

MOLEMOLE MUNICIPALITY



CONTRACT NO.TECH-006-2021/22
GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM
GRAVEL TO SURFACING

TENDER DRAWINGS

SEPTEMBER 2021

ISSUED TO:

THE MUNICIPAL MANAGER
MOLEMOLE MUNICIPALITY
303 CHURCH STREET
PRIVATE BAG X44
MOGWADI
0715
TEL:015 501 2301
FAX:015 501 0419

PREPARED BY:



UNIT 10,JCJ LIMPRO BUILDING
6 HANS VAN RENSBURG
POLOKWANE
0700
Tel: (015) 291 3519
Email:admin@nevhutu.co.za

LIST OF DRAWINGS

CONSULTANTS NO.	MLM DWG NO.	DESCRIPTION
0133-NCE-001	MM-TECH-001	LIST OF DRAWINGS
0133-NCE-002	MM-TECH-002	TYPICAL SECTIONS FOR A 6mm ROAD WITH CAMBER
0133-NCE-003	MM-TECH-003	SUB SURFACE DRAINAGE
0133-NCE-004	MM-TECH-004	POSITION OF SUB SURFACE DRAIN
0133-NCE-005	MM-TECH-005	INFORMATION BOARD DETAILS
0133-NCE-006	MM-TECH-006	ROAD SIGN ERECTION DETAILS
0133-NCE-007	MM-TECH-007	TYPICAL DETAIL OF CONCRETE SIDES DRAINS KERB AND ENERGY BREAKERS
0133-NCE-008	MLM-TECH-008	STONE PITCHING AND GABION PROTECTION
0133-NCE-009	MM-TECH-009	ROAD TRAFFIC MANAGEMENT
0133-NCE-010	MM-CTECH-010	ROAD MARKING DETAILS
0133-NCE-011	MM-TECH-011	TYPICAL KERB DETAILS
0133-NCE-012	MM-TECH-012	DETAILS OF OUTLET STRUCTURES
0133-NCE-013	MM-TECH-013	STREETS LAYOUT
0133-NCE-014	MM-TECH-014	TYPICAL SPEED HUMP DETAILS
0133-NCE-015	MM-TECH-015	TYPICAL RAISED PEDESTRIAN CROSSING DETAILS
0133-NCE-016	MM-TECH-016	LAYOUT PLAN AND LONGITUDINAL SECTION CHAINAGE KM 0.000 TO KM 0.400
0133-NCE-017	MM-TECH-017	CROSECTIONS CHAINAGE KM 0.000 TO KM 0.400

2	09/2021	TENDER DRAWINGS	TN	MM
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DESIGNED BY	T NEBOTALO Pr Eng
CHECKED BY	T NEBOTALO Pr Eng
DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng

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NEVHUTALU
CONSULTING ENGINEERS
Reg No. 29028/01/2017

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APPROVED BY	
FOR MM	DATE
DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE



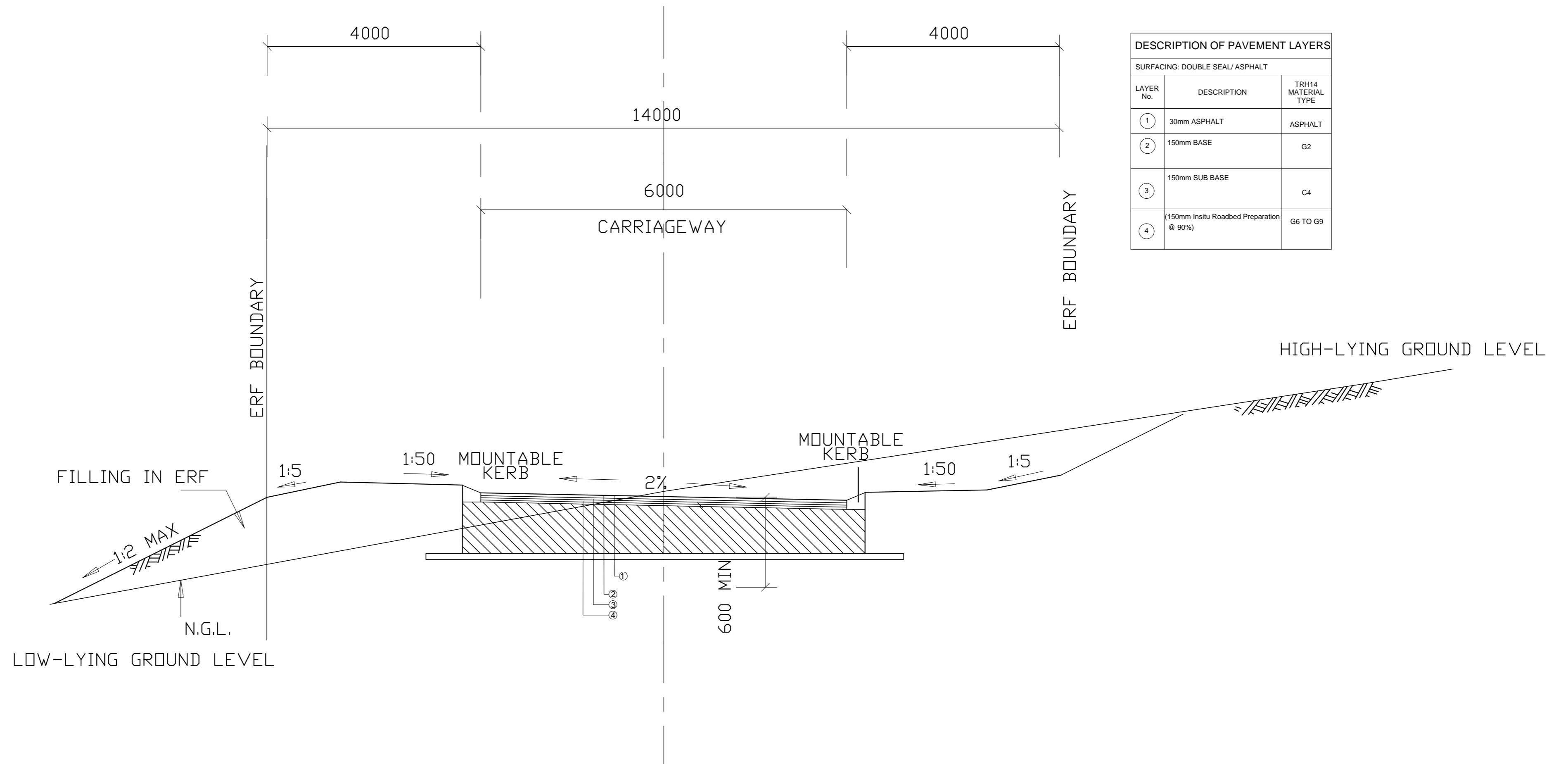
MOLEMOLÉ MUNICIPALITY
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FAX: 015 501 0419

CONTRACT NO.: TECH-006-2021/22	
GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING	
TYPICAL SECTION FOR A 6mm ROAD WIDTH PORTAL CULVERTS	

AS BUILT PLAN (FULL SIGNATURE)	SHEET 01 OF 15
For MM	DATE
SCALE	A1 AS SHOWN
FOR CONSULTING ENGINEER	DATE
CONSULTANTS DWG. No.	MEM DWG. No.
0133-MM-001	MM-TECH-001

NOTES:

1. ALL SLEEVES TO BE INSTALLED TO 1000mm



DESCRIPTION OF PAVEMENT LAYERS		
SURFACING: DOUBLE SEAL/ ASPHALT		
LAYER No.	DESCRIPTION	TRH14 MATERIAL TYPE
1	30mm ASPHALT	ASPHALT
2	150mm BASE	G2
3	150mm SUB BASE	C4
4	(150mm In situ Roadbed Preparation @ 90%)	G6 TO G9

No.	DATE	REVISION	CONSULT.	MM
2	09/02/21	TENDER DRAWINGS	TN	

DESIGNED BY	T NEBOTALO Pr Eng
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DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng

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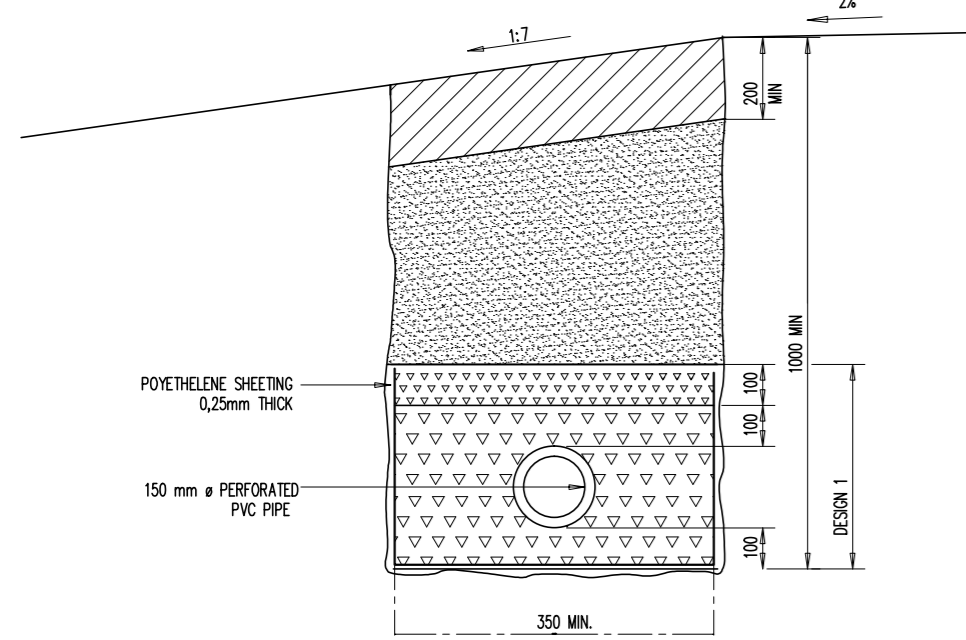
APPROVED BY	
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DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE



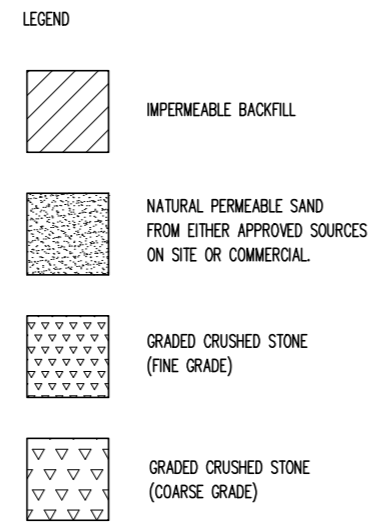
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TYPICAL SECTION FOR A 6.0M ROAD WIDTH PORTAL CULVERTS

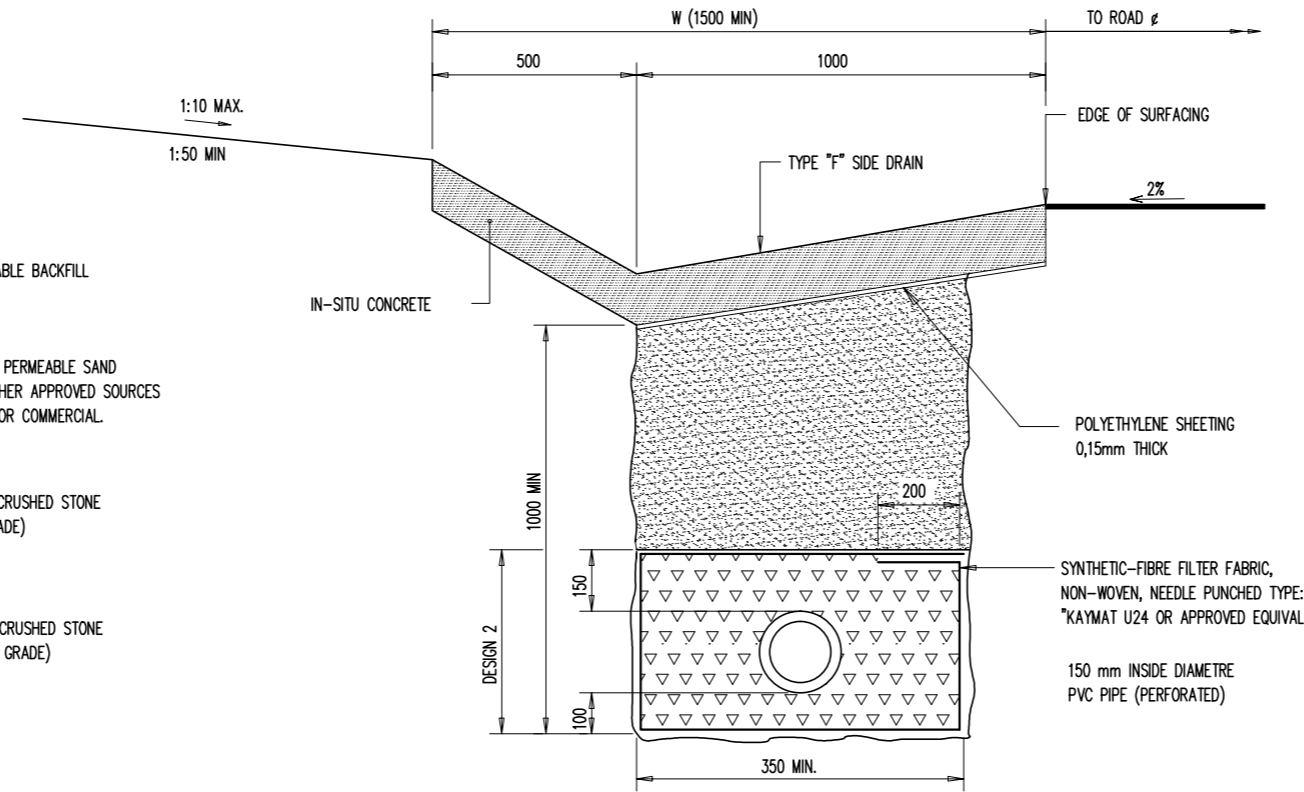
AS BUILT PLAN (FULL SIGNATURE)	SHEET 02 OF 15
For MM	DATE
SCALE	A1 AS SHOWN
FOR CONSULTING ENGINEER	DATE
CONSULTANTS DWG. No.	MEM DWG. No.
0133-MM-002	MM-TECH-002



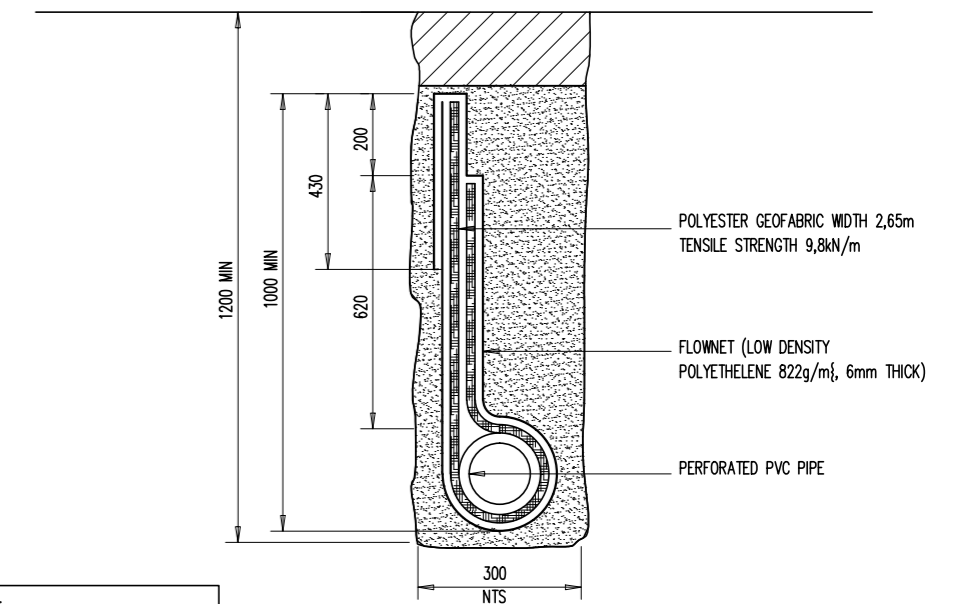
TYPE "A" SUBSURFACE DRAIN
N.T.S.



NOTE:
DESIGNS 1 AND 2 CAN BE EXCHANGED
WHEN INSTRUCTED BY THE ENGINEER



TYPE "B" SUBSURFACE DRAIN
N.T.S.



TYPE "C" SUBSURFACE DRAIN
SCALE 1:10

GRADING REQUIREMENTS OF CRUSHED STONE

CRUSHED STONE SHALL BE GRADED CRUSHED STONE, WHICH CONFORMS TO THE FOLLOWING REQUIREMENTS:

PERCENTAGE PASSING THROUGH A –

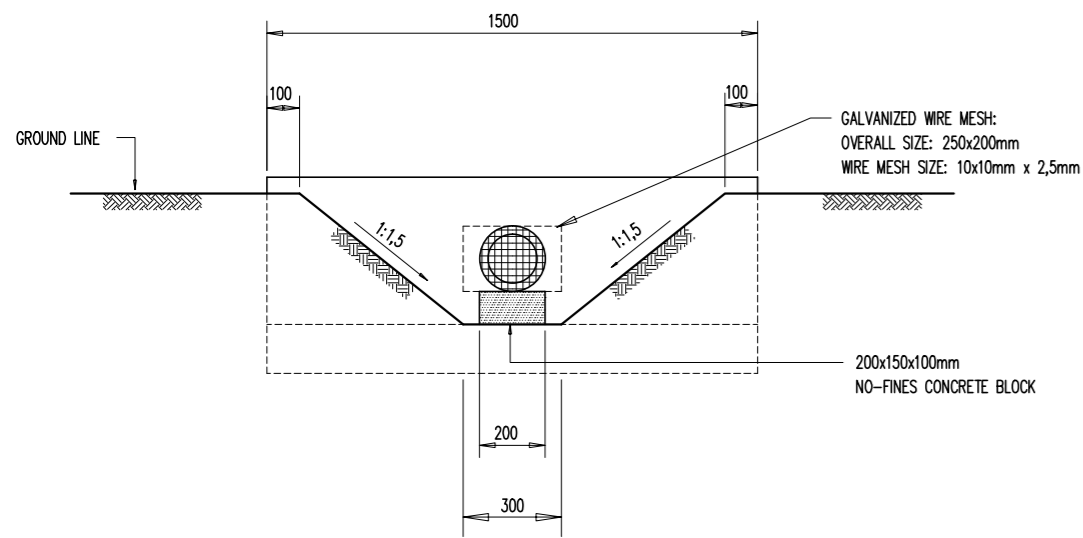
226,6mm SIEVE 100
113,2mm SIEVE 60-85

FINE GRADE STONE:
A MINIMUM OF 15% PASSING THROUGH A 3,35mm SIEVE.
A MAXIMUM OF 15% PASSING THROUGH A 1,18mm SIEVE.

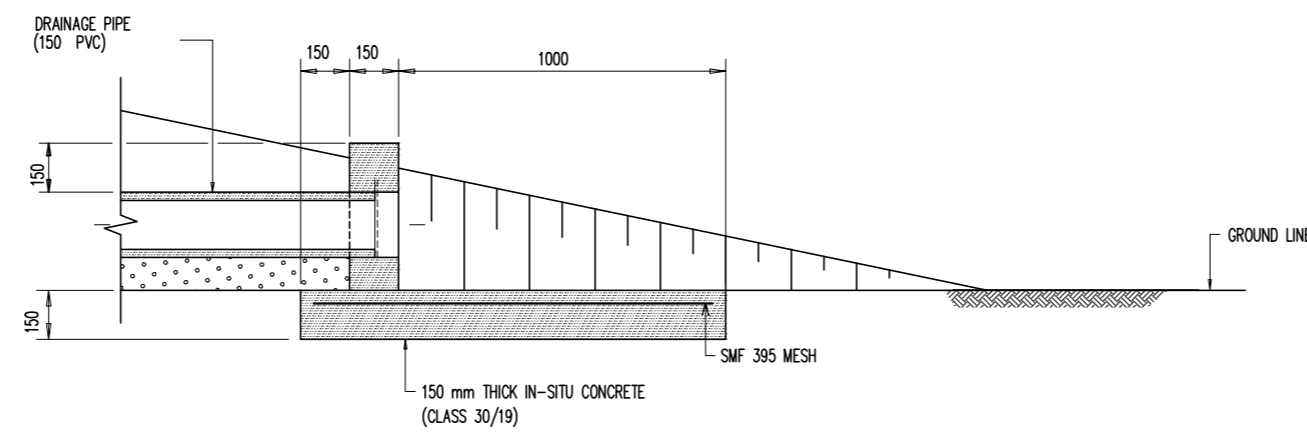
COARSE GRADE STONE:
A MINIMUM OF 15% PASSING THROUGH A 6,70mm SIEVE.
A MAXIMUM OF 15% PASSING THROUGH A 2,36mm SIEVE.

IN THE CASE OF ANY CRUSHED STONE NOT MORE THAN 5% OF THE MATERIAL SHALL PASS THROUGH THE 0,075mm SIEVE.

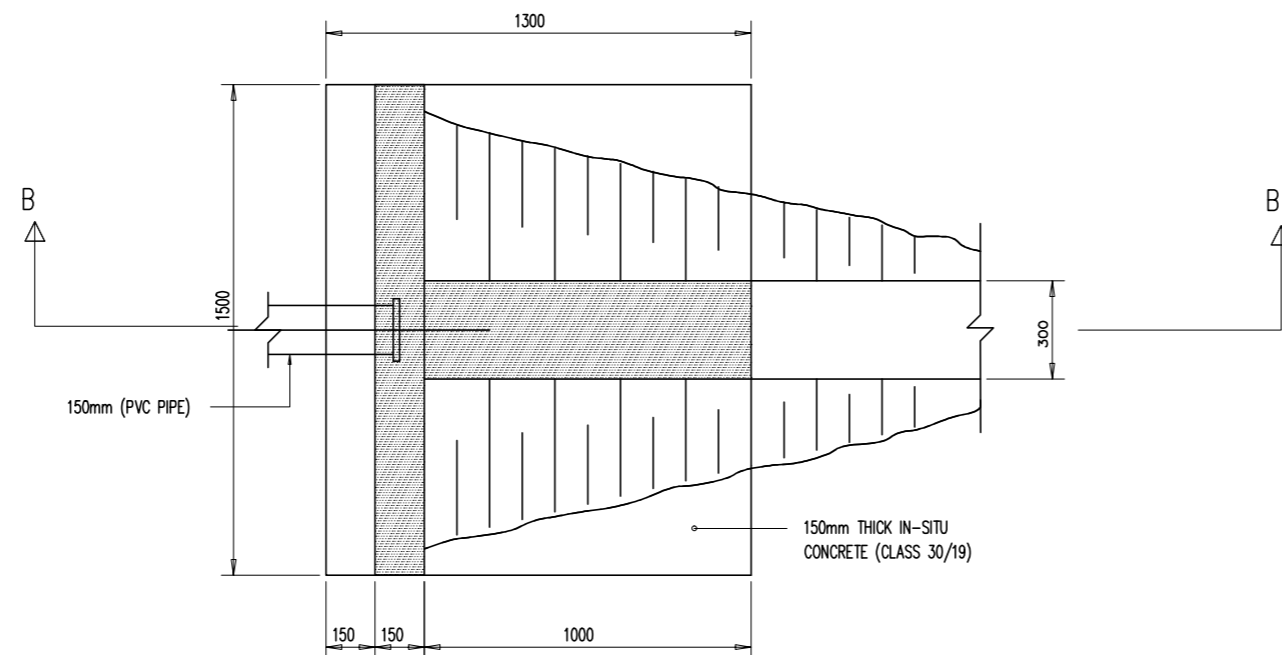
NOTE:
FLOWNET AND PVC PIPE ONLY TO BE INSTALLED AT THE ENGINEER'S REQUEST



FRONT ELEVATION

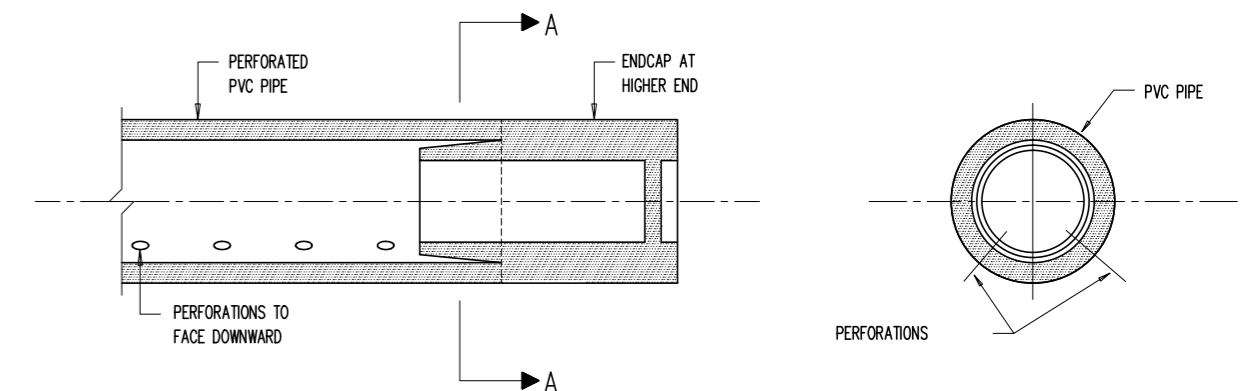


SECTION B-B



PLAN

DETAIL OF OUTLET STRUCTURE



SECTION THROUGH PIPE CENTRE LINE

SECTION A-A

ENDCAP DETAIL
SCALE 1:5

No.	DATE	REVISION	CONSULT	MM
2	09/2021	TENDER DRAWINGS	TN	

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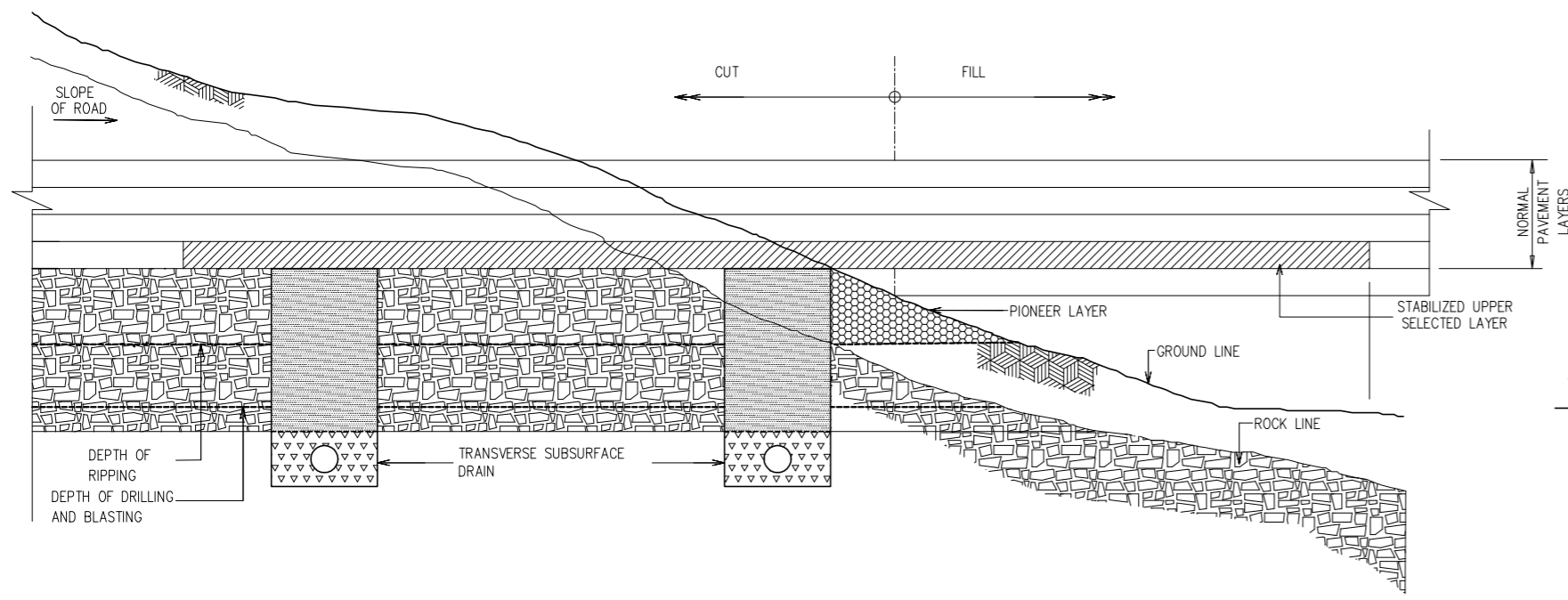
NEVHUTALU CONSULTING ENGINEERS
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 Email: admin@nevhutalu.co.za

