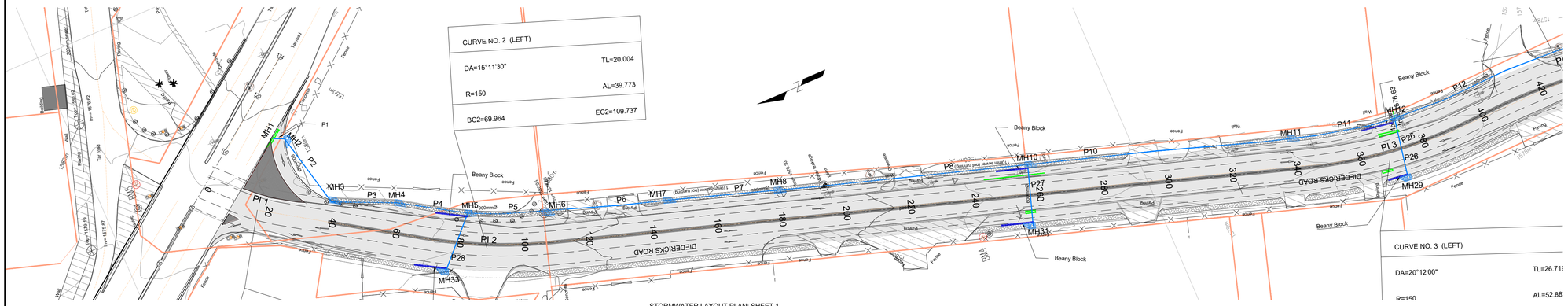
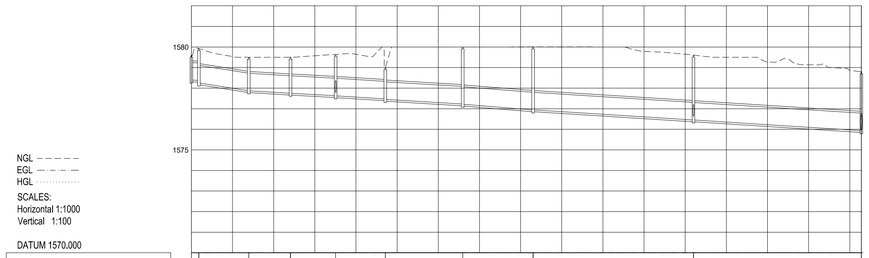
STRUCTURE LIST-Diedericks Road						
STRUCTURE NAME	Y	X	RIM ELEVATION	SUMP ELEVATION SUMP DEPTH	INVERT ELEVATION	MATERIAL
MH1	-20 948.218	2 863 257.062	1579.603	1578.395 1.209	P1-INV OUT 1578.395	Concrete
MH2	-20 946.742	2 863 260.354	1579.928	1578.253 1.675	P1-INV IN 1578.373 P2-INV OUT 1578.253	Concrete Concrete
MH3	-20 923.100	2 863 265.954	1579.505	1577.872 1.633	P2-INV IN 1577.872 P3-INV OUT 1577.872	Concrete Concrete
MH4	-20 914.809	2 863 284.456	1579.505	1577.750 1.755	P3-INV IN 1577.750 P4-INV OUT 1577.750	Concrete Concrete
MH5	-20 903.302	2 863 303.120	1579.629	1577.629 2.000	P4-INV IN 1577.629 P28-INV IN 1577.789 P5-INV OUT 1577.629	Concrete Concrete Concrete
MH6	-20 893.807	2 863 325.329	1579.000	1577.477 1.523	P5-INV IN 1577.477 P6-INV OUT 1577.477	Concrete Concrete
MH7	-20 882.525	2 863 361.224	1580.000	1577.215 2.785	P6-INV IN 1577.215 P7-INV OUT 1577.215	Concrete Concrete
MH8	-20 871.929	2 863 393.734	1580.003	1576.945 3.057	P7-INV IN 1576.945 P8-INV OUT 1576.945	Concrete Concrete
MH10	-20 848.455	2 863 468.043	1579.605	1576.454 3.151	P8-INV IN 1576.454 P27-INV IN 1576.635 P10-INV OUT 1576.454	Concrete Concrete Concrete
MH11	-20 823.662	2 863 545.801	1578.794	1575.935 2.860	P10-INV IN 1575.935 P11-INV OUT 1575.935	Concrete Concrete

