



# MAQUASSI HILLS LOCAL MUNICIPALITY

UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM  
PIET RETIEF STREET TO MAITEMOGELO COMPREHENSIVE SCHOOL

## TENDER DRAWINGS VOLUME 2

CONTRACT NUMBER: MHLM/SCM/MIG/ 01/2022/23

AUGUST 2022



VERSION	DRAWING NUMBER	DRAWING DESCRIPTION
1.0	2022-04-G/A/001	PROJECT DRAWING INDEX
1.0	2022-04-G/D/001	PROJECT NAME BOARD
1.0	2022-04-G/D/002	MIG PROJECT NAME BOARD
1.0	2022-04-G/P/001	LOCALITY MAP
1.0	2022-04-R/D/001	TYPICAL KERBING DETAILS
1.0	2022-04-R/D/002	TYPICAL PAVEMENT DESIGN DETAIL FOR 6.0m SURFACED ACCESS STREETS (PAVING BLOCK FINISH)
1.0	2022-04-R/D/003	ROAD SIGNAGE SCHEDULE AND DETAILS
1.0	2022-04-R/D/004	ROAD MARKING DETAILS
1.0	2022-04-R/D/005	POSITION OF SUPPORT BRACKETS AND INSTALLATION DETAILS OF ROAD SIGNS
1.0	2022-04-R/P/001	ROAD A NEW ROAD LAYOUT
1.0	2022-04-R/S/001	ROAD A SIGNAGE LAYOUT

**REVISIONS**

No.	DATE	BY	DESCRIPTION

**NOTES**

**REFERENCE DRAWINGS**

PLAN No.	DESCRIPTION

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

CLIENT: \_\_\_\_\_ DATE: \_\_\_\_\_

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CLIENT



**MAQUASSI HILLS  
LOCAL MUNICIPALITY**

PROJECT

**UPGRADING OF ROADS AND  
STORMWATER IN TAXI ROUTE  
FROM PIET RETIEF STREET TO  
MAITEMOGELO COMPREHENSIVE  
SCHOOL**

IMPLEMENTING AGENT:

**MAQUASSI HILLS LM**

DRAWING TITLE

**PROJECT DRAWING INDEX**

DESIGN	DATE	DRAWN	DATE
	JUN 2022		JUN 2022
SURVEYED	DATE	CHECKED	DATE
		J.BATEMAN	JUN 2022

SCALE                      NTS

DRAWING No.

**2022-04-G/A/001**

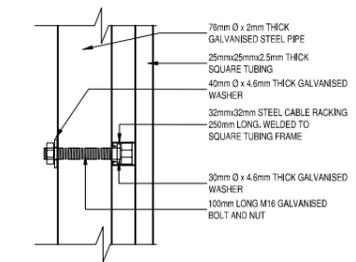
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1.0							



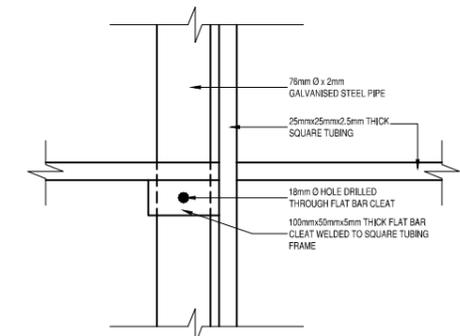
# MAQUASSI HILLS LOCAL MUNICIPALITY

**PROJECT NAME:**  
UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM  
PIET RETIEF STREET TO MAITEMOGELO COMPREHENSIVE SCHOOL  
**CONTRACT NUMBER:** MHLM/SCM/MIG/ 01/2022/23 **PROJECT AMOUNT:** -

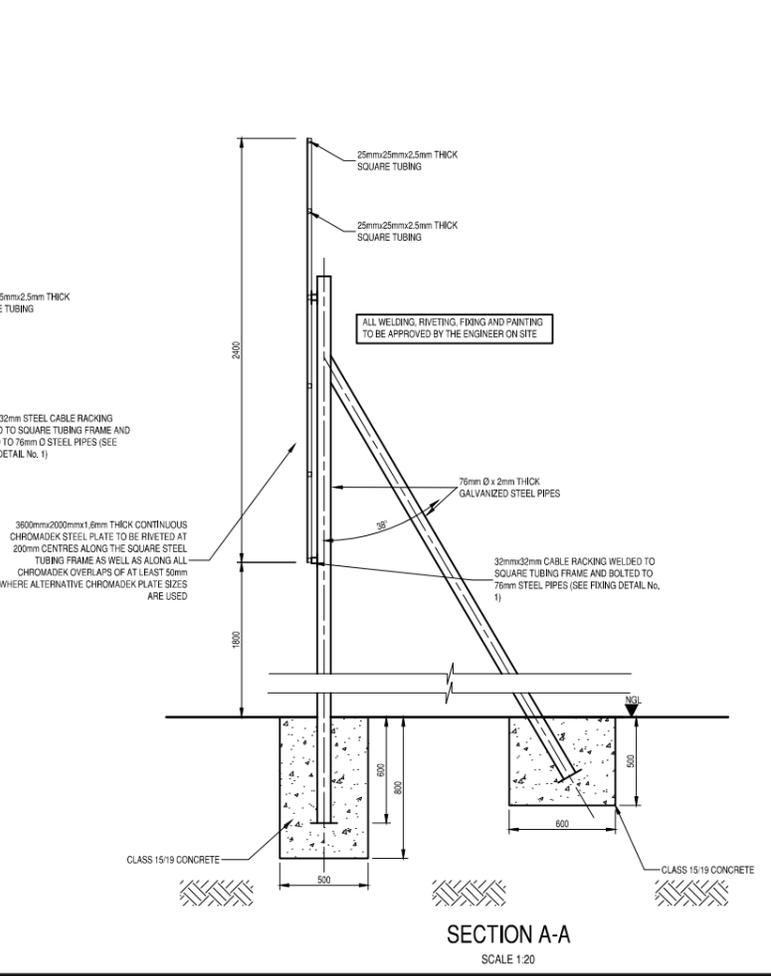
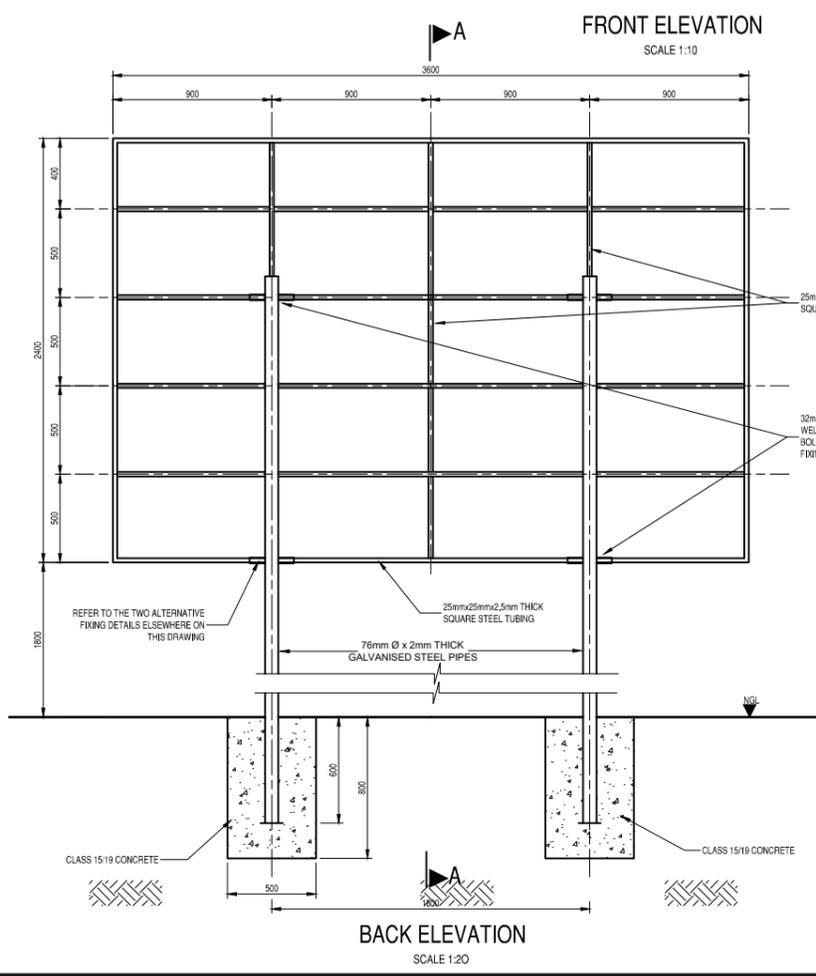
<b>mig</b> Municipal Infrastructure Grant	FUNDING AGENT
TSELA TSWEU CONSULTING ENGINEERS	MUNICIPAL INFRASTRUCTURE GRANT
CONTRACTOR (LOGO)	CONTRACTOR
	CONTRACTOR NAME



**FIXING DETAIL No. 1**  
SCALE 1:5



**FIXING DETAIL No. 2**  
SCALE 1:5  
**ALTERNATIVE FIXING DETAILS**



REVISIONS			
No.	DATE	BY	DESCRIPTION

- NOTES**
- Description in *italics* must be adjusted to suit project details.
  - Type face to be used shall be Helvetica Medium Colour of lettering AS INDICATED.
  - LETTERS TO BE CAPITALISED.
  - Background of board to be WHITE. ALL borders & lines to be MIDDLE BLUE. Colour for logos to be AS PER RESPECTIVE.
  - All paint used should match Ref. 290 Acrylic Road Sign Paint.
  - All lettering to be painted on. Stick-on labels will NOT be permitted.

