



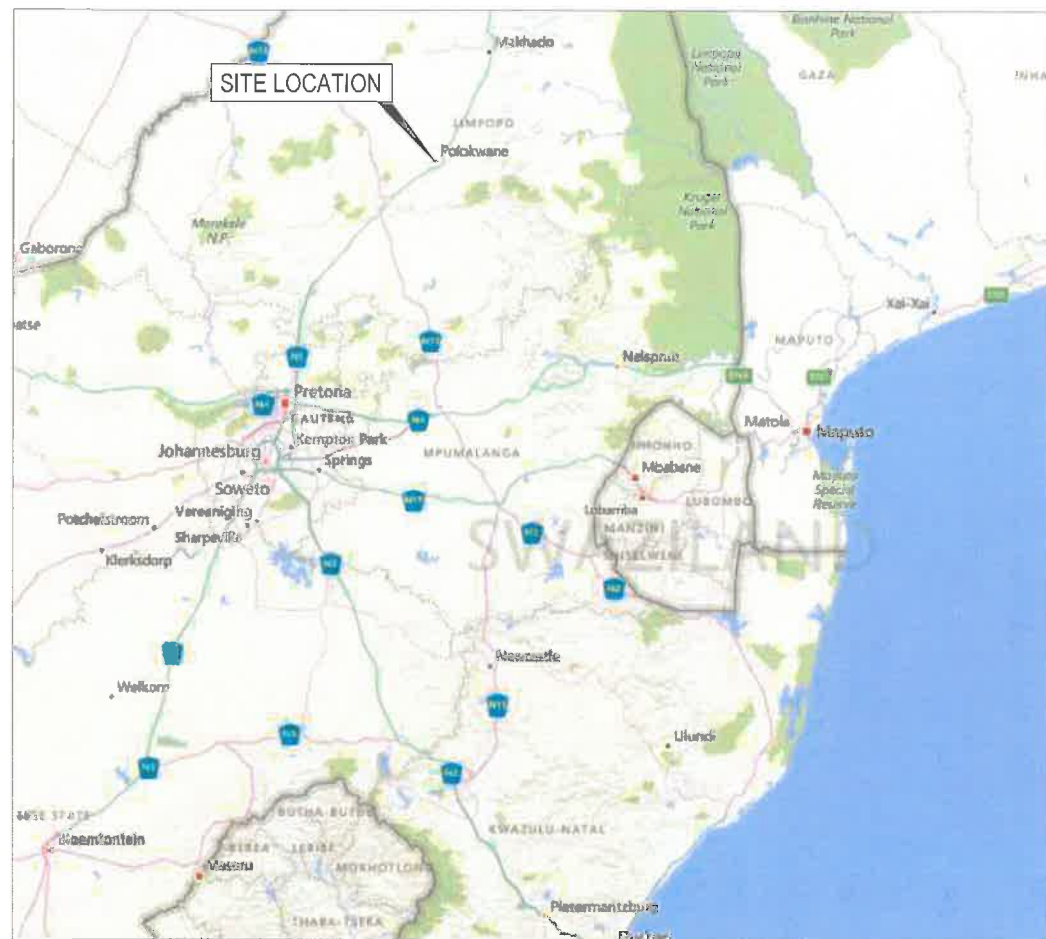
CONSULTANT

AMCE
19 Neethling Street
Bendor Ext 30,
Polokwane, 0699
Tel No. (015) 295 9914

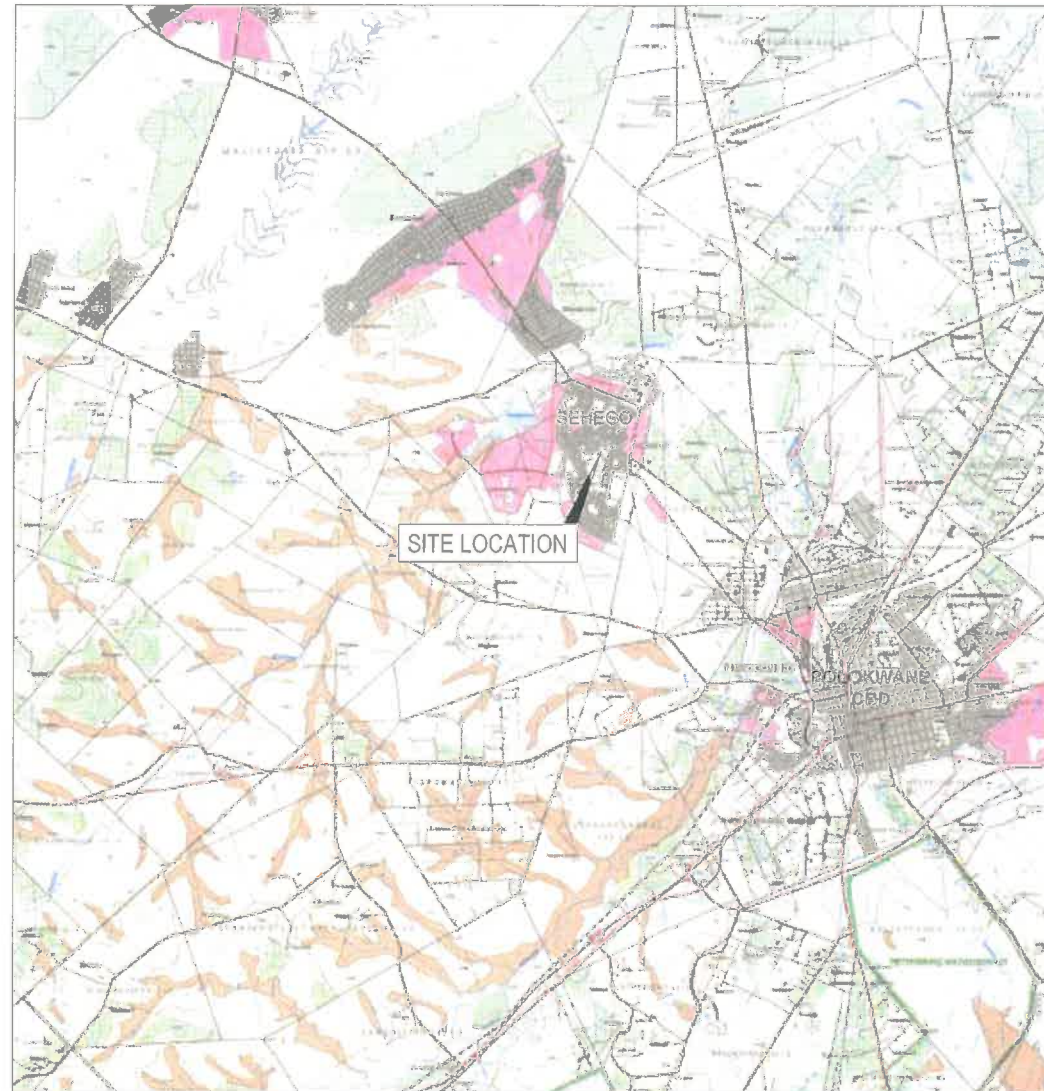
Fax No. (015) 295 9941

NDPG PROJECT: NELSON MANDELA, BO-OKELO AND DITLOU CROSSING.





LOCALITY MAP



KEY PLAN



SITE LAYOUT PLAN

LIST OF DRAWINGS	
PROJECT INFORMATION:	
NT05-19-1092-500-1	COVER
GENERAL:	
NT05-19-1092-201-1	SITE LOCALITY PLAN & DRAWING LIST
LAYOUT PLANTS:	
NT05-19-1092-502-1	LAYOUT PLAN - SHEET 1 OF 2
NT05-19-1092-502-2	LAYOUT PLAN - SHEET 2 OF 2
LONGITUDINAL SECTIONS:	
NT05-19-1092-203-1	ROAD LONGITUDINAL SECTION - NELSON MANDELA DRIVE - SHEET 1 OF 2
NT05-19-1092-203-1	ROAD LONGITUDINAL SECTION - BO-OKELO STREET - SHEET 2 OF 2
STORMWATER LONGITUDINAL SECTIONS:	
NT05-19-1092-204-1	STORMWATER LONGSECTION - SHEET 1 OF 4
NT05-19-1092-204-2	STORMWATER LONGSECTION - SHEET 2 OF 4
NT05-19-1092-204-3	STORMWATER LONGSECTION - SHEET 3 OF 4
NT05-19-1092-204-4	STORMWATER LONGSECTION - SHEET 4 OF 4
TYPICAL CROSS SECTIONS:	
NT05-19-1092-505-1	TYPICAL CROSS SECTION - NELSON MANDELA DRIVE - SHEET 1 OF 2
NT05-19-1092-505-2	TYPICAL CROSS SECTION - BO-OKELO STREET - SHEET 2 OF 2
SERVICES PLANS:	
NT05-19-1092-510-1	EXISTING SERVICE PLAN - SHEET 1 OF 2
NT05-19-1092-510-2	EXISTING SERVICE PLAN - SHEET 2 OF 2
ACCOMMODATION OF TRAFFIC:	
NT05-19-1092-516-1	TRAFFIC OF ACCOMMODATION
CROSS SECTIONS:	
NT05-19-1092-518-1	DETAIL CROSS SECTIONS - NELSON MANDELA DRIVE - SHEET 1 OF 3
NT05-19-1092-518-2	DETAIL CROSS SECTIONS - NELSON MANDELA DRIVE - SHEET 2 OF 3
NT05-19-1092-518-3	DETAIL CROSS SECTIONS - BO-OKELO STREET - SHEET 3 OF 3
TYPICAL DRAWINGS:	
NT05-19-1092-520-1	TYPICAL SPEED HUMP
NT05-19-1092-520-2	PEDESTRIAN RAMP DETAIL
NT05-19-1092-520-3	BUS and TAXI BAYS
NT05-19-1092-520-4	STORMWATER DETAIL KERB INLET DETAIL
NT05-19-1092-520-5	STORMWATER TYPICAL DETAILS
NT05-19-1092-520-6	CONTRACT NAMEBOARD
NT05-19-1092-520-7	STORMWATER TYPICAL DETAILS
NT05-19-1092-520-8	TYPICAL CROSS CUT DETAILS

GENERAL NOTES:

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REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
01	2019-12-09	ISSUED FOR PRELIMINARY DESIGN	
E1	2020-03-06	ISSUED FOR DETAIL DESIGN	
E2	2020-07-18	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



CONSULTANT



AMCE
19 Neethling Street
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Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA, BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

SITE LOCALITY PLAN
& DRAWING LIST

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:
11 MAY 2022

DRAWN BY:
T.vd WESTHUIZEN

SIGNATURE AND DATE:
11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:
11 MAY 2022

PROJECT NO
1092

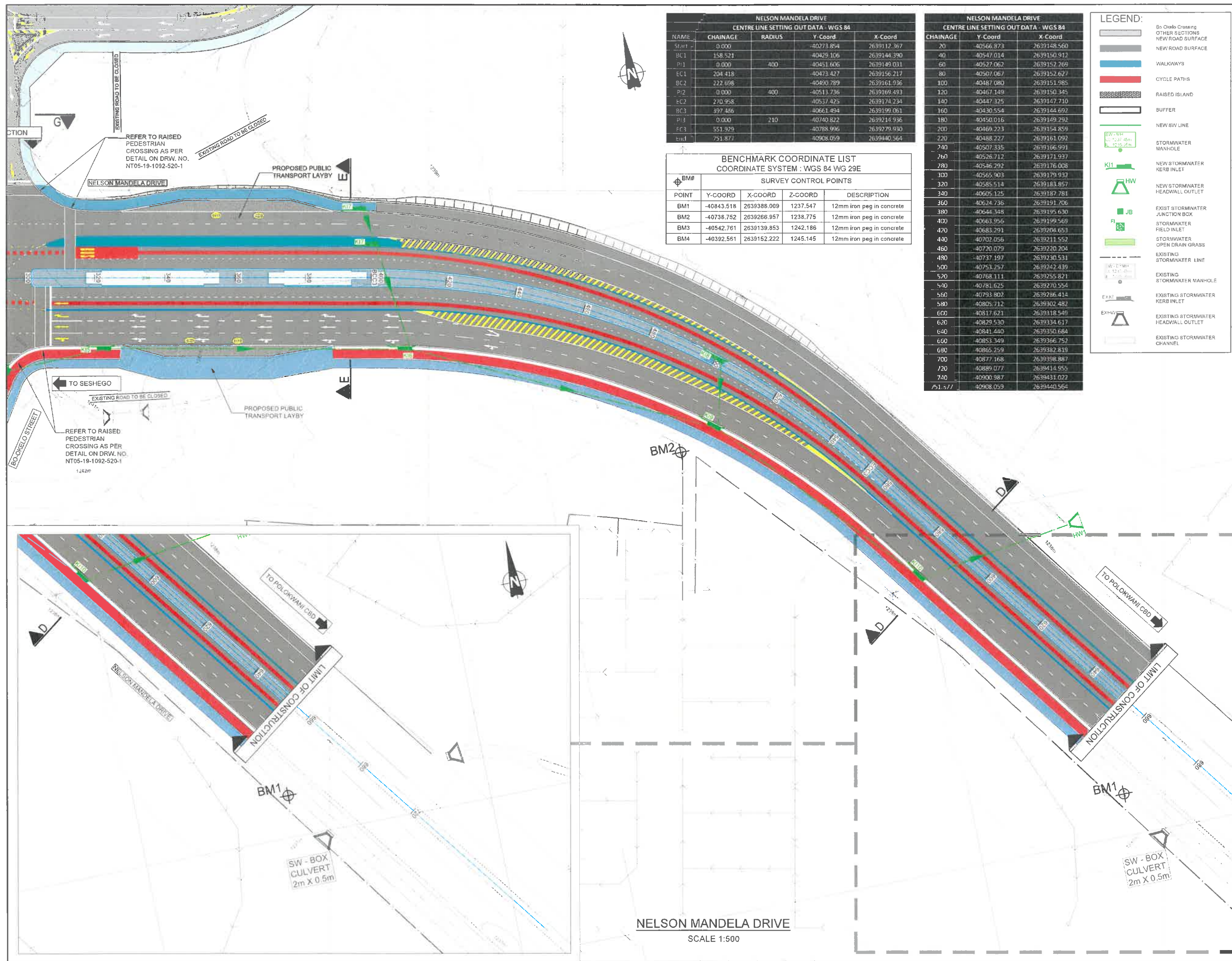
DATE
11 MAY 2022

DRAWING NO.
NT05-19-1092-501-1

SCALE
N.T.S.

SHEET SIZE
A1

REVISION
D1



NELSON MANDELA DRIVE CENTRE LINE SETTING OUT DATA - WGS 84				
NAME	CHAINAGE	RADIUS	Y-Coord	X-Coord
Start	0.000		-40273.854	2639112.367
BC1	158.521		-40429.106	2639144.390
PI1	0.000	400	-40451.606	2639149.031
EC1	204.418		-40473.427	2639156.217
BC2	222.698		-40490.789	2639161.936
PI2	0.000	400	-40513.736	2639169.493
EC2	270.958		-40537.425	2639174.234
BC3	397.486		-40661.494	2639199.061
PI3	0.000	210	-40740.822	2639214.936
EC3	551.929		-40788.996	2639279.930
End	751.977		-40908.059	2639440.564

BENCHMARK COORDINATE LIST COORDINATE SYSTEM : WGS 84 WG 29E				
POINT	Y-COORD	X-COORD	Z-COORD	DESCRIPTION
BM1	-40843.518	2639388.009	1237.547	12mm iron peg in concrete
BM2	-40738.752	2639266.957	1238.775	12mm iron peg in concrete
BM3	-40542.761	2639139.853	1242.186	12mm iron peg in concrete
BM4	-40392.561	2639152.222	1245.145	12mm iron peg in concrete

NELSON MANDELA DRIVE CENTRE LINE SETTING OUT DATA - WGS 84		
CHAINAGE	Y-Coord	X-Coord
20	-40566.873	2639148.560
40	-40547.014	2639150.912
60	-40527.062	2639152.269
80	-40507.067	2639152.627
100	-40487.080	2639151.985
120	-40467.149	2639150.345
140	-40447.325	2639147.710
160	-40430.554	2639144.692
180	-40450.016	2639149.292
200	-40469.223	2639154.859
220	-40488.227	2639161.092
240	-40507.335	2639166.991
260	-40526.712	2639171.937
280	-40546.292	2639176.008
300	-40565.903	2639179.932
320	-40585.514	2639183.857
340	-40605.125	2639187.781
360	-40624.736	2639191.706
380	-40644.348	2639195.630
400	-40663.956	2639199.569
420	-40683.291	2639204.653
440	-40702.056	2639211.552
460	-40720.079	2639220.204
480	-40737.197	2639230.531
500	-40753.257	2639242.439
520	-40768.111	2639255.821
540	-40781.625	2639270.554
560	-40793.802	2639286.414
580	-40805.712	2639302.482
600	-40817.621	2639318.549
620	-40829.530	2639334.617
640	-40841.440	2639350.684
660	-40853.349	2639366.752
680	-40865.259	2639382.819
700	-40877.168	2639398.887
720	-40889.077	2639414.955
740	-40900.987	2639431.022
751.977	-40908.059	2639440.564

LEGEND:	
	EXISTING ROAD CROSSING
	OTHER SECTIONS
	NEW ROAD SURFACE
	WALKWAYS
	CYCLE PATHS
	RAISED ISLAND
	BUFFER
	NEW SW LINE
	STORMWATER MANHOLE
	NEW STORMWATER KERB INLET
	NEW STORMWATER HEADWALL OUTLET
	EXIST STORMWATER JUNCTION BOX
	STORMWATER FIELD INLET
	STORMWATER OPEN DRAIN GRASS
	EXISTING STORMWATER LINE
	EXISTING STORMWATER MANHOLE
	EXISTING STORMWATER KERB INLET
	EXISTING STORMWATER HEADWALL OUTLET
	EXISTING STORMWATER CHANNEL

- GENERAL NOTES:
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REVISION INFORMATION

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D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



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Tel No. (015) 295 9914 Fax No. (015) 295 9914

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA, BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

LAYOUT PLAN
SHEET 2 of 2

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:

11 MAY 2022

DRAWN BY:
T. vd WESTHUIZEN

SIGNATURE AND DATE:

11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:

11 MAY 2022

PROJECT NO
1092

DATE
11 MAY 2022

DRAWING NO.

