

UMZIMVUBU LOCAL MUNICIPALITY PROVINCE OF THE EASTERN CAPE



UMZIMVUBU
— LOCAL MUNICIPALITY —

INFRASTRUCTURE & PLANNING DEPARTMENT

SURFACING OF KWA BHACA INTERNAL STREETS – PHASE 8

CONTRACT No.: UMZ/2023-24/INFRA/MIG/007

@

KWA BHACA

Bidder

Name:

CIDB Grading:

Total of the prices inclusive of value added tax: R

BIDDER'S CLOSES AT THE OFFICES OF: UMZIMVUBU LOCAL MUNICIPALITY OFFICES KWABHACA AT 12H00 ON WEDNESDAY THE 23rd August 2023

Documents are to be delivered by hand in the tender box as no faxed copies will be acceptable; the box is situated at 'Reception' of Umzimvubu Municipality, **Dabula Street, Mount Frere.**

NO LATE SUBMISSION WILL BE CONSIDERED

Issued and by:
UMZIMVUBU LOCAL MUNICIPALITY
Dabula Street
MOUNT FRERE
5090

Municipal Manager : G.P.T. Nota
Telephone : 039 – 255 8500

Technical Inquiries:



SPECIALIST
ENGINEERS

MATAYA

Cell. : +27 (0) 82 714 4400
Email : admin@mataya.co.za



EXPANDED PUBLIC WORKS PROGRAMME
CONTRIBUTING TO A NATION AT WORK

UMZIMVUBU LOCAL MUNICIPALITY

CONTRACT NO. UMZ/2023-24/INFRA/MIG/007

FOR

SURFACING OF KWA BHACA INTERNAL STREETS PHASE 8

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DOCUMENT CHECKLIST

This document checklist is provided to assist the tenderer.

	ITEMS	CHECKED
1	Returnable Schedules in Section T2.2	☐
2	Correct Tender Offer carried forward to Form of Offer and Acceptance and the Form of Offer duly completed and signed.....	☐
3	Schedule of Quantities:	
i)	Completed in BLACK INK only.....	☐
ii)	Corrections crossed out and initialled	☐
4	Contract specific data provided by the Contractor	☐

T1: TENDERING PROCEDURES

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T1.1 TENDER NOTICE AND INVITATION TO TENDER



UMZIMVUBU
LOCAL MUNICIPALITY

NOTICES ADVERT DATE: 20 JULY 2023

All bidders are hereby invited to submit their tenders for the following projects:

Project Name	Contract No.	CIDB Grading	Briefing Date	Briefing Venue	Ward No	Closing Date
Surfacing of KwaBhaca Internal Streets Phase 8	UMZ/2023-24/INFRA/MIG/007	7CE or Higher	28 July 2023	KwaBhaca Municipal offices @10H00	18	23 August 2023
Masamuncu Access Roads	UMZ/2023-24/INFRA/MIG/003	4CE or Higher	31 July 2023	EmaXesibeni Offices @ 10H00	08	08 August 2023
Mpungulelweni Access Roads and Bridge	UMZ/2023-24/INFRA/MIG/002	6CE or Higher	28 July 2023	KwaBhaca Municipal offices @ 10H00	14	23 August 2023
Ndzongiseni Access Road & Bridge	UMZ/2023-24/INFRA/MIG/001	4CE or Higher	31 July 2023	EmaXesibeni Municipal offices@10H00	05	08 August 2023
Thembisa Access Road and Bridge	UMZ/2023-24/INFRA/MIG/005	5CE or Higher offices	01 August 2023	KwaBhaca Municipal @10H00	24	10 August 2023

MANDATORY DOCUMENTS TO BE SUBMITTED FAILURE TO DO SO WILL LEAD TO BIDS BEING DEEMED TO BE NON- RESPONSIVE

Umzimvubu Local Municipality Supply Chain Management policy will apply. A confirmation from SARS with a verification pin, Copy of company Registration/Founding Statement/CIPC Document. **80/20** where 20 points will be allocated to **specific goal 5** points for companies owned by youth, **5** points for **Female ownership** and 5 points for **100% Black ownership** and 5 points for **Disabled individuals** with a submission of Occupational **Therapy assessment report or certified independent impairment rater** and 80 points for price. Prices quoted must be firm and must be inclusive of VAT for vat vendors. ID Copies of Managing Directors/ Owners. Compulsory Properly filled MBD forms 4,5, 8 and 9 and Billing Clearance, certificate or Statement of Municipal Accounts or affidavit or lease agreement or confirmation letter with declaration that a company does not owe municipal services for more than 30 days. Bid documents will be available on **E-tender Portal for free to be downloaded and those that needs hard copies will be available at municipal offices at a fee of R455.00 to cover printing** as from date of advert for each project; only cash or bank guaranteed cheques made payable to Umzimvubu Local Municipality will be accepted. No couriered, faxed, e-mailed and late tenders will be accepted. Certification of documents must be within a period of 90 days. Bidders must be registered on CSD and provide confirmation of registration. There will be a compulsory briefing session. Umzimvubu Local Municipality reserves the right not to appoint and value for money will be the key determinant of appointment. The municipality will not make any award to a person or persons working for the state. UMzimvubu Local Municipality reserves the right not to appoint and value for money will be the key determinant of appoint. All tenders must be deposited in the tender box situated at **UMzimvubu Local Municipality Offices at Dabula Street, KwaBhaca, Eastern Cape 5090 (30° 54' 30" S, 28° 58' 53" E)** not later than 12h00 noon as per table provided above, where they will be opened in public. All tenders must be clearly marked "Name of the project indicated above. **The municipality will not make any award to a person or persons working for the state.**

Compulsory Submission of Audited Financial Statement for the past three years, Particulars of contract awarded to the bidder for the past 5 years including any material or non- compliance or dispute concerning executing the contract.

Enquiries: All technical enquiries may be directed to Infrastructure and Planning Manager @ 039 255 8500 and SCM to Mr. T Mbukushe 0392558555. Other enquiries regarding this Bid may be directed to the office of the Municipal Manager: Mr. GPT Nota.

All bids will be subjected to a pre-qualification and will be required to achieve a minimum of 70 points for functionality to be evaluated further.

Masamuncu Access Road		Surfacing of KwaBhaca Streets		Mpungulelweni Access Roads and Bridge		Ndzongiseni Access Road & Bridge		Thembisa Access Road & Bridge	
Criteria	Total Points	Criteria	Maximum Points to be scored	Criteria	Maximum Points to be scored	Criteria	Maximum Points to be scored	Criteria	Maximum Points to be scored
Company Experience	40	Company Experience	40	Company Experience	25	Company Experience	40	Company Experience	40
Key Personnel	40			Plant & Equipment	15	Key Personnel	40	Key Personnel	40
Methodology	20	Personnel Capacity	40	Personnel Capacity	20	Technical	20	Technical	20
Total	100	Technical Capacity	20	Technical Capacity	40	Total	100	Total	100
		Total	100	Total	100				

GPT Nota, Municipal Manager

T1.2 TENDER DATA

T1.2 TENDER DATA

The Tender Data shall be read with the Standard Conditions of Tender in order to expand on the Tenderer's obligations and the Employer's undertakings in administering the tender process in respect of the project under consideration.

The Tender Data hereafter shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of Tender Data given below is cross-referenced to the relevant clause in the Standard Conditions of Tender. The Conditions of Tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement, as printed in Board Notice 94 of 2006 in the Government Gazette No. 29138 of 2006 dated 18 August 2006.

The Standard Conditions of Tender make several references to the Tender Data which specifically applies 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 Tender Data given below is cross-referenced to the relevant clause in the Standard Conditions of Tender.

Tender Data Applicable to this Tender

Clause Number	Data / Wording
F.1.2	The Tender Documents consist of the following: (a) This Project Document, which contains the following: PART T1: TENDERING PROCEDURES T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data PART T2: RETURNABLE DOCUMENTS T2.1 List of Returnable Documents T2.2 Returnable Schedules PART C1: AGREEMENTS AND CONTRACT DATA C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Form of Guarantee C1.4 Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993 C1.5 Transfer of rights PART C2: PRICING DATA C2.1 Pricing Instructions C2.2 Schedule of Quantities PART C3: SCOPE OF WORKS C3.1 Standard Specifications C3.2 Project Specifications C3.3 Particular Specifications PART C4: SITE INFORMATION C4.1 Locality Plan C4.2 Example of Contract Signboard Details C4.3 Drawings (b) Drawings (Attached under Page C 4.3)

Clause Number	Data / Wording
	(c) 'General Conditions of Contract for Construction Works – New Edition 2015' issued by the South African Institution of Civil Engineering (abbreviated title 'General Conditions of Contract 2015'- GCC 2015). This document is obtainable separately and Tenderers shall obtain their own copy. (d) 'The COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 edition'. This document is obtainable separately and Tenderers shall obtain their own copy. (e) 'The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations 2003' (Government Gazette No 25207 of 18 July 2003, Notice No R1010). This document is obtainable separately and Tenderers shall obtain their own copy. In addition Tenderers are advised, in their own interest, to obtain their own copies of the following Acts, Regulations and Standards referred to in this document as they are essential for the Tenderer to become acquainted with the basics of construction management, the implementation of preferential construction procurement policies, and participation of targeted enterprises and labour: (i) The Construction Industry Development Board Act No. 38 of 2000 as amended and the Regulations in terms of the CIDB Act 38 of 2000, Government Notice No 692 of 9 June 2004.
F.1.4	The Accounting Officer is : Name : Mr G.P.T. Nota Tel: (039) 255 8500 Fax: (039) 255 0167/1893 E-mail: Nota.Tobela@umzimvubu.gov.za
F.2.1	A Tenderer will not be eligible to submit a tender if: (a) the Contractor submitting the tender is under restrictions or has principals who are under restriction to participate in the Employer's procurement due to corrupt or fraudulent practices; (b) the Tenderer does not have the legal capacity to enter into the contract; (c) the Contractor submitting the tender is insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of the foregoing; (d) The Tenderer does not comply with the legal requirements stated in the Employer's procurement policy; e) The Tenderer cannot demonstrate that he possesses the necessary professional and technical qualifications and competence, financial resources, equipment and other physical facilities, managerial capability, personnel, experience and reputation to perform the contract; (f) The Tenderer cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract.

SURFACING OF KWA BHACA INTERNAL STREETS PHASE 8

Clause Number	Data / Wording
	Only Tenderers meeting the Construction Industry Development Board (CIDB) contractor grading designation of 7CE or Higher, as defined in the Regulations (01 June 2004 as amended) in terms of the CIDB Act 38 of 2000, are eligible to submit tenders for this contract: In terms of the Umzimvubu Municipality Supply Chain Management Policy Guideline, all suppliers of goods and services to the Umzimvubu Municipality are required to register on the Database. (1) Application forms may be obtained by phoning 039 255 8500
F.2.7	The arrangements and venue for the Compulsory Clarification Meeting are: Venue: Kwa Bhaca Municipal Offices Date: Friday, 28 July 2023 at 10h00 Contact person: Mr. L.Masinyane Tel: (039) 255 8500 Fax: (039) 255 0167 Email: Masinyane.Sandla@umzimvubu.gov.za
F.2.8	Change 'five working days' to 'seven working days'. Working days shall be from Monday to Friday and shall exclude all gazetted public holidays.
F.2.10	All tenderers must be registered for Value Added Tax (VAT) with the South African Revenue Services (SARS).
F.2.12	The requirements are as described in Clause 1212 'ALTERNATIVE DESIGNS AND OFFERS' of 'The COLTO Standard Specification for Road and Bridge Works for State Road Authorities 1998 edition'.
F.2.13	F.2.13.3 Tender offers shall be submitted as an original only. Under no circumstances whatsoever may the tender forms be retyped or redrafted. Photocopies of the original tender documentation may be used, but an original signature must appear on such photocopies. F.2.13.5 The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: Location of Tender Box: Umzimvubu Local Municipality Offices Physical Address: Dabula Street, KwaBhaca, Eastern Cape, 5090 Identification Details: SURFACING OF KWA BHACA INTERNAL STREETS PHASE 8 Contract No. UMZ/2023-24/INFRA/MIG/007 F.2.13.6 A two-envelope system will <u>not be followed</u>.
F.2.15	The closing time for submission of Tender Offers is: 12h00 Wednesday 23 August 2023 Telegraphic, telephonic, telex, facsimile, electronic, e-mailed and late tenders will not be accepted.
F.2.16	The tender offer validity period is 90 days from the closing time for submission of tenders.

Clause Number	Data / Wording
F.2.19	Access shall be provided for inspections and testing by personnel acting on behalf of the Employer.
F.2.22	This is not applicable.
F.2.23	The certificates as required in the Returnable Schedules and Forms must be provided with the tender for each party to a consortium / joint venture.
F.3.1	Change 'five working days' to 'seven working days'. Working days shall be from Monday to Friday and shall exclude all gazetted public holidays.
F.3.2	Change 'seven days' to 'five working days'. Working days shall be from Monday to Friday and shall exclude all gazetted public holidays.
F.3.4	The time and location for opening of the tender offers are: Time: 12h00 Date: Wednesday 23 August 2023 Location / Venue: Umzimvubu Local Municipality Offices at Dabula Street KwaBhaca, Eastern Cape, 5090
F.3.5	A two-envelope system will <u>not be followed</u> .
F.3.11	Evaluation of tender offers
F.3.11.1	The procedure for evaluation of responsive Tender Offers will be Method 2: Financial offer and preferences.
F.3.11.2	The procedure for the evaluation of responsive tenders is Method 2 (Price and Preferences). The weighting of tender price and preferences of the tenderer will be done by way of a point system: For contracts not exceeding a potential value of R50 000 000-00 • 80 points are assigned to price; and • 20 points are assigned to Specific Goals. The total points for Price and Specific Goals points must add up to 100 points. The financial offer will be scored using Formula: <u>Formula for scoring the Tender Price</u> $P_p = A \times \left(1 - \frac{P_t - P_{min}}{P_{min}}\right)$ Where P_p = Preference points for price of tender under consideration; A = Points allocated to price (maximum 90 or 80); P_t = Rand value of tender under consideration; and P_{min} = Rand value of the lowest acceptable tender. PRE-QUALIFICATION REQUIREMENTS Bidders should take note of the below Pre-evaluation criteria. Tender offers that score less than 70 (seventy) points out of 100 (hundred) points in respect of the following Pre evaluation eligibility criteria will be regarded as non- responsive and be excluded from further evaluation. Fraudulently obtained attachments will automatically lead to dismissal of the bidder.

SURFACING OF KWA BHACA INTERNAL STREETS PHASE 8

Clause Number	Data / Wording				
	DESCRIPTION		DELIVERABLES	SCORING CRITERIA	POINTS ALLOCATED
	Company Experience:				Max 40 points
	Tenderer has experience in four similar projects	Submission of the contract reference returnable, completed for contracts executed by the tenderer. Maximum of four reference letters signed and stamped for completed contracts with appointment letters and project completion certificates	1.four contracts completed of Surfaced Roads and Stormwater		40
			2. three contracts completed of Surfaced Roads and Stormwater		30
			3. two contracts completed of Surfaced Roads and Stormwater		20
	Key personnel experience				Max 40 points
	The tenderer must have in its permanent employment key personnel as listed below, who meet the minimum requirements as stipulated.				
	Experience & Expertise of project team, CV's of the key personnel.	Submission of CV's with Certified Certificates of key personnel must be attached to claim points	Contracts Manager: Qualifications (B-Tech : Civil Eng. / BSc) 10+ years' experience		20
			Qualifications (N. Dip : Civil Eng) 10+ years' experience		10
			Site Agent: Qualifications (N. Dip : Civil Eng) 5+ years' experience		10
			10+ Years' Experience in Roads and services Works		5
			OHS Officer: N.Dip – OHS & SACPCMP Registration CV with Certified Certificates must be attached to claim points		10

Clause Number	Data / Wording			
	Technical Capability			Max 20 points
	to meet the construction cash flow requirements estimated for this tender and submit a sound methodology to demonstrate a clear understanding of the scope of work.			
	Tenderer must submit a sound methodology upon submission of tender	Methodology submitted to cover the following sub headings: - Organogram - Execution plan - Programme of works - Health and Safety Measures	Points will be allocated as follows: Organogram Execution plan Programme of works Cashflow projections Health and Safety Measures	Max. Points per criterion 2,5 5 5 2,5 5
	Maximum Total Points			100
F.3.13	F.3.13.1 The legal requirements for acceptance of the tender offer are: (a) Tender Defaulters Register - the Tenderer or any of its principals is <u>not</u> listed on the register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector. (b) Abuse of the SCM System - the Tenderer has <u>not</u> abused the Employer's Supply Chain Management System and has <u>not</u> been given a written notice to the effect that he has failed to perform on any previous contract. (c) Declaration - the Tenderer has indicated and declared whether or not a spouse, child or parent of the Tenderer is in the service of the State. (d) Fraud and Corruption - the Employer is satisfied that the Tenderer or any of his principals have <u>not influenced</u> the tender offer and acceptance by the following criteria: (i) having offered, promised or given a bribe or other gift or remuneration to any person in connection with the obtaining of this Contract; (ii) having acted in a fraudulent or corrupt manner in obtaining this Contract; (iii) having approached an officer or employee of the Employer or the Employer's Agent with the object of influencing the award of a Contract in the Tenderer's favour; (iv) having entered into any agreement or arrangement, whether legally binding or not, with any other person, firm or company to refrain from Tendering for this Contract or as to the amount of the Tender to be submitted by either party; (v) having disclosed to any other person, firm or company other than the Employer, the exact or approximate amount of his proposed Tender. The Employer may, in addition to using any other legal remedies, repudiate the Tender offer and acceptance and declare the Contract invalid should it have been concluded already.			
F.3.18	The number of paper copies of the signed contract to be provided by the Employer is one (1) .			

T2. RETURNABLE DOCUMENTS

T2: RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

1. This Project Document must be submitted as a whole and shall not be taken apart or altered in any way whatsoever. The following schedules and forms are contained in this document and are to be properly completed as required:
 - a) Returnable Schedules in T2.2.
 - b) C1.1 Form of Offer and Acceptance, A. Offer, on page C3.
 - c) Contract Specific Data Provided by the Contractor in C1.2.2 Part B.
 - d) Pricing Data in C2.2: Schedule of Quantities.

T2.2 RETURNABLE SCHEDULES

A	CERTIFICATE OF ATTENDANCE (Not Compulsory)	T17
B	RECORD OF ADDENDA TO TENDER DOCUMENTS	T18
C	COMPULSORY ENTERPRISE QUESTIONNAIRE	T19
D	CERTIFICATE OF AUTHORITY	T21
E	PLANT AND EQUIPMENT	T26
F	EXPERIENCE OF TENDERER.....	T27
G	PROPOSED SUB CONTRACTORS	T28
H	KEY PERSONNEL.....	T29
I	DEVIATIONS AND QUALIFICATIONS	T30
J	CONTRACTOR'S HEALTH AND SAFETY DECLARATION.....	T31
K	TAX CLEARANCE CERTIFICATE	T33
L	PREFERENCING SCHEDULE (FOR CONTRACT PARTICIPATION GOALS)	T34
MBD 4		T35
MBD 5		T38
MBD 6.1		T40
MBD 8		T45
MBD 9		T47

NOTE: The Tenderer is required to complete each and every schedule and form listed above to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer. Failure of a Tenderer to complete the schedules and forms to the satisfaction of the Employer may lead to rejection on the grounds that the tender is not responsive.

A. CERTIFICATE OF ATTENDANCE (Compulsory to be signed as this will be checked on-site inspection attendance register)

This is to certify that (*Tenderer*)

of (*address*)

..... was represented by the person(s) named below at the compulsory clarification meeting held for all tenderers **at the Umzimvubu Local Municipality offices, Kwa Bhaca on Friday 28 July 2023 starting at 10h00.**

I / We acknowledge that the purpose of the meeting was to acquaint myself / ourselves with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for me / us to take account of everything necessary when compiling our rates and prices included in the tender.

Particulars of person attending the meeting:

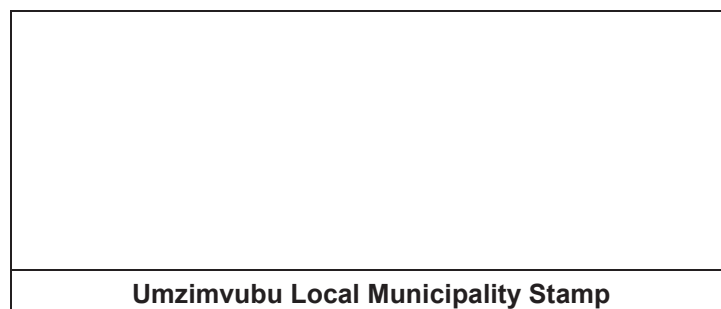
Name: Signature:

Capacity:

Attendance of the above person at the meeting is confirmed by the Employer's agent, namely:

Name: Signature:

Capacity: PROJECT MANAGER Date and Time:



B. RECORD OF ADDENDA TO TENDER DOCUMENTS

I / We confirm that the following communications received from the Employer or his representative before the date of submission of this tender offer, amending the tender documents, have been taken into account in this tender offer and are attached hereto.

ADDENDUM No.	DATE	DESCRIPTION

Please attach all Addenda to this page

SIGNATURE:

DATE:

(Of person authorised to sign on behalf of the Tenderer)

C. COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record of service of the state

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

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

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

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

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

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

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

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

*insert separate page if necessary

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

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

Signed

Date

Name

Position

Enterprise
name

D. CERTIFICATE OF AUTHORITY

The tenderer must indicate the enterprise status by ticking the appropriate box hereunder.

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

The tenderer must complete the relevant certificate/s set out hereafter or must provide a certificate authorising the signatory on behalf of the enterprise(s).

(I) CERTIFICATE FOR SOLE PROPRIETOR

I....., hereby confirm that I am the sole owner of the

business trading as:.....

Specimen Signature of Sole Owner:

Date:

In the case of a Joint Venture, this certificate must be completed by all Joint Venture partners that are Sole Proprietorships.

(II) CERTIFICATE FOR CLOSE CORPORATION

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

Signatures of Members:

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.*

Specimen Signature of Signatory:

Date:

In the case of a Joint Venture, this certificate must be completed by all Joint Venture partners that are Close Corporations.

(III) CERTIFICATE FOR PARTNERSHIP

We, the undersigned, being the key partners in the business trading as

.....

hereby authorise Mr/Ms

acting in the capacity of , to sign all documents in connection with the

tender for Contract No. 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.*

Specimen Signature of Signatory:

Date:

In the case of a Joint Venture, this certificate must be completed by all Joint Venture partners that are Partnerships.

(IV) CERTIFICATE FOR 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 authorised to sign all documents in connection with this tender and any contract resulting from it on behalf of the company.

Signature of Chairman:

Specimen Signature of Signatory:

Date:

In the case of a Joint Venture, this certificate must be completed by all Joint Venture partners that are companies.

(V) CERTIFICATE FOR JOINT VENTURE

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorize
 Mr/Ms,
 authorized signatory of the company
 acting in the capacity of Lead Partner, to sign all documents in connection with the tender offer for,
 Contract No. and any contract resulting from it on our behalf. This
 authorisation is evidenced by the attached power of attorney signed by legally authorised signatories of
 all the partners to the Joint Venture.

NAME OF FIRM	ADDRESS	AUTHORISING SIGNATURE, NAME AND CAPACITY

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.*

Specimen Signature of Signatory:

Date:

E. PLANT AND EQUIPMENT

Note: Each partner to a Joint Venture is to provide the information required below with respect to his company's contribution to the plant and equipment resourcing of the Joint Venture.

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

- (a) **Details of major Plant and Equipment that is owned by me / us and is 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 Plant and 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.

SIGNATURE:

DATE:

(of person authorised to sign on behalf of the Tenderer)

F. EXPERIENCE OF TENDERER

Note: Each partner to a Joint Venture is to provide the information required below with respect to his company's contribution to the experience of the Joint Venture.

The following is a statement of work of similar nature recently successfully executed by myself / ourselves:

[illegible]

Attach additional pages if more space is required

SIGNATURE:

DATE:

(of person authorised to sign on behalf of the Tenderer)

G. PROPOSED SUBCONTRACTORS

I/We hereby notify you that it is my/our intention to employ the following subcontractors for work under this contract. If I/we am/are awarded a contract I/we agree that this notification does not change the requirement for me/us to submit the names of proposed subcontractors in accordance with the requirements of the contract for such appointments.

Acceptance of this tender shall not be construed as approval of all or any of the listed subcontractors. Should any of or all of the subcontractors not be approved subsequent to the acceptance of the tender, it shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a subcontractor not listed below being approved by the Employer.

NAMES AND ADDRESSES OF PROPOSED SUBCONTRACTORS	NATURE AND EXTENT OF WORK TO BE SUBCONTRACTED	PREVIOUS EXPERIENCE WITH SUBCONTRACTOR

Attach additional pages if more space is required

SIGNATURE:

DATE:

(of person authorised to sign on behalf of the Tenderer)

H. KEY PERSONNEL

The Tenderer must insert in the spaces provided below a list of the key personnel in the Joint Venture to be employed in the construction of the Works together with a resumé of their experience with particular reference to the construction of similar Works.

The Tenderer shall attach the curriculum vitae of the listed key personnel to the next page.

(The compiler to indicate the designations that will be required for the project)

DESIGNATION	NAMES	PROJECT TYPE	VALUE OF WORK	YEAR COMPLETED
Professional Registered Engineer or Technologist	Name: Reg. No.:			
Site Agent	Name: Years' Experience:			
OHS Officer	Name: Years' Experience:			
Other Specify:	Name: Years' Experience:			

Attach additional pages if more space is required

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

I. DEVIATIONS AND QUALIFICATIONS

Should the Tenderer wish to make any deviation from or any qualification to the Special Conditions of Contract, Specifications, Schedule of Quantities, or Drawings, or should he wish to qualify the tender in any way, he shall indicate the proposals clearly hereunder or alternatively on photocopies of the original tender documentation which shall be attached to this page.

SECTION	PAGE	DEVIATION OR QUALIFICATION, INCLUDING REFERENCE CLAUSE OR ITEM NUMBER

Attach additional pages if more space is required

SIGNATURE:

DATE:

(of person authorised to sign on behalf of the Tenderer)

J. CONTRACTOR'S HEALTH AND SAFETY DECLARATION

In terms of Clause 4(4) of the OHSA 1993 Construction Regulations 2003 (referred to as "the Regulations" hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHSA 1993 Construction Regulations 2003.

To that effect a person duly authorised by the tenderer must complete and sign the declaration hereafter in detail.

Declaration by Tenderer

1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2003.

2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.

3. I propose to achieve compliance with the Regulations by one of the following:

(a) From my own competent resources as detailed in 4(a) hereafter: ***Yes / No**

(b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter: ***Yes / No**

(c) From outside sources by appointment of competent specialist subcontractors as detailed in 4(c) hereafter: ***Yes / No**

(* = delete whatever is not applicable)

4. Details of resources I propose:

(Note: Competent resources shall include safety personnel such as a construction supervisor and construction safety officer as defined in Regulation 6, and competent persons as defined in the OHSA 1993 Construction Regulations 2003, as applicable to this contract)

(a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

(b) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve the necessary competency:

(i) By whom will training be provided?

(ii) When will training be undertaken?

(iii) List the positions to be filled by persons to be trained or hired:

.....

.....

(c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company:

Name of proposed subcontractor:

Qualifications or details of competency of the subcontractor:

.....

.....

5. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 5(1) of the Construction Regulations, which plan shall be subject to approval by the Employer.

6. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Safety Specifications as well as the OHSA 1993 Construction Regulations 2003 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Engineer, visitors, and officials and inspectors of the Department of Labour.

7. I hereby confirm that adequate provision has been made in my tendered rates and prices in the schedule of quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2003, and that I will be liable for any penalties that may be applied in terms of the said Regulations (Regulation 30) for failure on the Contractor's part to comply with the provisions of the Act and the Regulations.

8. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2003, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

SIGNATURE:

DATE:

(of person authorised to sign on behalf of the Tenderer)

K. TAX CLEARANCE CERTIFICATE

The tenderer is to attach an original Tax Clearance Certificate issued by the South African Revenue Services (SARS) to this page.

Failure to submit original and valid Tax Clearance Certificates may invalidate the tender.

L. PREFERENCING SCHEDULE (DIRECT PREFERENCES)

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017 & THE CONTRACT FORM – RENDERING OF SERVICES.

MBD 4.....	T35
MBD 5.....	T38
MBD 6.1.....	T40
MBD 8.....	T45
MBD 9.....	T47

MBD 4

DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state*.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to person's in-service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

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

3.1 Full Name:

3.2 Identity Number:

3.3 Company Registration Number:

3.4 Tax Reference Number:

3.5 VAT Registration Number:

3.6 Are you presently in the service of the state

YES / NO

3.6.1 If so, furnish particulars.

.....

.....

3.7 Have you been in the service of the state for the past
Twelve months?

YES / NO

3.7.1 If so, furnish particulars.

.....

.....

*MSCM Regulations: "in the service of the state" means to be –

(a) a member of –

(i) any municipal council;

(ii) any provincial legislature; or

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

(b) a member of the board of directors of any municipal entity;

(c) an official of any municipality or municipal entity;

(d) an employee of 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);

(e) a member of the accounting authority of any national or provincial public entity; or

(f) an employee of Parliament or a provincial legislature.

3.8 Do you, have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?

YES / NO

3.8.1 If so, furnish particulars.

.....

.....

3.9 Are you, aware of any relationship (family, friend, other) between a bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?

YES / NO

3.9.1 If so, furnish particulars.

.....

.....

3.10 Are any of the company's directors, managers, principle shareholders or stakeholders in service of the state?

YES / NO

3.10.1 If so, furnish particulars.

.....

.....

3.11 Are any spouse, child or parent of the company's directors Managers, principal shareholders or stakeholders in service of the state?

YES / NO

3.11.1 If so, furnish particulars.

.....

.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

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

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

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

MBD 5

DECLARATION FOR PROCUREMENT ABOVE 10 MILLION (ALL APPLICABLE TAXES INCLUDED)

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?

- 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

***YES / NO**

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.

Delete if not applicable

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.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

MBD 6.1**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 B-BBEE, AS PRESCRIBED IN THE 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 bid are allocated as follows:

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

1.5 Failure on the part of a bidder 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;
- (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 bid under consideration
 Pt = Price of bid under consideration
 Pmin = Price of lowest acceptable bid

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

3.2.1 POINTS AWARDED FOR PRICE

$$Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}}\right) \quad \text{or} \quad Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}}\right)$$

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 organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
100% Black Owned		5		
Female Ownership		5		
Youth Owned		5		
Disabled Individuals		5		

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

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 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 Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities 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 rejected if that bidder, or any of its directors have:
 - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 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 of Restricted Suppliers 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 Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
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)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
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 of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐

4.3.1	If so, furnish particulars:		
Item	Question	Yes	No
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.5.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)
 CERTIFY THAT THE INFORMATION FURNISHED ON THIS
 DECLARATION FORM 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 bids¹ 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).² Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. Reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the 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:

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² 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 Municipality / Municipal Entity)

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 consortium³ 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

³ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract

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

CONTRACT

C1: AGREEMENTS AND CONTRACT DATA

C2: PRICING DATA

C3: SCOPE OF WORK

C4: SITE INFORMATION

CONTRACT

TABLE OF CONTENTS	Page	Colour
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C1.2.1: CONDITIONS OF CONTRACT	C8	Green
C1.2.2: PART A: DATA PROVIDED BY THE EMPLOYER.....	C9	Green
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C1: AGREEMENTS AND CONTRACT DATA**C1.1 FORM OF OFFER AND ACCEPTANCE****A. OFFER**

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

**CONTRACT No. UMZ/2023-24/INFRA/MIG/007:
SURFACING OF KWA BHACA INTERNAL STREETS PHASE 8**

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:

Amount 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: *(of person authorised to sign the tender):*

Name: *(of signatory in capitals):*

Capacity: *(of Signatory):*

Name of Tenderer: *(organisation):*

Address:

.....

Telephone number: Fax number:

Witness:

Signature:

Name: *(in capitals):*

Date:

[Failure of a Tenderer to sign this form will invalidate the tender]

B. ACCEPTANCE

By signing this part of the 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, including the Schedule of Quantities
- Part 3 Scope of Work
- Part 4 Site Information

and the schedules, forms, 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 representatives of both parties.

The Tenderer shall deliver the Guarantee in terms of Clause 7 of the General Conditions of Contract 2015 within the period stated in the Contract Data, and he shall, immediately 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 other bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data, within 14 days of the date on which 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 (if any). 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:

Name: *(in capitals)*

Capacity:

Name of Employer *(organisation)*

Address:
.....

Witness: Signature: **Name:**

Date:

C. SCHEDULE OF DEVIATIONS

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 Tender Data and the Conditions of Tender.

A Tenderer's covering letter will not necessarily be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreement reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

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.

Any change or addition to the tender documents arising from the above agreement 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 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:

Signature:

Name:

Capacity:

Tenderer: *(Name and address of organisation)*

Witness:

Signature:

Name:

Date:

FOR THE EMPLOYER

Signature:

Name:

Capacity:

Employer: *(Name and address of organisation)*

Witness:

Signature:

Name:

Date: ..