REFERENCE DRAWINGS	
PLAN No.	DESCRIPTION

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

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CLIENT: \_\_\_\_\_ DATE: \_\_\_\_\_

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**MAQUASSI HILLS  
LOCAL MUNICIPALITY**

**PROJECT**

**UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM PIET RETIEF STREET TO MAITEMOGELO COMPREHENSIVE SCHOOL**

**IMPLEMENTING AGENT:**

**MAQUASSI HILLS LM**

**DRAWING TITLE**

**PROJECT NAME BOARD**

DESIGN	DATE	DRAWN	DATE
SURVEYED	DATE	CHECKED	DATE
		J.BATEMAN	JUN 2022

**SCALE** as shown

**DRAWING No.**

**2022-04-G/D/001**

REVISION No.	
1.0	



**Municipal Infrastructure Grant**



Department: Cooperative Governance and Traditional Affairs  
REPUBLIC OF SOUTH AFRICA

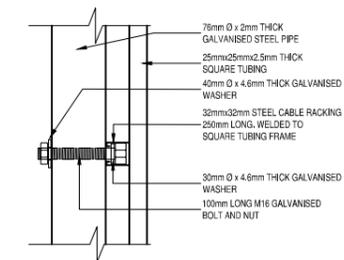
NAME OF MUNICIPALITY: MAQUASSI HILLS LOCAL MUNICIPALITY  
PROJECT: UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM PIET RETIEF STREET TO MAITEMOGELO COMPREHENSIVE SCHOOL  
CONTRACT PERIOD: XX MONTHS

NORTH WEST

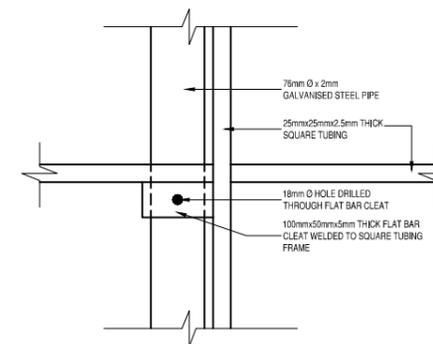
MUNICIPALITY CONTACT DETAILS:  
MUNICIPAL MANAGER :-  
TELEPHONE NUMBER :-  
FAX NUMBER :-  
E-MAIL ADDRESS :-

MIG CONTACT DETAILS:  
TEL: 053-8072853 FAX: 053-8072815 WEBSITE ADDRESS: www.cogta.gov.za

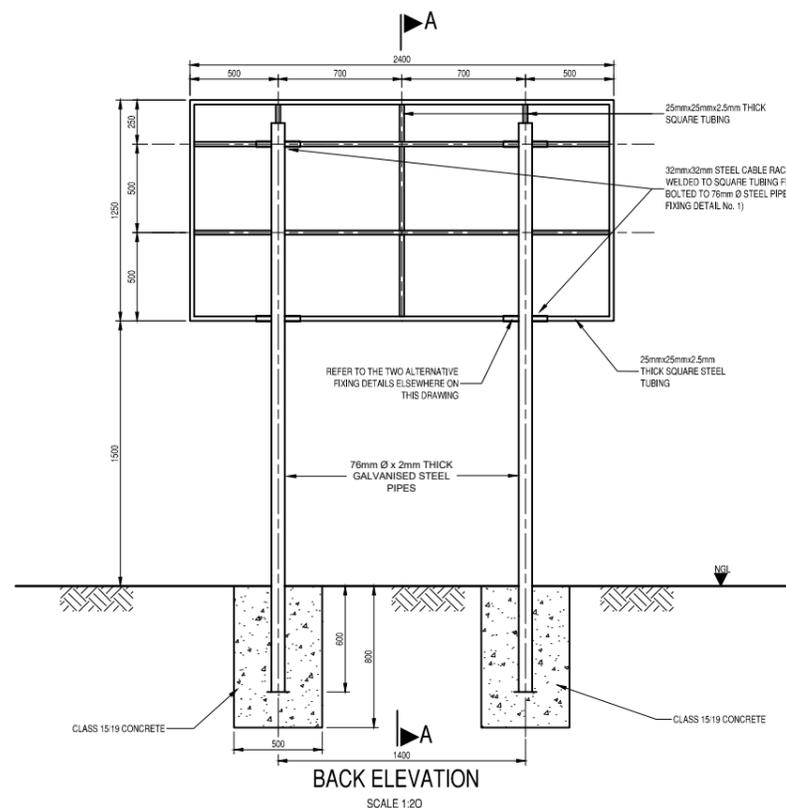
**FRONT ELEVATION**  
SCALE 1:10



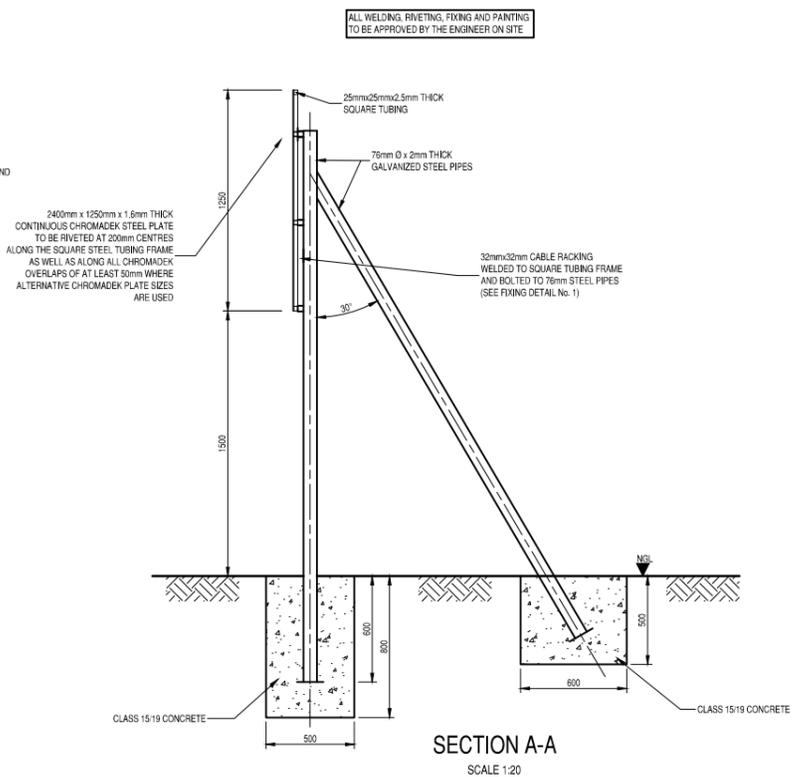
**FIXING DETAIL No. 1**  
SCALE 1:5



**FIXING DETAIL No. 2**  
SCALE 1:5  
**ALTERNATIVE FIXING DETAILS**



**BACK ELEVATION**  
SCALE 1:20



**SECTION A-A**  
SCALE 1:20

REVISIONS			
No.	DATE	BY	DESCRIPTION

- NOTES**
- Description in Italics must be adjusted to suit project details.
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PROJECT  
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IMPLEMENTING AGENT:  
**MAQUASSI HILLS LM**

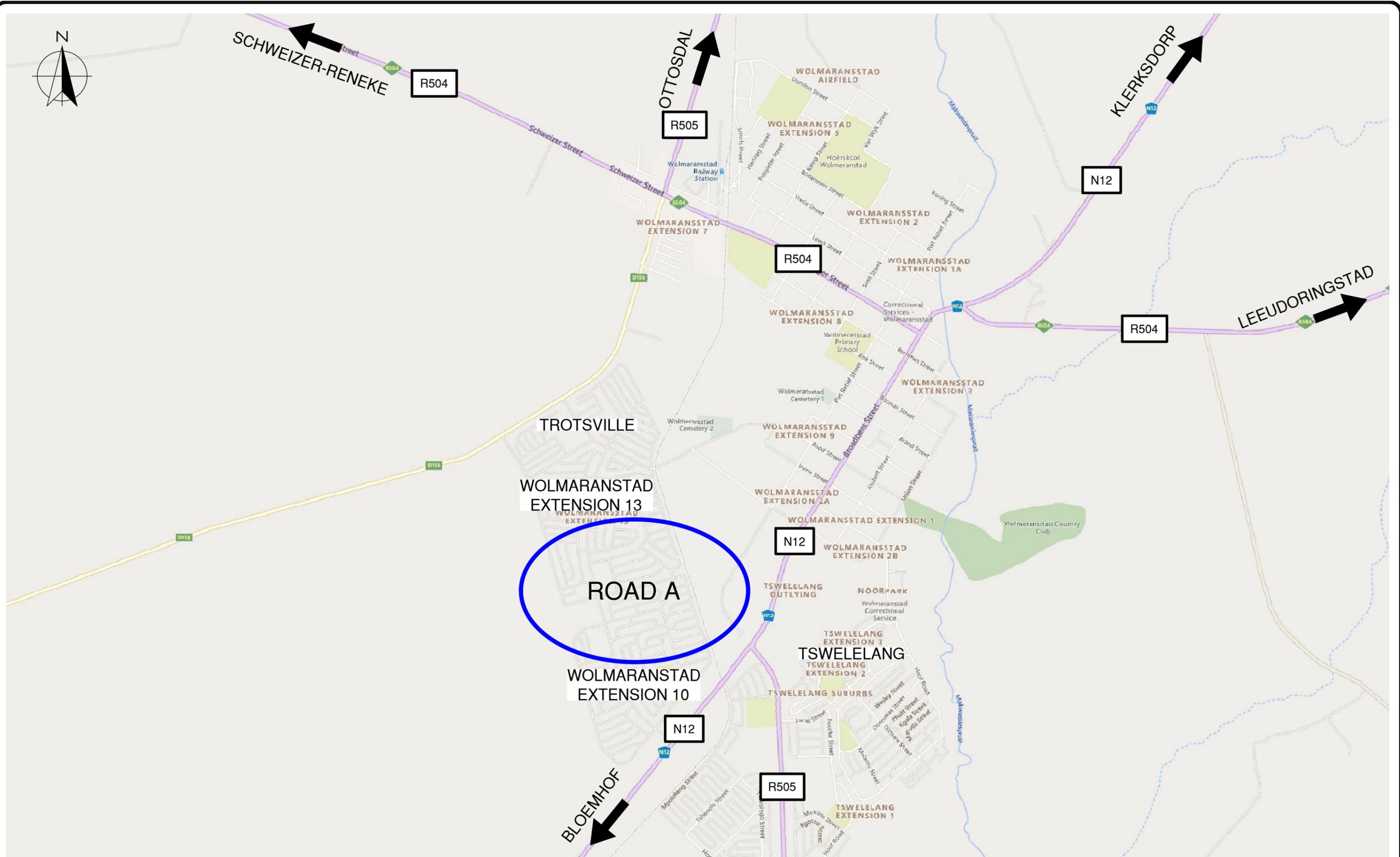
DRAWING TITLE  
**MIG PROJECT NAME BOARD**

