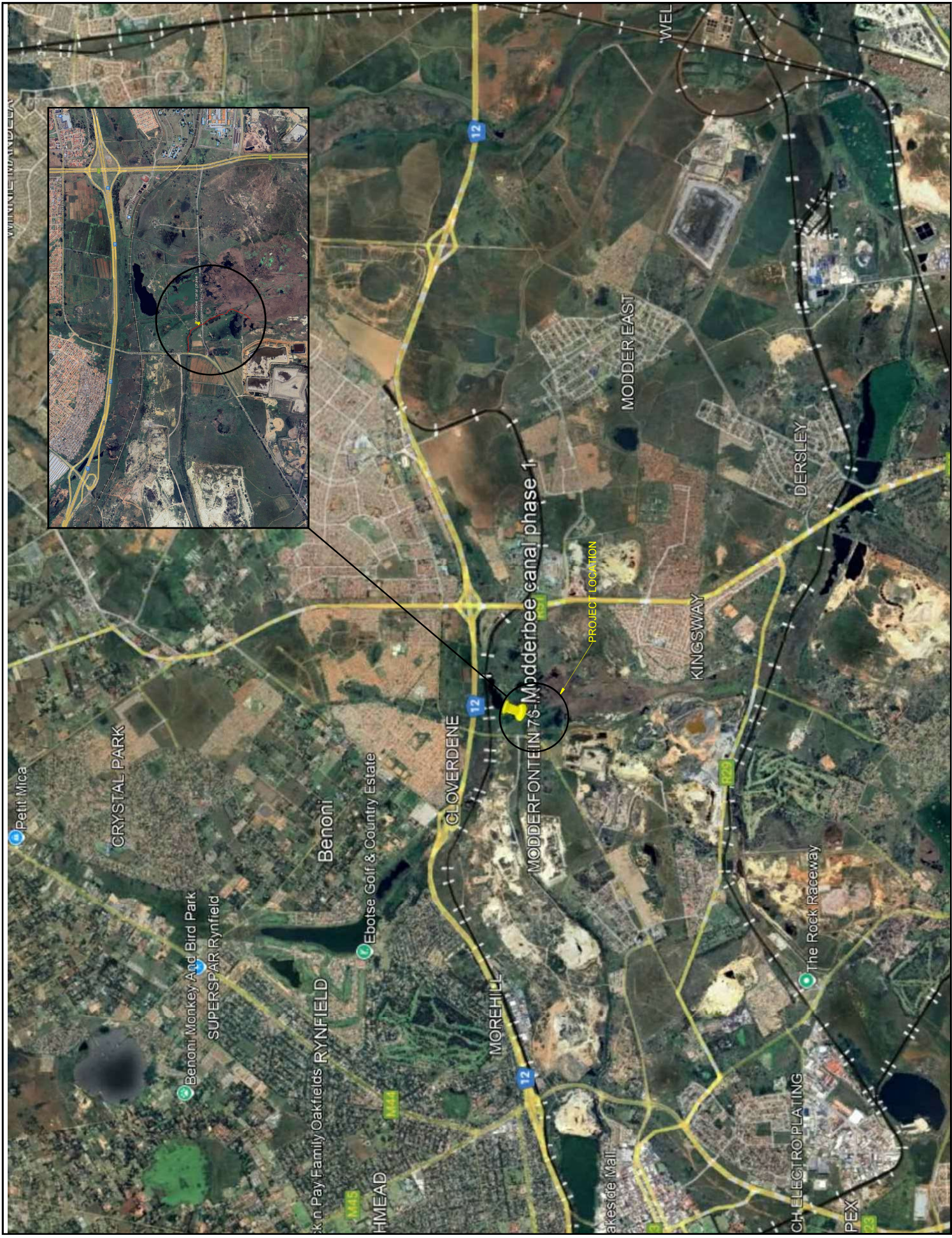




1. ALL WORKS TO BE COMPLETED BY 30/09/2024  
2. ALL WORKS TO BE COMPLETED BY 30/09/2024  
3. ALL WORKS TO BE COMPLETED BY 30/09/2024  
4. ALL WORKS TO BE COMPLETED BY 30/09/2024  
5. ALL WORKS TO BE COMPLETED BY 30/09/2024  
6. ALL WORKS TO BE COMPLETED BY 30/09/2024  
7. ALL WORKS TO BE COMPLETED BY 30/09/2024  
8. ALL WORKS TO BE COMPLETED BY 30/09/2024  
9. ALL WORKS TO BE COMPLETED BY 30/09/2024  
10. ALL WORKS TO BE COMPLETED BY 30/09/2024