NT05-17-1069-502-2

SCALE	SHEET SIZE	REVISION
1:500	A1	D1

LEGEND:



NELSON MANDELA DRIVE CENTRE LINE SETTING OUT DATA - WGS 84			
CHAINAGE	Y-Coord	X-Coord	
0	-40273.854	2639112.367	
20	-40293.440	2639116.413	
40	-40313.026	2639120.459	
60	-40332.613	2639124.505	
80	-40352.199	2639128.552	
100	-40371.786	2639132.598	
120	-40391.372	2639136.644	
137.170	-40408.187	2639140.118	
140	-40410.956	2639140.700	
160	-40430.401	2639145.372	
175.541	-40445.335	2639149.670	
180	-40449.595	2639150.585	
200	-40468.704	2639156.889	
220	-40487.813	2639162.793	
227.655	-40495.127	2639165.053	
240	-40506.976	2639168.514	
260	-40526.383	2639173.341	
268.904	-40535.095	2639175.177	
280	-40545.978	2639177.343	
300	-40565.593	2639181.248	
320	-40585.208	2639185.154	
340	-40604.823	2639189.059	
360	-40624.438	2639192.964	
380	-40644.053	2639196.869	
398.616	-40662.311	2639200.504	
400	-40663.667	2639200.779	
420	-40683.034	2639205.739	
440	-40701.842	2639212.519	
460	-40719.920	2639221.056	
480	-40737.104	2639231.174	
500	-40753.239	2639243.080	
520	-40768.178	2639256.366	
540	-40781.785	2639271.013	
553.197	-40789.975	2639281.359	
560	-40794.027	2639286.823	
580	-40805.942	2639302.886	
600	-40817.857	2639318.950	
620	-40829.771	2639335.014	
640	-40841.686	2639351.077	
660	-40853.601	2639367.141	
680	-40865.515	2639383.205	
700	-40877.430	2639399.268	
720	-40889.344	2639415.332	
740	-40901.259	2639431.396	
751.415	-40908.059	2639440.564	

BO-OKELO STREET CENTRE LINE SETTING OUT DATA - WGS 84				
NAME	CHAINAGE	RADIUS	Y-Coord	X-Coord
Start	0.000	0.000	-40553.547	2639177.136
BC1	29.022	0.000	-40547.568	2639205.535
PI1	0.000	35.000	-40540.516	2639239.503
EC1	83.711	0.000	-40506.190	2639232.632
End	106.120	0.000	-40334.725	2639228.136

NELSON MANDELA DRIVE CENTRE LINE SETTING OUT DATA - WGS 84				
NAME	CHAINAGE	RADIUS	Y-Coord	X-Coord
Start	0.000	0.000	-40273.854	2639112.367
BC1	137.170	0.000	-40408.187	2639140.118
PI1	0.000	400.000	-40476.990	2639144.002
EC1	175.541	0.000	-40445.335	2639149.670
BC2	227.655	0.000	-40495.127	2639165.053
PI2	0.000	400.000	-40514.850	2639171.146
EC2	268.904	0.000	-40535.095	2639175.177
BC3	398.616	0.000	-40662.311	2639200.504
PI3	0.000	210.000	-40741.732	2639216.317
EC3	553.197	0.000	-40789.975	2639281.359
End	751.415	0.000	-40908.059	2639440.564

BENCHMARK COORDINATE LIST COORDINATE SYSTEM: WGS 84 WG 29E				
SURVEY CONTROL POINTS				
POINT	Y-COORD	X-COORD	Z-COORD	DESCRIPTION
BM1	-40843.518	2639388.009	1237.547	12mm iron peg in concrete
BM2	-40738.752	2639266.957	1238.775	12mm iron peg in concrete
BM3	-40542.761	2639139.853	1242.186	12mm iron peg in concrete
BM4	-40392.561	2639152.222	1245.145	12mm iron peg in concrete

NELSON MANDELA DRIVE STORMWATER LINE SETTING OUT DATA - WGS 84			
NAME	COVER LEVEL	Y-Coord	X-Coord
EX-KI1	1245.569	-40355.975	2639119.360
EX-KI2	1245.747	-40352.386	2639140.223
KI1	1243.911	-40458.910	2639140.274
KI2	1243.722	-40471.737	2639165.121
KI3	1242.743	-40520.662	2639188.596
KI4	1242.622	-40527.650	2639154.151
KI5	1241.533	-40585.048	2639205.710
KI6	1240.002	-40669.341	2639222.832
KI7	1240.253	-40663.868	2639190.618
KI6A	1240.227	-40665.399	2639191.250
KI8	1239.215	-40705.290	2639213.423
KI9	1238.991	-40750.556	2639202.213
KI10	1238.406	-40799.159	2639115.998
KI11	1238.139	-40832.629	2639110.611
HW1	1236.983	-40842.923	2639109.049
KI11	1242.74	-40555.975	2639119.360

GENERAL NOTES:

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REVISION INFORMATION

No.	DATE	DESCRIPTION	BY
D1	2019-12-09	ISSUED FOR PRELIMINARY DESIGN	
E1	2020-03-05	ISSUED FOR DETAIL DESIGN	
E2	2020-07-18	REVISED ISSUED FOR DETAIL DESIGN	
E3	2020-10-07	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



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Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

LAYOUT PLAN
SHEET 1 of 2

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:
11 MAY 2022

DRAWN BY:
T. vd WESTHUIZEN

SIGNATURE AND DATE:
11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:
11 MAY 2022

PROJECT NO
1092

DATE
11 MAY 2022

DRAWING NO.

NT05-17-1069-502-1

SCALE

1:500

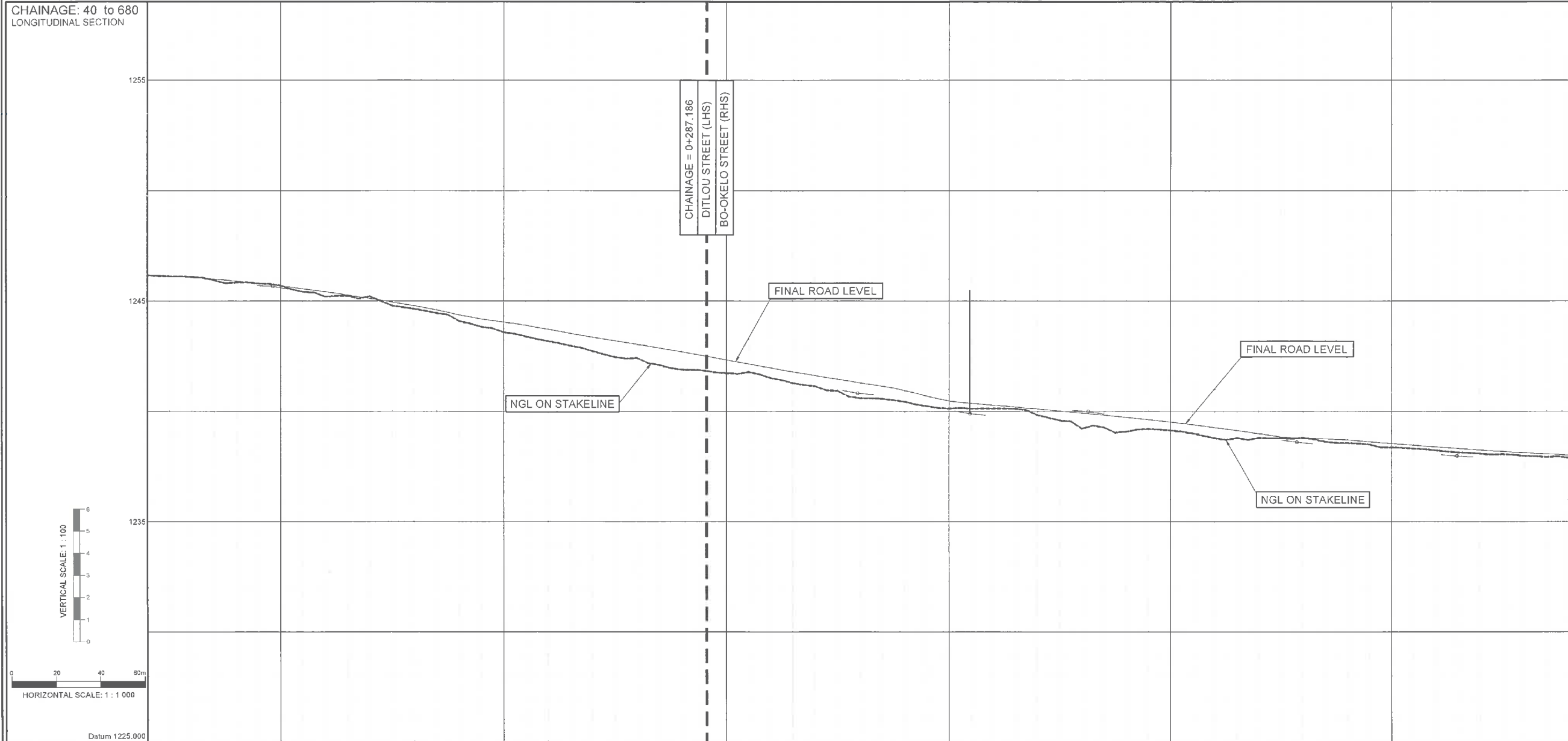
SHEET SIZE

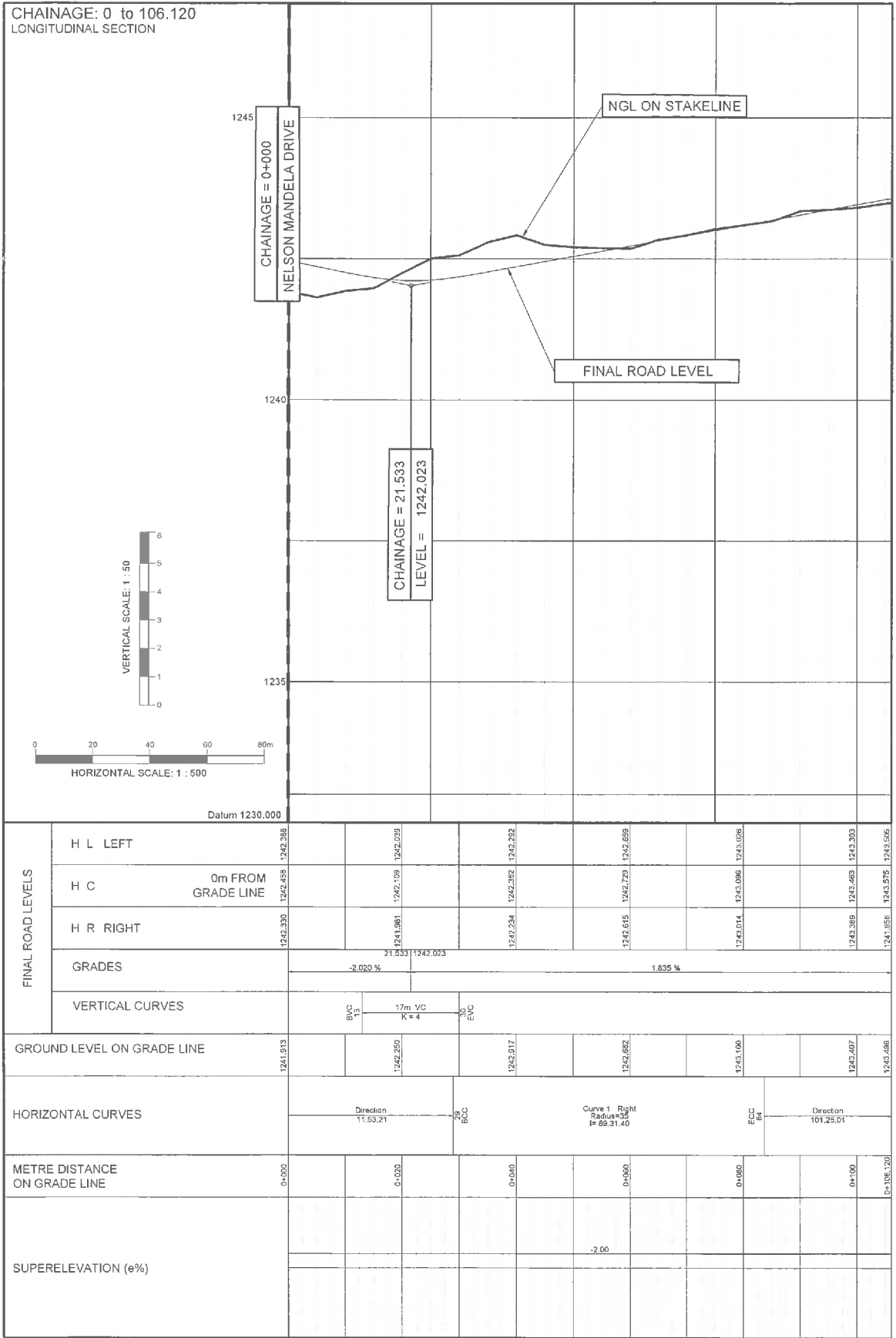
A1

REVISION

D1

CHAINAGE: 40 to 680
LONGITUDINAL SECTION





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D1	2019-12-09	ISSUED FOR PRELIMINARY DESIGN	
E1	2020-03-06	ISSUED FOR DETAIL DESIGN	
E2	2020-07-20	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



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19 Neethling Street
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Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

LONGITUDINAL SECTION
BO-OKELO STREET

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:
11 MAY 2022

DRAWN BY:
T.v.d WESTHUIZEN

SIGNATURE AND DATE:
11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:
11 MAY 2022

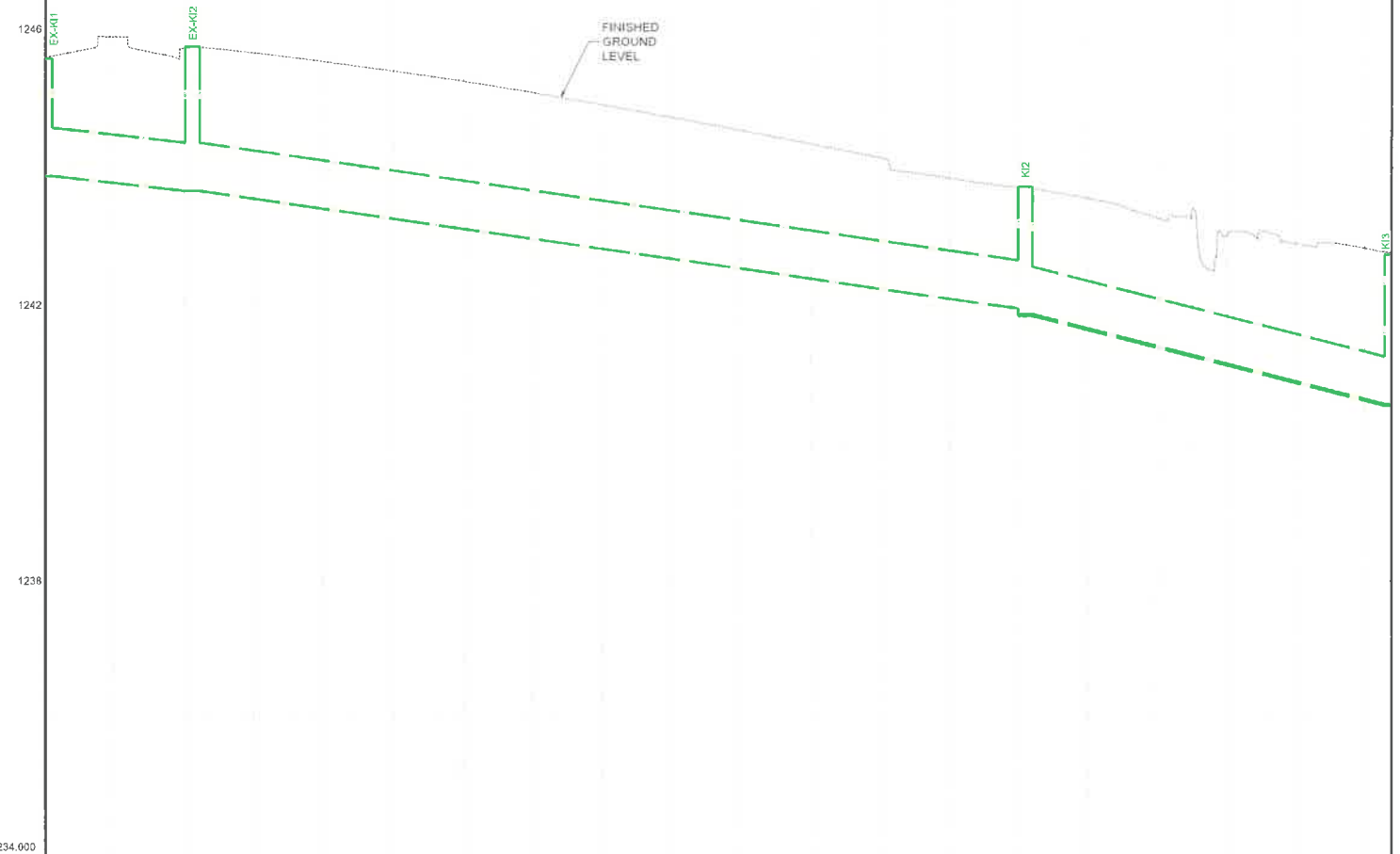
PROJECT NO
1092

DATE
11 MAY 2022

DRAWING NO.
NT05-19-1092-503-2

SCALE AS SHOWN	SHEET SIZE A1	REVISION D1
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EX-K11 to K19
LONGITUDINAL SECTION
SCALE: HOR 1:500
VER 1:50



CHAINAGE	0.000	21.161	140.873	153.910
GROUND LEVEL	1245.569	1245.747	1243.722	1242.743
INLET / OUTLET NAME	EX-K11	EX-K12	K12	K13
INVERT LEVEL	1243.927	1243.715 1243.715	1242.019 1241.924	1240.629 1240.629
LENGTH	21.161 m	119.712 m	53.037 m	
PIPE TYPE / SIZE	100D Concrete 600 mm	100D Concrete 600 mm	100D Concrete 600 mm	
SLOPE	1.000 %	1.417 %	2.443 %	

GENERAL NOTES:

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REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
D1	2019-12-29	ISSUED FOR PRELIMINARY DESIGN	
E1	2020-03-08	ISSUED FOR DETAIL DESIGN	
E2	2020-07-29	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



CONSULTANT



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Bendor Ext 30,
Polokwane, 0699
Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

STORMWATER
LONGITUDINAL SECTION
SHEET 1 OF 4

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:

11 MAY 2022

DRAWN BY:
T.v/d WESTHUIZEN

SIGNATURE AND DATE:

11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:

11 MAY 2022

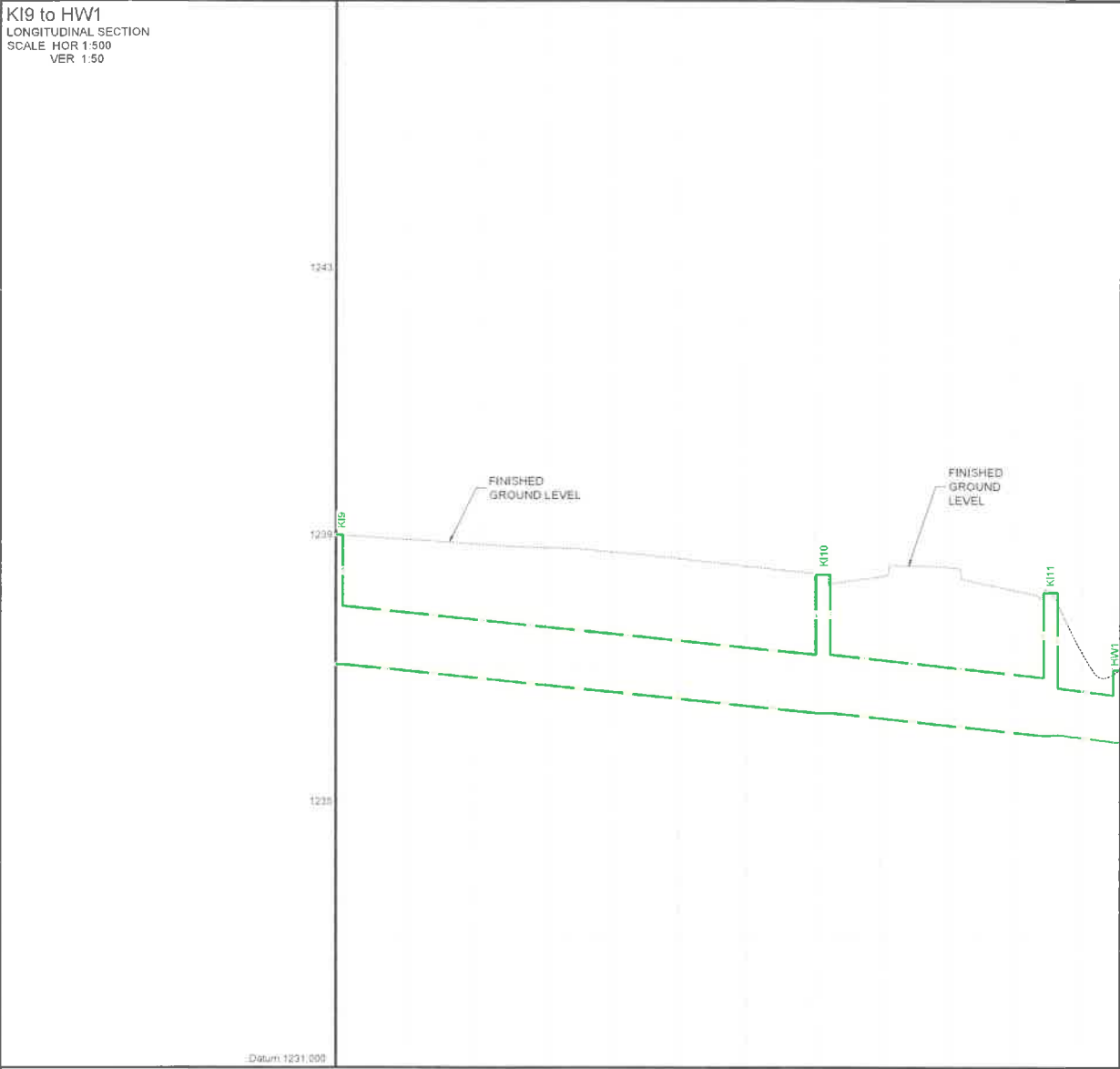
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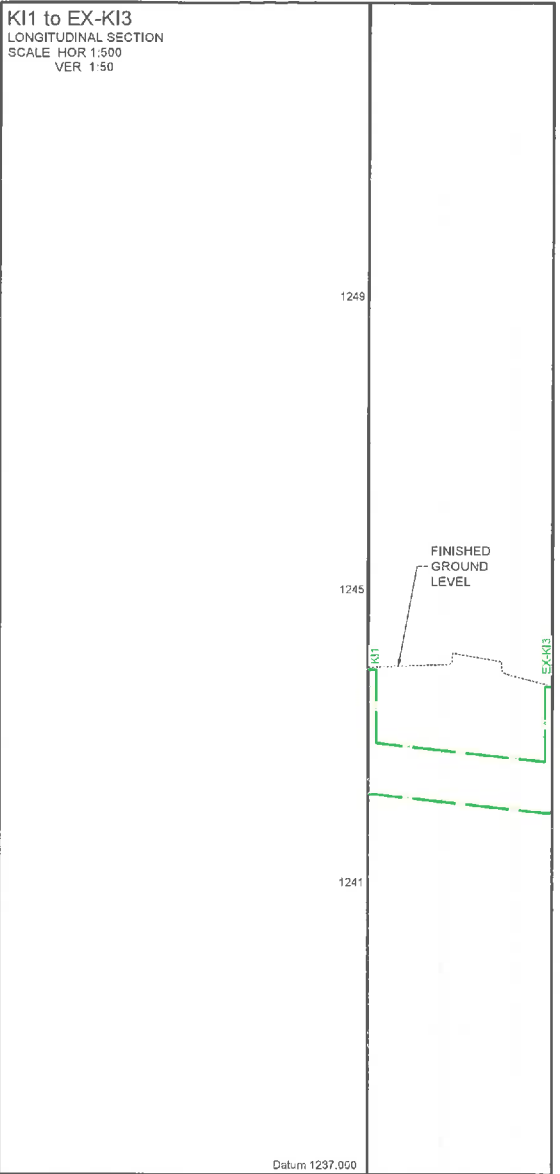
DRAWING NO.

NT05-19-1092-504-1

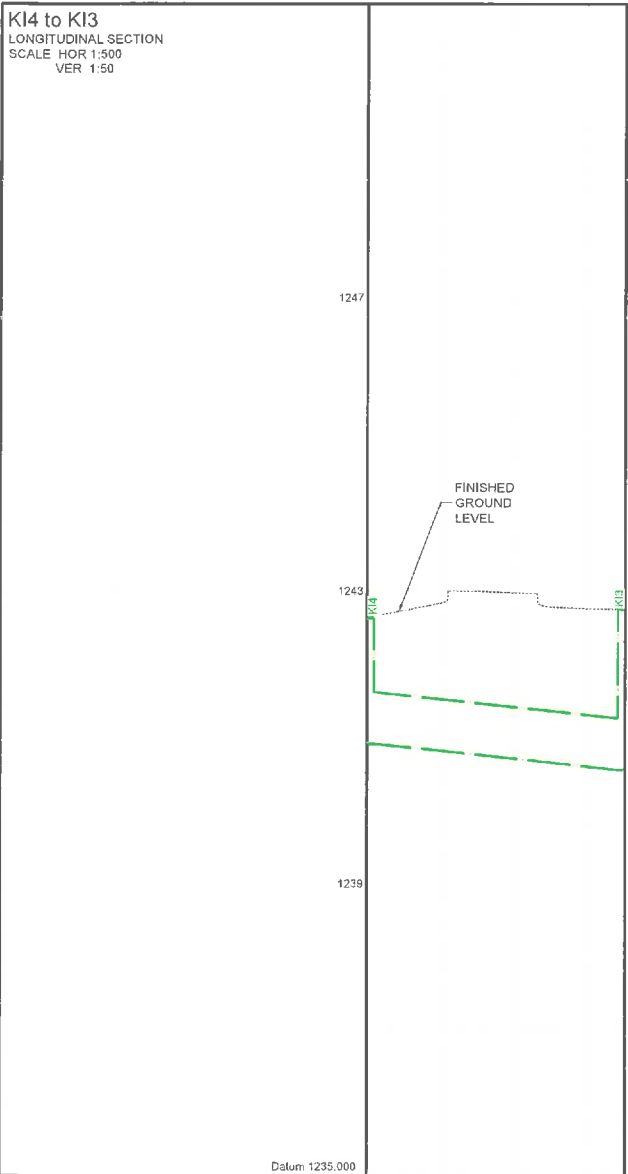
SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	D1



CHAINAGE	438.822	511.314	545.215
GROUND LEVEL	1238.884	1238.408	1238.139
INLET / OUTLET NAME	KI9	KI10	KI11
INVERT LEVEL	1237.132	1236.407	1235.068
LENGTH	72.492 m	33.901 m	10.412 m
PIPE TYPE / SIZE	100D Concrete 750 mm	100D Concrete 750 mm	100D Concrete 600 mm
SLOPE	1.000 %	1.000 %	1.000 %



CHAINAGE	0.000	1243.911	1243.678
GROUND LEVEL		1243.911	1243.678
INLET / OUTLET NAME	KI1		EX-KI3
INVERT LEVEL	1242.269		1242.019
LENGTH	25.000 m		
PIPE TYPE / SIZE	100D Concrete 600 mm		
SLOPE	1.000 %		



CHAINAGE	0.000	1242.622	1242.743
GROUND LEVEL		1242.622	1242.743
INLET / OUTLET NAME	KI4		KI3
INVERT LEVEL	1240.980		1240.629
LENGTH	35.147 m		
PIPE TYPE / SIZE	100D Concrete 600 mm		
SLOPE	1.000 %		

GENERAL NOTES:

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- ALL BENCHMARKS TO BE CONFIRMED ON SITE.

REVISION INFORMATION

No.	DATE	DESCRIPTION:	BY
D1	2019-12-09	ISSUED FOR PRELIMINARY DESIGN	
E1	2020-03-08	ISSUED FOR DETAIL DESIGN	
E2	2020-07-29	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-06-11	ISSUED FOR TENDER	

CLIENT



CONSULTANT



AMCE
19 Neethling Street
Bender Ext 30,
Polokwane, 0699
Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

STORMWATER
LONGITUDINAL SECTION
SHEET 3 OF 4

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156
SIGNATURE AND DATE:
11 MAY 2022

DRAWN BY:
T.v/d WESTHUIZEN
SIGNATURE AND DATE:
11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479
SIGNATURE AND DATE:
11 MAY 2022

PROJECT NO
1092
DATE
11 MAY 2022

DRAWING NO.

NT05-19-1092-504-3

SCALE AS SHOWN	SHEET SIZE A1	REVISION D1
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KI3 to KI9
LONGITUDINAL SECTION
SCALE HOR 1:500
VER 1:50

1246

1242

1238

Datum 1234,000

FINISHED
GROUND LEVEL

FINISHED
GROUND
LEVEL

CHAINAGE

GROUND LEVEL

INLET / OUTLET NAME

INVERT LEVEL

LENGTH

PIPE TYPE / SIZE

SLOPE

195.910

1242.743

KI3

1240.529
1240.529

39.456 m

1000 Concrete
600 mm

1.000 %

233.386

1242.240

KI4.1

1240.234
1240.234

29.187 m

1000 Concrete
600 mm

1.298 %

262.553

1241.539

KI5

1238.855
1238.855

86.021 m

1000 Concrete
600 mm

1.809 %

346.574

1240.002

KI6

1238.289
1238.289

90.248 m

1000 Concrete
600 mm

1.293 %

438.822

1238.804

KI9

1237.132
1237.132

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D1	2019-12-09	ISSUED FOR PRELIMINARY DESIGN	
E1	2020-03-06	ISSUED FOR DETAIL DESIGN	
E2	2020-07-26	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

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CONSULTANT



AMCE
19 Neethling Street
Bendor Ext 30,
Polokwane, 0699
Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

STORMWATER
LONGITUDINAL SECTION
SHEET 2 OF 4

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:

11 MAY 2022

DRAWN BY:
T.v/d WESTHUIZEN

SIGNATURE AND DATE:

11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:

11 MAY 2022

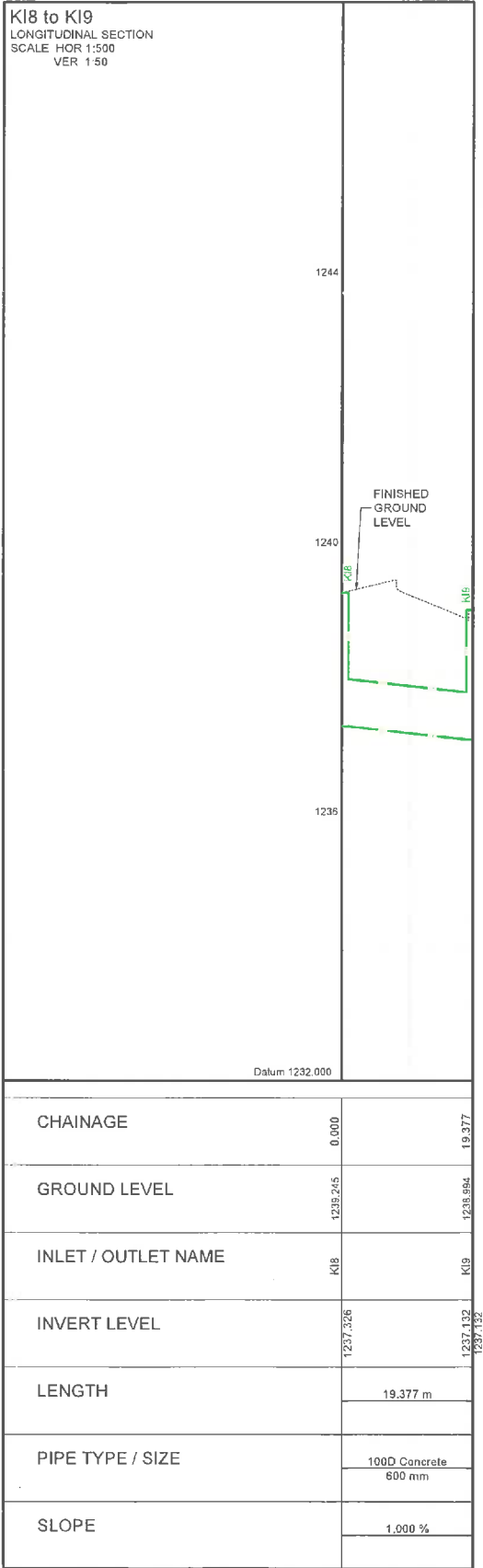
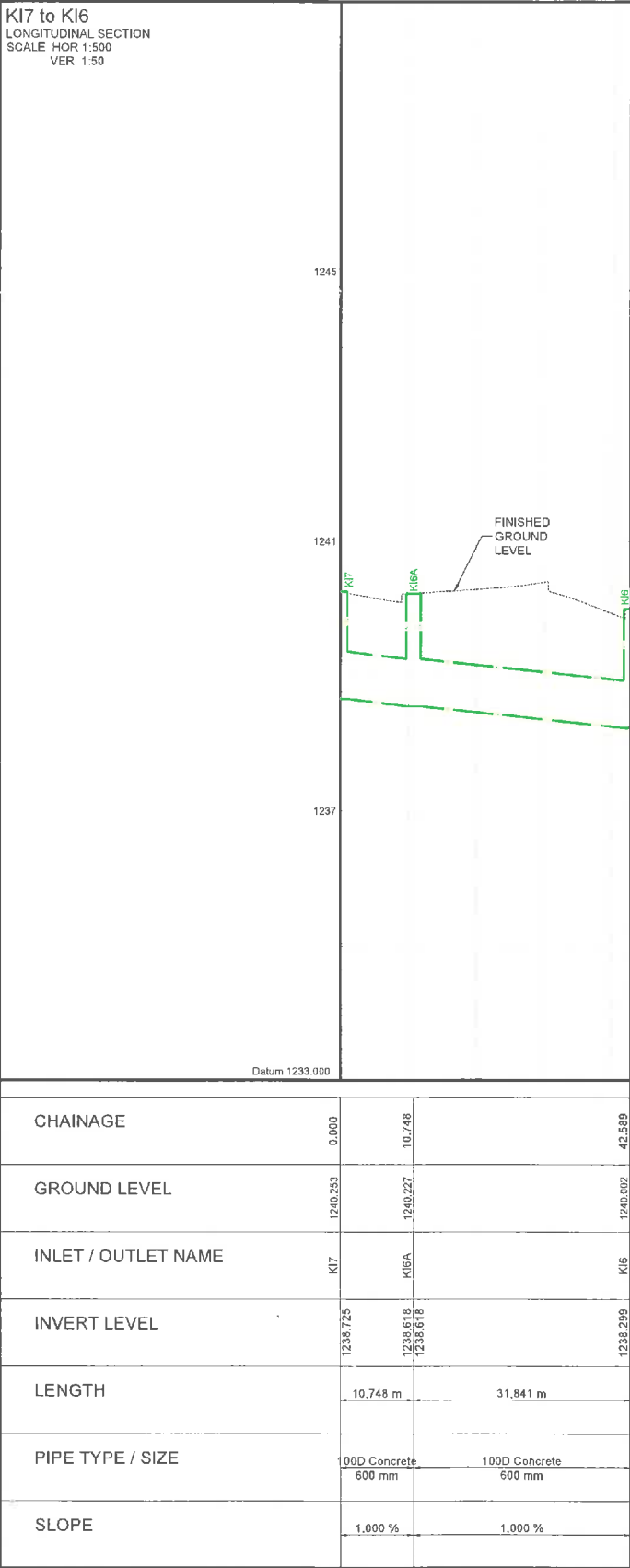
PROJECT NO
1092

DATE
11 MAY 2022

DRAWING NO.

NT05-19-1092-504-2


SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	E2




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D1	2022-05-11	ISSUED FOR TENDER	

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CITY OF
Polokwane
NATURALLY PROGRESSIVE

CONSULTANT


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PROJECT DESCRIPTION




NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

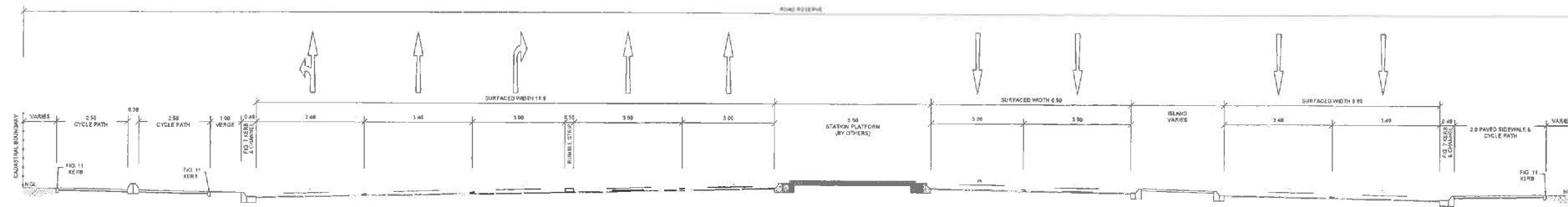
ROADS & TRANSPORT

DRAWING DESCRIPTION

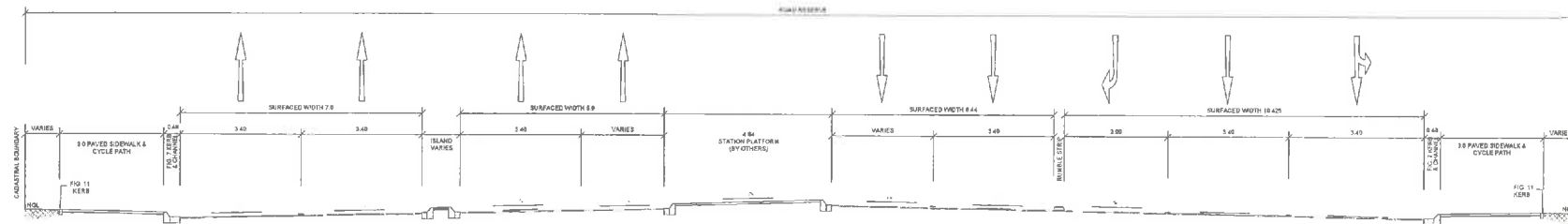
STORMWATER
LONGITUDINAL SECTION
SHEET 4 OF 4

DESIGNED BY:	SIGNATURE AND DATE:
K. MANGXABA Pr Eng.:201670156	 11 MAY 2022
DRAWN BY:	SIGNATURE AND DATE:
T.v/d WESTHUIZEN	 11 MAY 2022
APPROVED BY:	SIGNATURE AND DATE:
M. GWABA Pr Eng.:20140479	 11 MAY 2022
PROJECT NO	1092
DRAWING NO.	NT05-19-1092-504-4

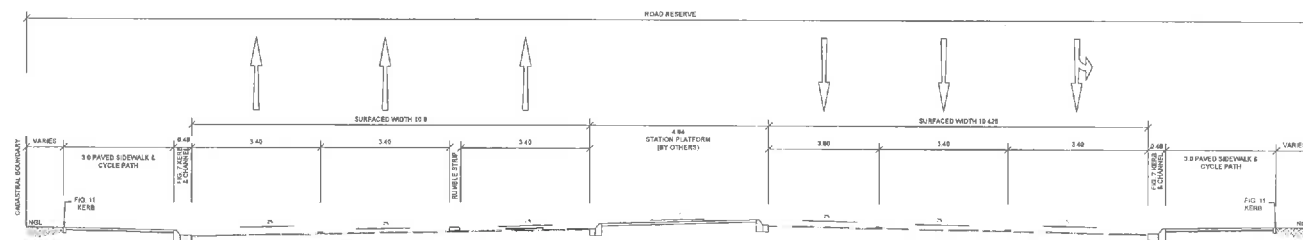
SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	D1



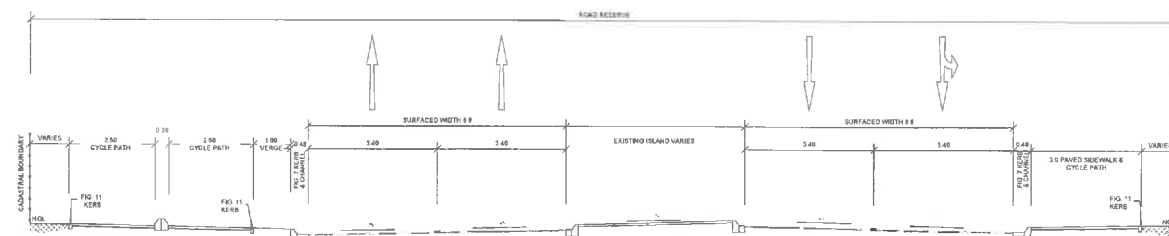
TYPICAL CROSS SECTION - SECTION E-E
SCALE 1:100