DESIGN	DATE	DRAWN	DATE
	JUN 2022		JUN 2022
SURVEYED	DATE	CHECKED	DATE
		J.BATEMAN	JUN 2022

SCALE as shown

DRAWING No. **2022-04-G/D/002**

REVISION No.					
1.0					



NOTES

APPROVED: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

DATE: \_\_\_\_\_

APPROVED: \_\_\_\_\_

CLIENT: \_\_\_\_\_

DATE: \_\_\_\_\_

REFERENCE DRAWINGS	
PLAN Nr.	DESCRIPTION

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**MAQUASSI HILLS LM**

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**UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM PIET RETIEF STREET TO MAITEMOGELE COMPREHENSIVE SCHOOL**

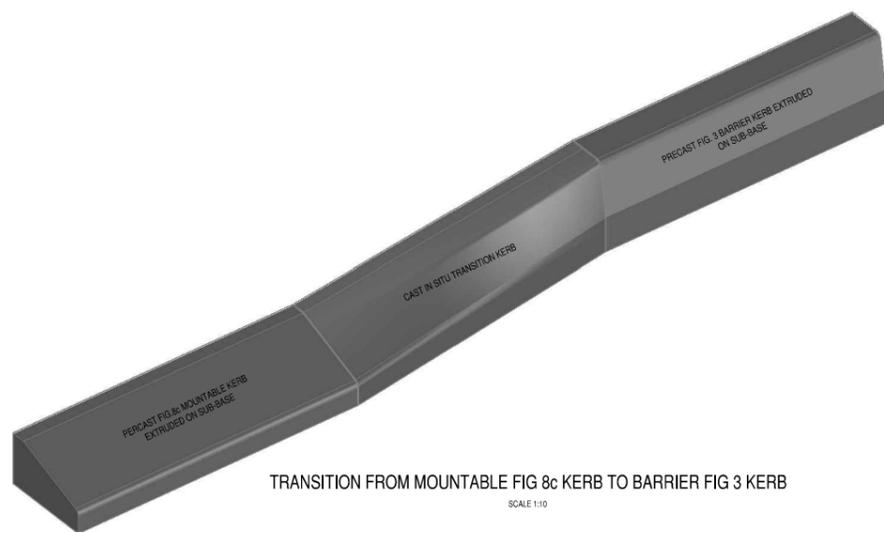
DRAWING TITLE  
**LOCALITY MAP**

PRINT ISSUED ON

REVISIONS			
No.	DATE	BY	DESCRIPTION

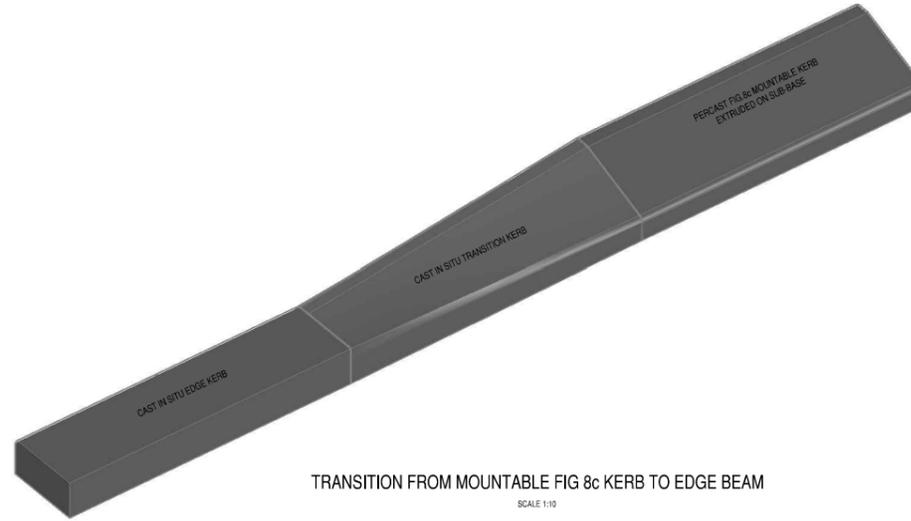
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DESIGN	DATE	DRAWN	DATE
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DRAWING No. 2022-04-G/P/001			
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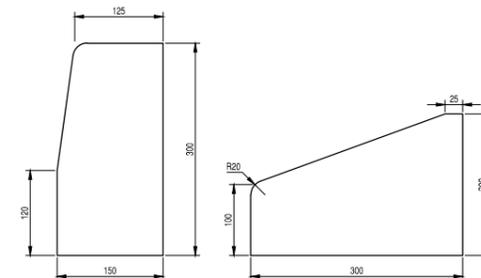
TRANSITION FROM MOUNTABLE FIG 8c KERB TO BARRIER FIG 3 KERB

SCALE 1:10



TRANSITION FROM MOUNTABLE FIG 8c KERB TO EDGE BEAM

SCALE 1:10

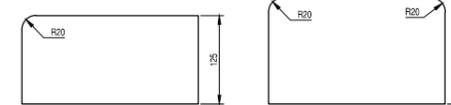


BARRIER KERB (FIG.3)

SCALE 1:5

MOUNTABLE KERB (FIG.8c)

SCALE 1:5

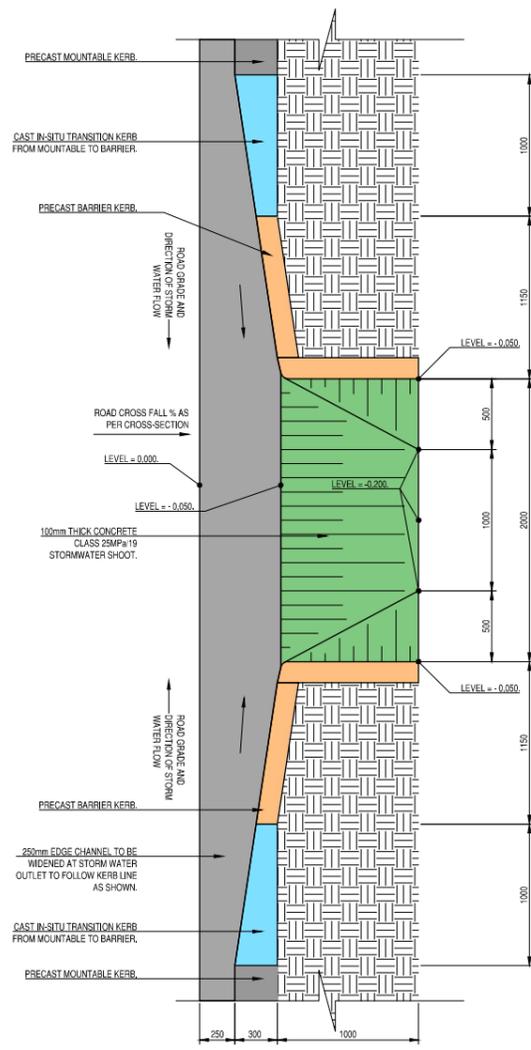


EDGE KERB (FIG.13)

SCALE 1:5

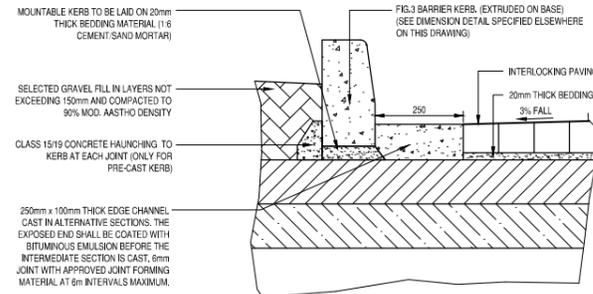
RECTANGULAR EDGING STRIP

SCALE 1:5



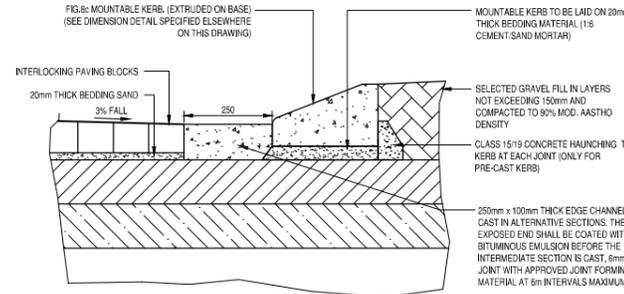
TYPICAL STORM WATER KERB OUTLET DETAIL

SCALE 1:25



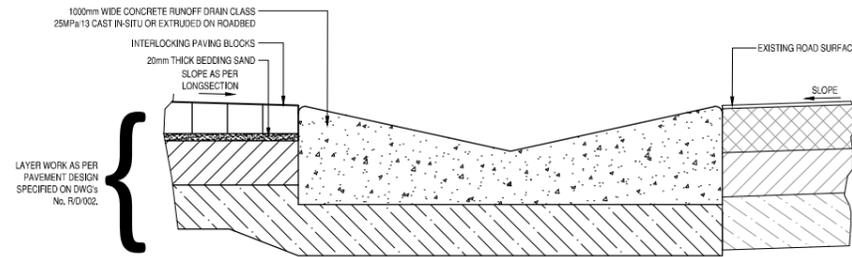
TYPICAL SECTION THROUGH FIG.3 BARRIER KERB

SCALE 1:10



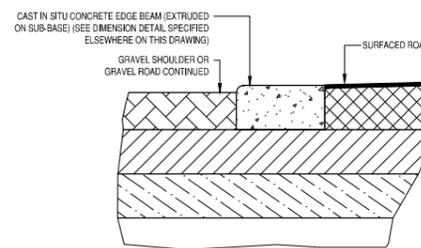
TYPICAL SECTION THROUGH FIG.8c MOUNTABLE KERB