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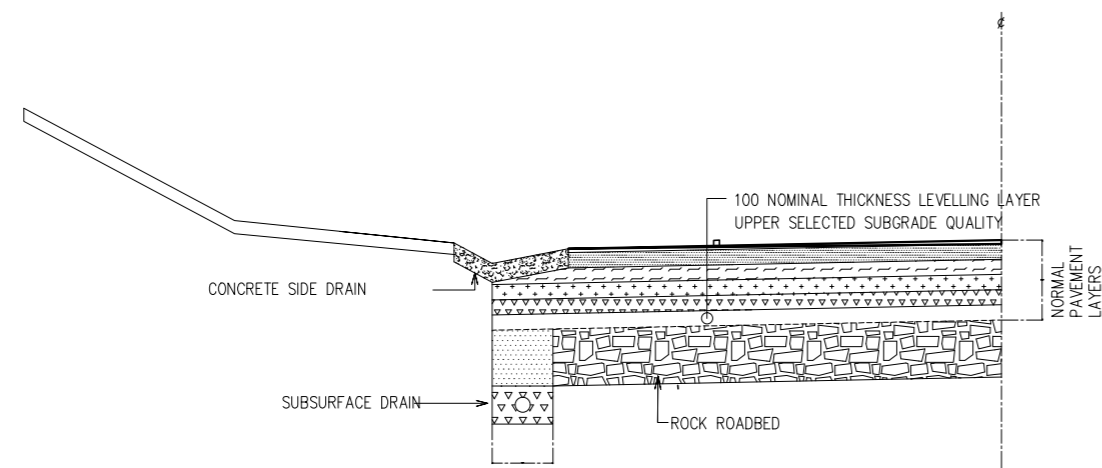
MOLEMOLE MUNICIPALITY
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GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING
SUB SURFACE DRAINAGE DETAILS

AS BUILT PLAN (FULL SIGNATURE)	SHEET 3 OF 15
For MM	DATE
SCALE	A1 AS SHOWN
FOR CONSULTING ENGINEER	DATE
CONSULTANTS DWG. No.	MEM DWG. No.
0133-MM-003	MM-TECH-003

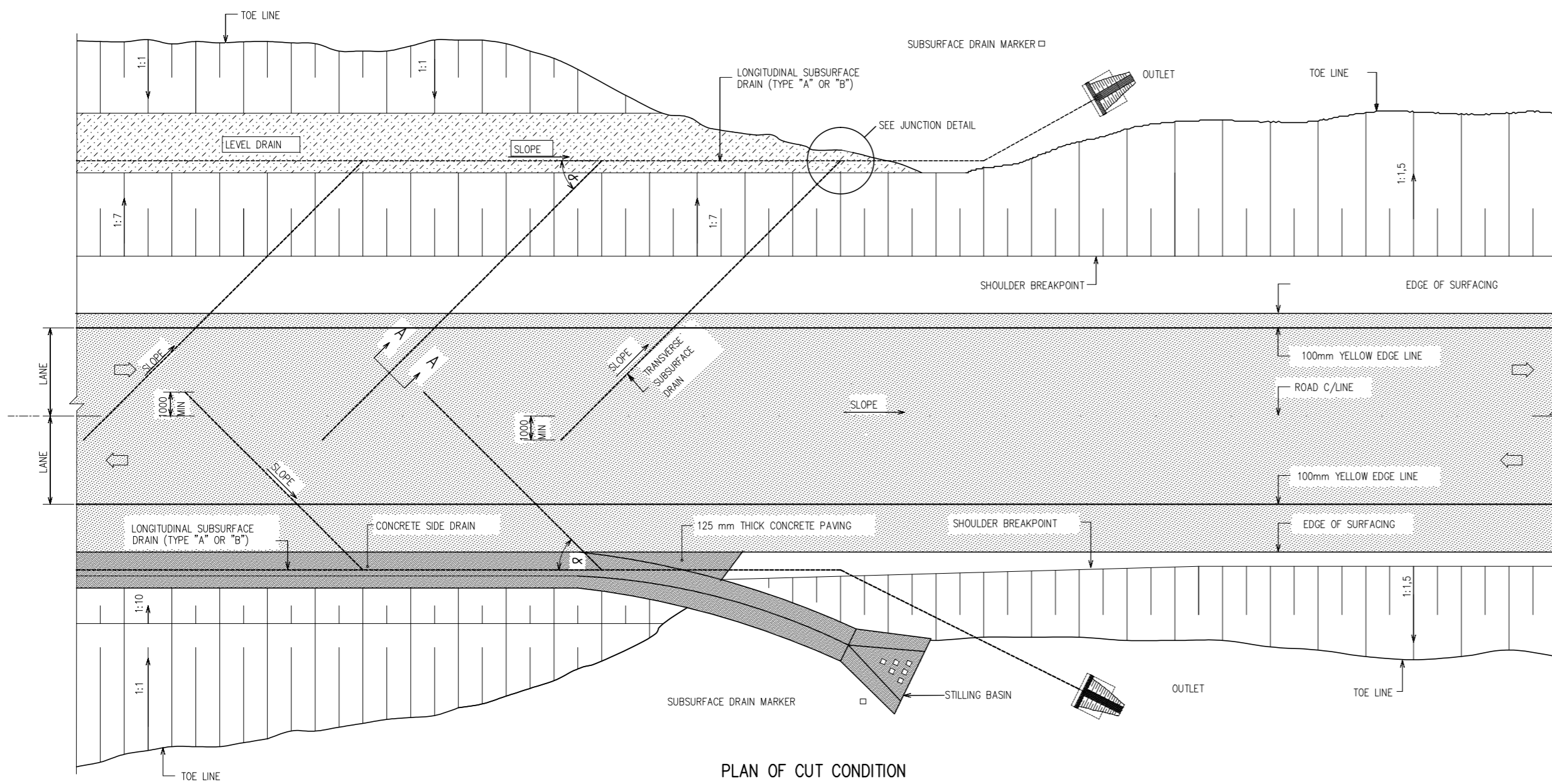
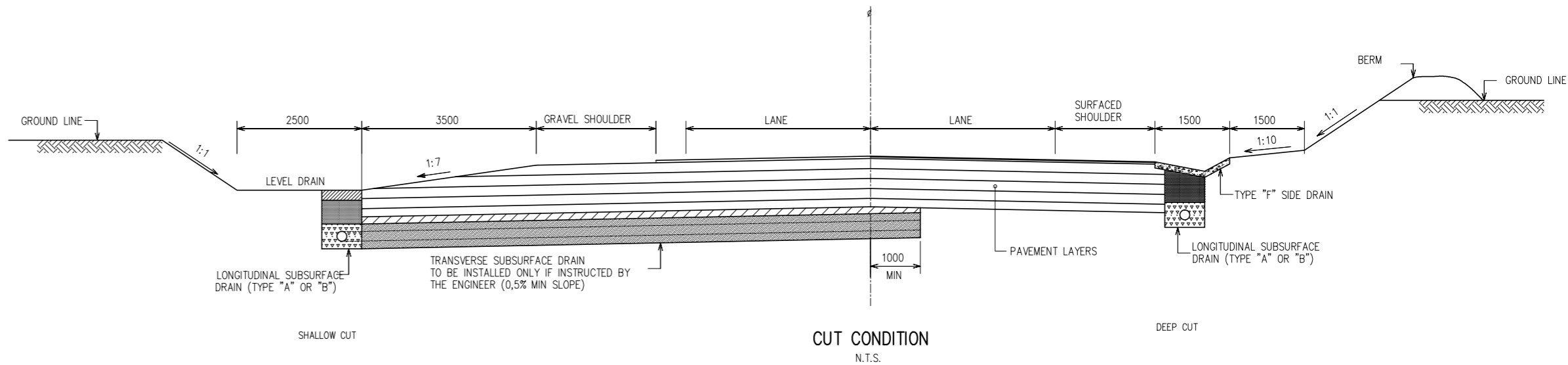
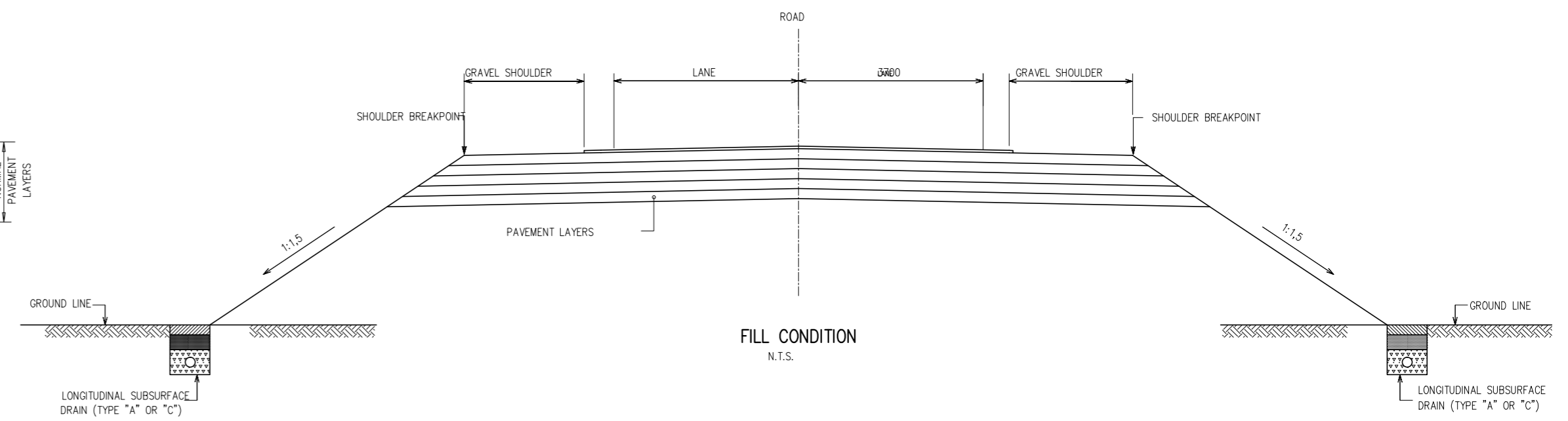


ROCK ROADBED CONDITIONS
SCALE: DIAGRAMMATIC

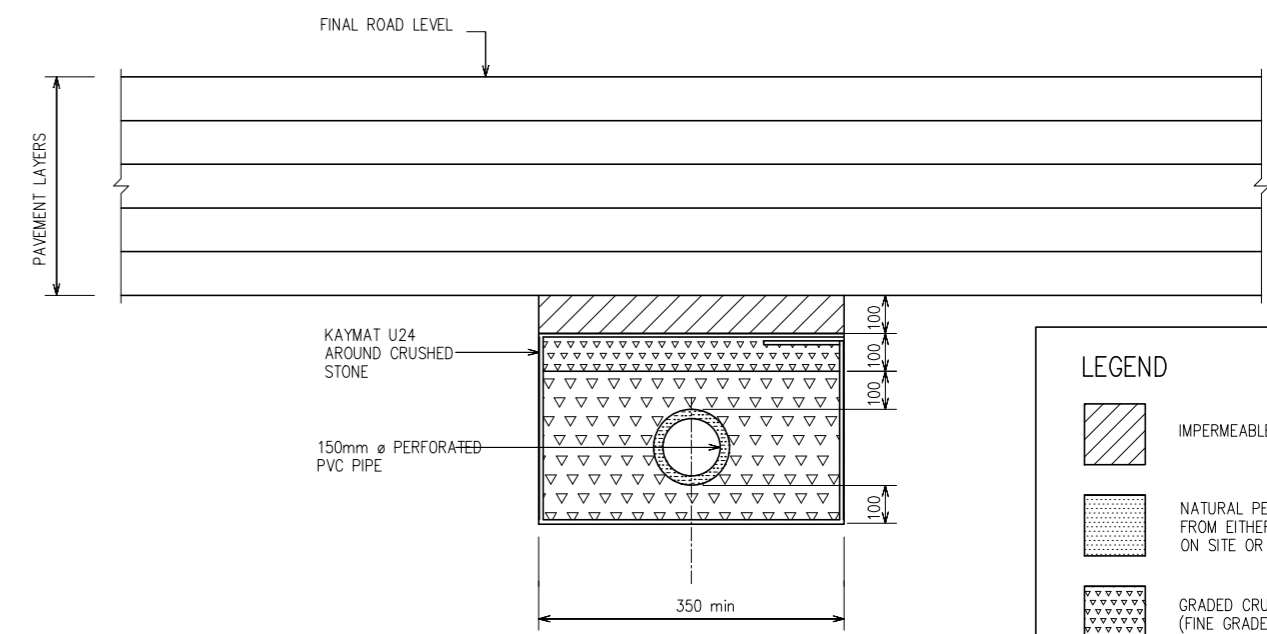


ROCK ROADBED
SCALE: DIAGRAMMATIC

CUT CONDITIONS



PLAN OF CUT CONDITION
SCALE 1:100



SECTION A-A: TRANSVERSE SUBSURFACE DRAIN
SCALE 1:10

LEGEND	
	IMPERMEABLE BACKFILL
	NATURAL PERMEABLE SAND FROM EITHER APPROVED SOURCES ON SITE OR COMMERCIAL
	GRADED CRUSHED STONE (FINE GRADE)
	GRADED CRUSHED STONE (COARSE GRADE)

NOTE:

1. $\alpha = 45$ OR SUCH ANGLE SO AS TO FACILITATE A MINIMUM SLOPE OF 0.5% FOR THE TRANSVERSE SUBSURFACE DRAIN.
2. THE SPACING, SLOPE AND LEVELS OF TRANSVERSE SUBSURFACE DRAINS ARE TO BE DETERMINED ON SITE.

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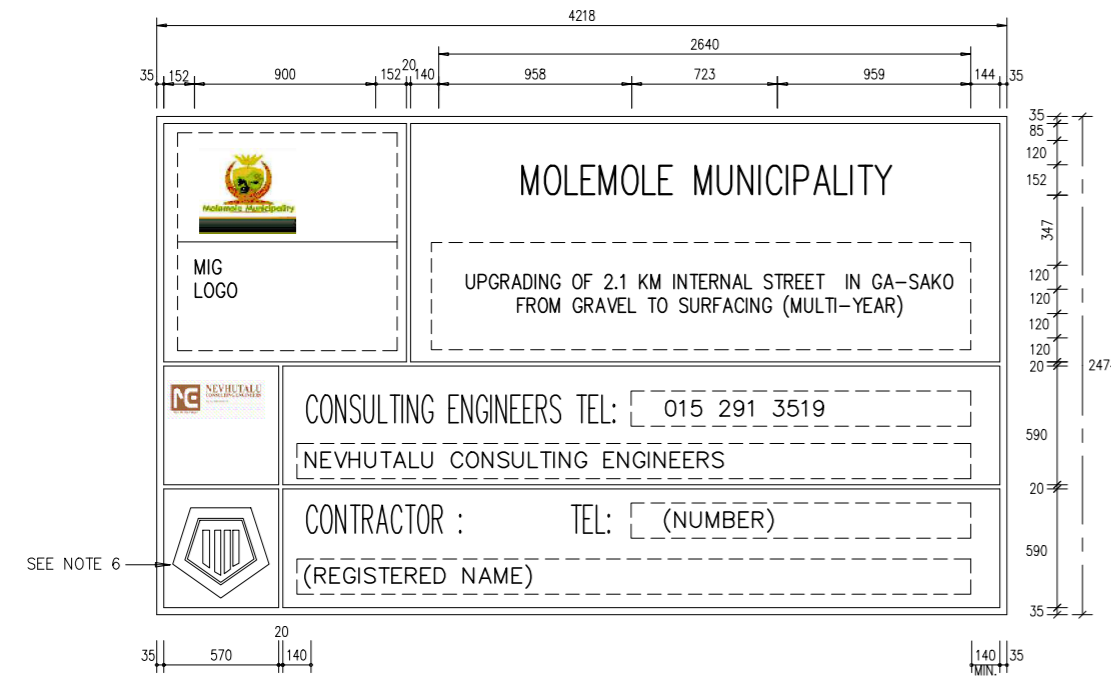
NEVHUTALU CONSULTING ENGINEERS
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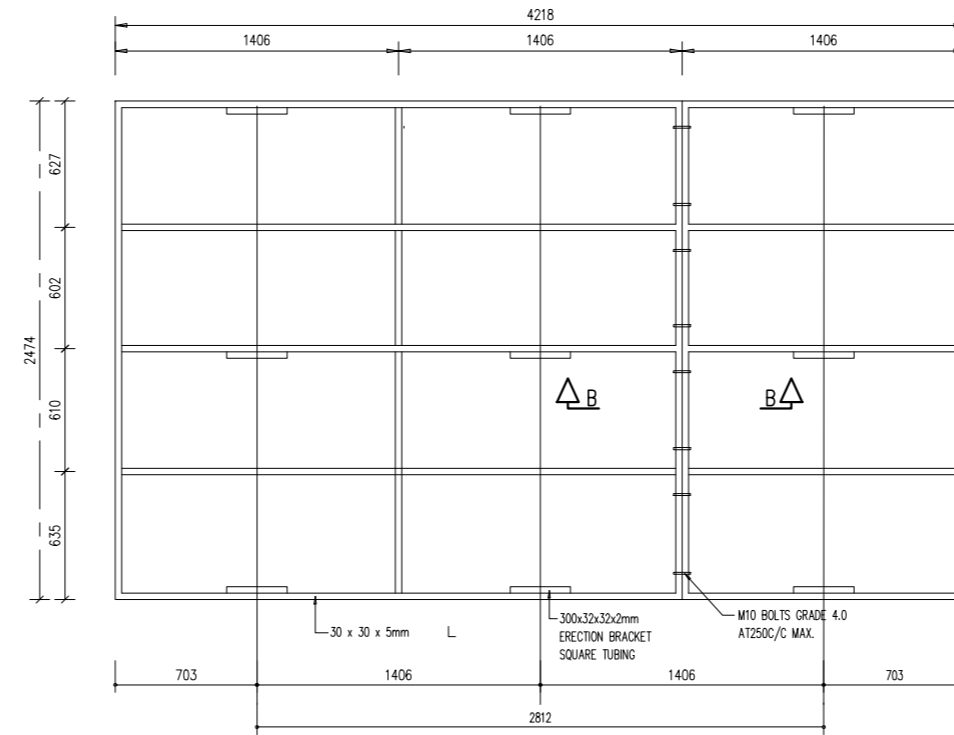
Molemole Municipality
MOLEMOLÉ MUNICIPALITY
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POSITION OF SUB SURFACE DRAIN

AS BUILT PLAN (FULL SIGNATURE)	SHEET 4 OF 15
For MM	DATE
SCALE	A1 AS SHOWN
FOR CONSULTING ENGINEER	DATE
CONSULTANTS DWG. No.	MEM DWG. No.
0133-MM-004	MM-TECH-004

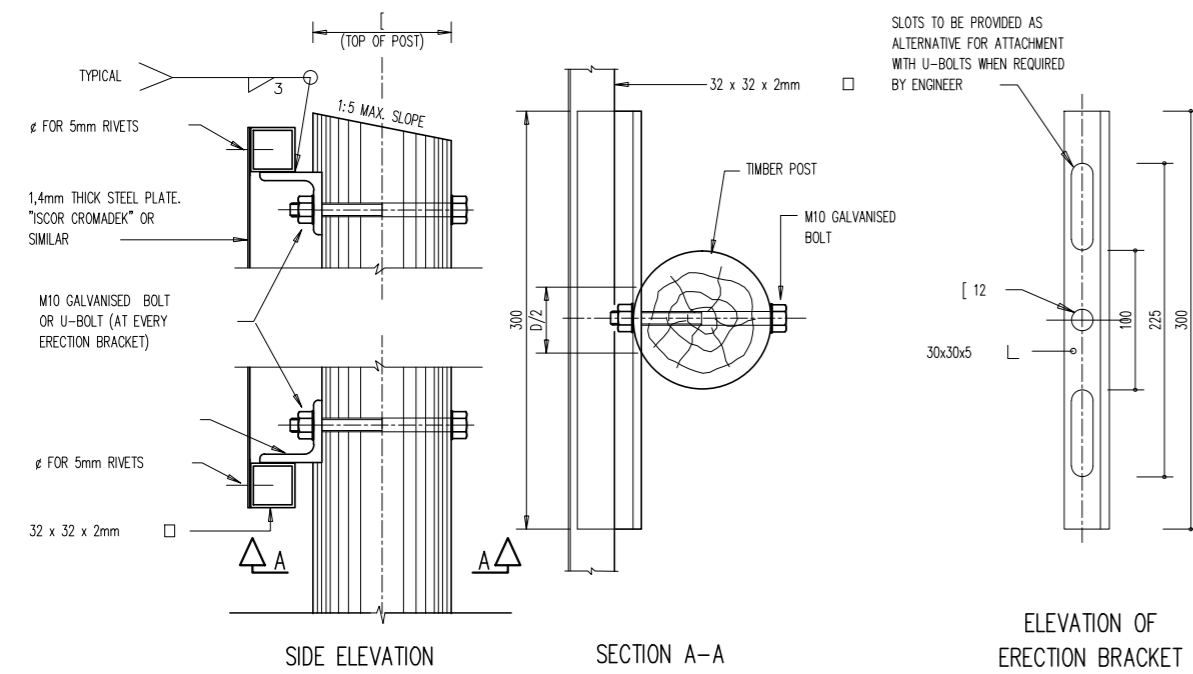


FRONT ELEVATION



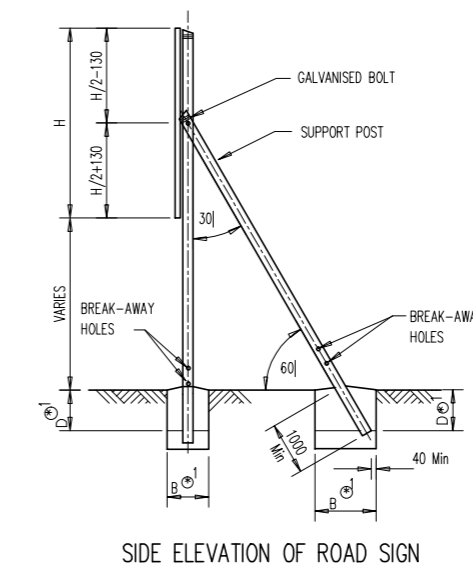
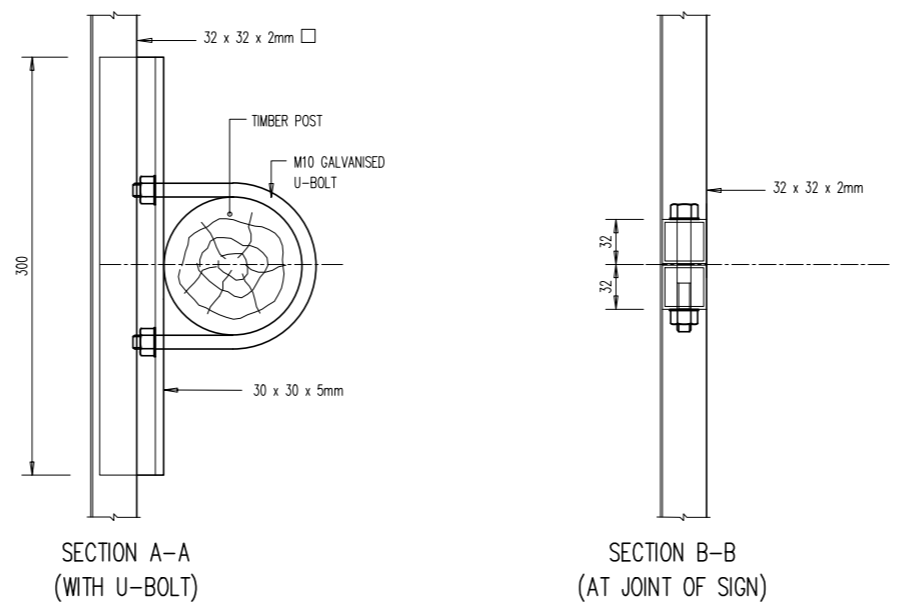
REAR SIDE BRACING

- NOTES:**
- EMBLEM:**
1. ALL EMBLEMS TO BE DISPLAYED IN FULL COLOUR ON A SEMI-MATT BACKGROUND.
 - LETTERS AND NUMBERS:**
2. DESCRIPTION : MATT-BLACK, SERIES ON B LETTERS AND NUMBERS ON A SEMI-MATT SMOKE- GREY BACKGROUND.
 - BORDERS:**
3. BORDER : GREEN NON-REFLECTORIZED.
 - QUANTITY:**
4. TWO SIGN BOARDS, SHALL BE ERECTED AT POSITIONS AS DETERMINED BY THE ENGINEER.
 - DESCRIPTION:**
5. DESCRIPTION OF WORK (NUMBER OF KILOMETRES AND TYPE OF WORK, eg 13,5km RECONSTRUCTION OF ROAD 1974." DESCRIPTION STARTS CENTERED ON THE LEFT-HAND SIDE AND THE FIRST 102mm-DIMENSION BELOW "NORTHERN"
 6. SAFECED EMBLEM ONLY IF CONTRACTOR IS A MEMBER OTHERWISE BLANK.
 7. NEW SAACE LOGO TO BE OBTAINED FROM SAACE, JOHANNESBURG.