TYPICAL CROSS SECTION - SECTION F-F
SCALE 1:100



TYPICAL CROSS SECTION - SECTION H-H
SCALE 1:100



TYPICAL CROSS SECTION - SECTION D-D
SCALE 1:100

PAVEMENT DESIGN		
TYPICAL LAYERWORKS FOR B.R.T. LANE	TYPICAL LAYERWORKS FOR MIXED TRAFFIC LANE	TYPICAL LAYERWORKS FOR SIDEWALK
<ul style="list-style-type: none"> 40mm AC ASPHALT 150mm BC ASPHALT BASE 450mm C3 STABILISED SUBBASE IN 3 LAYERS COMPACTED TO 97% MOD AASHTO DENSITY 150mm G7 SELECTED MATERIAL COMPACTED TO 94% MOD AASHTO 150mm G9 SELECTED MATERIAL COMPACTED TO 93% MOD AASHTO 	<ul style="list-style-type: none"> 40mm AC ASPHALT 80mm BC ASPHALT BASE 300mm C3 STABILISED SUBBASE IN 2 LAYERS COMPACTED TO 97% MOD AASHTO DENSITY 150mm G7 SELECTED MATERIAL COMPACTED TO 95% MOD AASHTO 150mm G9 SELECTED MATERIAL COMPACTED TO 93% MOD AASHTO 	<ul style="list-style-type: none"> 60mm PAVING BLOCKS 20mm RIVER SAND BEDDING 150mm G5 MATERIAL COMPACTED TO 97% MOD AASHTO DENSITY RIP & RE-COMPACT TO 93% MOD AASHTO DENSITY

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D1	2019-12-09	ISSUED FOR PRELIMINARY DESIGN	
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E2	2020-07-18	REVISED FOR DETAIL DESIGN	
E3	2020-10-07	REVISED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



CONSULTANT



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19 Neethling Street
Bendor Ext 30,
Polokwane, 0699
Tel No. (015) 295 9914 Fax No. (015) 295 9941




PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

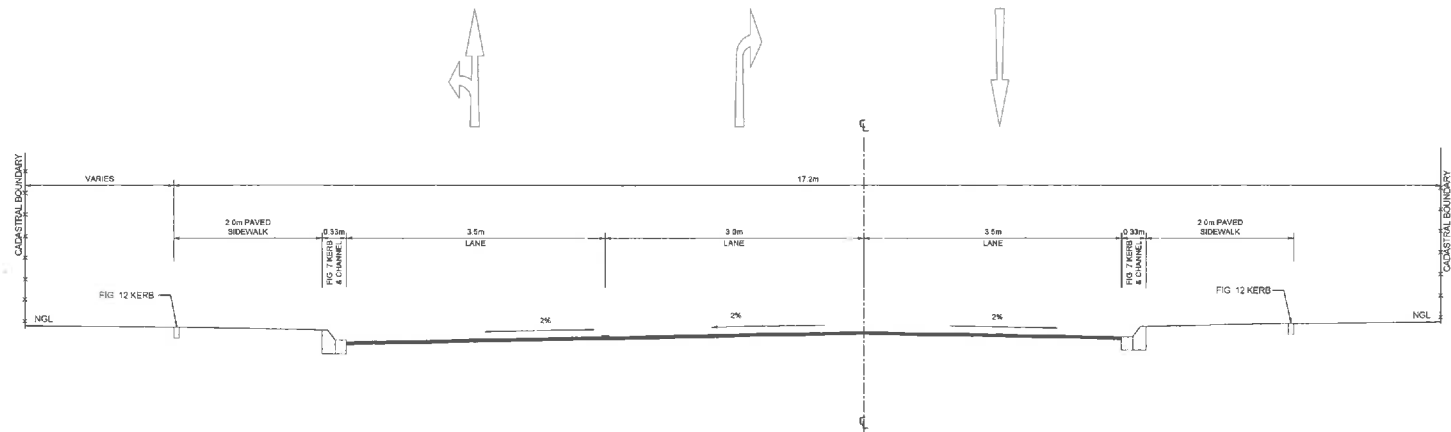
DRAWING DESCRIPTION
TYPICAL CROSS SECTION
NELSON MANDELA DRIVE
SHEET 1 OF 2

DESIGNED BY: K. MANGXABA Pr Eng.:201670156	SIGNATURE AND DATE:  11 MAY 2022
DRAWN BY: T.v.d WESTHUIZEN	SIGNATURE AND DATE:  11 MAY 2022
APPROVED BY: M. GWABA Pr Eng.:20140479	SIGNATURE AND DATE:  11 MAY 2022
PROJECT NO 1092	DATE 11 MAY 2022

DRAWING NO.

NT05-19-1092-505-1

SCALE	SHEET SIZE	REVISION
1:100	A1	D1



BO-OKELO STREET TYPICAL CROSS SECTION

CHAINAGE 0 TO 105

SCALE 1:50

MATERIAL REQUIREMENTS				
LAYER NO.	LAYER	THICKNESS (mm)		DESCRIPTION
1	SURFACE TREATMENT	40	S	CONTINUOUSLY GRADED MEDIUM ASPHALT SURFACING
2	BASE	150	G3	GRAVEL LAYER COMPACTED TO 97% MOD AASHTO DENSITY
3	SUB-BASE	300	C4	STABILISED LAYER COMPACTED TO 95% MOD AASHTO DENSITY
4	SELECTED LAYER / GRAVEL SHOULDER	150	G8	NATURAL GRAVEL COMPACTED TO 93% MOD AASHTO DENSITY
5	IN-SITU ROADBED	150		IN-SITU RIP & RECOMPACT TO 90% MOD AASHTO DENSITY
6	FILL		G10	COMPACT TO 90% MOD AASHTO DENSITY
7	EXISTING LAYERS			

MATERIAL REQUIREMENTS				
LAYER NO.	LAYER	THICKNESS (mm)	TRH 4	DESCRIPTION
A	INTERLOCKING PAVING BLOCKS	60		
B	BEDDING	25		APPROVED COARSE SAND
C	BASE	150	G5	GRANULAR MATERIAL COMPACTED TO 95% MOD AASHTO
D	SUBBASE	150		NATURAL GRAVEL COMPACTED TO 93% MOD AASHTO DENSITY

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D1	2022-05-11	ISSUED FOR TENDER	

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CONSULTANT



AMCE
19 Neethling Street
Bendor Ext 30,
Polokwane, 0699
Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

TYPICAL PAVEMENT DESIGN &
CROSS SECTIONS

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:
11 MAY 2022

DRAWN BY:
T.v/d WESTHUIZEN

SIGNATURE AND DATE:
11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:
11 MAY 2022

PROJECT NO
1092

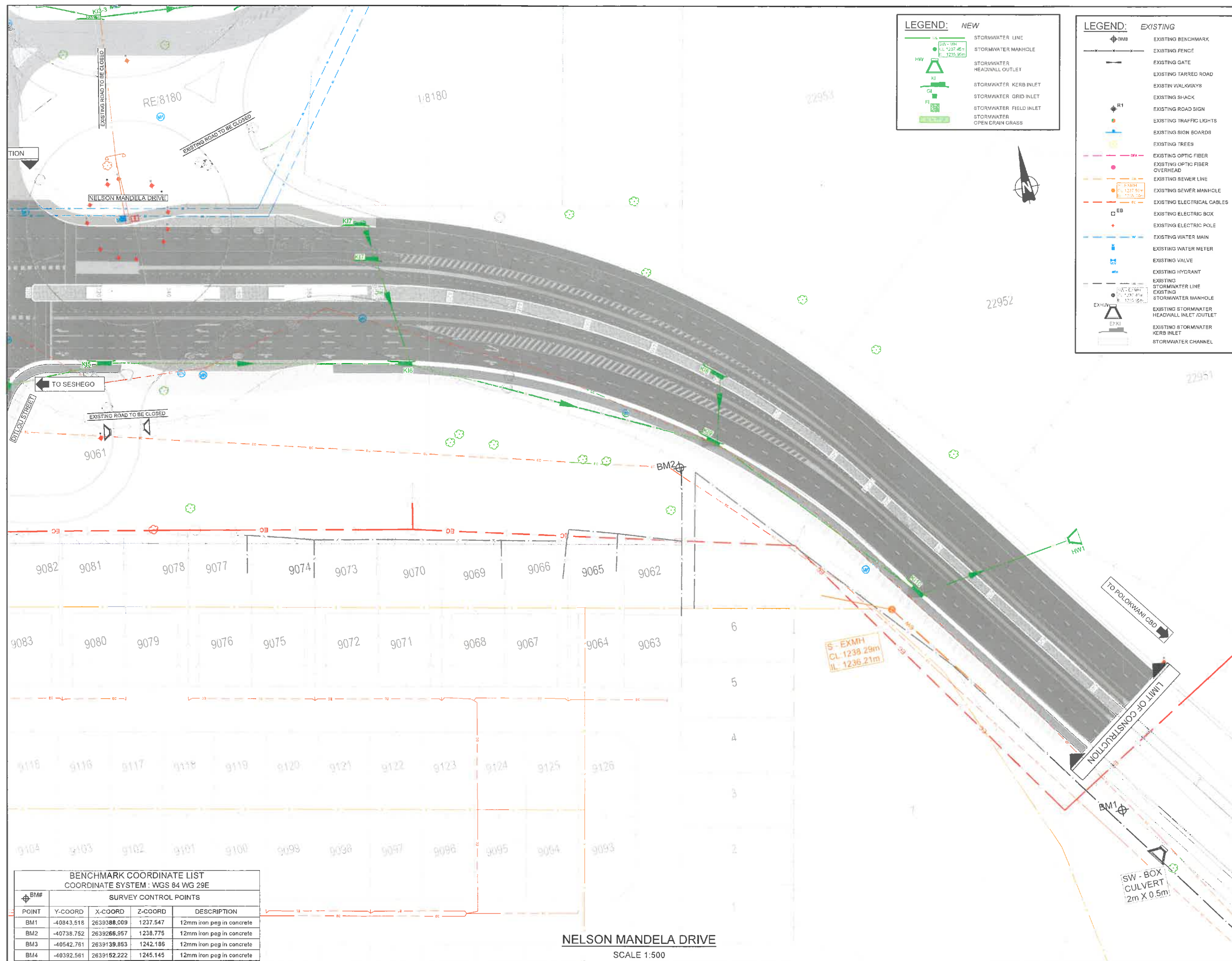
DATE
11 MAY 2022

DRAWING NO.
NT05-19-1092-505-2

SCALE
1:50

SHEET SIZE
A1

REVISION
D1



LEGEND: NEW	
	STORMWATER LINE
	STORMWATER MANHOLE
	STORMWATER HEADWALL OUTLET
	STORMWATER KERB INLET
	STORMWATER GRID INLET
	STORMWATER FIELD INLET
	STORMWATER OPEN DRAIN GRASS

LEGEND: EXISTING	
	EXISTING BENCHMARK
	EXISTING FENCE
	EXISTING GATE
	EXISTING TARMED ROAD
	EXISTING WALKWAYS
	EXISTING SHACK
	EXISTING ROAD SIGN
	EXISTING TRAFFIC LIGHTS
	EXISTING SIGN BOARDS
	EXISTING TREES
	EXISTING OPTIC FIBER OVERHEAD
	EXISTING SEWER LINE
	EXISTING SEWER MANHOLE
	EXISTING ELECTRICAL CABLES
	EXISTING ELECTRIC BOX
	EXISTING ELECTRIC POLE
	EXISTING WATER MAIN
	EXISTING WATER METER
	EXISTING VALVE
	EXISTING HYDRANT
	EXISTING STORMWATER LINE
	EXISTING STORMWATER MANHOLE
	EXISTING STORMWATER HEADWALL INLET/OUTLET
	EXISTING STORMWATER KERB INLET
	EXISTING STORMWATER CHANNEL

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D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



CONSULTANT



AMCE
19 Neethling Street
Bendor Ext 30,
Polokwane, 0699
Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

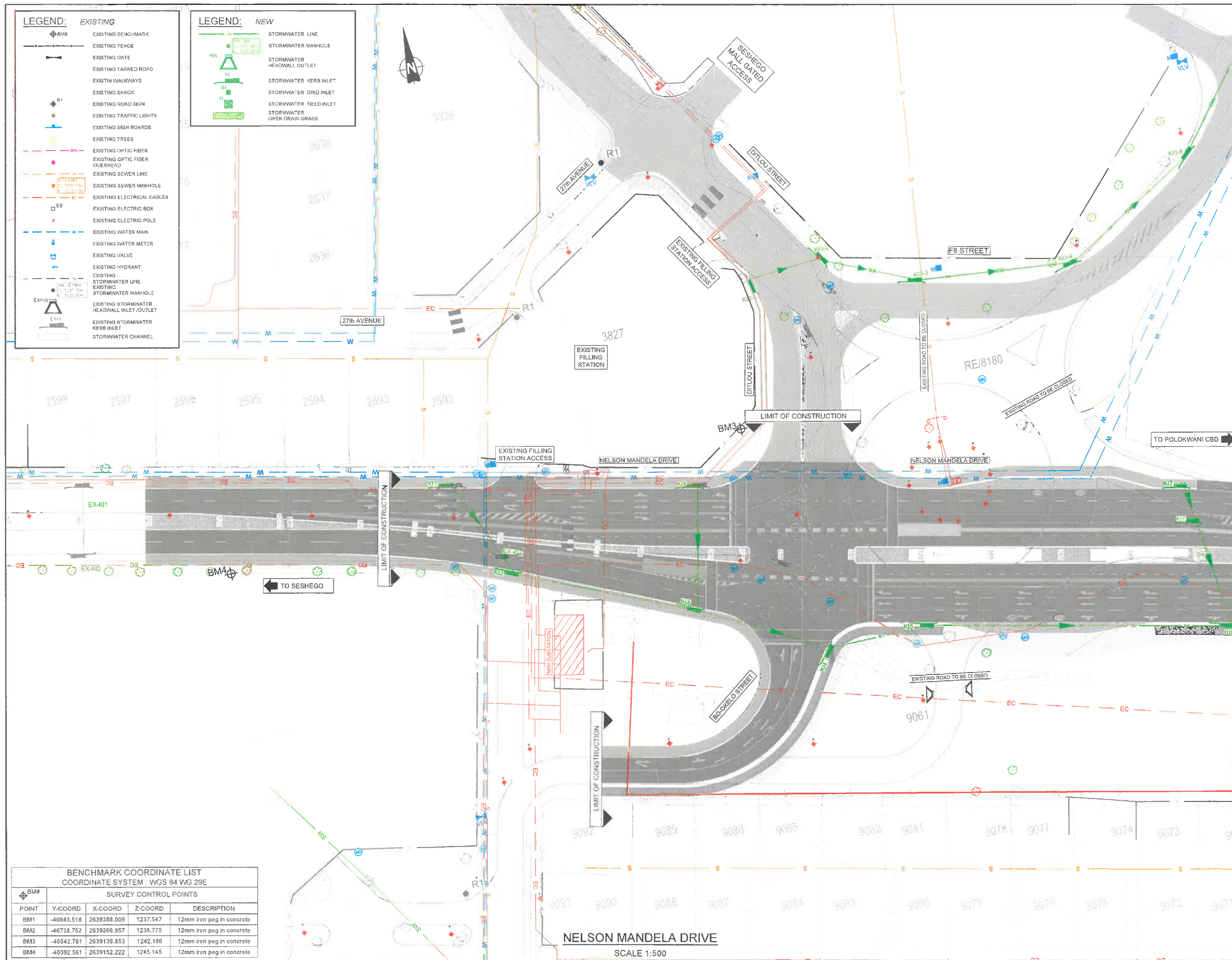
ROADS & TRANSPORT

DRAWING DESCRIPTION

EXISTING SERVICE PLAN
SHEET 2 OF 2

DESIGNED BY: K. MANGXABA Pr Eng.:201670156	SIGNATURE AND DATE: 11 MAY 2022
DRAWN BY: T.v/d WESTHUIZEN	SIGNATURE AND DATE: 11 MAY 2022
APPROVED BY: M. GWABA Pr Eng.:20140479	SIGNATURE AND DATE: 11 MAY 2022
PROJECT NO 1092	DATE 11 MAY 2022
DRAWING NO. NT05-17-1069-510-2	

SCALE	SHEET SIZE	REVISION
1:500	A1	D1



LEGEND: EXISTING

	EXISTING BENCHMARK
	EXISTING FENCE
	EXISTING GATE
	EXISTING TARRED ROAD
	EXISTING WALKWAYS
	EXISTING SHACK
	EXISTING ROAD SKIN
	EXISTING TRAFFIC LIGHTS
	EXISTING SIGN BOARDS
	EXISTING TREES
	EXISTING OPTIC FIBER
	EXISTING OPTIC FIBER OVERHEAD
	EXISTING SEWER LINE
	EXISTING SEWER MANHOLE
	EXISTING ELECTRICAL CABLES
	EXISTING ELECTRIC BOX
	EXISTING ELECTRIC POLE
	EXISTING WATER MAIN
	EXISTING WATER METER
	EXISTING VALVE
	EXISTING HYDRANT
	EXISTING STORMWATER LINE
	EXISTING STORMWATER MANHOLE
	EXISTING STORMWATER HEADWALL INLET/OUTLET
	EXISTING STORMWATER KERB INLET
	EXISTING STORMWATER CHANNEL

LEGEND: NEW

	STORMWATER LINE
	STORMWATER MANHOLE
	STORMWATER HEADWALL OUTLET
	STORMWATER KERB INLET
	STORMWATER GRID INLET
	STORMWATER FIELD INLET
	STORMWATER OPEN DRAIN GRASS

BENCHMARK COORDINATE LIST
COORDINATE SYSTEM : WGS 84 WG 29E

POINT	Y-COORD	X-COORD	Z-COORD	DESCRIPTION
BM1	-40843.518	2639388.009	1237.547	12mm iron peg in concrete
BM2	-40738.752	2639266.957	1238.775	12mm iron peg in concrete
BM3	-40542.761	2639139.853	1242.186	12mm iron peg in concrete
BM4	-40392.561	2639152.222	1245.145	12mm iron peg in concrete

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City of Polokwane
NATURALLY PROGRESSIVE

CONSULTANT

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19 Neethling Street
Bendor Ext 30,
Polokwane, 0699
Tel No. (015) 295 9914 Fax No. (015) 295 9841

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA, BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