SCALE 1:10

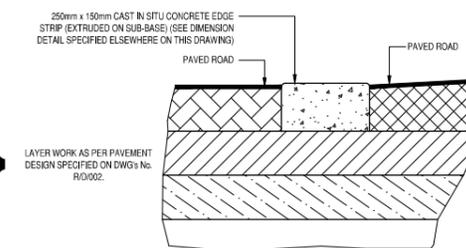


TYPICAL RUNOFF DRAIN SECTION AT INTERSECTION CONNECTION

SCALE 1:10

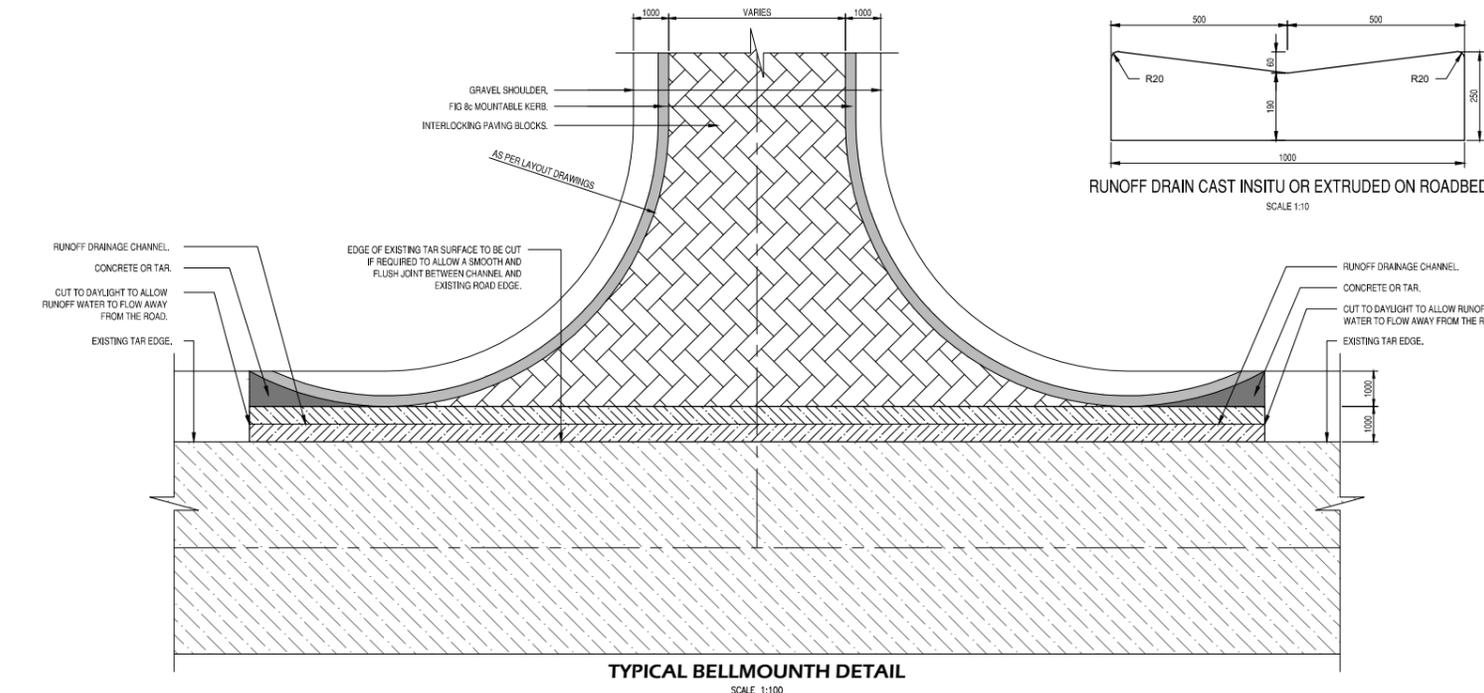


TYPICAL SECTION THROUGH EDGING KERB (FLAT)



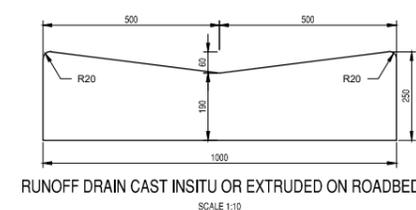
TYPICAL SECTION THROUGH EDGE STRIP

SCALE 1:10



TYPICAL BELLMOUTH DETAIL

SCALE 1:100



RUNOFF DRAIN CAST INSITU OR EXTRUDED ON ROADBED

SCALE 1:10

REVISIONS				
No.	DATE	BY	DESCRIPTION	

- NOTES**
- ALL EXTRUDED CONCRETE KERBING AND EDGE STRIPS SHALL BE CLASS 25/13 CONCRETE.
  - FIGURE 8 MOUNTABLE KERB TO BE CONSTRUCTED ON THE DRAINAGE SIDE (LOW LEG) OF ALL THE SURFACED CROSSFALL ROADS, UNLESS OTHERWISE SPECIFIED OR INDICATED ON THE LAYOUT DRAWINGS.
  - EDGING STRIP TO BE CONSTRUCTED ON THE NON DRAINAGE SIDE (HIGHER LEG) OF ALL THE SURFACED CROSSFALL ROADS UNLESS OTHERWISE SPECIFIED OR INDICATED ON THE LAYOUT DRAWINGS.
  - EDGING STRIP TO BE CONSTRUCTED ALONG THE TOTAL LENGTH OF THE BELLMOUTH OPENING AT ALL INTERSECTIONS WITH THE SURFACED ROADS AS INDICATED ON THE LAYOUT DRAWINGS.
  - PRIOR TO THE CONSTRUCTION OF ANY EXTRUDED KERBING OR EDGE STRIP AN APPROPRIATELY CERTIFIED LABORATORY TESTED DESIGN MIX SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL.
  - THE STRENGTH OF ALL PRE-CAST CONCRETE KERBING SHALL BE IN TERMS OF SABS 927.

REFERENCE DRAWINGS	
PLAN No.	DESCRIPTION

APPROVED:	
ENGINEER:	DATE:
APPROVED:	
CLIENT:	DATE:
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**MAQUASSI HILLS LOCAL MUNICIPALITY**

PROJECT  
**UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM PIET RETIEF STREET TO MAITEMOGELO COMPREHENSIVE SCHOOL**

IMPLEMENTING AGENT:  
**MAQUASSI HILLS LM**

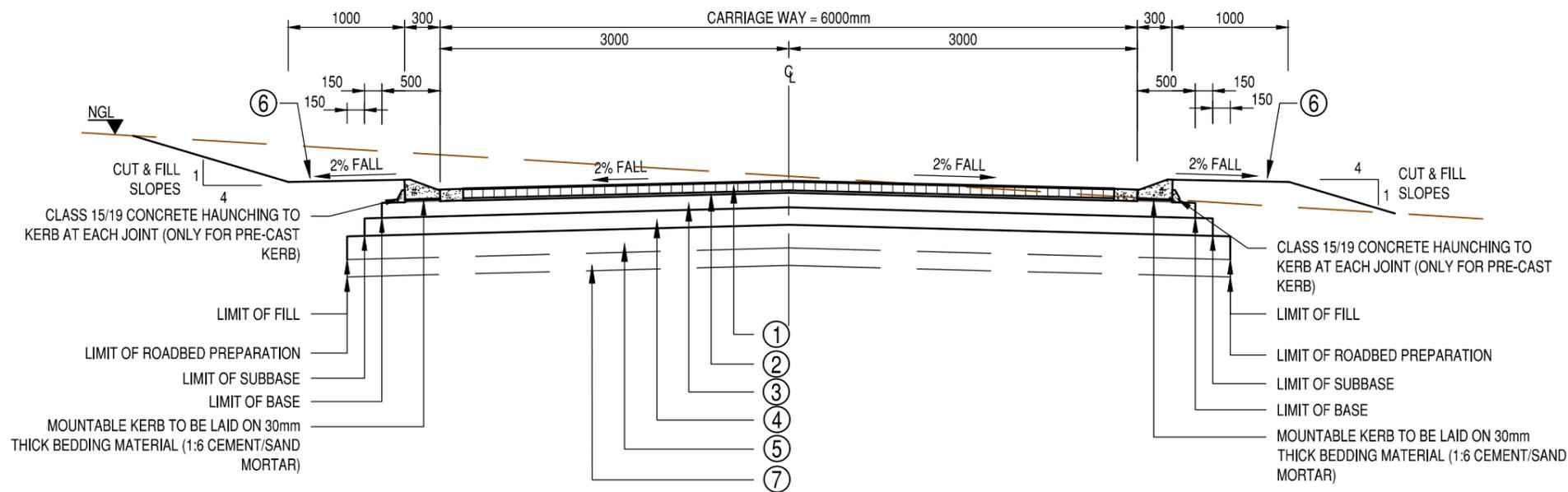
DRAWING TITLE  
**TYPICAL KERBING DETAILS**

DESIGN	DATE	DRAWN	DATE
	JUN 2022		JUN 2022
SURVEYED	DATE	CHECKED	DATE
		J.BATEMAN	JUN 2022

SCALE: as shown

DRAWING No. **2022-04-R/D/001**

REVISION No.	
1.0	



- NOTE:
- PRIOR TO THE UNDERTAKING OF ANY VIBRATORY OR PAD FOOT ROLLING WITHIN THE ROAD FOUNDATION, AN ON SITE TRIAL SECTION SHALL BE PREPARED AND CONDUCTED IN ORDER TO ASCERTAIN THE AVERAGE NUMBER OF m.PASSES REQUIRED IN ORDER TO OBTAIN THE SPECIFIED COMPACTION EFFORT FOR THE ROADBED PREPARATION.
  - THE ENGINEER SHALL THEN INSTRUCT THE CONTRACTOR TO REMOVE AND SPOIL THE TOPSOIL AND HILLWASH OVERBURN TO WEARING COURSE DEPTH OR FERRICRETE LEVEL, WHERE REQUIRED WHICHEVER IS THE SHALLOWEST. ALL FERRICRETE MATERIAL SHALL BE CUT TO TEMPORARY STOCKPILE AS DETERMINED BY THE ENGINEER FOR LATER USE IN THE PAVEMENT STRUCTURE AND WEARING COURSE LAYER WORKS.
  - THE CONTRACTOR SHALL THEN APPLY THE NUMBER OF m.PASSES ORDERED BY THE ENGINEER, PERIODICALLY WATERING AND BLADING THE ROADBED FOUNDATION AREA TO ENSURE MAXIMUM WORKABILITY AND COMPACTION EFFICIENCY.
  - AFTER APPLYING THE VIBRATORY OR PAD FOOT ROLLING, CUT TO FILL OR BLADE TO WINDROW THE FERRICRETE PINNACLES, RIP, SCARIFY AND RECOMPACT ROADBED TO ABOVE SPECIFICATION WHERE REQUIRED.

