VOLUME 2

SENQU LOCAL MUNICIPALITY

PROJECT MANAGEMENT OFFICE

PROJECT NO. **142/2023-2024T**

FOR REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

VOLUME 2

TENDER DRAWINGS

NOVEMBER 2024

DRAWINGS COMPILED FOR:

THE MUNICIPAL MANAGER

SENQU LOCAL MUNICIPALITY
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9755

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DRAWINGS COMPILED BY:

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DRAWING LIST

NO. DESCRIPTION DRAWING NO.

GENERAL PLANS

1. COVER PAGE P1027-BE-CIV-RD-CP01
2. DRAWING LIST P1027-BE-CIV-RD-DL01
3. GENERAL LAYOUT PLAN P1027-BE-CIV-RD-GL01

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7. ROAD 2 LAYOUT AND LONGITUDINAL SECTION (SHEET 2 OF 3) P1027-BE-CIV-RD-LS02
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9. ROAD 3 LAYOUT AND LONGITUDINAL SECTION (SHEET 1 OF 1) P1027-BE-CIV-RD-LS03
10. ROAD 4 LAYOUT AND LONGITUDINAL SECTION (SHEET 1 OF 1) P1027-BE-CIV-RD-LS04
11. ROAD 5 LAYOUT AND LONGITUDINAL SECTION (SHEET 1 OF 1) P1027-BE-CIV-RD-LS05
12. ROAD 6 LAYOUT AND LONGITUDINAL SECTION (SHEET 1 OF 1) P1027-BE-CIV-RD-LS06
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26. ROAD 8 DETAILED CROSS SECTIONS (SHEET 1 OF 1)..... P1027-BE-CIV-RD-CS08
27. ROAD 8 DETAILED CROSS SECTIONS (SHEET 1 OF 1)..... P1027-BE-CIV-RD-CS09

OTHER DRAWINGS

28. TYPICAL CROSS SECTION AND PAVEMENT DESIGN P1027-BE-CIV-RD-TD01

CLIENT:

19 Murray Street
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PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

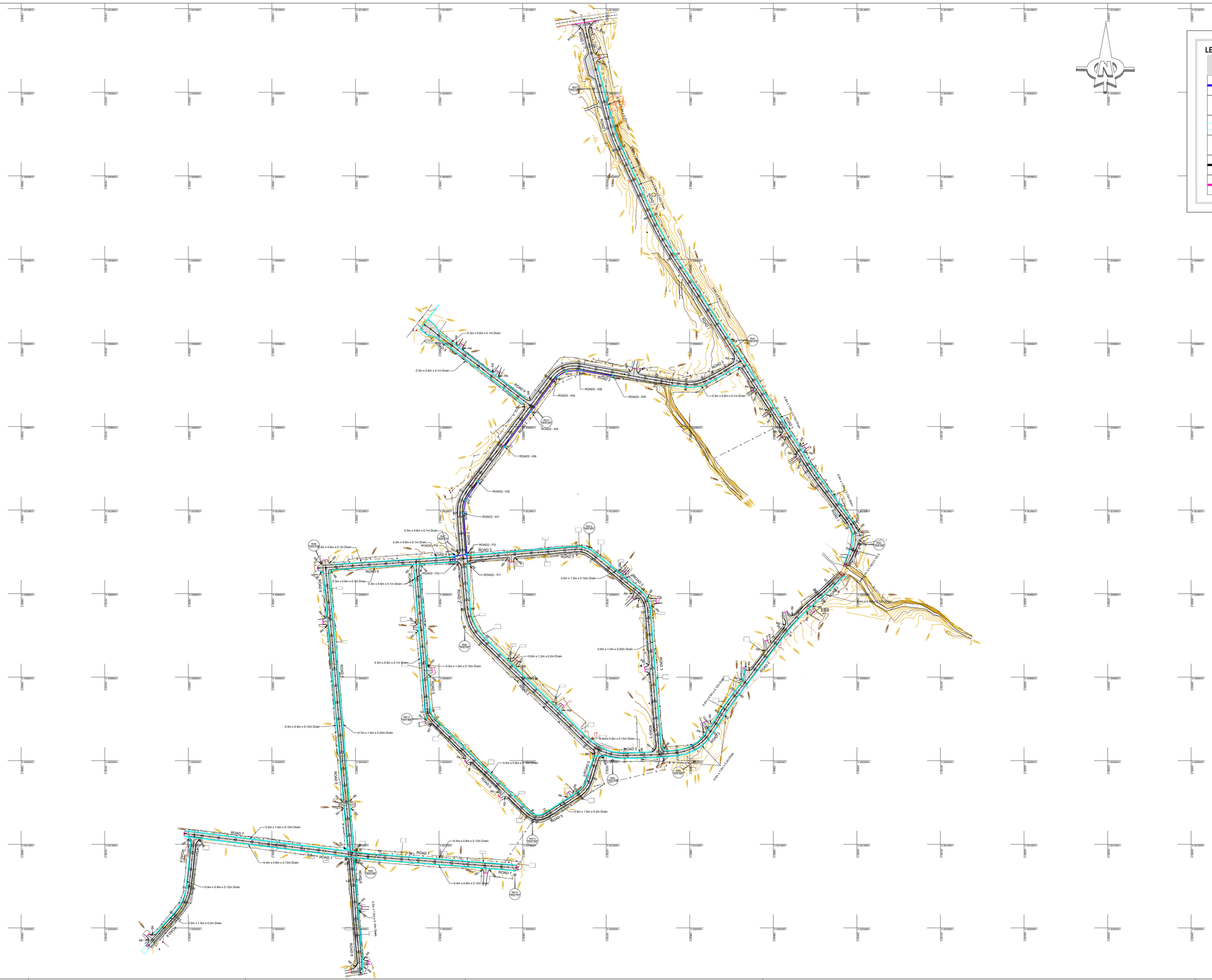
PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
DRAWING LIST

PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO
P1027-BE-CIV-RD-DL01


ROAD 1
ROAD 2
ROAD 3
ROAD 4
ROAD 5
ROAD 6
ROAD 7
ROAD2 - K14
ROAD2 - K18
ROAD2 - K19
ROAD2 - K15
ROAD2 - K16
ROAD2 - K12
ROAD2 - K11
ROAD2 - F14
ROAD2 - F12
ROAD2 - F13
ROAD2 - F11
0.3m x 0.6m x 0.1m Drain
0.5m x 1.0m x 0.15m Drain
0.6m x 1.2m x 0.2m Drain
0.5m x 1.0m x 0.20m Drain
0.4m x 0.8m x 0.12m Drain
0.7m x 1.4m x 0.24m Drain
0.5m x 1.0m x 0.2m Drain
0.6m x 1.2m x 0.3m Drain
0.6m x 0.8m x 0.12m Drain
0.5m x 1.0m x 0.15m Drain
0.5m x 1.0m x 0.2m Drain
0.4m x 0.8m x 0.12m Drain
0.4m x 0.8m x 0.12m Drain
0.4m x 0.8m x 0.12m Drain
0.4m x 0.8m x 0.12m Drain
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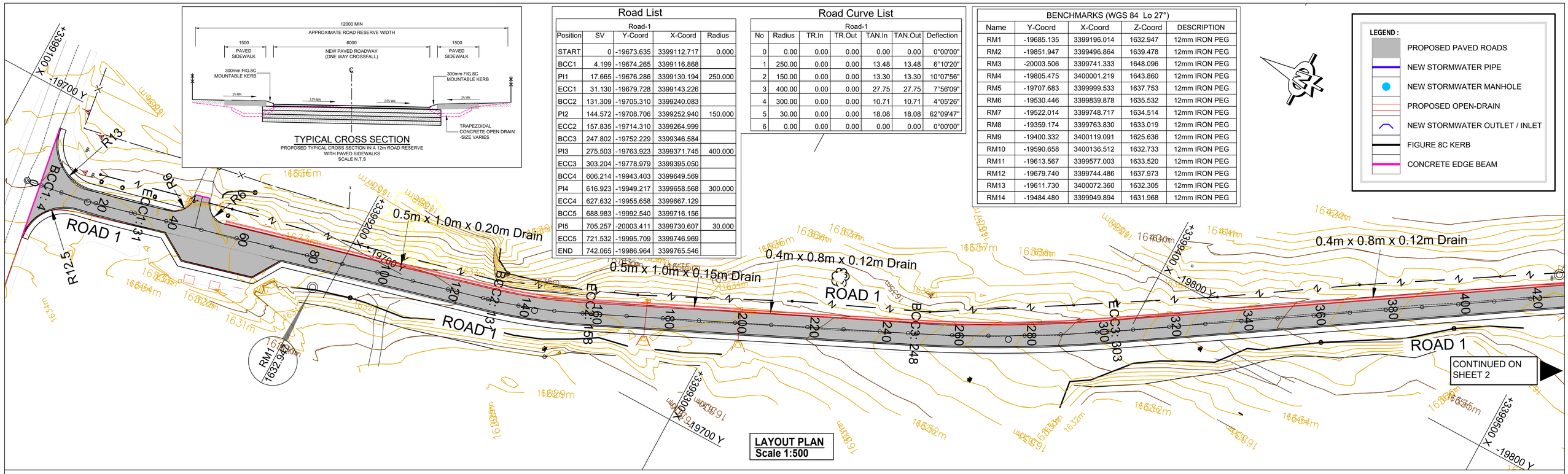


