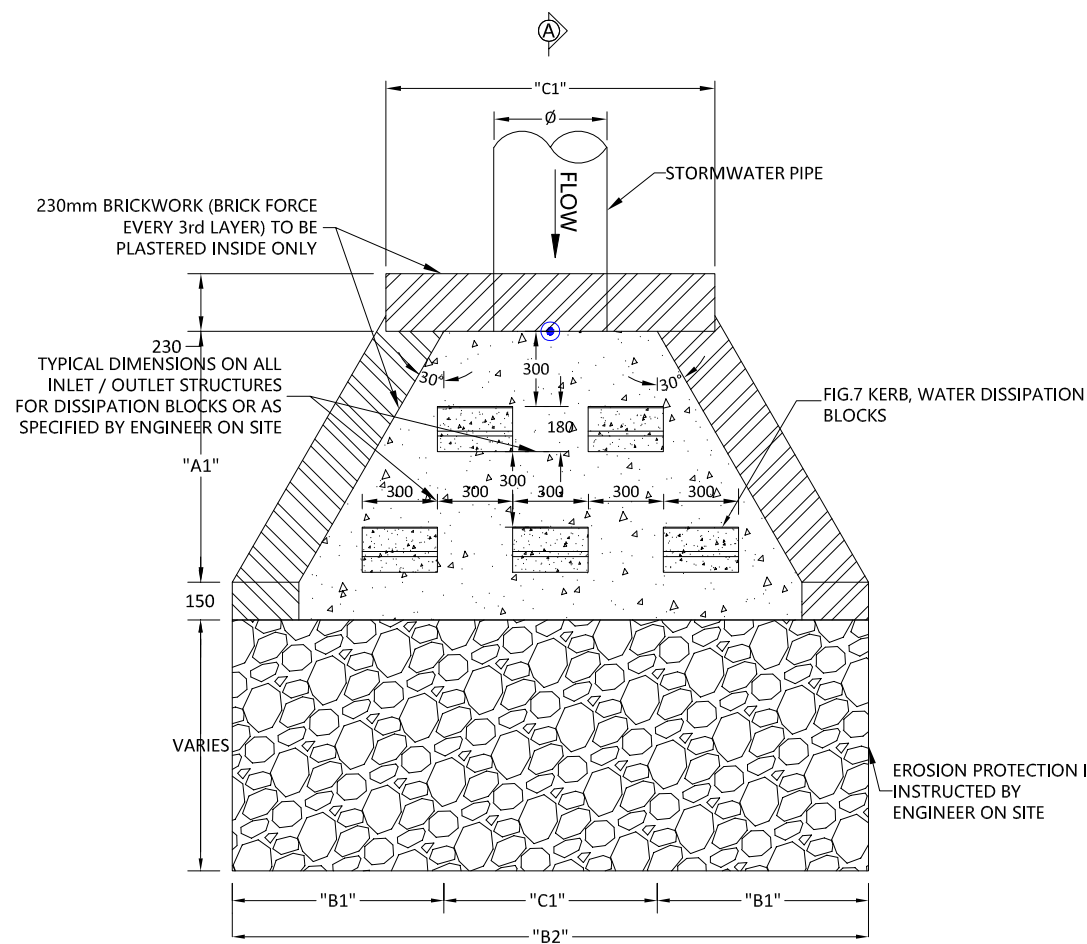
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