

BENCHMARKS WG31 WGS84			
NAME	Y CoORD	X CoORD	ELEV
BM1	-942.687	3282935.589	136.666
BM1A	-1076.886	3283273.859	87.234
BM2	-429.854	3283439.472	72.625
BM3	-348.057	3283508.302	74.421
BM4	-313.053	3283537.120	73.718

Curve List						
No	Radius	TR.In	TR.Out	TANL	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0.00.00
1	80.00	0.00	0.00	4.16	4.16	8.32.48
2	30.00	0.00	0.00	3.48	3.48	13.14.01
3	80.00	0.00	0.00	10.71	10.71	24.11.12
4	30.00	0.00	0.00	4.74	4.74	17.57.43
5	80.00	0.00	0.00	1.46	1.46	3.33.25
6	30.00	0.00	0.00	2.88	2.88	10.58.22
7	80.00	0.00	0.00	6.42	6.42	14.37.48
8	25.00	0.00	0.00	6.47	6.47	29.00.52

Road1				
Position	-Coord	-Coord	Stake Value	Radius
Start	-1060.823	3283275.781	0	0.000
BCC1	-1059.729	3283264.354	15.479	
P11	-1059.334	3283260.227	15.615	50.000
ECC1	-1058.265	3283256.222	19.751	
BCC2	-1043.396	3283200.528	77.396	
P3	-1042.499	3283197.146	80.861	30.000
ECC2	-1040.855	3283194.098	84.325	
BCC3	-1028.819	3283171.635	109.810	
P3	-1023.760	3283162.191	120.364	50.000
ECC3	-1023.014	3283151.506	130.917	
BCC4	-1021.112	3283124.274	158.214	
P4	-1020.782	3283119.544	162.916	30.000
ECC4	-1019.009	3283115.146	167.619	
BCC5	-1002.336	3283073.187	212.213	
P5	-1001.754	3283072.346	213.766	50.000
ECC5	-1001.264	3283070.872	215.319	
BCC6	-996.500	3283066.548	230.414	
P6	-995.980	3283053.114	232.286	30.000
ECC6	-994.177	3283051.303	236.159	
BCC7	-956.380	3282984.143	313.224	
P7	-953.232	3282978.850	319.607	50.000
ECC7	-951.599	3282972.342	325.991	
BCC8	-947.453	3282956.584	342.296	
P8	-945.807	3282950.328	348.616	25.000
ECC8	-947.402	3282944.059	354.946	

LEGEND	
Existing Formal/Masonry buildings	[Symbol]
Existing Informal structures	[Symbol]
Existing Fence	[Symbol]
Existing Water Pipe	[Symbol]
Existing Sewer Pipe	[Symbol]
Stream / Wet Areas	[Symbol]
Existing Embankment	[Symbol]
Existing Trees	[Symbol]
Benchmark	[Symbol]
Powerline Pole	[Symbol]
Electrical Powerline	[Symbol]
Existing Gravel Road	[Symbol]
New Stormwater Manhole	[Symbol]
New 450mm Ø Stormwater Concrete Pipe	[Symbol]
Existing Stormwater Catchpit / Manhole	[Symbol]
New Road / Footpath	[Symbol]
Limit of Construction	[Symbol]
New Precast Staircase	[Symbol]
New Drystack Retaining Wall	[Symbol]
New Subsoil Drain Pipe	[Symbol]

NOTES: ROAD 1-2

1. ROAD LENGTH = CH 78 TO CH 420
2. 4 x ELECTRICAL POLES TO BE RELOCATED BY A DISTANCE NOT EXCEEDING 3m.
3. 1 x PIT TOILET TO BE DEMOLISHED
4. 2 x TREES TO BE REMOVED - GIRTH NOT EXCEEDING 1m.