C1.2: CONTRACT DATA**C1.2.1: CONDITIONS OF CONTRACT**

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C1.2.1 CONDITIONS OF CONTRACT**C1.2.1.1 GENERAL CONDITIONS OF CONTRACT**

This Contract will be based on the "General Conditions of Contract for Construction Works - New Edition 2015", issued by the South African Institution of Civil Engineering (abbreviated title: "General Conditions of Contract 2015").

It is agreed that the only variations from the General Conditions of Contract 2015 are those set out hereafter under "Special Conditions of Contract".

C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT**C1.2.1.2.1 GENERAL**

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions shall amplify, modify or supersede, as the case may be, the General Conditions of Contract 2015 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or subclause in the General Conditions of Contract 2015, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the General Conditions of Contract 2015, and an appropriate heading.

C1.2.1.2.2 AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT 2015

SCC 1.1.4. reads "The Commencement date shall be the date of the Site Handover Meeting".

C1.2.2: CONTRACT DATA (Applicable to this contract)**PART A: DATA PROVIDED BY THE EMPLOYER**

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
Clause 1.1.14:	Name of Employer: Umzimvubu Municipality
Clause 1.2.2:	Address of Employer: Physical: Postal: Dabula Street, Sophia Park Mount Frere 5090 Private Bag X 9020 Mount Frere 5090 E-Mail: Nota.Tobela@umzimvubu.gov.za Telephone No: (039) 255 8500 Fax No: (039) 255 0167
Clause 1.1.15:	Name of Engineer: Mr E. Chirwa
Clause 1.2.2:	Address of Engineer: Physical: Postal: 73 Villiers Drive Clarendon, Pietermaritzburg, 3200 73 Villiers Drive Clarendon, Pietermaritzburg, 3200 E-Mail: admin@mataya.co.za Telephone No: (033) 396 1673
Clause 1.6 & 38.1:	Special non-working days are Sundays, the construction industry year end break and the following statutory public holidays as declared by National Government: New Year's Day, Human Rights Day, Good Friday, Family Day, Freedom Day, Workers' Day, Youth Day, National Women's Day, Heritage Day, Day of Reconciliation, Christmas Day and the Day of Goodwill.
Clause 1.6:	The construction industry year end break commences on the first working day after 15 December and ends on the first working day after 15 January of the next year.
Clause 7.1:	The time to deliver the Guarantee is within 14 days of the Commencement Date. The Liability of the Guarantee shall be for 10% of the Accepted Contract Price up to the Certificate of Completion, and thereafter the liability shall be reduced to 5% of the accepted contract price up to the issue of the Final Approval Certificate.
Clause 10.1:	The Contractor shall commence executing the Works within 14 days of the Commencement Date.
Clause 12.2:	The Contractor shall deliver his programme of work within 7 days of the Commencement Date.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
Clause 35.1	Insurance to be effected by the Contractor.
Clause 35.1.1.2.2:	The value of materials supplied by the Employer to be included in the insurance sum is <u>Nil</u> .
Clause 35.1.2:	Special Risks Insurance issued by SASRIA is required.
Clause 35.1.3:	The limit of indemnity for liability insurance is <u>R2 000 000,00(two million rands only)</u> for any single liability claim. Liability insurance shall include spread of fire risk.
Clause 37.2.2.3:	The percentage allowance to cover overhead charges is 10%.
Clause 42.1:	The Works shall be completed as set out in the Scope of Works: In 15 months including special non-working days
Clause 43.1:	The penalty for failing to complete the whole of the Works is R1 500.00 (one thousand five hundred rands only) of the total Contract Price per day.
Clause 46.2:	The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule : Note : There will be no Contract Price Adjustment under this contract : The contract will be fixed no escalation will be added. Bidders should allow their escalation within their tendering rates.
Clause 46.3:	Price adjustments for variations in the cost of special materials is allowed.
Clause 49.1.5:	The percentage limit on materials not yet built into the Permanent Works is 80%.
Clause 49.3:	The percentage retention on the amounts due to the Contractor is 10% to a minimum of 5%..
Clause 49.6:	A Retention Money Guarantee is Not Permitted .
Clause 53.1:	The Defects Liability Period is 12 months from the date of the Certificate of Completion.
Clause 58.2:	Dispute Resolution shall be by Mediation.

C1.2.2: CONTRACT DATA (Applicable to this contract)

PART B: DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE CONTRACTOR
Clause 1.1.8:	Name of the Contractor:
Clause 1.2.2:	Address of the Contractor: Physical:Postal:

C1.3: FORM OF GUARANTEE**PRO FORMA****FORM OF GUARANTEE**

Employer: *(name and address)* _____

Contract No: _____

(Contract title) _____

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

(hereinafter called "the Contractor") on the _____ day of _____ 20_____
for the construction of *(Contract Title)*

at _____

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

AND WHEREAS _____ (hereinafter referred to as "the Guarantor") has/have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE, _____
do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and excussion 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 authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Due Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the Due Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money.
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
4. This guarantee shall remain in full force and effect until the issue of the Practical Completion Certificate in terms of the Contract, and thereafter the liability shall be reduced to 5% up to the issue of the Final Approval Certificate, 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.

5. Our total liability hereunder shall not exceed the sum of

_____ (in words)

R_____ (in figures)

6. The Guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon the Guarantor's liability hereunder shall cease.

7. We hereby choose our address for the serving of all notices for all purposes arising herefrom as

IN WITNESS WHEREOF this guarantee has been executed by us at _____

on this _____ day of _____ 20 _____

As witnesses:

1. _____ Signature _____
Name in Block Letters

2. _____ Signature _____
Name in Block Letters

Duly authorized to sign on behalf of (*Guarantor*) _____

Address _____

C1.4: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

THIS AGREEMENT is made between The Umzimvubu Local Municipality.
(hereinafter called the EMPLOYER) of the one part, herein represented by:

.....
in his capacity as:

AND:

(hereinafter called the CONTRACTOR) of the other part, herein represented by

.....
in his capacity as:

duly authorised to sign on behalf of the Contractor.

WHEREAS the CONTRACTOR is the Mandatary of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of:

CONTRACT No. UMZ/2023-24/INFRA/MIG/007: SURFACING OF KWABHACA INTERNAL STREETS PHASE 8

for the construction, completion and maintenance of the works;

AND WHEREAS the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHS Act Amendment Act No 181/1993 (hereinafter referred to as the ACT);

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the Employer's CONSULTING ENGINEERS from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. 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 more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to take such steps the EMPLOYER may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus signed at for and on behalf of the **CONTRACTOR**

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Thus signed at for and on behalf of the **EMPLOYER** on this

the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

C2: PRICING DATA

C2.1 PRICING INSTRUCTIONS

1. GENERAL

The Schedule of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents, which include the Conditions of Tender, Conditions of Contract, the Specifications (including the Project Specifications) and the Drawings.

2. DESCRIPTION OF ITEMS IN THE SCHEDULE

The Schedule of Quantities has been drawn up generally in accordance with the relevant provisions of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition) published by the South African Institution of Civil Engineering (SAICE).

The short descriptions of the items in the Schedule of Quantities are for identification purposes only and the measurement and payment clause of the COLTO Standard Specifications (1998 edition) and the Particular Specifications, read together with the relevant clauses of the amendments and additions contained in the Project Specifications and directives on the drawings, set out what ancillary or associated work and activities are included in the rates for the operations specified.

The item numbers appearing in the Schedule of Quantities refer to the corresponding item numbers in the COLTO Standard Specifications (1998 edition). Item numbers prefixed by the letter B refer to items of payment described in Part B Amendments to the Standard Specifications.

For the purposes of this Schedule 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 specifications.

Quantity: The number of units of work for each item.

Rate: The payment per unit of measurement at which the Tenderer tenders to do the work.

Amount: The product of the quantity and the rate tendered for an item.

Lump Sum: An amount tendered for an item, the extent of which is described in the Schedule of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.

3. QUANTITIES REFLECTED IN THE SCHEDULE

The quantities given in the Schedule of Quantities are estimates only, and are subject to re-measure during the execution of the work. The quantities finally accepted and certified for payment, and not the quantities given in the Schedule of Quantities, shall be used to determine payments to the Contractor. The Contractor shall obtain the Engineer's detailed instructions for all work before ordering any materials or executing work or making arrangements for it if the quantity estimated from the drawings are greater or less than 10% of the quantities of material or work stated in the Schedule of Quantities. The quantities of material or work stated in the Schedule of Quantities shall not be regarded as authorisation for the Contractor to order material or to execute work.

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Schedule of Quantities and in accordance with the General and Special Conditions of Contract, the COLTO Standard Specifications subclause 1201(a), the Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste. The validity of the contract will in no way be affected by differences between the quantities in the Schedule of Quantities and the quantities finally certified for payment.

4. PROVISIONAL SUMS

Where Provisional sums or Prime Cost sums are provided for items in the Schedule of Quantities, payment for the work done under such items will be made in accordance with clause 45 of the General Conditions of Contract 2015. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted by the Employer in the "Amount" column of the Schedule of Quantities and in the Summary of the Schedule of Quantities unless ordered or authorised in writing by the Employer before closure of tenders. Any unauthorised changes made by the Tenderer to provisional items in the schedule, or to the provisional percentages and sums in the Summary of the Schedule of Quantities, will be treated as arithmetical errors.

5. PRICING OF THE SCHEDULE OF QUANTITIES

The prices and rates to be inserted by the Tenderer in the Schedule of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based. The rates and lump sums shall be comprehensive in accordance with sub-clause 1201(b) of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition).

Each item shall be priced and extended to the "Amount" column by the Tenderer, with the exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Tenderer omits to price any items in the Schedule of Quantities, then these items will be considered to have a nil rate or price.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

Should the Tenderer group a number of items together and tender one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.

The tendered lump sums and rates shall be valid irrespective of any change in the quantities during the execution of the contract.

The Tenderer shall fill in rates for all items where the words "rate only" appear in the "Amount" column. The provisions of sub-clause 1201(f) of the COLTO Standard Specifications shall apply in rate only items. "Rate Only" items have been included where:

- (a) an alternative item or material is contemplated;
- (b) variations of specified components in the make-up of a pay item may be expected; and
- (c) no work under the item is foreseen at tender stage but the possibility that such work may be required is not excluded.

For "Rate Only" items, no quantities are given in the "Quantity" column but the quoted rate shall apply in the event of work under this item being required. The Tenderer shall, however, note that in terms of the Tender Data the Tenderer may be asked to reconsider any such rates which the Employer may regard as unbalanced.

Reasonable compensation will be received where no payment item appears in respect of work required in terms of the Contract which is not covered in any other pay item.

All rates and amounts quoted in the Schedule of Quantities shall be in Rands and cents and shall include all levies and taxes (other than VAT). VAT will be added in the summary of the Schedule of Quantities. Note that fractions of a cent in all rates shall be discounted.

6. CORRECTION OF ENTRIES

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

7. INTERIM PAYMENTS

Unless otherwise specified, monthly payments, referred to in Clause 52 of the General Conditions of Contract 2015, in respect of "sum" items in the Schedule of Quantities shall be by means of interim progress instalments assessed by the Engineer and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

Notwithstanding any custom to the contrary, the work as executed will be measured for payment in accordance with the methods described in the contract documents under the various items of payment.

Attention is directed to the provisions of clause 1220 of the Standard Specifications regarding the measurement of quantities for payment. Except where specified otherwise than in clause 1220, the nett measurements or mass of the finished work in place shall be taken for payment, but any quantity of work in excess of that prescribed shall be excluded.

8. UNITS OF MEASUREMENT

The units of measurement described in the Schedule of Quantities are metric units. The following abbreviations are used in the Schedule of Quantities.

mm	= millimetre	m ³ -km	= cubic metre-kilometre	Prov sum	= provisional sum
m	= metre	l	= litre	kPa	= kilopascal
km	= kilometre	kl	= kilolitre	MPa	= megapascal
km-pass	= kilometre-pass	kg	= kilogram	MN	= meganewton
m ²	= square metre	t	= tonne (1 000 kg)	t-km	= tonne-kilometre
m ² -pass	= square metre-pass	No.	= number	hr	= hour
ha	= hectare	%	= percent	dia	= diameter
m ³	= cubic metre	PC sum	= prime cost sum	Sum	= lump sum
kW	= kilowatt	MN-m	= meganewton-metre		

9. CONSISTENCY OF RATES

In order to ensure that payments certified by the Engineer are reasonably consistent with the market value of the work done, and that variations in quantities do not distort the contract valuation, the rates, prices and amounts tendered in the Schedule of Quantities are required to be in balance.

A tender will be considered out of balance if:

- (i) the combined, extended total tendered for the item:

13.01 The Contractor's general obligations

- (a) Fixed obligations
- (b) Value-related obligations
- (c) Time-related obligations

exceeds a maximum of 12% of the Tender Offer (excluding contingencies, escalation and VAT).

- (ii) the rates, prices or amounts tendered for any other items differ by more than 20 (twenty) percent from either the next highest or next lowest rates, prices or amounts tendered, or else from the latest estimates.

Any such unbalanced tender may be rejected if, after fourteen (14) days of having been given written notice by the Employer to adjust those rates or lump sums which are unreasonable or out of balance, the Tenderer fails to make the necessary satisfactory adjustments. These adjustments in rectification will be such that increases are balanced by decreases, leaving the tender offer unchanged.

C2.2. SCHEDULE OF QUANTITIES

Part C2 : Pricing Data

PART A

ROADWORKS - GENERAL

SECTION 1200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1200	<u>GENERAL REQUIREMENTS AND PROVISIONS</u>				
B12.01	Relocation of services				
	(a) Dealing with existing services				
	(i) Relocation of Eskom Power Lines	-	Prov	Sum	25 000.00
	(ii) Water Mains	-	Prov	Sum	30 000.00
	(iii) Sewer Pipelines	-	Prov	Sum	15 000.00
	(iii) Any other services	-	Prov	Sum	5 000.00
	(b) Contractor's handling costs, profit and all other charges in respect of Subitems B12.01(a) above:	%	75 000.00		
B12.02	Training:				
	(a) Technical skills (2 Student Technician)	-	Prov	Sum	120 000.00
	(b) Generic and Management Skills (1 contractors)	-	Prov	Sum	25 000.00
	(c) Contractor's handling costs, profit and all other charges in respect of Subitems B12.02(a) and (b) above:	%	145 000	15%	21 750.00
B12.03	Community Liason Officer				
	(a) Salary of Community Liason Officer	-	Prov	Sum	54 000.00
	(b) Allowance for members of PSC (6 Members)	-	Prov	Sum	14 400.00
	(b) Extra over item B12.03 (a) for contractor's overheads, administration charges and cost	%	68 400		
B12.04	Compliance with OHS Act (Act 85 of 1993)				
	(a) Compliance with Occupational and Safety (Act 85 of 1993) and all relevant and applicable Regulations, especially the construction Regulations, 2003 as promulgated on the 18 of July 2003 under Section 43 of the Occupational Health and Safety Act (Act 85 of 1993), including all amendments as amended from time to time for the duration of the contract	-	Lump	Sum	
	(b) Provision of an OH & S Plan in terms of clause 5 of the schedule, prior to the commencement of works as well as full consolidated copy of such plan at the completion of a record of all drawings, designs, copies of statutory appointment material used and other similar information	-	Lump	Sum	
	(e) Registration with Compensation Fund or Approved /licenced compensation insurer	Weeks	52		
1200	TOTAL CARRIED TO SUMMARY				

SECTION 1300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1300	<u>CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS</u>				
13.01	The Contractor's general obligations:				
	(a) Fixed obligations	-	lump	sum	
	(b) Value-related obligations	-	lump	sum	
	(c) Time-related obligations	month	15		
B13.04	Contract Name Boards				
	(a) Provision of Contract Information board	-	lump	sum	
B13.05	Contractors General Obligations in terms of Part E OHS 1993 Health and Safety Specification				
	(a) Fixed obligations	-	lump	sum	
	(b) Time-related obligations	month	15		
B13.06	Supply protective clothing for site staff				
	(a) Reflective vests	No	20		
	(b) Reflective bibs	No	20		
	(c) Hard hats	No	20		
	(d) Protective foot wear	No	20		
	(e) Earplugs	No	20		
	(f) Dust masks	No	20		
	(g) Gloves for concrete work	No	20		
	(h) Two piece conti-suit Orange colour with EPWP on the back written in black to screen print	No	20		
1300	TOTAL CARRIED TO SUMMARY				

SECTION 1500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1500	<u>ACCOMMODATION OF TRAFFIC</u>				
15.01	Accommodating traffic and maintaining temporary deviations	km	2.0		
15.02	Shaping of temporary deviations	km	2.0		
15.03	Temporary traffic-control facilities				
	(a) Flagmen	man-day	384		
	(b) Portable STOP and GO-RY signs	No	1		
	(e) Road signs, R- and TR-series	No	4		
	(f) Road signs, TW-series	No	4		
	(g) Road signs, STW-, DTG-, TGS- AND TG-series (excluding delineators and barricades)	m2	4		
	(h) Delineators (DTG50J) Single	No	30		
1500	TOTAL CARRIED TO SUMMARY				

SECTION 1600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1600	<u>OVERHAUL</u>				
16.02	Overhaul on material from approved borrow pit hauled in excess of 1,0 km (ordinary overhaul)	m³-km	5 500		
1600	TOTAL CARRIED TO SUMMARY				

SECTION 1700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1700	<u>CLEARING AND GRUBBING</u>				
17.01	Clearing and grubbing	ha	1.0		
17.02	Removal and grubbing of large trees and tree stumps:				
	(a) Girth exceeding 1 m up to and including 2 m	number	3		
	(b) Girth exceeding 2 m up to and including 3 m	number	2		
17.04	Clearing and grubbing at inlets and outlets of hydraulic structures	m ²	50		
17.05	Cleaning out of hydraulic structures				
	(a) Pipes with an internal diameter up to and including 900mm	m ³	3		
1700	TOTAL CARRIED TO SUMMARY				

SECTION 1800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1800	<u>DAYWORKS</u>				
B18.01	Personnel				
	(a) Unskilled labour	h	16		
	(b) Semi-Skilled labour	h	16		
	(c) Skilled labour	h	16		
	(d) Ganger	h	16		
	(e) Flagmen	h	16		
B18.03	Plant				
	(a) Tipper Trucks				
	(i) 3 - 5 ton	h	6		
	(ii) 5.1 - 10 ton	h	6		
	(b) Loader (0.5m3 bucket)	h	6		
	(c) Grader (CAT 140G or similar)	h	6		
	(d) Vibratory roller	h	6		
	(e) Grid roller	h	6		
	(f) Walk behind roller	h	6		
	(g) Water Cart	h	8		
1800	TOTAL CARRIED TO SUMMARY				

SECTION 8100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
8100	<u>TESTING MATERIALS AND WORKMANSHIP</u>				
81.02	Other special tests requested by the Engineer:				
	(a) Cost of testing	-	PC	Sum	10 000.00
	(b) Charge on Prime Cost Sum	%	R 10 000.00		
8100	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-1

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2/2100	<u>DRAINS</u>				
1/21.01	Excavation for open drains: (a) Excavating soft material situated within the following depth ranges below the surface level: (l) 0m up to 1.5m	m ³	30		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
1/21.02	Clearing and shaping existing open drains	m ³	15		
1/21.06	Natural permeable material in subsoil drainage systems (crushed stone): (b) Crushed stone obtained from commercial sources: (i) Fine grade (19mm) (ii) Coarse grade (40mm)	m ³ m ³	10 10		
1/21.07	Natural permeable material in subsoil drainage systems (sand): (b) Sand from commercial sources: (i) Fine grade (ii) Medium grade (iii) Coarse grade	m ³ m ³ m ³	5 5 5		
1/21.08	Composite subsoil drainage systems: (a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core (i) Flodrain A2 (30m x 1000mm) (ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m m	185 185		
1/21.13	Concrete caps for subsoil drain pipes	No.	2		
1/21.17	Test flushing of pipe subsoil drains	No.	1		
1/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/2200	<u>PREFABRICATED CULVERTS</u>				
1/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	15		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	0		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	11		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	4		
1/22.02	Backfilling:				
	(a) Using the excavated material	m³			
	(b) Using imported selected material	m³			
1/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10		
	(b) 600 mm dia Class 75D	m	14		
	(e) 900 mm dia Class 75D	m	12.00		
1/ 22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	12.00		
1/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
1/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	10		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
1/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0		
	(b) High-tensile steel bars	t	0		
	(c) Welded steel fabric (Ref. 617)	kg	250		
1/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
1/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
1/22.18	Brickwork:				
	(a) 115 mm thick	m ²	30		
	(b) 230 mm thick	m ²	30		
1/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number	2		
	(c) Step irons, (description)	number	2		
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
1/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	185		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
1/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	185		
1/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	50		
1/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	15		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	60		
1/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	10		
1/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
1/2300	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/3300	<u>MASS EARTHWORKS</u>				
1/33,01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	230		
1/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	445		
	(b) Intermediate excavation	m ³	154		
1/33.10	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	230		
1/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	1 360		
1/ 3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
1/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	190		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
1/3400	TOTAL CARRIED FORWARD				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/3500	<u>STABILIZATION</u>				
1/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	190		
1/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	8		
1/35.04	Provision and application of water for curing	kilolitre	1		
1/3500	TOTAL CARRIED FORWARD				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/3600	<u>CRUSHED-STONE BASE</u>				
1/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	185		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
1/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
1/3600	TOTAL CARRIED FORWARD				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/4100	<u>PRIME COAT</u>				
1/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	690		
1/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/4200	<u>ASPHALT BASE AND SURFACING</u>				
1/42.02	Asphalt surfacing 30 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	1 150		
1/42.04	Tack coat of 30% stable-grade emulsion	litre	690		
1/42.08	100 mm cores in asphalt paving	number	5		
4200	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/5700	<u>ROAD MARKINGS</u>				
1/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.20		
	(iii) 200 mm wide	km	Rate Only		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	Rate Only		
	(d) White lettering and symbols	m ²	5		
1/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	0.5		
5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.2		
5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-2

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2/2100	<u>DRAINS</u>				
2//21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	45		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
2//21.02	Clearing and shaping existing open drains	m ³	10		
2/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
2/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
2//21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	150		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	150		
2/21.13	Concrete caps for subsoil drain pipes	No.	2		
2/21.17	Test flushing of pipe subsoil drains	No.	1		
2/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/2200	PREFABRICATED CULVERTS				
2/22.01	Excavation: (a) Excavating soft material situated within the following depth ranges below the surface level: (i) 0 m up to 1,5 m (ii) Exceeding 1,5 m and up to 3,0 m (b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth (c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³ 	30 		
2/22.02	Backfilling: (a) Using the excavated material (b) Using imported selected material	m³ 	20 		
2/22.03	Concrete pipe culverts on Class A bedding: (a) 450mm dia Class 100D (b) 600 mm dia Class 75D 	m 	10.00 		
2 / 22.05	Portal and rectangular culverts: (b) Without prefabricated floor slabs (size, type and class as indicated) (i) 450 mm x 600 mm : Class 175S	 	 		
1/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
2/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	20		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
2/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
2/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
1/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
2/22.18	Brickwork:				
	(a) 115 mm thick	m ²	10		
	(b) 230 mm thick	m ²	30		
2/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number	2		
	(c) Step irons, (description)	number	2		
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
2/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
2/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	150		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
2/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	150		
2/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	0		
2/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	15		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	60		
2/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	10		
2/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
1/2300	TOTAL CARRIED FORWARD				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/3100	<u>BORROW MATERIALS</u>				
2/31.01	Excess overburden	m ³	50		
2/ 31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
3100	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/3300	<u>MASS EARTHWORKS</u>				
2/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	160		
2/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	310		
	(b) Intermediate excavation	m ³	124		
2/33.10	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	240		
2/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	1 600		
1/ 3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
2/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	160		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
1/3400	TOTAL CARRIED FORWARD				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/3500	<u>STABILIZATION</u>				
2/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	160		
2/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	7.00		
2/35.04	Provision and application of water for curing	kilolitre	1		
1/3500	TOTAL CARRIED FORWARD				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/3600	<u>CRUSHED-STONE BASE</u>				
2/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	150		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
2/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
1/3600	TOTAL CARRIED FORWARD				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/4100	<u>PRIME COAT</u>				
2/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	591		
1/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/4200	<u>ASPHALT BASE AND SURFACING</u>				
2/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	985		
2/42.04	Tack coat of 30% stable-grade emulsion	litre	591		
2/42.08	100 mm cores in asphalt paving	number	4		
24/200	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/5700	<u>ROAD MARKINGS</u>				
2/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.15		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0		
	(d) White lettering and symbols	m ²	5		
2/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	0.5		
2/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
2/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.15		
2/5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-3

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1/2100	<u>DRAINS</u>				
3/21.01	Excavation for open drains: (a) Excavating soft material situated within the following depth ranges below the surface level: (l) 0m up to 1.5m	m ³	35		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
3/21.02	Clearing and shaping existing open drains	m ³	10		
3/21.06	Natural permeable material in subsoil drainage systems (crushed stone): (b) Crushed stone obtained from commercial sources: (i) Fine grade (19mm) (ii) Coarse grade (40mm)	m ³ m ³	10 10		
3/21.07	Natural permeable material in subsoil drainage systems (sand): (b) Sand from commercial sources: (i) Fine grade (ii) Medium grade (iii) Coarse grade	m ³ m ³ m ³	10 10 10		
3/21.08	Composite subsoil drainage systems: (a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core (i) Flodrain A2 (30m x 1000mm) (ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m m	112 112		
3/21.13	Concrete caps for subsoil drain pipes	No.	2		
3//21.17	Test flushing of pipe subsoil drains	No.	1		
3/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/2200	<u>PREFABRICATED CULVERTS</u>				
3/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	35		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	15		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	25		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	10		
3/22.02	Backfilling:				
	(a) Using the excavated material	m³	25		
	(b) Using imported selected material	m³	10		
3/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10.00		
	(b) 600 mm dia Class 75D	m	40		
	(e) 900 mm dia Class 75D	m	10.00		
3/ 22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	10.00		
3/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
3/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	10		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	5		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
3/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0		
	(b) High-tensile steel bars	t	0		
	(c) Welded steel fabric (Ref. 617)	kg	250		
3/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
3/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
3/22.18	Brickwork:				
	(a) 115 mm thick	m ²	5		
	(b) 230 mm thick	m ²	10		
3/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number	2		
	(c) Step irons, (description)	number	2		
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
3/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
3/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	120		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
3/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	120		
3/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	20		
3/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	80		
3/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	10		
3/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
3/2300	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/3300	<u>MASS EARTHWORKS</u>				
3/33,01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	0		
	(ii) Compacted to 93% of modified AASHTO density	m ³	150		
3/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	290		
	(b) Intermediate excavation	m ³	100		
3/33.10	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	150		
3/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	1 000		
3/ 3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
3/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	125		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
3/3400	TOTAL CARRIED FORWARD				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/3500	<u>STABILIZATION</u>				
3/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	125		
3/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	5.50		
3/35.04	Provision and application of water for curing	kilolitre	1		
3/3500	TOTAL CARRIED FORWARD				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/3600	<u>CRUSHED-STONE BASE</u>				
3/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	140		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
3/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
3/3600	TOTAL CARRIED FORWARD				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/4100	<u>PRIME COAT</u>				
3/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	570		
3/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/4200	<u>ASPHALT BASE AND SURFACING</u>				
3/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	950		
3/42.04	Tack coat of 30% stable-grade emulsion	litre	570		
3/42.08	100 mm cores in asphalt paving	number	4		
3/4200	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/5700	<u>ROAD MARKINGS</u>				
3/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.12		
	(iii) 200 mm wide	km	0.15		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.24		
	(d) White lettering and symbols	m ²	2		
3/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	0.2		
3/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
3/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
3/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.1		
3/5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-4

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4/2100	<u>DRAINS</u>				
4/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	35		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
4/21.02	Clearing and shaping existing open drains	m ³	10		
4//21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
4/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
4/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	105		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	105		
4/21.13	Concrete caps for subsoil drain pipes	No.	2		
4/21.17	Test flushing of pipe subsoil drains	No.	1		
4/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/2200	<u>PREFABRICATED CULVERTS</u>				
4/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	40		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	10		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	30		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	15		
4/22.02	Backfilling:				
	(a) Using the excavated material	m³	30		
	(b) Using imported selected material	m³	10		
4/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10.00		
	(b) 600 mm dia Class 75D	m	30		
	(e) 900 mm dia Class 75D	m	10.00		
4/ 22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	10.00		
4/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
4/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
4/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	10		
	(b) High-tensile steel bars	t	10		
	(c) Welded steel fabric (Ref. 617)	kg	250		
4/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
4/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
4/22.18	Brickwork:				
	(a) 115 mm thick	m ²	0		
	(b) 230 mm thick	m ²	0		
4/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number	2		
	(c) Step irons, (description)	number	2		
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
4/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
4/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	105		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
4/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	105		
4/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	20		
4/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	60		
4/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	10		
4/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
4/2300	TOTAL CARRIED FORWARD				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/3100	<u>BORROW MATERIALS</u>				
4/31.01	Excess overburden	m ³	50		
4/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
4/3100	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/3300	<u>MASS EARTHWORKS</u>				
4/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	135		
4/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	270		
	(b) Intermediate excavation	m ³	100		
4/33.10	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	140		
4/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	935		
4/ 3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
4/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	120		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
4/3400	TOTAL CARRIED FORWARD				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/3500	<u>STABILIZATION</u>				
4/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	115		
4/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	4.83		
4/35.04	Provision and application of water for curing	kilolitre	1		
4/3500	TOTAL CARRIED FORWARD				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/3600	<u>CRUSHED-STONE BASE</u>				
4/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	110		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
4/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
1/3600	TOTAL CARRIED FORWARD				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/4100	<u>PRIME COAT</u>				
4/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	4 470		
4/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/4200	<u>ASPHALT BASE AND SURFACING</u>				
3/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	745		
4/42.04	Tack coat of 30% stable-grade emulsion	litre	447		
4/42.08	100 mm cores in asphalt paving	number	3		
4/4200	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/5700	<u>ROAD MARKINGS</u>				
4/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.11		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0		
	(d) White lettering and symbols	m ²	2		
4/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	0.5		
4/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
4/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
4/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.15		
4/5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-5

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5/2100	<u>DRAINS</u>				
5/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	60		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
5/21.02	Clearing and shaping existing open drains	m ³	10		
5/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
5/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
5/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	335		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	335		
5/21.13	Concrete caps for subsoil drain pipes	No.	4		
5/21.17	Test flushing of pipe subsoil drains	No.	2		
5/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/2200	PREFABRICATED CULVERTS				
5/22.01	Excavation: (a) Excavating soft material situated within the following depth ranges below the surface level: (i) 0 m up to 1,5 m (ii) Exceeding 1,5 m and up to 3,0 m (b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth (c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³ 	190 		
5/22.02	Backfilling: (a) Using the excavated material (b) Using imported selected material	m³ 	170 		
5/22.03	Concrete pipe culverts on Class A bedding: (a) 450mm dia Class 100D (b) 600 mm dia Class 75D (e) 900 mm dia Class 75D	m 	10.00 		
5/22.05	Portal and rectangular culverts: (b) Without prefabricated floor slabs (size, type and class as indicated) (i) 450 mm x 600 mm : Class 175S	 	 		
5/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
5/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
5/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
5/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
5/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	3		
	(ii) Depth over 1.5m up to 2.0m	number	1		
5/22.18	Brickwork:				
	(a) 115 mm thick	m ²	0		
	(b) 230 mm thick	m ²	0		
5/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number	2		
	(c) Step irons, (description)	number	2		
	(d) Precast concrete top slabs for Kerb-Inlets	number	4		
5/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
5/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	335		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
5/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	335		
5/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	100		
5/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	100		
5/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	10		
5/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	500		
5/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3100	<u>BORROW MATERIALS</u>				
5/31.01	Excess overburden	m ³	100		
5/ 31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
5/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3300	<u>MASS EARTHWORKS</u>				
5/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	80		
	(ii) Compacted to 93% of modified AASHTO density	m ³	480		
5/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	955		
	(b) Intermediate excavation	m ³	200		
5/33.10	Roadbed preparation and the compaction of material:				
	(a) Compaction to 93% of modified AASHTO density	m ³	480		
5/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	3 200		
5/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
4/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	80		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	340		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	450		
5/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/35.01	<u>STABILIZATION</u> Chemical stabilization extra over unstabilized compacted layers: (c) Gravel subbase, 150 mm thick	m ³	340		
5/35.02	Chemical stabilizing agent: (a) Ordinary portland cement	ton	14.28		
5/35.04	Provision and application of water for curing	kilolitre	2		
5/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3600	<u>CRUSHED-STONE BASE</u>				
5/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	320		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	60		
5/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
5/3600	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/4100	<u>PRIME COAT</u>				
5/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	1 215		
5/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/4200	<u>ASPHALT BASE AND SURFACING</u>				
5/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	2 025		
5/42.04	Tack coat of 30% stable-grade emulsion	litre	1 215		
5/42.08	100 mm cores in asphalt paving	number	2		
5/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/5700	<u>ROAD MARKINGS</u>				
5/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.35		
	(iii) 200 mm wide	km	10		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	1		
	(d) White lettering and symbols	m ²	5		
5/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
5/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
5/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.35		
5900	TOTAL CARRIED TO SUMMARY				