| REV | DESCRIPTION        | DATE       | BY |
|-----|--------------------|------------|----|
| 1   | ISSUED FOR TENDERS | 15/08/2024 | KL |
| 2   | REVISED            | 15/08/2024 | KL |
| 3   | REVISED            | 15/08/2024 | KL |
| 4   | REVISED            | 15/08/2024 | KL |
| 5   | REVISED            | 15/08/2024 | KL |
| 6   | REVISED            | 15/08/2024 | KL |
| 7   | REVISED            | 15/08/2024 | KL |
| 8   | REVISED            | 15/08/2024 | KL |
| 9   | REVISED            | 15/08/2024 | KL |
| 10  | REVISED            | 15/08/2024 | KL |

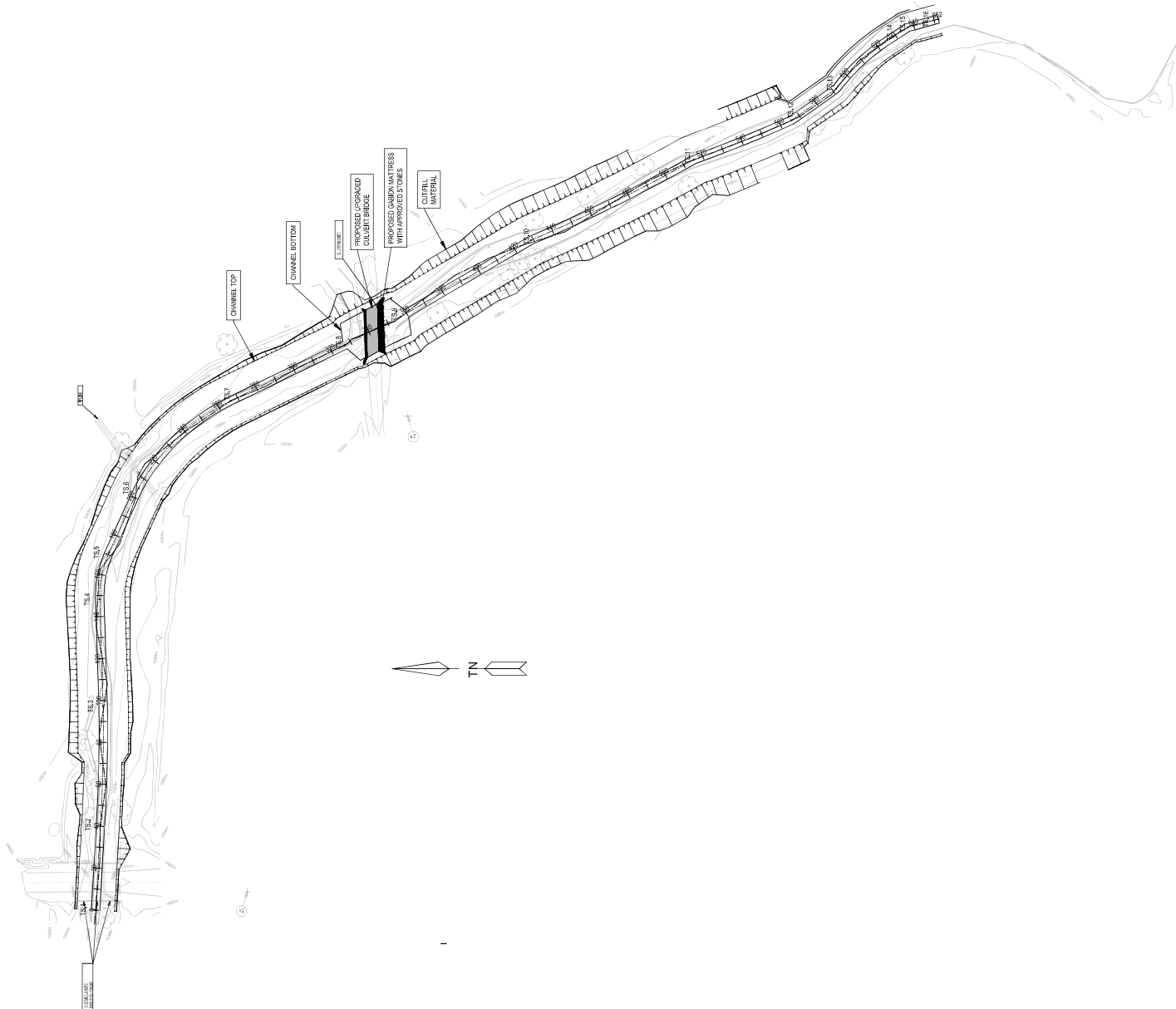
| REV | DESCRIPTION        | DATE       | BY |
|-----|--------------------|------------|----|
| 1   | ISSUED FOR TENDERS | 15/08/2024 | KL |
| 2   | REVISED            | 15/08/2024 | KL |
| 3   | REVISED            | 15/08/2024 | KL |
| 4   | REVISED            | 15/08/2024 | KL |
| 5   | REVISED            | 15/08/2024 | KL |
| 6   | REVISED            | 15/08/2024 | KL |
| 7   | REVISED            | 15/08/2024 | KL |
| 8   | REVISED            | 15/08/2024 | KL |
| 9   | REVISED            | 15/08/2024 | KL |
| 10  | REVISED            | 15/08/2024 | KL |