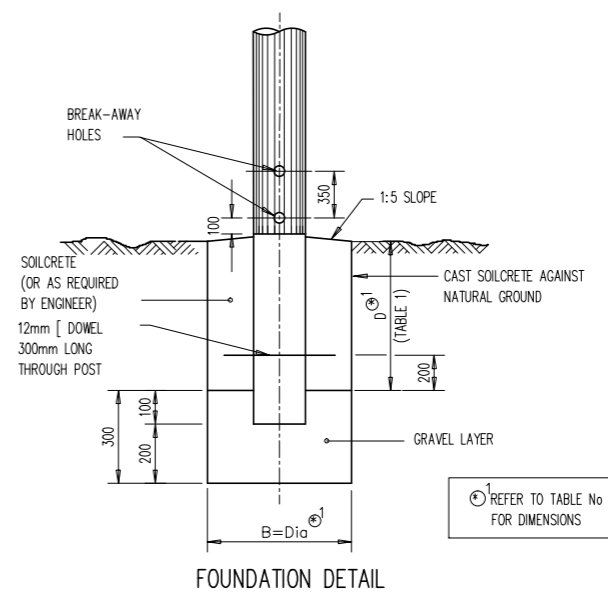


FIXING DETAIL FOR SIGN BOARDS

TYPE OF POST	ERECTION DETAILS			
	UPRIGHT	STAY	D	B(DIA)
TIMBER POST AND STAY	100mm	80mm	600mm	850mm
TIMBER POST	150mm	-	1000mm	1450mm
D SECTION STEEL POST	100mm x 4mm	-	1000mm	1450mm



SIDE ELEVATION OF ROAD SIGN



FOUNDATION DETAIL

POLE DIA (mm)	HOLE DIA (mm)
< 140	NONE
141 - 170	40
171 - 200	50
201 - 225	65

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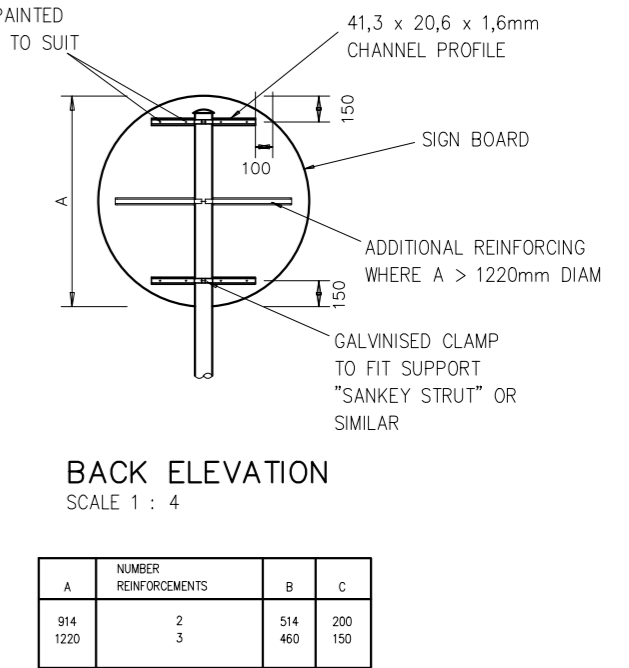
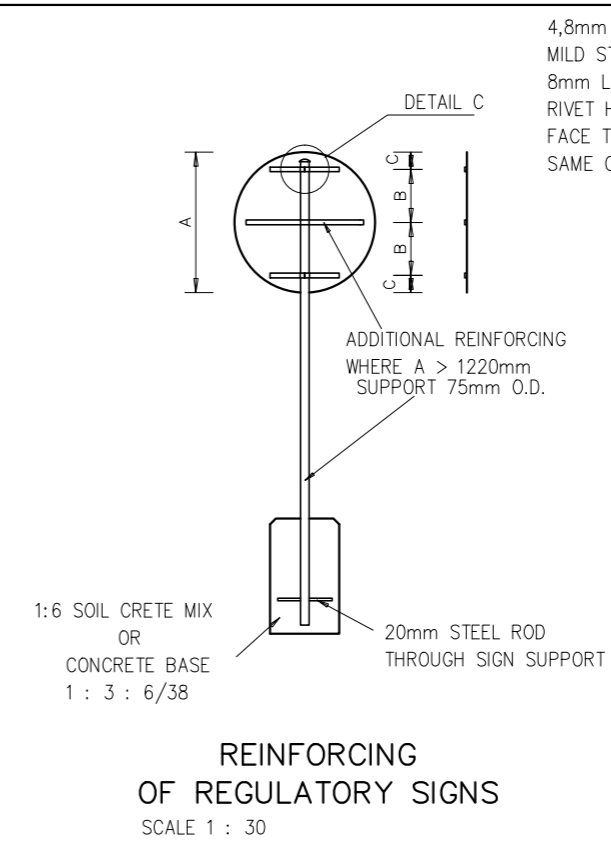
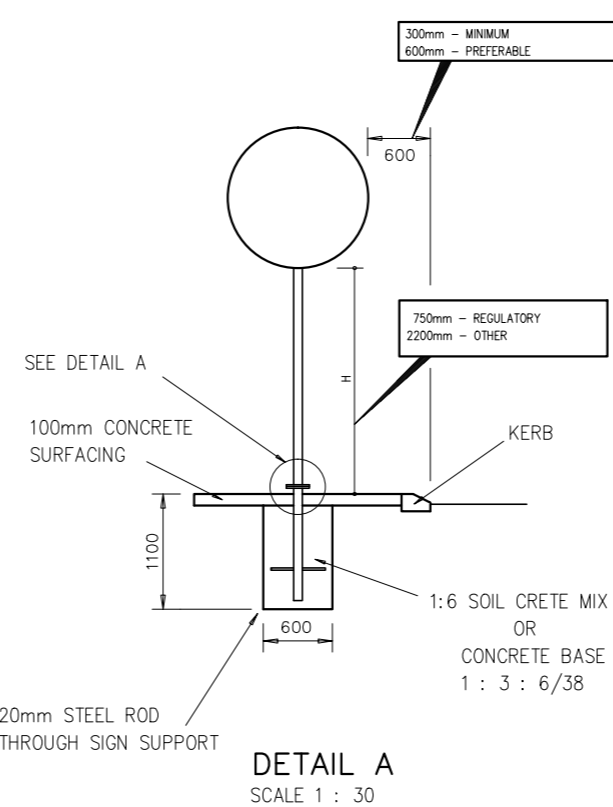
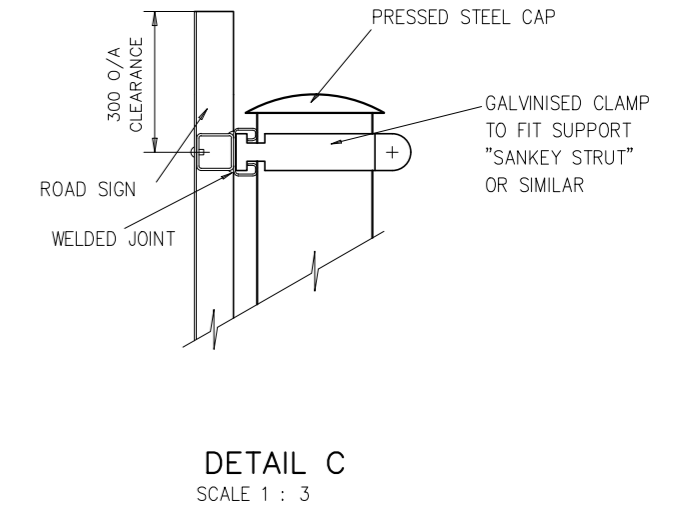
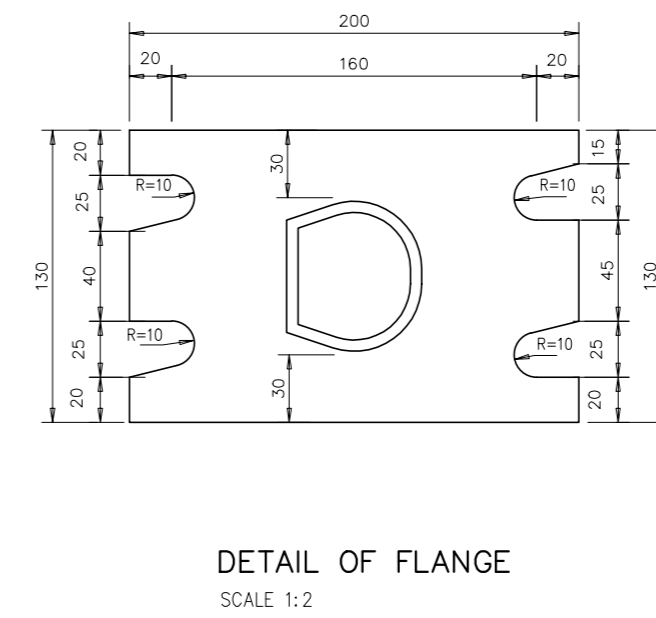
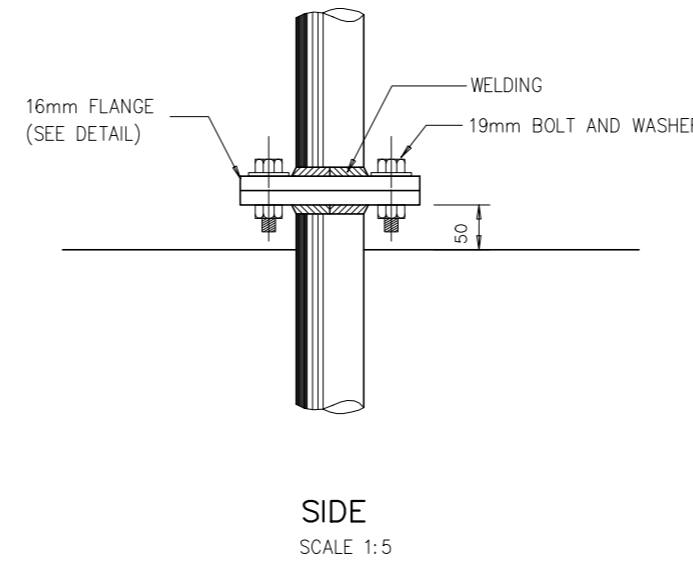
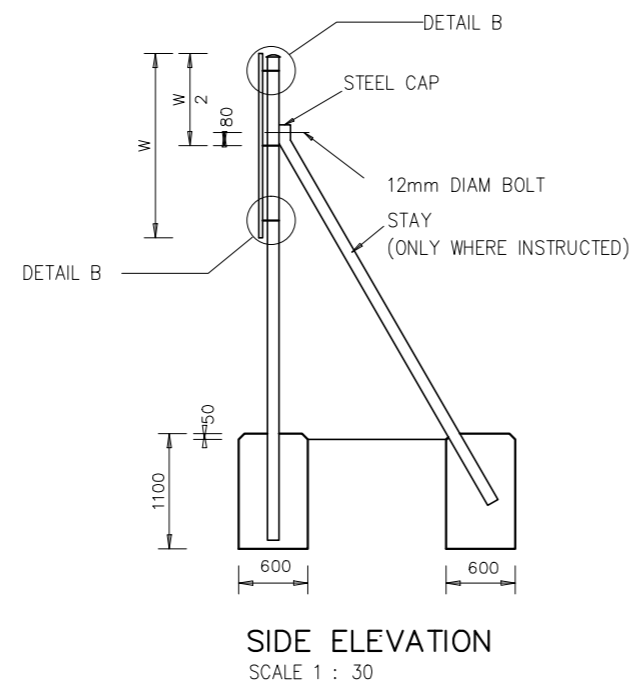
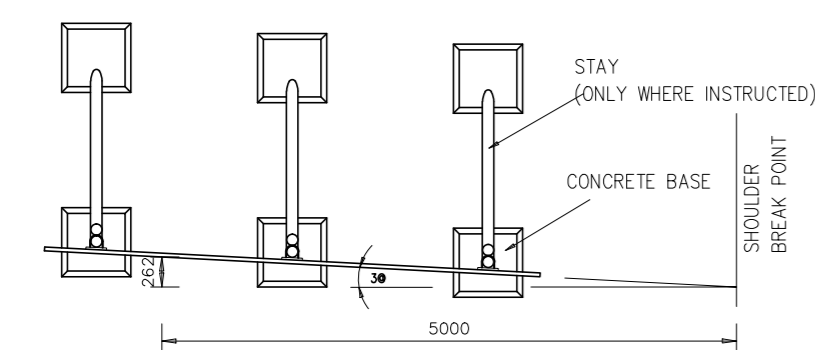
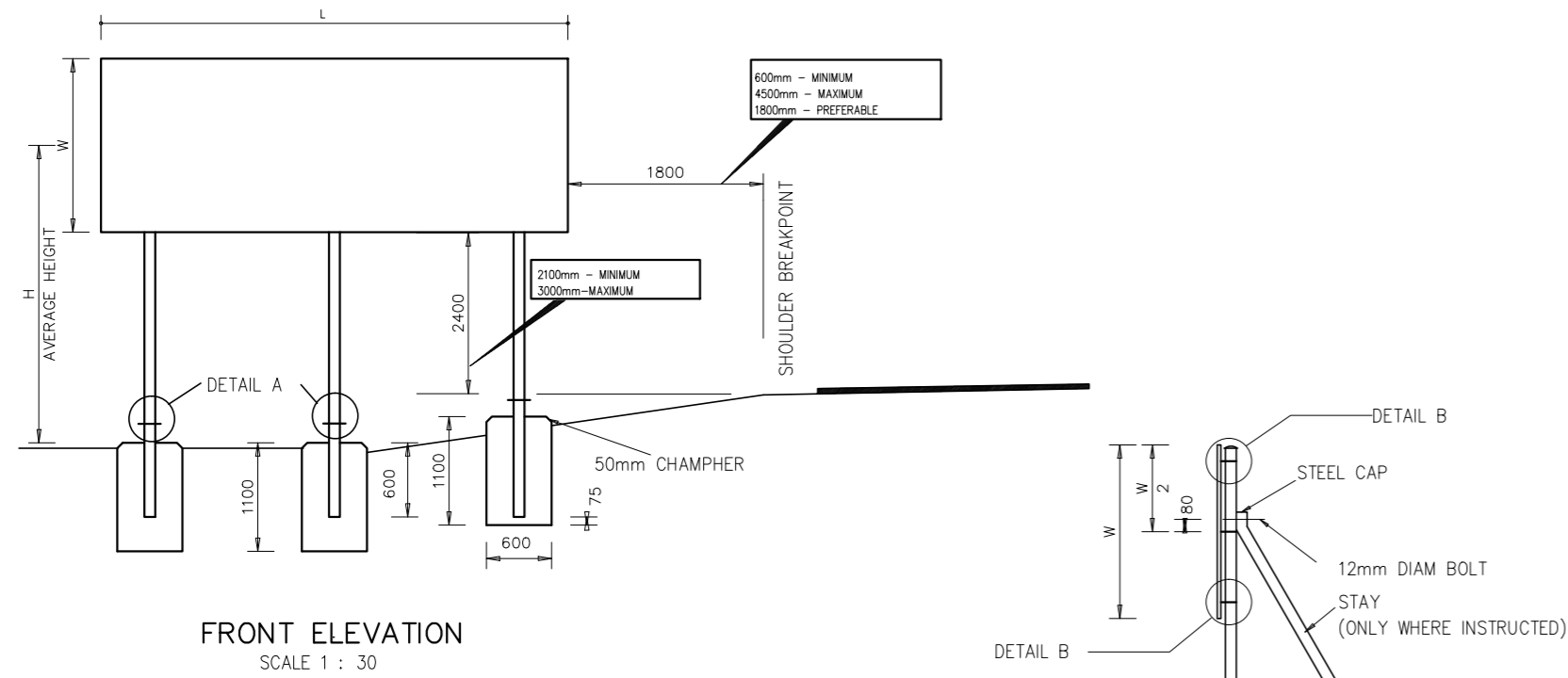
NEVHUTALU CONSULTING ENGINEERS
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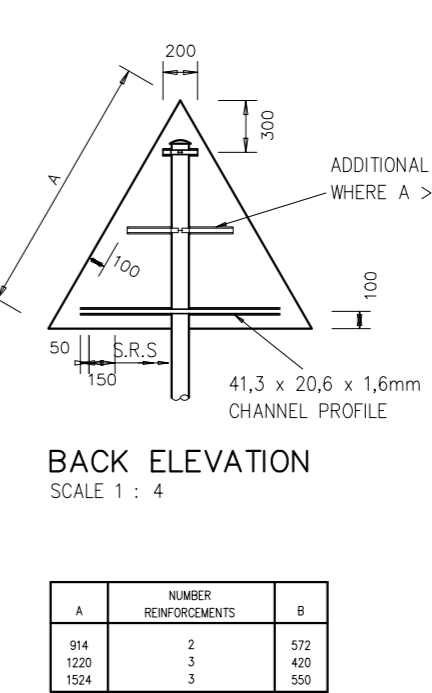
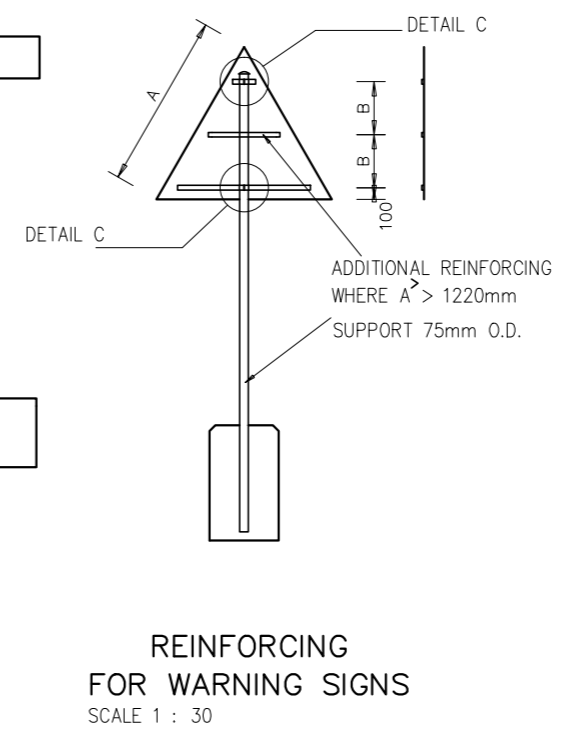
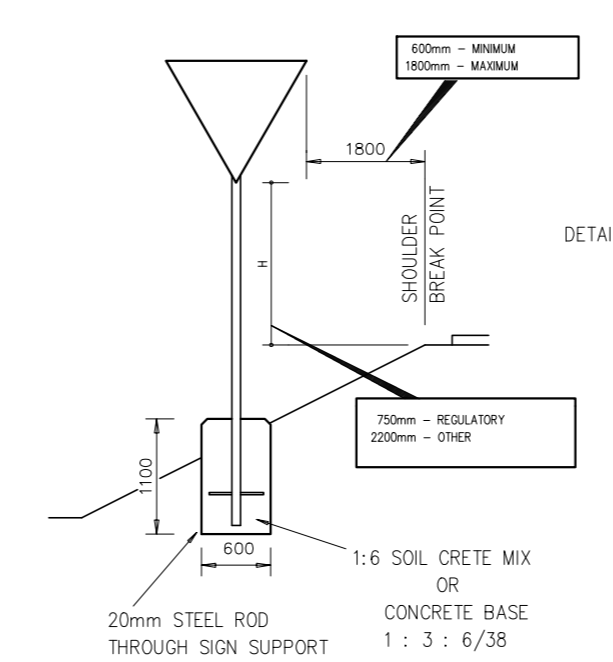
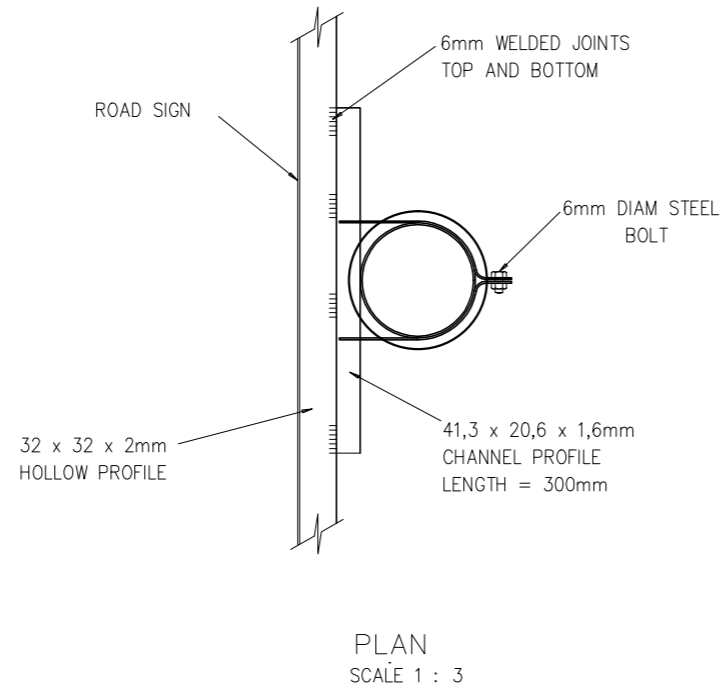
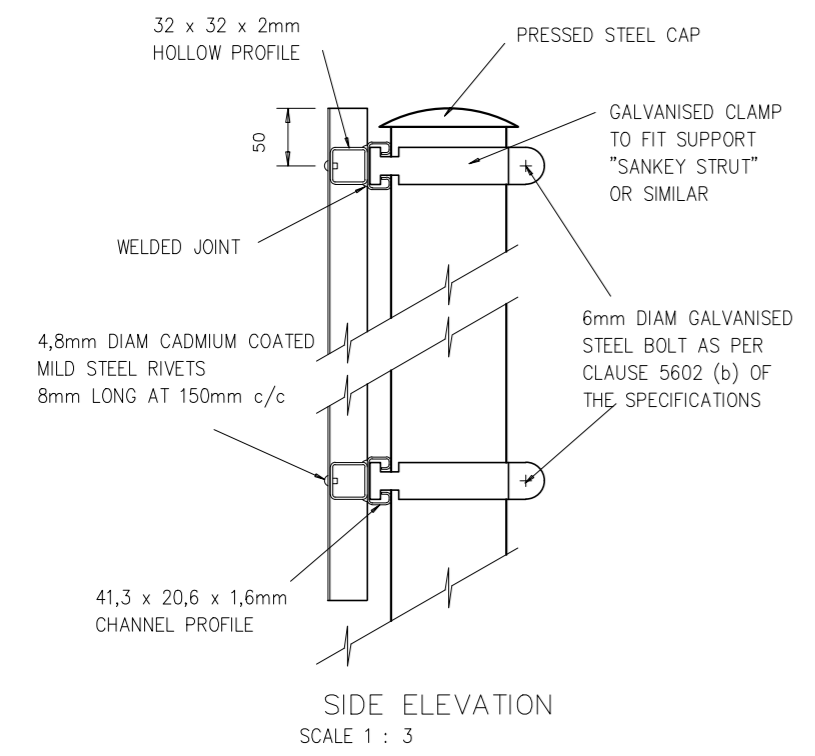


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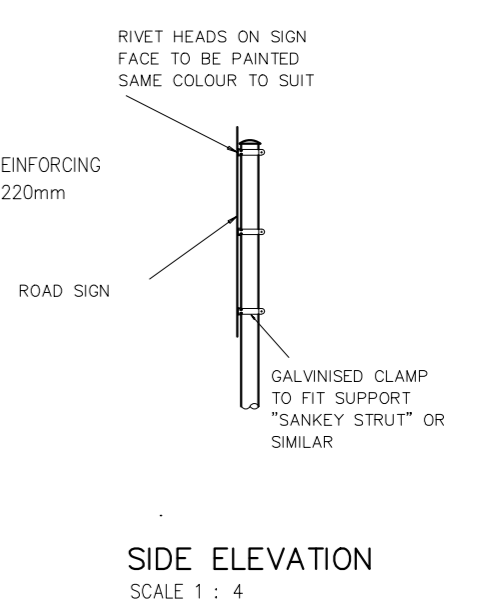
CONTRACT NO.: TECH-006-2021/22	AS BUILT PLAN (FULL SIGNATURE)	SHEET 5 OF 15
GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING	For MM DATE SCALE	At AS SHOWN
INFORMATION BOARD DETAILS	CONSULTANTS DWG. No.	MEM DWG. No.
	0133-MM-005	MM-TECH-005



A	NUMBER REINFORCEMENTS	B	C
914	2	514	200
1220	3	460	150



A	NUMBER REINFORCEMENTS	B
914	2	572
1220	3	420
1524	3	350



DETAIL B: MOUNTING OF INFORMATORY SIGNS G39 TO G44

No.	DATE	REVISION	CONSULT.	MLM
2	09/2021	TENDER DRAWINGS	TN	

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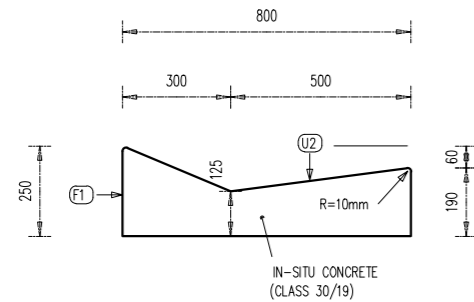
APPROVED BY	DATE
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FOR CONSULTING ENGINEER	DATE



MOLEMOLE LOCAL MUNICIPALITY
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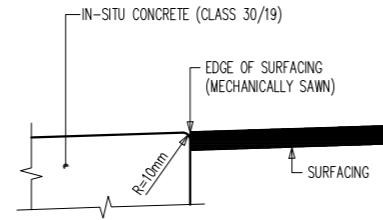
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ROAD SIGN ERECTION DETAILS

AS BUILT PLAN (FULL SIGNATURE)	SHEET 6 OF 15
For MLM DATE	SCALE
At AS SHOWN	
CONSULTANTS DWG. No.	MLM DWG. No.
0133-MLM-006	MLM-TECH-006