SECTION 7300

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Part C2 : Pricing Data

PART B

ROAD-6

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
6/2100	<u>DRAINS</u>				
6/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	35		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
6/21.02	Clearing and shaping existing open drains	m ³	10		
6//21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
6/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
6/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	90		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	90		
6/21.13	Concrete caps for subsoil drain pipes	No.	2		
6/21.17	Test flushing of pipe subsoil drains	No.	1		
6/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/2200	PREFABRICATED CULVERTS				
6/22.01	Excavation: (a) Excavating soft material situated within the following depth ranges below the surface level: (i) 0 m up to 1,5 m (ii) Exceeding 1,5 m and up to 3,0 m (b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth (c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth				
6/22.02	Backfilling: (a) Using the excavated material (b) Using imported selected material				
6/22.03	Concrete pipe culverts on Class A bedding: (a) 450mm dia Class 100D (b) 600 mm dia Class 75D (e) 900 mm dia Class 75D				
6/ 22.05	Portal and rectangular culverts: (b) Without prefabricated floor slabs (size, type and class as indicated) (i) 450 mm x 600 mm : Class 175S				
6/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
6/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	20		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
6/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
6/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
6/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
6/22.18	Brickwork:				
	(a) 115 mm thick	m ²	20		
	(b) 230 mm thick	m ²	34		
6/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
6/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
6/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	90		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
6/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	90		
6/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	10		
6/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	10		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	10		
6/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	10		
6/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
6/2300	TOTAL CARRIED FORWARD				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/3100	<u>BORROW MATERIALS</u>				
6/31.01	Excess overburden	m ³	100		
6/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
6/3100	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/3300	<u>MASS EARTHWORKS</u>				
6/33,01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	110		
6/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	220		
	(b) Intermediate excavation	m ³	50		
6/33.10	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	110		
6/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	735		
6/ 3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
6/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	80		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
4/3400	TOTAL CARRIED FORWARD				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/3500	<u>STABILIZATION</u>				
6/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	80		
6/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	3.36		
6/35.04	Provision and application of water for curing	kilolitre	1		
4/3500	TOTAL CARRIED FORWARD				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/3600	<u>CRUSHED-STONE BASE</u>				
6/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	75		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
6/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
6/3600	TOTAL CARRIED FORWARD				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/4100	<u>PRIME COAT</u>				
6/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	933		
6/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/4200	<u>ASPHALT BASE AND SURFACING</u>				
6/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	1 555		
6/42.04	Tack coat of 30% stable-grade emulsion	litre	933		
6/42.08	100 mm cores in asphalt paving	number	4		
6/4200	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/5700	<u>ROAD MARKINGS</u>				
6/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.21		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.42		
	(d) White lettering and symbols	m ²	2		
6/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
4/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
6/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
6/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.25		
6/5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-7

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
7/2100	<u>DRAINS</u>				
7/21.01	Excavation for open drains: (a) Excavating soft material situated within the following depth ranges below the surface level: (l) 0m up to 1.5m	m ³	35		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
7/21.02	Clearing and shaping existing open drains	m ³	10		
7//21.06	Natural permeable material in subsoil drainage systems (crushed stone): (b) Crushed stone obtained from commercial sources: (i) Fine grade (19mm) (ii) Coarse grade (40mm)	m ³ m ³	10 10		
7/21.07	Natural permeable material in subsoil drainage systems (sand): (b) Sand from commercial sources: (i) Fine grade (ii) Medium grade (iii) Coarse grade	m ³ m ³ m ³	10 10 10		
7/21.08	Composite subsoil drainage systems: (a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core (i) Flodrain A2 (30m x 1000mm) (ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m m	60 60		
7/21.13	Concrete caps for subsoil drain pipes	No.	2		
7/21.17	Test flushing of pipe subsoil drains	No.	1		
7/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/2200	<u>PREFABRICATED CULVERTS</u>				
7/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	50		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	40		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	70		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	20		
7/22.02	Backfilling:				
	(a) Using the excavated material	m³	66		
	(b) Using imported selected material	m³	15		
7/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10.00		
	(b) 600 mm dia Class 75D	m	72		
	(e) 900 mm dia Class 75D	m	10.00		
7/ 22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	10.00		
7/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
7/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	20		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
7/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
7/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
7/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
7/22.18	Brickwork:				
	(a) 115 mm thick	m ²	10		
	(b) 230 mm thick	m ²	40		
7/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
7/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
7/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	125		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
7/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	80		
7/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	10		
7/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	10		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	1		
7/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	10		
7/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
7/2300	TOTAL CARRIED FORWARD				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/3100	<u>BORROW MATERIALS</u>				
7/31.01	Excess overburden	m ³	100		
7/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
7/3100	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/3300	<u>MASS EARTHWORKS</u>				
7/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	75		
7/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	145		
	(b) Intermediate excavation	m ³	50		
7/33.10	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	75		
7/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	500		
7/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
7/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	80		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
7/3400	TOTAL CARRIED FORWARD				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/3500	<u>STABILIZATION</u>				
7/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	80		
7/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	3.36		
7/35.04	Provision and application of water for curing	kilolitre	1		
7/3500	TOTAL CARRIED FORWARD				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/3600	<u>CRUSHED-STONE BASE</u>				
7/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	75		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
7/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
7/3600	TOTAL CARRIED FORWARD				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/4100	<u>PRIME COAT</u>				
7/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	357		
7/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/4200	<u>ASPHALT BASE AND SURFACING</u>				
7/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	595		
7/42.04	Tack coat of 30% stable-grade emulsion	litre	357		
7/42.08	100 mm cores in asphalt paving	number	15		
7/4200	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/5700	<u>ROAD MARKINGS</u>				
7/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.06		
	(iii) 200 mm wide	km	0.10		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.12		
	(d) White lettering and symbols	m ²	2		
6/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
7/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
7/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
7/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.1		
7/5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-8

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
8/2100	<u>DRAINS</u>				
8/21.01	Excavation for open drains: (a) Excavating soft material situated within the following depth ranges below the surface level: (l) 0m up to 1.5m	m ³	25		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
8/21.02	Clearing and shaping existing open drains	m ³	10		
5/21.06	Natural permeable material in subsoil drainage systems (crushed stone): (b) Crushed stone obtained from commercial sources: (i) Fine grade (19mm) (ii) Coarse grade (40mm)	m ³ m ³	10 10		
8/21.07	Natural permeable material in subsoil drainage systems (sand): (b) Sand from commercial sources: (i) Fine grade (ii) Medium grade (iii) Coarse grade	m ³ m ³ m ³	10 10 10		
8/21.08	Composite subsoil drainage systems: (a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core (i) Flodrain A2 (30m x 1000mm) (ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m m	140 140		
8/21.13	Concrete caps for subsoil drain pipes	No.	2		
8/21.17	Test flushing of pipe subsoil drains	No.	1		
8/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
8/2200	<u>PREFABRICATED CULVERTS</u>				
5/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	60		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	15		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	40		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	20		
5/22.02	Backfilling:				
	(a) Using the excavated material	m³	50		
	(b) Using imported selected material	m³	10		
5/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10.00		
	(b) 600 mm dia Class 75D	m	50		
5/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
5/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
5/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
5/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
5/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	3		
	(ii) Depth over 1.5m up to 2.0m	number	1		
5/22.18	Brickwork:				
	(a) 115 mm thick	m ²	0		
	(b) 230 mm thick	m ²	0		
5/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number	2		
	(c) Step irons, (description)	number	2		
	(d) Precast concrete top slabs for Kerb-Inlets	number	4		
5/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
5/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	150		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
5/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	150		
5/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	50		
5/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	25		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	300		
5/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	0		
5/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
5/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3100	<u>BORROW MATERIALS</u>				
5/31.01	Excess overburden	m ³	150		
5/ 31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
5/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3300	<u>MASS EARTHWORKS</u>				
5/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	Rate Only		
	(ii) Compacted to 93% of modified AASHTO density	m ³	250		
5/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	400		
	(b) Intermediate excavation	m ³	80		
5/33.10	Roadbed preparation and the compaction of material:				
	(a) Compaction to 93% of modified AASHTO density	m ³	250		
5/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	1 667		
5/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
4/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	140		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
5/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/35.01	<u>STABILIZATION</u> Chemical stabilization extra over unstabilized compacted layers: (c) Gravel subbase, 150 mm thick	m ³	150		
5/35.02	Chemical stabilizing agent: (a) Ordinary portland cement	ton	7.00		
5/35.04	Provision and application of water for curing	kilolitre	1		
5/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3600	<u>CRUSHED-STONE BASE</u>				
5/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	140		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	35		
5/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
5/3600	TOTAL CARRIED TO SUMMARY				

SECTION 3800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/3800	<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
5/38.01	Excavating and removing existing bituminous material (except milled material):				
	(a) Material intended for recycling with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	10		
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	100		
5/38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³			
	(b) Cemented material	m ³	50		
	(c) Cemented crushed stone	m ³			
5/38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(b) Cutting asphalt	m	20		
	(c) Sawing cemented layers:				
	(i) Cemented material	m ²	10		
5/38.10	Preparing stockpile sites	m ²			
5/38.20	Breaking up and removing paving including layer works and prepare surface to receive new paving				
	(a) Paving blocks to be disposed of	m ²	10		
5/3800	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/4100	<u>PRIME COAT</u>				
5/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	552		
5/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/4200	<u>ASPHALT BASE AND SURFACING</u>				
5/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	920		
5/42.04	Tack coat of 30% stable-grade emulsion	litre	552		
5/42.08	100 mm cores in asphalt paving	number	2		
5/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/5700	<u>ROAD MARKINGS</u>				
5/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.15		
	(iii) 200 mm wide	km	0.2		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.10		
	(d) White lettering and symbols	m ²	2		
5/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
5/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
5/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.20		
5900	TOTAL CARRIED TO SUMMARY				

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/7300	<u>CONCRETE BLOCK PAVING</u>				
5/73,01	Paving Blocks compacted by two passes of suitable vibrating plate compactor Supply, lay, bed and compact all materials for pavement, placing bedding sand 25mm thick mixed with weedkiller, cut units to fit edge restraints, compact the pavement, join bricks with 3:1 sand/cement mortar in joints. (Underlying pavement layers measured elsewhere) (a) 221x111x60mm Infraset G-Block Interlocking pavers for driveways within graveyard (b) 221x111x60mm Infraset G-Block Interlocking pavers for sidewalks along external road (b) 220x105x50mm Corobrick 'Burgundy' clay pavers in sidewalks along parking area	m²	10		
		m²	225		
		m²	10		
5/73,02	Cast in situ concrete edge and intermediate beams (a) 300mm x 150mm concrete edging using 20 MPa concrete	m³	7.5		
5/73,03	Cast in situ concrete paving (a) 150mm thick concrete paving slabs using 25 Mpa concrete	m³	10		
5/73,04	Steel reinforcement: (c) Welded steel fabric (Ref. 193)	kg	250		
5/7300	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-9

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
9/2100	<u>DRAINS</u>				
9/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	30		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
9/21.02	Clearing and shaping existing open drains	m ³	10		
9//21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
9/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
9/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	80		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	80		
9/21.13	Concrete caps for subsoil drain pipes	No.	2		
9/21.17	Test flushing of pipe subsoil drains	No.	1		
9/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/2200	<u>PREFABRICATED CULVERTS</u>				
9/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	50		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	10		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	50		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	10		
9/22.02	Backfilling:				
	(a) Using the excavated material	m³	40		
	(b) Using imported selected material	m³	15		
9/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10		
	(b) 600 mm dia Class 75D	m	30		
	(e) 900 mm dia Class 75D	m	10.00		
9/22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	10.00		
9/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
9/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
9/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.10		
	(c) Welded steel fabric (Ref. 617)	kg	250		
9/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
9/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
9/22.18	Brickwork:				
	(a) 115 mm thick	m ²	10		
	(b) 230 mm thick	m ²	30		
9/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
9/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
9/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	90		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
9/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	90		
9/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	70		
9/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	15		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	300		
9/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	60		
9/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
9/2300	TOTAL CARRIED FORWARD				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/3100	<u>BORROW MATERIALS</u>				
9/31.01	Excess overburden	m ³	100		
9/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
9/3100	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/3300	<u>MASS EARTHWORKS</u>				
9/33,01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	100		
9/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	195		
	(b) Intermediate excavation	m ³	30		
9/33.10	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	100		
9/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	10		
9/ 3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
9/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	85		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
9/3400	TOTAL CARRIED FORWARD				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/3500	<u>STABILIZATION</u>				
9/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	85		
9/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	3.57		
9/35.04	Provision and application of water for curing	kilolitre	1		
9/3500	TOTAL CARRIED FORWARD				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/3600	<u>CRUSHED-STONE BASE</u>				
9/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	75		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
9/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
9/3600	TOTAL CARRIED FORWARD				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/4100	<u>PRIME COAT</u>				
9/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	4 920		
9/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/4200	<u>ASPHALT BASE AND SURFACING</u>				
9/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	820		
9/42.04	Tack coat of 30% stable-grade emulsion	litre	492		
9/42.08	100 mm cores in asphalt paving	number	2		
9/4200	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
495700	<u>ROAD MARKINGS</u>				
9/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.09		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.16		
	(d) White lettering and symbols	m ²	5		
9/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
9/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
9/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
9/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.09		
9/5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-10

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
10/2100	<u>DRAINS</u>				
10/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	80		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	50		
10/21.02	Clearing and shaping existing open drains	m ³	10		
10/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
10/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³			
	(ii) Medium grade	m ³			
	(iii) Coarse grade	m ³	10		
10/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	230		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	230		
10/21.13	Concrete caps for subsoil drain pipes	No.	4		
10/21.17	Test flushing of pipe subsoil drains	No.	4		
10/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/2200	<u>PREFABRICATED CULVERTS</u>				
10/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	160		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	50		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	100		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	60		
10/22.02	Backfilling:				
	(a) Using the excavated material	m³	120		
	(b) Using imported selected material	m³	50		
10/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	Rate Only		
	(b) 600 mm dia Class 75D	m	30		
10/22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	14.00		
10/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	Rate Only		
10/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	Rate Only		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	5		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	5		
	(ii) Class F2 surface finish	m ²	40		
10/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.5		
	(b) High-tensile steel bars	t	0.5		
	(c) Welded steel fabric (Ref. 617)	kg	250		
10/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	10		
	(b) Reinforced concrete	m ³	30		
10/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
10/22.18	Brickwork:				
	(a) 115 mm thick	m ²	5		
	(b) 230 mm thick	m ²	10		
10/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	1		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	1		
10/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
10/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	240		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
10/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	240		
10/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	50		
10/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	150		
10/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	20		
10/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
10/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/3100	<u>BORROW MATERIALS</u>				
10/31.01	Excess overburden	m ³	100		
10/ 31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
10/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/3300	<u>MASS EARTHWORKS</u>				
10/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	280		
10/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	280		
	(b) Intermediate excavation	m ³	100		
5/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
10/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	15		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
10/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
	<u>STABILIZATION</u>				
10/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	10		
10/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	1		
10/35.04	Provision and application of water for curing	kilolitre	1		
10/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/3600	<u>CRUSHED-STONE BASE</u>				
10/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	300		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
10/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
10/3600	TOTAL CARRIED TO SUMMARY				

SECTION 3800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/3800	<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
10/38.01	Excavating and removing existing bituminous material (except milled material):				
	(a) Material intended for recycling with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²			
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	1 650		
10/38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³	265		
	(b) Cemented material	m ³	10		
	(c) Cemented crushed stone	m ³	10		
10/38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(b) Cutting asphalt	m	480		
	(c) Sawing cemented layers:				
	(i) Cemented material	m ²	10		
10/38.10	Preparing stockpile sites	m ²	200		
10/38.20	Breaking up and removing paving including layer works and prepare surface to receive new paving				
	(a) Paving blocks to be disposed of	m ²	10		
12/3800	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/4100	<u>PRIME COAT</u>				
10/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	1 050		
10/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/4200	<u>ASPHALT BASE AND SURFACING</u>				
10/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	1 750		
10/42.04	Tack coat of 30% stable-grade emulsion	litre	1 050		
10/42.08	100 mm cores in asphalt paving	number	2		
*					
*					
10/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/5700	<u>ROAD MARKINGS</u>				
10/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.25		
	(iii) 200 mm wide	km	0.10		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.65		
	(d) White lettering and symbols	m ²	5		
10/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
10/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
10/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.25		
10/5900	TOTAL CARRIED TO SUMMARY				

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
5/7300	<u>CONCRETE BLOCK PAVING</u>				
10/73.01	Paving Blocks compacted by two passes of suitable vibrating plate compactor Supply, lay, bed and compact all materials for pavement, placing bedding sand 25mm thick mixed with weedkiller, cut units to fit edge restraints, compact the pavement, join bricks with 3:1 sand/cement mortar in joints. (Underlying pavement layers measured elsewhere) (a) 221x111x60mm Infraset G-Block Interlocking pavers for driveways within graveyard (b) 221x111x60mm Infraset G-Block Interlocking pavers for sidewalks along external road (b) 220x105x50mm Corobrick 'Burgundy' clay pavers in sidewalks along parking area	m ² m ² m ²	10 10 10		
10/73.02	Cast in situ concrete edge and intermediate beams (a) 300mm x 150mm concrete edging using 20 MPa concrete	m ³	10		
10/73.03	Cast in situ concrete paving (a) 150mm thick concrete paving slabs using 25 Mpa concrete	m ³	10		
10/73.04	Steel reinforcement: (c) Welded steel fabric (Ref. 193)	kg	200		
10/7300	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-11

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
10/2100	<u>DRAINS</u>				
11/21.01	Excavation for open drains: (a) Excavating soft material situated within the following depth ranges below the surface level: (l) 0m up to 1.5m	m ³	50		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	20		
11/21.02	Clearing and shaping existing open drains	m ³	20		
11/21.06	Natural permeable material in subsoil drainage systems (crushed stone): (b) Crushed stone obtained from commercial sources: (i) Fine grade (19mm) (ii) Coarse grade (40mm)	m ³ m ³	10 10		
11/21.07	Natural permeable material in subsoil drainage systems (sand): (b) Sand from commercial sources: (i) Fine grade	m ³	10		
11/21.08	Composite subsoil drainage systems: (a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core (i) Flodrain A2 (30m x 1000mm) (ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m m	210 210		
11/21.13	Concrete caps for subsoil drain pipes	No.	2		
11/21.17	Test flushing of pipe subsoil drains	No.	1		
11/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

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SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
11/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
11/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.5		
	(b) High-tensile steel bars	t	0.5		
	(c) Welded steel fabric (Ref. 617)	kg	250		
11/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	20		
	(b) Reinforced concrete	m ³	20		
11/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
11/22.18	Brickwork:				
	(a) 115 mm thick	m ²	5		
	(b) 230 mm thick	m ²	10		
11/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	1		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	1		
11/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
11/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	230		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
11/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	230		
11/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	80		
11/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	25		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	150		
11/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	60		
11/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	300		
11/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
10/3100	<u>BORROW MATERIALS</u>				
11/31.01	Excess overburden	m³	100		
11/ 31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
11/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/3300	<u>MASS EARTHWORKS</u>				
11/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	10		
11/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	10		
	(b) Intermediate excavation	m ³	10		
11/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
11/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
11/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/3500	<u>STABILIZATION</u>				
11/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	10		
11/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	1		
11/35.04	Provision and application of water for curing	kilolitre	1		
11/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/3600	<u>CRUSHED-STONE BASE</u>				
11/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	225		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
11/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
11/3600	TOTAL CARRIED TO SUMMARY				

SECTION 3800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/3800	<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
11/38.01	Excavating and removing existing bituminous material (except milled material):				
	(a) Material intended for recycling with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	10		
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	1 555		
11/38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³	30		
	(b) Cemented material	m ³	30		
	(c) Cemented crushed stone	m ³			
11/38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(b) Cutting asphalt	m	10		
	(c) Sawing cemented layers:				
	(i) Cemented material	m ²	2		
11/38.10	Preparing stockpile sites	m ²	95		
11/38.20	Breaking up and removing paving including layer works and prepare surface to receive new paving				
	(a) Paving blocks to be disposed of	m ²	10		
11/3800	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/4100	<u>PRIME COAT</u>				
11/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	900		
11/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/4200	<u>ASPHALT BASE AND SURFACING</u>				
11/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	1 500		
11/42.04	Tack coat of 30% stable-grade emulsion	litre	900		
11/42.08	100 mm cores in asphalt paving	number	2		
*					
*					
11/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/5700	<u>ROAD MARKINGS</u>				
11/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.21		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0		
	(d) White lettering and symbols	m ²	5		
11/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
11/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
11/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
11/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.5		
11/5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-12

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
12/2100	<u>DRAINS</u>				
12/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	50		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	10		
12/21.02	Clearing and shaping existing open drains	m ³	15		
12/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	15		
	(ii) Coarse grade (40mm)	m ³	15		
12/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	15		
	(ii) Medium grade	m ³	15		
	(iii) Coarse grade	m ³	15		
12/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	875		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	875		
12/21.13	Concrete caps for subsoil drain pipes	No.	6		
12/21.17	Test flushing of pipe subsoil drains	No.	3		
12/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/2200	<u>PREFABRICATED CULVERTS</u>				
12/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	50		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	10		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	30		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	10		
12/22.02	Backfilling:				
	(a) Using the excavated material	m³	40		
	(b) Using imported selected material	m³	10		
12/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10		
	(b) 600 mm dia Class 75D	m	40		
	(e) 900 mm dia Class 75D	m	10.00		
12/22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	10.00		
12/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
12/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	10		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	5		
	(ii) Class F2 surface finish	m ²	5		
12/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	150		
12/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
12/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	2		
	(ii) Depth over 1.5m up to 2.0m	number	2		
12/22.18	Brickwork:				
	(a) 115 mm thick	m ²	50		
	(b) 230 mm thick	m ²	50		
12/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	1		
	(b) Inlet grids including frames, (description)	number	1		
	(c) Step irons, (description)	number	1		
	(d) Precast concrete top slabs for Kerb-Inlets	number	4		
12/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
12/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	875		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
12/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	875		
12/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	100		
12/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	40		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	150		
12/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	60		
12/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	300		
12/2300	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/3300	<u>MASS EARTHWORKS</u>				
12/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	10		
12/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	10		
	(b) Intermediate excavation	m ³	10		
12/61.08	Foundation fill consisting of:				
	(a) Rock fill	m ³	540		
12/61.14	Foundation lining of polyethylene, 0.15mm thick under float slab and approach slabs	m ²	1 700		
12/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
12/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
12/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
	<u>STABILIZATION</u>				
12/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	10		
12/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	0.5		
12/35.04	Provision and application of water for curing	kilolitre	1		
12/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/3600	<u>CRUSHED-STONE BASE</u>				
12/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	935		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	150		
12/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
12/3600	TOTAL CARRIED TO SUMMARY				

SECTION 3800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/3800	<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
12/38.01	Excavating and removing existing bituminous material (except milled material):				
	(a) Material intended for recycling with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	10		
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	3 570		
12/38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³	985		
	(b) Cemented material	m ³	10		
	(c) Cemented crushed stone	m ³	10		
12/38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(b) Cutting asphalt	m	1 065		
	(c) Sawing cemented layers:				
	(i) Cemented material	m ²	715		
12/38.10	Preparing stockpile sites	m ²	200		
12/38.20	Breaking up and removing paving including layer works and prepare surface to receive new paving				
	(a) Paving blocks to be disposed of	m ²	10		
12/3800	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/4100	<u>PRIME COAT</u>				
12/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	1 908		
12/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/4200	<u>ASPHALT BASE AND SURFACING</u>				
12/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	3 180		
12/42.04	Tack coat of 30% stable-grade emulsion	litre	1 908		
12/42.08	100 mm cores in asphalt paving	number	4		
12/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/5700	<u>ROAD MARKINGS</u>				
12/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.88		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	1.8		
	(d) White lettering and symbols	m ²	5		
12/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
11/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
12/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.88		
12/5900	TOTAL CARRIED TO SUMMARY				

SECTION 7100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/B7100	<u>CONCRETE PAVEMENTS</u>				
12/71.01	Concrete Trial Pavement				
	a) Manual Construction	m ³	11.00		
12/71.02	Concrete class 25/19, including formwork BUT excluding texturing and curing				
	a) In 150mm thick continuously reinforced concrete pavements	m ³	360		
	b) In 150mm thick jointed reinforced concrete pavements	m ³	50.00		
	c) In terminal anchors including setting out and any other items for preparation thereof	m ³	15.00		
12/71.03	Extra over item 71.02 for concrete requiring hand placing	m ²	7.50		
12/71.04	Texturing and curing				
	a) Burlap-dragged and grooved texture	m ²	2330.00		
	b) Curing	m ²	2330.00		
12/71.05	Variation in the rate of application of the curing compound	Litre	825.00		
12/71.06	Joints				
	a) Expansion joints complete excluding dowels	m	4.50		
	b) Longitudinal formed joints as per Dwg No.				
	(i) Sealed hinge joints	m	405.00		
	c) Sealed transverse contraction joints sawn in two separate operations	m	4.50		
	d) Dowel bars in mild steel 20mm diameter, 360mm long	No.	15.00		
	d) Tie bars deformed High tensile steel 12mm, diameter 600mm long	No.	405.00		
12/7100	TOTAL CARRIED TO SUMMARY				

SECTION 7100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/71.07	<u>Drilling and testing of cores</u>				
	a) 10mm cores drilled from the pavement	No.	3.00		
12/71.08	Steel reinforcement in concrete pavement				
	a) Y10 High tensile steel for stools	ton	2		
	b) Y10 High yield steel, 1000mm long tie bars	ton	0.50		
	c) Y10 High yield steel transverse bars	ton	8		
	d) Y12 High yield steel longitudinal bars	ton	19.50		
	e) Y12 High yield steel in terminal anchors	ton	1.50		
	f) Extra over Item 71.08(d) for additional splicing and additional steel at transverse construction joints	ton	0.60		
12/71.22	Provisional sum to be used for purchase of materials as directed by Engineer with prior approval by the Employer	-	Prov	Sum	80 000.00
12/71.23	Handling cost and profit in respect of materials purchased under item 71.22 (Provisional Quantity)	%	80 000.00		
12/7100	TOTAL CARRIED TO SUMMARY				

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/7300	<u>CONCRETE BLOCK PAVING</u>				
12/73.01	Paving Blocks compacted by two passes of suitable vibrating plate compactor Supply, lay, bed and compact all materials for pavement, placing bedding sand 25mm thick mixed with weedkiller, cut units to fit edge restraints, compact the pavement, join bricks with 3:1 sand/cement mortar in joints. (Underlying pavement layers measured elsewhere) (a) 221x111x60mm Infraset G-Block Interlocking pavers for driveways within graveyard (b) 221x111x60mm Infraset G-Block Interlocking pavers for sidewalks along external road (b) 220x105x50mm Corobrick 'Burgundy' clay pavers in sidewalks along parking area	 m² m² m²	 10 1 320 10		
12/73.02	Cast in situ concrete edge and intermediate beams (a) 300mm x 150mm concrete edging using 20 MPa concrete	m³	40		
12/73.03	Cast in situ concrete paving (a) 150mm thick concrete paving slabs using 25 Mpa concrete	m³	20		
12/73.04	Steel reinforcement: (c) Welded steel fabric (Ref. 193)	kg	500		
12/7300	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-13

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
13/2100	<u>DRAINS</u>				
13/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	50		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
13/21.02	Clearing and shaping existing open drains	m ³	10		
13/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
13/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
13/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	220		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	220		
13/21.13	Concrete caps for subsoil drain pipes	No.	2		
13/21.17	Test flushing of pipe subsoil drains	No.	1		
12/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/2200	<u>PREFABRICATED CULVERTS</u>				
13/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	215		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	50		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	150		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	50		
13/22.02	Backfilling:				
	(a) Using the excavated material	m³	170		
	(b) Using imported selected material	m³	50		
13/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10		
	(b) 600 mm dia Class 75D	m	30		
	(e) 900 mm dia Class 75D	m	10.00		
13/22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	10.00		
13/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
13/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	50		
13/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.2		
	(b) High-tensile steel bars	t	0.2		
	(c) Welded steel fabric (Ref. 617)	kg	250		
13/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
13/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
13/22.18	Brickwork:				
	(a) 115 mm thick	m ²	5		
	(b) 230 mm thick	m ²	10		
13/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	1		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	1		
13/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
13/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	220		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
13/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	220		
13/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	20		
13/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	30		
13/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	20		
13/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
13/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/3100	<u>BORROW MATERIALS</u>				
13/31.01	Excess overburden	m ³	100		
13/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
13/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/3300	<u>MASS EARTHWORKS</u>				
13/33.01	Cut and borrow to fill, including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	10		
13/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	10		
	(b) Intermediate excavation	m ³	10		
13/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
13/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
13/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
	<u>STABILIZATION</u>				
13/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	10		
13/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	0.5		
13/35.04	Provision and application of water for curing	kilolitre	0.2		
13/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
12/3600	<u>CRUSHED-STONE BASE</u>				
13/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	240		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
13/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
13/3600	TOTAL CARRIED TO SUMMARY				

SECTION 3800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/3800	<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
13/38.01	Excavating and removing existing bituminous material (except milled material):				
	(a) Material intended for recycling with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	10		
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	700		
13/38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³	120		
	(b) Cemented material	m ³	10		
	(c) Cemented crushed stone	m ³	10		
13/38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(b) Cutting asphalt	m	400		
	(c) Sawing cemented layers:				
	(i) Cemented material	m ²	10		
13/38.10	Preparing stockpile sites	m ²	200		
13/38.20	Breaking up and removing paving including layer works and prepare surface to receive new paving				
	(a) Paving blocks to be disposed of	m ²	10		
13/3800	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/4100	<u>PRIME COAT</u>				
13/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	840		
13/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/4200	<u>ASPHALT BASE AND SURFACING</u>				
13/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	1 400		
13/42.04	Tack coat of 30% stable-grade emulsion	litre	840		
13/42.08	100 mm cores in asphalt paving	number	8		
13/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/5700	<u>ROAD MARKINGS</u>				
13/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.22		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.44		
	(d) White lettering and symbols	m ²	5		
13/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
13/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
13/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.22		
13/5900	TOTAL CARRIED TO SUMMARY				

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/7300	<u>CONCRETE BLOCK PAVING</u>				
13/73.01	Paving Blocks compacted by two passes of suitable vibrating plate compactor Supply, lay, bed and compact all materials for pavement, placing bedding sand 25mm thick mixed with weedkiller, cut units to fit edge restraints, compact the pavement, join bricks with 3:1 sand/cement mortar in joints. (Underlying pavement layers measured elsewhere) (a) 221x111x60mm Infraset G-Block Interlocking pavers for driveways within graveyard (b) 221x111x60mm Infraset G-Block Interlocking pavers for sidewalks along external road (b) 220x105x50mm Corobrick 'Burgundy' clay pavers in sidewalks along parking area	m ²	10		
13/73.02	Cast in situ concrete edge and intermediate beams (a) 300mm x 150mm concrete edging using 20 MPa concrete	m ³	14		
13/73.03	Cast in situ concrete paving (a) 150mm thick concrete paving slabs using 25 Mpa concrete	m ³	10		
13/73.04	Steel reinforcement: (c) Welded steel fabric (Ref. 193)	kg	250		
13/7300	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-14

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
14/2100	<u>DRAINS</u>				
14/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	100		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	50		
14/21.02	Clearing and shaping existing open drains	m ³	10		
14/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
14/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	5		
	(ii) Medium grade	m ³	5		
	(iii) Coarse grade	m ³	5		
14/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	130		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	130		
14/21.13	Concrete caps for subsoil drain pipes	No.	2		
14/21.17	Test flushing of pipe subsoil drains	No.	1		
14/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/2200	<u>PREFABRICATED CULVERTS</u>				
14/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	115		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	35		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	70		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	20		
14/22.02	Backfilling:				
	(a) Using the excavated material	m³	90		
	(b) Using imported selected material	m³	20		
14/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10		
	(b) 600 mm dia Class 75D	m	90		
	(e) 900 mm dia Class 75D	m	10.00		
14/22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	10.00		
14/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
14/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	20		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
14/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
14/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	10		
	(b) Reinforced concrete	m ³	10		
14/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	2		
	(ii) Depth over 1.5m up to 2.0m	number	1		
14/22.18	Brickwork:				
	(a) 115 mm thick	m ²	10		
	(b) 230 mm thick	m ²	30		
14/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	3		
14/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
14/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	157		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
14/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	140		
14/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	80		
14/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	25		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	250		
14/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	60		
14/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
14/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/3100	<u>BORROW MATERIALS</u>				
14/31.01	Excess overburden	m ³	100		
14/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
14/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/3300	<u>MASS EARTHWORKS</u>				
14/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	160		
14/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	312		
	(b) Intermediate excavation	m ³	60		
14/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
13/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
13/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	135		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
13/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
	<u>STABILIZATION</u>				
14/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	135		
14/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	6		
14/35.04	Provision and application of water for curing	kilolitre	1		
14/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/3600	<u>CRUSHED-STONE BASE</u>				
14/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	130		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
14/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
14/3600	TOTAL CARRIED TO SUMMARY				