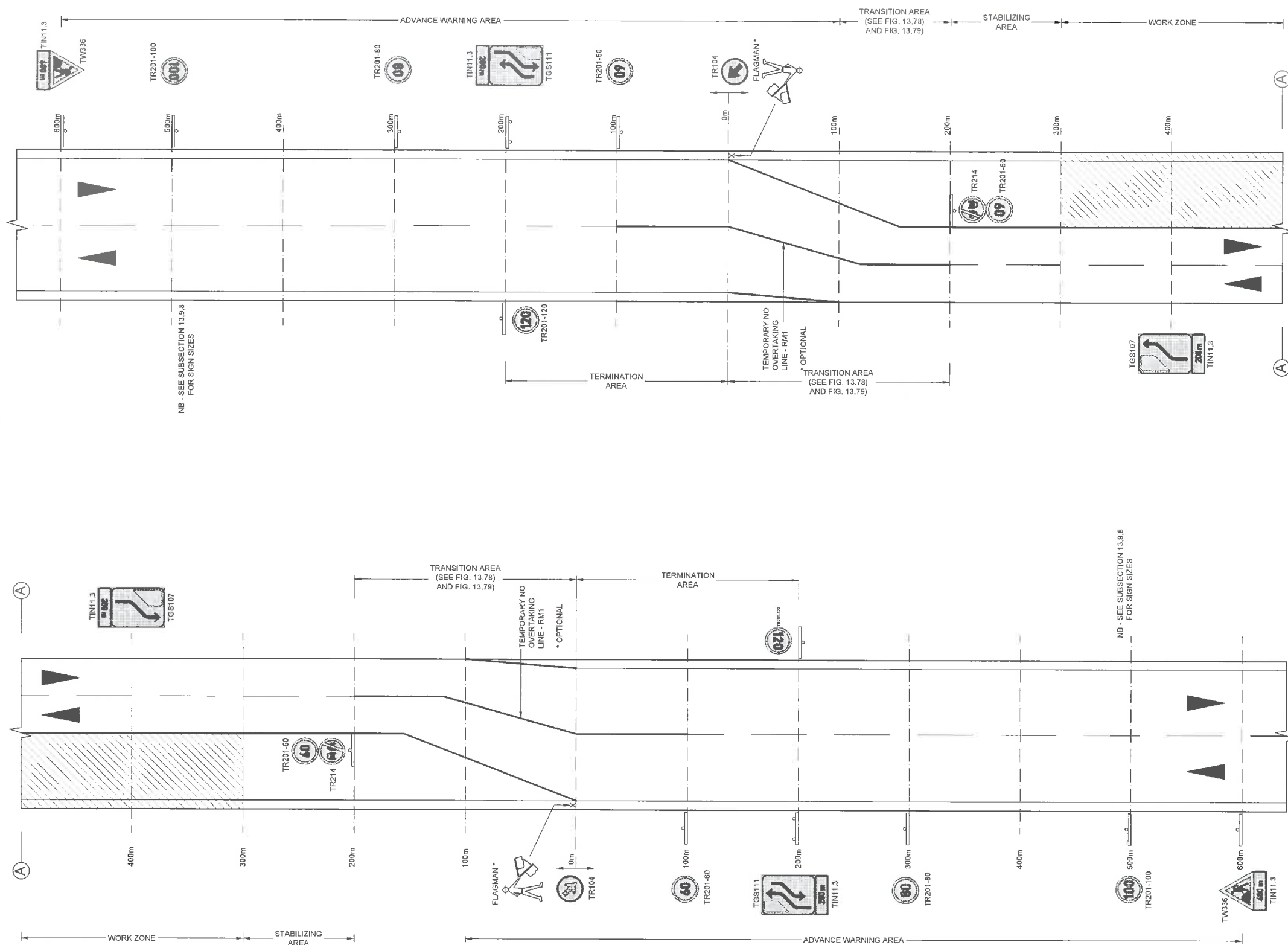
DRAWING DESCRIPTION

EXISTING SERVICE PLAN
SHEET 1 OF 2

DESIGNED BY: K. MANGXABA Pr Eng.:201670156	SIGNATURE AND DATE: 11 MAY 2022
DRAWN BY: T.W. WESTHUIZEN	SIGNATURE AND DATE: 11 MAY 2022
APPROVED BY: M. GWABA Pr Eng.:20140479	SIGNATURE AND DATE: 11 MAY 2022
PROJECT NO 1092	DATE 11 MAY 2022
DRAWING NO. NT05-19-1092-510-1	

SCALE 1:500	SHEET SIZE A1	REVISION D1
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MAINTENANCE UNIT INVENTORY (13.9.12)			
SIGN	NO	SIZE (mm)	QUANT.
	TW336	1200	2
	TR201-100	1200	2 OPTIONAL
	TR201-60 TR201-80	1200	4 2
	TGS111 TGS112	1200x1600	1 1
	TIN11.3	1200	2
	TIN11.3	1200	2
	TR104	1200	1
	FLAGS	450x450	2
	TR214	1200	2
	TGS107 TGS108	1200x1600	1 1
	TR201-120	1200	2



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PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

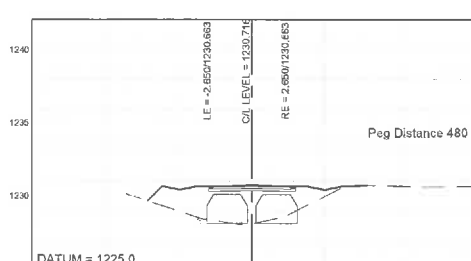
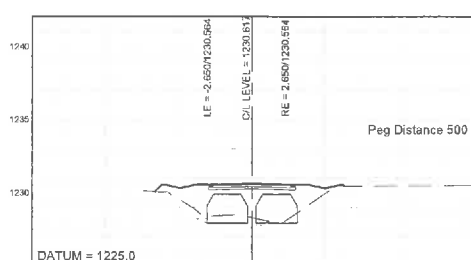
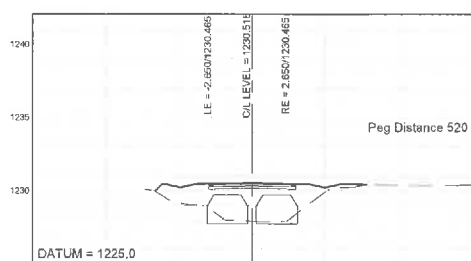
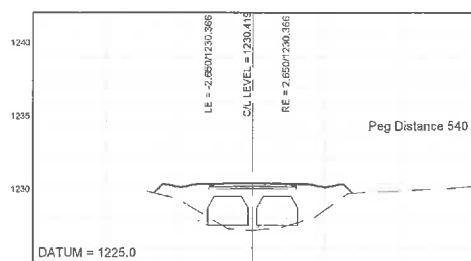
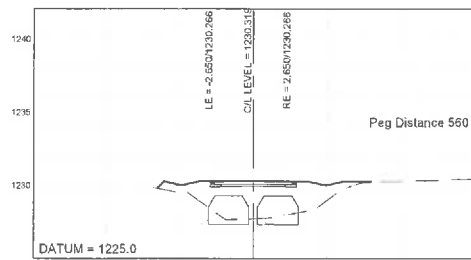
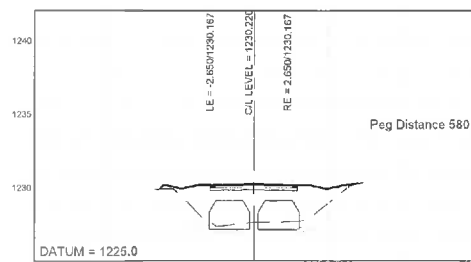
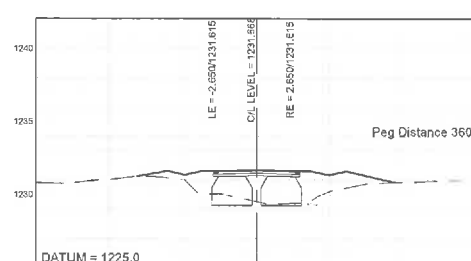
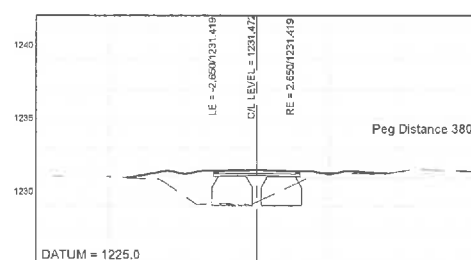
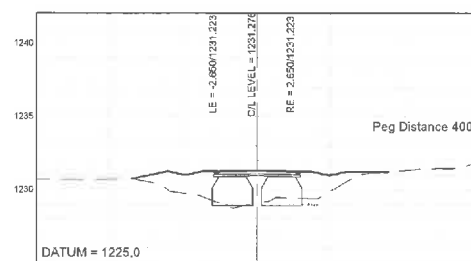
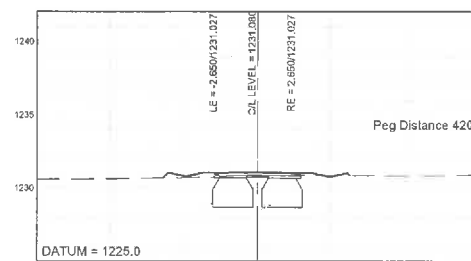
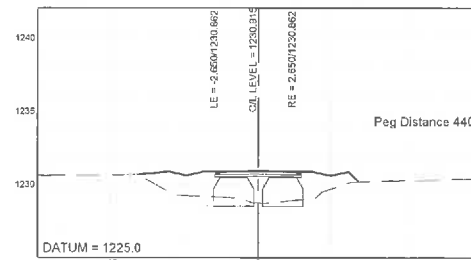
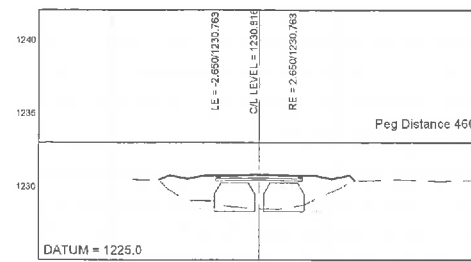
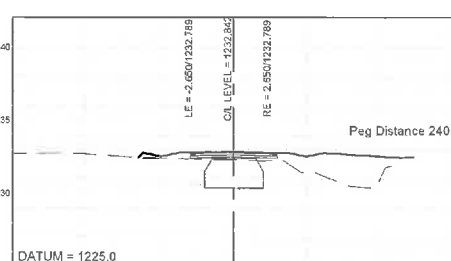
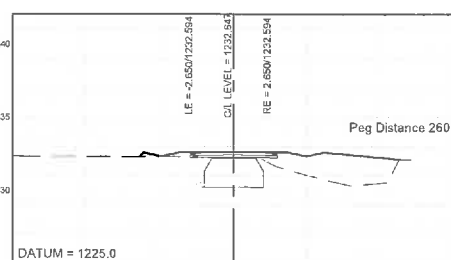
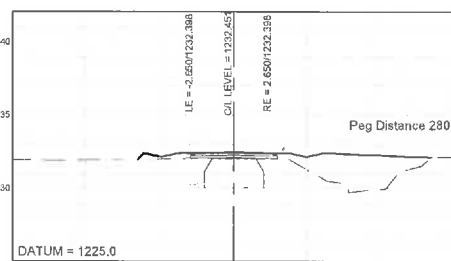
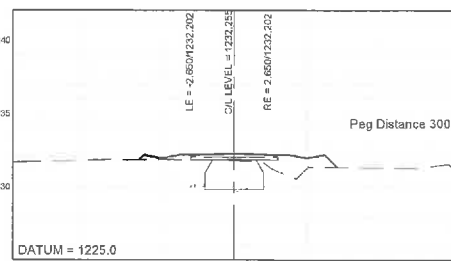
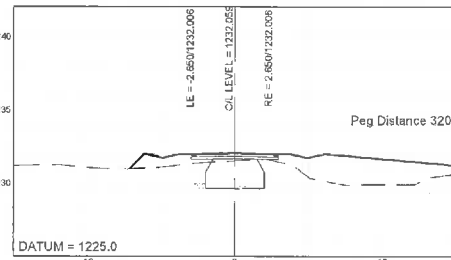
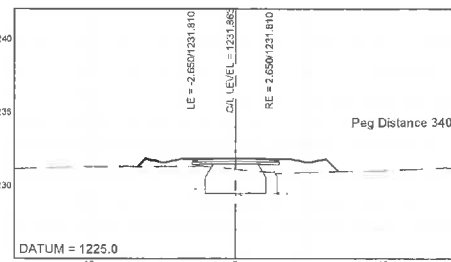
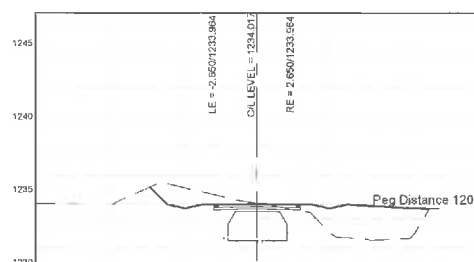
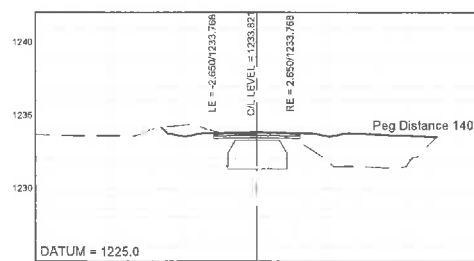
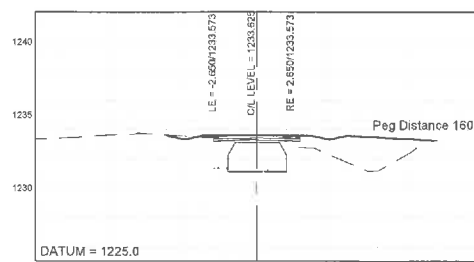
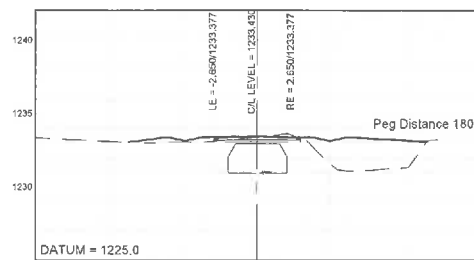
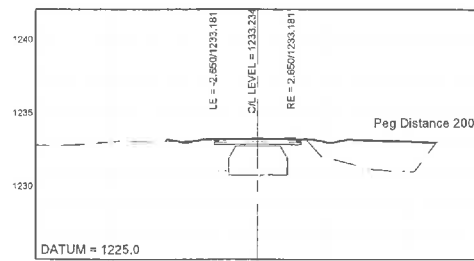
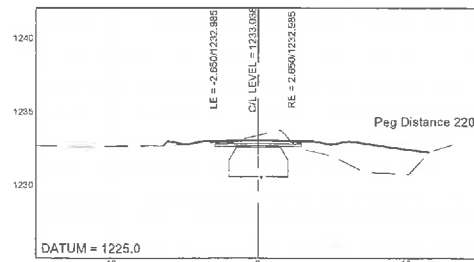
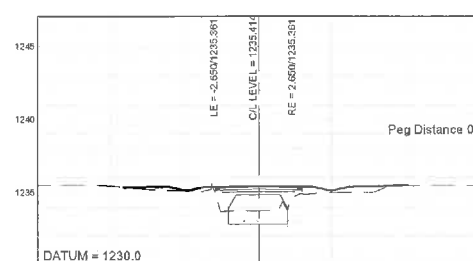
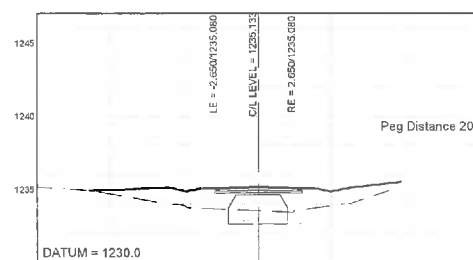
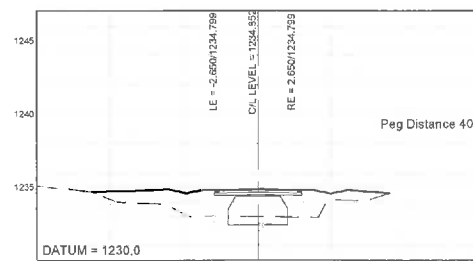
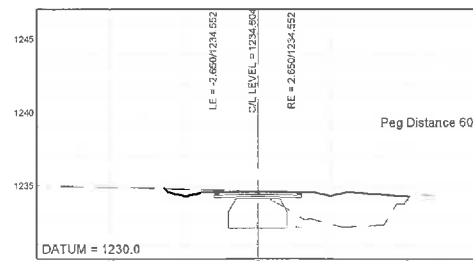
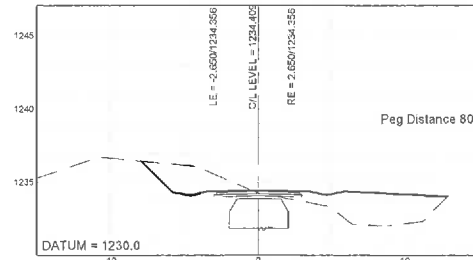
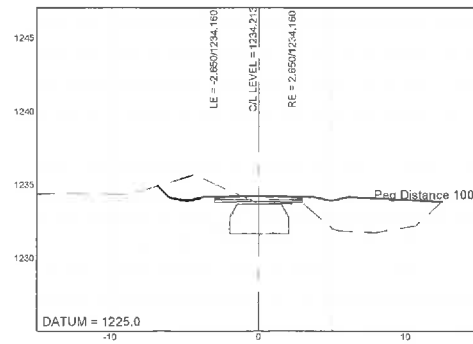
ACCOMMODATION OF TRAFFIC
REDUCED WIDTH OPERATION-2WAY TRAFFIC

DESIGNED BY: K. MANGXABA Pr Eng.:201670156	SIGNATURE AND DATE: 11 MAY 2022
DRAWN BY: T.vd WESTHUIZEN	SIGNATURE AND DATE: 11 MAY 2022
APPROVED BY: M. GWABA Pr Eng.:20140479	SIGNATURE AND DATE: 11 MAY 2022
PROJECT NO 1092	DATE 11 MAY 2022

DRAWING NO.

NT05-19-1092-516-1

SCALE	SHEET SIZE	REVISION
1:50	A1	D1



GENERAL NOTES:

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6. ALL BENCHMARKS TO BE CONFIRMED ON SITE.

SOL - SETTING OUT LINE
RE - LEFT EDGE
LE - RIGHT EDGE

REVISION INFORMATION

No.	DATE	DESCRIPTION	BY
D1	2019-12-09	ISSUED FOR PRELIMINARY DESIGN	
E1	2020-03-05	ISSUED FOR DETAIL DESIGN	
E2	2020-07-19	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



CONSULTANT



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PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

DETAIL CROSS SECTIONS
NELSON MANDELA DRIVE
SHEET 1 OF 3

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:
11 MAY 2022

DRAWN BY:
T.W. WESTHUIZEN

SIGNATURE AND DATE:
11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:
11 MAY 2022

PROJECT NO
1092

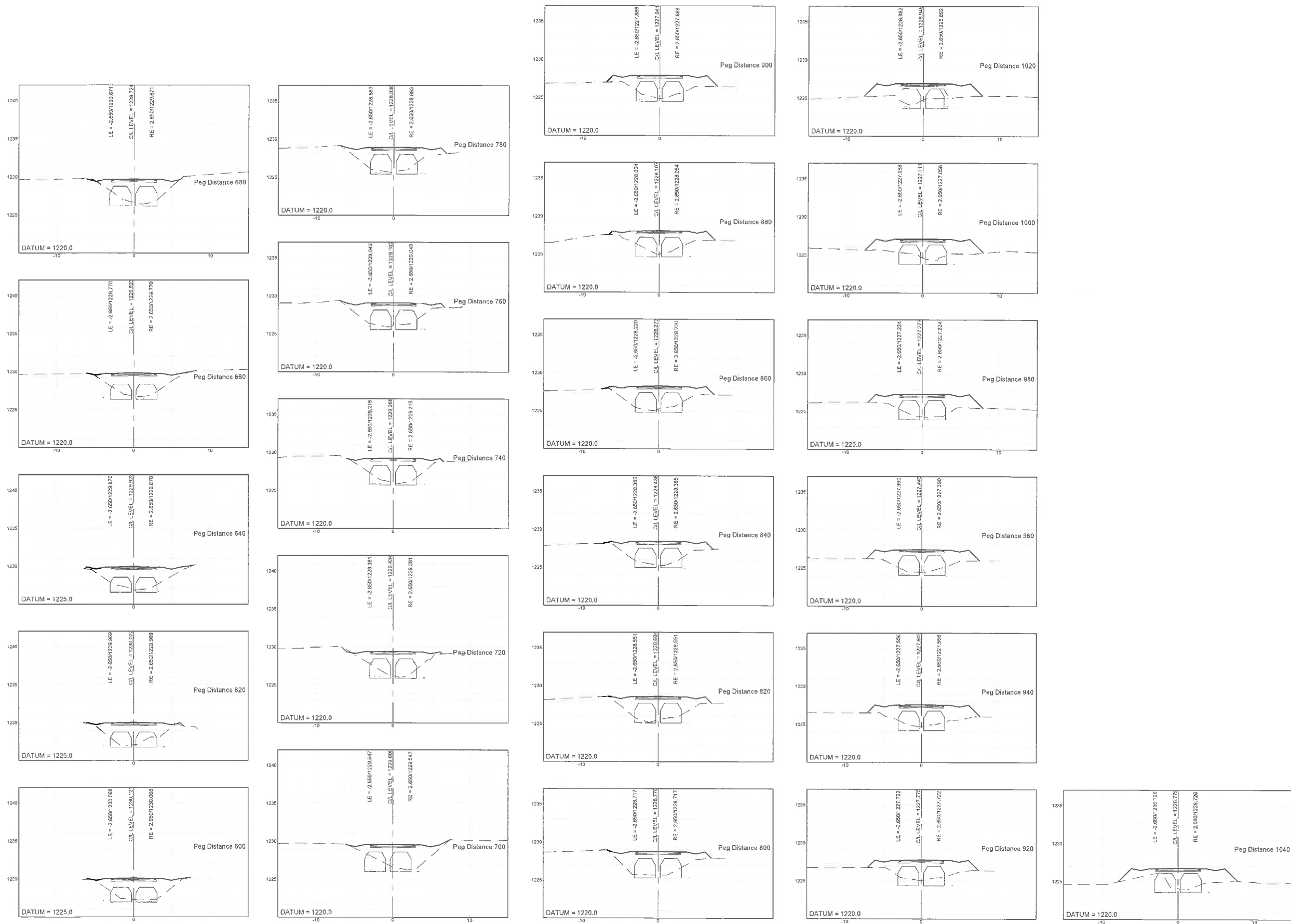
DRAWING NO.