PIPE LIST-Diedericks Road					
PIPE NAME	START INVERT LEVEL	END INVERT LEVEL	3D LENGTH TO INSIDE EDGES	SLOPE	DIAMETER AND CLASS
P1	1578.395	1578.373	2.414	0.609%	900mm Class 100D
P2	1578.253	1577.872	23.115	1.569%	900mm Class 100D
P3	1577.872	1577.750	19.082	0.601%	900mm Class 100D
P4	1577.750	1577.629	20.732	0.555%	900mm Class 100D
P5	1577.629	1577.477	22.960	0.630%	900mm Class 100D
P6	1577.477	1577.215	36.434	0.694%	900mm Class 100D
P7	1577.215	1576.945	33.003	0.790%	900mm Class 100D
P8	1576.945	1576.454	76.737	0.630%	900mm Class 100D
P10	1576.454	1575.935	80.423	0.636%	900mm Class 100D
P27	1578.310	1576.635	17.605	9.022%	600mm Class 100D
P28	1578.274	1577.789	18.332	2.500%	600mm Class 100D



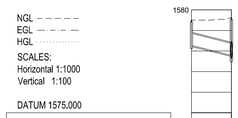
STORMWATER LAYOUT PLAN: SHEET 1
SCALE 1:500

LEGEND	DESCRIPTION
	PROPOSED STORMWATER (600-900)mmØ
	PROPOSED STORMWATER CATCHPIT
	EXISTING MANHOLES AND STORMWATER
	ROAD BANKS
	CADASTRAL BOUNDARIES
	PROPORSED HEADWALL



REFERENCE		MH1	Ø900 100D	MH3	Ø900 100D	MH4	Ø900 100D	MH5	Ø900 100D	MH6	Ø900 100D	MH7	Ø900 100D	MH8	Ø900 100D	MH10	Ø900 100D	MH11
DISTANCE (m)		0.000	3.610	27.910	48.190	70.120	94.270	131.900	166.960	244.020	325.630							
GROUND LEVEL		1579.603	1579.928	1579.505	1579.505	1579.629	1579.000	1580.000	1580.003	1579.605	1578.794							
PIPE INVERT LEVEL		1578.395 1578.253	1578.253 1577.872	1577.872 1577.750	1577.750 1577.629	1577.629 1577.477	1577.477 1577.215	1577.215 1576.945	1576.945 1576.454	1576.454 1576.454	1575.935							
SLOPE / LENGTH		0.61% 1:164.2 3.61m	1.57% 1:63.7 24.30m	0.60% 1:166.5 20.28m	0.56% 1:180.2 21.93m	0.63% 1:158.7 24.15m	0.69% 1:144.0 37.63m	0.79% 1:126.6 34.19m	0.63% 1:158.6 77.93m	0.64% 1:157.3 81.61m								
HYDRAULICS	DESIGN Q(m3/s)	1.05	0.95	0.78	1.10	0.95	1.10	0.95	0.95	1.10								
	DESIGN V(m/s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
	MAX. (0.8D) Q(m3/s)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20								
	MAX. (0.8D) V(m/s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00								

LONGSECTION BRANCH 1
FROM 0.000 TO 325.622



REFERENCE		MH33	Ø600 100D	MH29
DISTANCE (m)		0.000	19.410	
GROUND LEVEL		1579.504	1579.629	
PIPE INVERT LEVEL		1578.274	1577.789	
SLOPE / LENGTH		2.50% 1:40.0 19.41m		
HYDRAULICS	DESIGN Q(m3/s)	0.20		
	DESIGN V(m/s)	0.00		
	MAX. (0.8D) Q(m3/s)	0.44		
	MAX. (0.8D) V(m/s)	0.00		

LONGSECTION BRANCH 1.1
FROM 0.000 TO 19.409

REFERENCE		MH31	Ø600 100D	MH10
DISTANCE (m)		0.000	18.570	
GROUND LEVEL		1579.500	1579.605	
PIPE INVERT LEVEL		1578.310	1576.635	
SLOPE / LENGTH		9.02% 1:11.1 18.57m		
HYDRAULICS	DESIGN Q(m3/s)	0.13		
	DESIGN V(m/s)	0.00		
	MAX. (0.8D) Q(m3/s)	0.44		
	MAX. (0.8D) V(m/s)	0.00		