SECTION 3800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/3800	<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
14/38.01	Excavating and removing existing bituminous material (except milled material):				
	(a) Material intended for recycling with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	10		
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	300		
14/38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³	200		
	(b) Cemented material	m ³	5		
	(c) Cemented crushed stone	m ³	5		
14/38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(b) Cutting asphalt	m	100		
	(c) Sawing cemented layers:				
	(i) Cemented material	m ²	10		
14/38.10	Preparing stockpile sites	m ²	150		
14/38.20	Breaking up and removing paving including layer works and prepare surface to receive new paving				
	(a) Paving blocks to be disposed of	m ²	10		
14/3800	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/4100	<u>PRIME COAT</u>				
14/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	606		
14/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/4200	<u>ASPHALT BASE AND SURFACING</u>				
14/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	1 010		
14/42.04	Tack coat of 30% stable-grade emulsion	litre	606		
14/42.08	100 mm cores in asphalt paving	number	6		
14/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/5700	<u>ROAD MARKINGS</u>				
14/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.13		
	(iii) 200 mm wide	km	0.1		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.3		
	(d) White lettering and symbols	m ²	5		
14/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
13/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
14/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.14		
14/5900	TOTAL CARRIED FORWARD				

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/7300	<u>CONCRETE BLOCK PAVING</u>				
14/73.01	Paving Blocks compacted by two passes of suitable vibrating plate compactor Supply, lay, bed and compact all materials for pavement, placing bedding sand 25mm thick mixed with weedkiller, cut units to fit edge restraints, compact the pavement, join bricks with 3:1 sand/cement mortar in joints. (Underlying pavement layers measured elsewhere) (a) 221x111x60mm Infraset G-Block Interlocking pavers for driveways within graveyard (b) 221x111x60mm Infraset G-Block Interlocking pavers for sidewalks along external road (b) 220x105x50mm Corobrick 'Burgundy' clay pavers in sidewalks along parking area	 m ² m ² m ²	 10 10 10		
14/73.02	Cast in situ concrete edge and intermediate beams (a) 300mm x 150mm concrete edging using 20 MPa concrete	m ³	15		
14/73.03	Cast in situ concrete paving (a) 150mm thick concrete paving slabs using 25 Mpa concrete	m ³	15		
14/73.04	Steel reinforcement: (c) Welded steel fabric (Ref. 193)	kg	250		
14/7300	TOTAL CARRIED FORWARD				

SECTION 7400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/7400	<u>PATENTED EARTH RETAINING SYSTEMS</u>				
14/74.01	Patented earth retaining systems (a) Loffelstein precast concrete blocks, 'Terraforce' precast concrete 4 x 4 Multi Step or other approved interlocking planter blocks finished with grooves on exposed surfaces	m ²	100		
14/7400	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-15

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
15/2100	<u>DRAINS</u>				
15/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	50		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	20		
15/21.02	Clearing and shaping existing open drains	m ³	10		
15/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
15/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
15/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	110		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	110		
15/21.13	Concrete caps for subsoil drain pipes	No.	2		
15/21.17	Test flushing of pipe subsoil drains	No.	1		
15/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

[illegible]

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
15/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
15/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
15/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	10		
	(b) Reinforced concrete	m ³	10		
15/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
15/22.18	Brickwork:				
	(a) 115 mm thick	m ²	10		
	(b) 230 mm thick	m ²	30		
15/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	1		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
15/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
15/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	115		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
15/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	115		
15/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	40		
15/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	80		
15/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	80		
15/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
15/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/3100	<u>BORROW MATERIALS</u>				
15/31.01	Excess overburden	m ³	100		
15/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
14/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/3300	<u>MASS EARTHWORKS</u>				
15/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	135		
15/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	265		
	(b) Intermediate excavation	m ³	65		
	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	135		
	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	10		
15/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
15/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	130		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
15/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
	<u>STABILIZATION</u>				
15/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	130		
15/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	6		
15/35.04	Provision and application of water for curing	kilolitre	1		
15/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/3600	<u>CRUSHED-STONE BASE</u>				
15/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	130		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	50		
15/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
15/3600	TOTAL CARRIED TO SUMMARY				

SECTION 3800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/3800	<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
15/38.01	Excavating and removing existing bituminous material (except milled material):				
	(a) Material intended for recycling with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	10		
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	100		
15/38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³	30		
	(b) Cemented material	m ³	30		
	(c) Cemented crushed stone	m ³			
15/38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(b) Cutting asphalt	m	10		
	(c) Sawing cemented layers:				
	(i) Cemented material	m ²	2		
15/38.10	Preparing stockpile sites	m ²	95		
15/38.20	Breaking up and removing paving including layer works and prepare surface to receive new paving				
	(a) Paving blocks to be disposed of	m ²	5 200		
15/3800	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/4100	<u>PRIME COAT</u>				
15/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	411		
15/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/4200	<u>ASPHALT BASE AND SURFACING</u>				
15/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	685		
15/42.04	Tack coat of 30% stable-grade emulsion	litre	411		
15/42.08	100 mm cores in asphalt paving	number	2		
15/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/5700	<u>ROAD MARKINGS</u>				
15/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.11		
	(iii) 200 mm wide	km	0.1		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.22		
	(d) White lettering and symbols	m ²	2		
15/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
15/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
15/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.11		
15/5900	TOTAL CARRIED TO SUMMARY				

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
14/7300	<u>CONCRETE BLOCK PAVING</u>				
15/73.01	Paving Blocks compacted by two passes of suitable vibrating plate compactor Supply, lay, bed and compact all materials for pavement, placing bedding sand 25mm thick mixed with weedkiller, cut units to fit edge restraints, compact the pavement, join bricks with 3:1 sand/cement mortar in joints. (Underlying pavement layers measured elsewhere) (a) 221x111x60mm Infraset G-Block Interlocking pavers for driveways within graveyard (b) 221x111x60mm Infraset G-Block Interlocking pavers for sidewalks along external road (b) 220x105x50mm Corobrick 'Burgundy' clay pavers in sidewalks along parking area	m² m² m²	10 330 10		
15/73.02	Cast in situ concrete edge and intermediate beams (a) 300mm x 150mm concrete edging using 20 MPa concrete	m³	12		
15/73.03	Cast in situ concrete paving (a) 150mm thick concrete paving slabs using 25 Mpa concrete	m³	10		
15/73.04	Steel reinforcement: (c) Welded steel fabric (Ref. 193)	kg	150		
15/7300	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-16

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
16/2100	<u>DRAINS</u>				
16/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	100		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	60		
16/21.02	Clearing and shaping existing open drains	m ³	15		
16/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
16/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	8		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	8		
16/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	340		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	340		
16/21.13	Concrete caps for subsoil drain pipes	No.	4		
16/21.17	Test flushing of pipe subsoil drains	No.	2		
16/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/2200	<u>PREFABRICATED CULVERTS</u>				
16/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	290		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	150		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	250		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	80		
16/22.02	Backfilling:				
	(a) Using the excavated material	m³	225		
	(b) Using imported selected material	m³	65		
16/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10		
	(b) 600 mm dia Class 75D	m	100		
	(e) 900 mm dia Class 75D	m	10.00		
15/22.05	Portal and rectangular culverts:				
	(b) Without prefabricated floor slabs (size, type and class as indicated)				
	(i) 450 mm x 600 mm : Class 175S	m	10.00		
16/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
16/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	15		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	80		
16/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.2		
	(b) High-tensile steel bars	t	0.2		
	(c) Welded steel fabric (Ref. 617)	kg	250		
16/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	10		
	(b) Reinforced concrete	m ³	10		
16/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	3		
	(ii) Depth over 1.5m up to 2.0m	number	1		
16/22.18	Brickwork:				
	(a) 115 mm thick	m ²	10		
	(b) 230 mm thick	m ²	30		
16/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	4		
16/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
16/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	335		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	335		
16/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	335		
16/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	80		
1/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	80		
16/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	80		
16/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
16/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/3100	<u>BORROW MATERIALS</u>				
16/31.01	Excess overburden	m ³	100		
16/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
16/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/3300	<u>MASS EARTHWORKS</u>				
16/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	410		
16/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	820		
	(b) Intermediate excavation	m ³	80		
	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	410		
	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	50		
15/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
16/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	340		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
16/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
	<u>STABILIZATION</u>				
16/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	340		
16/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	15		
16/35.04	Provision and application of water for curing	kilolitre	1		
16/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/3600	<u>CRUSHED-STONE BASE</u>				
16/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	330		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	76		
16/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
15/3600	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/4100	<u>PRIME COAT</u>				
16/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	1 266		
16/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/4200	<u>ASPHALT BASE AND SURFACING</u>				
16/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	2 110		
16/42.04	Tack coat of 30% stable-grade emulsion	litre	1 266		
16/42.08	100 mm cores in asphalt paving	number	2		
15/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/5700	<u>ROAD MARKINGS</u>				
16/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.34		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.68		
	(d) White lettering and symbols	m ²	5		
16/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
16/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
16/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.35		
15/5900	TOTAL CARRIED TO SUMMARY				

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
16/7300	<u>CONCRETE BLOCK PAVING</u>				
16/73.01	Paving Blocks compacted by two passes of suitable vibrating plate compactor Supply, lay, bed and compact all materials for pavement, placing bedding sand 25mm thick mixed with weedkiller, cut units to fit edge restraints, compact the pavement, join bricks with 3:1 sand/cement mortar in joints. (Underlying pavement layers measured elsewhere) (a) 221x111x60mm Infraset G-Block Interlocking pavers for driveways within graveyard (b) 221x111x60mm Infraset G-Block Interlocking pavers for sidewalks along external road (b) 220x105x50mm Corobrick 'Burgundy' clay pavers in sidewalks along parking area	m ² m ² m ²	10 510 10		
16/73.02	Cast in situ concrete edge and intermediate beams (a) 300mm x 150mm concrete edging using 20 MPa concrete	m ³	16		
16/73.03	Cast in situ concrete paving (a) 150mm thick concrete paving slabs using 25 Mpa concrete	m ³	10		
16/73.04	Steel reinforcement: (c) Welded steel fabric (Ref. 193)	kg	250		
16/7300	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-17

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
17/2100	<u>DRAINS</u>				
17/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	50		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	30		
17/21.02	Clearing and shaping existing open drains	m ³	15		
17/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
17/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
17/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	150		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	150		
17/21.13	Concrete caps for subsoil drain pipes	No.	2		
17/21.17	Test flushing of pipe subsoil drains	No.	2		
17/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/2200	PREFABRICATED CULVERTS				
17/22.01	Excavation: (a) Excavating soft material situated within the following depth ranges below the surface level: (i) 0 m up to 1,5 m (ii) Exceeding 1,5 m and up to 3,0 m (b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth (c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³ 	195 		
17/22.02	Backfilling: (a) Using the excavated material (b) Using imported selected material	m³ 	150 		
17/22.03	Concrete pipe culverts on Class A bedding: (a) 450mm dia Class 100D (b) 600 mm dia Class 75D (e) 900 mm dia Class 75D	m 	10 		
17/22.05	Portal and rectangular culverts: (b) Without prefabricated floor slabs (size, type and class as indicated) (i) 450 mm x 600 mm : Class 175S	m 	10.00 		
17/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
17/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	80		
17/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.30		
	(b) High-tensile steel bars	t	0.30		
	(c) Welded steel fabric (Ref. 617)	kg	250		
17/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	10		
	(b) Reinforced concrete	m ³	10		
17/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
17/22.18	Brickwork:				
	(a) 115 mm thick	m ²	10		
	(b) 230 mm thick	m ²	30		
17/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
17/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
17/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	160		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	160		
17/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	160		
17/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	150		
17/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	80		
17/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	80		
17/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
17/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/3100	<u>BORROW MATERIALS</u>				
17/31.01	Excess overburden	m ³	100		
17/31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
17/3100	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/3300	<u>MASS EARTHWORKS</u>				
17/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	195		
17/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	385		
	(b) Intermediate excavation	m ³	50		
	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	195		
	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	500		
17/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
17/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	160		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
17/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
	<u>STABILIZATION</u>				
17/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	160		
17/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	7		
17/35.04	Provision and application of water for curing	kilolitre	1		
17/3500	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/3600	<u>CRUSHED-STONE BASE</u>				
17/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	155		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	40		
17/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	Rate Only		
17/3600	TOTAL CARRIED TO SUMMARY				

SECTION 3800

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/3800	<u>BREAKING UP EXISTING PAVEMENT LAYERS</u>				
17/38.01	Excavating and removing existing bituminous material (except milled material):				
	(a) Material intended for recycling with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²			
	(b) Material to be disposed of with the average depth of excavation:				
	(i) Not exceeding 30 mm	m ²	25		
17/38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³	15		
	(b) Cemented material	m ³	10		
	(c) Cemented crushed stone	m ³	10		
17/38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(b) Cutting asphalt	m	10		
	(c) Sawing cemented layers:				
	(i) Cemented material	m ²	2		
17/38.10	Preparing stockpile sites	m ²	20		
17/38.20	Breaking up and removing paving including layer works and prepare surface to receive new paving				
	(a) Paving blocks to be disposed of	m ²	Rate Only		
17/3800	TOTAL CARRIED TO SUMMARY				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/4100	<u>PRIME COAT</u>				
17/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	565		
15/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/4200	<u>ASPHALT BASE AND SURFACING</u>				
17/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	942		
17/42.04	Tack coat of 30% stable-grade emulsion	litre	565		
17/42.08	100 mm cores in asphalt paving	number	10		
15/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/5700	<u>ROAD MARKINGS</u>				
17/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.17		
	(iii) 200 mm wide	km	0.20		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.34		
	(d) White lettering and symbols	m ²	2		
17/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
17/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
17/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.17		
15/5900	TOTAL CARRIED TO SUMMARY				

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
17/7300	<u>CONCRETE BLOCK PAVING</u>				
17/73.01	Paving Blocks compacted by two passes of suitable vibrating plate compactor Supply, lay, bed and compact all materials for pavement, placing bedding sand 25mm thick mixed with weedkiller, cut units to fit edge restraints, compact the pavement, join bricks with 3:1 sand/cement mortar in joints. (Underlying pavement layers measured elsewhere) (a) 221x111x60mm Infraset G-Block Interlocking pavers for driveways within graveyard (b) 221x111x60mm Infraset G-Block Interlocking pavers for sidewalks along external road (b) 220x105x50mm Corobrick 'Burgundy' clay pavers in sidewalks along parking area	m ² m ² m ²	10 225 10		
17/73.02	Cast in situ concrete edge and intermediate beams (a) 300mm x 150mm concrete edging using 20 MPa concrete	m ³	16		
17/3.03	Cast in situ concrete paving (a) 150mm thick concrete paving slabs using 25 Mpa concrete	m ³	10		
17/73.04	Steel reinforcement: (c) Welded steel fabric (Ref. 193)	kg	250		
17/7300	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-18

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
18/2100	<u>DRAINS</u>				
18/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	45		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	5		
18/21.02	Clearing and shaping existing open drains	m ³	15		
18/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	10		
	(ii) Coarse grade (40mm)	m ³	10		
18/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
18/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	150		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	150		
18/21.13	Concrete caps for subsoil drain pipes	No.	2		
18/21.17	Test flushing of pipe subsoil drains	No.	1		
18/2100	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/2200	PREFABRICATED CULVERTS				
18/22.01	Excavation: (a) Excavating soft material situated within the following depth ranges below the surface level: (i) 0 m up to 1,5 m (ii) Exceeding 1,5 m and up to 3,0 m (b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth (c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³ 	30 		
18/22.02	Backfilling: (a) Using the excavated material (b) Using imported selected material	m³ 	20 		
18/22.03	Concrete pipe culverts on Class A bedding: (a) 450mm dia Class 100D (b) 600 mm dia Class 75D (e) 900 mm dia Class 75D	m 	10.00 		
18/ 22.05	Portal and rectangular culverts: (b) Without prefabricated floor slabs (size, type and class as indicated) (i) 450 mm x 600 mm : Class 175S	 	 		
18/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
18/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
18/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
18/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	5		
	(b) Reinforced concrete	m ³	5		
18/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
18/22.18	Brickwork:				
	(a) 115 mm thick	m ²	0		
	(b) 230 mm thick	m ²	0		
18/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	2		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
18/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
8/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	150		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	10		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	10		
18/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	150		
18/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	50		
18/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	15		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	60		
18/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	10		
18/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
1/2300	TOTAL CARRIED FORWARD				

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1/3100	<u>BORROW MATERIALS</u>				
18/31.01	Excess overburden	m ³	50		
18/ 31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.4		
	(c) Soft material	ha	0.4		
18/3100	TOTAL CARRIED FORWARD				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/3300	<u>MASS EARTHWORKS</u>				
18/33,01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	160		
18/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	310		
	(b) Intermediate excavation	m ³	124		
18/33.10	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	240		
18/33.11	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	Rate Only		
18/ 3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
18/34,01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	160		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
18/3400	TOTAL CARRIED FORWARD				

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/3500	<u>STABILIZATION</u>				
18/35.01	Chemical stabilization extra over unstabilized compacted layers:				
	(c) Gravel subbase, 150 mm thick	m ³	160		
18/35.02	Chemical stabilizing agent:				
	(a) Ordinary portland cement	ton	7.00		
18/35.04	Provision and application of water for curing	kilolitre	1		
18/3500	TOTAL CARRIED FORWARD				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/3600	<u>CRUSHED-STONE BASE</u>				
18/36,01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	153		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	10		
	(iii) 100mm thick layer under sidewalks	m ³	10		
18/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
18/3600	TOTAL CARRIED FORWARD				

SECTION 4100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/4100	<u>PRIME COAT</u>				
18/41.01	Prime coat: (c) MC-30 cut-back bitumen	litre	552		
18/4100	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/4200	<u>ASPHALT BASE AND SURFACING</u>				
18/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	920		
18/42.04	Tack coat of 30% stable-grade emulsion	litre	552		
18/42.08	100 mm cores in asphalt paving	number	2		
18/4200	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/5700	<u>ROAD MARKINGS</u>				
18/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.15		
	(iii) 200 mm wide	km	0.30		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0		
	(d) White lettering and symbols	m ²	5		
18/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	0.5		
18/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
18/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
18/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.15		
18/5900	TOTAL CARRIED TO SUMMARY				

Part C2 : Pricing Data

PART B

ROAD-19

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
19/2100	<u>DRAINS</u>				
19/21.01	Excavation for open drains:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(l) 0m up to 1.5m	m ³	50		
	(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	20		
19/21.02	Clearing and shaping existing open drains	m ³	10		
19/21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
	(b) Crushed stone obtained from commercial sources:				
	(i) Fine grade (19mm)	m ³	8		
	(ii) Coarse grade (40mm)	m ³	8		
19/21.07	Natural permeable material in subsoil drainage systems (sand):				
	(b) Sand from commercial sources:				
	(i) Fine grade	m ³	10		
	(ii) Medium grade	m ³	10		
	(iii) Coarse grade	m ³	10		
19/21.08	Composite subsoil drainage systems:				
	(a) Geocomposite pre-manufactured drainage system (Kaytech Flo-Drain) with Flownet drainage core				
	(i) Flodrain A2 (30m x 1000mm)	m	575		
	(ii) GeoPipe (6m x 100mm) M100 meshcore HDPE drainage pipe	m	575		
19/21.13	Concrete caps for subsoil drain pipes	No.	2		
19/21.17	Test flushing of pipe subsoil drains	No.	1		
19/2100	TOTAL CARRIED TO SUMMARY				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/2200	<u>PREFABRICATED CULVERTS</u>				
19/22.01	Excavation:				
	(a) Excavating soft material situated within the following depth ranges below the surface level:				
	(i) 0 m up to 1,5 m	m³	60		
	(ii) Exceeding 1,5 m and up to 3,0 m	m³	20		
	(b) Extra over subitem 22.01(a) for excavation in intermediate material, irrespective of depth	m³	70		
	(c) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m³	10		
19/22.02	Backfilling:				
	(a) Using the excavated material	m³	50		
	(b) Using imported selected material	m³	15		
19/22.03	Concrete pipe culverts on Class A bedding:				
	(a) 450mm dia Class 100D	m	10		
	(b) 600 mm dia Class 75D	m	50		
	(e) 900 mm dia Class 75D	m	12.00		
19/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/22.06	Extra over items B22.03, 22.04 and 22.05 for constructing inclined culverts	m	10.00		
19/22.07	Cast in situ concrete and formwork:				
	(a) In class A bedding, screeds and the encasing for pipes, including formwork:				
	(i) Class 15/19 concrete	m ³	10		
	(b) In floor slabs for portal or rectangular culverts, including formwork, joints and class U2 surface finish:				
	(i) Class 25/19 concrete	m ³	15		
	(c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork, but including class U2 surface finish:				
	(i) Class U2 /25Mpa concrete	m ³	10		
	(d) Formwork of concrete under subitem 22.07(c) above (type of finish indicated):				
	(i) Class F1 surface finish	m ²	10		
	(ii) Class F2 surface finish	m ²	20		
19/22.10	Steel reinforcement:				
	(a) Mild steel bars	t	0.20		
	(b) High-tensile steel bars	t	0.20		
	(c) Welded steel fabric (Ref. 617)	kg	250		
19/22.12	Removing existing concrete:				
	(a) Plain concrete	m ³	10		
	(b) Reinforced concrete	m ³	10		
19/2200	TOTAL CARRIED FORWARD				

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/22.17	Manholes, catchpits, precast inlet and outlet structures complete:				
	(a) Manholes:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
	(b) Catchpits:				
	(i) Depth over 0.00m up to 1.5m	number	1		
	(ii) Depth over 1.5m up to 2.0m	number	1		
19/22.18	Brickwork:				
	(a) 115 mm thick	m ²	10		
	(b) 230 mm thick	m ²	30		
19/22.21	Accessories:				
	(a) Manhole covers including frames, (description)	number	1		
	(b) Inlet grids including frames, (description)	number			
	(c) Step irons, (description)	number			
	(d) Precast concrete top slabs for Kerb-Inlets	number	2		
19/2200	TOTAL CARRIED FORWARD				

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
15/2300	<u>CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS</u>				
19/23.01	Concrete kerbing:				
	(a) Prefabricated Medium Duty Mountable Kerb, SABS 927 Figure 8b.	m	550		
	(b) Prefabricated battered kerb, SABS 927 Fig 7,	m	300		
	(b) Prefabricated battered kerb, SABS 927 Fig 4, edging to side walk paving	m	350		
19/23.02	Concrete kerbing-channelling combination:				
	(a) Prefabricated battered kerb, SABS 927 Fig 7, with 300 mm wide cast in situ class 20/19 concrete channel, as shown on the Drawings*	m	450		
19/23.07	Trimming of excavations for concrete-lined open drains				
	(a) In soft material	m ³	40		
19/23.08	Concrete lining for open drains				
	(a) 20MPa cast in situ concrete lining	m ³	20		
	(b) Class U2 surface finish to cast in situ concrete drain	m ²	80		
19/23.09	Formwork to cast in situ concrete lining for open drains				
	(b) To ends of slabs	m ²	80		
19/23.12	Steel reinforcement				
	(c) Welded steel fabric	kg	250		
19/2300	TOTAL CARRIED TO SUMMARY				

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/3300	<u>MASS EARTHWORKS</u>				
19/33.01	Cut and borrow to fill,including free -haul up to 1.0km				
	(a) Material in compacted layer thicknesses of 150mm and less:				
	(i) Compacted to 90% of modified AASHTO density	m ³	10		
	(ii) Compacted to 93% of modified AASHTO density	m ³	135		
19/33.04	Cut to spoil, including free-haul up to 1.0 km. Material obtained from:				
	(a) Soft excavation	m ³	440		
	(b) Intermediate excavation	m ³	10		
	Roadbed preparation and the compaction of material:				
	(b) Compaction to 93% of modified AASHTO density	m ³	440		
	Three-roller-passes compaction:				
	(a) Vibratory roller	m ²	10		
19/3300	TOTAL CARRIED FORWARD				

SECTION 3400

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/3400	<u>PAVEMENT LAYERS OF GRAVEL MATERIAL</u>				
19/34.01	Pavement layers constructed from gravel taken from cut or borrow including free-haul up to 1,0 km:				
	(c) Gravel subbase (unstabilized gravel) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	440		
	(d) Gravel subbase (chemically stabilized material) compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
	(h) Gravel wearing course compacted to:				
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	10		
19/3400	TOTAL CARRIED TO SUMMARY				

SECTION 3600

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/3600	<u>CRUSHED-STONE BASE</u>				
19/36.01	Crushed-stone base:				
	(c) Constructed from type G2 material obtained from commercial sources and compacted to 85% of bulk relative density:				
	(i) 150mm thick layer under external surfaced road and Parking areas	m ³	220		
	(ii) 100mm thick layer under internal concrete block paved driveways	m ³	60		
	(iii) 100mm thick layer under sidewalks	m ³	50		
19/36.03	Crushed-stone base trial section (150mm layer thickness) constructed in accordance with the provisions of Clause 3603	m ²	10		
15/3600	TOTAL CARRIED TO SUMMARY				

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/4200	<u>ASPHALT BASE AND SURFACING</u>				
19/42.02	Asphalt surfacing 25 mm thick using 60/70 penetration-grade bitumen:				
	(a) Continuously graded, fine grade	m ²	4 000		
19/42.04	Tack coat of 30% stable-grade emulsion	litre	2 400		
19/42.08	100 mm cores in asphalt paving	number	8		
15/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/5700	<u>ROAD MARKINGS</u>				
19/57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	1.50		
	(iii) 200 mm wide	km	0.50		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	1.00		
	(d) White lettering and symbols	m ²	5		
19/57.06	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km	1.0		
15/5700	TOTAL CARRIED TO SUMMARY				

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
19/5900	<u>FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS</u>				
15/59.01	Finishing the road and road reserve: (b) Single-carriageway road	km	0.11		
19/5900	TOTAL CARRIED TO SUMMARY				

SUMMARY OF SCHEDULE OF QUANTITIES

SECTION	DESCRIPTION	AMOUNT
PART A		
1200	GENERAL REQUIREMENTS AND PROVISIONS	R
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS	R
1500	ACCOMMODATION OF TRAFFIC	R
1600	OVERHAUL	R
1700	CLEARING AND GRUBBING	R
1800	DAYWORKS	R
PART B		
	ROAD 01.....	R
	ROAD 02.....	R
	ROAD 03.....	
	ROAD 04.....	R
	ROAD 05.....	R
	ROAD 06.....	R
	ROAD 07.....	R
	ROAD 08.....	R
	ROAD 09.....	R
	ROAD 10.....	R
	ROAD 11.....	R
	ROAD 12.....	R
	ROAD 13.....	R
	ROAD 14.....	R
	ROAD 15.....	R
	ROAD 16.....	R
	ROAD 17.....	R
	ROAD 18.....	R
	ROAD 19.....	R

TOTAL CARRIED FORWARD SUMMARY R

CALCULATION OF TENDER SUM**SUBTOTAL (1) OF SCHEDULE OF QUANTITIES..... R****CONTINGENCIES**

The sum provided here is under the sole control of the

Engineer and may be deducted in whole or in part.

The Tenderer must add 5% of the total of schedule of quantities) R

CONTRACT PRICE ADJUSTMENT

Sum provided in terms of the provisions of

the General Conditions of Contract

(The Tenderer must add 2.5% of Subtotal (1)) R

SUBTOTAL (2)..... R**VALUE-ADDED TAX (VAT)**

The tenderer shall add 15% of subtotal (1) for VAT R

TENDER SUM CARRIED TO FORM OF TENDER R

C3: SCOPE OF WORK

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C3.1 STANDARD SPECIFICATIONS

The Standard Specifications on which this contract is based are the **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 edition**.

C3.2: PROJECT SPECIFICATIONS

The Project Specifications, consisting of two parts, form an integral part of the Contract and supplement the Standard Specifications.

Part A contains a general description of the Works, the Site and the requirements to be met.

Part B contains variations, amendments and additions to the Standard Specifications and, if applicable, the Particular Specifications.

In the event of any discrepancy between a part or parts of the Standard or Particular Specifications and the Project Specifications, the Project Specifications shall take precedence. In the event of a discrepancy between the Specifications (including the Project Specifications) and the drawings and / or the Schedule of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item.

The Standard Specifications, which form part of this contract, have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

C3.2: PROJECT SPECIFICATIONS

PART A: GENERAL

1. DESCRIPTION OF THE WORKS

1.1 Employer's Objectives

This project forms part of 2023/24 Financial Year Project of the Umzimvubu Local Municipality Infrastructure programme. This will be the Upgrading of Mount Frere Internal Streets Phase 8.

1.2 Location of the Works

The project roads are in various locations within KwaBhaca (Mt Frere) Town in Ward 18 of Umzimvubu Local Municipality, the Eastern Cape Province.

1.3 Overview of the Works

The project comprises the surfacing of eight pieces of internal roads within KwaBhaca Town, the construction works of which includes the following:

- Site Clearance
- Roadbed preparation;
- Construction of pavement layer works using Imported G5 material in selected upper layers, G5 stabilised to C4 in sub-base layers and G2 in base course.
- Surfacing of the roads using asphalt.
- Construction of concrete block paved side walks
- Construction of stormwater culverts in two of the roads
- Construction of concrete kerb and stormwater concrete channels

1.4 Extent of the Works

The following is the extent of the roads under the project:

Road No.	Road Width	Surfacing	Description	Length
Road-01:	6.00 m	Asphalt	Access Road to Old Animal Pound	0.19 km
Road-02:	6.00 m	Asphalt	Access Road to Bus Depot	0.15 km
Road-03:	6.00 m	Asphalt	Access Road to Households	0.12 km
Road-04:	6.00 m	Asphalt	Access Road to Households	0.11 km
Road-05:	6.00 m	Asphalt	Access Road to TVET Collage	0.33 km
Road-06:	5.00 m	Asphalt	Driveway	0.09 km
Road-07:	6.00 m	Asphalt	Driveway	0.06 km
Road-08:	6.00 m	Asphalt	Access Road	0.14 km
Road-09:	6.00 m	Asphalt	Driveway	0.08 km

Road No.	Road Width	Surfacing	Description	Length
Road-10:	6.80 m	Asphalt	Access Road to Shops	0.23 km
Road-11:	6.80 m	Asphalt	Access Road to Shops	0.21 km
Road-12:	6.80 m	Concrete and Asphalt	Access Road to Shopping Centre and Households	0.88 km
Road-13:	6.80 m	Asphalt	Access Road to Shops and Households	0.22 km
Road-14:	6.40 m	Asphalt	Access Road to Shops	0.13 km
Road-15:	6.00 m	Asphalt	Access Road to Mt Frere High School and Shops	0.11 km
Road-16:	6.00 m	Asphalt	Access Road to Mt Frere High School	0.34 km
Road-17:	6.00 m	Asphalt	N2/SupaRoof Junction	0.15 km
Road-18:	6.00 m	Asphalt	Access Road to Households	0.15 km
Road-19:	6.00 m	Asphalt	Road next to the shopping mall - Parking and Asphalt Overlay	1.10 km
Total Length				4.794 km

1.5 Detailed Description of the Works

The following description is a broad outline of the works and does not limit the work to be executed by the Contractor in terms of the contract. The quantities of some of the major items indicated in this section are indicative, not absolute, and are provided to define in general terms the overall scope of the project.

Approximate quantities of each type of work to be carried out in accordance with the contract documents are listed in the Schedule of Quantities in Section C2.2.

The site shall not only comprise the proclaimed road reserve but shall be extended in the broader sense to take account of all areas occupied by the Contractor, be it deliberate or unintentional, in the execution of the contract. The site includes all the land within the proclaimed limits of the road reserve along the extent of the works, borrow pits and quarry sites, stockpile areas, locations set aside for construction and supervision accommodation and any other location required for the execution of the Works.

Incidental intrusion into private or tribal property outside the road reserve shall not be permitted without the owner's written authority. Any such agreement reached with a private or tribal landowner (occupier) shall include the proviso that any material or equipment on that site shall remain the exclusive property of the Employer in terms of the contract.

1.5.1 Access to the Site

To be communicated by the project manager during site briefing meeting.

1.5.2 Existing services

The relevant service provider is to be notified immediately if any service requires relocation.

1.5.3 Engineer's campsite

No provision has been made for an Engineers campsite

1.5.4 Climate

Mt Frere has a fair climate and the temperatures ranges between 10 and 35 degrees in summer. In winter temperatures are very cold. There is less rain in winter. Most areas are very dry.

1.5.5 Environment

The Contractor's attention is called to clause B1233 of Part B of these Project Specifications and to the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.

1.5.6 Community Liaison Officer (CLO)

The ward councillor in whose wards work is to be done will collectively identify a Community Liaison Officer (CLO) for the project and make the person known to the Contractor at the Site Handover Meeting. The Contractor will be required to enter into a written agreement with the CLO that specifies:

- Designation;
- The wage rate;
- Hours of work;
- Duration of appointment;
- The CLO's responsibility should include the following:
 1. Attend monthly site meetings;
 2. Assisting in all respects relating to the recruitment of local labour;
 3. Acting as a source of information for the community and councillors on any issue related to the contract;
 4. Keep the Contractor informed on community issues that may affect the contract;
 5. Set up meetings and mediate if any labour dispute arises;
 6. Keep a written record of all labour related issues
 7. Any other duties the Contractor may request the CLO to undertake, only with prior consultation;

The Contractor shall have the right to determine the number of labourers required at any given time, which will vary throughout the duration of the contract.