MODDER BEE CANAL

CHANNEL LAYOUT

|                  |                 |
|------------------|-----------------|
| Project Name     | 2403-CH-STW-L01 |
| Project Number   | 0               |
| Project Date     | 15/08/2024      |
| Project Location | KL              |
| Project Status   | For Review      |



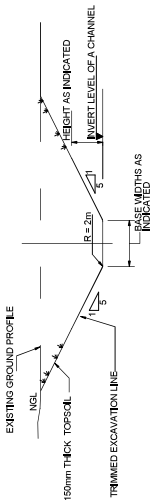
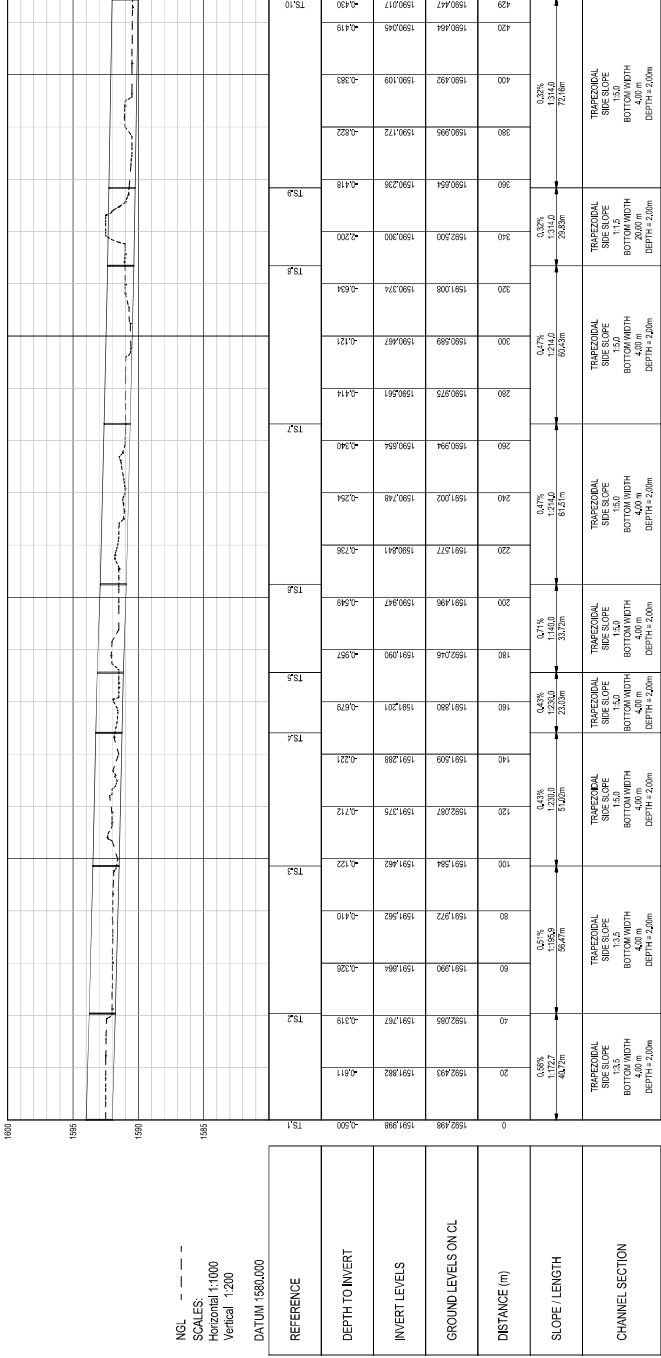
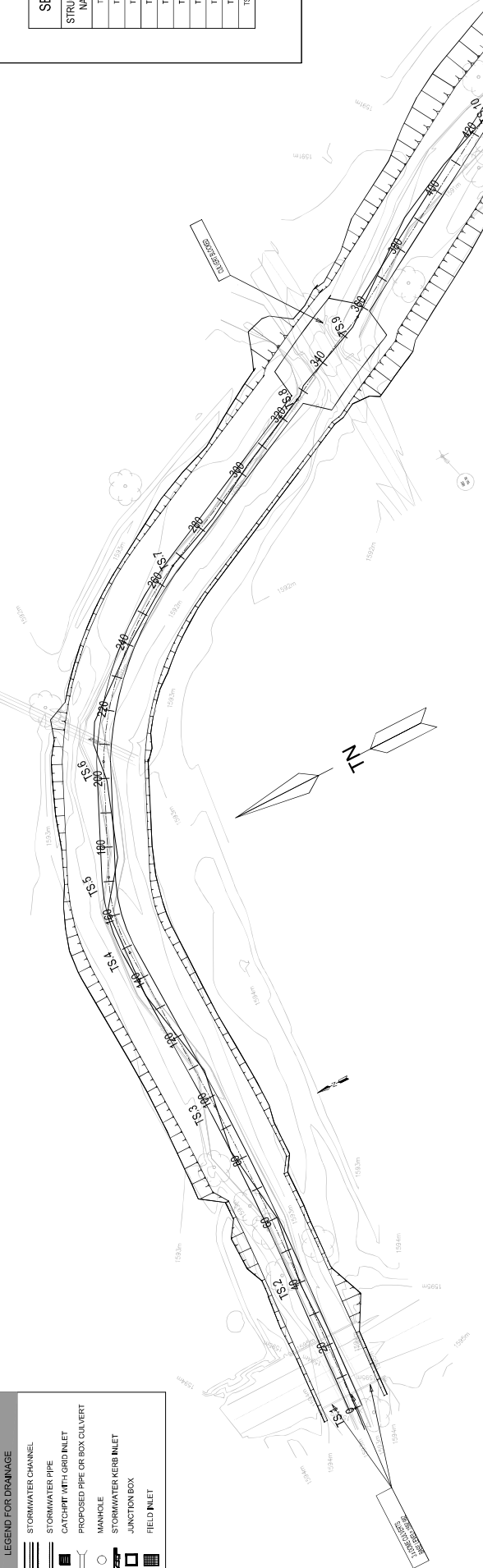


LEGEND FOR DRAINAGE

- STORMWATER CHANNEL
- STORMWATER PIPE
- CATCHMENT WITH GRID INLET
- PROPOSED PIPE OR BOX CULVERT
- MANHOLE
- STORMWATER KERB INLET
- JUNCTION BOX
- FIELD INLET