- LEGEND:
- REQUIREMENTS ARE GIVEN IN THE FOLLOWING ORDER:  
LAYER THICKNESS/MATERIAL/CBR AND  
MIN COMPACTION/MIN. GM/MAX. PI
  - MIN. UNCONFINED COMPRESSIVE STRENGTH (UCS) IS SHOWN IN MPa.
  - MIN. DENSITY IS GIVEN AS % OF MAX MODIFIED AASHTO DENSITY.
  - SG = STABILIZED GRAVEL  
NG = NATURAL GRAVEL  
IS = IN SITU SOIL  
PI = PLASTICITY INDEX  
GM = GRADING MODULES  
SBP = SHOULDER BREAK POINT
  - # FIGURE 8c MOUNTABLE CONCRETE KERB (CLASS 25/13) EXTRUDED ON BASE  
s 250mm WIDE x 100mm THICK EDGE CHANNEL CAST IN ALTERNATIVE SECTIONS. THE EXPOSED END SHALL BE COATED WITH BITUMINOUS EMULSION BEFORE THE INTERMEDIATE SECTION IS CAST. 6mm JOINT WITH APPROVED JOINT FORMING MATERIAL AT 6m INTERVALS MAXIMUM.

①	SEGMENTED PAVING SHAPE S-A (G-BLOCKS), CLASS 35, 80mm THICK
②	RIVER SAND 25 / RIVER SAND IMPORTED FROM COMMERCIAL SOURCE
③	BASE 150mm C4 MATERIAL COMPACTED TO 98% MOD AASHTO DENSITY.
④	SUBBASE 150mm G5 MATERIAL COMPACTED TO 95% MOD AASHTO DENSITY
⑤	ROADBED PREPARATION (REFER TO NOTES) VIBRATORY OR PAD FOOT ROLLING (NUMBER OF PASSES TO BE DETERMINED BY ENGINEER ON SITE) OR RIP SCARIFY AND RE-COMPACT 150/IS@90%
⑥	SHOULDER WEARING COURSE CUT TO FILL FROM ROAD FOR ACCOMMODATION OF TRAFFIC WHERE REQUIRED
⑦	FILL - ONLY WHERE REQUIRED FILL TO BE A MINIMUM OF G9 MATERIAL TO BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICKNESS TO 90% MOD AASHTO DENSITY.

NOTES

APPROVED: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

DATE: \_\_\_\_\_

APPROVED: \_\_\_\_\_

CLIENT: \_\_\_\_\_

DATE: \_\_\_\_\_

REFERENCE DRAWINGS	
PLAN Nr.	DESCRIPTION

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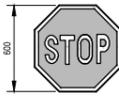
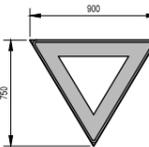
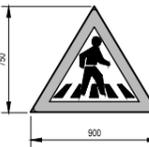
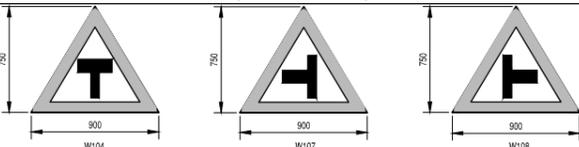
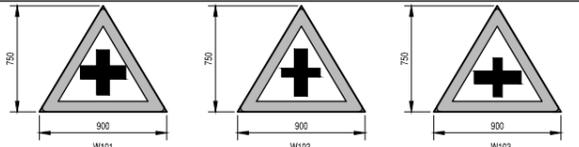
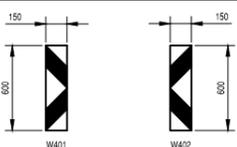
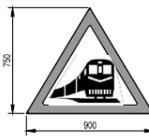
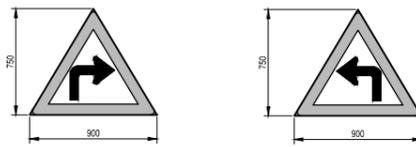
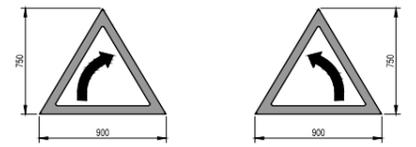
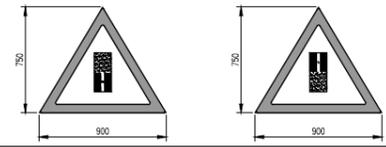
DRAWING TITLE  
**TYPICAL PAVEMENT DESIGN DETAIL FOR 6.0m SURFACED ACCESS STREETS (PAVING BLOCK FINISH)**

PRINT ISSUED ON

REVISIONS			
No.	DATE	BY	DESCRIPTION

SCALE: 1:50

DESIGN	DATE	DRAWN	DATE
-	-	-	-
SURVEYED	DATE	CHECKED	DATE
-	-	J.BATEMAN	JUN 2022
DRAWING No. <b>2022-04-R/D/002</b>			
REVISION No.			
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ITEM No.	TYPE OF SIGN	SIGN. No.	DESCRIPTION	No.	ROADSIGN	LEGEND	SYMBOL	COLOUR		
								BORDER	LETTERS OR SYMBOL	BACKGROUND
1.	REGULATION CONTROL	R1	STOP SIGN	6		DIN 1451 STYLE 'A'	LETTER: STOP	WHITE RETROREFLECTIVE	WHITE RETROREFLECTIVE	RED RETROREFLECTIVE
2.	REGULATION CONTROL	R2	YIELD SIGN (RIGHT)	0				OUTER BORDER: WHITE RETROREFLECTIVE INNER BORDER: RED RETROREFLECTIVE		WHITE RETROREFLECTIVE
3.	SYMBOLIC	W306	PEDESTRIAN CROSSING	2			PEDESTRIAN CROSSING	RED RETROREFLECTIVE	BLACK SEMHMATT	WHITE RETROREFLECTIVE
4.	WARNING ROAD LAYOUT	W104 & W107 & W108	T-JUNCTION SIDE ROAD JUNCTION (LEFT) SIDE ROAD JUNCTION (RIGHT)	2 0 0			T-SYMBOL	TRIANGLE: RED RETROREFLECTIVE	BLACK SEMHMATT	WHITE RETROREFLECTIVE
5.	WARNING ROAD LAYOUT	W101 & W102 & W103	CROSSROAD JUNCTION	0 0 2			+SYMBOL	TRIANGLE: RED RETROREFLECTIVE	BLACK SEMHMATT	WHITE RETROREFLECTIVE
6.	WARNING HAZARD MARKER	W401 & W402	DANGER PLATE DELINEATOR PLATE	0 0			DIAGONALS @ 45°	NO BORDER	RED RETROREFLECTIVE	WHITE RETROREFLECTIVE
7.	WARNING HAZARD MARKER	W409	T-JUNCTION CHEVRON	2			ARROWS	NO BORDER	ARROWS: RED RETROREFLECTIVE	WHITE RETROREFLECTIVE
8.	WARNING HAZARD MARKER	W318	RAILWAY CROSSING SIGN	2			TRAIN SYMBOL	TRIANGLE: RED RETROREFLECTIVE	BLACK SEMHMATT	WHITE RETROREFLECTIVE
9.	INFORMATION	W204 & W205	SHARP RIGHT CURVE SHARP LEFT CURVE	0 0			CURVE-SYMBOL	TRIANGLE: RED RETROREFLECTIVE	BLACK SEMHMATT	WHITE RETROREFLECTIVE
10.	INFORMATION LOCATION	W202 & W203	GENTLE CURVE SIGN	2 2			CURVE-SYMBOL	TRIANGLE: RED RETROREFLECTIVE	BLACK SEMHMATT	WHITE RETROREFLECTIVE
11.	INFORMATION LOCATION	R201	SPEED LIMIT SIGN	2 4			NUMBERS: 40 NUMBERS: 60	CIRCLE: RED RETROREFLECTIVE	BLACK SEMHMATT	WHITE RETROREFLECTIVE
12.	INFORMATION LOCATION	W363 & W325	GRAVEL ROAD END GRAVEL ROAD BEGIN	1 1			SURFACED TO GRAVEL SYMBOL	TRIANGLE: RED RETROREFLECTIVE	BLACK SEMHMATT	WHITE RETROREFLECTIVE

REVISIONS			
No.	DATE	BY	DESCRIPTION

- NOTES**
- REFER TO DRAWING No. R/5/001 FOR ROAD SIGNAGE POSITION
  - REFER TO DRAWING No. R/D/005 FOR POSITION OF SUPPORT BRACKETS AND INSTALLATION DETAILS OF ROAD SIGNS
  - ALL ROAD MARKINGS AND ROAD SIGNS TO BE MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL
  - ALL ROAD SIGNS TO BE PLACED AT A DEFLECTION ANGLE OF 93° WITH THE CENTRE LINE OF THE ROAD

REFERENCE DRAWINGS	
PLAN No.	DESCRIPTION

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 ENGINEER: \_\_\_\_\_  
 APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CLIENT: \_\_\_\_\_

PRINT ISSUED ON \_\_\_\_\_

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CLIENT  
**MAQUASSI HILLS LOCAL MUNICIPALITY**

PROJECT  
**UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM PIET RETIEF STREET TO MAITEMOGELO COMPREHENSIVE SCHOOL**