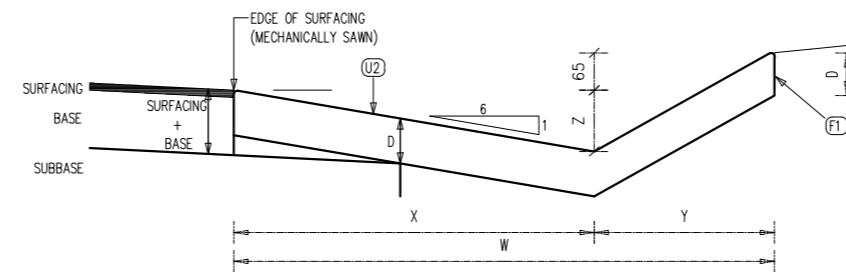


CROSS SECTION OF TYPE "A" CONCRETE SIDE DRAIN
SCALE 1:10

TYPE "A" CONCRETE SIDE DRAIN

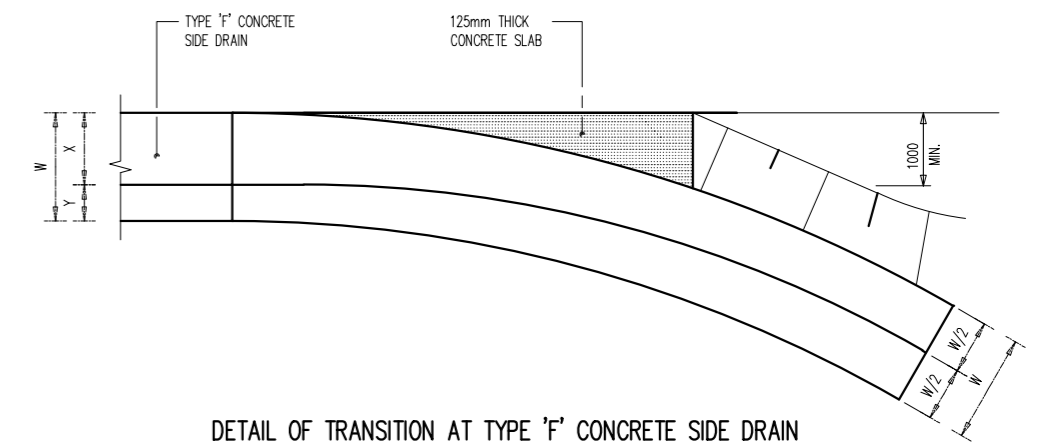


DETAIL X
SCALE 1:5



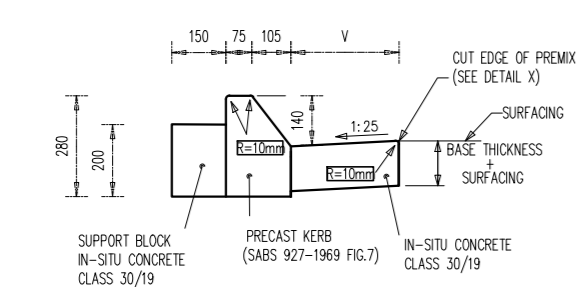
CROSS SECTION OF TYPE 'f' CONCRETE SIDE DRAIN IN CUTTINGS

SCALE : SCHEMATIC

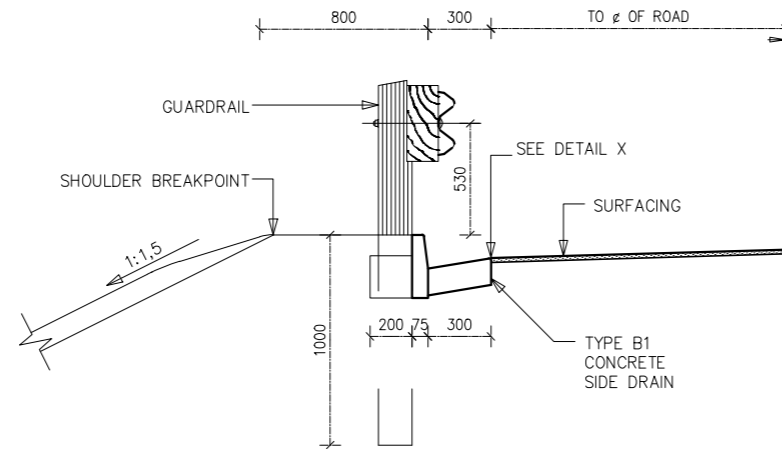


DETAIL OF TRANSITION AT TYPE 'f' CONCRETE SIDE DRAIN

SCALE : SCHEMATIC

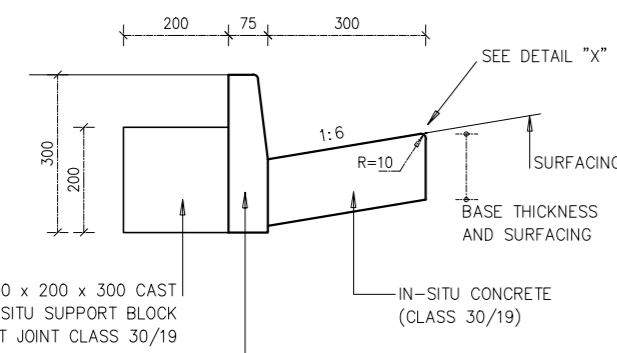


CROSS SECTION OF TYPE B SEMI MOUNTABLE KERB AT INTERSECTIONS
SCALE 1:10



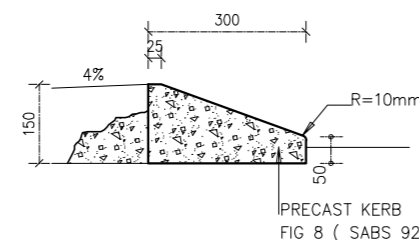
POSITION OF TYPE "B1" CONCRETE SIDE DRAIN

SCALE 1:25

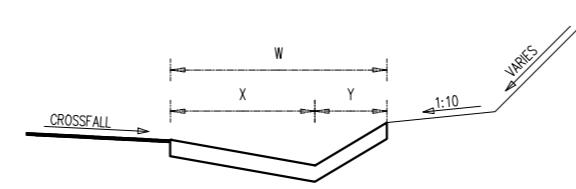


TYPE B1 KERB
SECTION THROUGH BARRIER KERB (FIG 5)
SCALE 1:10

TYPE "B" CONCRETE SIDE DRAIN



TYPE B2 KERB
(1:10)



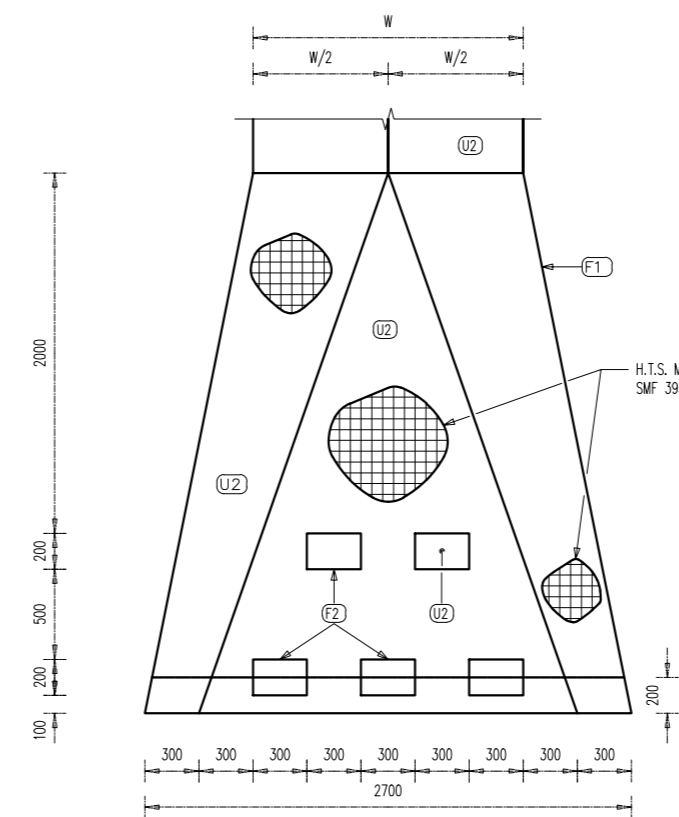
POSITION OF TYPE 'f' CONCRETE SIDE DRAIN

SCALE : SCHEMATIC

CASE(n)	W	X	Y	Z	D	VOLUME m ³ /m
1	1000	670	330	110	125	0,1250
2	1500	1000	500	170	125	0,1875
3	2000	1330	670	220	150	0,3000
4	2500	1670	830	280	150	0,3750

DIMENSIONS OF TYPE F CONCRETE CHANNELS

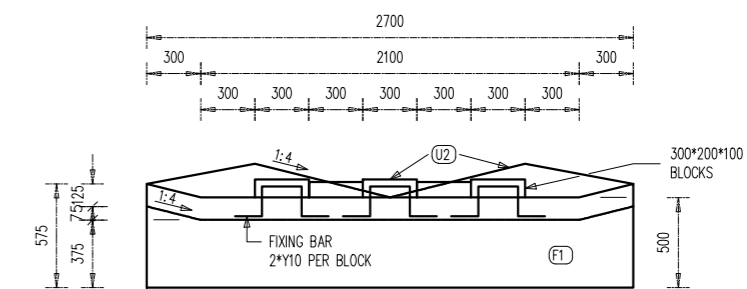
TYPE "f" CONCRETE SIDE DRAIN



PLAN OF ENERGY BREAKER

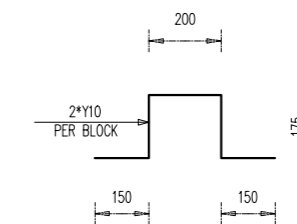
SCALE 1:20

DETAIL OF ENERGY BREAKER SYSTEM AT DISCHARGE POINT OF TYPE 'f' CONCRETE SIDE DRAIN



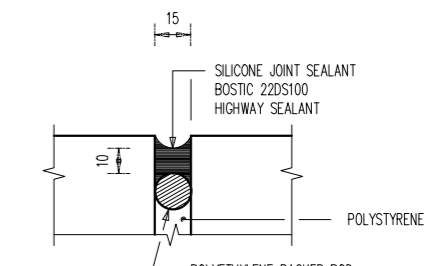
FRONT ELEVATION OF ENERGY BREAKER

SCALE 1:20



FIXING BAR

SCALE 1:10

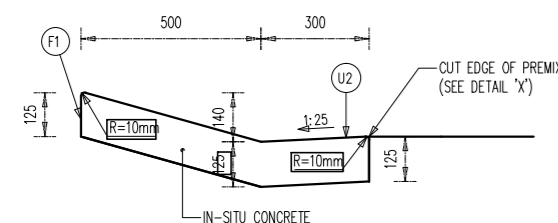


EXPANSION JOINT

SCALE : SCHEMATIC

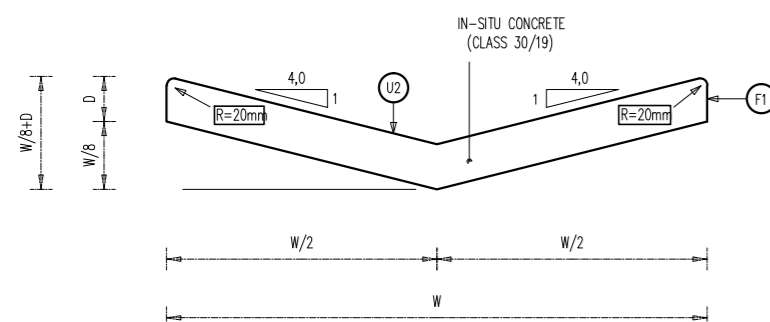
NOTE: EXPANSION JOINT EVERY 5th PANEL (10m)

- NOTES**
1. ALL CONCRETE CHANNELS AND OTHER DRAINAGE STRUCTURES ON THIS PLAN TO BE CAST USING CLASS 30/19 CONCRETE
 2. TYPES 'E' AND 'f' CONCRETE MUST BE CAST IN ALTERNATIVE LENGTHS OF 2.0 m MAXIMUM WITH EXPANSION JOINTS EVERY 5th PANEL (10 m)
 3. ALL EXPOSED CORNERS MUST BE ROUNDED OFF TO A RADIUS OF 10 mm
 4. THE CLASS OF SURFACE FINISH IS INDICATED AS 'f1' OR 'U2'
 5. V MIN. = 150mm (PREFERRED = 300mm)

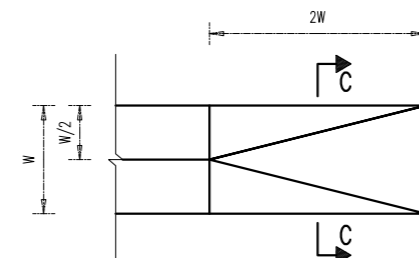


CROSS SECTION OF TYPE C MOUNTABLE KERB AT RURAL INTERSECTIONS
SCALE 1:10

TYPE "C" CONCRETE SIDE DRAIN



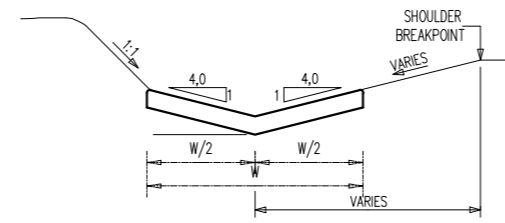
CROSS SECTION OF TYPE E CONCRETE CHANNEL IN OPEN DRAINS
SCALE : SCHEMATIC



BEGINNING OF TYPE 'e' CONCRETE DRAIN

SCALE : SCHEMATIC

TYPE "E" CONCRETE SIDE DRAIN



POSITION OF TYPE 'e' CONCRETE DRAIN IN SHALLOW CUT
SCALE : SCHEMATIC

CASE(n)	W	W/2	W/8	D	W/8+D	VOLUME m ³ /m
1	1000	500	125	125	250	0,1250
2	1500	750	188	125	313	0,1875
3	2000	1000	250	150	400	0,3000
4	2500	1250	313	150	463	0,3750

DIMENSIONS OF TYPE E CONCRETE CHANNELS

No.	DATE	REVISION	CONSULT.	MM
2	09/02/21	TENDER DRAWINGS	TN	

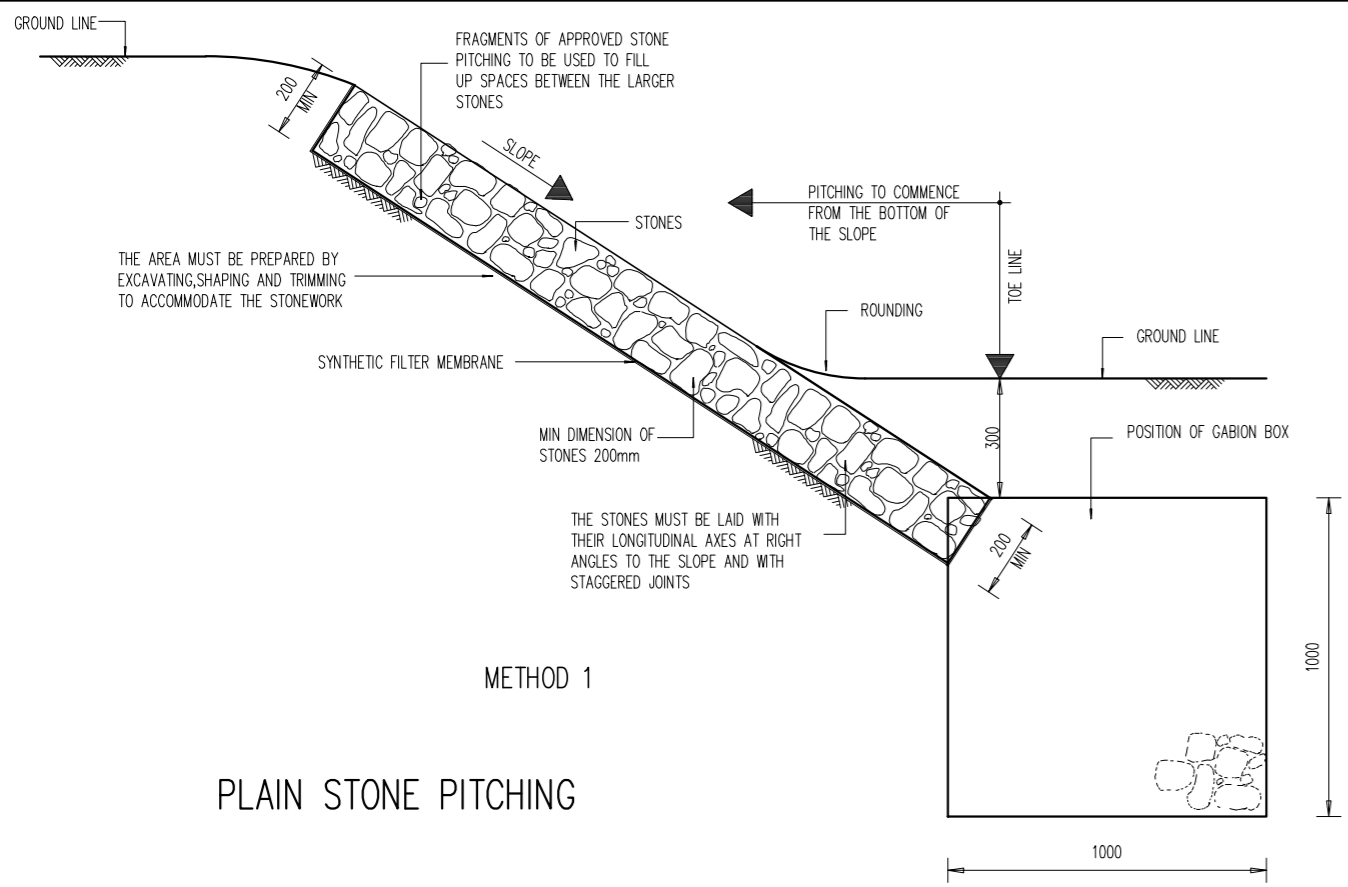
DESIGNED BY	T NEBOTALO Pr Eng
CHECKED BY	T NEBOTALO Pr Eng
DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng

NEVHUTALU CONSULTING ENGINEERS
 UNIT 10 J.CJ LIMPRO BUILDING
 6 HANS VAN RENSBURG POLKOWANE 0700
 Tel: (015) 291 3519
 Email: admin@nevhutalu.co.za

APPROVED BY	
FOR MM	DATE
DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE

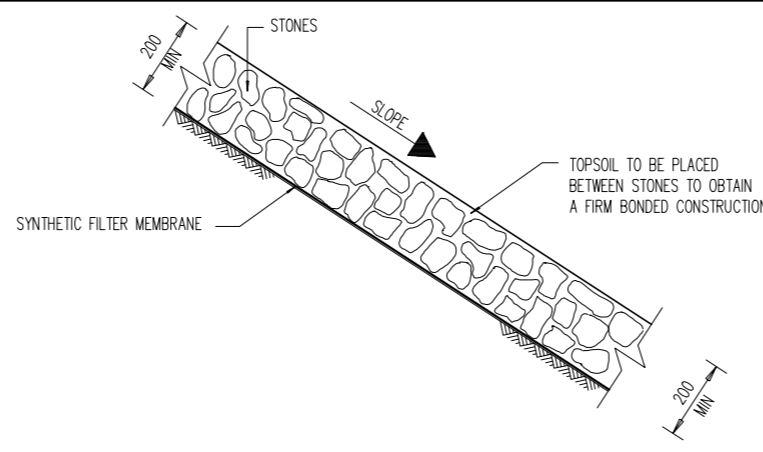
Molemole Municipality
 MOLEMOLE MUNICIPALITY
 303 CHURCH STREET
 PRIVATE BAG X44
 MOGWADI 0715
 TEL:015 501 2301
 FAX:015 501 0419

CONTRACT NO.:TECH-006-2021/22	AS BUILT PLAN (FULL SIGNATURE)	SHEET 7 OF 15
GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING	For MM DATE SCALE	At AS SHOWN
TYPICAL DETAIL OF CONCRETE SIDES DRAINS, KERBS AND ENERGY BREAKERS	CONSULTANTS DWG. No. DATE MEM DWG. No.	
	0133-MM-007	MM-TECH-007



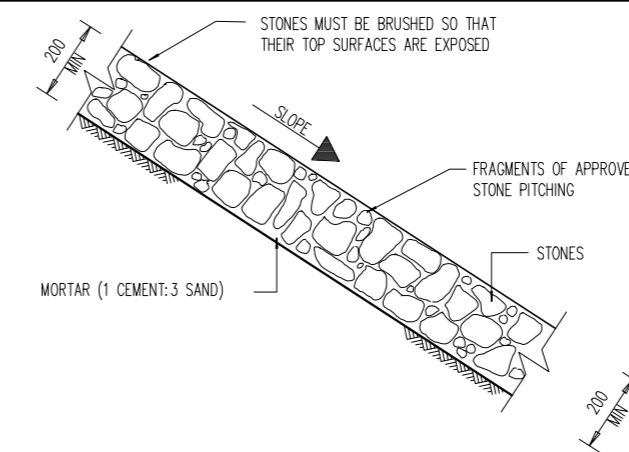
METHOD 1

PLAIN STONE PITCHING



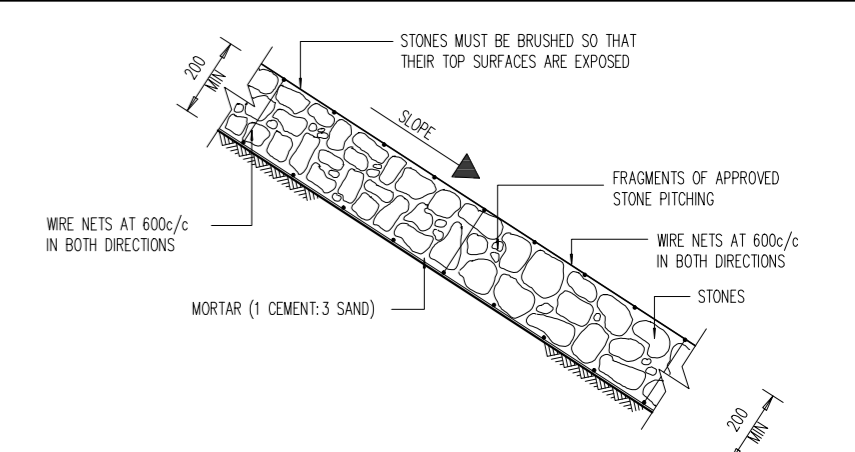
METHOD 2

NOTES:
THE TECHNIQUE AND REQUIREMENTS LAID DOWN IN METHOD 1 SHALL APPLY WITH THE FOLLOWING EXCEPTIONS:
1. NO SMALL STONES SHALL BE USED TO FILL THE SPACES BETWEEN THE LARGER STONES.
2. TOPSOIL SHALL BE INTRODUCED BETWEEN INDIVIDUAL STONES SIMULTANEOUSLY WITH PLACING OF STONES.
3. ROOTED GRASS OR GRASS TUFTS SHALL THEN BE PLACED IN THE TOPSOIL.



GRAOUTED STONE PITCHING

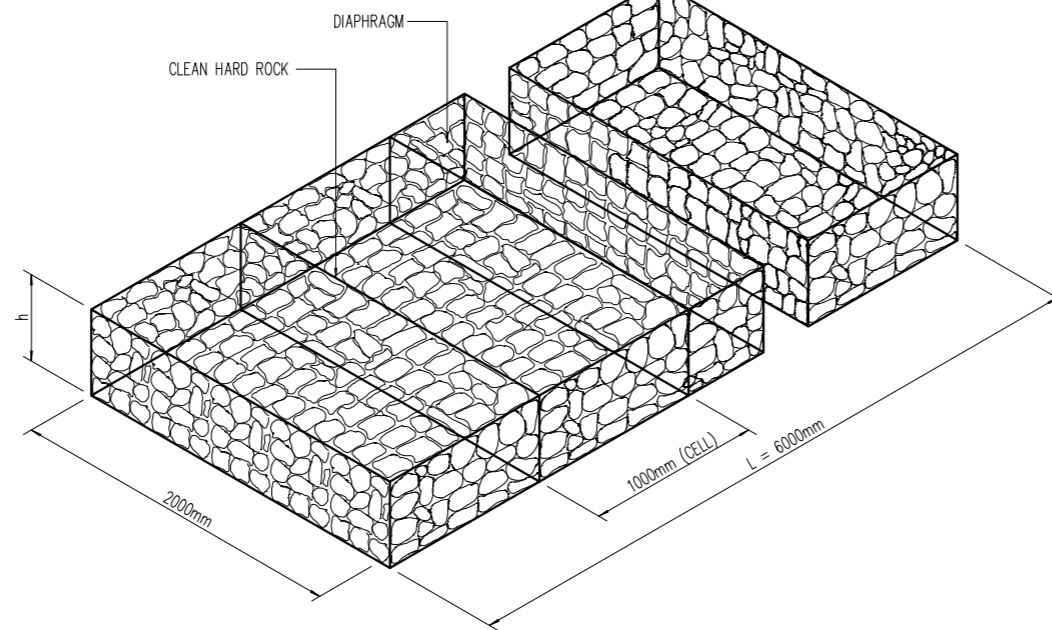
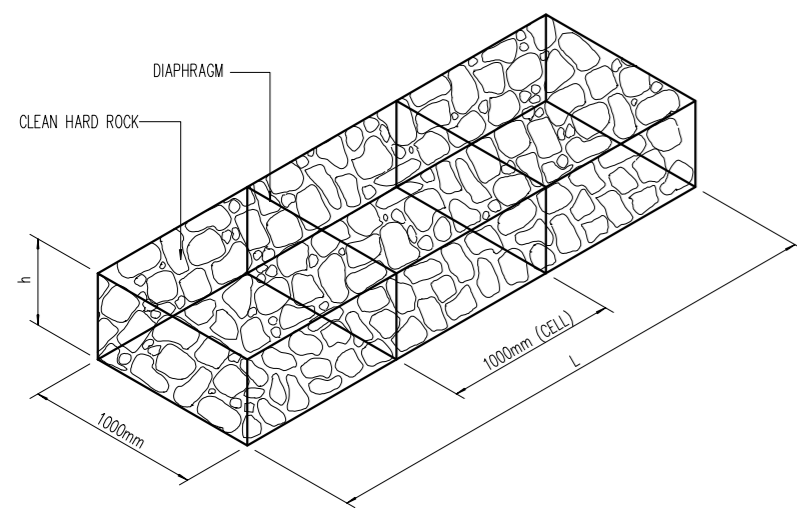
NOTES:
THE TECHNIQUE AND REQUIREMENTS LAID DOWN IN METHOD 1 SHALL APPLY WITH THE FOLLOWING EXCEPTION:
1. THE SPACES BETWEEN THE STONES SHALL BE FILLED WITH MORTAR.



WIRE AND GRAOUTED STONE PITCHING

NOTES:
THE TECHNIQUE AND REQUIREMENTS LAID DOWN IN METHOD 1 SHALL APPLY WITH THE FOLLOWING EXCEPTIONS.
1. PITCHING IN ACCORDANCE WITH GRAOUTED STONE PITCHING.
2. CONSTRUCTION SHALL BE AS FOLLOWS:
a) PLACING OF BOTTOM WIRE NET.
b) ATTACHING OF WIRE TIES TO BOTTOM MESH.
c) PITCHING.
d) PLACING THE TOP WIRE NET AND FASTENING WIRE TIES.
e) GRAOUTING.