NT05-19-1092-518-1

SCALE
HORZ. = 1:250
VERT. = 1:250

SHEET SIZE
A1

REVISION
D1



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SOL - SETTING OUT LINE
LE - LEFT EDGE
RE - RIGHT EDGE

REVISION INFORMATION

No.	DATE	DESCRIPTION	BY
D1	2019-12-09	ISSUED FOR PRELIMINARY DESIGN	
E1	2020-03-06	ISSUED FOR DETAIL DESIGN	
E2	2020-07-16	REVISED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

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PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

DETAIL CROSS SECTIONS
NELSON MANDELA DRIVE
SHEET 2 OF 3

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:
11 MAY 2022

DRAWN BY:
T.W. WESTHUIZEN

SIGNATURE AND DATE:
11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:
11 MAY 2022

PROJECT NO
1092

DATE
11 MAY 2022

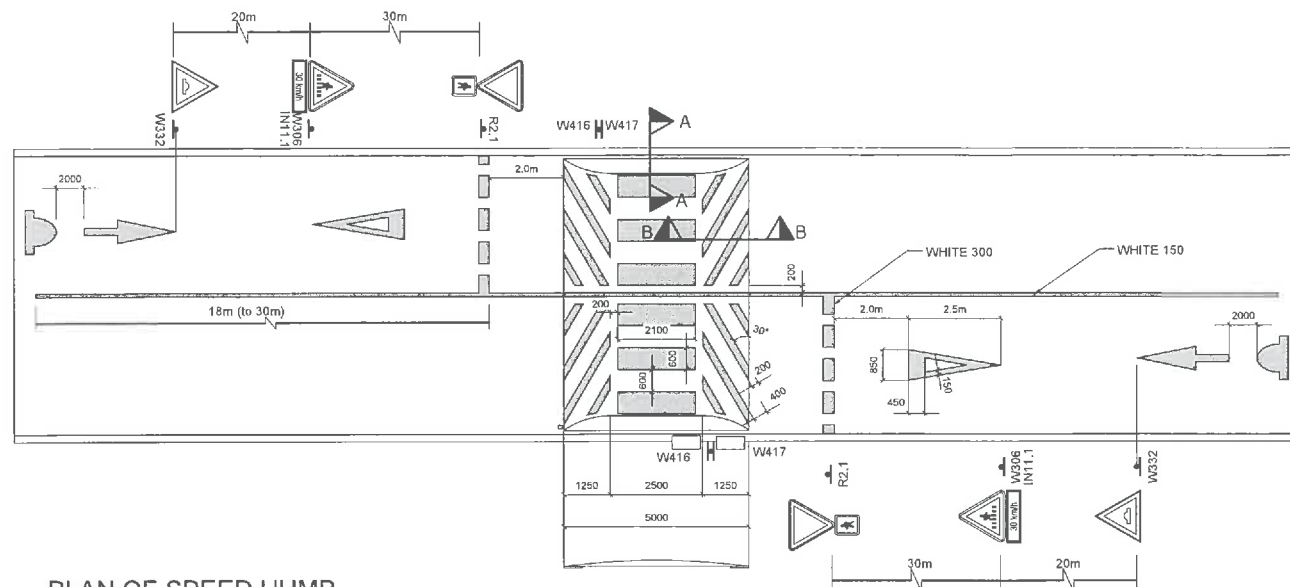
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NT05-19-1092-518-1

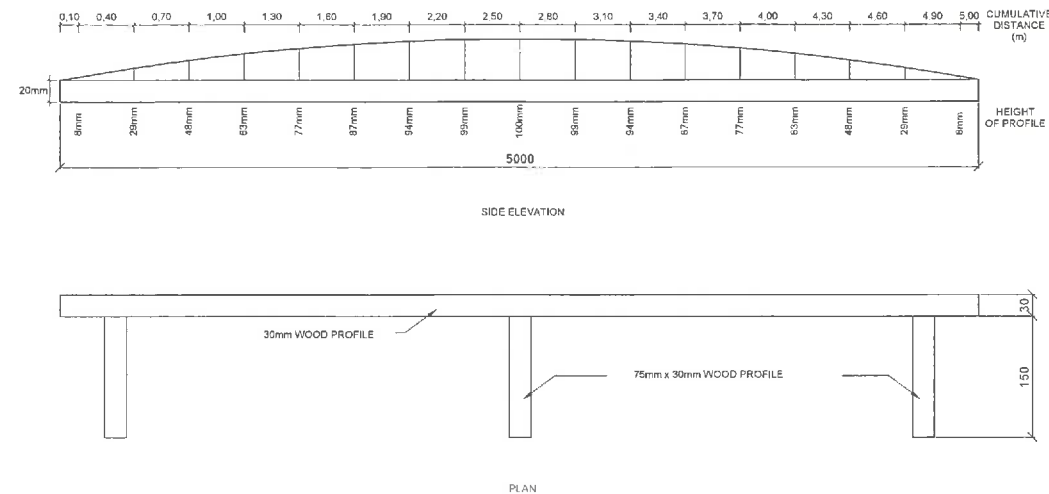
SCALE
HORZ. = 1:250
VERT. = 1:250

SHEET SIZE
A1

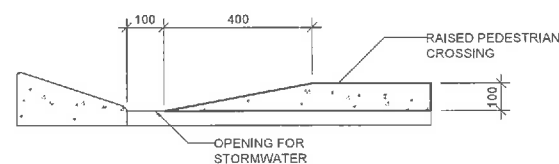
REVISION
D1



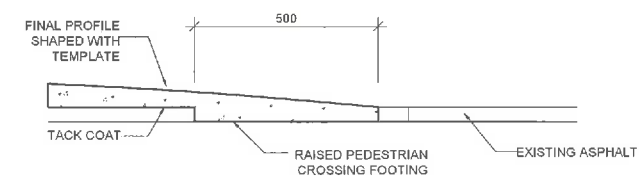
PLAN OF SPEED HUMP
SCALE 1:100



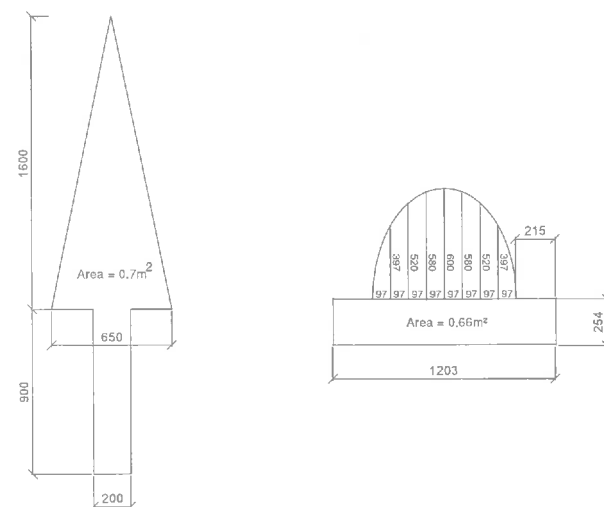
SPEED HUMP SETTING OUT
SCALE 1:20



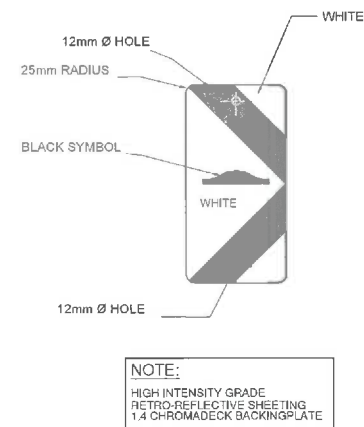
SECTION A-A CONSTRUCTION DETAIL OF SPEED HUMP
SCALE 1:10



SECTION B-B CONSTRUCTION DETAIL OF SPEED HUMP
SCALE 1:10



DETAIL OF SPEED HUMP ROAD MARKING
SCALE 1:10



NOTES:

CONSTRUCTION METHOD:

1. SETTING OUT OF HUMP- FEW DAYS BEFORE CONSTRUCTION.
2. SAW CUT ONE TO TWO DAYS BEFORE CONSTRUCTION.

ON CONSTRUCTION DAY:

3. REMOVE 500mm 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 SIDE OF ONE LANE AT A TIME.
7. PLACE ASPHALT AND RAKE TILL SLIGHTLY HIGHER THAN TEMPLATES.
8. SHAPE ASPHALT WITH STRAIGHT EDGE (CHANNEL SECTION 6m 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. PAINT SPEED HUMP THE NEXT DAY.

GENERAL NOTES:

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REVISION INFORMATION

No.	DATE	DESCRIPTION:	BY
E1	2020-03-08	ISSUED FOR DETAIL DESIGN	
E1	2020-07-29	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

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PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

DETAIL TYPICAL SPEED HUMP

DESIGNED BY:
K. MANGXABA
Pr Eng.:201670156

SIGNATURE AND DATE:

11 MAY 2022

DRAWN BY:
T.v/d WESTHUIZEN

SIGNATURE AND DATE:

11 MAY 2022

APPROVED BY:
M. GWABA
Pr Eng.:20140479

SIGNATURE AND DATE:

11 MAY 2022

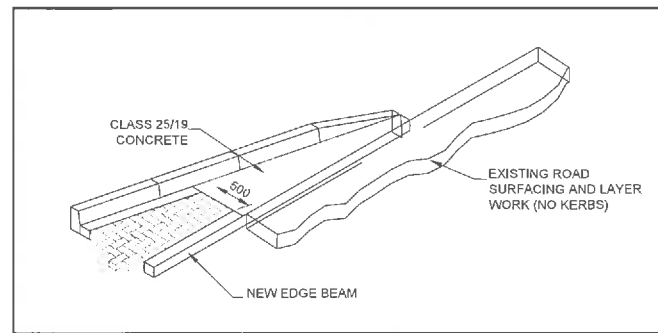
PROJECT NO
1092

DATE
11 MAY 2022

DRAWING NO.

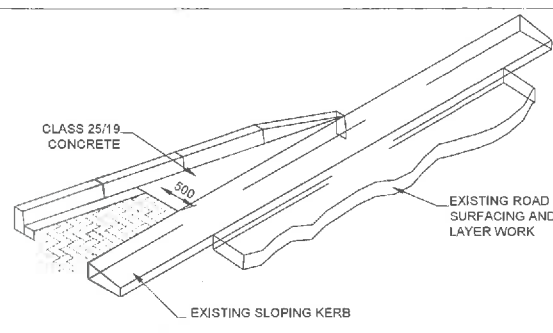
NT05-19-1092-520-1

SCALE AS SHOWN	SHEET SIZE A1	REVISION D1
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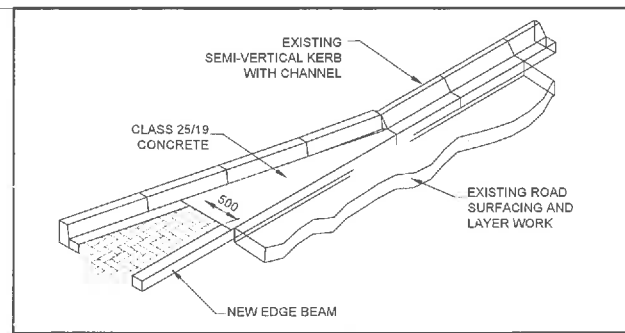
DETAIL A

BUS / TAXI BAY ADJOINING ROAD WITH NO KERBS



DETAIL B

BUS / TAXI BAY ADJOINING ROAD WITH SLOPING KERBS



DETAIL C

BUS / TAXI BAY ADJOINING ROAD WITH SEMI-VERTICAL KERBS

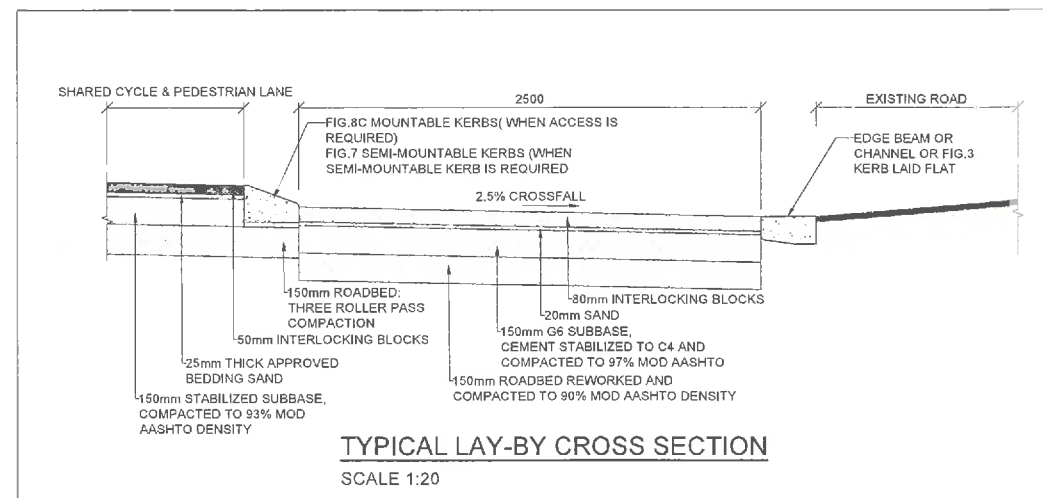


TABLE A: DIMENSIONS OF BUS AND TAXI BAYS		
DIMENSION	BUS BAY	TAXI BAY
A	15,0m *(15,0m)	10,0m *(8,0m)
B	15,0m *(12,0m) + 12,0m PER ADDITIONAL BUS	8,0m *(6,0m) + 8,0m (*5,5m) PER ADDITIONAL TAXI
C	12,0m	6,0m
D	3,0m - 3,5m	2,5m
1: X	1: 6 *(1: 5)	1: 4 *(1: 3,2)
1: Y	1: 4	1: 2,4

* NOTE USE THE VALUES IN BRACKETS ONLY WHEN THE NORMAL STANDARD IS NOT ATTAINABLE.

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- ALL BENCHMARKS TO BE CONFIRMED ON SITE.

NOTES:

- REFER TO DRAWING STD007 FOR DETAILS ON BARRIER KERBS (SABS FIG.3), SLOPING KERBS, SEMI-VERTICAL KERBS (SABS FIG. 7) AND EDGE BEAMS AS WELL AS THE CONSTRUCTION DETAILS THEREOF.
- CROSS FALL OF BUS/TAXI BAY TO BE DETERMINED ON SITE. MINIMUM SLOPE TO BE 1% TOWARDS THE ROAD.
- FILL MATERIAL BEHIND KERBS OF BUS/TAXI BAY SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm IN THICKNESS TO 90% OF THE MOD. AASHTO DENSITY.
- SEE TABLE A FOR THE DIMENSIONS OF BAYS.
- ALSO REFER TO SECTION 104, 203, 503, 601, 604, 609, 610, 612 AND 613 OF THE STANDARD. SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, 1991.

REVISION INFORMATION

No.	DATE	DESCRIPTION:	BY
E1	2020-03-05	ISSUED FOR DETAIL DESIGN	
E1	2020-07-29	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

CLIENT



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19 Neethling Street
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Tel No. (015) 295 9914 Fax No. (015) 295 9941

PROJECT DESCRIPTION

NDPG PROJECT: NELSON MANDELA, BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

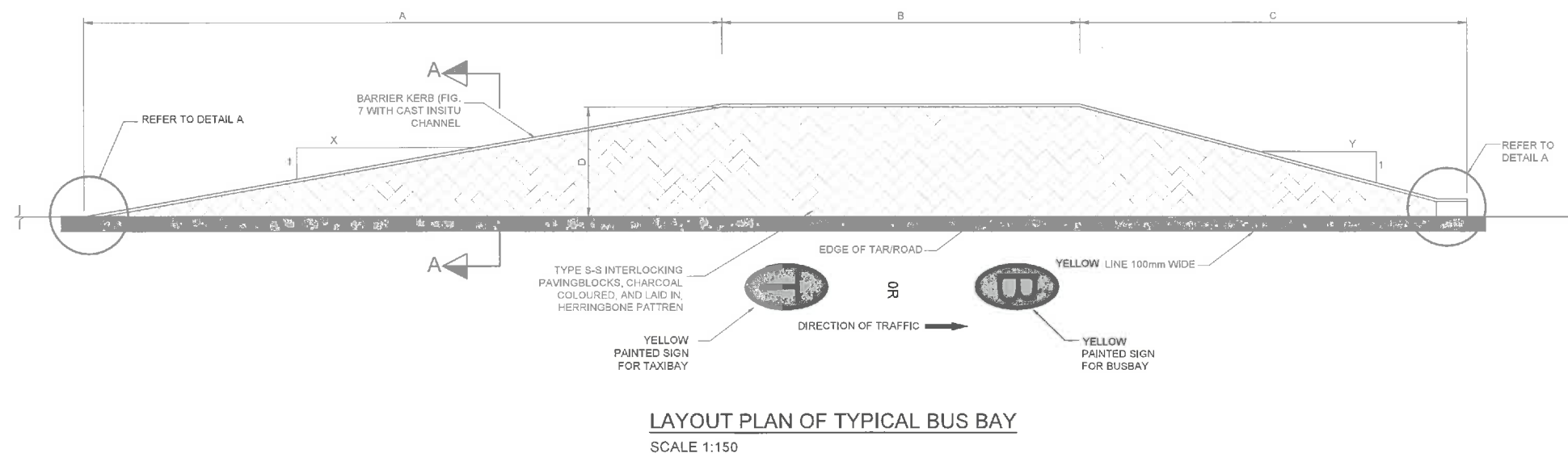
BUS AND TAXI BAYS
GEOMETRICAL LAYOUT AND DETAILS

DESIGNED BY: K. MANGXABA Pr Eng.:201670156	SIGNATURE AND DATE: 11 MAY 2022
DRAWN BY: T.v/d WESTHUIZEN	SIGNATURE AND DATE: 11 MAY 2022
APPROVED BY: M. GWABA Pr Eng.:20140479	SIGNATURE AND DATE: 11 MAY 2022
PROJECT NO 1092	DATE 14 MAY 2022

DRAWING NO.