IMPLEMENTING AGENT:  
**MAQUASSI HILLS LM**

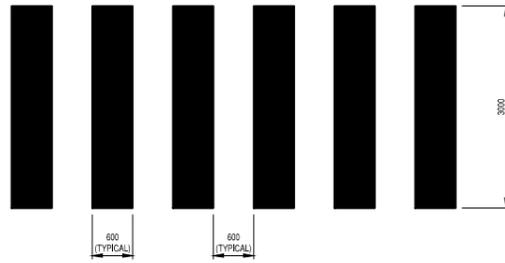
DRAWING TITLE  
**ROAD SIGNAGE SCHEDULE AND DETAILS**

DESIGN	DATE	DRAWN	DATE
-	JUN 2022	-	JUN 2022
SURVEYED	DATE	CHECKED	DATE
-	-	J.BATEMAN	JUN 2022

SCALE: 1:25

DRAWING No.  
**2022-04-R/D/003**

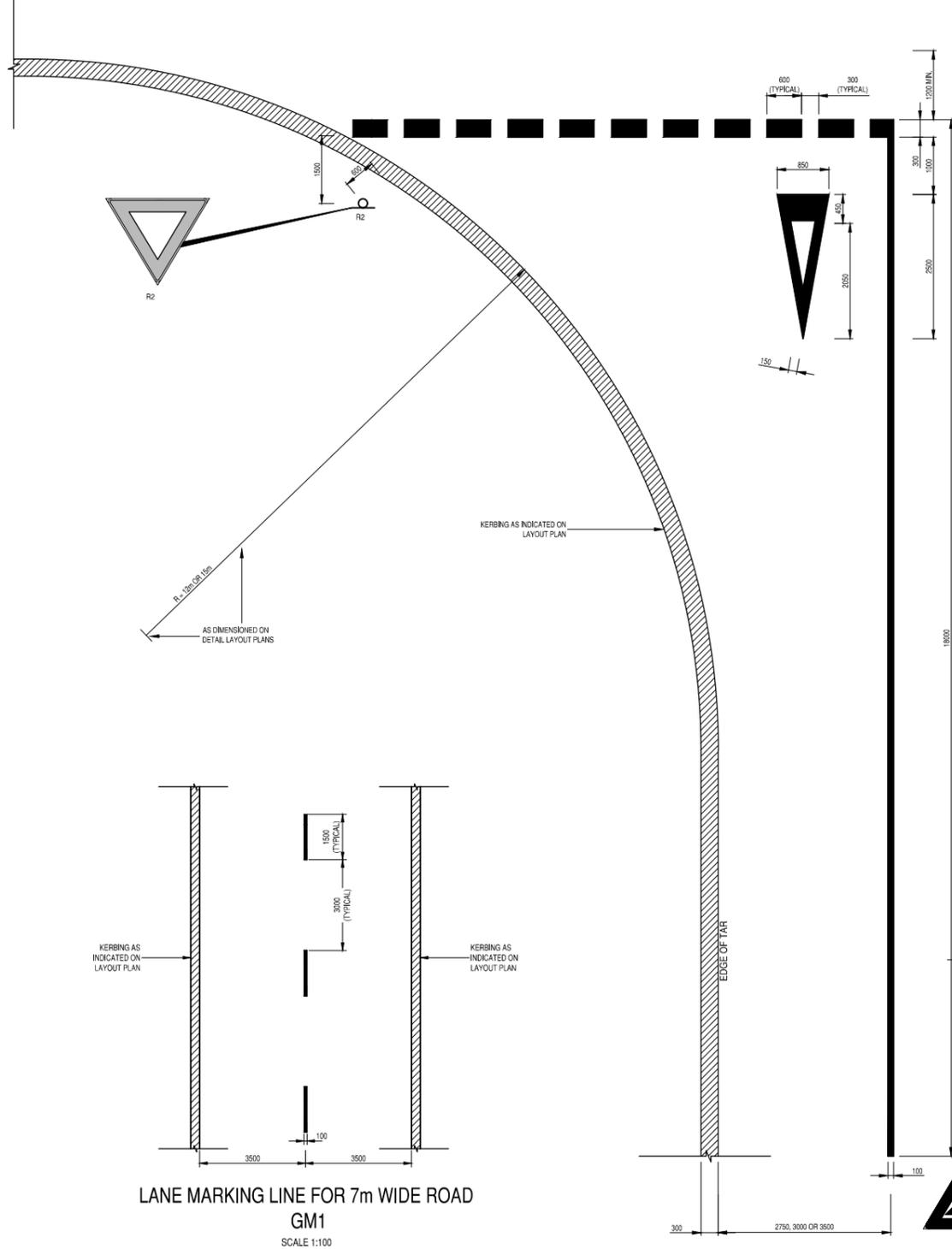
REVISION No.					
1.0					



PEDESTRIAN CROSSING MARKINGS  
RTM4  
SCALE 1:50

LEGEND:

	WHITE PAINT
	CONCRETE KERBING

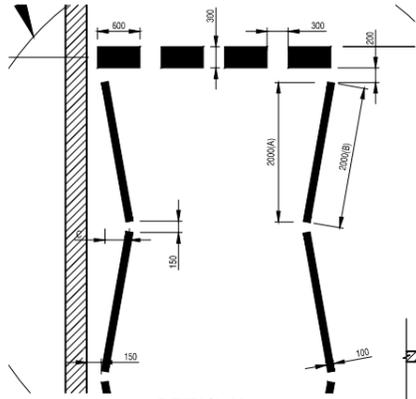


YIELD  
RTM2 & WM5  
SCALE 1:50

LANE MARKING FOR PEDESTRIAN CROSSING  
RTM4 AND RM11  
SCALE 1:200

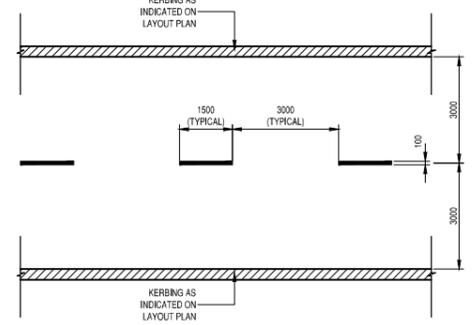


LANE MARKING LINE FOR 5.5m WIDE ROAD  
GM1  
SCALE 1:100



DETAIL No.1  
SCALE 1:20

STOP  
RTM1 & GM7  
SCALE 1:50



LANE MARKING LINE FOR 6m WIDE ROAD  
GM1  
SCALE 1:100

LANE MARKING LINE FOR 7m WIDE ROAD  
GM1  
SCALE 1:100

REVISIONS

No.	DATE	BY	DESCRIPTION

- NOTES
- REFER TO DRAWING No. R/D/005 FOR POSITION OF SUPPORT BRACKETS AND INSTALLATION DETAILS OF ROAD SIGNS
  - REFER TO DRAWING No. R/D/003 FOR ROAD SIGNAGE SCHEDULES
  - ALL ROAD MARKINGS AND ROAD SIGNS TO BE MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL
  - REFER TO DRAWINGS No. R/S/001 FOR ROAD SIGNAGE LAYOUT DETAILS
  - ALL ROAD SIGNS TO BE PLACED AT A DEFLECTION ANGLE OF 93° WITH THE CENTER LINE OF THE ROAD
  - FOR RTM4 THE 2m LENGTH OF LINE MAY BE MEASURED ALONG THE LINE (IF USING A MASK OR TEMPLATE (B)), OR ALONG THE LINE OF THE ROAD (FOR EASE OF SETTING OUT (A))
  - THE ZIG-ZAG OFFSET (C) MAY BE REDUCED FROM 500mm TO 300mm FOR LANES WITH A WIDTH LESS THAN 3400mm

REFERENCE DRAWINGS

PLAN No.	DESCRIPTION

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CLIENT: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PRINT ISSUED ON

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IMPLEMENTING AGENT:  
**MAQUASSI HILLS LM**

DRAWING TITLE  
**ROAD MARKING DETAILS**

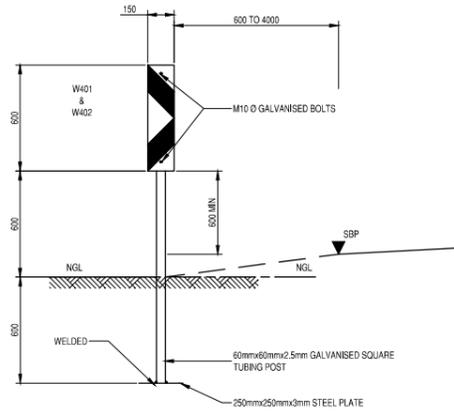
DESIGN	DATE	DRAWN	DATE
	JUN 2022		JUN 2022
SURVEYED	DATE	CHECKED	DATE
		J.BATEMAN	JUN 2022

SCALE as shown

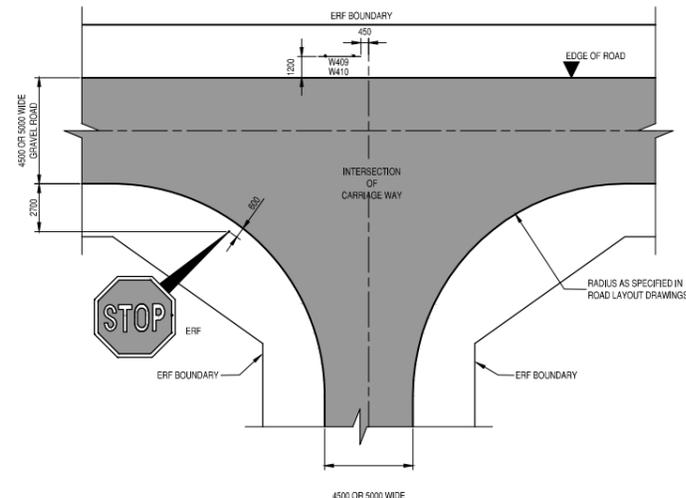
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**2022-04-R/D/004**

REVISION No.