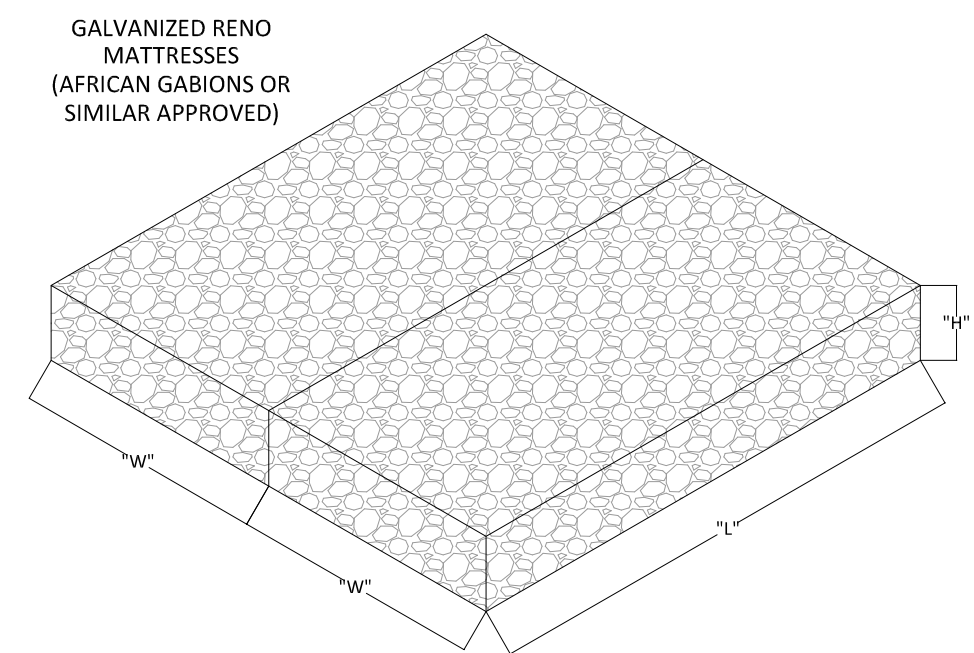
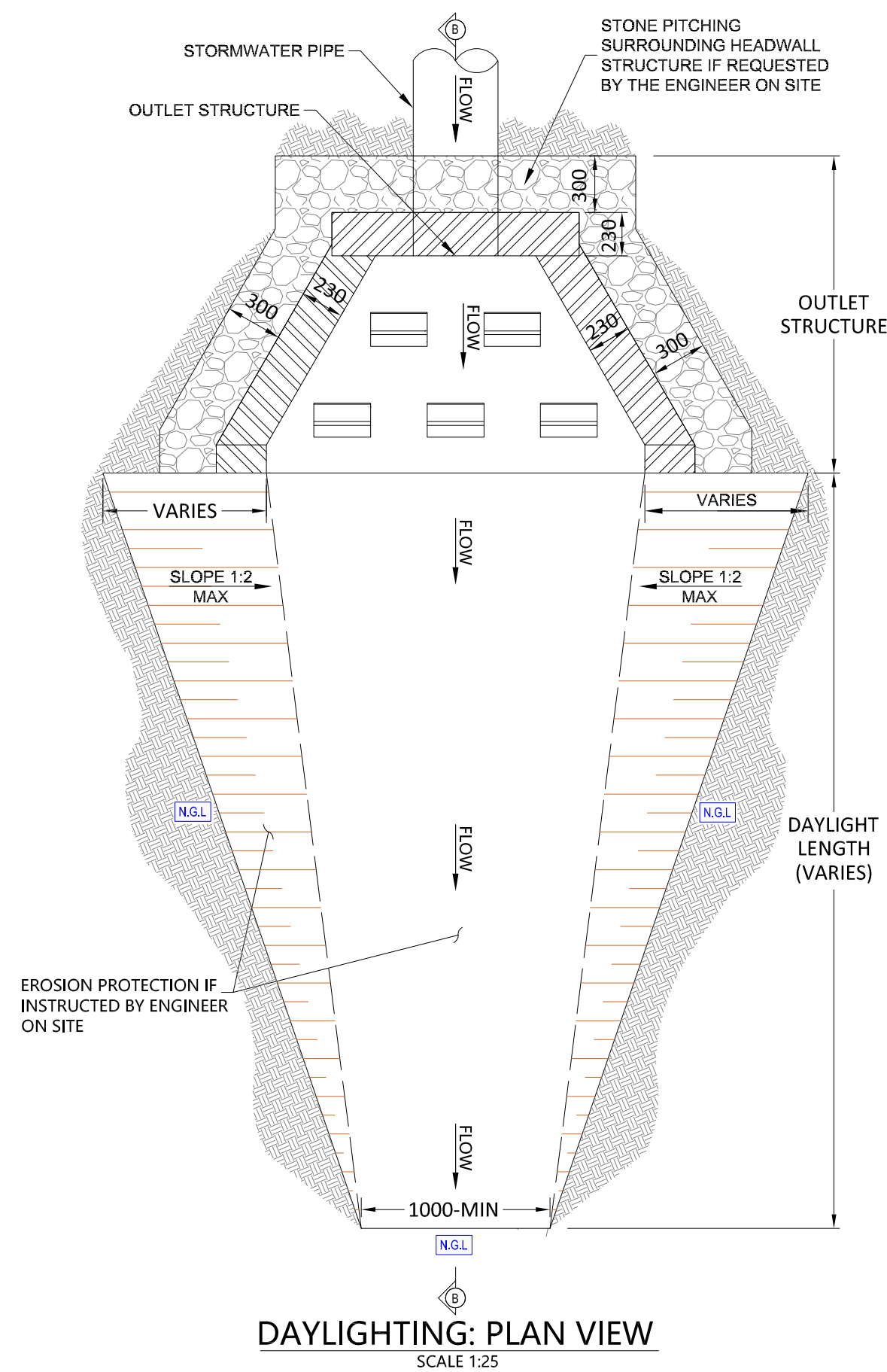