1.5.10 Labour

Local labour is to be used and the employment of such labour is to be effected by the Contractor through Community Liaison Officer (CLO) within the Umzimvubu Municipal area. The CLO shall assist the Contractor with the recruitment of local labourers to ensure an equitable distribution of people employed from those wards in the vicinity of the works.

The **minimum labour rate is R 180/day** in accordance with the Municipal Infrastructure – An Industry Guide to Infrastructure Service Delivery Levels and Unit Costs by Co-operative Governance & Traditional Affairs.

1.6 Testing of materials

The Contractor shall carry out the required process control testing as specified in terms of the COLTO standard specifications.

The Contractor is to ensure all the required process control test results are forwarded to the Engineer for approval.

1.7 Power supply and other services

The Contractor shall make his own arrangements concerning the supply of electrical power and all other services. No direct payment shall be made for the provision of electrical and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

1.8 Contractor's campsite

Possible locations for a campsite shall be pointed out at the clarification meeting.

The Contractor shall make his own arrangements for the provision of his campsite and housing for construction personnel but the chosen site shall be subject to the approval of the Engineer, the local authorities and the CLO associated with the project.

The standard of the Contractor's camp, offices, accommodation, ablution, and other facilities must comply with the requirements of all local authority, environmental and industrial regulations concerned. In establishing and maintaining his campsite, due cognisance is to be taken of the requirements of clause B1233 of these Project Specifications.

The Contractor is to fully familiarise himself with all local by-laws and Government regulations for the employment, transport and accommodation of labour on site.

Security will be required for all plant, establishment, temporary works and partially completed works. The Contractor shall be responsible for providing security for all plant, establishment, temporary works and partially completed works. No separate payment shall be made for the provision of such security since full compensation for these costs shall be deemed to be included in the amount tendered for item 13.01(c) (The contractor's general obligations: Time-related obligations).

1.9 Additional requirements for construction activities

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

The Contractor's tendered rates shall include full compensation for all costs which may arise from the construction and maintenance of deviations and construction under traffic. No claim for additional costs which may arise from these methods of traffic accommodation and no additional payment owing to inconvenience as a result of the Contractor's method of working shall be considered.

1.10 Construction programme

The construction programme is to be submitted to the Engineer for approval within 7 days of the Site Handover meeting.

The construction programme must show the following information:

- Baseline dates (start date/finish date/duration of all activities);
- Non-working days (Sundays/public holidays/contractor long weekends);

2. DRAWINGS

The reduced drawings that form part of the Tender Documents are to be used for tender purposes only.

The Contractor will be supplied with an unreduced A0 Size print of each of the Drawings. These prints will be issued free of charge and the Contractor must make any additional copies he may require at his own cost.

Any information in the possession of the Contractor that is required by the Engineer's Representative to complete his as-built drawings must be supplied to the Engineer's Representative before a Certificate of Completion will be issued.

Only figured dimensions must be used and Drawings must not be scaled unless required by the Engineer. The Engineer will supply any figured dimensions that may have been omitted from the Drawings.

The levels given on the Structural Drawings are subject to confirmation on the Site and the Contractor shall submit all levels to the Engineer for confirmation before he commences construction of any structure. The Contractor shall also check all clearances given on the Drawings and shall inform the Engineer of discrepancies.

C3.2: PROJECT SPECIFICATIONS**PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS****PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS**

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

The clauses and payment items dealt with in this part of the Project Specifications are numbered 'B' with a number corresponding to the relevant clause or item number in the COLTO Standard Specifications.

New clauses and payment items not covered by clauses or items in the COLTO Standard Specifications have been included here and have also been designated with the prefix 'B'. Such clauses and items have been given a new number following upon the last number used in the particular section referred to in the COLTO Standard Specifications.

SECTION 1100: DEFINITIONS AND TERMS

B1115 GENERAL CONDITIONS OF CONTRACT

Replace clause 1115 with the following:

"The General Conditions of Contract 3rd Edition 2015 published by the South African Institution of Civil Engineering (SAICE), together with the Special Conditions of Contract form part of the contract.

All references in the COLTO Standard Specifications for Road and Bridge Works are to the COLTO General Conditions of Contract for Road and Bridge Works for State Road Authorities. Consequently all references in the COLTO Standard Specifications have to be amended accordingly to reflect the appropriate General Conditions of Contract relevant to the Contract. The COLTO Standard Specifications have been scrutinized and the clauses, which refer to the COLTO General Conditions of Contract, identified. Each COLTO clause reference is tabulated in Table B1115 below (context of reference is also given) together with the relevant equivalent clause in the SAICE General Conditions of Contract for Construction Works New edition 2015 applicable for this contract.

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 General Conditions of Contract for Construction Works New edition 2015 reference, as amended by the Special Conditions of Contract in the Contract Data, shall apply and the Contractor shall be responsible for interpretation of the equivalent clause.

TABLE B1115: REFERENCES IN COLTO STANDARD SPECIFICATIONS TO THE COLTO GENERAL CONDITIONS OF CONTRACT AND RELEVANT SAICE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS 1st EDITION 2004

COLTO Standard Specification		COLTO General Conditions of Contract 1998		SAICE General Conditions of Contract for Construction Works New edition 2015	
Clause No	Page No	Clause No	Description or Reference	Clause No	Description or Reference
1202	1200-2	15	Programme	12	Programme of the Works
1201(e)	1200-5	52:		29 & 49:	
		52(1)(e)	Monthly payments (documentary evidence of ownership of materials)	29	Vesting of materials
		52(2)	Valuation of material brought onto Site	49.2	Valuation of material brought onto Site
1210	1200-5	54:		51:	
		54(1) 54(2) 54(3)	Certificate of practical completion	51.1 51.2 51.3	Certificate of Practical Completion
1212(l)	1200-7	49:		46:	
		49(2)	Contract Price Adjustment Factor	46.2	Contract Price Adjustment Factor
1215	1200-9	45	Extension of time for completion	42	Extension of time for completion
1217	1200-10	35	Care of the Works	32	Care of the Works
1303	1300-1 and 1300-2	49 & 53:		46 & 50:	
		49(2) and	Contract Price Adjustment Factor and	46.2 and	Contract Price Adjustment Factor and

COLTO Standard Specification		COLTO General Conditions of Contract 1998		SAICE General Conditions of Contract for Construction Works New edition 2015	
Clause No	Page No	Clause No	Description or Reference	Clause No	Description or Reference
		49(3)	special materials	46.3	special materials
		53	Variations exceeding 20%	50	Variations exceeding 15%
1303	1300-2	12 & 45:		10 & 42:	
		12	Commencement of Works and Commencement Date	10	Commencement of the Works
		45	Extension of time for completion	42	Extension of time for completion
1403 (c)(ii)	1400-4	40(1)	Valuation of variations	37.1	Valuation of variations
1505	1500-3	40:		37:	
		40(1)	Valuation of variations	37.1	Valuation of variations
1507 Items: 15.08 15.01 15.11	1500-8	48:		45:	
		48.1	Provisional Sums	45.1	Provisional Sums
3108 Note (2)	3100-4	40:		37:	
		40(1)	Valuation of variations	37.1	Valuation of variations
3204 (b)(iii)	3200-2	40:		37:	
		40(1)	Valuation of variations	37.1	Valuation of variations
3303(b)	3300-2	2	Engineer and Engineer's Representative	2	Engineer and Engineer's Representative
5803(c)	5800-3	40:		37:	
		40(1)	Valuation of variations	37.1	Valuation of variations
5805(d)	5800-4	40:		37:	
		40(1)	Valuation of variations	37.1	Valuation of variations
5801 Item 58.10	5800-10	48:		45:	
		48.1	Provisional Sums	45.1	Provisional Sums
8103(c)	8100-1	40:		37:	
		40(1)	Valuation of variations	37.1	Valuation of variations
8117 Item 81.03	8100-26	22	Clearance of site on completion	19	Clearance of site

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS**B1202 SERVICES**

A provisional sum is included in the Schedule of Quantities to cover the costs of relocating the known services. This provisional sum shall be used to effect payments for the services relocation work carried out by the subcontractor selected by the Contractor in consultation with the Employer for this purpose."

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following paragraph to the end of clause 1205:

"Testing for quality control shall be conducted in accordance with the requirements of Section 8200 for Quality Control (Scheme 1)."

B1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

Delete the first paragraph of clause 1206 in its entirety and replace it with the following:

"The contractor shall comply with all legal provisions in regard to surveying and setting out work."

B1201 PAYMENT**(a) Contract rates**

Add the following new paragraph at the end of sub clause B1201(a):

"All rates tendered are to be exclusive of VAT."

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Extension of time resulting from abnormal rainfall shall be calculated according to the requirements of Method (ii) (Critical-path method).

Method (ii) (Critical-path method)

Delete the words "(based on a five-day working week)" in the fifth and sixth lines of the second paragraph of Method (ii).

Add the following to the end of Method (ii):

"The value of "n" working days expected delay caused by normal rainy weather as referred to in Method (ii) shall be as given in Table B1215 below for each respective calendar month of any year:

Table B1215

Month	Expected delay of "n" working days due to normal rainy weather	Month	Expected delay of "n" working days due to normal rainy weather
January***	5	July	1
February	4	August	1
March	4	September	2
April	3	October	3
May	2	November	4
June	1	December***	5

*** Includes the whole month of December / January.

Each "n"-value in Table B1215 applies only to the calendar month immediately to the left of the number, and the "n"-values as specified shall not be taken as being carried forward so as to accumulate over the contract period. If no abnormal rainfall occurs during a particular calendar month in a particular year, then no extension of time for abnormal rainfall shall be granted with respect to that calendar month for that year, and no further consideration shall be given to that "n"-value in respect of that year.

Similarly, if the "n" working days expected delay caused by normal rainy weather during a particular calendar month in a particular year (for which the Contractor shall have made provision in his programme of work in accordance with Method (ii)) are not taken up (either in whole or in part) by standing time due to normal rainy weather during that month of that year, then no further consideration shall be given to those "n" working days (or portion thereof), which effectively have been gained, when any subsequent extension of time claims which may arise later during the contract period are assessed by the Employer."

B1219 WATER

The Contractor shall note that the necessary permission must be obtained from the Department of Water Affairs for the abstraction of water from streams and rivers."

B1224 THE HANDING-OVER OF THE ROAD RESERVE

- (a) The Contractor shall be required to accommodate service owners and other contractors working on the services relocation and maintenance in the execution of their duties."

B1229 SABS CEMENT SPECIFICATIONS

Add the following paragraphs to the end of clause 1229:

"All cement used on this contract shall comply with SANS 50197-1: Cement Part 1: Composition, specifications and conformity criteria for common cements.

Where reference is made in these Project Specifications or in the COLTO Standard Specifications to the former SABS cement specifications (e.g., SABS 471, SABS 626, SABS 831, SABS 1491), such reference shall be replaced with the new specification:

- SANS 50197-1: Cement Part 1: Composition, specifications and conformity criteria for common cements.

The blending of cements on site shall not be permitted."

B1231 COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 1993

All labour employed on the site shall be covered by the Compensation for Occupational Injuries and Diseases Act, 1993, as amended. 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 compensation in terms of this Act shall be handled shall be resolved by the Contractor at the commencement of the contract.

B1232 COMPLIANCE WITH THE 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 / she 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.

B1233 ENVIRONMENTAL IMPACT CONTROL

In addition to aspects of the design which are intended to avoid or reduce environmental impact, and in addition to normal good construction practice expected of the Contractor, the following requirements shall also be observed:

- (a) The Contractor shall comply with the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (b) Clearing shall be limited to the road prism and, where applicable, to detours, which shall be sited in consultation with the Engineer and the local communities.
- (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 be allowed under any circumstances.
- (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 shall be set out and the responsible person shall be made aware of the required action. The construction of temporary and / or permanent dams shall be done with the necessary approvals from the Department of Water Affairs and Forestry and the Department of Environmental Affairs and Tourism.
- (f) Bituminous and / or other hazardous products shall not be spoiled on site and shall only be disposed of at licensed authorised disposal facilities.
- (g) Provision shall be made to prevent 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, the Contractor shall be responsible for making good the erosion / siltation to the satisfaction of the landowner and the Engineer.
- (h) Invader species of plants shall be controlled.
- (i) Dust and noise pollution shall be restricted to acceptable levels.

No separate payment shall be made for observing these requirements as such payment shall be deemed to be included in the amount tendered for item 13.01(c) (The contractor's general obligations: Time-related obligations). Any avoidable non-compliance with these requirements shall be considered sufficient grounds for withholding payment of part or all of the amounts to be paid for the above item in order to pay for the repairs to any damages.

B1234 MEASUREMENT AND PAYMENT

Item	Unit
B12.02 Relocation and modifications of services	
(a) Provisional sum for existing services to be relocated and / or protected during construction	provisional sum
(b) Handling cost and profit in respect of sub-item B12.02(a) above	percentage (%)

Expenditure under this item shall be made in accordance with clause 45 of the General Conditions of Contract 2015.

The tendered percentage is a percentage of the amount of expenditure approved by the Engineer under subitem B12.02(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the relocation and / or protection of the relevant services, and is not to exceed 10% of item B12.02(a)

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

B1302 GENERAL REQUIREMENTS

(c) Legal and contractual requirements and responsibility to the public

Add the following paragraph to the end of subclause 1302(c):

"The Contractor's general obligations shall also include the training of temporary labour, the management of labour enhanced work and ABEs, the application of the Compensation for Occupational Injuries and Diseases Act, 1993, and compliance with the requirements of Part C: Environmental Management Specification and Part E: OHS 1993 Safety Specification contained in section C3.3 Particular Specifications."

B1303 PAYMENT

Add the following at the start of clause 1303:

"All references in clause 1303 to the final value of the work increasing or decreasing by "twenty (20) per cent" in terms of the COLTO general conditions of contract shall be read as increasing or decreasing by "fifteen (15) per cent" in terms of the General Conditions of Contract 2015.

Separate provision has been made in the Schedule of Quantities for the pricing of the Contractor's general obligations with regard to Health and Safety.

Refer to the second sentence of the fourth last paragraph of Clause 1303, page 1300-2 of the COLTO Standard Specifications and delete the words "from the date on which the contractor has received the letter of acceptance in terms of Clause 12 of the General Conditions of Contract" and replace these words with the following:

"from the Commencement Date in terms of Clause 10.1 of the General Conditions of Contract (2015)."

Add the following at the end of clause 1303:

"The amount payable to the Contractor for time-related obligations arising from extensions of time granted by the Employer, where the Contractor is fairly entitled to such compensation in terms of clause 45.2 of the General Conditions of Contract 2015, shall be calculated as follows:

- (i) The Contractor shall apply for the extension of time in terms of the number of working days delay incurred.
- (ii) The number of working days extension of time finally granted shall then be added to the contract by the Employer, commencing on the first working day after the day of the original completion date. Special non-working days as defined in the contract data shall not be counted as working days in calculating the extended completion date.
- (iii) The number of calendar days extension of time granted from the original completion date to the extended completion date as calculated in (ii) above shall then be calculated, commencing on the first calendar day after the day of the original completion date.

The following formula shall then be used to calculate the number of months extension of time granted:

Number of months extension of time granted

$$= \left[\left(\text{Number of } \underline{\text{calendar}} \text{ days extension of time granted} / 365 \right) \right] \times 12$$

- (iv) The number of months extension of time granted calculated as in (iii) above shall be the number of additional months measured for payment for time-related obligations under item 13.01(c) as a result of the extensions of time granted.

Note: The number of months extension of time granted calculated as in (iii) above shall also be included in the measurement of any other items scheduled under Sections 1300, 1400, 1500 or elsewhere in the Schedule of Quantities that involve the unit of measurement "month" and that were provided on site for the full duration of the extended period. Where such items were provided for a portion of the extended period only, a pro rata payment shall be made, based on the number of calendar days the item was provided on site after the original completion date divided by the number of calendar days as calculated in (iii) above for the extension of time granted."

Add the following new pay items at the end of clause 1203:

Item	Unit
B12.03	Community Liaison officer (CLO)
(a)	Provisional sum for the services of a locally employed person to perform the duties of a CLO, paid on a monthly basis provisional sum
(b)	Handling cost and profit in respect of sub-item B12.03(a) above percentage (%)

Expenditure under this item shall be made in accordance with clause 45 of the General Conditions of Contract 2015.

The tendered percentage is a percentage of the amount of expenditure approved by the Engineer under sub-item B12.03(a), and shall include full compensation for the handling costs for administration and profit, and is not to exceed 10% of item B12.03(a).

Add the following new pay items at the end of clause 1303:

Item	Unit
B13.03	On Site Non - Accredited Training
(b)	Handling cost and profit in respect of sub-item B13.03(a) above percentage (%)

The tendered percentage is a percentage of the amount of expenditure approved by the Engineer under subitem B13.03(a), and shall include full compensation for the handling costs for administration and profit, and is not to exceed 10% of item B13.03(a).

Item	Unit
B13.04	Contact Name Boards
(a)	Contract signboards are to be erected at each site. lump sum
	The tendered rate shall include full compensation for providing and erecting each contract signboard complete (refer to the typical signboard face detail shown in Section C4.2), including for timber poles and fixings, excavation and backfill, and for dismantling and removing the signboard structures and reinstating the signboard area on completion, including all handling costs and profit."

Item	Unit
B13.05	Contractors General Obligations in terms of Part E of the project specifications
(a)	Fixed obligations lump sum
	(i) Preparation of risk assessments, safe work procedures the project H & S file the H & S plan and any other H & S matters that the Contractor deems necessary
	(ii) Costs of medical certificates and Medical Surveillance Initial (baseline) medical examinations for 20 Persons .
(b)	Time related obligations month
	(i) Updating and amending the risk assessments, the safe work procedures, the project H & S file and the H & S plan, and for full compliance with all H & S matters during the construction of the Works under the contract
	(ii) Provision of full time Construction Health and Safety Officer for duration of contract.

Payment of the lump sums tendered under sub-items B13.05(a) and the rate per month for sub-item B13.05(b) shall, for the two sub-items together, include full compensation for all the Contractor's costs in respect of compliance with the OHS Act and Construction Regulations.

Payment of each of the lump sums tendered under sub-items B13.05(a) shall be made in three instalments as specified for the payment of the lump sum tendered under sub-item 13.01(a).

The tendered rate for sub-item B13.05(b) shall be paid as specified for the payment of the tendered rate for sub-item 13.01(c).

Item	Unit
B13.06	Supply protective clothing for site staff
a)	Reflective vests No.
b)	Reflective bibs No.
c)	Hard hats No.
d)	Protective foot wear No.
e)	Earplugs No.
f)	Dust masks No.
g)	Gloves for concrete work No.
h)	Two piece conti-suit Orange colour with EPWP on the back written in black to screen print No.

The tendered price under B13.06, and shall include full compensation for the handling costs for administration and profit.

SECTION 1600: OVERHAUL

B1602 DEFINITIONS

(a) Overhaul material

Add the following to the end of sub clause 1602(a):

“Overhaul shall not be measured separately for payment for materials obtained from commercial sources, and the rates tendered for such materials shall be fully inclusive of all haul required.”

SECTION 2200: PREFABRICATED CULVERTS**MEASUREMENT AND PAYMENT****Item****Unit****B22.14 Removing and stacking existing prefabricated culverts (Size 450 to 1200 diameter concrete pipes)****m**

The existing concrete pipes must be removed whole, without being damaged and moved to a designated site as instructed by the Umzimvubu Municipality if there are any.

Item**Unit****B22.17 Construct brick headwall as per standard drawing No.**

The construction of the brick headwall shall be as per standard detail-: Refer to standard detail drawing.

SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL**MEASUREMENT AND PAYMENT****Item****Unit****B34.10 Sourcing of a G6 Gravel material from commercial sources****m³**

Please refer to page C37 Section 1600: Overhaul where the same will apply to this item

SECTION 5600: ROAD SIGNS**MEASUREMENT AND PAYMENT****Item****Unit****B56.01 Supply and Install Road signs with treated poles****No**

The road signs must comply with the South African Road Traffic Signs Manual. The road signs will be erected as directed by the Engineer.

<i>Road Sign Type</i>	<i>Dimensions</i>	<i>Colour</i>
W 104, W 302, W 308	900 mm Sides	Border – Red Retroreflective Symbol – Black semi-matt Background – White Retroreflective
R 201	900 mm diameter	Border – Red Retroreflective Symbol – Black semi-matt Background – White Retroreflective
R1	900 mm diameter	Border – White Retroreflective Symbol – White Retroreflective Background – Red Retroreflective
W 401 W 402	600 mm x 150 mm	Red Retroreflective on white Retroreflective

Item**Unit****B 56.06 Extra over item 56.06 for Cement Treated soil backfill****m³**

The excavated material will be used for backfill. The excavated material will be mixed with cement to form a uniform mixture in the ratio of 1:15. A small amount of water must be added, which is not to exceed the OMC of the excavated material. The mix will be placed in the hole around the pole in layers of 150mm and compacted with the hand stamper.

SECTION 8200: QUALITY CONTROL (SCHEME 1)

B8201 SCOPE

Add the following to the end of clause 8201:

“Quality Control Scheme 1 shall be applicable to this contract.”

C3.3 PARTICULAR SPECIFICATIONS

In addition to the Standard Specifications and the Project Specifications, the following Particular Specifications shall apply to this contract and are bound in hereafter:

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION.....	C52
PART D: DAYWORK.....	C56
PART E: OHSA 1993 SAFETY SPECIFICATION.....	C58

C3.3 PARTICULAR SPECIFICATIONS

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

C 3.3.1 : ENVIRONMENTAL MANAGEMENT SPECIFICATION

EMS.1 General

In order to ensure that the construction works is carried out in an environmentally sensitive matter, strict compliance to the Environmental Management Plan (EMP) guidelines is required. The purpose of the EMP is to:

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
 - i. Minimise disturbance of the natural environment,
 - ii. Prevent pollution of land, air and water,
 - iii. Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimise adverse environmental impact,
- Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

EMS.2 Training and Induction of Employees

- The Contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes sub-contractors, casual labour, etc.). The CMP shall be part of the terms of reference for all contractors, sub-contractors and suppliers.

EMS.3 Complaints Register and Environmental Incident Book

Any complaints received by the project team from the public will be recorded. The complaint should be brought to the attention of the site manager, who will respond.

The following information must be recorded:

- Time, date and nature of the complaint,
- Type of communication (telephone, letter etc),
- Name, contact address and telephone number of the complainant,
- Response and investigation undertaken and
- Actions taken and by whom.

All complaints received will be investigated and a response given to the complainant within 14 days.

All environmental incidents occurring on the site will be recorded. The following information will be provided:

- Time, date, location and nature of the incident,
- Actions taken and by whom.

EMS.4 Site Cleanliness and Neatness

- Location of a construction camp is to be approved by the Engineer and is to be restored to its previous condition after completion of construction.
- The construction camp should preferably be fenced with a 1.8m bonnox fence or similar approved.
- All materials, equipment, plant and vehicles must be stored within the construction camp.
- A dedicated area must be made available for construction staff to change and store their personal belongings.

EMS.5 Access

- Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.
- Access roads utilised by the Contractor must be maintained in good condition.

EMS.6 Borrow Pits

- Mining authorisations (permits) for borrow pits must be obtained from the Department of Minerals and Energy (DME) in consultation with the Department of Water Affairs and Forestry (DWAF).
- Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.
- Borrow pits must be rehabilitated after use in accordance with the requirements of DME and DWAF.

EMS.7 Dust Control / Air Quality

- Dust suppression measures must be implemented during construction by ensuring that all surfaces prone to dust generation are kept damp (e.g. use of water tanker).
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Special care must be taken in areas where the route passes close to schools and residential areas.
- The speed of construction vehicles must be reduced.

EMS.8 Fauna

- Contractor staff may not chase, catch or kill animals encountered during construction.

EMS.9 Fire Prevention and Control

- Smoking is prohibited in the vicinity of flammable substances.
- The contractor must ensure that fire-fighting equipment is available on site, particularly where flammable substances are being stored or used, and that construction staff are aware of where it is kept and how it is operated.
- Fires started for comfort (warmth) are prohibited, due to the risk of veld fires and risk to adjacent property owner's lands.

EMS.10 Grave Sites

- Gravesites in close proximity to the road must not be disturbed during construction.

EMS.11 Materials Handling and Spills Management

- Any hazardous materials to be used during construction (e.g. lime, fuel, paint, etc) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel/petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Workers must at all times be made aware of the health and safety risks associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with appropriate protective clothing/equipment in case of spillages or accidents.
- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.

- Any spill of potentially hazardous materials must be cleaned up immediately (Potentially hazardous materials on site include paint, oil, grease, fuel, turpentine, etc).
- The area of contaminated soil or spill must be deposited into the hazardous waste container(s).
- The contractor should keep Peat Sorb or a similar absorbent on site to clean up any spills. The absorbent must be stored in a designated area and be available for inspection.
- All spills are to be recorded in the environmental incident book.

EMS.12 Noise

- Noise generating activities must be restricted to between 07h00 and 17h00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

EMS.13 Pollution Control

- Soil and water pollution through usage of fuel, oil, paint, bitumen or other hazardous substances must be avoided.
- All construction vehicles are to be maintained in good working order so as to prevent soil or water pollution from oil, fuel or other leaks, and to reduce noise pollution.

EMS.14 Rivers and Streams

- During construction of bridge structures, there must be no obstruction of the water flow of rivers and streams.
- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.
- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures, must occur.

EMS.15 Safety

- Safety measures, such as detour signs, must be implemented during construction to ensure the safety of workers, pedestrians and drivers/passengers in vehicles in the vicinity of construction work.
- Special care must be taken in the vicinity of schools to ensure the safety of children wishing to cross the road under construction.
- The relevant signage (e.g. speed control signs) must be erected alongside the road during the operation phase in order to control traffic.
- Accommodation must be made for pedestrian pathways alongside the road during the construction and operation phases.

EMS.16 Soil Management

- Stormwater drainage pipes must be installed alongside the road in all areas susceptible to soil erosion.
- Erosion should be minimised by the construction of meadow drains and the planting of indigenous vegetation on the side slopes and drains to reduce flow velocity of stormwater.
- Spoil from cuts may be used in existing erosion galleys.
- Stone pitching and gabions should be constructed at pipe culvert outlets.

- Accidental spills of contaminants onto the ground e.g. oil, concrete, fuel and chemicals should be removed together with the contaminated soil.
- If necessary an absorbent such as Peat Sorb should be used the aid in cleaning up the spill. The contaminated soil should be disposed off in an appropriate container, depending on its classification.
- Servicing and re-fuelling of vehicles must only be carried out at construction camp.

EMS.17 Worker Conduct

Code of Conduct for Construction Personnel:

- Do not leave the construction site untidy and strewn with rubbish, which will attract animal pests.
- Do not set fires.
- Do not cause any unnecessary, disturbing noise at the construction camp/site or at any designated worker collection/drop off points.
- Do not drive a construction-related vehicle under the influence of alcohol.
- Do not exceed the national speed limits on public roads or exceed the recommended speed limits on the site.
- Do not drive a vehicle which is generating excessive noise or gaseous pollution (noisy vehicles must be reported and repaired as soon as possible).
- Do not litter along the roadsides, including both the public and private roads.
- Do not pollute any water bodies (whether flowing or not).
- No member of the construction team is allowed to enter the areas outside the construction site.

EMS.18 Traffic Disturbances and Diversions

- Any traffic diversions must be undertaken with the approval of all relevant authorities and in accordance with all relevant legislation.
- Wherever possible, traffic diversion must only take place on existing disturbed areas and remain within the existing road reserve.
- Traffic diversion routes must be rehabilitated after use.

EMS.19 Vegetation

- Only vegetation falling directly on the route must be removed where necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during construction must be replaced with indigenous vegetation after construction has been completed.

EMS.20 Waste Management

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.

- All hazardous waste (e.g. oil, paint, empty lime bags, contaminated wash water, etc) must be stored in leak proof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimise the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Project Manager.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood, concrete packets etc) on completion of the day's work.
- Any spill around the container(s) should be treated as per Section C11 and C16.

3.3 PARTICULAR SPECIFICATIONS

PART D: DAYWORK

This part of the Particular Specifications deals with the provision for daywork in the Schedule of Quantities. Rates for daywork shall be entered in the Schedule of Quantities in accordance with the following specifications.

D1. SCOPE

According to Clause 48 of the General Conditions of Contract 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 of Quantities are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 49 of the General Conditions of Contract 2015.

No work will be paid for as daywork without the written instruction or approval of the Engineer.

D2. 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. Daywork will only be used in exceptional circumstances.

D3. 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.

Materials shall be paid for using the method described in C2.1, 'Pricing Instructions'. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in daywork with his daywork claim to the Engineer. Further, if specific materials are required for daywork, quotations will be called for as per Clause 48 of the General Conditions of Contract 2015.

D4. CONSTRUCTION PLANT HIRE

Where daywork is ordered, the tendered rates for plant hire in Section C10.01 of the Schedule of Quantities shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the Schedule of Quantities 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 48 of the General Conditions of Contract 2015 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 daywork.

D5. SALARIES AND WAGES OF WORKMEN

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in the Schedule of Quantities. 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 daywork.

All overhead costs, administration costs, site management costs and the Contractor's profit are deemed to be covered by the daywork 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.

D6. MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of daywork.

The unit of measurement for plant shall be the number of vibro-clock hours worked and each item of plant shall be fitted with a vibro-clock, 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 Clauses 48 and 48 of the General Conditions of Contract 2015 with regard to the submission of daywork claims.

C3.3 PARTICULAR SPECIFICATIONS**PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION****E1. SCOPE**

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section C1.5 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2003.

This specification and the Contractor's own Health and Safety Plan as well as the Construction Regulations 2003, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following aspects of this project carry the risk of possible injuries,

- People becoming complacent and not keeping an eye on the operation being conducted
- People standing out of view of the driver of a construction machine
- People "catching" a lift on the machine and falling under the machine after it hits a hump
- Trying to do a task with the machine for which it is not designed
- Poor visibility while performing tasks that generate excessive dust
- Failure to provide the pedestrians and traffic a safe passage away from the plant processing the layer works and surfacing operations.
- Risks of not wearing proper safety equipment when working with bitumen and cement.
- Failure to provide means of access for emergency vehicles
- Risks related to people smoking near potentially harmful gasses
- Failure to perform visual inspections on all surfacing equipment
- Non-conformance to specifications with regards to fitting all construction vehicles with reverse alarms
- Operation and maintenance on the site of heavy civil engineering plant such as excavators, bulldozers, front end loaders, tippers, TLBs, compaction equipment, rock breaking plant, water pumps, concrete mixers, ready mixed concrete trucks, batch plants, cranes, concrete pumps, compressors, pneumatic tools, generators, etc.
- Use on the site of power tools and hand tools.
- Handling of materials such as scaffolding, formwork, timber planks, steel wire, reinforcement, cement bags, concrete materials and hand stone.
- Storage and handling of flammable materials such as fuels, oils, adhesives, and painting and cleaning products including bituminous paint.
- Presence of open excavations for the manholes and storm water pipe trenches.
- Lifting and lowering of concrete pipes
- Possible need for boatswain's chairs Risks related to general safety and security on site.

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessarily covered in the above.

E2. DEFINITIONS

For the purpose of this contract the following shall apply:

- (a) **“Employer”** where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract 2015 and it shall have the exact same meaning as **“client”** as defined in the Construction Regulations 2003. **“Employer”** and **“client”** are therefore interchangeable and shall be read in the context of the relevant document.
- (b) **“Contractor”** wherever used in the contract documents and in this specification, shall have the same meaning as **“Contractor”** as defined in the General Conditions of Contract 2015.

In this specification the terms **“principal contractor”** and **“contractor”** are replaced with **“Contractor”** and **“subcontractor”** respectively.

For the purpose of this contract the **Contractor** will, in terms of OHS Act 1993, be the mandatory, without derogating from his status as an employer in his own right.

- (c) **“Engineer”** where used in this specification, means the Engineer as defined in the General Conditions of Contract 2015. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

E3. TENDERS

This Health and Safety Specification forms an integral part of the Contract and Tenderers are required to use it during the tender phase for pricing the preparation of a project specific Health and Safety Plan prior to commencing any work and for pricing the costs of ensuring compliance thereto during construction. Tenderers must forward a copy of this Specification to all other persons or organisations that may be submitting prices to the Tenderer during the tender stage to enable them to include the cost of preparing their own Health and Safety Plan, relevant to their particular operation, and for compliance with the Health and Safety requirements during construction. Payment items are included in the ‘Schedule of Quantities’ for compliance with the ‘Occupational Health and Safety Act’ and with this Specification.

Tenderers are required to complete Form J, ‘Contractor’s Health and Safety Declaration’ of T2.2, ‘Returnable Schedules required for Tender Evaluation Purposes’.