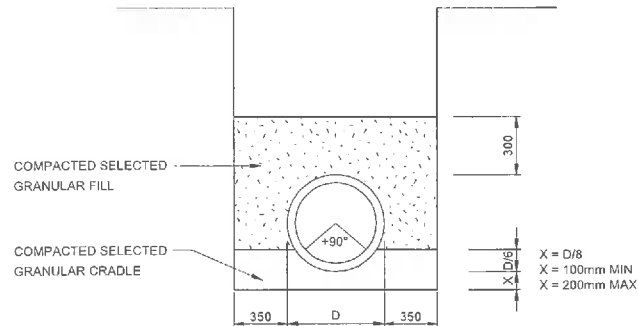
NT05-19-1092-520-3

SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	D1

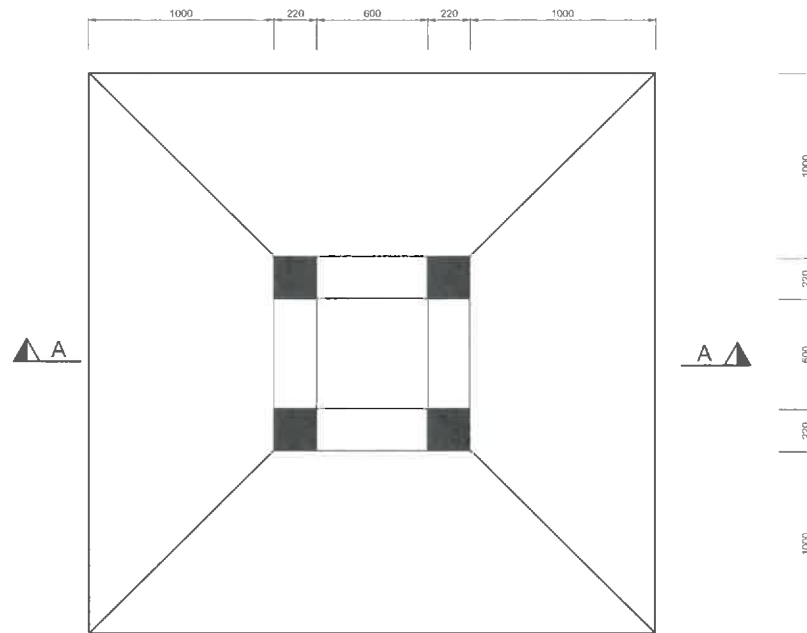


NOTES:

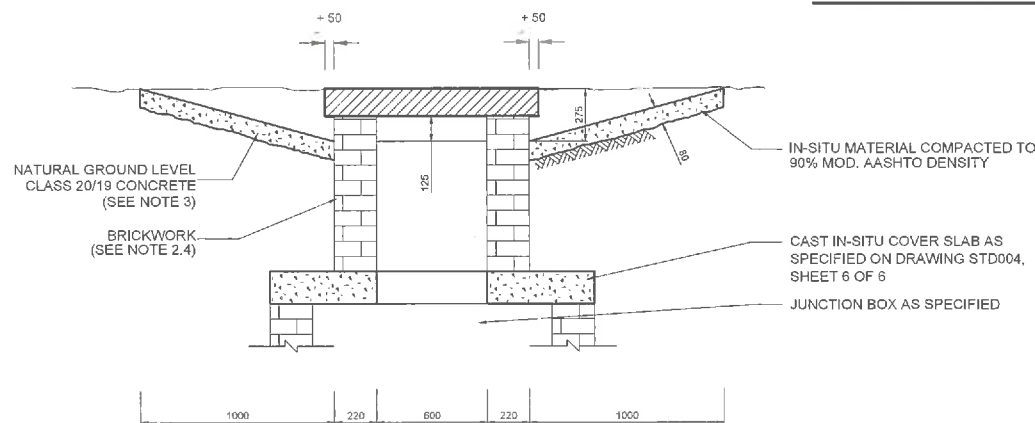
- CONCRETE STRENGTH TO BE AS FOLLOWS:
 - MANHOLE SURROUNDS AND BENCHING: CLASS 15/19
 - CAST IN-SITU DECK SLABS & FOUNDATION: CLASS 20/19
 - PRECAST COVER SLABS & OTHER ITEMS: CLASS 25/19
 - CAST IN-SITU KERBS, APRONS ETC.: CLASS 25/19
- ALL FLOORS AND BENCHING TO BE STEEL TROWELLED WITH A SMOOTH RADIUS.
- ALL BRICKS TO BE FBSE 30 TO SABS 227-1986 WITH WATER ABSORPTION < 14% AND EFFLORESCENCE OF 10, BUILT IN ENGLISH BOND.
- MANHOLE & KERB INLET WIDTHS AND DEPTHS:
WIDTH:
750 mm PIPES AND LESS - 900mm
825 mm PIPES AND MORE - 1200mm
SOME JUNCTION MANHOLE SIZES TO BE DETERMINED ON SITE.
DEPTH:
THE DEPTH INDICATED SHOULD BE INCREASED IF NECESSARY FOR MANHOLES TO PERMIT SUFFICIENT DISCHARGE HEAD TO DEVELOP. MANHOLE DEPTH > 1,75m, WIDTH OF BRICKWORK TO BE INCREASED TO 330mm.
- KERB INLET - THE APRON OVER THE LENGTH OF THE KERB INLET AND THE TRANSITION TO BE LOWERED BY 25mm



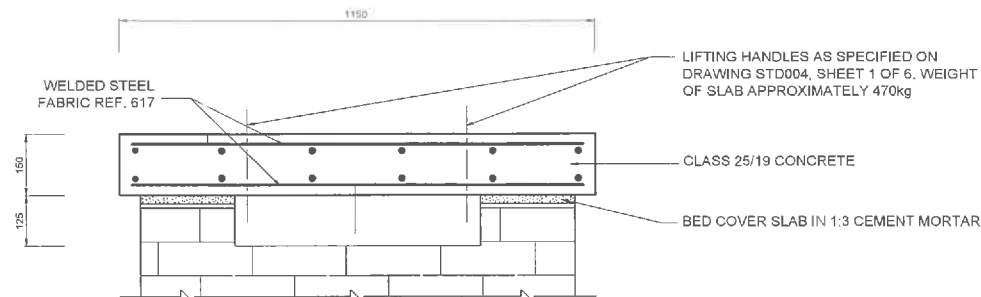
RIGID PIPE ON CLASS C-BEDDING
N.T.S.



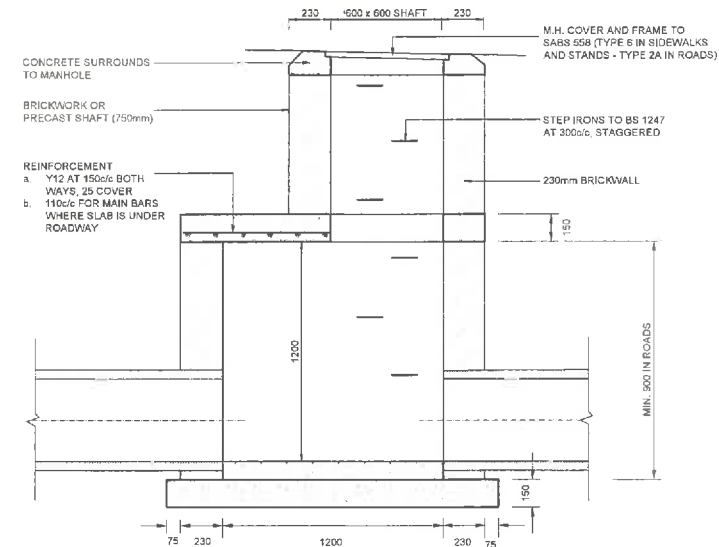
PLAN OF FIELD INLET (Without cover slab)



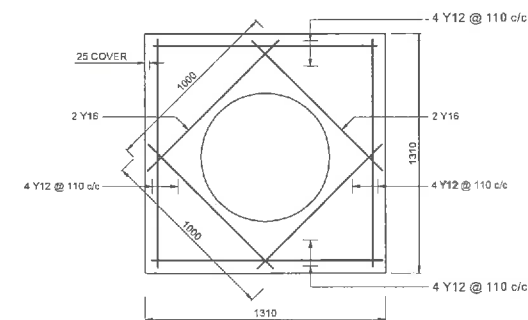
SECTION B-B
SCALE: 1:20



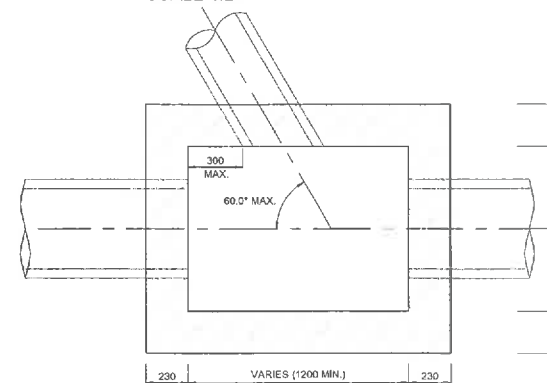
DETAIL OF PRECAST COVER SLAB
SCALE: 1:20



SECTION THROUGH MANHOLE WITH SHAFT
SCALE: 1:20



REINFORCEMENT DETAIL FOR COVER SLAB
STORMWATER JUNCTION BOX DETAILS
SCALE: 1:20



SECTIONAL PLAN
SCALE: 1:20

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REVISION INFORMATION

No.	DATE	DESCRIPTION	BY
E1	2020-03-06	ISSUED FOR DETAIL DESIGN	
E1	2020-07-29	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

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PROJECT DESCRIPTION



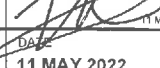
NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

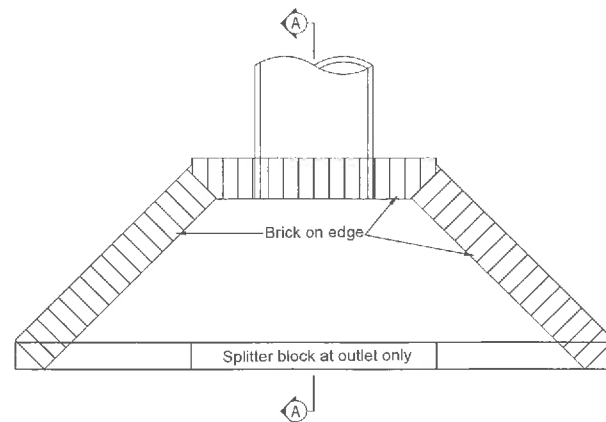
STORMWATER TYPICAL DETAILS

DESIGNED BY: K. MANGXABA Pr Eng.:201670156	SIGNATURE AND DATE:  11 MAY 2022
DRAWN BY: T.v.d WESTHUIZEN	SIGNATURE AND DATE:  11 MAY 2022
APPROVED BY: M. GWABA Pr Eng.:20140479	SIGNATURE AND DATE:  11 MAY 2022
PROJECT NO 1092	DATE 11 MAY 2022

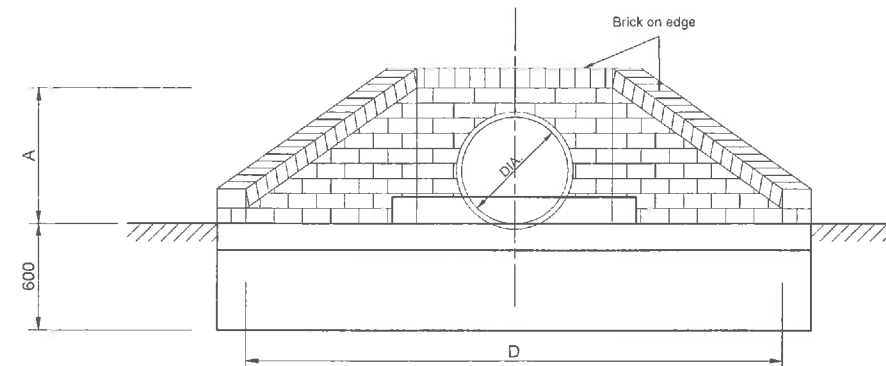
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NT05-19-1092-520-5

SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	D1



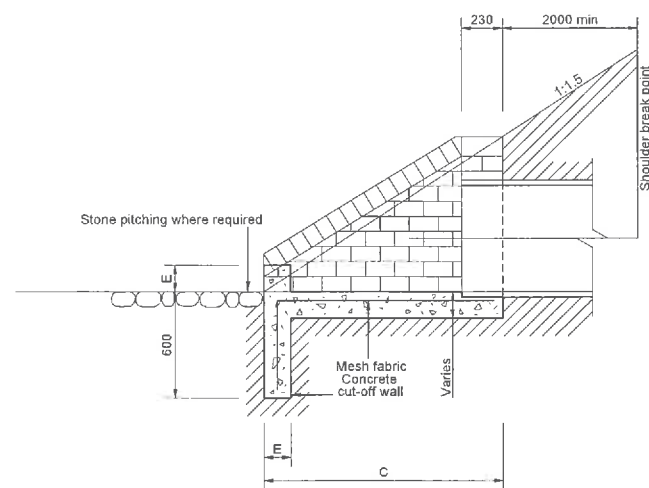
PLAN OF PIPE CULVERT HEADWALL
SCALE: 1:20



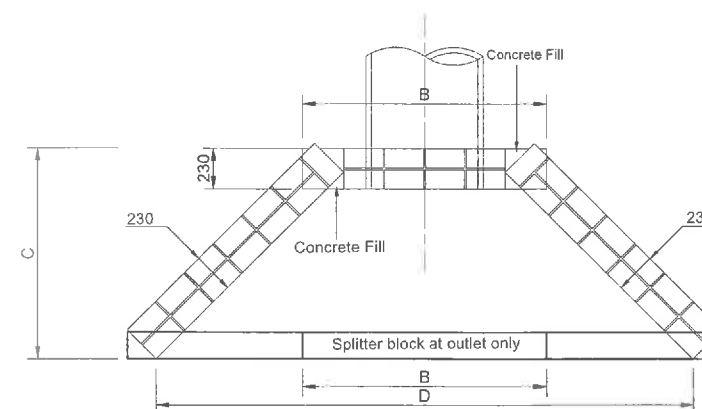
**FRONT ELEVATION OF PIPE CULVERT HEADWALL
SINGLE PIPE**
SCALE: 1:20

NOTES:

1. SPLITTER BLOCK AND PITCHING TO BE PROVIDED AT ALL OUTLETS WHERE EROSION IS LIKELY TO OCCUR.
2. SPLITTER BLOCK MAY BE OMITTED IF DISCHARGE VELOCITY IS LESS THAN 0.9 M/S.
3. CUT-OFF WALLS MAY BE OMITTED IF STRUCTURE IS FOUNDED ON ROCK.
4. PIPES TO BE CUT FLUSH WITH HEADWALL.
5. IF CORRUGATED METAL PIPES ARE USED 4X20MMX150MM LONG GALVANISED ANCHOR BOLTS IN THE HOLLOWS OF THE CORRUGATION ARE TO BE USED.
6. ALL CONCRETE IS TO BE 20MPA.
7. SQUARE MESH FABRIC (REFERENCE S.M.F 193) IS TO BE PLACED 50MM FROM TOP IN ALL APRON SLABS AND CENTRALLY IN CUT-OFF WALLS.
8. BRICKWORK IS TO CONSIST OF GOOD QUALITY BURNT CLAY COMMON BRICKS IN ACCORDANCE WITH SABS 227 SPECIFICATION, OR CEMENT BRICKS IN ACCORDANCE WITH SABS 987 SPECIFICATION, UNIFORM IN SIZE AND SHAPE LAYED IN STRETCHER BOND STYLE WITH THE SKINS TIED TOGETHER WITH GALVANISED CRIMPED WIRE WALL TIES.
9. BRICKFORCE IS TO BE PLACED EVERY 4TH COURSE.
10. JOINTING ON ALL VISIBLE FACES TO BE POINTED.
11. NO IN-FILL SHALL BE LARGER THAN A HALF STANDARD BRICK SIZE UNLESS 15MPA CONCRETE IS USED.



SECTION A-A
SCALE: 1:20



LAYOUT OF BRICKWORK
SCALE: 1:20

GENERAL NOTES:

1. DRAWINGS MUST NOT BE SCALED.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL PROJECT SPECIFICATIONS.
3. ALL AMBIGUITIES ON DRAWINGS MUST BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
4. ALL DIMENSIONS ARE IN MILLIMETERS (UNLESS OTHERWISE INDICATED.)
5. DO NOT SCALE FROM THESE DRAWINGS ALL DIMENSIONS MUST BE CHECKED ON SITE.
6. ALL BENCHMARKS TO BE CONFIRMED ON SITE.

REVISION INFORMATION

No	DATE	DESCRIPTION	BY
E1	2020-03-06	ISSUED FOR DETAIL DESIGN	
E1	2020-07-28	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-06-11	ISSUED FOR TENDER	

CLIENT



CONSULTANT



AMCE
19 Aesthet Street
Bendor Ext 30,
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Tel No. (015) 295 9814 Fax No. (015) 295 9941

PROJECT DESCRIPTION

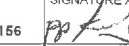

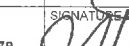
NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

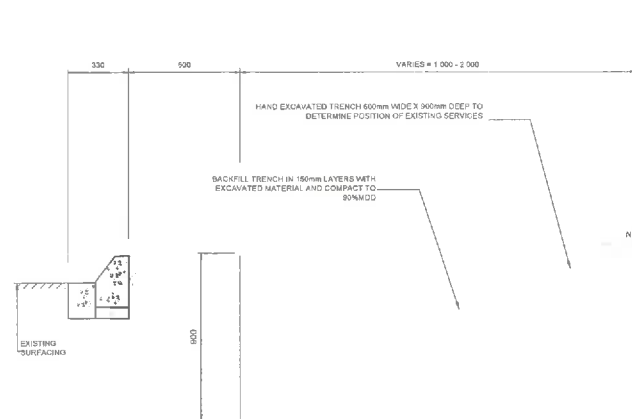
STORMWATER
HEADWALL DETAILS

DESIGNED BY K. MANGXABA Pr Eng.:201670156	SIGNATURE AND DATE  11 MAY 2022
DRAWN BY T.v/d WESTHUIZEN	SIGNATURE AND DATE  11 MAY 2022
APPROVED BY M. GWABA Pr Eng.:20140479	SIGNATURE AND DATE  11 MAY 2022
PROJECT NO 1092	DATE 11 MAY 2022

DRAWING NO.