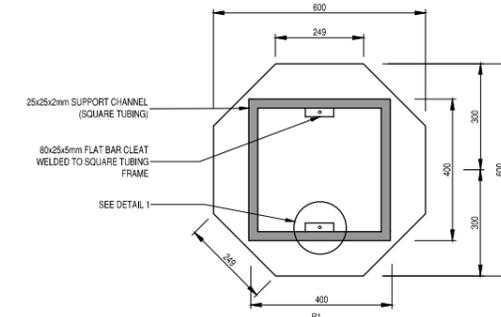
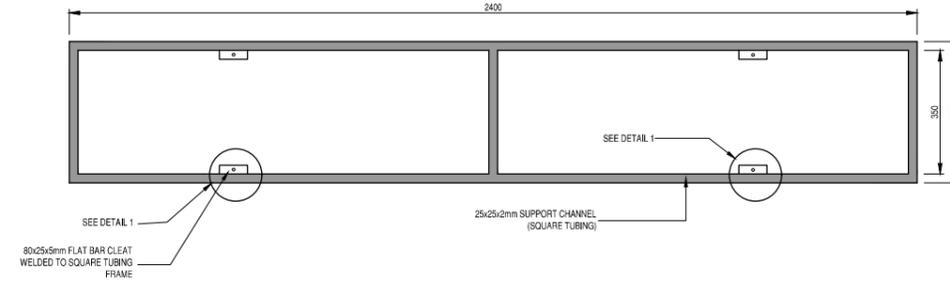
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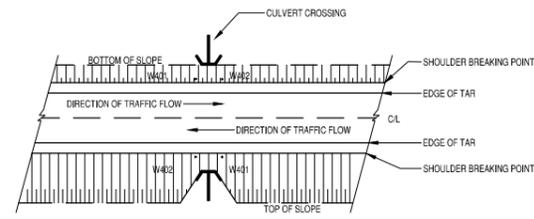
FRONT ELEVATION W401  
SCALE 1:20



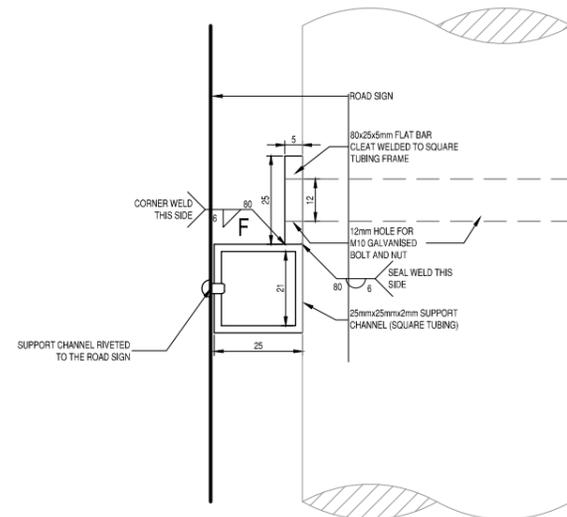
CHEVRON POSITION AT INTERSECTION  
SCALE 1:200



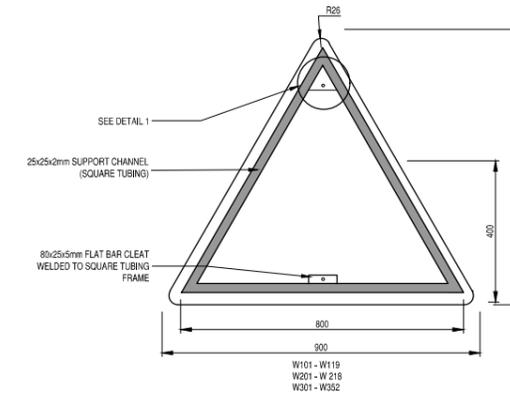
CONTROL SIGNS



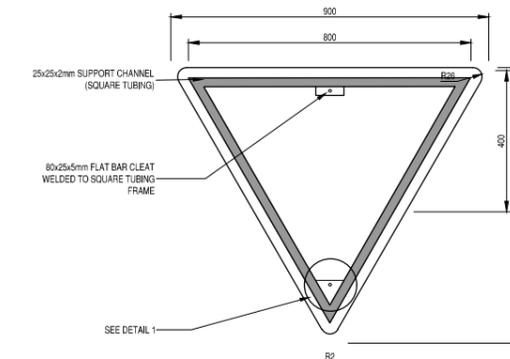
SIGN AT CULVERT  
NTS



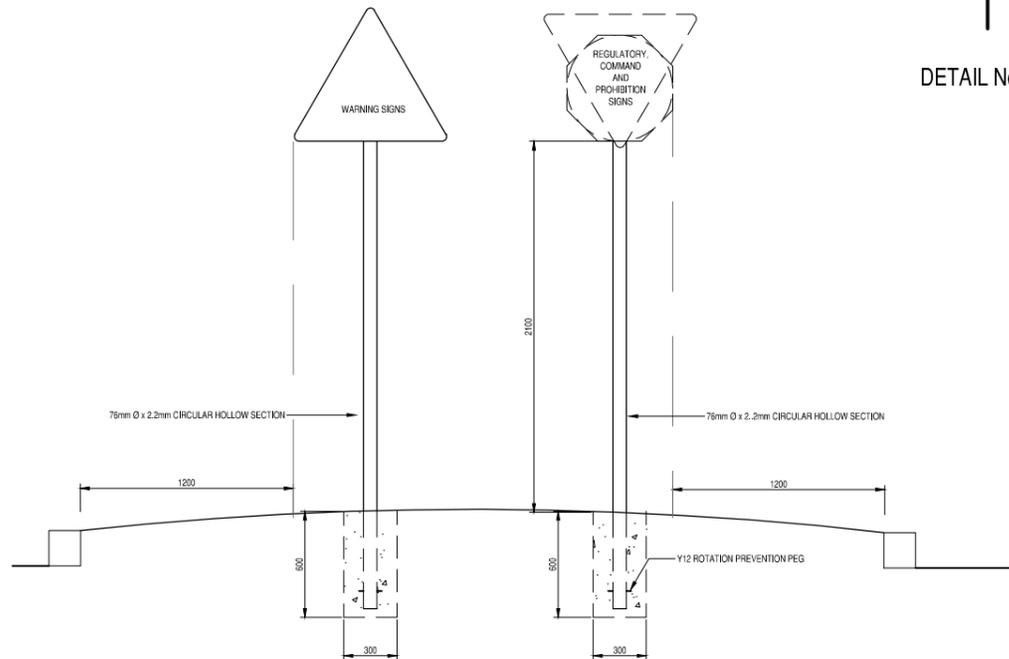
DETAIL No. 1 SECTIONAL ELEVATION  
SCALE 1:1



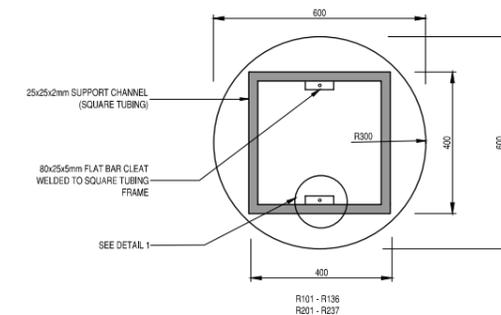
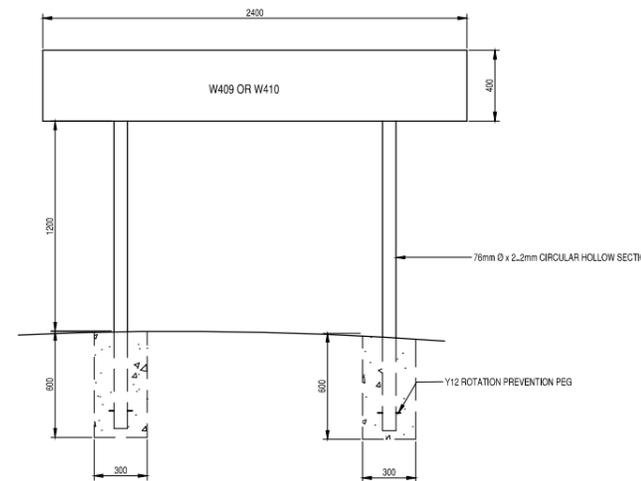
ROAD LAYOUT AND SYMBOLIC SIGNS



CONTROL SIGN



POSITIONING DETAILS  
SCALE 1:20



COMMAND AND PROHIBITION SIGNS  
FIXING AND SUPPORT DETAILS  
SCALE 1:10

REVISIONS				
No.	DATE	BY	DESCRIPTION	

- NOTES**
- REFER TO DRAWING No. R/5/001 FOR ROAD SIGNAGE POSITION
  - REFER TO DRAWING No. R/D/004 FOR ROAD MARKING DETAILS
  - ALL ROAD MARKINGS AND ROAD SIGNS TO BE MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH THE SOUTH AFRICAN ROAD TRAFFIC SIGNS MANUAL.
  - ALL ROAD SIGNS TO BE PLACED AT A DEFLECTION ANGLE OF 93° WITH THE CENTER LINE OF THE ROAD
  - M10 x 90mm GALVANISED BOLTS AND NUTS FOR FIXING ROAD SIGNS TO GALVANISED STEEL PIPES
  - ALL ROAD SIGNS TO BE FIXED TO SQUARE TUBING SUPPORT CHANNEL BY MEANS OF 6mm Ø RIVETS AT A MAXIMUM SPACING OF 125mm c/c

REFERENCE DRAWINGS	
PLAN No.	DESCRIPTION

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 ENGINEER: \_\_\_\_\_  
 APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CLIENT: \_\_\_\_\_

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**MAQUASSI HILLS LOCAL MUNICIPALITY**

PROJECT  
**UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM PIET RETIEF STREET TO MAITEMOGELO COMPREHENSIVE SCHOOL**