SETTING OUT DATA

| STRUCTURE NAME | Y          | X             |
|----------------|------------|---------------|
| TS.1           | 61 914.273 | 2 696 190.802 |
| TS.2           | 61 833.223 | 2 686 153.113 |
| TS.3           | 61 817.284 | 2 696 194.484 |
| TS.4           | 61 785.287 | 2 686 162.756 |
| TS.5           | 61 743.007 | 2 686 197.255 |
| TS.6           | 61 713.540 | 2 686 211.272 |
| TS.7           | 61 671.630 | 2 686 255.250 |
| TS.8           | 61 645.123 | 2 686 300.251 |
| TS.9           | 61 611.697 | 2 686 336.143 |
| TS.10          | 61 565.107 | 2 686 380.278 |



REFERENCE

DEPTH TO INVERT

INVERT LEVELS

GROUND LEVELS ON CL

DISTANCE (m)

SLOPE / LENGTH

CHANNEL SECTION

CHANNEL SECTION

VERSION/AMENDMENTS

| No. | DATE     | DESCRIPTION       | AUTHORISED BY |
|-----|----------|-------------------|---------------|
| 0   | 10/02/24 | ISSUED FOR TENDER | KL            |
|     |          |                   |               |
|     |          |                   |               |
|     |          |                   |               |
|     |          |                   |               |
|     |          |                   |               |
|     |          |                   |               |
|     |          |                   |               |
|     |          |                   |               |
|     |          |                   |               |

CLIENT

COUNCIL FOR GEOSCIENCE  
280 PRETORIA STREET  
SILVERTON  
PRETORIA  
0184  
Tel: 012 841 1911  
Email: info@geoscience.org.za

PROJECT NAME

MODDER BEE CANAL

DRAWING TITLE

LONGITUDINAL SECTIONS  
CHAINAGE 0 - 428.88m

APPROVED

APPROVED ON BEHALF OF  
ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
CLIENT DRAWING NO. \_\_\_\_\_ CLIENT REF NO. \_\_\_\_\_

SCALE

SCALE ON ORIGINAL DRAWING: AS SHOWN  
LAST SYSTEM

DATE

DATE: 07/10/2024

DESIGNED

DESIGNED: KL

CHECKED

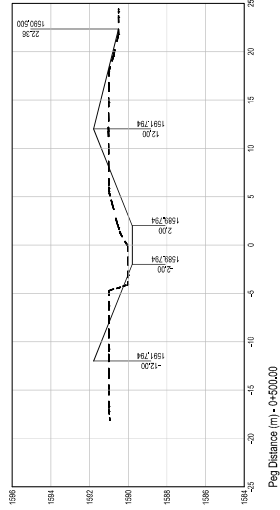
CHECKED: KL

DWG NO.

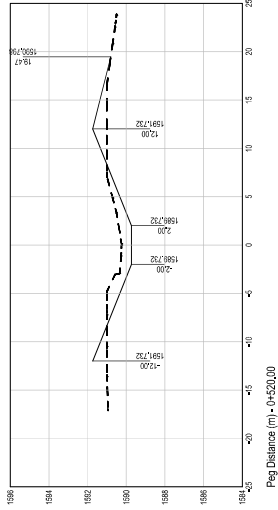
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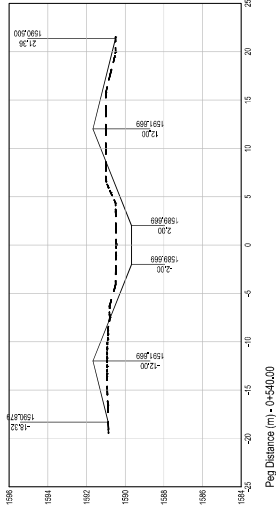