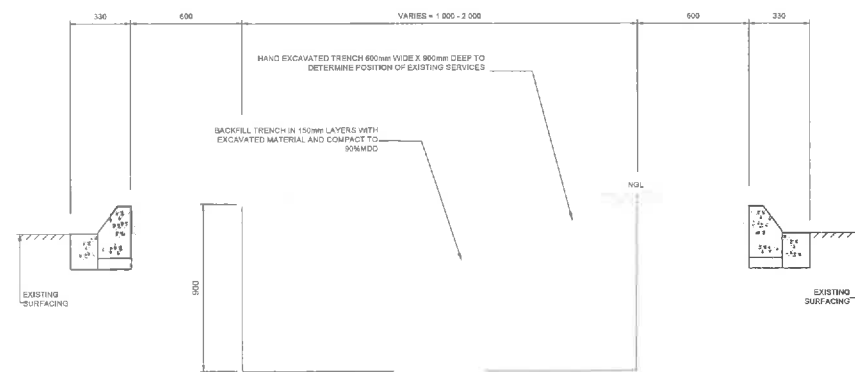
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SCALE	SHEET SIZE	REVISION
N.T.S.	A1	D1

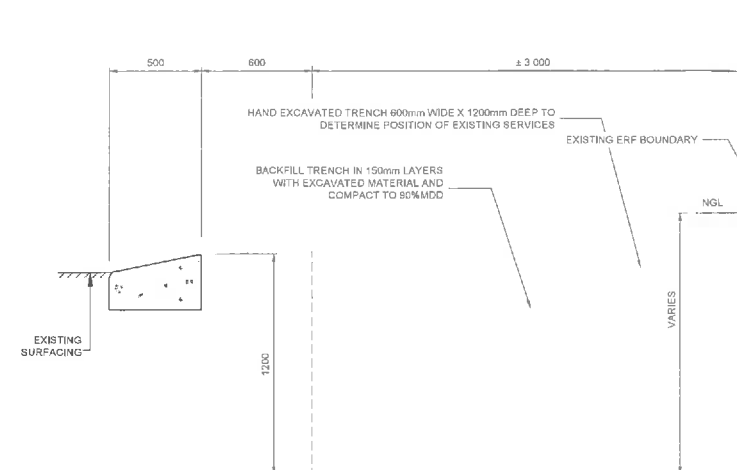


CROSS CUT DESIGN ON SHOULDER WITH NO PAVING OR HARD SURFACE
SCALE 1:20

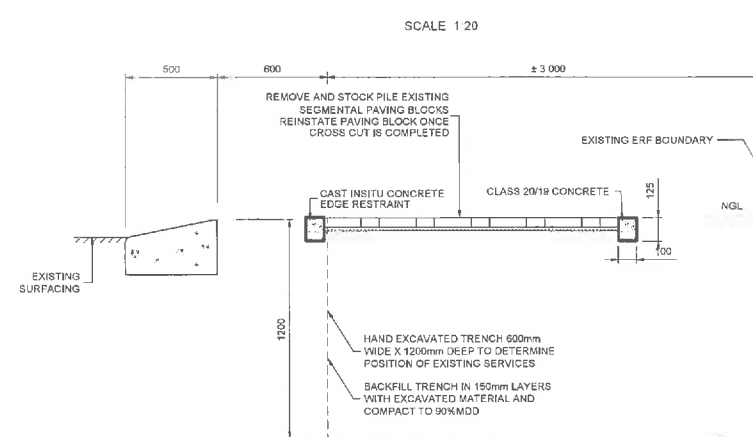
CROSS CUT DESIGN ON SHOULDER WITH NO PAVING OR HARD SURFACE
SCALE 1:150



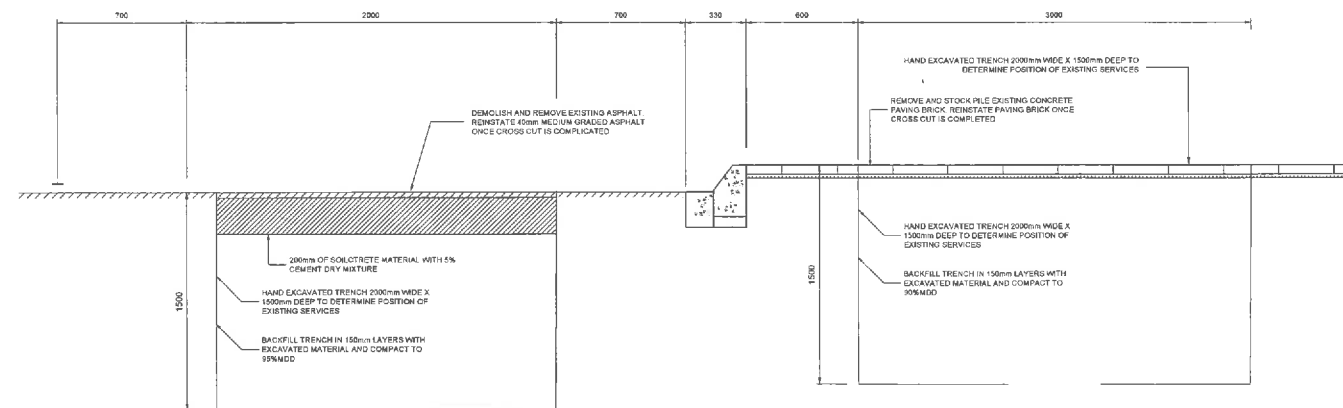
CROSS CUT DESIGN ON MEDIAN WITH NO PAVING OR HARD SURFACE
SCALE 1:150



CROSS CUT WITH NO WALKWAY
SCALE 1:150



CROSS CUT WITH PAVED WALKWAY
SCALE 1:150



CROSS CUT DESIGN ON EXISTING ROAD LANE AND PAVED SIDEWALK
SCALE 1:150

GENERAL NOTES:

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- ALL DIMENSIONS ARE IN MILLIMETERS (UNLESS OTHERWISE INDICATED.)
- DO NOT SCALE FROM THESE DRAWINGS. ALL DIMENSIONS MUST BE CHECKED ON SITE.
- ALL BENCHMARKS TO BE CONFIRMED ON SITE.

REVISION INFORMATION

No.	DATE	DESCRIPTION:	BY
E1	2020-03-08	ISSUED FOR DETAIL DESIGN	
E2	2020-07-18	REVISED ISSUED FOR DETAIL DESIGN	
D1	2022-05-11	ISSUED FOR TENDER	

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PROJECT DESCRIPTION




NDPG PROJECT: NELSON MANDELA,
BO-OKELO AND DITLOU CROSSING.

DISCIPLINE

ROADS & TRANSPORT

DRAWING DESCRIPTION

CROSS CUT DETAILS

DESIGNED BY: K. MANGXABA Pr Eng.:201670156	SIGNATURE AND DATE:  11 MAY 2022
DRAWN BY: T.v/d WESTHUIZEN	SIGNATURE AND DATE:  11 MAY 2022
APPROVED BY: M. GWABA Pr Eng.:20140479	SIGNATURE AND DATE:  11 MAY 2022
PROJECT NO 1092	DATE 11 MAY 2022

DRAWING NO.
NT05-19-1092-520-8

SCALE	SHEET SIZE	REVISION
AS SHOWN	A1	D1

LEGEND

1100 SLEEVE PIPES

10m MOUNTING HEIGHT STREETLIGHT POLE WITH 138W 64 LED

10m STREETLIGHT POLE WITH DOUBLE SPIGOT 138W 64 LED

NEW 6mm² x 4c Cu STREETLIGHT CABLE

EXISTING ELECTRICAL LINE

NEW STREET LIGHT KIOSK

EXISTING MINI-SUBSTATION

LEGEND

BUSBAR

SINGLE POLE

DOUBLE POLE OR SINGLE POLE AND NEUTRAL

THREE POLE

SWITCH DISCONNECTOR FIXED

CIRCUIT BREAKER FIXED

ISOLATOR

EARTH LEAKAGE UNIT

DAYLIGHT SENSITIVE SWITCH

3 POLE CONTACTOR

METER

BYPASS

STREET LIGHT

NOTE:
1. Position of the 12x BRT station sleeves to be determined during construction

REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
F1	11/05/2022	ISSUED FOR TENDER.	AS
E1	29/02/2020	ISSUED FOR DETAIL.	AS
C1	13/12/2019	ISSUED FOR PRELIMINARY.	AS

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Bendor Ext 30,
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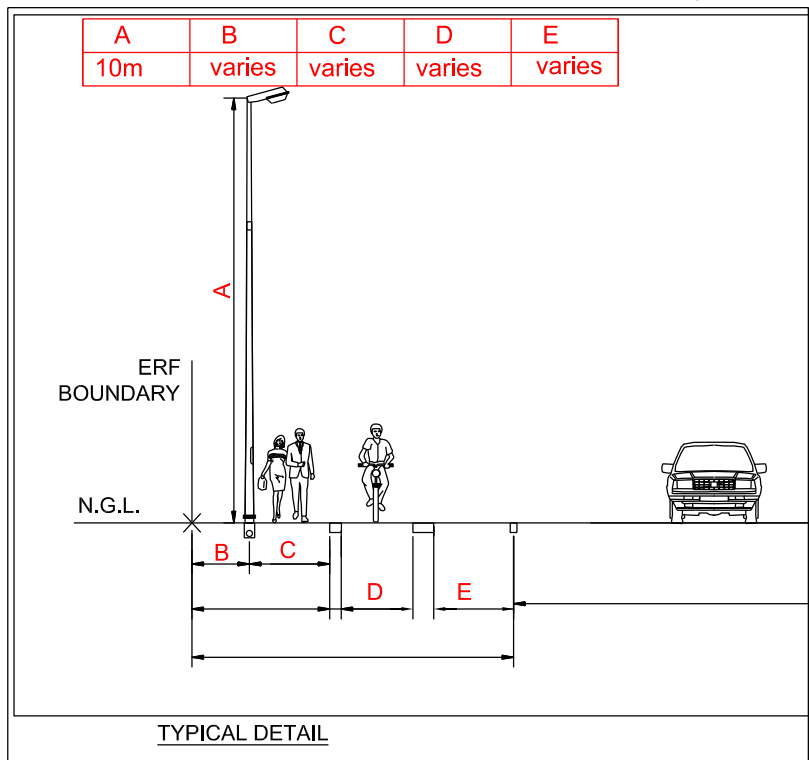
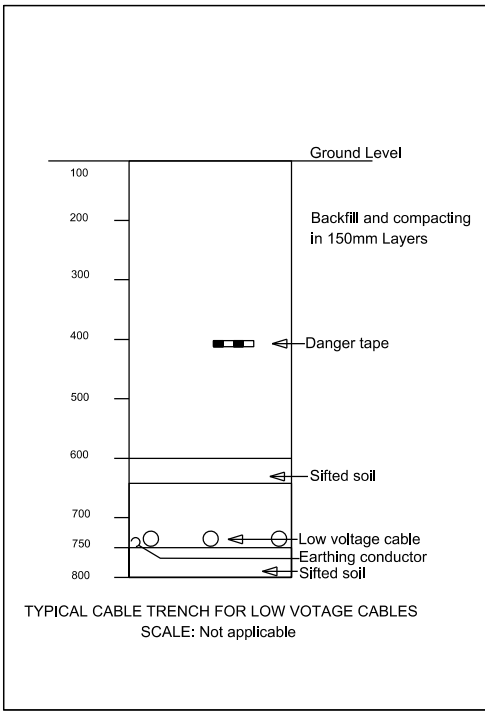
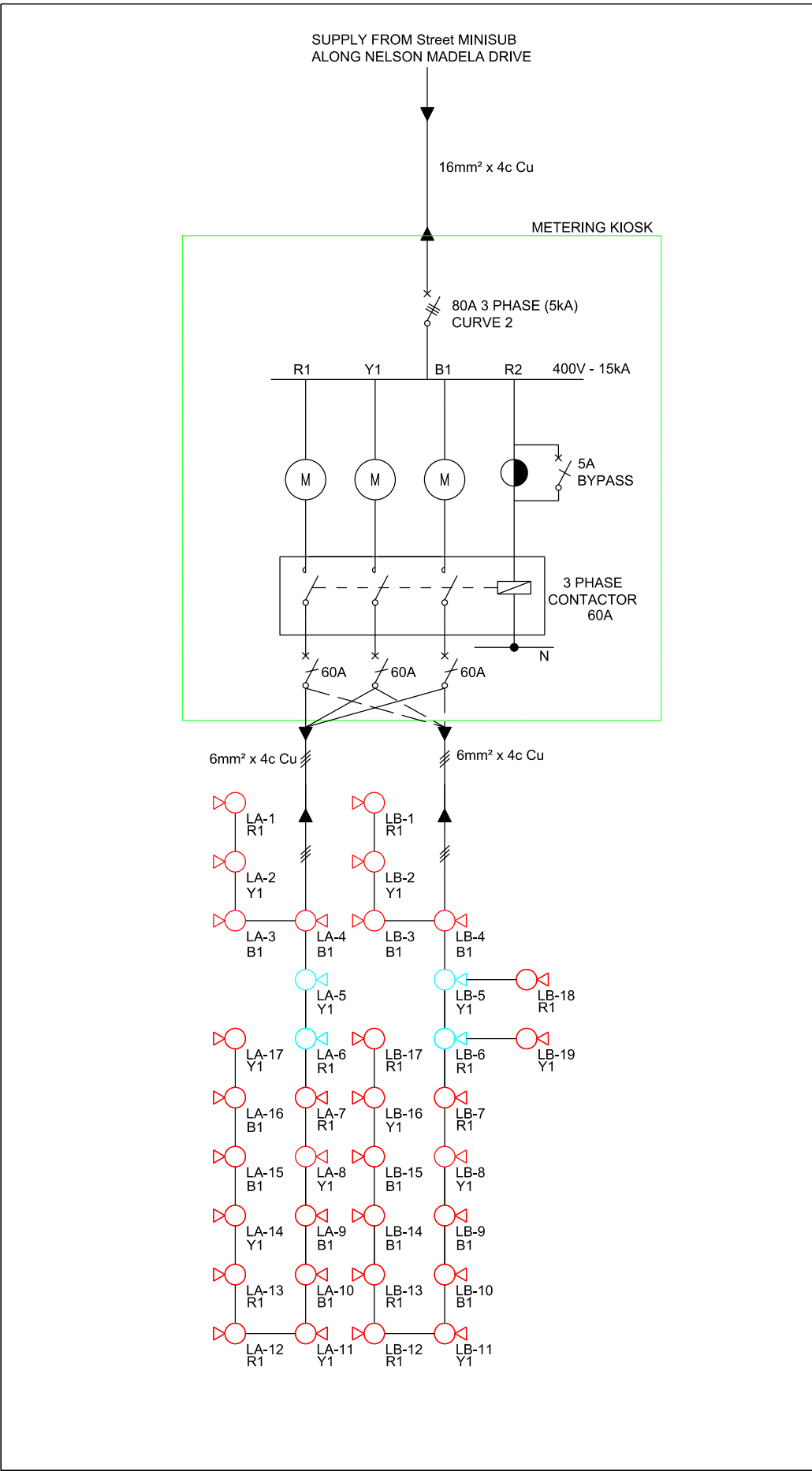
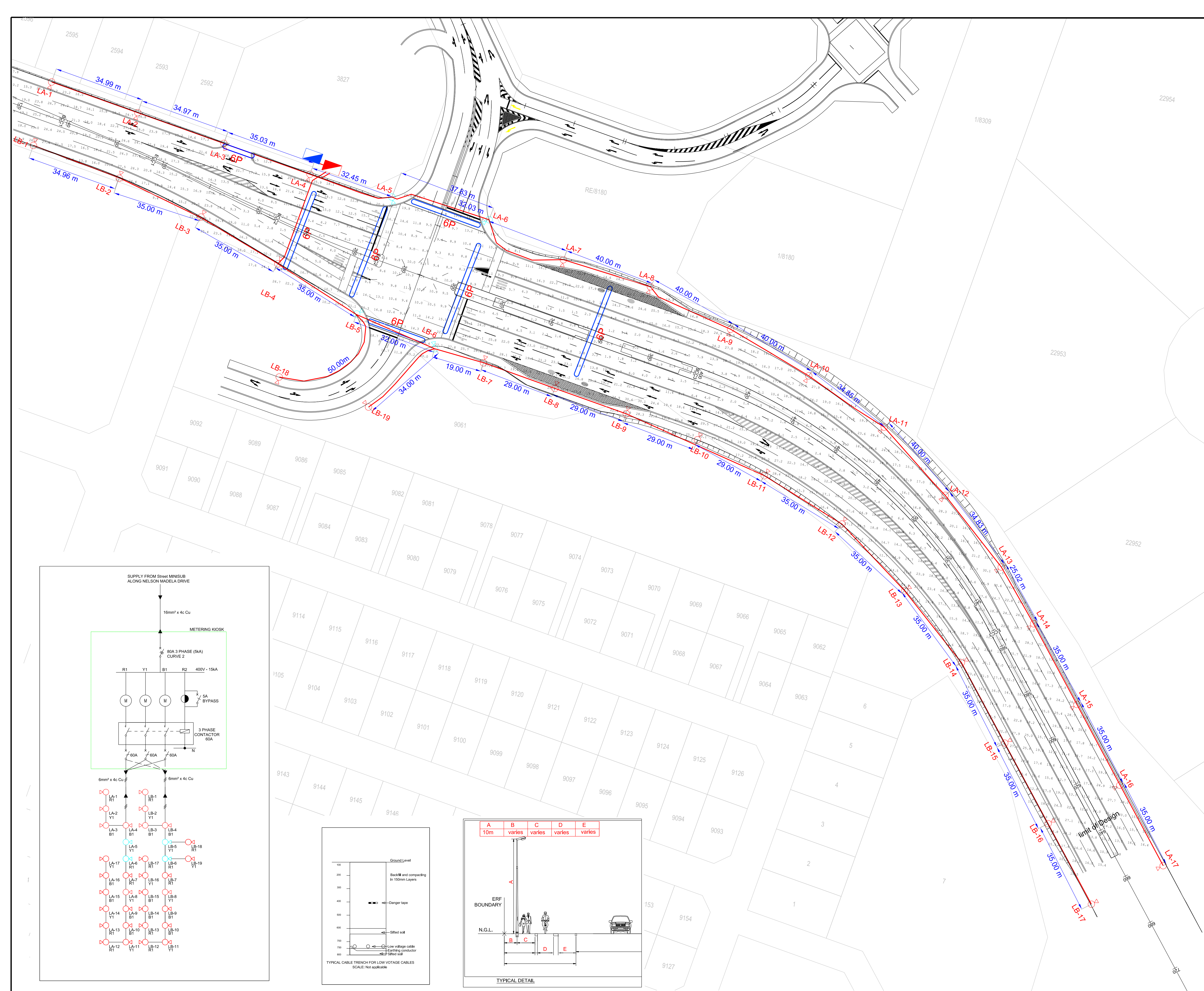
NDGP PROJECT: BO-OKELO CROSSING FOR THE CITY OF POLOKWANE

DISCIPLINE

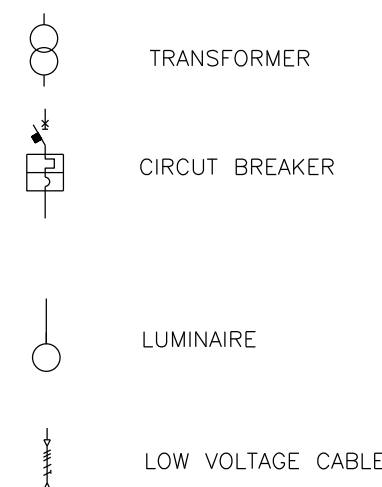
ELECTRICAL

DRAWING DESCRIPTION
BO-OKELO CROSSING
STREET LIGHTING: NETWORK
DESIGN

DESIGNED BY: A SKOSANA	SIGNATURE AND DATE:
CHECKED BY: M. BOOI	SIGNATURE AND DATE:
APPROVED BY: G. MUSHWANA Pr Tech Eng.:201170184	SIGNATURE AND DATE:
PROJECT NO 1092	DATE DECEMBER 2019
DRAWING NO NT/04/16/1092/440/001	
SCALE 1:1500	SHEET SIZE A1
	REVISION F1



ELECTRICAL LEGEND:



REVISION INFORMATION

No:	DATE	DESCRIPTION:	BY
C1	13/12/2019	ISSUED FOR PRELIMINARY.	AS
E1	29/02/2020	ISSUED FOR DETAIL.	AS
F1	11/05/2022	ISSUED FOR TENDER.	AS

CLIENT



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BO-OKELO CROSSING
STREET LIGHTING: NETWORK DESIGN

DISCIPLINE

ELECTRICAL

DRAWING DESCRIPTION

SINGLE LINE DIAGRAM

DESIGNED BY: A SKOSANA	SIGNATURE AND DATE:
CHECKED BY: M. BOOI	SIGNATURE AND DATE:
APPROVED BY: G. MUSHWANA Pr Tech Eng.:201170184	SIGNATURE AND DATE:
PROJECT NO 1092	DATE DECEMBER 2019
DRAWING NO NT/04/16/1092/402/02/02	
SCALE 1:1500	SHEET SIZE A1
	REVISION F1