Failure to submit the foregoing with his tender and/or to provide realistic rates for relevant payment items, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely and in accordance with the Construction Regulations.

E4. NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 3, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

- (a) the demolition of structures and dismantling of fixed plant of height of 3,0m or more;
- (b) the use of explosives;
- (c) construction work that will exceed 30 days or 300 person-days;
- (d) excavation work deeper than 1,0m; or
- (e) working at a height greater than 3,0m above ground or landings.

The notification must be done in the form of the pro forma included as Annexure A to this Specification. A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

E5. HEALTH AND SAFETY PLAN

Before commencement of any construction work, the Contractor shall prepare a project specific Health and Safety Plan to comply with the requirements of Construction Regulation 4(1)(a) and in compliance with this Health and Safety Specification. This must include a risk assessment performed and recorded in writing by a competent person (refer to Regulation 7 of the Construction Regulations 2003).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The Health and Safety Plan shall be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

E6. APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS**E6.1 Health and Safety Plan**

The Contractor shall appoint in writing his employees and any subcontractors to be employed on the contract, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

E6.2 Health and safety induction training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

E7. APPOINTMENT OF SAFETY PERSONNEL**E7.1 Construction Supervisor**

The Contractor shall appoint a full-time **Construction Supervisor** with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

E7.2 Construction safety officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time **Construction Safety Officer** if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently.

Provision shall be made by the Contractor in his rates, to cover the cost of this dedicated construction safety officer appointed after award of the contract.

E7.3 Health and safety representatives

In terms of **Sections 17 and 18 of the Act (OHSA 1993)** the Contractor, being the Employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 50 employees.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery, etc. on a regular basis, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

E7.4 Health and safety committee

In terms of **Section 19 of the Act (OHSA 1993)**, the Contractor (as employer) shall establish one or more **health and safety committee(s)** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

E7.5 Competent persons

In accordance with the Construction Regulations the Contractor has to appoint in writing **competent persons** responsible for supervising construction work in each of the following work situations that may be expected on the site of the works.

- (a) Risk assessment and induction training as described in Regulation 7 of the Construction Regulations;
- (b) Fall protection as described in Regulation 8;
- (c) Formwork and support work as described in Regulation 10;
- (d) Excavation work as described in Regulation 11;
- (e) Demolition work as described in Regulation 12;
- (f) Scaffolding work as described in Regulation 14;
- (g) Suspended platform operations as described in Regulation 15;
- (h) Material hoists as described in Regulation 17;
- (i) Batch plant operations as described in Regulation 18;
- (j) Explosive powered tools as described in Regulation 19;
- (k) Cranes as described in Regulation 20;
- (l) Construction vehicle and mobile plant inspections on a daily basis by a competent person as described in Regulation 21(1);
- (m) Control of all temporary electrical installations on the construction site as described in Regulation 22;

- (n) Stacking and storage on construction sites as described in Regulation 26; and
- (o) Inspections of fire equipment as described in Regulation 27.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of the Construction Regulations.

E8. RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials, subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (a) A copy of the OHSA 1993 Construction Regulations 2003;
- (b) A copy of this Health and Safety Specification;
- (c) A copy of the Contractor's Health and Safety Plan (Regulation 4);
- (d) A copy of the Notification of Construction Work (Regulation 3);
- (e) A health and safety file in terms of Regulation 5(7) with inputs by the Construction Safety Officer (Regulation 6(7));
- (f) A copy of the risk assessment described in Regulation 7;
- (g) A fall protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 8;
- (h) Drawings pertaining to the design of structures (Regulation 9(3)) and formwork and support work structures (Regulation 10(d)) must be kept on site;
- (i) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 11(3)(h));
- (j) A copy of the certificate of the system design for suspended platforms (Regulation 15(3));
- (k) A notice must be affixed around the bases of the towers of material hoists to indicate the maximum mass load which may be carried at any one time by material hoists (Regulation 17(5));
- (l) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 17(8));
- (m) A record of any repairs to or maintenance of a batch plant must be kept on site (Regulation 18(9));
- (n) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 19(2));
- (o) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 21(1)(j)).

E9. CONTRACTOR'S RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2003.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) in terms of C1.5 'Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993', to confirm his status as mandatary (employer) for the contract under consideration.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance to the Act and the Regulations.

E10. MEASUREMENT AND PAYMENT

E10.1 Principles

It is a condition of this contract that Contractors who submit tenders for this contract shall make provision in their tenders for the cost of all health and safety measures required during the construction process.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clause E7 paragraphs E7.1 to E7.5 above shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers

The keeping of health and safety-related records and registers as described in clause E8 above is regarded as a normal duty of the Contractor for which payment is deemed to be included in the Contractor's tendered rates and prices, and for which no additional payment will be considered except to the extent provided in item B13.06 of the Schedule of Quantities.

ANNEXURE A (to H&S specification)

To : The Provincial Director, Department of Labour,

ANNEXURE A**OCCUPATIONAL HEALTH AND SAFETY ACT, 1993****Regulation 3 of the Construction Regulations, 2003****NOTIFICATION OF CONSTRUCTION WORK**

1. (a) Name and postal address of principal contractor:
.....
- (b) Name and telephone number of principal contractor's contact person:
.....
2. Principal contractor's compensation registration number:
.....
3. (a) Name and postal address of client:
.....
.....
- (b) Name and telephone number of client's contact person or agent:
.....
4. (a) Name and postal address of designer(s) for the project:
.....
.....
- (b) Name and telephone number of designer's contact person:
.....
5. Name and telephone number of principal contractor's construction supervisor on site appointed in terms of regulations 6(1):
.....

6. Name/s of principal contractor's subordinate supervisors on site appointed in terms of regulation 6(2):

.....

7. Exact physical address of the construction site or site office:

.....

.....

8. Nature of the construction work:

.....

.....

9. Expected commencement date:

.....

10. Expected completion date:

.....

11. Estimated maximum number of persons on the construction site:

.....

12. Planned number of contractors on the construction site accountable to principal contractor:

.....

13. Name(s) of contractors already chosen:

.....

.....

.....

ANNEXURE A - Continued

.....
Principal Contractor

.....
Date

.....
Client

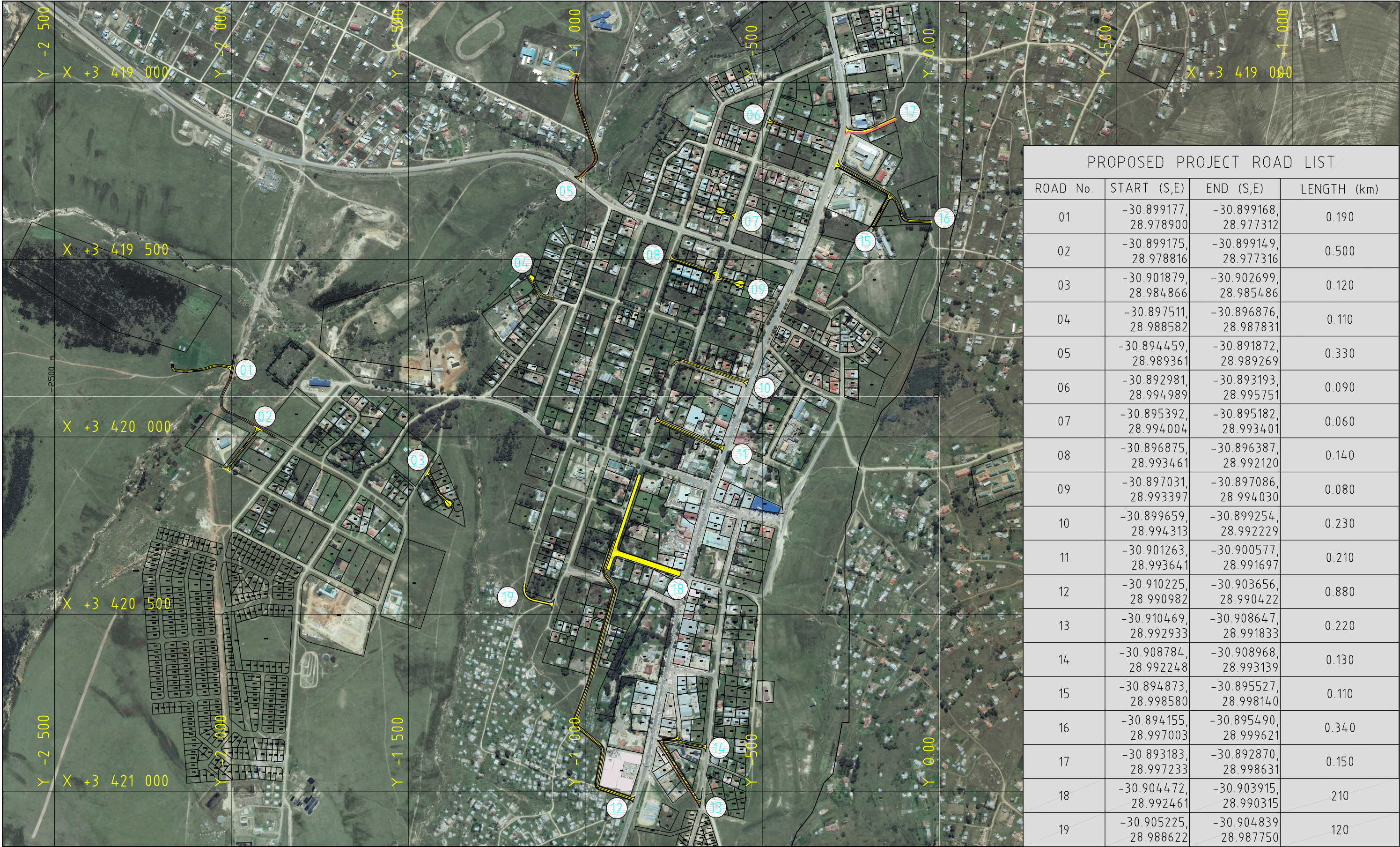
.....
Date

- THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR **PRIOR TO COMMENCEMENT** OF WORK ON SITE.
- **ALL PRINCIPAL CONTRACTORS** THAT QUALIFY TO NOTIFY MUST DO SO EVEN IF ANOTHER PRINCIPAL CONTRACTOR ON THE SAME SITE HAD DONE SO PRIOR TO THE COMMENCEMENT OF WORK.

C4: SITE INFORMATION

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C4.2 EXAMPLE OF CONTRACT SIGNBOARD DETAILS	C62
C4.3 DRAWINGS	C63

C4.1 LOCALITY PLANS



PROPOSED PROJECT ROAD LIST			
ROAD No.	START (S,E)	END (S,E)	LENGTH (km)
01	-30.899177, 28.978900	-30.899168, 28.977312	0.190
02	-30.899175, 28.978816	-30.899149, 28.977316	0.500
03	-30.901879, 28.984866	-30.902699, 28.985486	0.120
04	-30.897511, 28.988582	-30.896876, 28.987831	0.110
05	-30.894459, 28.989361	-30.891872, 28.989269	0.330
06	-30.892981, 28.994989	-30.893193, 28.995751	0.090
07	-30.895392, 28.994004	-30.895182, 28.993401	0.060
08	-30.896875, 28.993461	-30.896387, 28.992120	0.140
09	-30.897031, 28.993397	-30.897086, 28.994030	0.080
10	-30.899659, 28.994313	-30.899254, 28.992229	0.230
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15	-30.894873, 28.998580	-30.895527, 28.998140	0.110
16	-30.894155, 28.997003	-30.895490, 28.999621	0.340
17	-30.893183, 28.997233	-30.892870, 28.998631	0.150
18	-30.904472, 28.992461	-30.903915, 28.990315	210
19	-30.905225, 28.988622	-30.904839, 28.987750	120

Client



UMZIMVUBU

LOCAL MUNICIPALITY

PROVINCE OF THE EASTERN CAPE

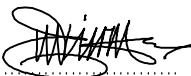
UMZIMVUBU MUNICIPALITY

813 MAIN STREET
MOUNT FRERE
5090.
TEL.: 039 255 8500

PRIVATE BAG X9020
MOUNT FRERE
5090
FAX : 039 255 0167

Consultant

E.M. CHIRWA
Name


Signature

20020003
Pr. Reg. No.

21-07-2023
Date



149 MURRAY ROAD
HAYFIELD
PIETERMARITZBURG
3200.

TEL.: 039 326 1285
CELL: 082 714 4400

Project

CONTRACT No. UMZ/2023-24/INFRA/MIG/007
SURFACING OF MT FRERE INTERNAL STREETS PHASE 8

Drawing

ROAD No. 01 TO ROAD No. 19
-
LOCALITY PLAN

Scale

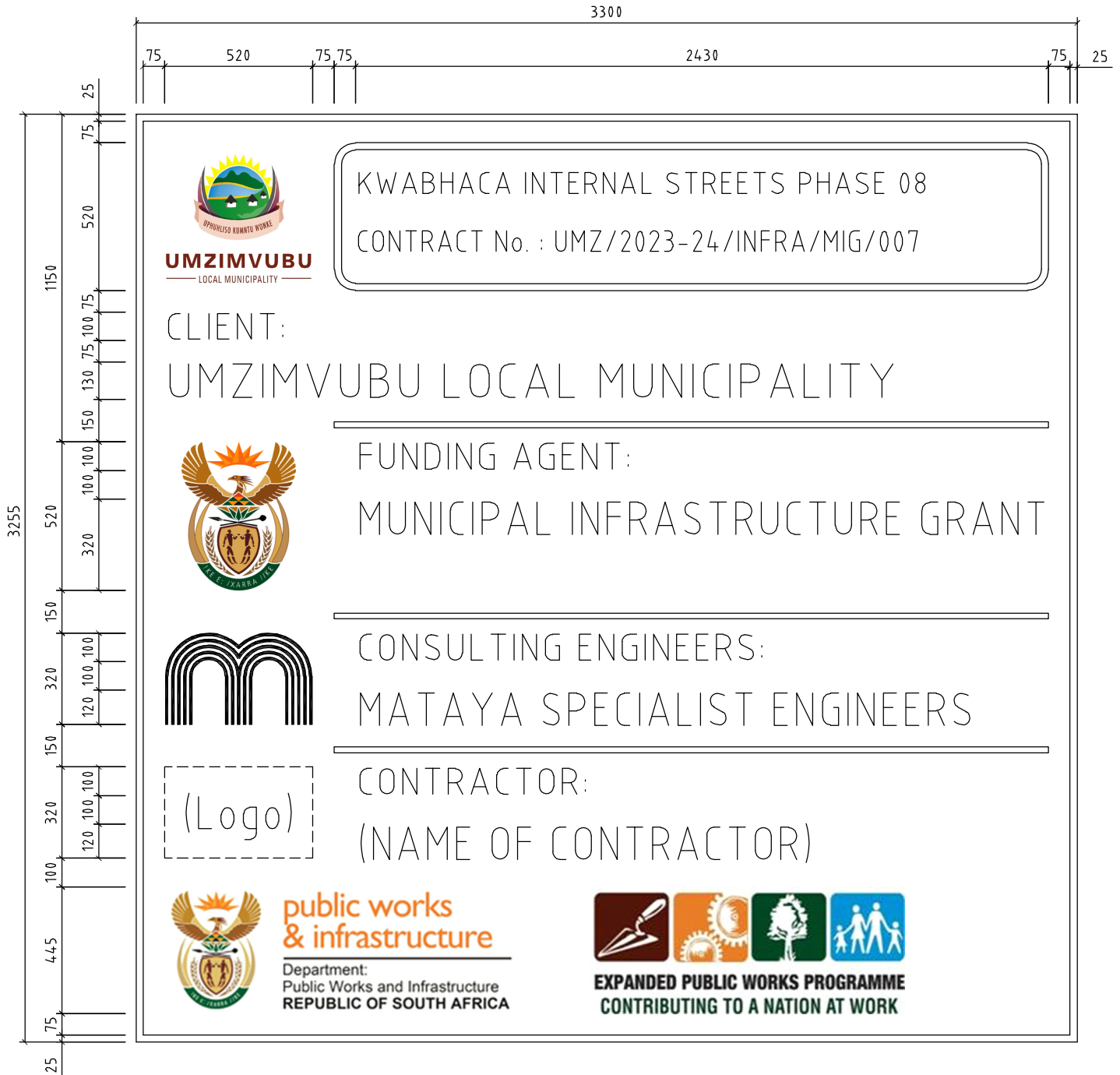
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Drawing Number

MAT-041-RD-100

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C4.2 EXAMPLE OF CONTRACT SIGNBOARD DETAILS

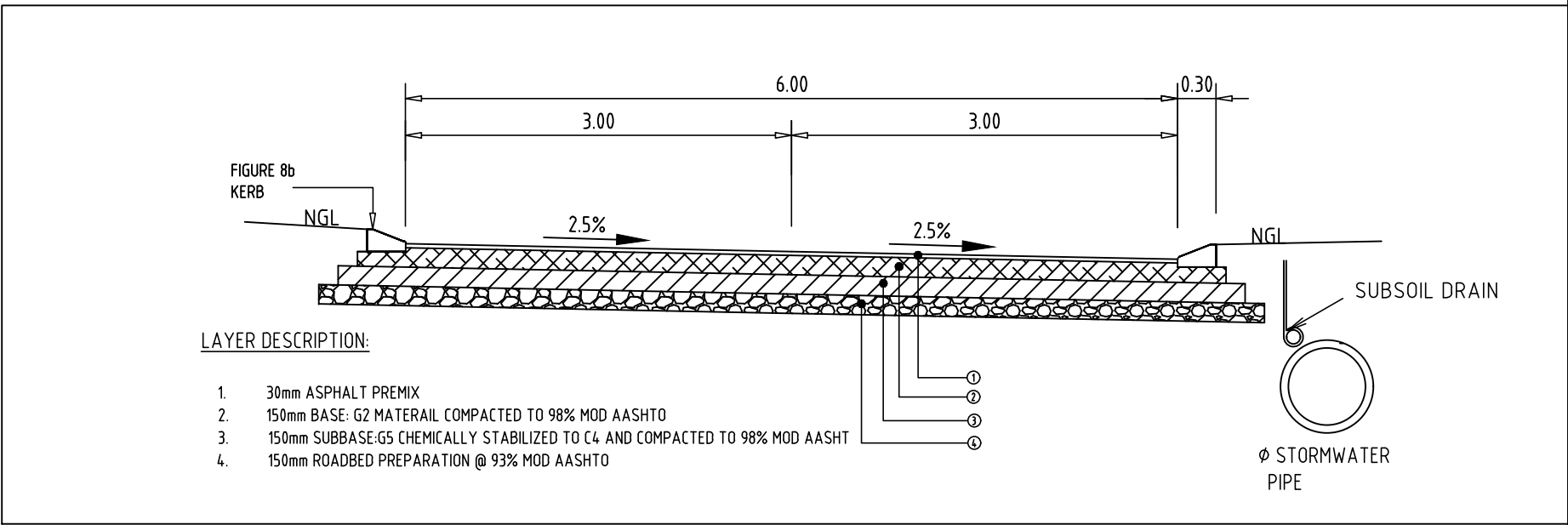


C4.3 DRAWINGS



LAYOUT PLAN
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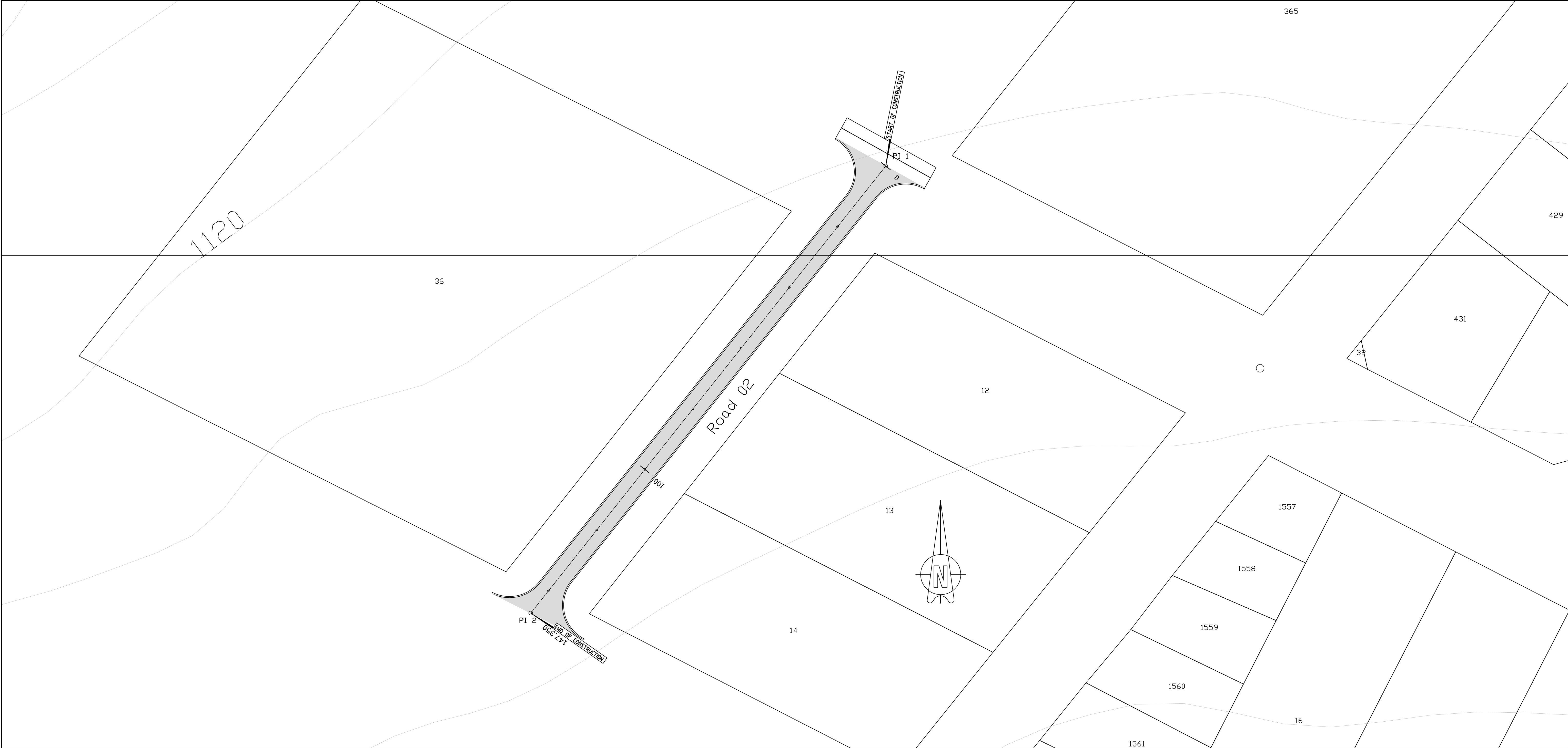
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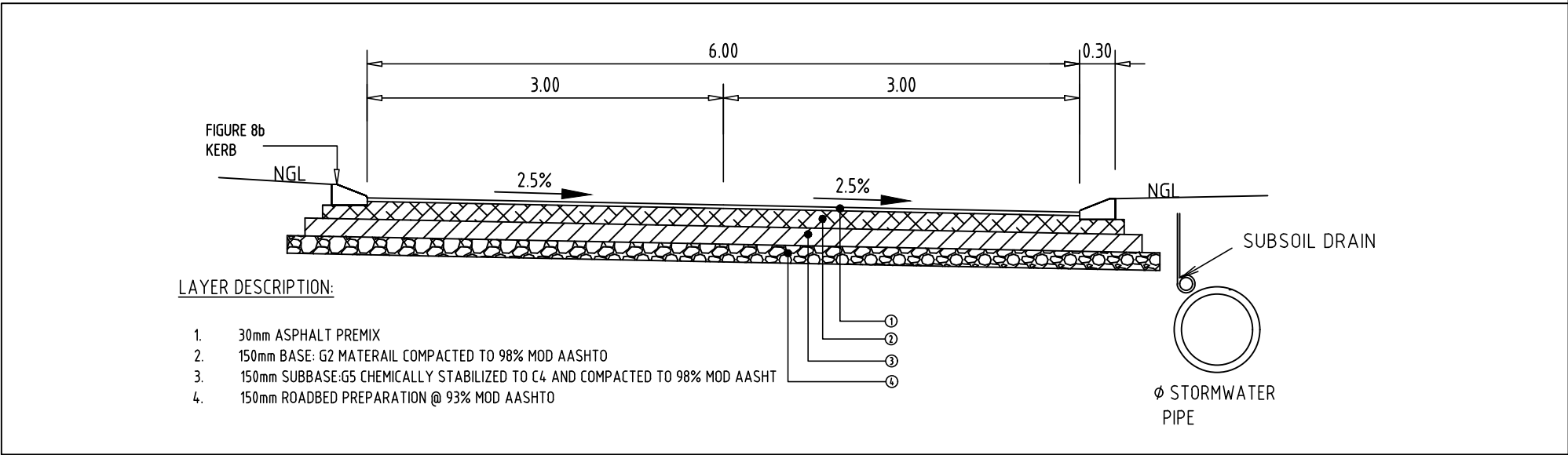
TYPICAL CROSS-SECTION ROAD 1
SCALE: 1:50

						Designed by:- A. SIWENDU	Client UMZIMVUBU LOCAL MUNICIPALITY 813 MAIN STREET MOUNT FRERE 5090. TEL: 039 255 8500 PRIVATE BAG X9020 MOUNT FRERE 5090 FAX: 039 255 0167	Designed by:-  MATAYA SPECIALIST ENGINEERS  Director	73 VILLIERS DRIVE CLARENDON PIETERMARITZBURG 3200. TEL: 039 326 1285 CELL: 082 714 4400	 Road Design & Control: Engineer PMU MANAGER	CONTRACT No: UMZ/2023-24/MIG/007 SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8	STAKED km DISTANCE KM 0+000-KM 0+184	SHEET 1 OF 15
					Checked by:- E.M. CHIRWA								
					Drawn by:- A. SIWENDU								
					Checked by:- E.M. CHIRWA								
					Date of approval:- 21-07-2023								
					AMENDMENTS								
Symbol	Date	Description			Checked	Signed							

MAT-041-RD-101 Rev-T



LAYOUT PLAN
SCALE: 1:500



TYPICAL CROSS-SECTION ROAD 2
SCALE: 1:50

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PI 2	147.350	2014.598	3420092.285				

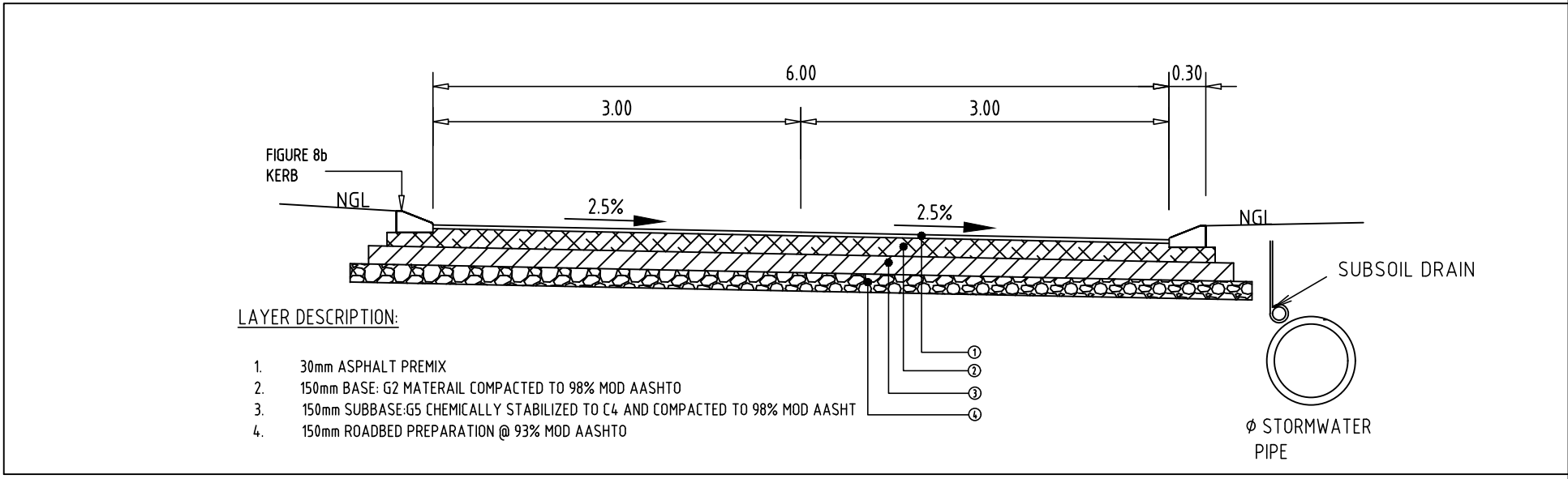
					Designed by:- A. SIWENDU		Client		Province of the Eastern Cape		Designed by:-		Road Design & Control: Engineer		CONTRACT No: UMZ/2023-24/MIG/007		STAKED km DISTANCE		SHEET 2 OF 15	
					Checked by:- E.M. CHIRWA		UMZIMVUBU MUNICIPALITY		73 VILLIERS DRIVE CLARENDON PIETERMARITZBURG 3200		Director		PMU MANAGER		SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8		KM 1+000-KM 1+361			
					Drawn by:- A. SIWENDU		813 MAIN STREET MOUNT FRERE 5090		PRIVATE BAG X9020 MOUNT FRERE 5090		21-07-2023				ROAD 02		SCALE		PLAN No:-	
					Checked by:- E.M. CHIRWA		TEL: 039 255 8500		FAX: 039 255 0167		Date				CROSS SECTIONS-ACCESS ROAD [CH 0m TO 1361m]		AS SHOWN		MAT-041-RD-102	
					Date of approval:- 21-07-2023															
					AMENDMENTS															

MAT-041-RD-102 Rev-T



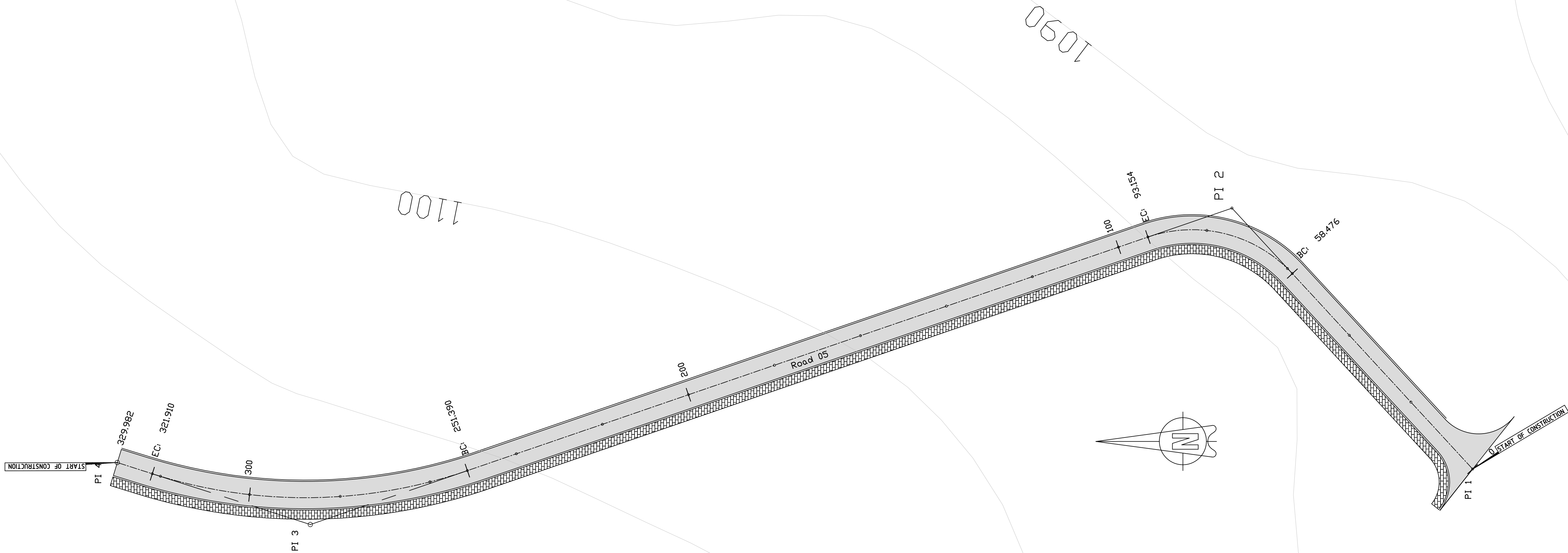
LAYOUT PLAN
SCALE: 1:500

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PI 3	111.330	1383.846	3420190.575				