IMPLEMENTING AGENT:  
**MAQUASSI HILLS LM**

DRAWING TITLE  
**POSITION OF SUPPORT BRACKETS AND INSTALLATION DETAILS OF ROAD SIGNS**

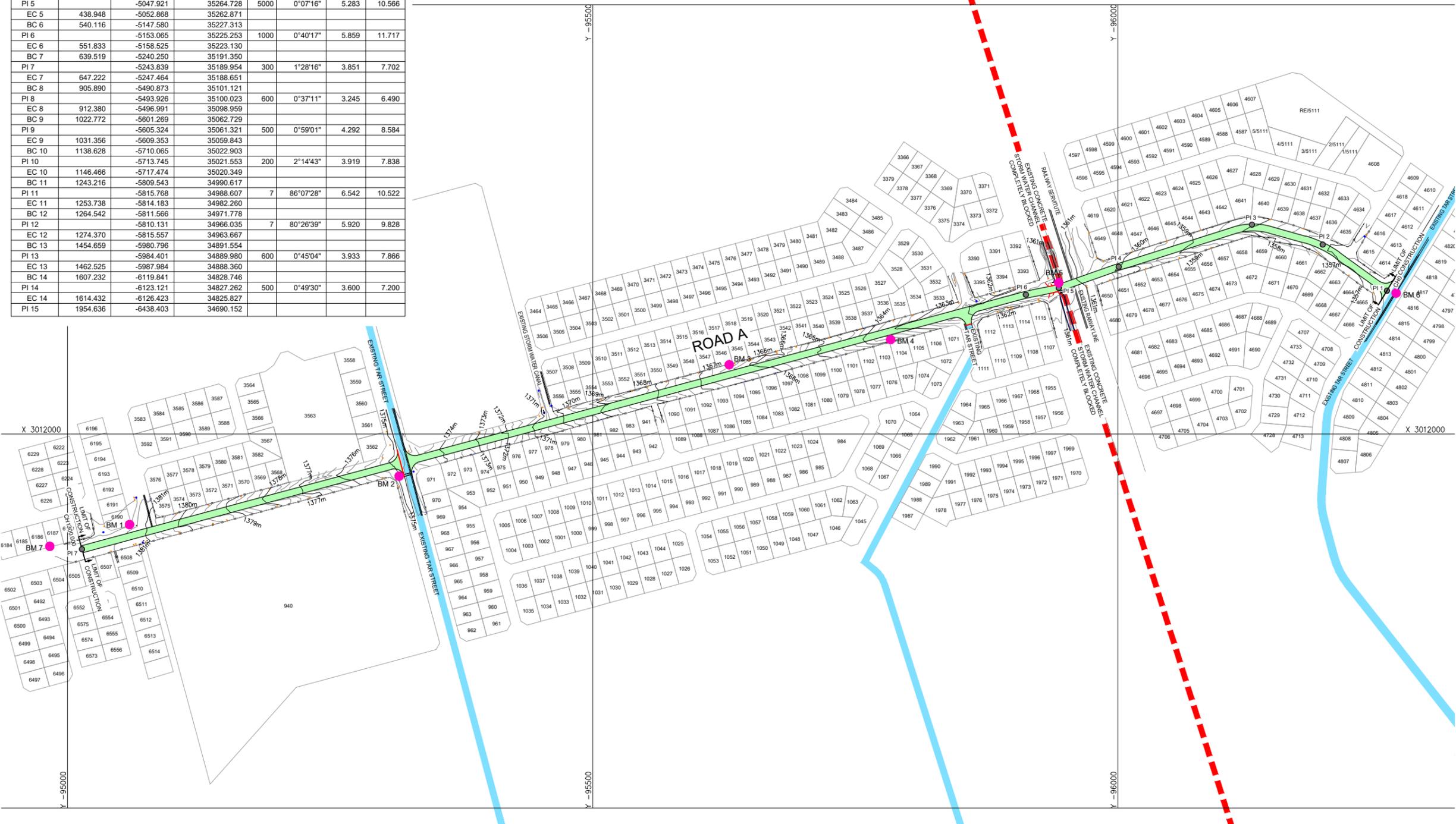
DESIGN	DATE	DRAWN	DATE
	JUN 2022		JUN 2022
SURVEYED	DATE	CHECKED	DATE
		J.BATEMAN	JUN 2022

SCALE as shown

DRAWING No.  
**2022-04-R/D/005**

REVISION No.					
1.0					

ROAD SETTING OUT DATA								Lo 23
PI No.	CH	YLo	XLo	Radius	DA	TL	AL	
Const:		-50000.000	3000000.000	(m)	D M S	(m)	(m)	(m)
PI 1	0.000	-4945.375	35557.040	WEST DERBY Rd - 5m				
BC 2	65.465	-4921.937	35495.915					
PI 2		-4920.504	35492.177	1200	0°22'56"	4.004	8.007	
EC 2	73.472	-4919.045	35488.448					
BC 3	228.715	-4862.499	35343.870					
PI 3		-4860.340	35338.351	6	89°17'17"	5.926	9.350	
EC 3	238.065	-4865.832	35336.124					
BC 4	335.353	-4955.987	35299.559					
PI 4		-4959.329	35298.203	300	1°22'39"	3.607	7.213	
EC 4	342.566	-4962.703	35296.928					
BC 5	428.382	-5042.979	35266.596					
PI 5		-5047.921	35264.728	5000	0°07'16"	5.283	10.566	
EC 5	438.948	-5052.868	35262.871					
BC 6	540.116	-5147.580	35227.313					
PI 6		-5153.065	35225.253	1000	0°40'17"	5.859	11.717	
EC 6	551.833	-5158.525	35223.130					
BC 7	639.519	-5240.250	35191.350					
PI 7		-5243.839	35189.954	300	1°28'16"	3.851	7.702	
EC 7	647.222	-5247.464	35188.651					
BC 8	905.890	-5490.873	35101.121					
PI 8		-5493.926	35100.023	600	0°37'11"	3.245	6.490	
EC 8	912.380	-5496.991	35098.959					
BC 9	1022.772	-5601.269	35062.729					
PI 9		-5605.324	35061.321	500	0°59'01"	4.292	8.584	
EC 9	1031.356	-5609.353	35059.843					
BC 10	1138.628	-5710.065	35022.903					
PI 10		-5713.745	35021.553	200	2°14'43"	3.919	7.838	
EC 10	1146.466	-5717.474	35020.349					
BC 11	1243.216	-5809.543	34990.617					
PI 11		-5815.768	34988.607	7	86°07'28"	6.542	10.522	
EC 11	1253.738	-5814.183	34982.260					
BC 12	1264.542	-5811.566	34971.778					
PI 12		-5810.131	34966.035	7	80°26'39"	5.920	9.828	
EC 12	1274.370	-5815.557	34963.667					
BC 13	1454.659	-5980.796	34891.554					
PI 13		-5984.401	34889.980	600	0°45'04"	3.933	7.866	
EC 13	1462.525	-5987.984	34888.360					
BC 14	1607.232	-6119.841	34828.746					
PI 14		-6123.121	34827.262	500	0°49'30"	3.600	7.200	
EC 14	1614.432	-6126.423	34825.827					
PI 15	1954.636	-6438.403	34690.152					



REVISIONS				
No.	DATE	BY	DESCRIPTION	

- NOTES**
- PROPOSED NEW ROAD
  - EXISTING TAR ROAD
  - EXISTING RAILWAY LINE
  - PI 2  POINT OF INTERSECTION NUMBER 2
  - PROPOSED STORM WATER OUTLET
  - BM #  BENCHMARK
  - EXISTING FENCE LINE
  - EXISTING ELECTRICITY
  - EXISTING MANHOLE
  - PIPELINE MARKER
1. FOR TYPICAL ROAD DETAILS REFER TO DRAWINGS RANGE R/D/00#
  2. FOR ROAD LONGSECTIONS REFER TO DRAWING RANGE R/L/00#
  3. FOR ROAD CROSS-SECTIONS REFER TO DRAWING RANGE R/X/00#

REFERENCE DRAWINGS	
PLAN No.	DESCRIPTION

APPROVED:	DATE:
ENGINEER:	DATE:
APPROVED:	DATE:
CLIENT:	DATE:

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**PROJECT**  
**UPGRADING OF ROADS AND STORMWATER IN TAXI ROUTE FROM PIET RETIEF STREET TO MAITEMOGELO COMPREHENSIVE SCHOOL**

IMPLEMENTING AGENT:  
**MAQUASSI HILLS LM**

DRAWING TITLE  
**ROAD A  
NEW ROAD LAYOUT**

DESIGN	DATE	DRAWN	DATE
	JUN 2022		JUN 2022
SURVEYED	DATE	CHECKED	DATE
		J.BATEMAN	JUN 2022

SCALE **1:2000**

DRAWING No.  
**2022-04-R/P/001**

REVISION No.					
1.0					

BENCHMARKS TABLE :WG 25 FROM TRIG 228				
NAME	DESC	Y	X	ELEVATION
BM1	hic	-95059.053	3012086.326	1381.583
BM2	hic	-95315.742	3012040.250	1375.884
BM3	hic	-95629.991	3011934.157	1366.582
BM4	hic	-95783.691	3011910.244	1364.199
BM5	hic	-95943.712	3011856.157	1362.057
BM6	peg	-96264.868	3011866.007	1356.261
BM7	peg	-94983.167	3012107.011	1381.498

hic = HOLE IN CONCRETE



**REVISIONS**

No.	DATE	BY	DESCRIPTION

**NOTES**

- PROPOSED NEW ROAD
- EXISTING TAR ROAD
- EXISTING RAILWAY LINE

1. FOR TYPICAL ROAD DETAILS REFER TO DRAWINGS RANGE R/D/00#.
2. FOR ROAD LONGSECTIONS REFER TO DRAWING RANGE RL/0#.
3. FOR ROAD CROSS-SECTIONS REFER TO DRAWING RANGE R/W/0#.

**REFERENCE DRAWINGS**

PLAN No.	DESCRIPTION

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 ENGINEER: \_\_\_\_\_  
 APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
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PROJECT  
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 STORMWATER IN TAXI ROUTE  
 FROM PIET RETIEF STREET TO  
 MAITEMOGELO COMPREHENSIVE  
 SCHOOL**

IMPLEMENTING AGENT:  
**MAQUASSI HILLS LM**

DRAWING TITLE  
**ROAD A  
 SIGNAGE LAYOUT**

DESIGN	DATE	DRAWN	DATE
	JUN 2022		JUN 2022
SURVEYED	DATE	CHECKED	DATE
		J.BATEMAN	JUN 2022

SCALE 1:2500

DRAWING No.  
**2022-04-R/S/001**

REVISION No.					
1.0					