NOTES: FOOTPATH 1

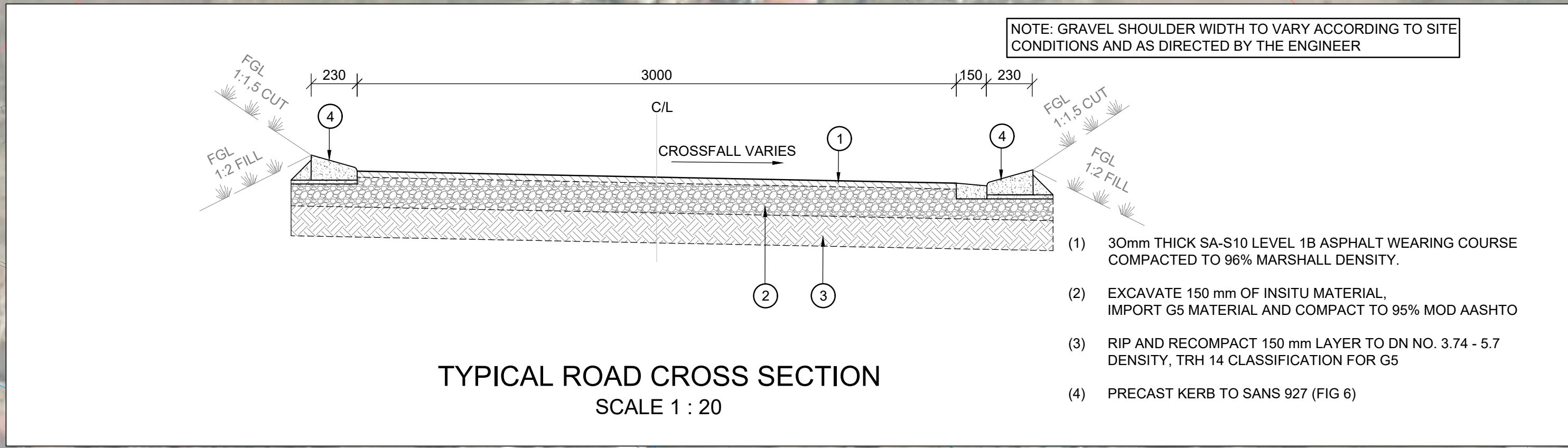
1. FOOTPATH LENGTH = CH 0.00 TO CH 130.00
2. FOOTPATH WIDTH = 1500mm WIDE
3. STEPS = APPROXIMATELY 90No. x 1500mm WIDE PRECAST STEPS
4. DRY-STACK RETAINING WALLS = APPROXIMATELY 55m x 2m AV. HEIGHT

NOTES: ROAD 1-1

1. ROAD LENGTH = CH 0.00 TO CH 78
2. 1 x ELECTRICAL POLES TO BE RELOCATED BY A DISTANCE NOT EXCEEDING 3m.
3. 1 x TREES TO BE REMOVED - GIRTH NOT EXCEEDING 1m.

NOTES: FOOTPATH 2-1

1. FOOTPATH LENGTH = CH 0.00 TO CH 184.00
2. FOOTPATH WIDTH = 1500mm WIDE
3. STEPS = APPROXIMATELY 150No. x 1500mm WIDE PRECAST STEPS
4. 1 x ELECTRICAL POLES TO BE RELOCATED BY A DISTANCE NOT EXCEEDING 2m



### NOTES

GENERAL:

1. PROVE ALL SERVICES PRIOR TO CONSTRUCTION
2. ALL LEVELS AND DIMENSIONS TO BE VERIFIED ON SITE
3. ALL SETTING OUT TO BE UNDERTAKEN BY A REGISTERED PROFESSIONAL LAND SURVEYOR
4. ALL SURVEY AND SETTING OUT DATA PROVIDED IS BASED ON WGS 84
5. ALL WORK AREAS TO BE REINSTATED (PREMIUM CONCRETE, ETC.)
6. MUNICIPALITY TO EXECUTE ALL CONNECTIONS INTO MUNICIPAL LINES
7. UNLESS OTHERWISE AGREED WITH ENGINEER, CONTRACTOR TO SUPPLY ENGINEER WITH RESULTS OF COMPACTION TESTS AND WHEN APPLICABLE, PERCENTAGE STABILIZATION TESTS ON BACKFILL
8. ALL WORKS IN ACCORDANCE WITH CITY OF DURBAN SPECIFICATIONS AND SANS 1200
9. THE ENGINEER REQUIRES 24 HOURS NOTICE FOR ALL INSPECTIONS

MATERIAL COMPLIANCE TESTING:

1. RESULTS OF COMPACTION AND CBR TESTS ON IN-SITU SUB-BASE MATERIAL AND FILLED SUB-BASE MATERIAL MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE THE UPPER LAYER WORKS ARE IMPORTED TO THE SITE AND PLACED

FREQUENCY OF TESTS:

1. CBR TESTS 1 PER 300m²
2. COMPACTION TESTS 1 PER 200m² NOTE: COMPACTION TESTS WILL BE REQUIRED FOR EACH OF THE VARYING LAYER THAT IS IMPORTED AND COMPACTED IN PLACE

RETAINING WALL:

1. ALL LEVELS AND DIMENSIONS TO BE CHECKED ON SITE
2. ALL CONCRETE WORK IS TO COMPLY WITH SANS 1200G
3. CONCRETE GRADE - FOUNDATION 25 / 18
4. ALL FOUNDATION EXCAVATIONS ARE TO BE INSPECTED BY THE ENGINEER PRIOR TO CASTING OF CONCRETE
5. ALL REINFORCING FIXING IS TO BE INSPECTED BY THE ENGINEER PRIOR TO CASTING OF CONCRETE
6. SIX CONCRETE CUBES TO BE TAKEN PER BATCH, THREE CUBES TO BE TESTED AT SEVEN DAYS, THE REMAINDER AT TWENTY EIGHT DAYS, THE RESULTS ARE TO BE FORWARDED TO THE ENGINEER FOR REVIEW AND APPROVAL
7. SET BOTTOM ROW OF BLOCKS IN WET CONCRETE
8. ALL BACKFILL IS TO BE COMPACTED TO 93% MOD AASHTO DENSITY
9. STORM WATER BEHIND THE TOP OF THE WALL TO BE MANAGED IN SUCH A MANNER AS TO OBVIATE SCOUR BEHIND OR OVER-TOPPING OF THE WALL

ROADS AND FOOTPATHS:

1. ALL LEVELS, DIMENSIONS AND SETTING OUT DETAILS TO BE VERIFIED BY CONSULTANT AND CONTRACTORS ON SITE PRIOR TO CONSTRUCTION
2. THE POSITIONS OF ACCESSES ARE TO BE DETERMINED IN CONSULTATION WITH THE LOCAL COMMUNITY, DAYLIGHT REQUIREMENTS ARE TO BE DECIDED BY THE ENGINEER ON SITE
3. CONCRETE WEDGES ACCORDING TO CIVIL ENGINEERS DETAILS AND SPECIFICATIONS MAY BE USED IN PLACE OF SURFACED BELLMOUTHS FOR ACCESSES SERVING SINGLE RESIDENTIAL PROPERTIES
4. EXISTING ROAD SIGNS, SERVICES AND FENCING AFFECTED BY CONSTRUCTION ARE TO BE REMOVED/RELOCATED ON INSTRUCTION BY THE CIVIL ENGINEER
5. UNDERGROUND SERVICE CROSSINGS AND MARKERS ARE TO BE ACCORDING TO CIVIL ENGINEERS DETAILS AND SPECIFICATIONS
6. ALL NEW ROAD SIGNS AND ROAD MARKING REQUIREMENTS ARE TO CONFORM TO THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY ROAD TRAFFIC SIGNS MANUAL (SADC - RTSM)
7. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH 'COLTO SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES'
8. NEW FILLS AND EXPOSED CUTS ARE TO BE TOP-SOILED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION

STORMWATER:

1. ALL STORMWATER PIPES ARE CLASS 1000 CONCRETE PIPES AND HD CL 34 uPVC PIPES
2. ALL STORMWATER CONCRETE PIPES TO COMPLY WITH SANS 677 STANDARDS
3. ALL uPVC PIPES TO COMPLY WITH SANS 966 STANDARDS
4. ALL JOINTS TO BE 'SPIGOT' AND SOCKET TYPE
5. ALL STORMWATER PIPES TO BE LAID ON CLASS B BEDDING
6. ALL EXISTING DRAINAGE CULVERTS ARE TO BE INSPECTED, AND ANY FOUND IN UNSERVICEABLE CONDITION ARE TO BE REPLACED ON INSTRUCTION BY THE CIVIL ENGINEER
7. CULVERT INVERTS ARE TO BE DECIDED BY CIVIL ENGINEER ON SITE UNLESS SHOWN OTHERWISE, MIN. COVER = 600mm, MIN. SLOPE = 2%

SCALE (mm)

No. REFERENCE DRAWINGS

REV	DESCRIPTION	BY	DATE
P1	ISSUED FOR TENDER	Z.M	2023.05.30

Professional person: S.BIRUPATHI P.T. [Signature] Registration: 201470135

CLIENT: eTHEKWINI MUNICIPALITY

PROJECT: eTHEKWINI INCREMENTAL SERVICES AMAOTANA (ZWELISHA) WARD 59

DETAILS: ROAD, FOOTPATHS AND STORMWATER LAYOUT

MAP AFRICA CONSULTING

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DRAWN	Z.M	AS SHOWN	
APPROVED	S.S	PL	DATE 2023.02.24
DRAWING No.	557/AMZW-PH2/900	REV	P1

AMAOTANA ROADS, FOOTPATHS AND STORMWATER LAYOUT

SCALE 1:1000

FOR TENDER