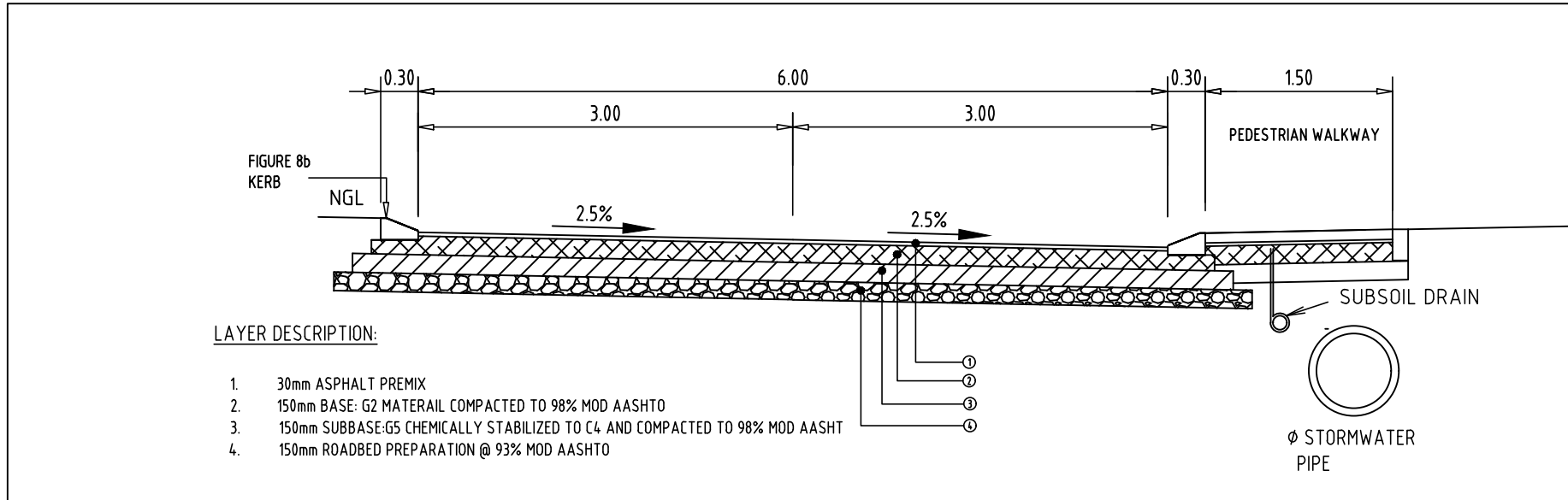
TYPICAL CROSS-SECTION ROAD 3
SCALE: 1:50

						Designed by:- A. SIWENDU	Client UMZIMVUBU LOCAL MUNICIPALITY 813 MAIN STREET MOUNT FRERE 5090. TEL: 039 255 8500 PROVINCE OF THE EASTERN CAPE UMZIMVUBU MUNICIPALITY PRIVATE BAG X9020 MOUNT FRERE 5090 FAX: 039 255 0167	Designed by:-  MATAYA SPECIALIST ENGINEERS  Director	169 MURRAY ROAD HAYFIELD PIETERMARITZBURG 3200. TEL: 039 326 1285 CELL: 082 714 4400	 Road Design & Control: Engineer	CONTRACT No: UMZ/2023-24/MIG/007 SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8	STAKED km DISTANCE KM 0+000-KM 0+111	SHEET 3 OF 15
					Checked by:- E.M. CHIRWA	PORTION ROAD 03 LAYOUT PLAN [CH 0m TO 111.2m]		SCALE AS SHOWN	PLAN No.:- MAT-041-RD-103				
					Drawn by:- A. SIWENDU								
					Checked by:- E.M. CHIRWA								
					Date of approval:- 21-07-2023								



LAYOUT PLAN
SCALE: 1:500

ROAD SETTING OUT DATA							Lo 27
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PI 3		1032.943	3419017.324	110	36°43'55"	36.520	70.520
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PI 4	329.982	1019.313	3418974.867				



TYPICAL CROSS-SECTION ROAD 3
SCALE: 1:50

Symbol	Date	Description	Checked	Signed
0	24-07-2023	ISSUED FOR TENDER	EMC	AS
AMENDMENTS				

Designed by:- A. SIWENDU
Checked by:- E.M. CHIRWA
Drawn by:- A. SIWENDU
Checked by:- E.M. CHIRWA
Date of approval:- 21-07-2023



UMZIMVUBU
LOCAL MUNICIPALITY

PROVINCE OF THE EASTERN CAPE

813 MAIN STREET
MOUNT FRERE
5090.
TEL: 039 255 8500

PRIVATE BAG X9020
MOUNT FRERE
5090
FAX: 039 255 0167

Designed by:-



MATAYA
SPECIALIST ENGINEERS

73 VILLIERS DRIVE
CLARENDON
PIETERMARITZBURG
3200.
TEL: 039 326 1285
CELL: 082 714 4400

Director

21-07-2023

Date

Road Design & Control: Engineer

PMU MANAGER

CONTRACT No: UMZ/2023-24/MIG/007

SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8

PORTION

ROAD 05

LAYOUT PLAN [CH 0m TO 329.9m]

STAKED km DISTANCE

KM 1+000-KM 1+361

SCALE

AS SHOWN

SHEET 5 OF 15

PLAN No:-

MAT-041-RD-105

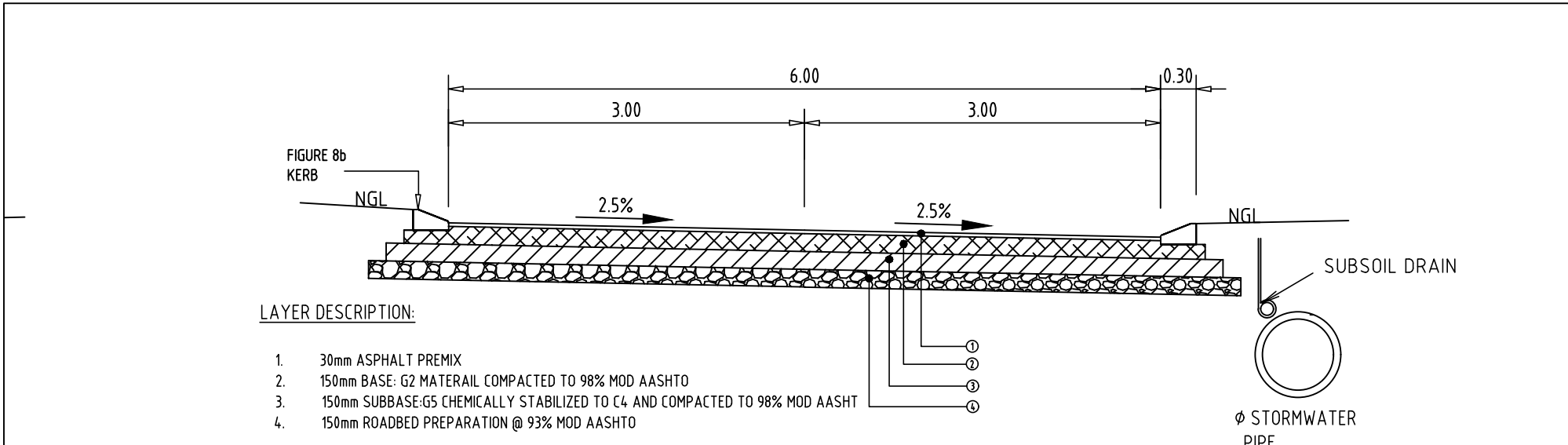
MAT-041-RD-105 Rev-T



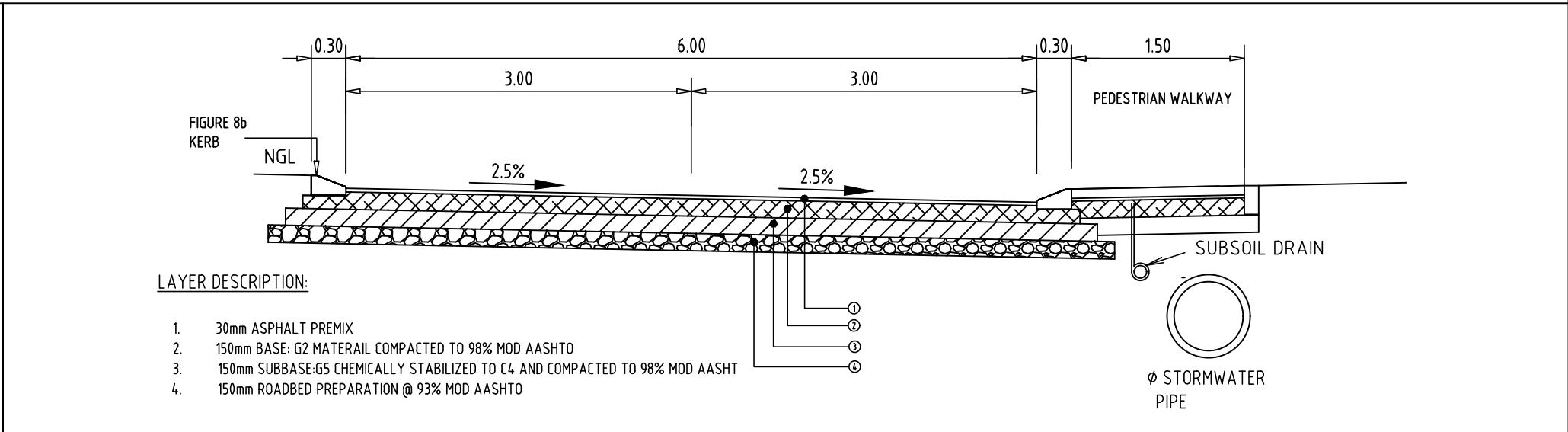
LAYOUT PLAN
SCALE: 1:500

ROAD SETTING OUT DATA							Lo 29
PI No.		YLo	XLo	Radius	DA	TL	AL
Const:				(m)	D M S	(m)	(m)
PI 1	0.000	482.156	3419107.742	ROAD 06			
PI 2	85.218	401.271	3419134.568				

ROAD SETTING OUT DATA							Lo 29
PI No.		YLo	XLo	Radius	DA	TL	AL
Const:				(m)	D M S	(m)	(m)
PI 1	0.000	263.515	3419134.203	ROAD 17			
BC 2	26.738	237.064	3419138.116				
PI 2		213.663	3419141.578	80	32°56'44"	23.656	46.001
EC 2	72.739	192.143	3419131.757				
PI 3	149.466	122.341	3419099.902				



TYPICAL CROSS-SECTION ROAD 06
SCALE: 1:50



TYPICAL CROSS-SECTION ROAD 17
SCALE: 1:50

Symbol	Date	Description	Checked	Signed
0	24-07-2023	ISSUED FOR TENDER	EMC	AS
AMENDMENTS				

Designed by:- A. SIWENDU
Checked by:- E.M. CHIRWA
Drawn by:- A. SIWENDU
Checked by:- E.M. CHIRWA
Date of approval:- 21-07-2023

Client

PROVINCE OF THE EASTERN CAPE

UMZIMVUBU MUNICIPALITY

813 MAIN STREET
MOUNT FRERE
5090.
TEL: 039 255 8500

PRIVATE BAG X9020
MOUNT FRERE
5090
FAX: 039 255 0167

Designed by:-

MATAYA
SPECIALIST ENGINEERS

73 VILLIERS DRIVE
CLARENDON
PIETERMARITZBURG
3200.
TEL: 039 326 1285
CELL: 082 714 4400

21-07-2023
Date

Road Design & Control: Engineer

PMU MANAGER

CONTRACT No: UMZ/2023-24/MIG/007

SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8

PORTION

ROAD 6 AND ROAD 17

LAYOUT PLAN [CH 0m TO 149.5m & 0m TO 85.2m]

STAKED km DISTANCE
KM 0+000-KM 0+149
KM 0+000-KM 0+085

SCALE
AS SHOWN

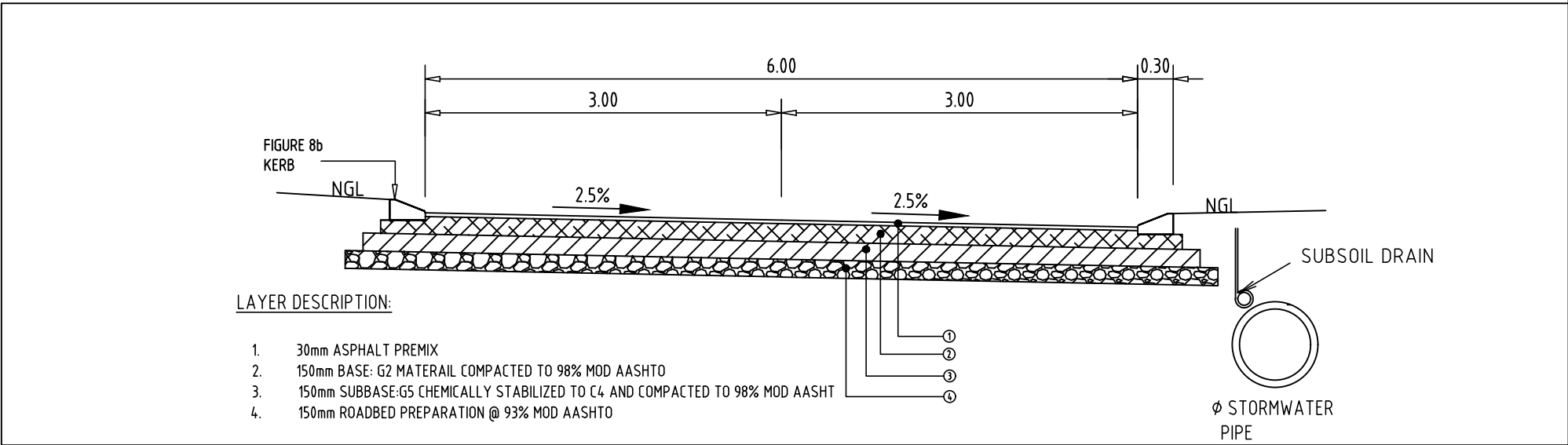
SHEET 6 OF 15

PLAN No.:-
MAT-041-RD-106

MAT-041-RD-106 Rev-T



LAYOUT PLAN
SCALE: 1:500

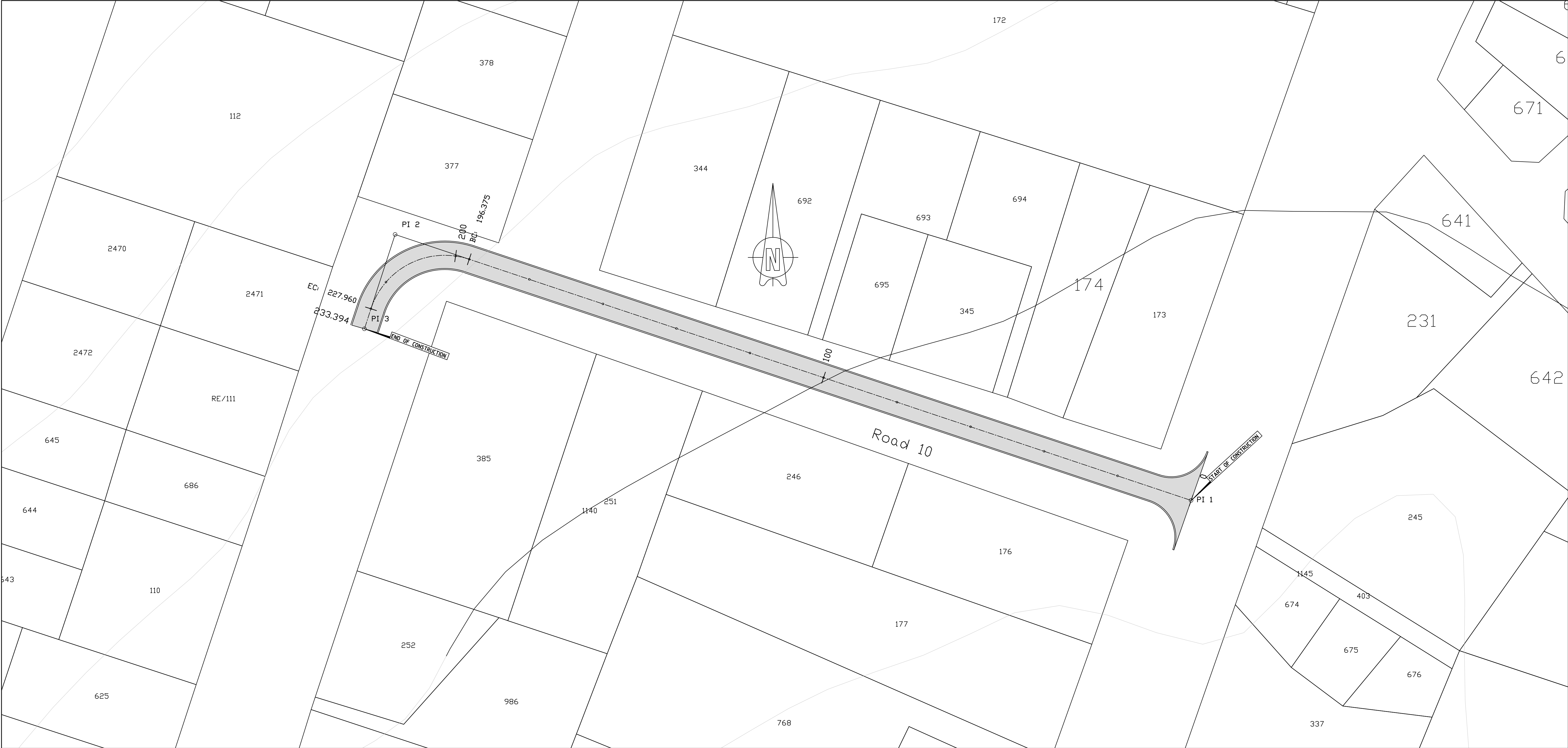


TYPICAL CROSS-SECTION ROAD 07
SCALE: 1:50

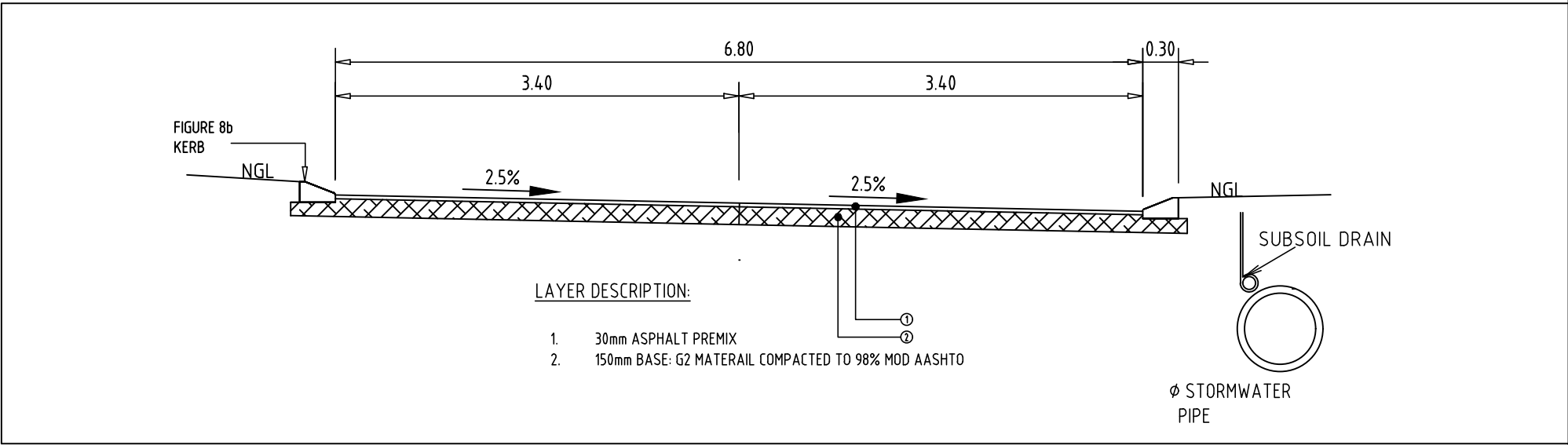
ROAD SETTING OUT DATA							Lo 29
PI No.		YLo	XLo	Radius	DA	TL	AL
Const				(m)	D M S	(m)	(m)
PI 1	0.000	576.024	3419375.140	ROAD 07			
PI 2	56.233	629.431	3419357.534				

<table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td>0</td><td>24-07-2023</td><td>ISSUED FOR TENDER</td><td>EMC</td><td>AS</td></tr><tr><td>Symbol</td><td>Date</td><td>Description</td><td>Checked</td><td>Signed</td></tr><tr><td colspan="5">AMENDMENTS</td></tr></table>																										0	24-07-2023	ISSUED FOR TENDER	EMC	AS	Symbol	Date	Description	Checked	Signed	AMENDMENTS					<table><tr><td>Designed by:- A. SIWENDU</td></tr><tr><td>Checked by:- E.M. CHIRWA</td></tr><tr><td>Drawn by:- A. SIWENDU</td></tr><tr><td>Checked by:- E.M. CHIRWA</td></tr><tr><td>Date of approval:- 21-07-2023</td></tr></table>	Designed by:- A. SIWENDU	Checked by:- E.M. CHIRWA	Drawn by:- A. SIWENDU	Checked by:- E.M. CHIRWA	Date of approval:- 21-07-2023	<table><tr><td></td></tr><tr><td>813 MAIN STREET MOUNT FRERE 5090. TEL: 039 255 8500</td><td>PRIVATE BAG X9020 MOUNT FRERE 5090 FAX: 039 255 0167</td></tr></table>		813 MAIN STREET MOUNT FRERE 5090. TEL: 039 255 8500	PRIVATE BAG X9020 MOUNT FRERE 5090 FAX: 039 255 0167	<table><tr><td>Designed by:-</td></tr><tr><td></td></tr><tr><td>16/9 MURRAY ROAD HAYFIELD PIETERMARITZBURG 3200. TEL: 039 326 1285 CELL: 082 714 4400</td><td></td></tr><tr><td>Director</td><td>21-07-2023 Date</td></tr></table>	Designed by:-		16/9 MURRAY ROAD HAYFIELD PIETERMARITZBURG 3200. TEL: 039 326 1285 CELL: 082 714 4400		Director	21-07-2023 Date	<table><tr><td>Road Design & Control: Engineer</td></tr><tr><td colspan="2">PMU MANAGER</td></tr></table>	Road Design & Control: Engineer	PMU MANAGER		<table><tr><td>CONTRACT No: UMZ/2023-24/MIG/007</td></tr><tr><td>SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8</td></tr><tr><td>PORTION</td></tr><tr><td>ROAD 07</td></tr><tr><td>LAYOUT PLAN [CH 0m TO 126.4m]</td></tr></table>	CONTRACT No: UMZ/2023-24/MIG/007	SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8	PORTION	ROAD 07	LAYOUT PLAN [CH 0m TO 126.4m]	<table><tr><td>STAKED km DISTANCE</td></tr><tr><td>KM 0+000-KM 0+126</td></tr><tr><td>SCALE</td></tr><tr><td>AS SHOWN</td></tr></table>	STAKED km DISTANCE	KM 0+000-KM 0+126	SCALE	AS SHOWN	<table><tr><td>SHEET 7 OF 15</td></tr><tr><td>PLAN No.:-</td></tr><tr><td>MAT-041-RD-107</td></tr></table>	SHEET 7 OF 15	PLAN No.:-	MAT-041-RD-107
0	24-07-2023	ISSUED FOR TENDER	EMC	AS																																																																								
Symbol	Date	Description	Checked	Signed																																																																								
AMENDMENTS																																																																												
Designed by:- A. SIWENDU																																																																												
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Date of approval:- 21-07-2023																																																																												
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PLAN No.:-																																																																												
MAT-041-RD-107																																																																												

MAT-041-RD-107 Rev-T

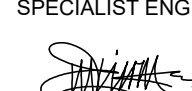


LAYOUT PLAN
SCALE: 1:500



TYPICAL CROSS-SECTION ROAD 10
SCALE: 1:50

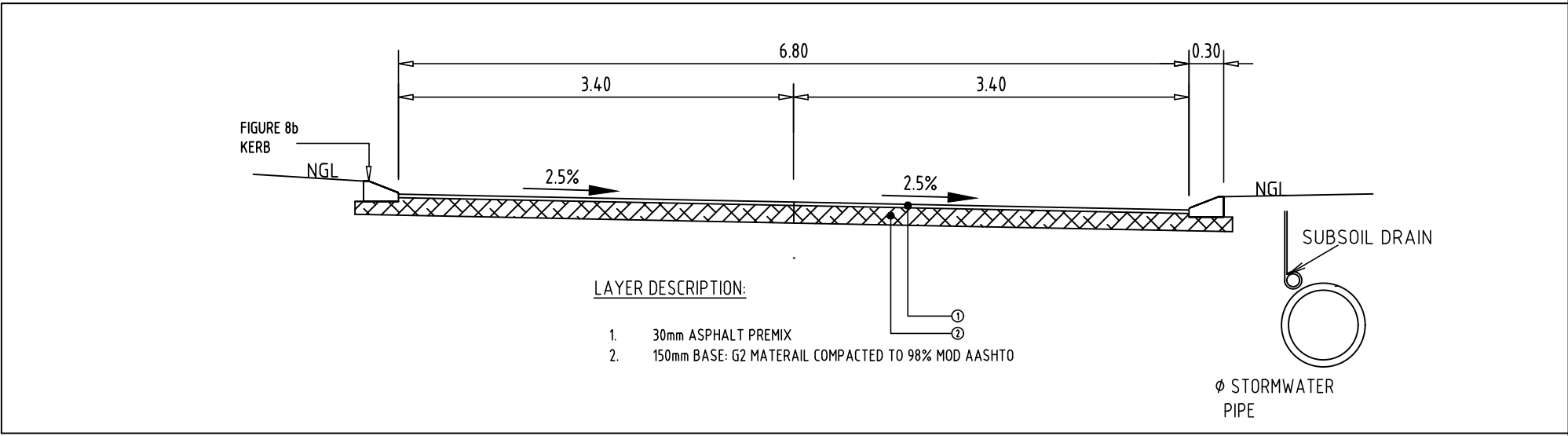
ROAD SETTING OUT DATA							Lo 29	
PI No.		YLo	XLo	Radius	DA	TL	AL	
Const				(m)	D M S	(m)	(m)	
PI 1	0.000	540.840	3419847.287	ROAD 10				
BC 2	196.375	727.084	3419785.026					
PI 2		746.213	3419778.631	20	90°29'04"	20.170	31.585	
EC 2	227.960	752.446	3419797.814					
PI 3	233.394	754.125	3419802.981					

						Designed by:- A. SIWENDU	Client UMZIMVUBU LOCAL MUNICIPALITY 813 MAIN STREET MOUNT FRERE 5090. TEL: 039 255 8500 PRIVATE BAG X9020 MOUNT FRERE 5090 FAX: 039 255 0167	Designed by:-  MATAYA SPECIALIST ENGINEERS  Director	169 MURRAY ROAD HAYFIELD PIETERMARITZBURG 3200. TEL: 039 326 1285 CELL: 082 714 4400	 Road Design & Control: Engineer	CONTRACT No: UMZ/2023-24/MIG/007 SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8 PORTION ROAD 10 LAYOUT PLAN [CH 0m TO 233.4m]	STAKED km DISTANCE KM 0+000-KM 0+126	SHEET 9 OF 15
						Checked by:- E.M. CHIRWA			SCALE	PLAN No.:-			
						Drawn by:- A. SIWENDU			AS SHOWN	MAT-041-RD-109			
						Checked by:- E.M. CHIRWA							
						Date of approval:- 21-07-2023							
						AMENDMENTS							
Symbol	Date	Description			Checked	Signed							

MAT-041-RD-109 Rev-T



LAYOUT PLAN
SCALE: 1:500



TYPICAL CROSS-SECTION ROAD 11
SCALE: 1:50

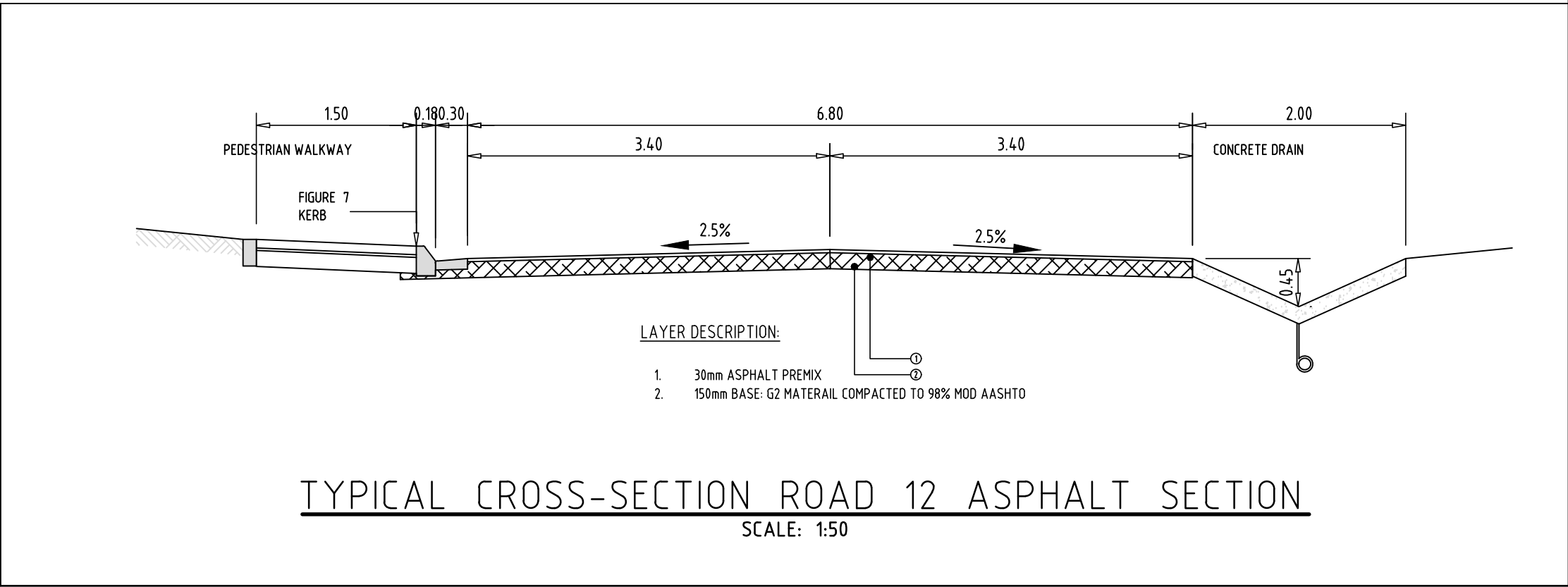
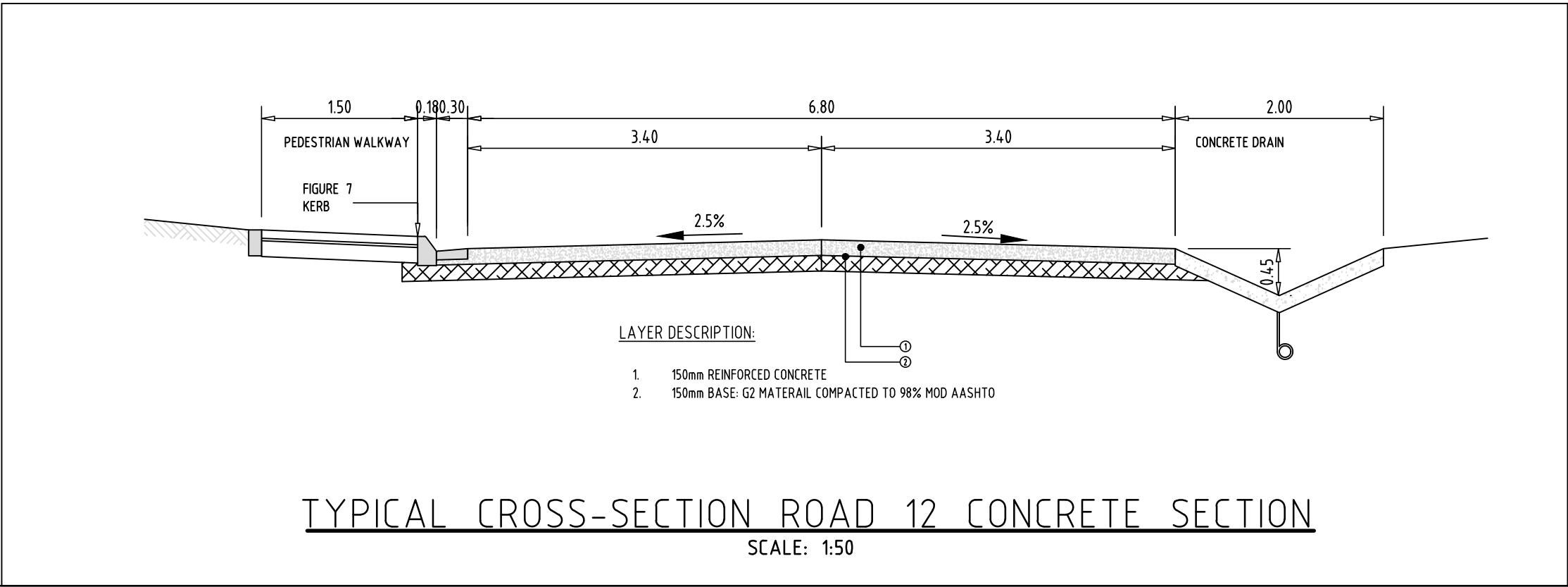
ROAD SETTING OUT DATA							Lo 29
PI No.		YLo	XLo	Radius	DA	TL	AL
Const				(m)	D M S	(m)	(m)
PI 1	0.000	614.561	3420030.978	Ngcwabe Street			
PI 2	203.083	801.165	3419950.843				