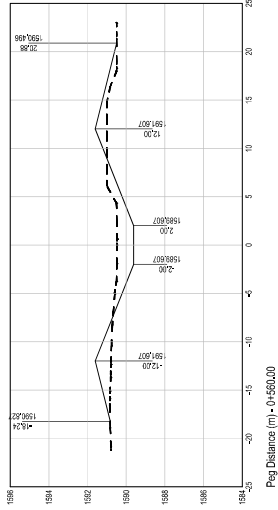
Peg Distance (m) - 0+500.00



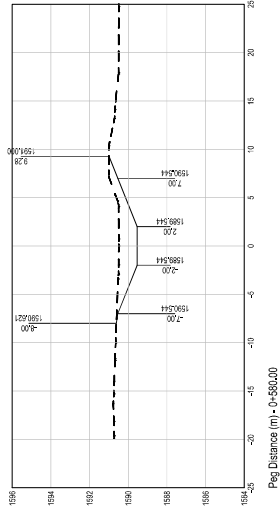
Peg Distance (m) = 0+520.00



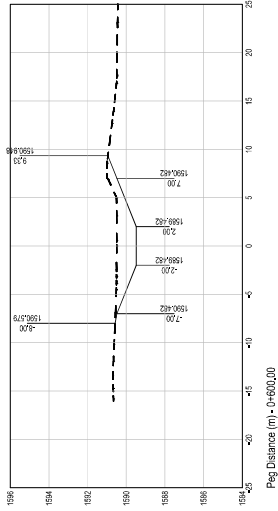
Peg Distance (m) = 0+540.00



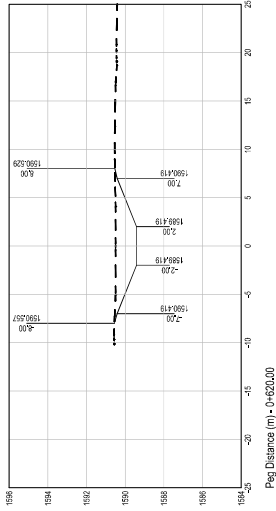
Peg Distance (m) = 0+560.00



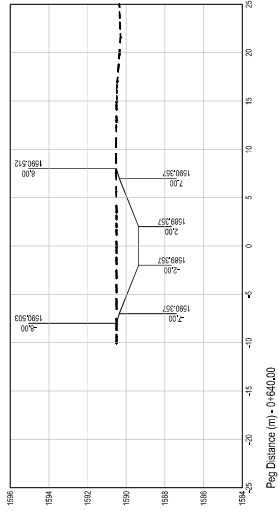
Peg Distance (m) = 0+580.00



Peg Distance (m) = 0+600.00



Peg Distance (m) = 0+620.00



Peg Distance (m) = 0+640.00

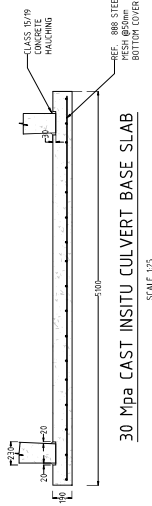
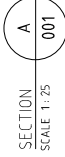
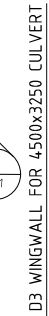


|           |          |
|-----------|----------|
| Number of | REVISION |
| Drawings  |          |
| Costs     |          |
| By        |          |

\_\_\_\_\_



CULVERT BRIDGE  
DETAIL  
AS SHOWN







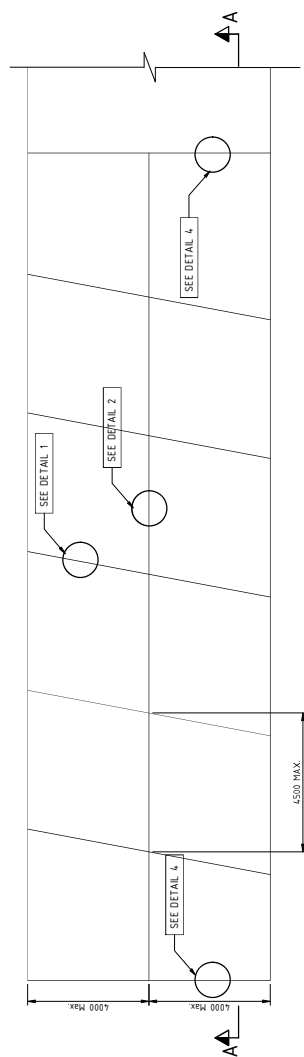
1. PREPARED FOR THE MUNICIPAL ENGINEER  
2. ALL CONCRETE TO BE CLASS 30/40  
3. ALL CONSTRUCTION JOINTS TO BE  
4. REFER TO SECTION 6.02 OF THE  
5. STANDARD SPECIFICATIONS FOR  
6. THE MUNICIPAL CIVIL ENGINEERING  
7. WORKS CONSTRUCTION AT THE  
8. LOWEST POINT AND CONTINUING  
9. UPWARDS WITH THE GRADIENT