GABIONS



MATTRESSES

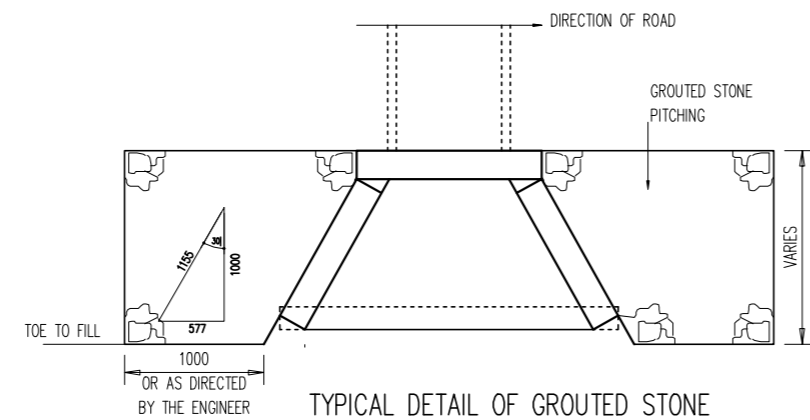
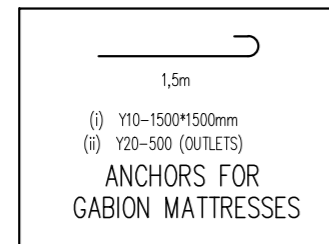
BOXES

STANDARD SIZES OF BOXES	
LENGTH	1000mm, 2000mm, 3000mm, 4000mm
WIDTH	1000mm
DEPTH	500mm, 1000mm
DIAPHRAGM SPACING	1000mm

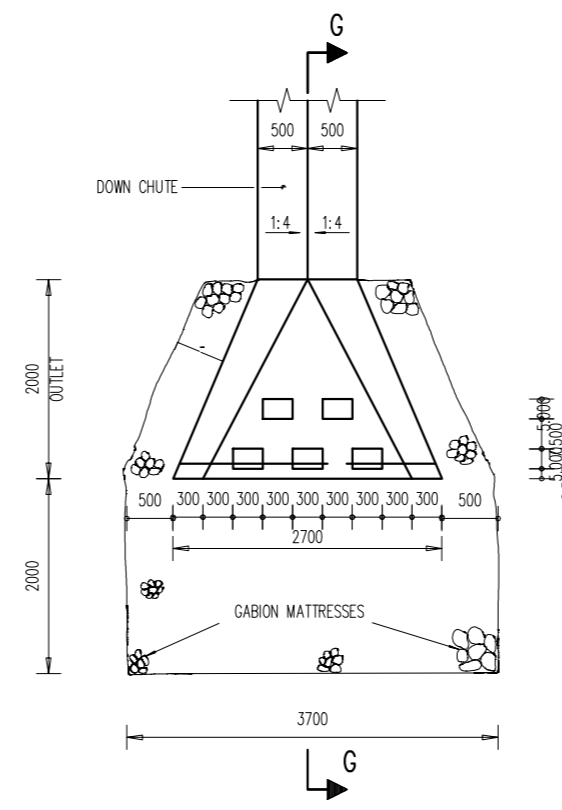
MESH SIZE AND WIRE DIAMETER FOR CAGES		
DEPTH OF GABION AND OVER	MESH SIZE (mm)	WIRE DIA. (mm)
500mm	80 x 100	2,7
200mm TO 300mm	80 x 100	2,5

STANDARD SIZES	
LENGTH	6000mm
WIDTH	2000mm
DEPTH	170mm, 230mm, 300mm

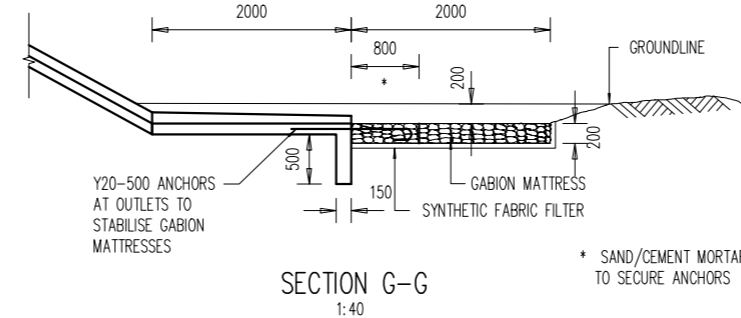
ROCK USED FOR THE FILLING OF CAGES		
DEPTH OF CAGES	ROCK SIZE (DIMENSIONS)	
	MIN. (mm)	MAKS. (mm)
230	100	125
300	100	200
500	100	250
1000	100	300



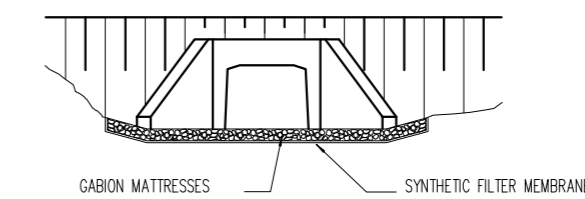
TYPICAL DETAIL OF GROUTED STONE PITCHING ADJACENT TO WINGWALLS
N.T.S.



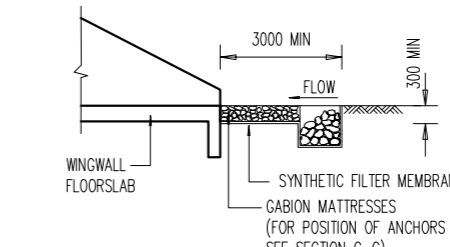
PLAN OF DOWN CHUTE AND ENERGY BREAKER
1:40



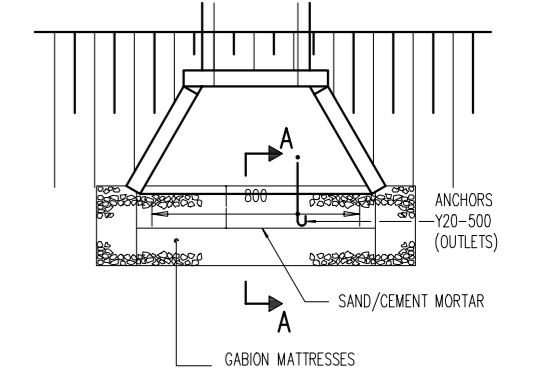
SECTION G-G
1:40



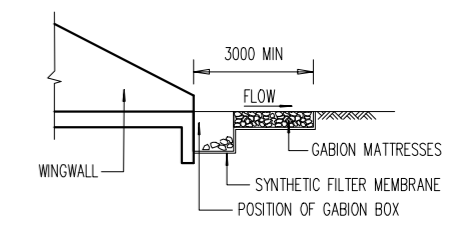
ELEVATION OF INLET/OUTLET



SECTION A-A (INLET)

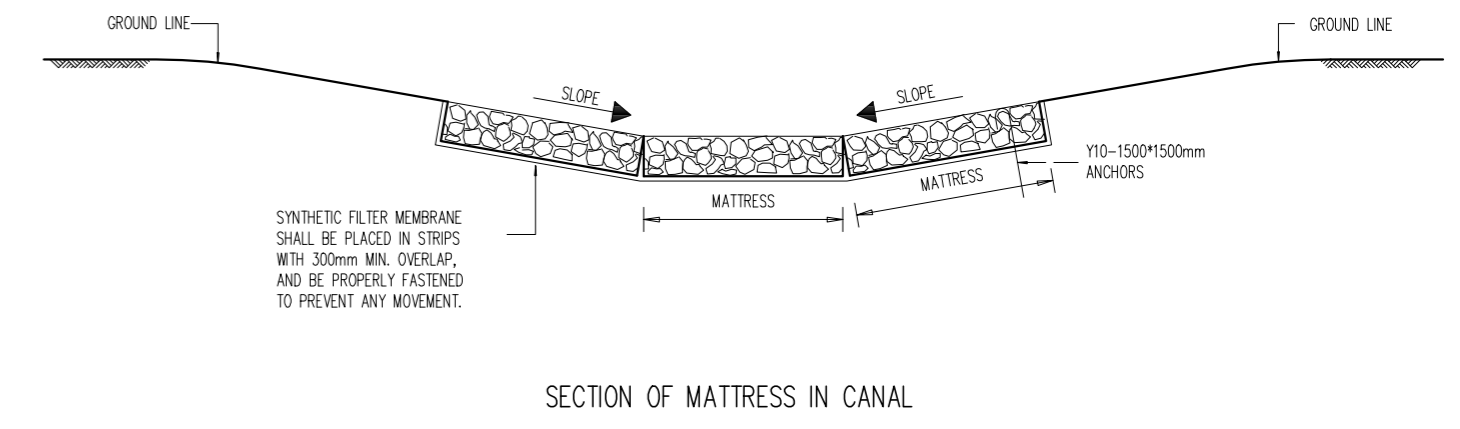


PLAN OF INLET/OUTLET



SECTION A-A (OUTLET)

DETAIL OF GABION MATTRESSES AND BOXES AT INLETS AND OUTLETS



SECTION OF MATTRESS IN CANAL

No.	DATE	REVISION	CONSULT	MM
2	09/2021	TENDER DRAWINGS	TN	

DESIGNED BY	T NEBOTALO Pr Eng
CHECKED BY	T NEBOTALO Pr Eng
DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng

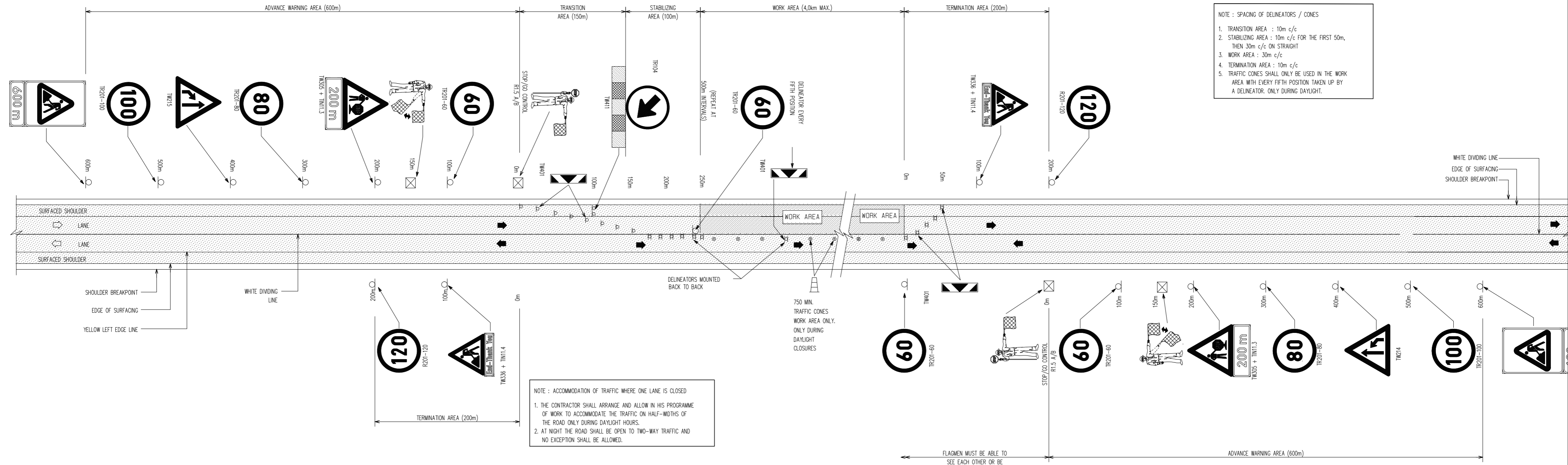
NEVHUTALU CONSULTING ENGINEERS
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 6 HANS VAN RENSBURG POLOKWANE 0700
 Tel: (015) 291 3519
 Email: admin@nevhutalu.co.za

APPROVED BY	
FOR MM	DATE
DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE

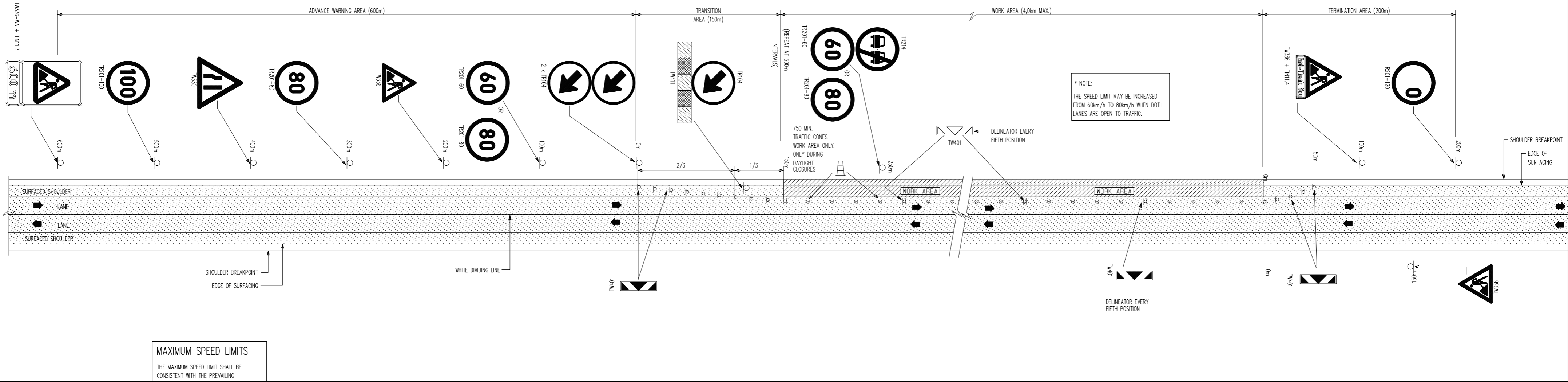
Molemole Municipality
 MOLEMOLE MUNICIPALITY
 303 CHURCH STREET
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 MOGWADI 0715
 TEL: 015 501 2301
 FAX: 015 501 0419

CONTRACT NO.:TECH-006-2021/22
GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING
STONE PITCHING AND GABION PROTECTION DETAILS

AS BUILT PLAN (FULL SIGNATURE)	SHEET 8 OF 15
For MM	DATE
SCALE	AS SHOWN
CONSULTANTS DWG. No.	MEM DWG. No.
0133-MM-008	MM-TECH-008



SIGN SEQUENCE FOR STOP / GO OPERATION FOR LANE AND SHOULDER CLOSURE ON SINGLE CARRIAGEWAY ROADS



MAXIMUM SPEED LIMITS
THE MAXIMUM SPEED LIMIT SHALL BE CONSISTENT WITH THE PREVAILING

No.	DATE	REVISION	CONSULT.	MM
2	09/2021	TENDER DRAWINGS	TN	

DESIGNED BY	T NEBOTALO Pr Eng
CHECKED BY	T NEBOTALO Pr Eng
DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng

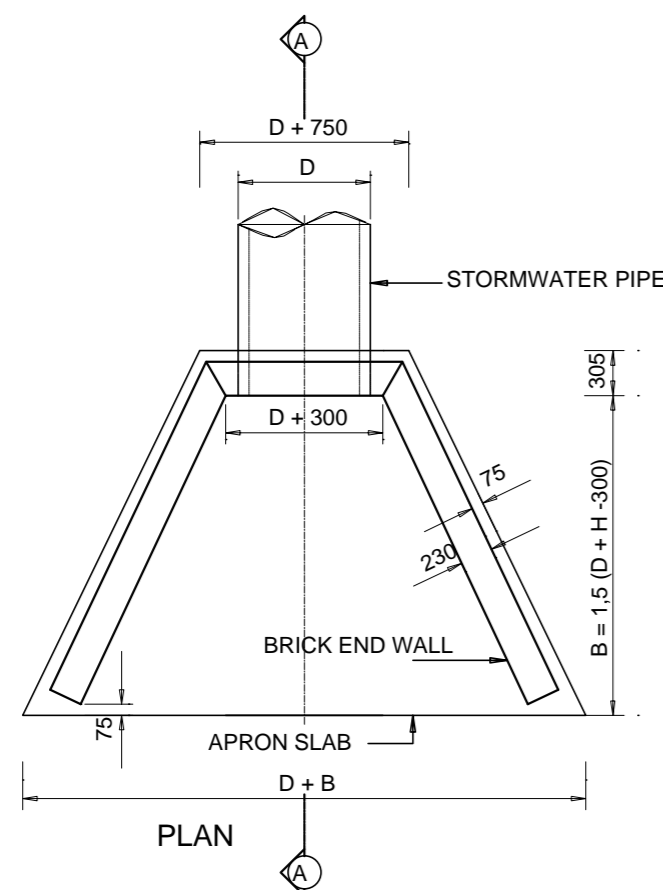
APPROVED BY	
FOR MM	DATE
DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE

NEVHUTALU CONSULTING ENGINEERS
 UNIT 10, JCJ LIMPRO BUILDING
 6 HANS VAN RENSBURG
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Molemole Municipality
 MOLEMOLE MUNICIPALITY
 303 CHURCH STREET
 PRIVATE BAG X44
 MOGWADI
 0715
 TEL: 015 501 2301
 FAX: 015 501 0419

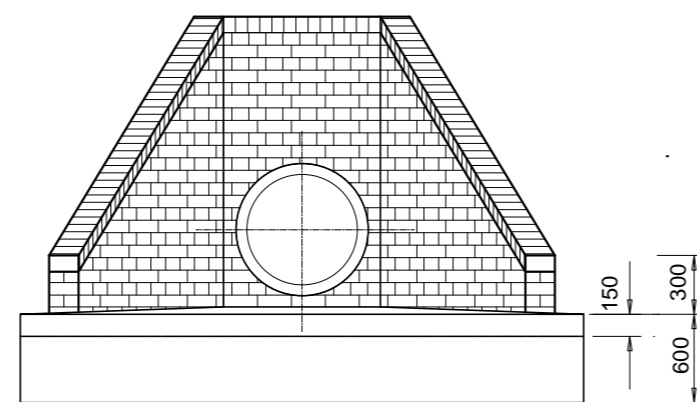
CONTRACT NO.: TECH-006-2021/22	
GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING	
ROAD TRAFFIC MANAGEMENT	

AS BUILT PLAN (FULL SIGNATURE)	SHEET 9 OF 15
For MM	DATE
AT AS SHOWN	SCALE
FOR CONSULTING ENGINEER	DATE
CONSULTANTS DWG. No.	MEM DWG. No.
0133-MM-009	MM-TECH-009

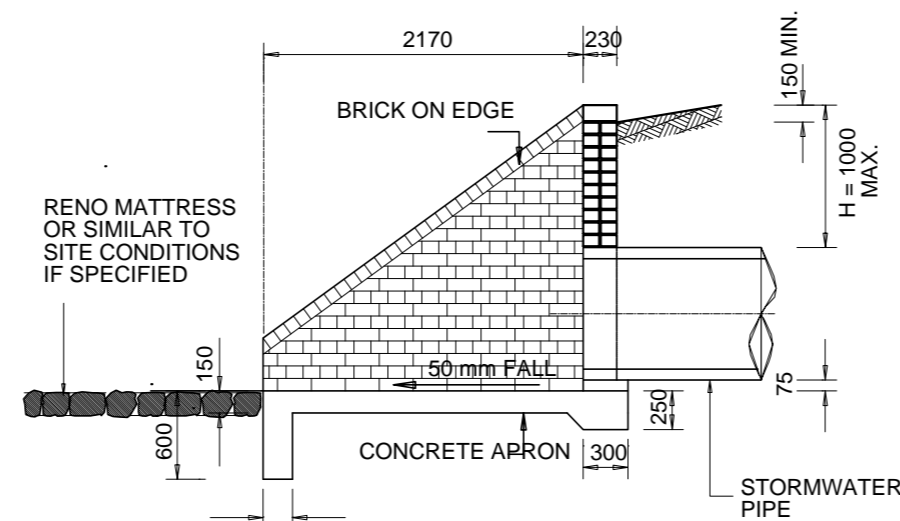


NOTES

1. THE MATERIAL FOR A DEPTH OF 150mm UNDER THE APRON SLAB MUST BE COMPACTED TO A MINIMUM DENSITY OF 90% OF THE MOD. AASHTO DENSITY.
2. ALL CONCRETE TO BE CLASS 20/19.
3. ONLY BRICKS OF AN ENGINEERING STANDARD IN ENGLISH BOND WITH POINTING MUST BE USED.
4. ENERGY BREAKERS MUST BE PROVIDED ACCORDING TO DRG JRA-SD-S018 WHEN REQUIRED BY THE ENGINEER
5. THIS OUTLET STRUCTURE ONLY TO BE USED WHEN PIPE SIZE IS LESS THAN 600 mm dia. REFER TO JRA-SD-S018

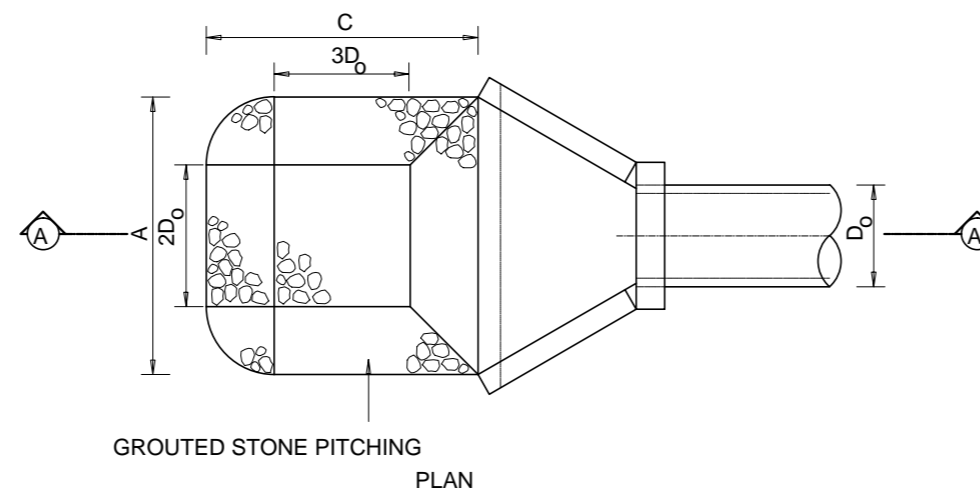


FRONT ELEVATION

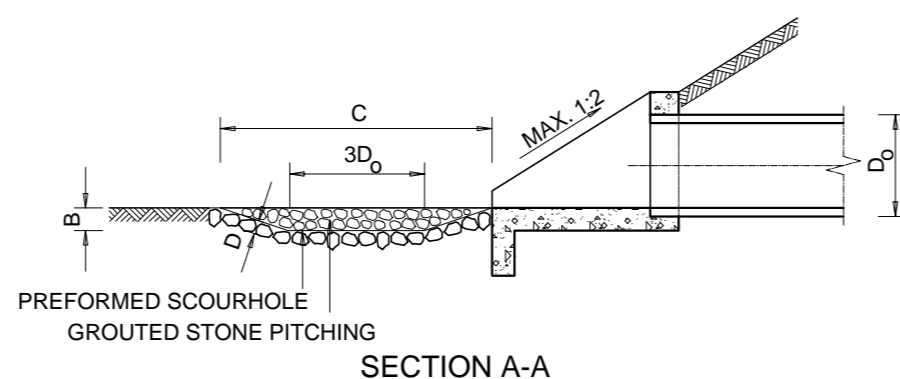


SECTION A-A

DETAIL OF TYPICAL BRICK OUTLET STRUCTURE

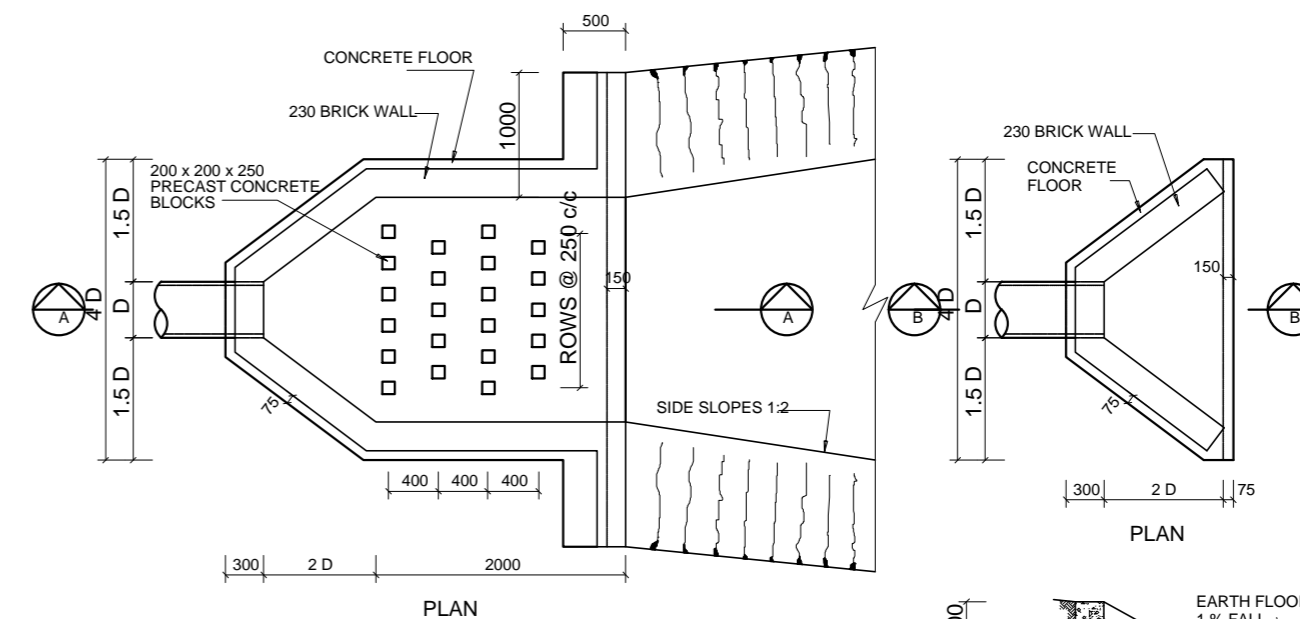


GROUTED STONE PITCHING PLAN

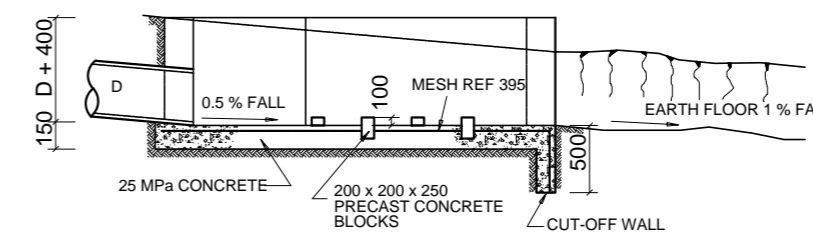


SECTION A-A

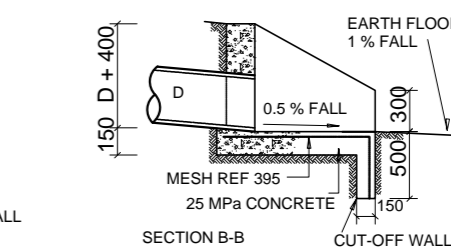
EROSION PROTECTION AT OUTLET STRUCTURES



PLAN



SECTION A-A ENERGY DISSIPATION OUTLET



SECTION B-B

TYPICAL OUTLET STRUCTURE DETAILS

- NOTE:
1. ONE LAYER OF MESH REF 395 TO BE PLACED ON FLOOR AND CUT-OFF WALL AS SHOWN WITH 25mm COVER AND MIN. LAP LENGTH OF 350mm.
 2. PRECAST CONCRETE BLOCKS IN ENERGY DISSIPATING OUTLETS TO BE CHAMFERED ON EXPOSED EDGES.