						Designed by:- A. SIWENDU	Client UMZIMVUBU LOCAL MUNICIPALITY 813 MAIN STREET MOUNT FRERE 5090. TEL: 039 255 8500 PROVINCE OF THE EASTERN CAPE UMZIMVUBU MUNICIPALITY PRIVATE BAG X9020 MOUNT FRERE 5090 FAX: 039 255 0167	Designed by:- MATAYA SPECIALIST ENGINEERS 169 MURRAY ROAD HAYFIELD PIETERMARITZBURG 3200. TEL: 039 326 1285 CELL: 082 714 4400	 Road Design & Control: Engineer PMU MANAGER	CONTRACT No: UMZ/2023-24/MIG/007 SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8		STAKED km DISTANCE KM 0+000-KM 0+126	SHEET 10 OF 15
					Drawn by:- A. SIWENDU	SCALE				PLAN No.:-			
					Checked by:- E.M. CHIRWA	AS SHOWN				MAT-041-RD-110			
					Date of approval:- 21-07-2023								
						AMENDMENTS							



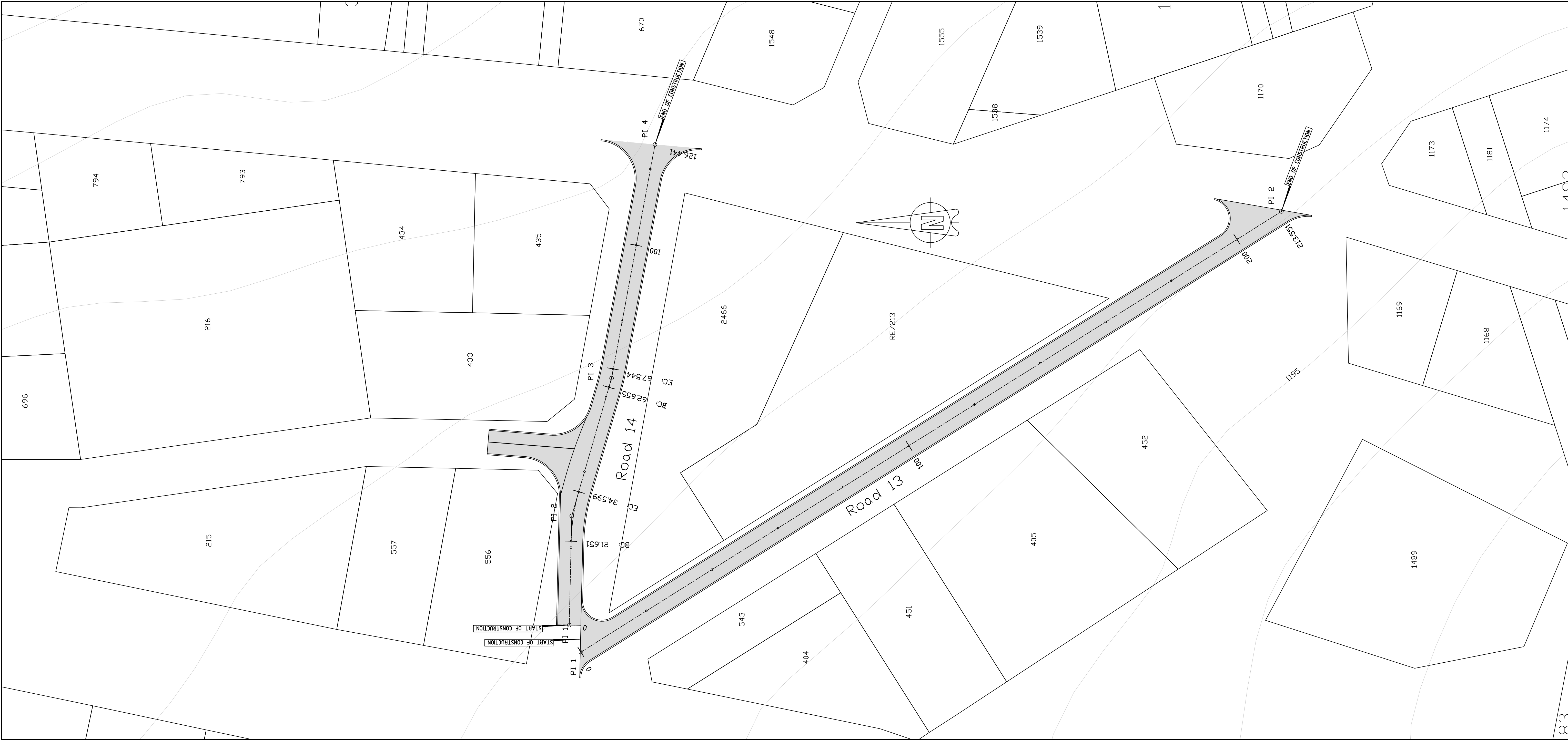
LAYOUT PLAN
SCALE: 1:1000

ROAD SETTING OUT DATA							
PI No.		YLo	XLo	Radius (m)	DA D M S	TL (m)	AL (m)
PI 1	0.000	862.068	3421023.441	ROAD 12			
BC 2	104.319	961.041	3420990.475				
PI 2		969.436	3420987.679	10	83°00'19"	8.848	14.487
EC 2	118.807	967.683	3420979.006				
BC 3	210.428	949.531	3420889.201				
PI 3		947.135	3420877.348	20	62°18'58"	12.092	21.752
EC 3	232.180	956.518	3420869.720				
BC 4	314.831	1020.649	3420817.582				
PI 4		1031.940	3420808.403	20	72°04'30"	14.551	25.159
EC 4	339.990	1026.681	3420794.835				
BC 5	418.255	998.396	3420721.860				
PI 5		989.887	3420699.905	500	5°23'33"	23.547	47.059
EC 5	465.314	983.478	3420677.247				
BC 6	713.267	915.992	3420438.655				
PI 6		913.333	3420429.252	20	52°04'44"	9.772	18.179
EC 6	731.446	919.116	3420421.375				
BC 7	769.637	941.718	3420390.590				
PI 7		947.951	3420382.100	20	55°32'38"	10.532	19.388
EC 7	789.026	944.477	3420372.157				
PI 8	872.644	916.897	3420293.218				



						Designed by:- A. SIWENDU	Client  UMZIMVUBU MUNICIPALITY 813 MAIN STREET MOUNT FRERE 5090. TEL: 039 255 8500 PRIVATE BAG X9020 MOUNT FRERE 5090 FAX: 039 255 0167	Designed by:-  MATAYA SPECIALIST ENGINEERS 169 MURRAY ROAD HAYFIELD PIETERMARITZBURG 3200. TEL: 039 326 1285 CELL: 082 714 4400	 Road Design & Control: Engineer PMU MANAGER 	CONTRACT No: UMZ/2023-24/MIG/007		STAKED km DISTANCE	SHEET 11 OF 15	
SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8		KM 0+000-KM 0+126												
						Drawn by:- A. SIWENDU						PORTION	SCALE	PLAN No.:-
24-07-2023	ISSUED FOR TENDER		EMC	AS		Checked by:- E.M. CHIRWA						ROAD 12	AS SHOWN	MAT-041-RD-111
Symbol	Date	Description	Checked	Signed		Date of approval:- 21-07-2023				Director	Date	LAYOUT PLAN [CH 0m TO 233.4m]		
AMENDMENTS														

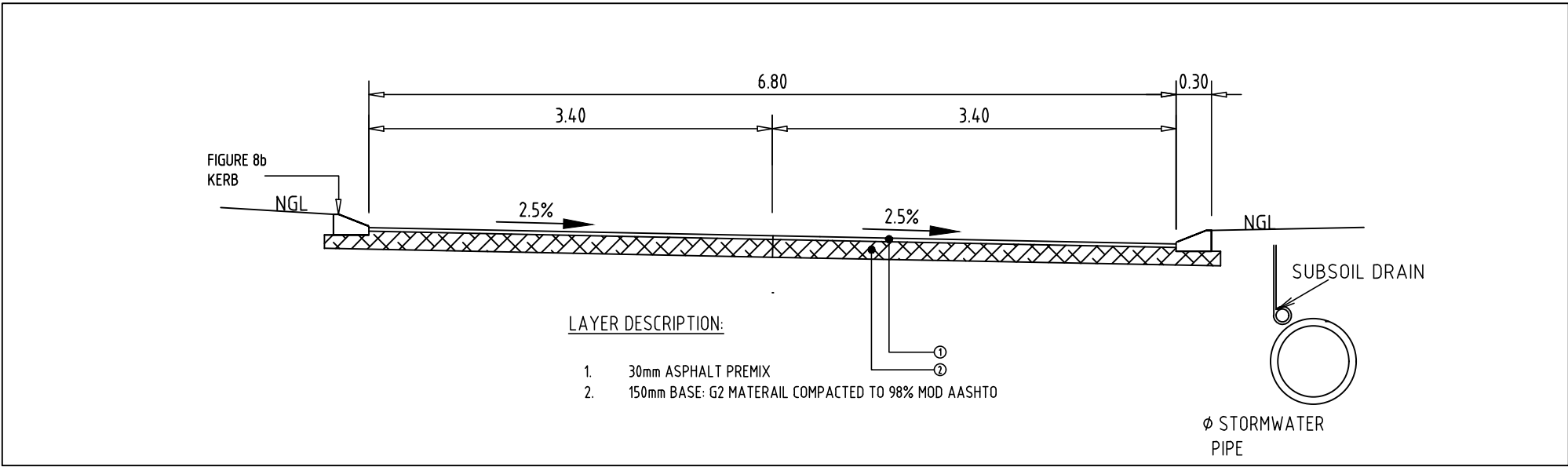
MAT-041-RD-111 Rev-T



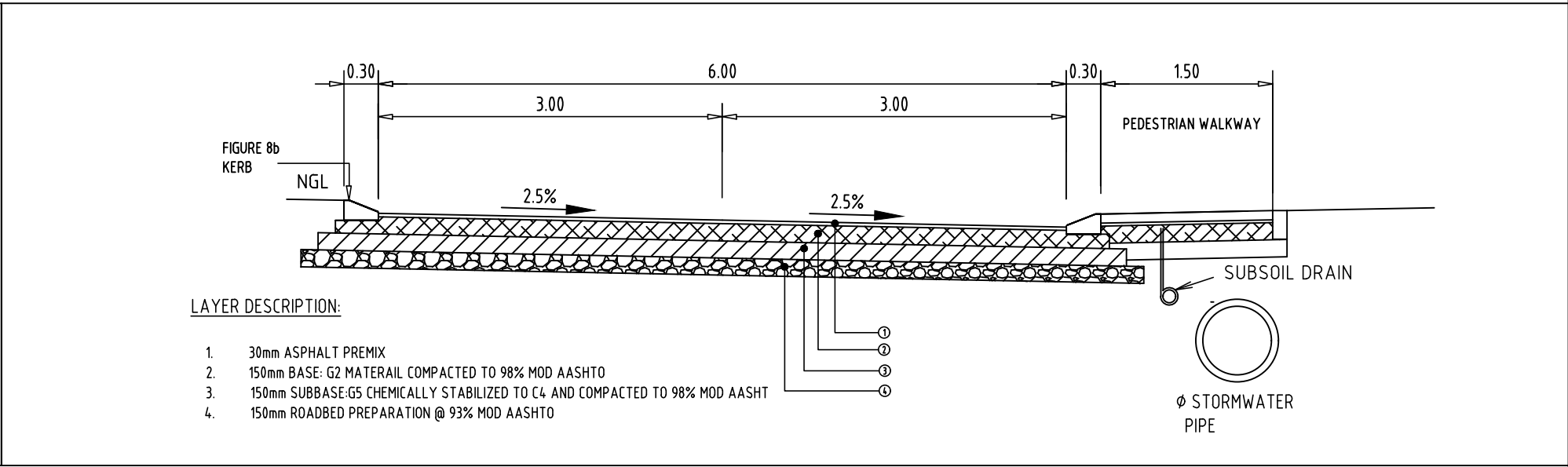
LAYOUT PLAN
SCALE: 1:500

ROAD SETTING OUT DATA							Lo 27
PI No.		YLo	XLo	Radius	DA	TL	AL
Const.				(m)	D M S	(m)	(m)
PI 1	0.000	788.964	3420856.836	ROAD 13			
PI 2	213.551	675.233	3421037.582				

ROAD SETTING OUT DATA							Lo 27
PI No.		YLo	XLo	Radius	DA	TL	AL
Const.				(m)	D M S	(m)	(m)
PI 1	0.000	781.986	3420853.837	ROAD 14			
BC 2	21.651	760.341	3420854.324				
PI 2		753.832	3420854.471	50	14°50'16"	6.511	12.948
EC 2	34.599	747.578	3420856.280				
BC 3	62.655	720.626	3420864.073				
PI 3		718.276	3420864.753	50	5°36'07"	2.446	4.889
EC 3	67.544	715.871	3420865.199				
PI 4	126.441	657.965	3420875.959				



TYPICAL CROSS-SECTION ROAD 13
SCALE: 1:50



TYPICAL CROSS-SECTION ROAD 14
SCALE: 1:50

Symbol	Date	Description	Checked	Signed
	24-07-2023	ISSUED FOR TENDER	EMC	AS
AMENDMENTS				

Designed by:- A. SIWENDU
Checked by:- E.M. CHIRWA
Drawn by:- A. SIWENDU
Checked by:- E.M. CHIRWA
Date of approval:- 21-07-2023

Client

**UMZIMVUBU**
LOCAL MUNICIPALITY

PROVINCE OF THE EASTERN CAPE
UMZIMVUBU MUNICIPALITY
813 MAIN STREET
MOUNT FRERE
5090.
TEL: 039 255 8500

PRIVATE BAG X9020
MOUNT FRERE
5090
FAX: 039 255 0167

Designed by:-

**MATAYA**
SPECIALIST ENGINEERS

14/9 MURRAY ROAD
HAYFIELD
PIETERMARITZBURG
3200.
TEL: 039 326 1285
CELL: 082 714 4400

21-07-2023
Date

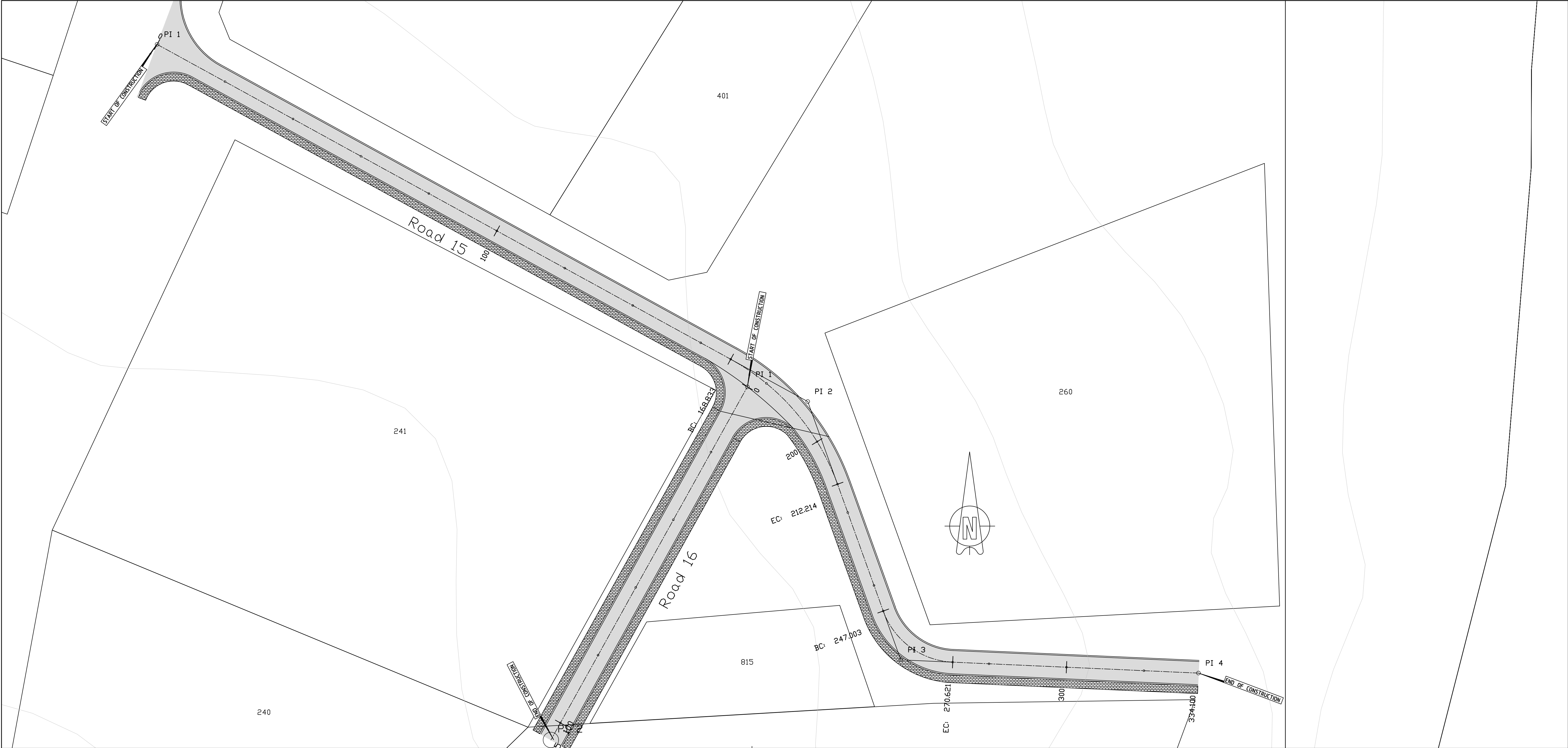
Road Design & Control: Engineer
PMU MANAGER

CONTRACT No: UMZ/2023-24/MIG/007
SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8

PORTION
ROAD 13 AND ROAD 14
LAYOUT PLAN [CH 0m TO 126.4m]

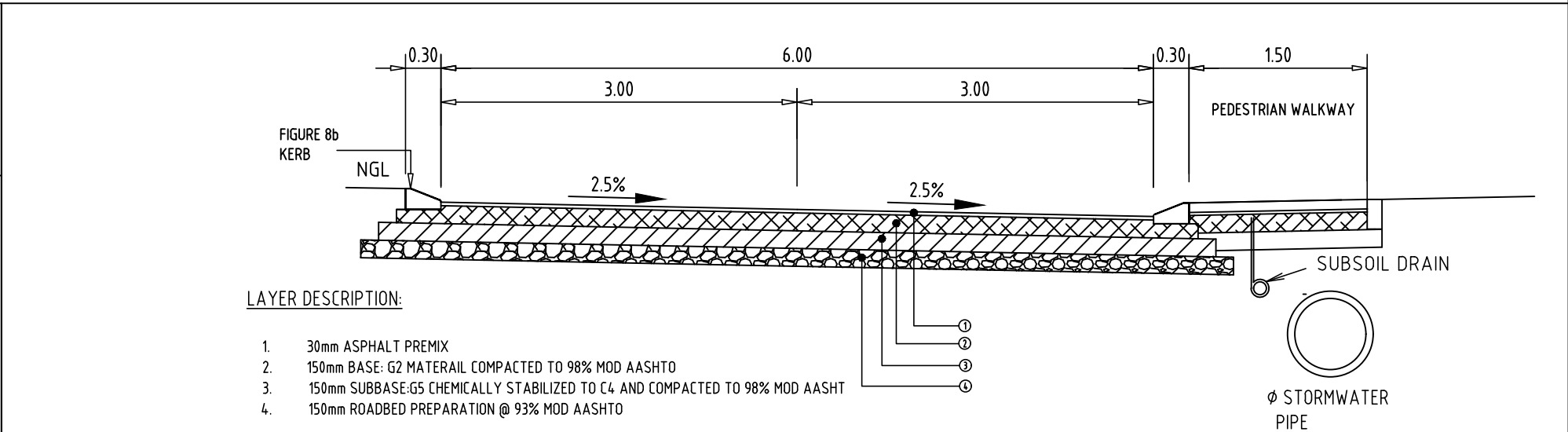
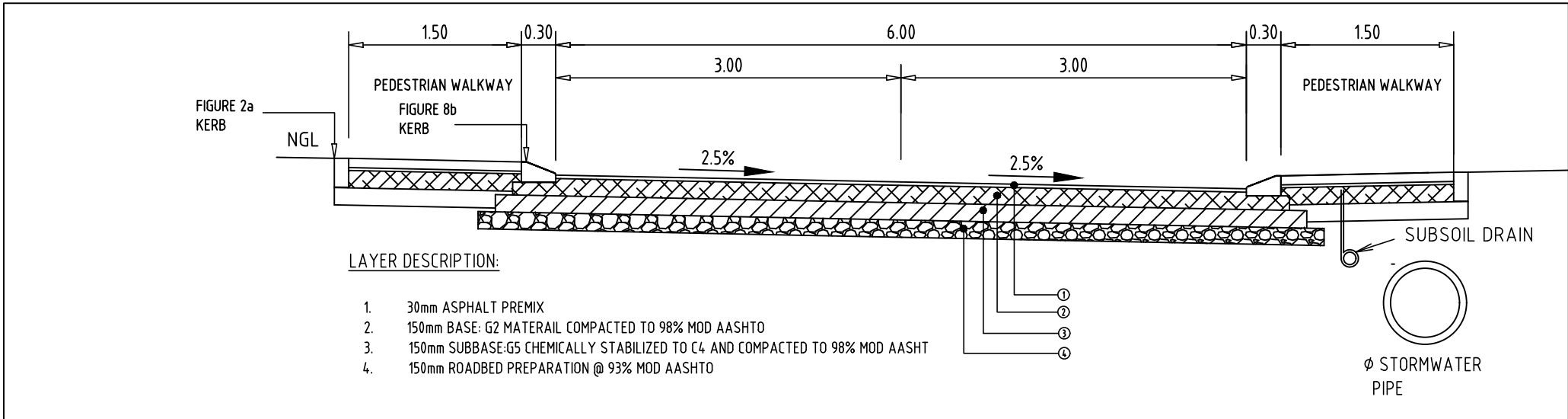
STAKED km DISTANCE KM 0+000-KM 0+126	SHEET 12 OF 15
SCALE AS SHOWN	PLAN No.:- MAT-041-RD-112

MAT-041-RD-112 Rev-T



ROAD SETTING OUT DATA							Lo 29
PI No.		YLo	XLo	Radius	DA	TL	AL
Const				(m)	D M S	(m)	(m)
PI 1	0.000	291.084	3419230.633	ROAD 15			
BC 2	168.833	143.107	3419311.917				
PI 2	123.222	3419322.840		60	41°25'35"	22.688	43.382
EC 2	212.214	115.539	3419344.187				
BC 3	247.003	103.758	3419376.921				
PI 3	99.219	3419389.533		20	67°39'30"	13.404	23.617
EC 3	270.621	85.829	3419390.129				
PI 4	334.100	22.412	3419392.951				

ROAD SETTING OUT DATA							Lo 29
PI No.	CH	YLo	XLo	Radius	DA	TL	AL
Const				(m)	D M S	(m)	(m)
PI 1	0.000	138.459	3419318.414	ROAD 16			
PI 2	105.025	189.486	3419410.210				



Symbol	Date	Description	Checked	Signed
0	24-07-2023	ISSUED FOR TENDER	EMC	AS
AMENDMENTS				

Designed by:- A. SIWENDU
Checked by:- E.M. CHIRWA
Drawn by:- A. SIWENDU
Checked by:- E.M. CHIRWA
Date of approval:- 21-07-2023

PROVINCE OF THE EASTERN CAPE

UMZIMVUBU MUNICIPALITY

813 MAIN STREET
MOUNT FRERE
5090.
TEL: 039 255 8500

PRIVATE BAG X9020
MOUNT FRERE
5090
FAX: 039 255 0167

Designed by:-

169 MURRAY ROAD
HAYFIELD
PIETERMARITZBURG
3200.
TEL: 039 326 1285
CELL: 082 714 4400

Director

21-07-2023

Date

Road Design & Control: Engineer

PMU MANAGER

CONTRACT No: UMZ/2023-24/MIG/007

SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8

PORTION

ROAD 15 AND 16

LAYOUT PLAN [CH 0m TO 334m & 0m TO 108m]

STAKED km DISTANCE

KM 0+000-KM 0+108

KM 0+000-KM 0+334

SCALE

AS SHOWN

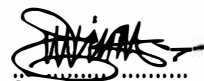
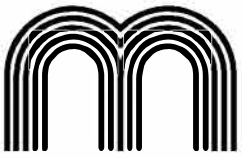
SHEET 13 OF 15

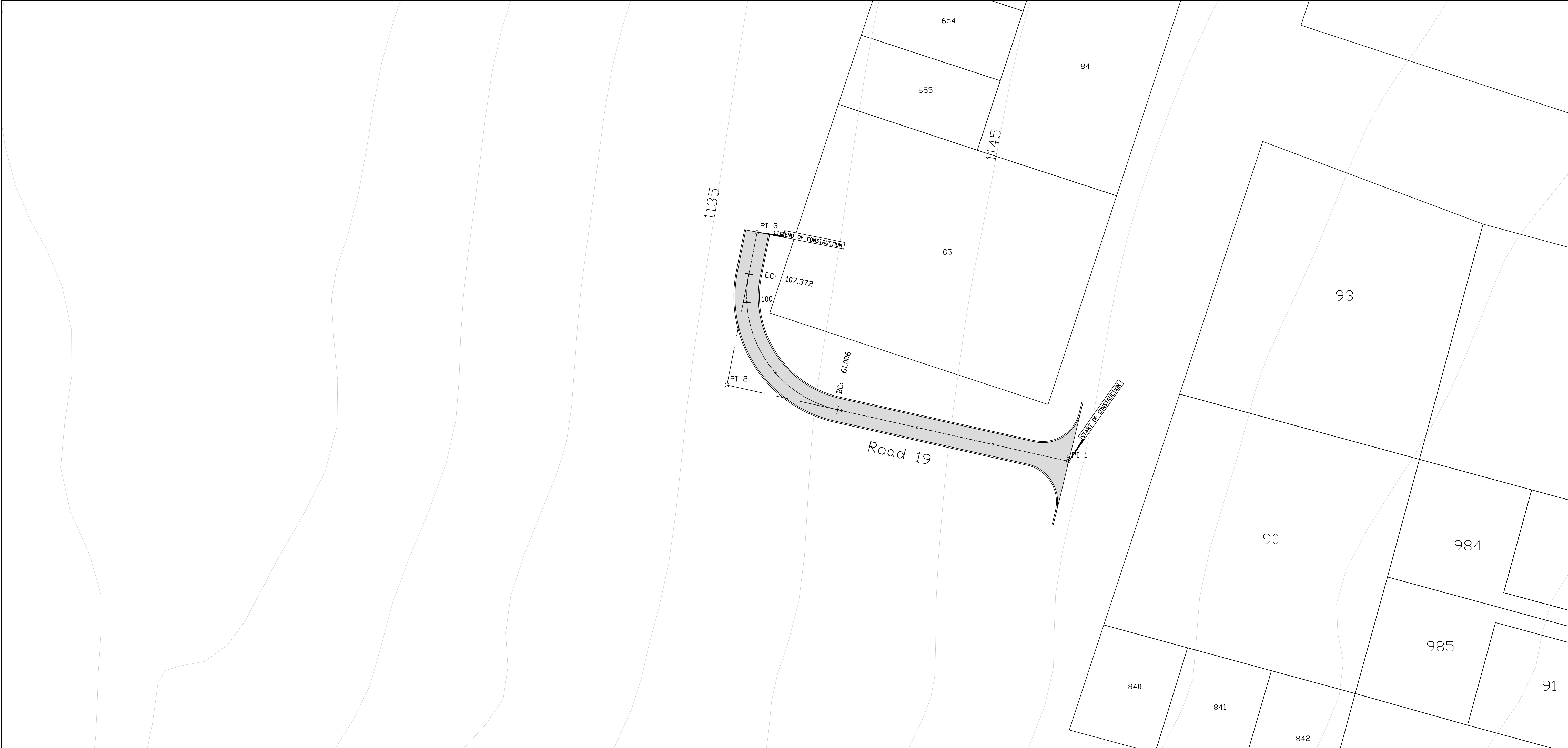
PLAN No:-

MAT-041-RD-113

MAT-041-RD-113 Rev-T

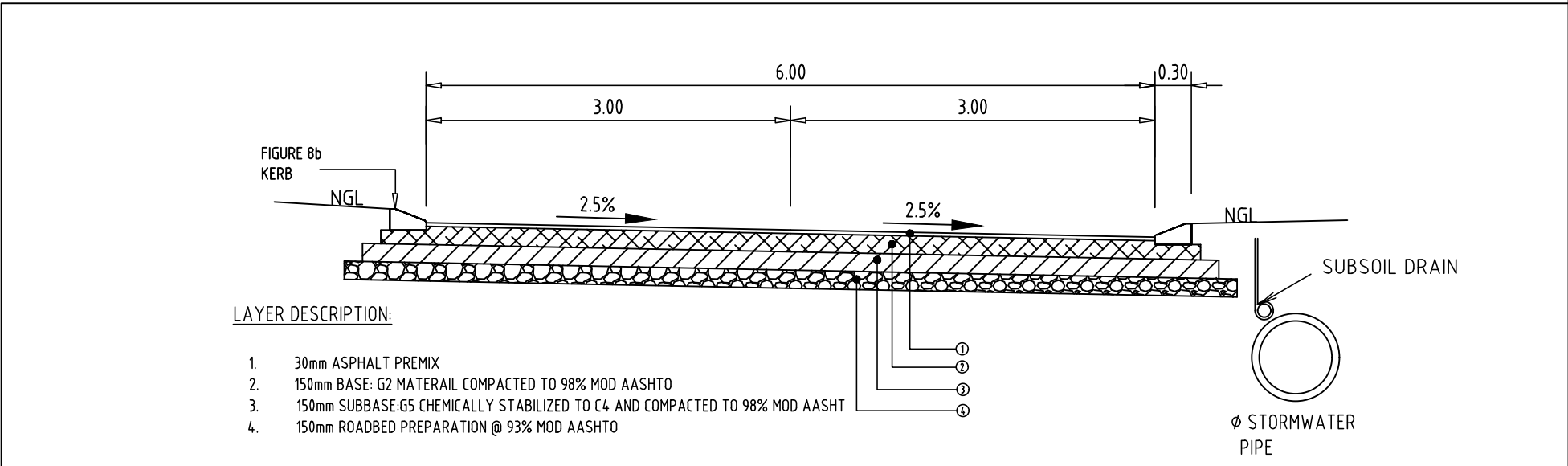


Client  UMZIMVUBU LOCAL MUNICIPALITY PROVINCE OF THE EASTERN CAPE UMZIMVUBU MUNICIPALITY 813 MAIN STREET MOUNT FRERE 5090. TEL.: 039 255 8500 PRIVATE BAG X9020 MOUNT FRERE 5090 FAX : 039 255 0167	Consultant E.M. CHIRWA Name 20020003 Pr. Reg. No.  Signature 21-07-2023 Date	 MATAYA SPECIALIST ENGINEERS 149 MURRAY ROAD HAYFIELD PIETERMARITZBURG 3200. TEL.: 039 326 1285 CELL: 082 714 4400	Project CONTRACT No UMZ/2023-24/INFRA/MIG/007 KWABHACA INTERNAL STREETS PHASE 8 Drawing PARKING AREAS NEAR SHOPPING MALL LAYOUT PLAN	Scale NOT TO SCALE Drawing Number MAT-041-C-114
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LAYOUT PLAN
SCALE: 1:500

ROAD SETTING OUT DATA							Lo 29
PI No.		YLo	XLo	Radius	DA	TL	AL
Const				(m)	D M S	(m)	(m)
PI 1	0.000	1090.620	3420473.625	Road 19			
BC 2	61.006	1150.159	3420460.323				
PI 2		1178.706	3420453.944	30	88°33'10"	29.252	46.366
EC 2	107.372	1173.051	3420425.245				
PI 3	118.374	1170.924	3420414.451				



TYPICAL CROSS-SECTION ROAD 19
SCALE: 1:50

						Designed by:- A. SIWENDU	Client  UMZIMVUBU MUNICIPALITY 813 MAIN STREET MOUNT FRERE 5090. TEL: 039 255 8500 PRIVATE BAG X9020 MOUNT FRERE 5090 FAX: 039 255 0167	Designed by:-  MATAYA SPECIALIST ENGINEERS 169 MURRAY ROAD HAYFIELD PIETERMARITZBURG 3200. TEL: 039 326 1285 CELL: 082 714 4400	Road Design & Control: Engineer PMU MANAGER	CONTRACT No: UMZ/2023-24/MIG/007 SURFACING OF KWABHACA INTERNAL STREETS - PHASE 8		STAKED km DISTANCE KM 0+000-KM 0+118	SHEET 15 OF 15
					Checked by:- E.M. CHIRWA	SCALE				PLAN No.:-			
					Drawn by:- A. SIWENDU	AS SHOWN				MAT-041-RD-115			
					Checked by:- E.M. CHIRWA								
					Date of approval:- 21-07-2023								
					AMENDMENTS								
Symbol	Date	Description			Checked	Signed							

MAT-041-RD-115 Rev-T