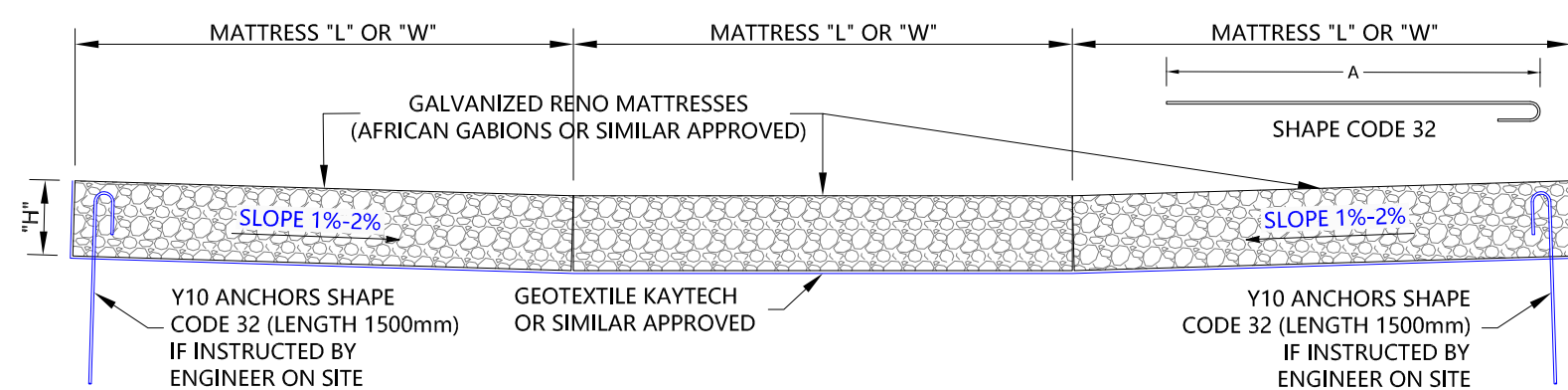
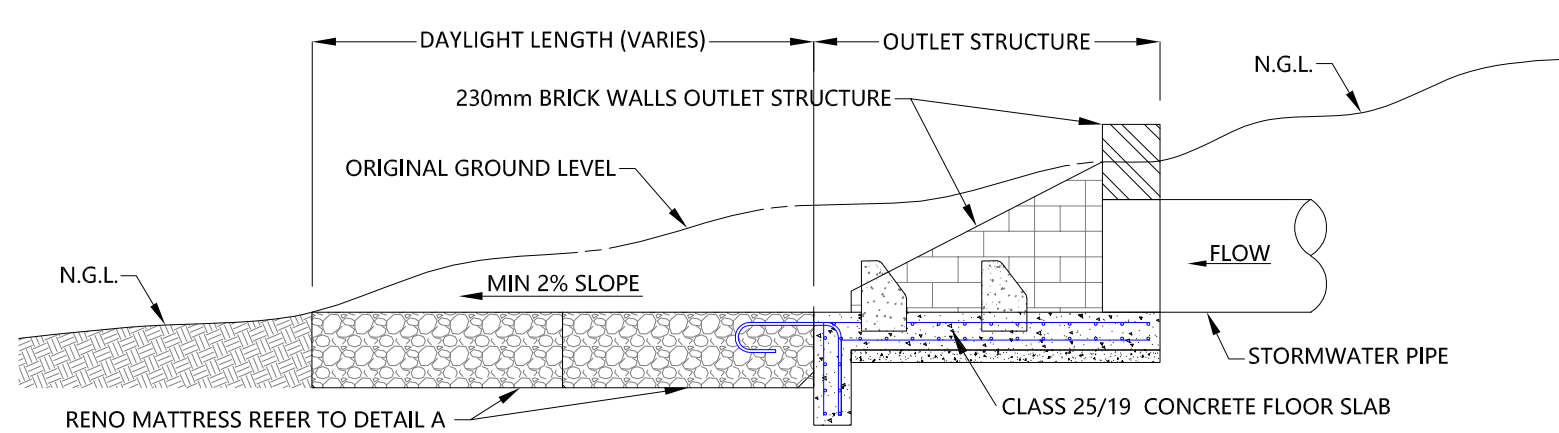
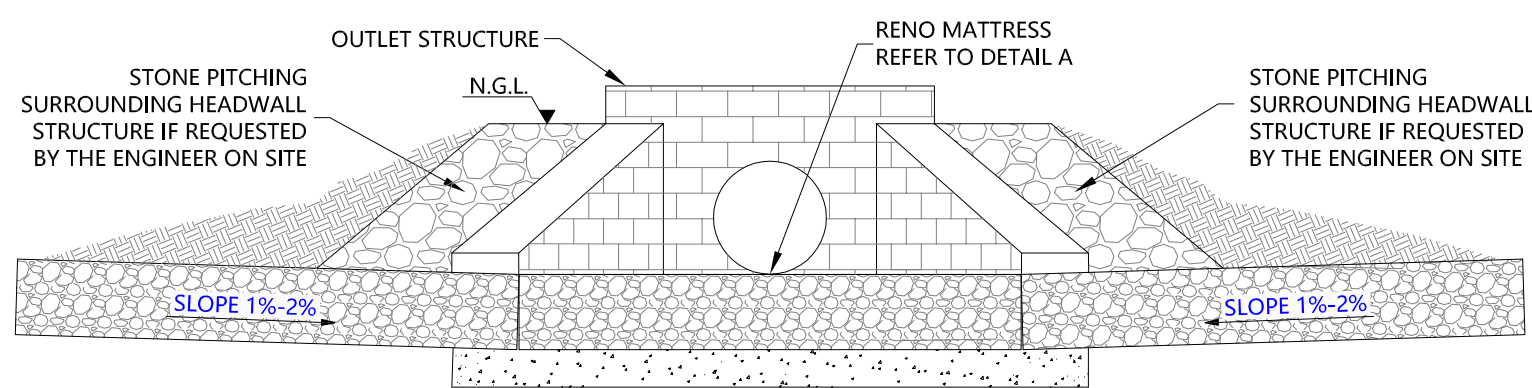