LONGSECTION BRANCH 1.2
FROM 0.000 TO 18.571

General Notes:

1. All workmanship to be in accordance with the relevant project specification as included in the contract document.
2. All existing services whether indicated or not, on the drawing are to be treated as live. the contractor is to make the necessary allowances to deal with the services affected by the proposed works in accordance with the various services affected by the proposed work so that the necessary alterations can be made to the drawings without affecting the progress on the works.
3. All levels, dimensions and setting out details to be verified by Consultant and Contractors on site prior to construction.
4. All existing drainage culverts are to be inspected, and any found in unserviceable condition are to be replaced unless shown otherwise.
5. Culvert inverts are to be' decided by Engineer on site unless shown otherwise. Min. cover = 600mm, min. slope = 2%.
6. Pipe culverts are to be laid in class 'c' bedding in accordance with SD 0401 with depressed inlet and headwalls as per SD 0405/A and SD 0406. Min dia = 450mm for minor access roads and access bell-mouths, and min dia = 600mm for major road cross drainage.
7. For erosion control stone pitching is recommended at chute outlet and culvert inlets & outlets ($5m^2$ each).
8. Earth berms are to be constructed at culvert inlets to direct storm-water into culverts where necessary.
9. Rock bolsters are to be placed across the invert of drains susceptible to erosion for every 2m vertical drop .
10. Grassed/Concrete lined V-drains as per SD 0601/3 & 4 are recommended for shallow cuttings of depth less than 5m measured at a point 6m from edge of carriageway. Concrete lined 1 OOOV - drains as per SD 0601/2 are recommended for deep cuttings of depth greater than 5m measured at a point 6m from edge of carriageway.
11. Where surface runoff is toward the road, catch-water banks are to be provided to divert storm-water to major cross drainage structures.
12. The positions of accesses are to be determined in consultation with the local community. Daylighting requirements are to be decided by the Engineer on site. Concrete wedges as per SD 0303 may be used in place of surfaced bell-mouths for accesses serving single residential properties.
13. Guardrails are to be installed in accordance with SD 1101 and SD 1102 where fill embankments exceed 3m in height or where hazardous obstructions cannot be removed. Approach end must be buried type.
14. Existing road signs, services and fencing affected by construction are to be removed/relocated where necessary.
15. Underground service crossings and markers are to be in accordance with SD 1001 - 3.
16. All new road signs and road marking requirements are to conform to the Southern African Development Community Road Traffic Signs Manual (SADC - RTSM).
17. All work is to be carried out in accordance with "COLTO Specifications for Road and Bridge Works for State Road Authorities."
18. All survey and setting out data provided is based on (WGS 84 Lo.31) .
19. New fills and exposed cuttings are to be top-soiled and vegetated immediately after Construction to prevent erosion.

DATE	STATUS	REV	REVISION DESCRIPTION	REFERENCE DRAWING No.	REFERENCE DRAWING TITLE

NOTES:

		SIGNATURE
DESIGNED BY	M.TSHUMA	N/A
DRAWN BY	Z.BIYELA	N/A
DESIGN CHECKED	T.ZUMA	N/A
DRAWING CHECKED	M.TSHUMA	N/A
Pr TECH/ Pr ENGINEER APPROVAL		
NAME	T.ZUMA	SIGNATURE
DATE		PROFESSIONAL REG No. 201170074

ENGINEER:
MAFAHLENI ENGINEERS AND PROJECT MANAGERS
49 Ferreira Street
Nelspruit
1200
DEPARTMENT: CIVIL

CLIENT:
Emalahleni Local Municipality
EMALAHLENI MUNICIPALITY
P.O. Box 3
Emalahleni
1035

PROJECT TITLE
PROPOSED REHABILITATION OF BEATTY & DIEDERICKS

DRAWING TITLE
STORMWATER LAYOUT PLAN AND LONGITUDINAL SECTION: SHEET 1 CH 0.000 - CH 0.400

DRAWING STATUS DESCRIPTION:
D=DEVELOPMENT T=TENDER P=PLANNING
C=CONSTRUCTION A=AS BUILT

SCALE	SHEET	SHEET SIZE
1:500	2OF4	A1

MAFAHLENI ENGINEERS DRAWING NUMBER

ME PROJECT DESCRIPTION	DISCIPLINE	NUMBER	STATUS	REV
EMAL- 2024 - RDS -	011 -	T -	00	