NOTES

1. REFER TO DRG. JRA-SD-S018 OR JRA-SD-S026 FOR DETAILS OF THE OUTLET STRUCTURE.
2. GROUTED STONE PITCHING TO BE DONE ACCORDING TO THE SABS 1200 STANDARDIZED SPECIFICATIONS.
3. D_0 = HEIGHT OF OUTLET PIPE/CULVERT/BOX/CULVERT.

DIMENSIONS		
FOR SHALLOW STILLING BASIN (SEE NOTE)	DIMENSIONS	FOR DEEP STILLING BASIN (SEE NOTE)
$\frac{0.0552(Q^{1.333})}{D_0^{2.333}}$ (m)	D_{50}	$\frac{0.0362(Q^{1.333})}{D_0^{2.333}}$ (m)
$5D_0$ (m)	A	$8D_0$ (m)
$0.5 D_0$ (m)	B	D_0 (m)
$6D_0$ (m)	C	$9D_0$ (m)
$2D_{50}$ (m)	D	$2D_{50}$ (m)

NOTE: REFER TO THE 'NATIONAL TRANSPORT COMMISSION HANDBOOK FOR ROAD DRAINAGE' FOR THE APPLICABILITY OF THE VARIOUS TYPES OF EROSION PROTECTION

No.	DATE	REVISION	CONSULT.	MM
2	09/2021	TENDER DRAWINGS	TN	

DESIGNED BY	T NEBOTALO Pr Eng
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DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng

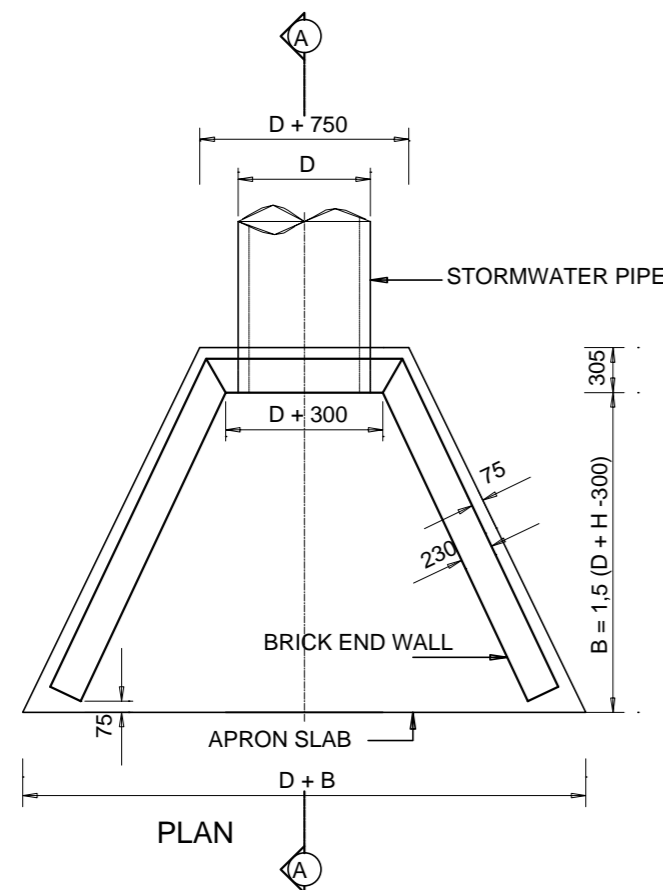
NEVHUTALU CONSULTING ENGINEERS
 UNIT 10, JCJ LIMPRO BUILDING
 6 HANS VAN RENSBURG POLOKWANE 0700
 Tel: (015) 291 3519
 Email: admin@nevhutalu.co.za

APPROVED BY	
FOR MM	DATE
DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE

Molemole Municipality
 MOLEMOLÉ MUNICIPALITY
 303 CHURCH STREET
 PRIVATE BAG X44
 MOGWADI
 0715
 TEL:015 501 2301
 FAX:015 501 0419

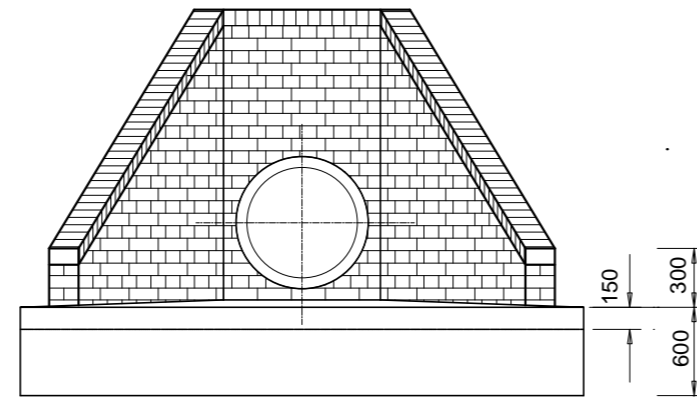
CONTRACT NO.:TECH-006-2021/22
GA-SAKO UPGRADE OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING
DETAILS OF OUTLET STRUCTURES

AS BUILT PLAN (FULL SIGNATURE)	SHEET 11 OF 15
For MM	DATE
SCALE	A1 AS SHOWN
FOR CONSULTING ENGINEER	DATE
CONSULTANTS DWG. No.	MM DWG. No.
0133-MM-011	MM-TECH-011

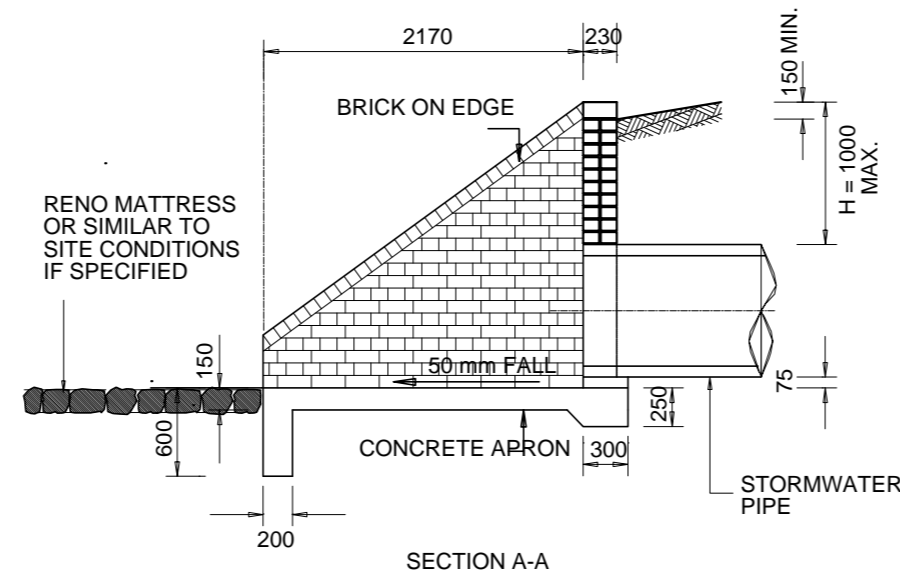


NOTES

1. THE MATERIAL FOR A DEPTH OF 150mm UNDER THE APRON SLAB MUST BE COMPACTED TO A MINIMUM DENSITY OF 90% OF THE MOD. AASHTO DENSITY.
2. ALL CONCRETE TO BE CLASS 20/19.
3. ONLY BRICKS OF AN ENGINEERING STANDARD IN ENGLISH BOND WITH POINTING MUST BE USED.
4. ENERGY BREAKERS MUST BE PROVIDED ACCORDING TO DRG JRA-SD-S018 WHEN REQUIRED BY THE ENGINEER
5. THIS OUTLET STRUCTURE ONLY TO BE USED WHEN PIPE SIZE IS LESS THAN 600 mm dia. REFER TO JRA-SD-S018

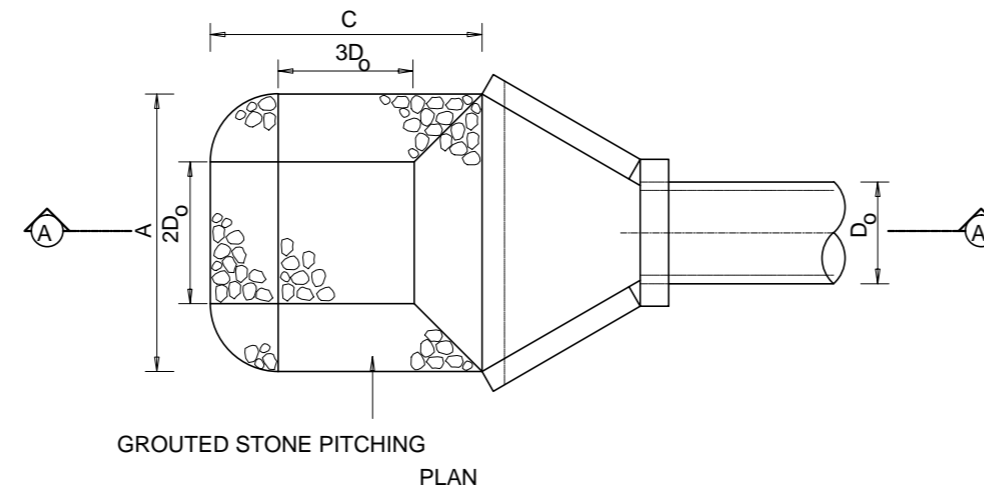


FRONT ELEVATION

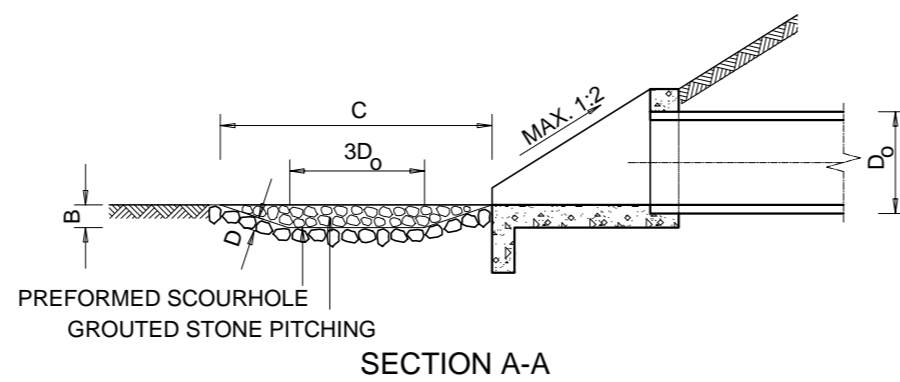


SECTION A-A

DETAIL OF TYPICAL BRICK OUTLET STRUCTURE

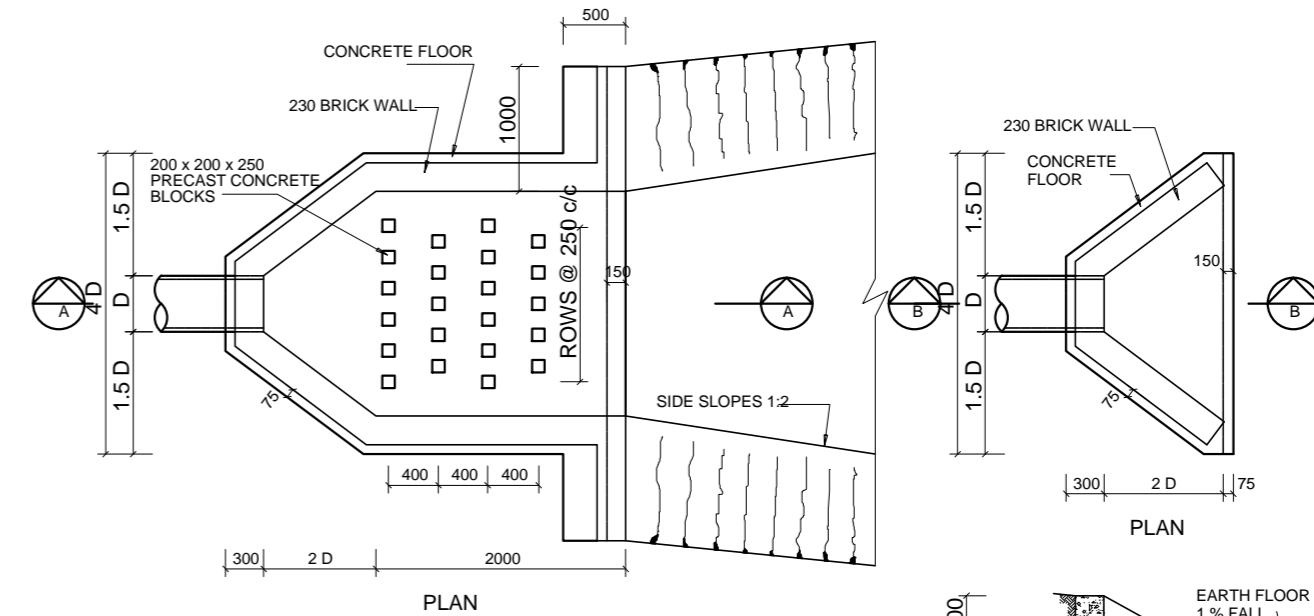


GROUTED STONE PITCHING PLAN

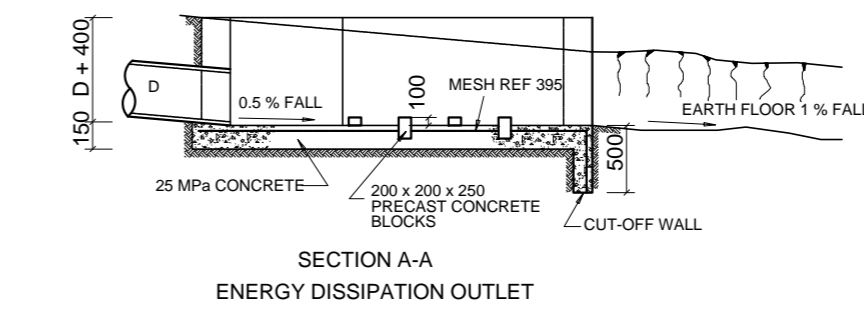


SECTION A-A

EROSION PROTECTION AT OUTLET STRUCTURES



PLAN



SECTION A-A ENERGY DISSIPATION OUTLET

- NOTE:
1. ONE LAYER OF MESH REF 395 TO BE PLACED ON FLOOR AND CUT-OFF WALL AS SHOWN WITH 25mm COVER AND MIN. LAP LENGTH OF 360mm.
 2. PRECAST CONCRETE BLOCKS IN ENERGY DISSIPATING OUTLETS TO BE CHAMFERED ON EXPOSED EDGES.

TYPICAL OUTLET STRUCTURE DETAILS

NOTES

1. REFER TO DRG. JRA-SD-S018 OR JRA-SD-S026 FOR DETAILS OF THE OUTLET STRUCTURE.
2. GROUTED STONE PITCHING TO BE DONE ACCORDING TO THE SABS 1200 STANDARDIZED SPECIFICATIONS.
3. D_0 = HEIGHT OF OUTLET PIPE/CULVERT/BOX/CULVERT.

DIMENSIONS		
FOR SHALLOW STILLING BASIN (SEE NOTE)	DIMENSIONS	FOR DEEP STILLING BASIN (SEE NOTE)
$\frac{0.0552(Q^{1.333})}{D_0^{2.333}}$ (m)	D_{50}	$\frac{0.0362(Q^{1.333})}{D_0^{2.333}}$ (m)
$5D_0$ (m)	A	$8D_0$ (m)
$0.5 D_0$ (m)	B	D_0 (m)
$6D_0$ (m)	C	$9D_0$ (m)
$2D_{50}$ (m)	D	$2D_{50}$ (m)

NOTE: REFER TO THE 'NATIONAL TRANSPORT COMMISSION HANDBOOK FOR ROAD DRAINAGE' FOR THE APPLICABILITY OF THE VARIOUS TYPES OF EROSION PROTECTION

No.	DATE	REVISION	CONSULT.	MM
2	09/2021	TENDER DRAWINGS	TN	

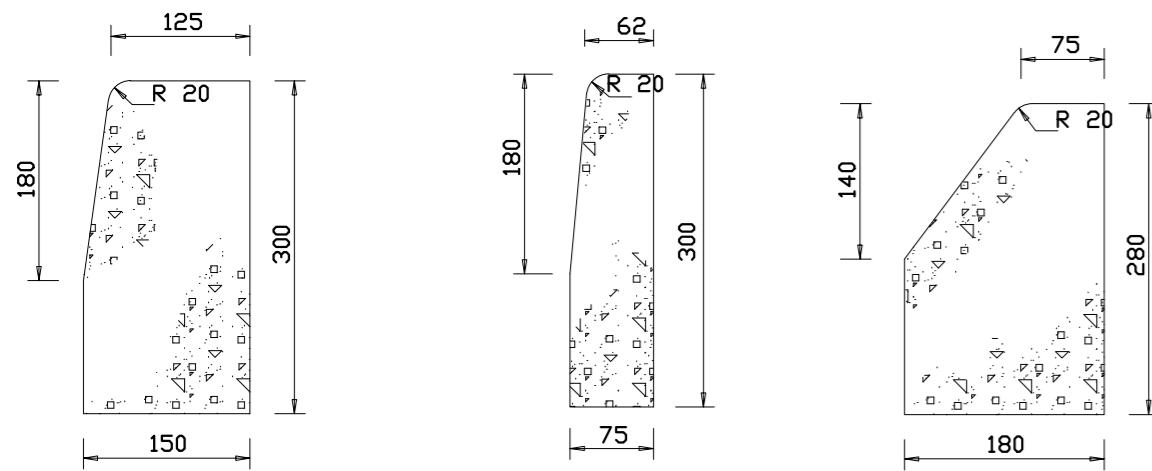
DESIGNED BY	T NEBOTALO Pr Eng
CHECKED BY	T NEBOTALO Pr Eng
DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng

APPROVED BY	
FOR MM	DATE
DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE

NEVHUTALU CONSULTING ENGINEERS
 UNIT 10, JCJ LIMPRO BUILDING
 6 HANS VAN RENSBURG POLOKWANE 0700
 Tel: (015) 291 3519
 Email: admin@nevhutalu.co.za

Molemole Municipality
 MOLEMOLE MUNICIPALITY
 303 CHURCH STREET
 PRIVATE BAG X44
 MOGWADI
 0715
 TEL:015 501 2301
 FAX:015 501 0419

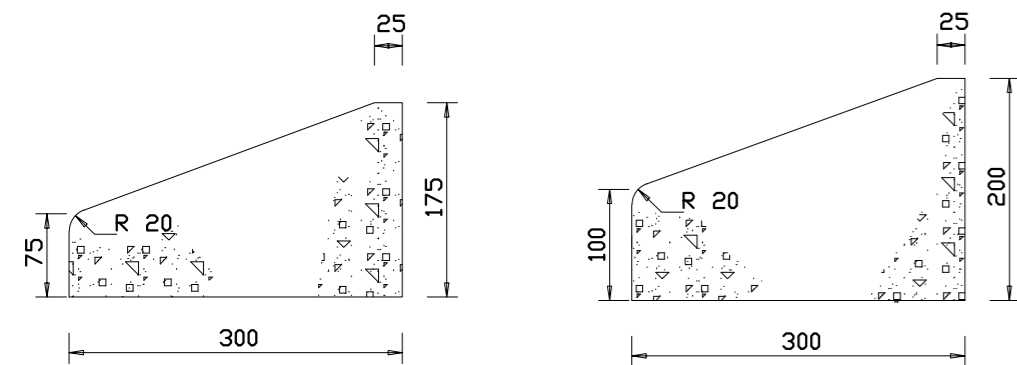
CONTRACT NO.:TECH-006-2021/22	AS BUILT PLAN (FULL SIGNATURE)	SHEET 11 OF 15
UPGRADING OF 2.1 KM INTERNAL STREET IN GA-SAKO FROM GRAVEL TO SURFACING (MULTI-YEAR)	For MM	SCALE
DETAILS OF OUTLET STRUCTURES	DATE	A1 AS SHOWN
	CONSULTANTS DWG. No.	MM DWG. No.
	0133-MM-011	MM-TECH-011



BARRIER KERB
SABS (FIG. 3)
Can also be used as mountable kerbs

RECTANGULAR
SABS (FIG. 5)

SEMI-MOUNTABLE KERB
SABS (FIG. 7)
For use in medians only



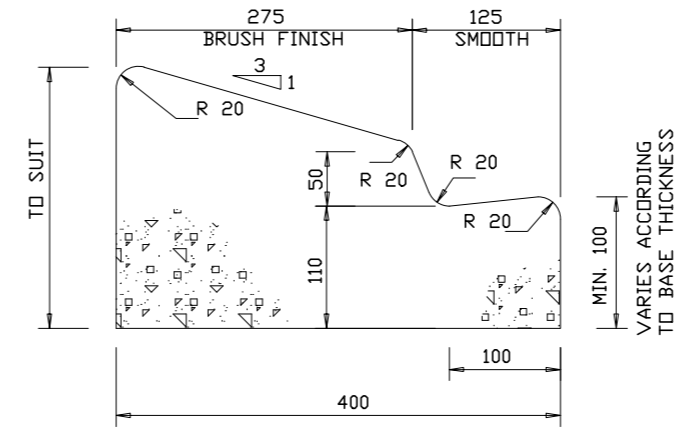
MOUNTABLE KERB
SABS (FIG. 8b)

MOUNTABLE KERB
SABS (FIG. 8c)
Industrial use

RECTANGULAR
SABS (FIG.10)
For high side kerbing in low cost developments

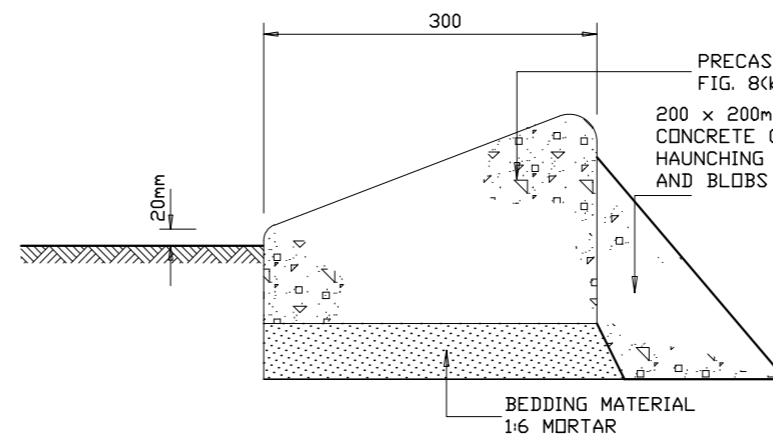
RECTANGULAR
SABS (FIG.12)
Edge restraints for paving blocks

- NOTES:**
1. MOUNTABLE KERBS TO BE FIG.8B UNLESS OTHERWISE SPECIFIED
 2. ALL KERB SHAPES AND STRENGTH TO COMPLY WITH SABS 927.
 3. ALL KERBING ON CURVES TO BE CONTINUOUSLY HAUNCHED, KERBS ON STRAIGHT SECTIONS HAUNCHED ONLY AT JOINTS.
 4. REFLECTIVE KERBING TO BE USED WHERE EXTRA SAFETY IS REQUIRED

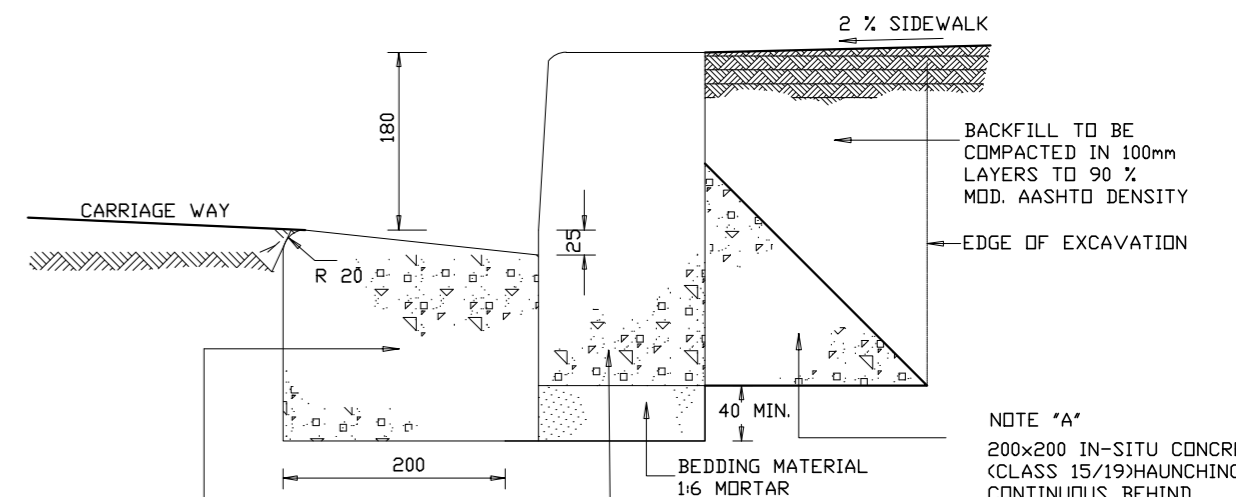


CAST IN-SITU MOUNTABLE KERB WITH GUTTER
Only to be used when no alternative exists

- NOTES**
1. MINIMUM CONCRETE STRENGTH OF ALL CAST IN-SITU KERBS TO BE CLASS 25/19.
 2. CONCRETE CUTTER TO HAVE A STEEL TROWEL FINISH



PRECAST MOUNTABLE KERB (FIG. 8B OR 8C)



DETAIL OF BARRIER KERB (FIG. 3)

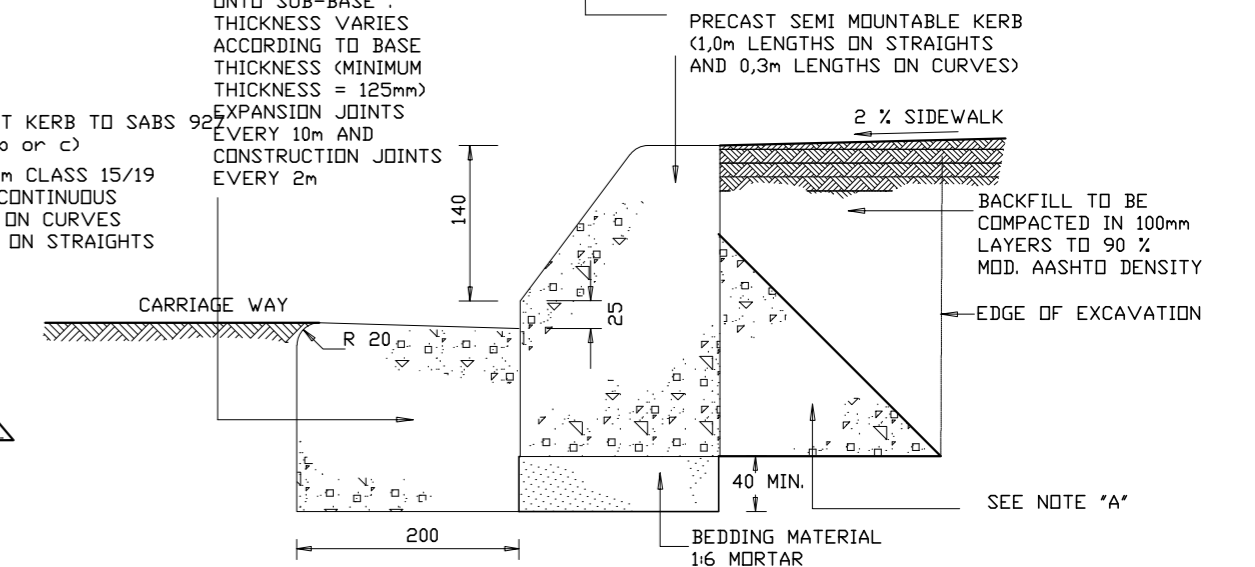
CLASS 25/19 CAST IN-SITU CONCRETE GUTTER CAST ONTO SUB-BASE. THICKNESS VARIES ACCORDING TO BASE THICKNESS (MINIMUM THICKNESS = 125mm). EXPANSION JOINTS EVERY 10m AND CONSTRUCTION JOINTS EVERY 2m.