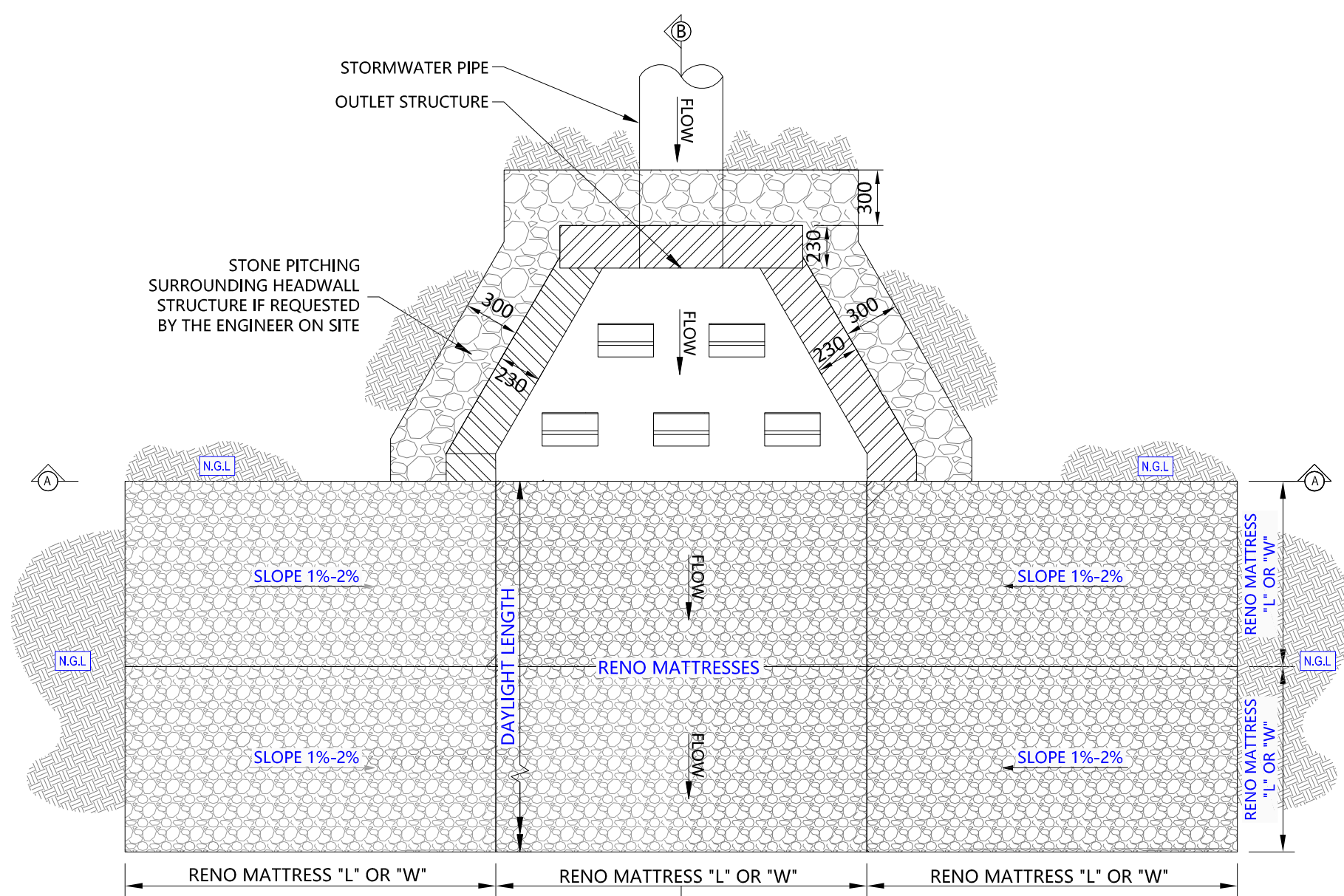
#### DIMENSIONS TO STANDARD STORMWATER STRUCTURES