| REVISION |
|----------|
|          |
|          |
|          |

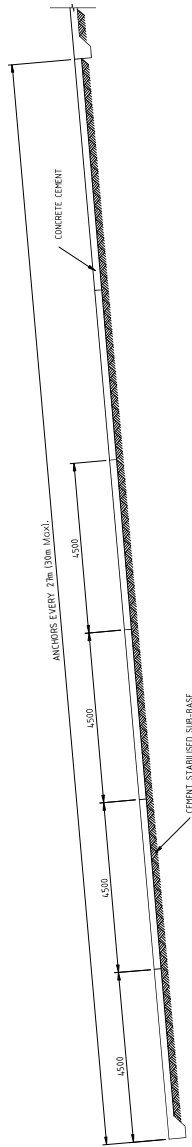
## NOTES

1. ALL CONCRETE TO BE CLASS 30/40
2. ALL CONSTRUCTION JOINTS TO BE
3. ACCORDING TO DETAIL 02
4. REFER TO SECTION 6.02 OF THE
5. STANDARD SPECIFICATIONS FOR
6. THE MUNICIPAL CIVIL ENGINEERING
7. WORKS CONSTRUCTION AT THE
8. LOWEST POINT AND CONTINUING
9. UPWARDS WITH THE GRADIENT

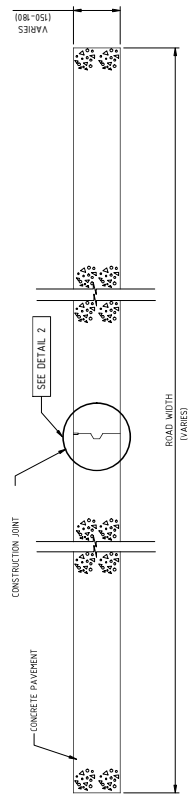
| REVISION |
|----------|
|          |
|          |
|          |



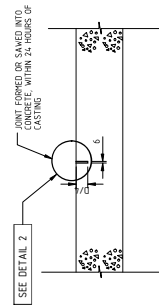
PLAN  
N.T.S.



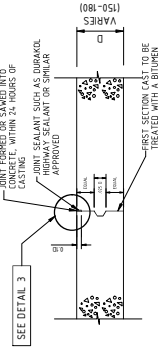
SECTION A-A  
N.T.S.



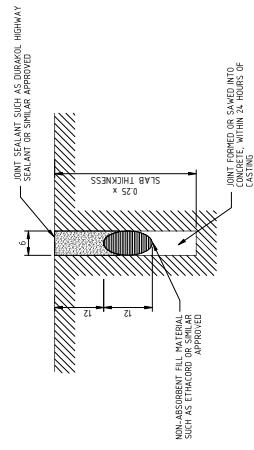
TYPICAL CROSS SECTION OF ROAD  
SCALE 1:10



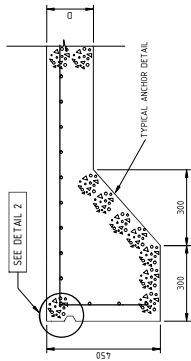
DETAIL 01  
SCALE 1:10



DETAIL 02  
SCALE 1:10

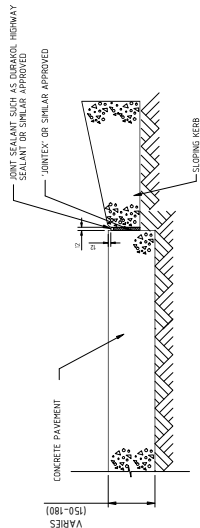
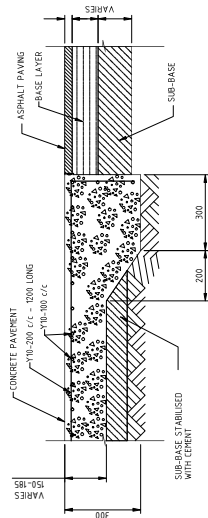


DETAIL 03  
N.T.S.