PRECAST SEMI MOUNTABLE KERB (1,0m LENGTHS ON STRAIGHTS AND 0,3m LENGTHS ON CURVES)

BACKFILL TO BE COMPACTED IN 100mm LAYERS TO 90% MOD. AASHTO DENSITY

EDGE OF EXCAVATION

NOTE 'A'
200x200 IN-SITU CONCRETE (CLASS 15/19) HAUNCHING CONTINUOUS BEHIND KERBING ON CURVES AND ONLY AT JOINTS ON STRAIGHTS



DETAIL OF SEMI-MOUNTABLE KERB (FIG. 7)

No.	DATE	REVISION	CONSULT.	MM
2	09/2021	TENDER DRAWINGS	TN	

DESIGNED BY	T NEBOTALO Pr Eng
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DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng

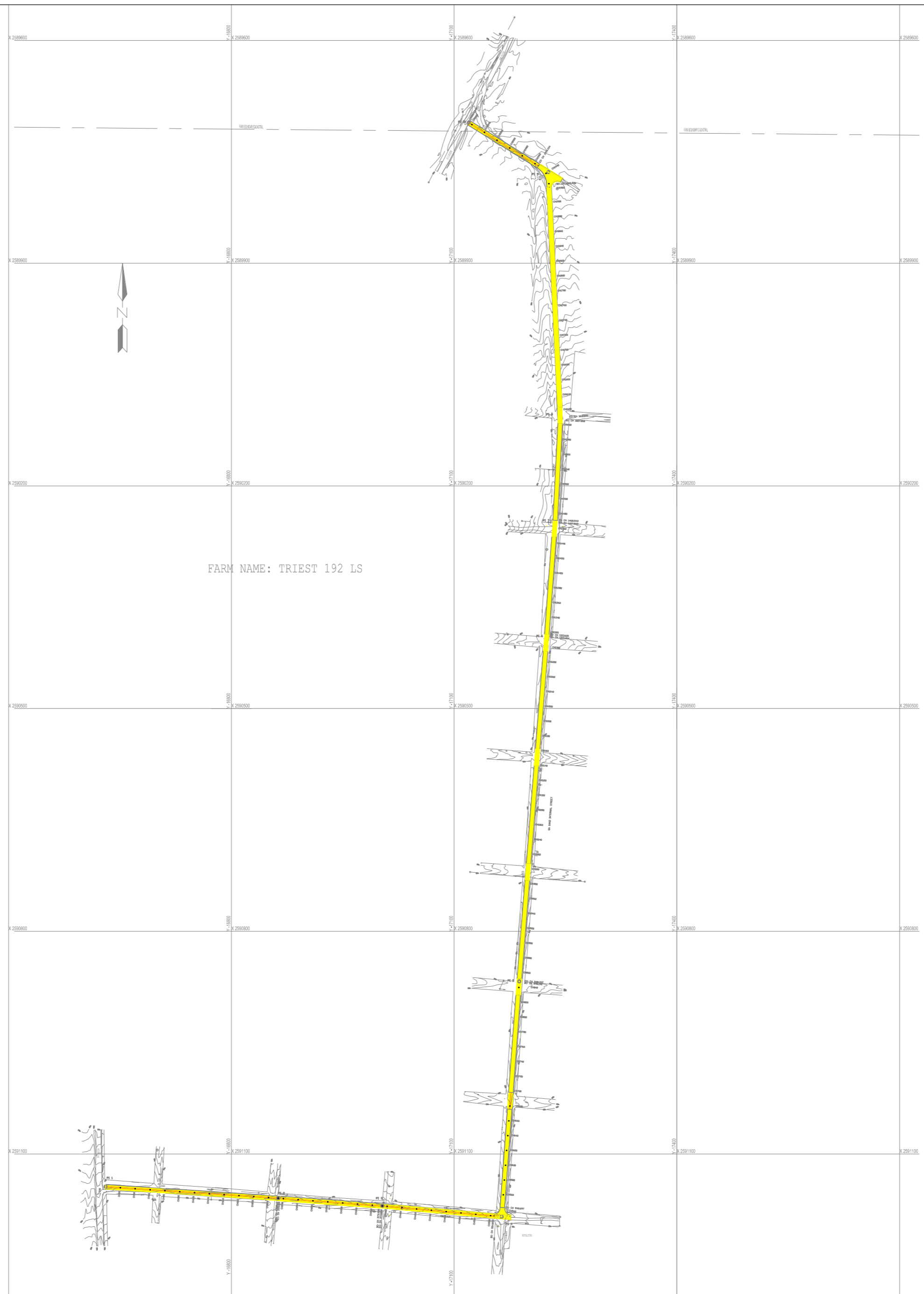
NEVHUTALU CONSULTING ENGINEERS
UNIT 10, JCJ LIMPRO BUILDING
6 HANS VAN RENSBURG
POLOKWANE
0700
Tel: (015) 291 3519
Email: admin@nevhutalu.co.za

APPROVED BY	
FOR MM	DATE
DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE

Molemole Municipality
MOLEMOLE MUNICIPALITY
303 CHURCH STREET
PRIVATE BAG X44
MOGWADI
0715
TEL:015 501 2301
FAX:015 501 0419

CONTRACT NO.:TECH-006-2021/22
GA-SAKO UPGRADE OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING
TYPICAL KERB DETAILS

AS BUILT PLAN (FULL SIGNATURE)	SHEET 12 OF 15
For MM	DATE
SCALE	A1 AS SHOWN
FOR CONSULTING ENGINEER	DATE
MM DWG. No.	MM-TECH-012



No.	DATE	REVISION	CONSULT.	MM
2	09/2021	TENDER DRAWINGS	TN	

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CHECKED BY	T NEBOTALO Pr Eng

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CONSULTING ENGINEERS
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APPROVED BY	
FOR: MUNICIPAL MANAGER	DATE
DESIGN APPROVED	
FOR: CONSULTING ENGINEER	DATE



MOLEMOLÉ MUNICIPALITY
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0715
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FAX: 015 501 0419

CONTRACT NO.: TECH-003-02021/22	
GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING	
STREETS LAYOUT	

AS BUILT PLAN (FULL SIGNATURE)	SHEET 13 OF 15
FOR: MM	DATE
SCALE	
FOR CONSULTING ENGINEER	DATE
CONSULTANTS PROJECT No.	MM DRG. No.
0133-MM-013	MM-TECH-013

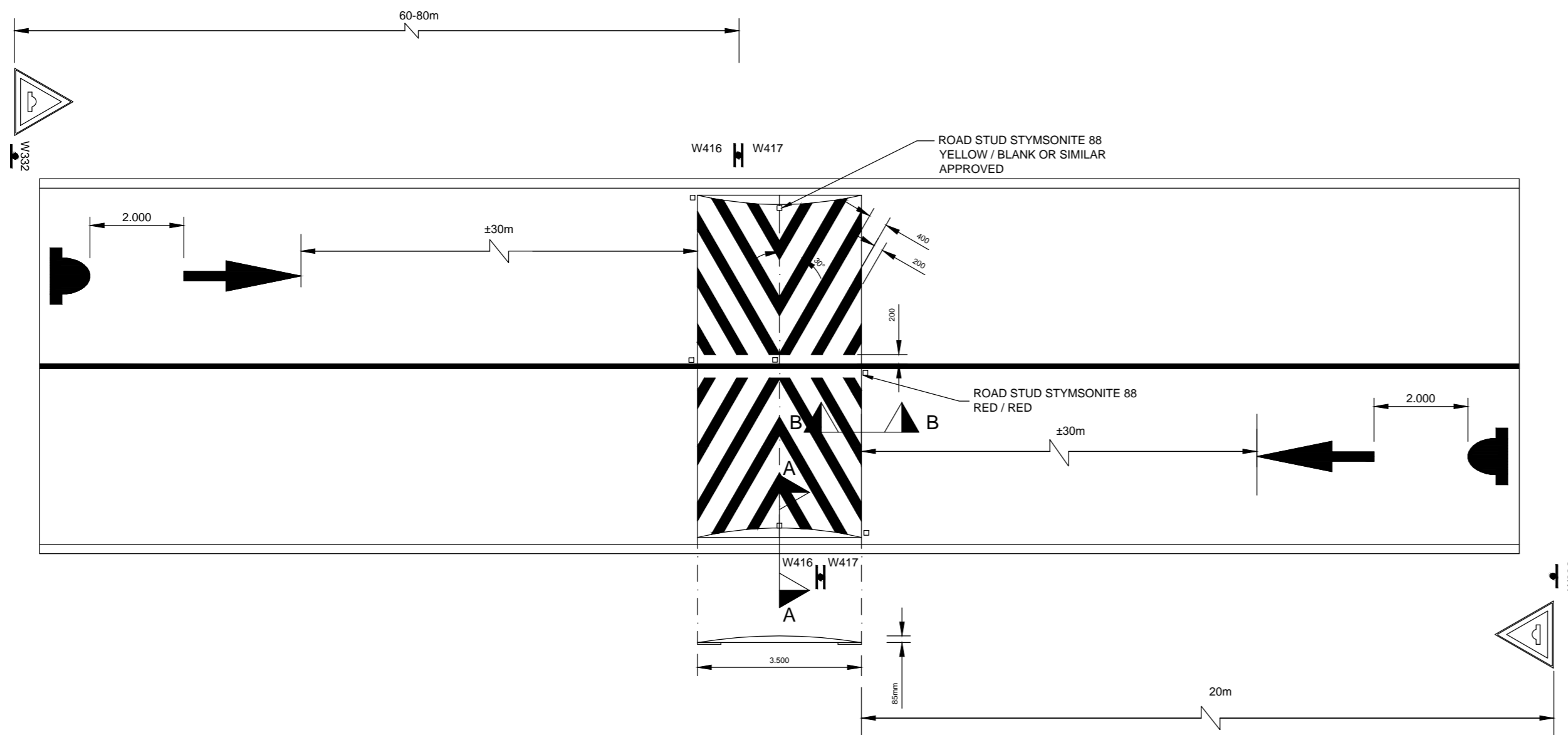
NOTES

CONSTRUCTION METHOD:

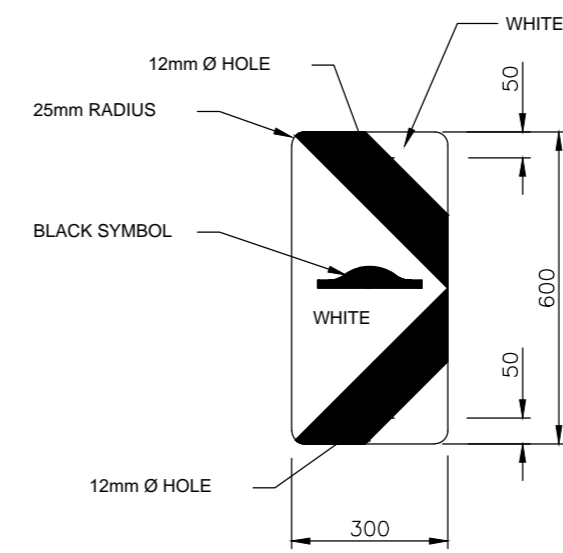
1. Setting out of hump - few days before construction.
 2. Saw cuts one to two days before construction.
- ON CONSTRUCTION DAY:**
3. Remove 500 mm asphalt strips.
 4. Start erecting road signs and paint warning road marking.
 5. Place asphalt in strips and compact with two passes without vibrator.
 6. Place templates - both sides of one lane at a time.
 7. Place asphalt and rake till slightly higher than templates.
 8. Shape asphalt with straight edge (channel section 6 m long).
 9. Remove templates and compact without vibrator (three passes)
 10. Measure profile and rectify if necessary.
 11. Final compaction with three to four passes with vibrator.
 12. Place road studs.
 13. Paint speed hump the next day.

NOTE:

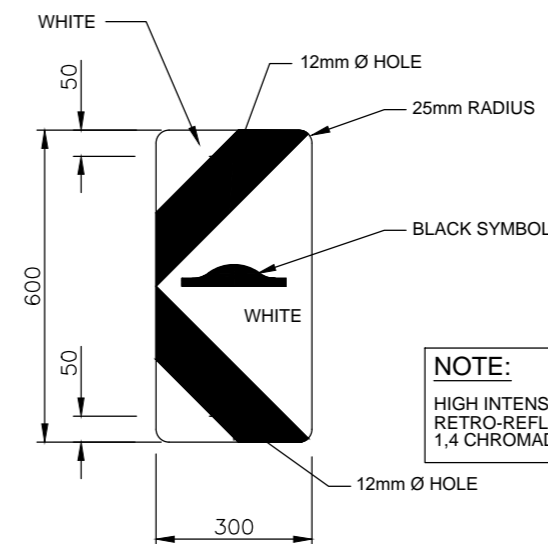
The Traffic Engineering and Operation section must always be consulted to assist with the setting out of raised pedestrian crossings.



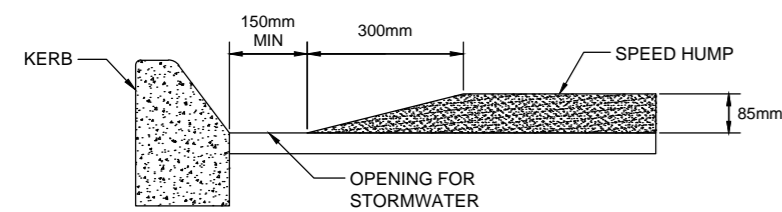
PLAN OF SPEED HUMP
SCALE 1:100



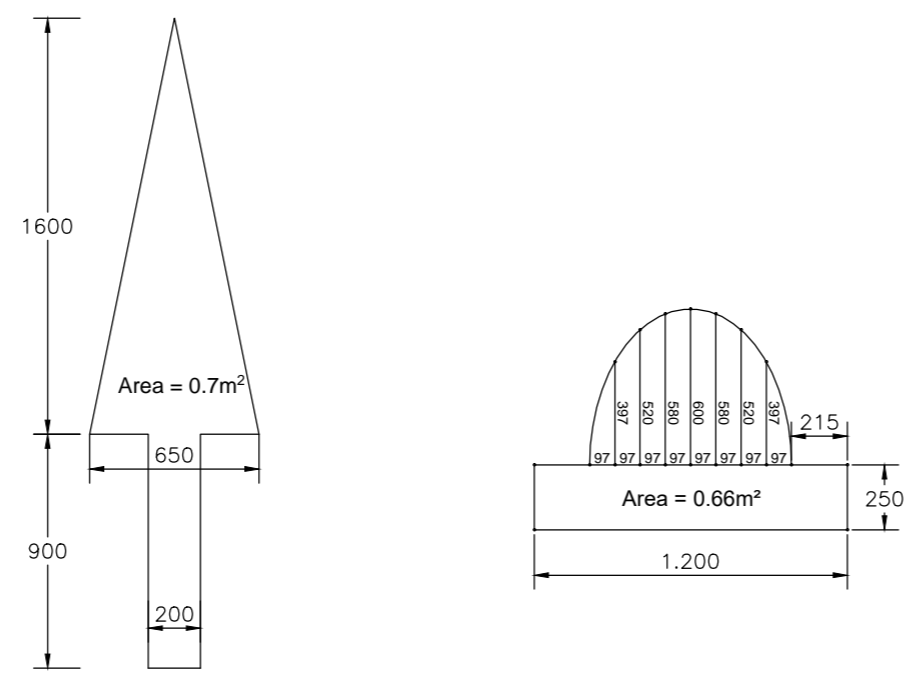
DANGER PLATE SPEEDHUMP (LEFT)
W416
SCALE 1:10



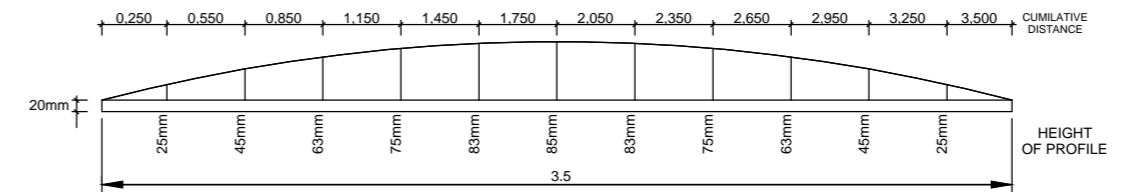
DANGER PLATE SPEEDHUMP (RIGHT)
W417
SCALE 1:10



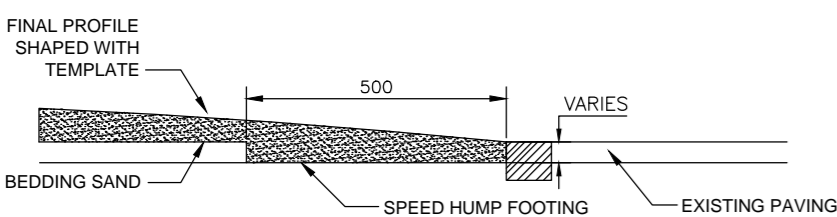
SECTION A-A:
CONSTRUCTION DETAIL OF SPEED HUMP
SCALE 1: 100



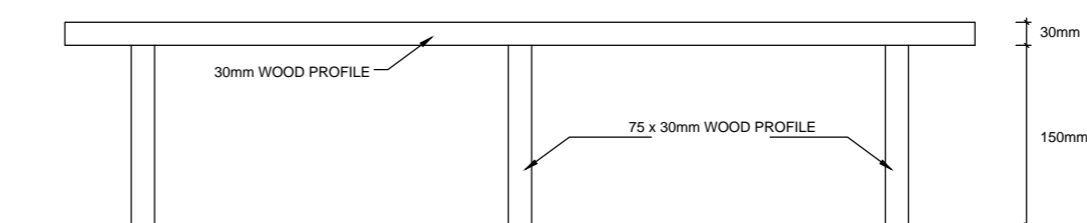
DETAIL OF SPEED HUMP ROAD MARKING
SCALE 1: 20



SIDE ELEVATION



SECTION B-B:
CONSTRUCTION DETAIL OF SPEED HUMP



PLAN
TEMPLATE DETAIL FOR CONSTRUCTION OF SPEED HUMP
SCALE 1: 20

No.	DATE	REVISION	CONSULT	MM
2	09/2021	TENDER DRAWINGS	TN	

DESIGNED BY	T NEBOTALO Pr Eng
CHECKED BY	T NEBOTALO Pr Eng
DRAWN BY	R SIKHIPHA
CHECKED BY	T NEBOTALO Pr Eng



NEVHUTALU
CONSULTING ENGINEERS
By No. 26299/2012
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APPROVED BY	
FOR MUNICIPAL MANAGER	DATE
DESIGN APPROVED	
FOR CONSULTING ENGINEER	DATE



MOLEMOLÉ MUNICIPALITY
303 CHURCH STREET
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0715
TEL: 015 501 2301
FAX: 015 501 0419

CONTRACT NO.: TECH-006-2021/22

GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING

TYPICAL SPEED HUMP DETAILS

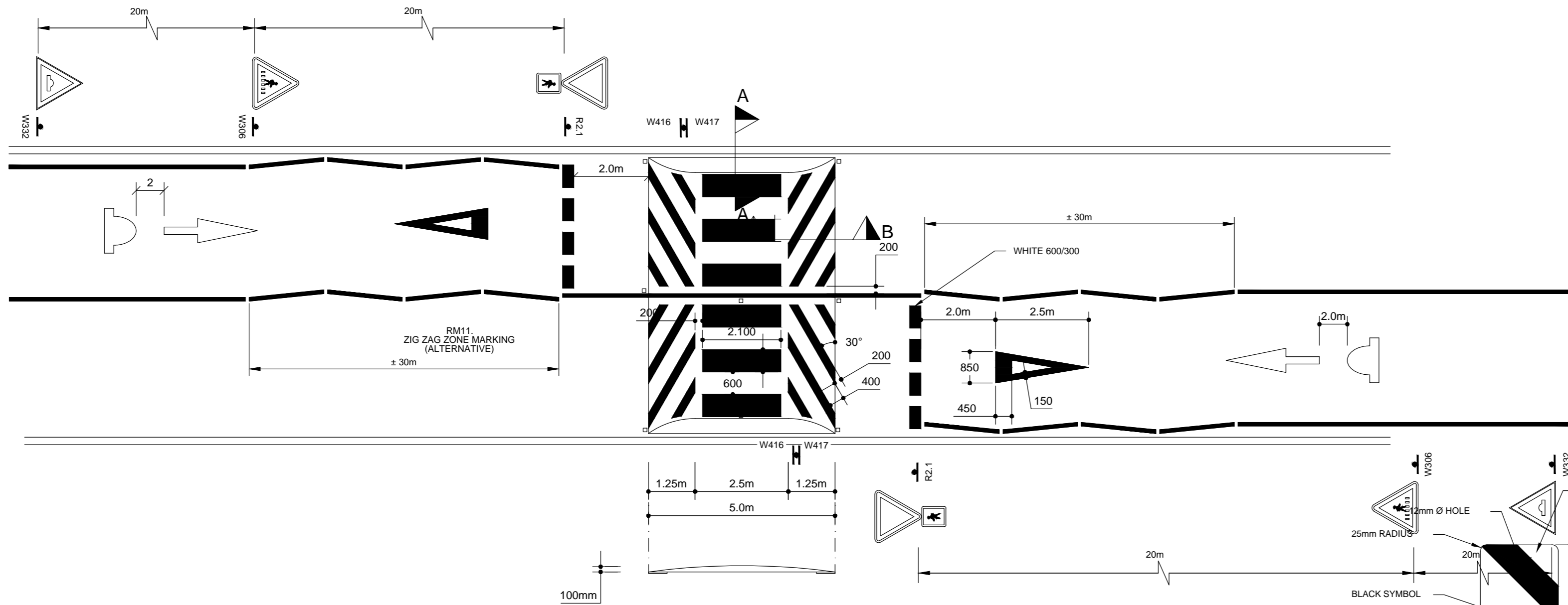
AS BUILT PLAN (FULL SIGNATURE)	SHEET 14 OF 15
For MM DATE	SCALE
For CONSULTING ENGINEER DATE	MM ORG. No.
CONSULTANTS PROJECT No.	MM-TECH-014

CONSTRUCTION METHOD:

1. Setting out of hump - few days before construction.
 2. Saw cuts one to two days before construction.
- ON CONSTRUCTION DAY:**
3. Remove 500 mm asphalt strips.
 4. Start erecting road signs and paint warning road marking.
 5. Place asphalt in strips and compact with two passes without vibrator.
 6. Place templates - both sides of one lane at a time.
 7. Place asphalt and rake till slightly higher than templates.
 8. Shape asphalt with straight edge (channel section 6 m long).
 9. Remove templates and compact without vibrator (three passes)
 10. Measure profile and rectify if necessary.
 11. Final compaction with three to four passes with vibrator.
 12. Place road studs.
 13. Paint speed hump the next day.

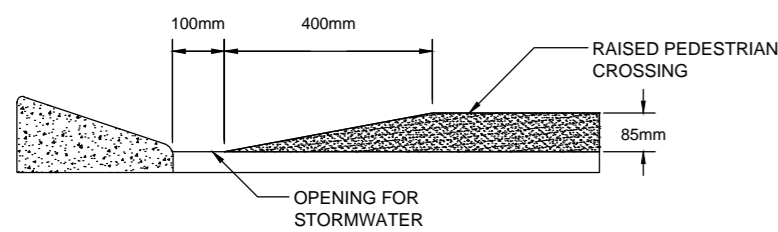
NOTE:

The Traffic Engineering and Operation section must always be consulted to assist with the setting out of raised pedestrian crossings.