##### LEGEND:

- SETTING OUT NODE

##### NOTES:

- ALL CONCRETE FLOOR SLABS TO BE CLASS 25/19 MPa CONCRETE.
- ALL CONCRETE BENCHING TO BE CLASS 20/13
- ALL BRICKWORK TO BE PLASTERED ON THE INSIDE.
- ALL STORMWATER PIPES TO BE A MINIMUM NOMINAL DIAMETER PF 450mm
- ALL EXPOSED CONCRETE EDGES TO BE ROUNDED WITH A NOSING TOOL.
- BRICK FORCE TO BE PLACED IN EVERY THIRD COURSE.
- BLINDING LAYER TO BE A MINIMUM THICKNESS OF 50mm.
- MINIMUM COVER OF REINFORCING TO BE 40mm.
- POSITION OF MANHOLES SHALL BE DIRECTLY ABOVE THE PI OF ADJOINING STORMWATER PIPES.
- STORMWATER STRUCTURE IN ACCORDANCE WITH SABS 1200LE
- DISSIPATION BLOCKS
- GABION & RENO MATTRESSES MUST BE PLACED AS INSTRUCTED BY ENGINEER ON SITE.



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PROJECT TITLE:

**ACCESS ROAD FROM R104  
UNDER THE N4 TO  
EMPUMELEWENI**

DRAWING TITLE:

**DETAIL OF STORMWATER OUTLET  
STRUCTURE**

DESIGNED:

P TSHABALALA

DRAWN:

R VAN ZYL

CHECKED:

F BURGER  
PR.ENG. 30090094

SIGN:

SCALE:

AS SHOWN

DATE:

JANUARY 2023

DRAWING NO:

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