DETAIL 04  
SCALE 1:10

TYPICAL DETAIL BETWEEN CONCRETE  
AND ASPHALT PAVING  
SCALE 1:10



TYPICAL CONNECTION BETWEEN  
PAVING AND KERB  
SCALE 1:10



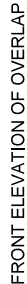
MODDER BEE CANAL

CONCRETE PAVEMENT  
DETAILS

|            |   |   |   |
|------------|---|---|---|
| 2023-01-01 | 0 | 0 | 0 |
| 2023-01-01 | 0 | 0 | 0 |
| 2023-01-01 | 0 | 0 | 0 |
| 2023-01-01 | 0 | 0 | 0 |



|    |                                                              |
|----|--------------------------------------------------------------|
| 1  | GUARDRAILS ARE REQUIRED IN THE FOLLOWING CASES:              |
| 2  |                                                              |
| 3  | 11 WHERE THE FALL IS MORE THAN 10' WITH NO RECOVERY          |
| 4  | AREA                                                         |
| 5  | 12 WHERE THE FALL IS MORE THAN 10' FROM A DANGER             |
| 6  | AREA                                                         |
| 7  | 13 WHERE THE FALL IS MORE THAN 10' FROM A DANGER             |
| 8  | AREA                                                         |
| 9  | 14 AT ALL BRIDGES                                            |
| 10 | 15 ON THE OUTSIDE OF CURVES WITH RADIUS LESS THAN            |
| 11 | 300m WITHOUT RECOVERY AREAS                                  |
| 12 | 16 WHERE OBSTRUCTIONS ARE LESS THAN 10' FROM THE             |
| 13 | EDGE AND NO OBSTRUCTION APPEARS TO BE MORE DANGEROUS         |
| 14 | 17 THAN WHAT A GUARDRAIL WOULD BE                            |
| 15 | 20 BEFORE GUARDRAILS ARE OFFERED APPROVAL MUST BE            |
| 16 | OBTAINED FROM THE GENERAL MANAGER, ROAD AND                  |
| 17 | STORMWATER                                                   |
| 18 |                                                              |
| 19 | 31 BOLT, HIGH TENSILE STEEL TUN                              |
| 20 | 32 WAGERING STEEL SPRING SHIM THICK                          |
| 21 | 33 SLAGGERS STEEL SPRING SHIM THICK                          |
| 22 | 34 WITH CREEPER ALLOWING TO JUMP METHOD IN 5485 95.          |
| 23 | 35 THREATENED WITH OBSCURE ALLOWING TO                       |
| 24 | ANY METHOD IN 5485 95.                                       |
| 25 | 36 ALL GUARDRAILS SHALL BE CONSIDERED                        |
| 26 | AS SPURRED INTO BE PAINTED                                   |
| 27 | 37 GUARDRAILS SHALL BE CONSIDERED AS SPURRED INTO BE PAINTED |
| 28 | 38 SPECIFICATION FOR MINERAL WOOL ENGINEERING WIPERS.        |



|          |          |
|----------|----------|
| Revised  | REVISION |
| Drawn by |          |
| Date     |          |
| NO       |          |

[illegible]

Council for Geoscience

PROJECT  
**MODDER BEE CANAL**

**GUARDRAILS  
DETAILS FOR FIXING,  
OVERLAP AND ANCHORING.  
AS SHOWN**

|                         |                   |           |          |                |
|-------------------------|-------------------|-----------|----------|----------------|
| DE 1-2003 D1            | K. LEHMU<br>RUMEN | 0         | OFFERED  |                |
| <b>2403-CIV-ROD-D03</b> |                   |           |          |                |
| DATE                    | ISSUED            | DATE      | ISSUED   |                |
|                         |                   | 3/16/2024 | K. LEHMU |                |
| S. GETTSOME             |                   |           |          |                |
| 2024.03.17.25           |                   |           |          |                |
|                         |                   |           |          | For certiduc.  |
|                         |                   |           |          | <del>Not</del> |
| Info only               |                   |           |          |                |