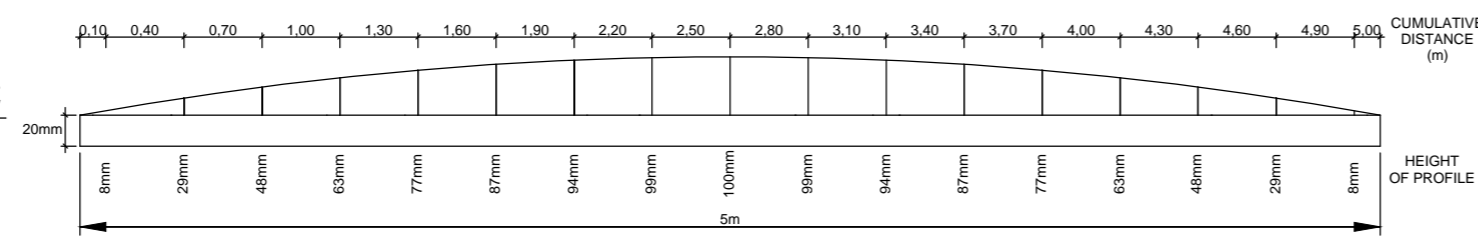
PLAN OF RAISED PEDESTRIAN CROSSING (RPC)

SCALE 1:100

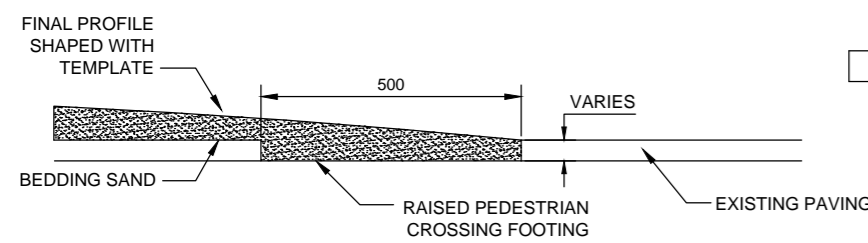


**SECTION A-A:
CONSTRUCTION DETAIL OF RPC**

SCALE 1: 100

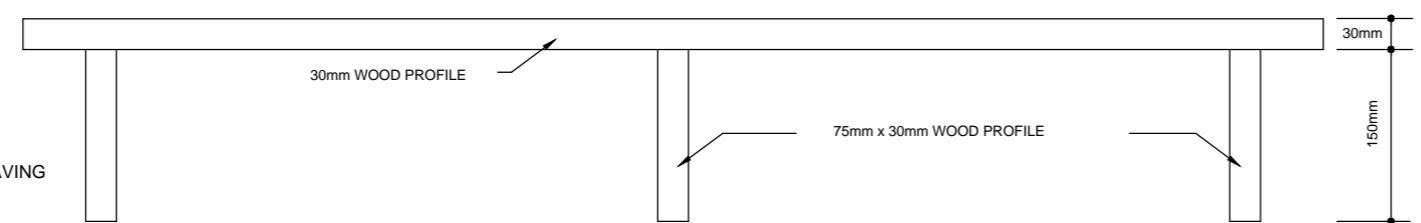


SIDE ELEVATION



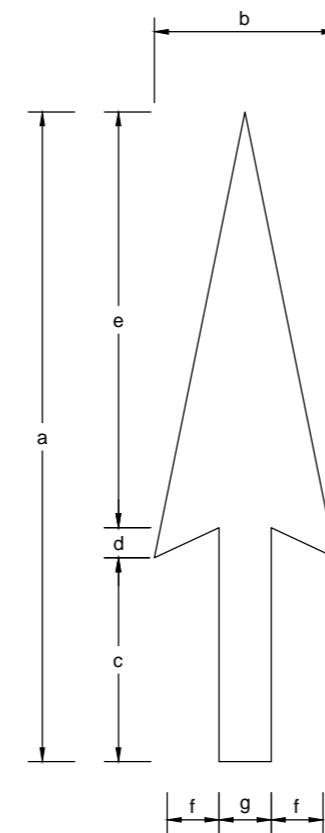
**SECTION B-B:
CONSTRUCTION DETAIL OF RPC**

SCALE 1: 100



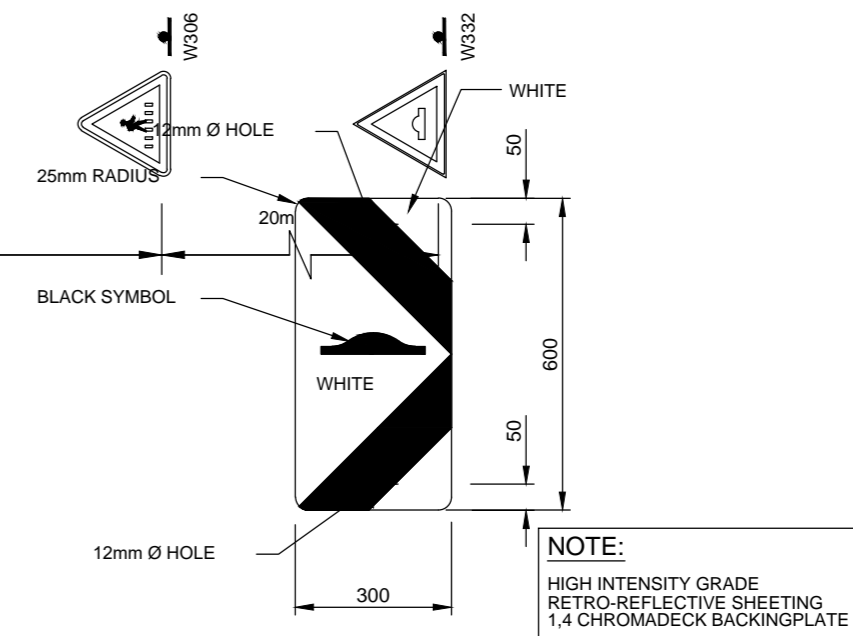
TEMPLATE DETAIL FOR CONSTRUCTION OF RPC

SCALE 1: 20



DETAIL OF ROAD MARKING

DIMENSIONS (mm)		a	a*	b	c	c*	d	e	f	g
OPERATING SPEED Km/h	TYPICAL APPLICATIONS									
30 - 40	CITY CENTRE	1250	2000	1250	450	400	50	750	500	250
50 - 80	URBAN	2500	4000	1250	900	800	100	1500	500	250

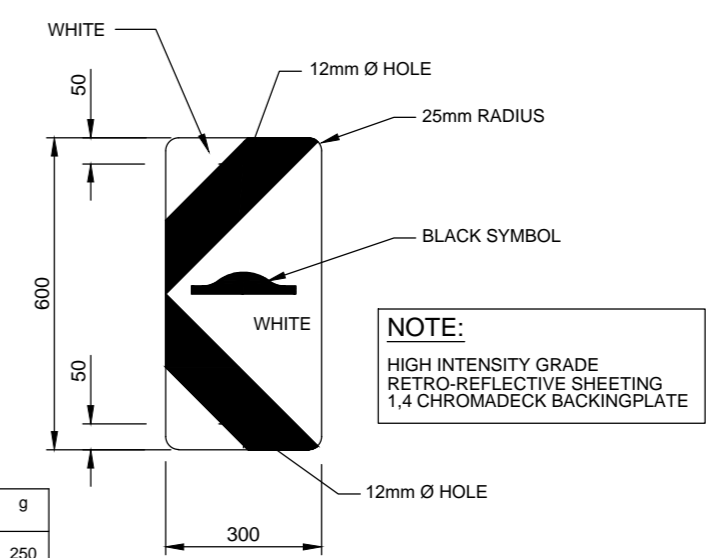


DANGER PLATE (LEFT)

W416

SCALE 1:10

NOTE:
HIGH INTENSITY GRADE
RETRO-REFLECTIVE SHEETING
1,4 CHROMADECK BACKINGPLATE



DANGER PLATE (RIGHT)

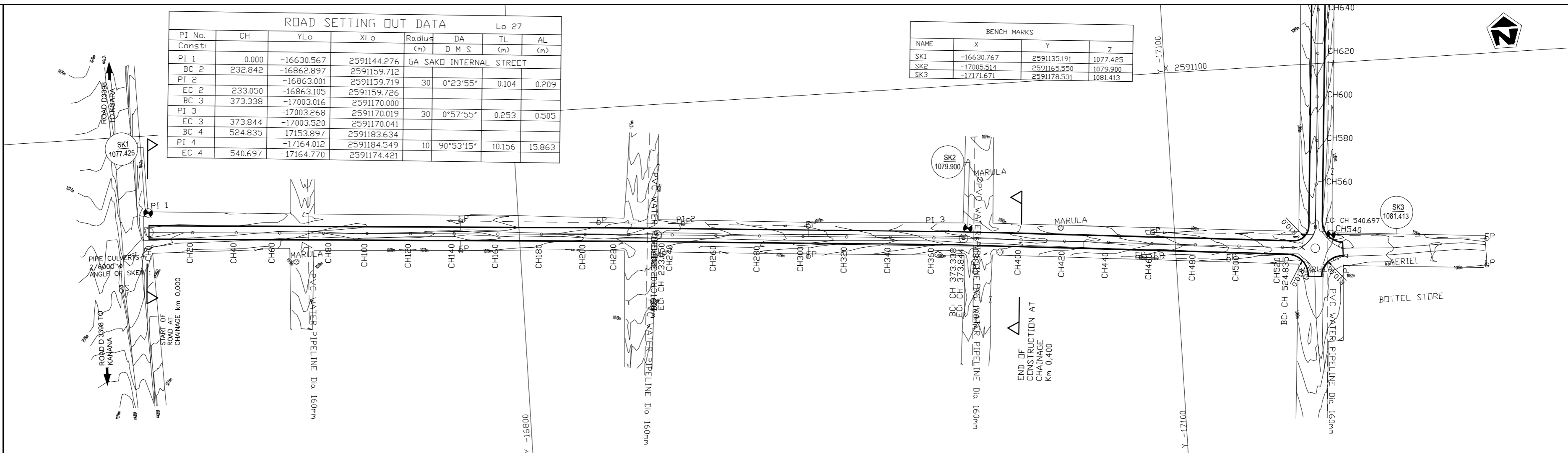
W417

NOTE:
HIGH INTENSITY GRADE
RETRO-REFLECTIVE SHEETING
1,4 CHROMADECK BACKINGPLATE

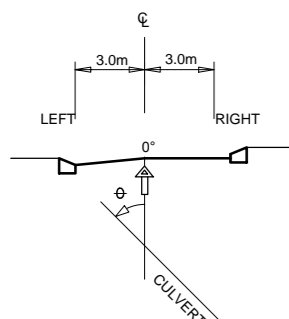
DESIGNED BY T NEBOTALO Pr Eng				<p>UNIT 10, JCI LIMPRO BUILDING 6 HANS VAN RENSBURG POLOKWANE 0700 Tel: (015) 291 3519 Email: admin@nevhutalu.co.za</p>	APPROVED BY		<p>MOLEMOLÉ MUNICIPALITY 303 CHURCH STREET PRIVATE BAG X44 MOGWADI 0715 TEL: 015 501 2301 FAX: 015 501 0419</p>	CONTRACT NO.: TECH-006-2021/22		AS BUILT PLAN (FULL SIGNATURE)		SHEET 15 OF 15	
CHECKED BY T NEBOTALO Pr Eng					FOR MUNICIPAL MANAGER DATE			GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING		For MM DATE SCALE			
DRAWN BY R SIKHIPHA					DESIGN APPROVED			TYPICAL RAISED PEDESTRIAN CROSSING DETAILS		For CONSULTING ENGINEER DATE			
CHECKED BY T NEBOTALO Pr Eng					FOR CONSULTING ENGINEER DATE					CONSULTANTS PROJECT No.		MM DTD No.	
2 09/2021 TENDER DRAWINGS TN								0133-MM-015		MM-TECH-015			
No.	DATE	REVISION	CONSULT.	MM									

- LEGEND:**
- EXISTING GRAVEL ROAD
 - EXISTING FENCE
 - EXISTING TELEPHONE LINE
 - TREES
 - Subsurface Drainage

LAYOUT PLAN
SCALE 1:1000

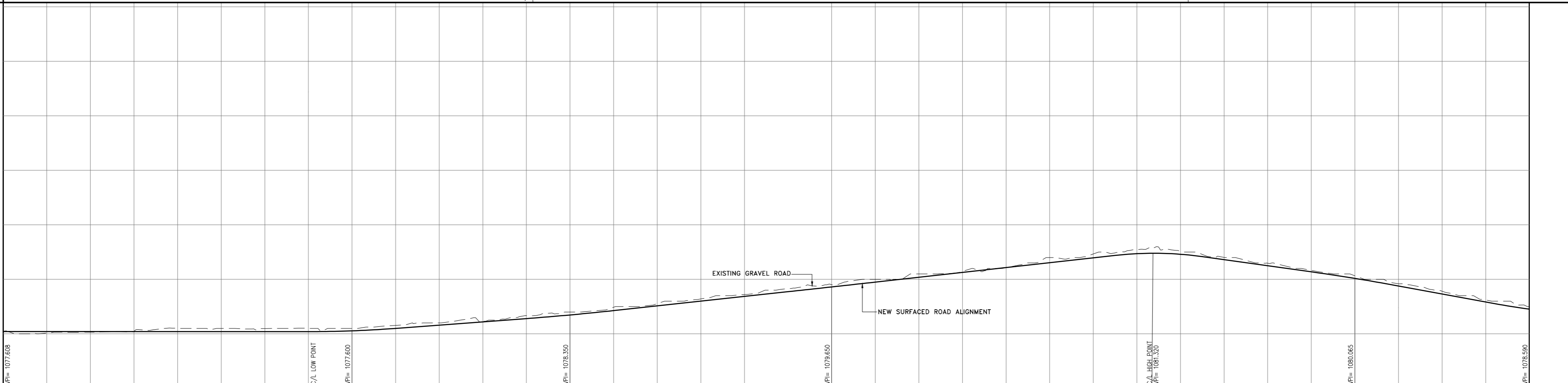


DESIGN SPEED
40 to 80 Km/h



PROFILE OF GRADE LINE

LONGITUDINAL SECTION
SCALES: HOR 1:1000
VERT 1:100

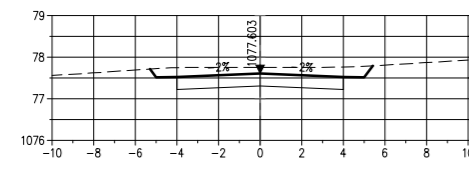


KERB OR SIDE DRAIN LEFT		
GUARDRAIL LEFT		
KERB OR SIDE DRAIN RIGHT		
GUARDRAIL RIGHT		
ROAD	LEFT	1077.528
	CENTRELINE	1077.527
	RIGHT	1077.526
C/L GROUND LEVEL	1077.608	
DISTANCE (m)	0.000	
VERTICAL PROFILE	GRADES & INT. POINTS	
HORIZONTAL	PI 1 STRAIGHT 273' 48" 4"	
ROAD PROFILE (%)	1 IN -20000 -0.0050%	

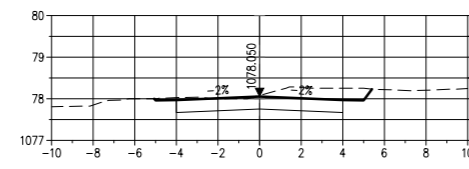
Distance (m)	Ground Level (m)	Proposed Road Level (m)	Vertical Curve Data
0.000	1077.608	1077.528	
20.000	1077.559	1077.527	
40.000	1077.576	1077.526	
60.000	1077.621	1077.525	
80.000	1077.751	1077.524	
100.000	1077.750	1077.523	
120.000	1077.744	1077.522	
140.000	1077.750	1077.521	VCL=40 m K=53.0
160.000	1077.750	1077.520	
180.000	1077.688	1077.519	
200.000	1078.000	1077.518	
220.000	1078.083	1077.517	
240.000	1078.335	1077.516	
260.000	1078.500	1077.515	VCL=40 m K=120
280.000	1078.720	1077.514	
300.000	1078.888	1077.513	
320.000	1079.101	1077.512	
340.000	1079.301	1077.511	
360.000	1079.573	1077.510	
373.338	1079.684	1077.509	VCL=40 m K=133.3
373.844	1079.688	1077.508	
380.000	1079.754	1077.507	
400.000	1080.000	1077.506	
420.000	1080.250	1077.505	
440.000	1080.369	1077.504	
460.000	1080.536	1077.503	
480.000	1080.683	1077.502	
500.000	1081.165	1077.501	
510.000	1081.214	1077.500	
520.000	1081.366	1077.499	
524.835	1081.410	1077.498	
530.000	1081.415	1077.497	
540.697	1081.271	1077.496	
550.000	1081.143	1077.495	
560.000	1081.008	1077.494	
580.000	1080.738	1077.493	
600.000	1080.413	1077.492	
640.000	1079.796	1077.491	
660.000	1079.455	1077.490	
680.000	1079.056	1077.489	
700.000	1078.750	1077.488	

DESIGNED BY: T NEBOTALO Pr Eng	APPROVED BY: [Signature]	<p>MOLEMOLE MUNICIPALITY 303 CHURCH STREET PRIVATE BAG X44 MOGWADI 0715 TEL: 015 501 2301 FAX: 015 501 0419</p>	CONTRACT NO.: TECH-006-2021/22	AS BUILT PLAN (FULL SIGNATURE)	SHEET 1 OF 1
CHECKED BY: T NEBOTALO Pr Eng	FOR: MUNICIPAL MANAGER DATE		GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING	For MM DATE	SCALE
DRAWN BY: R SKHIPHA	DESIGN APPROVED	LAYOUT PLAN AND LONGITUDINAL SECTION CH 0,000 TO CH 0,400	CONSULTANT'S PROJECT No.	MM DWD No.	MM-TECH-016
CHECKED BY: T NEBOTALO Pr Eng	FOR: CONSULTING ENGINEER DATE		0133-MM-016		

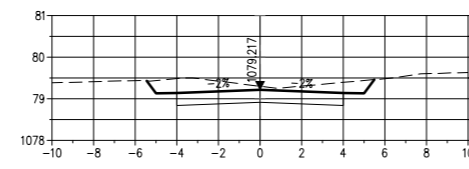
UNIT 10, JCI LIMPRO BUILDING
6 HANS VAN RENSBURG
POLOKWANE
0700
Tel: (015) 291 3519
Email: admin@nevhutalu.co.za



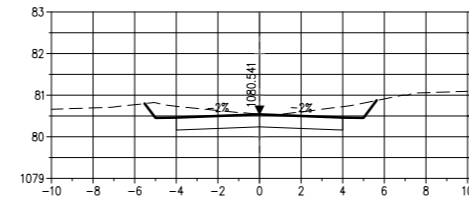
CH 100



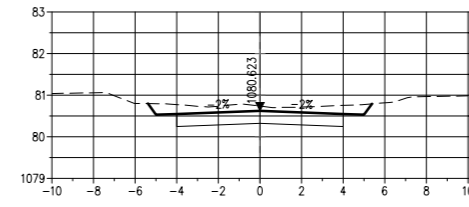
CH 220



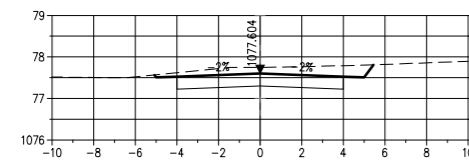
CH 340



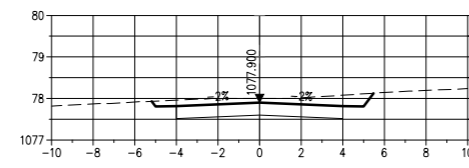
CH 460



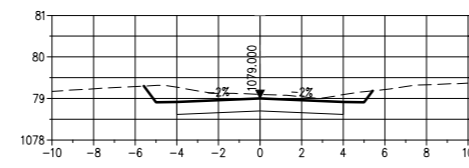
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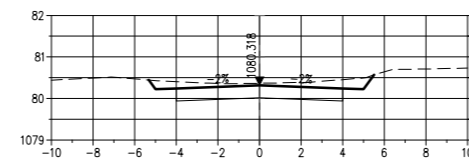
CH 80



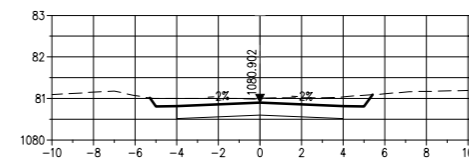
CH 200



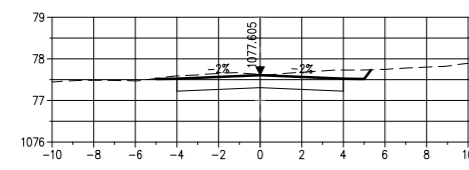
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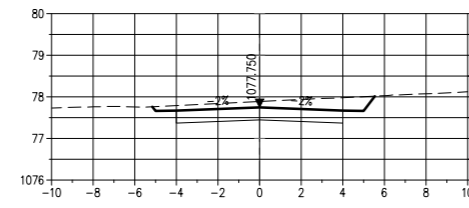
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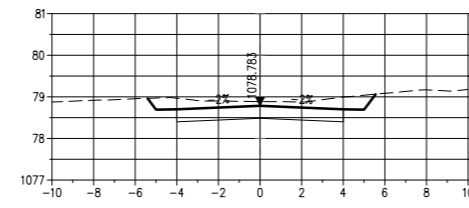
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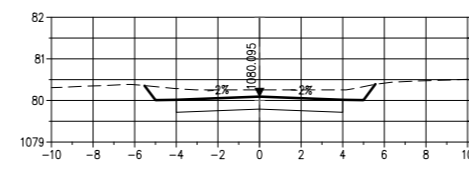
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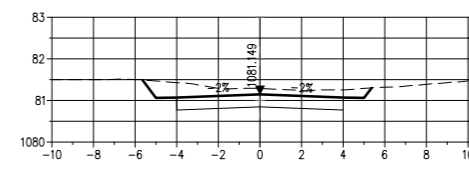
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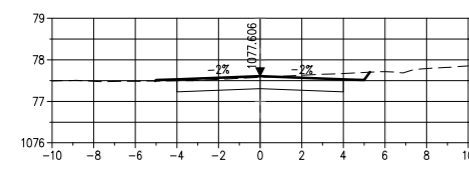
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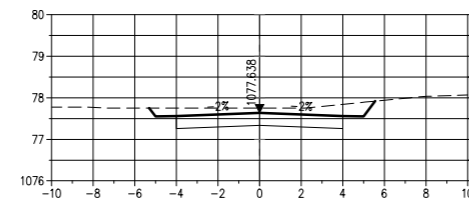
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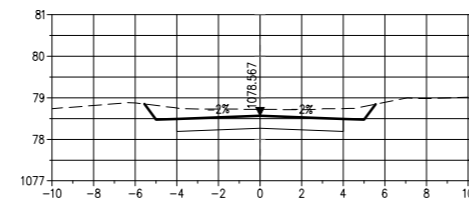
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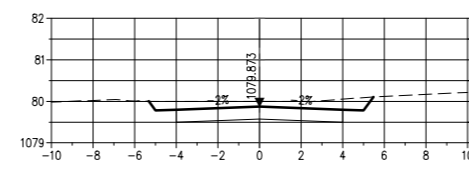
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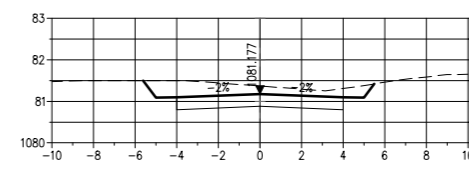
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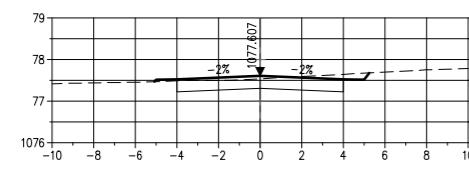
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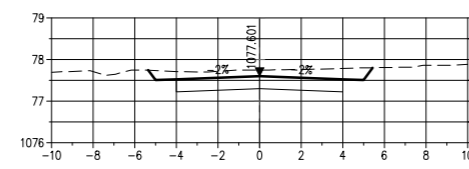
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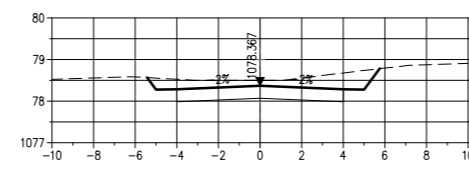
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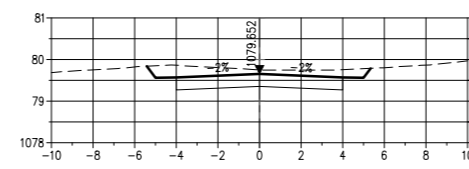
CH 20



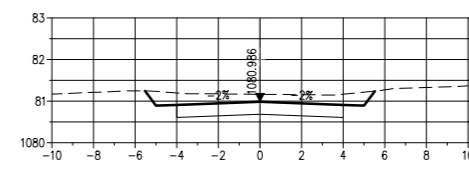
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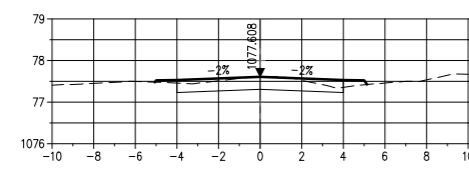
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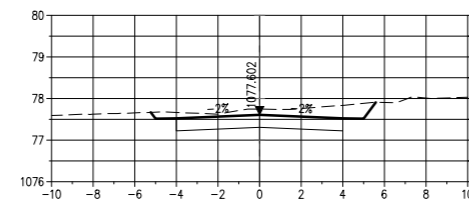
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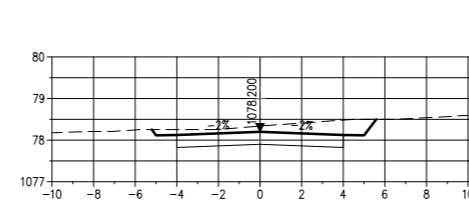
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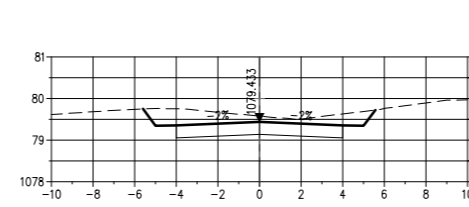
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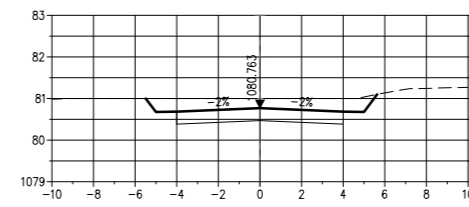
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CH 240



CH 360



CH 480

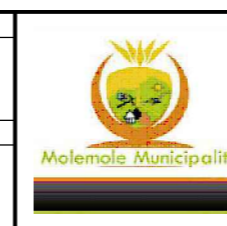
No.	DATE	REVISION	CONSULT	MM
2	09/2021	TENDER DRAWINGS	TN	

DESIGNED BY	T NEBOTALO Pr Eng
CHECKED BY	T NEBOTALO Pr Eng
DRAWN BY	R SKHIPHA
CHECKED BY	T NEBOTALO Pr Eng



UNIT 10, JCI LIMPRO BUILDING
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Email: admin@nevhutalu.co.za

APPROVED BY	DATE
FOR: MUNICIPAL MANAGER	
DESIGN APPROVED	
FOR: CONSULTING ENGINEER	



MOLEMOLÉ MUNICIPALITY
303 CHURCH STREET
PRIVATE BAG X44
MOGWADI
0715
TEL: 015 501 2301
FAX: 015 501 0419

CONTRACT NO.: TECH-006-2021/22	
GA-SAKO UPGRADING OF 0.4KM INTERNAL STREETS FROM GRAVEL TO SURFACING	
CROSSECTIONS Km 0.000 TO Km 0.400	

AS BUILT PLAN (FULL SIGNATURE)	SHEET 1 OF 1
For MM DATE	SCALE
For CONSULTING ENGINEER DATE	MM DWG. No.
CONSULTANTS PROJECT No.	MLM-TECH-017