Road List

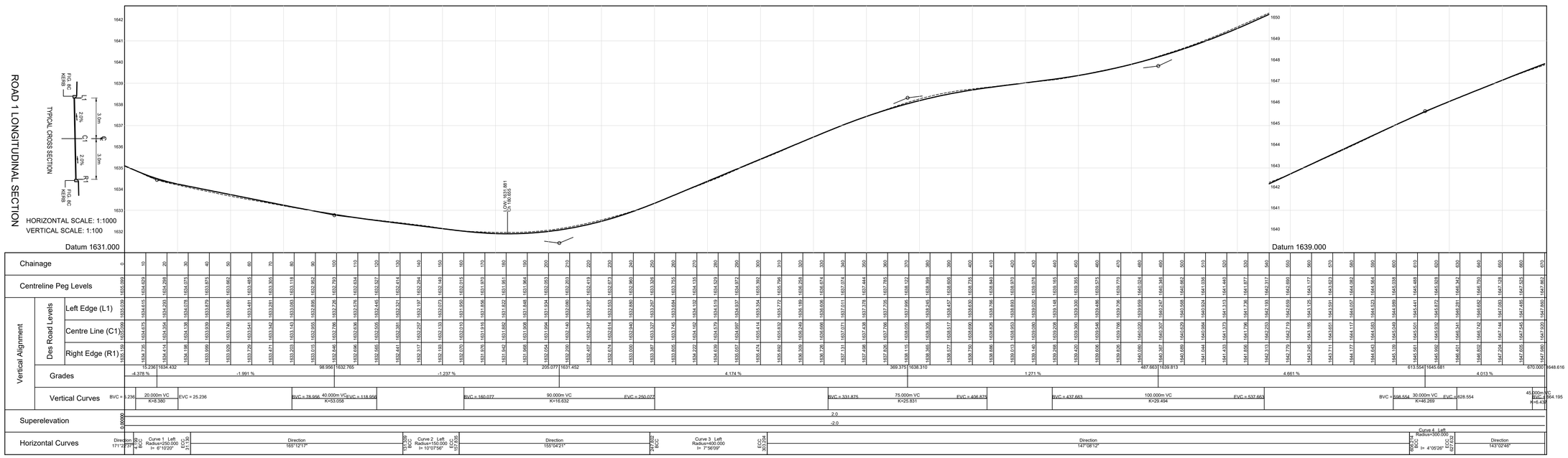
Road-1				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19673.635	3399112.717	0.000
BCC1	4.199	-19674.265	3399116.868	
PI1	17.665	-19676.286	3399130.194	250.000
ECC1	31.130	-19679.728	3399143.226	
BCC2	131.309	-19705.310	3399240.083	
PI2	144.572	-19708.706	3399252.940	150.000
ECC2	157.835	-19714.310	3399264.999	
BCC3	247.802	-19752.229	3399346.584	
PI3	275.503	-19763.923	3399371.745	400.000
ECC3	303.204	-19778.979	3399395.050	
BCC4	606.214	-19943.403	3399649.569	
PI4	616.923	-19949.217	3399658.568	300.000
ECC4	627.632	-19955.658	3399667.129	
BCC5	688.983	-19992.540	3399716.156	
PI5	705.257	-20003.411	3399730.607	30.000
ECC5	721.532	-19995.709	3399746.969	
END	742.065	-19986.964	3399765.546	

Road Curve List

Road-1						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	250.00	0.00	0.00	13.48	13.48	6°10'20"
2	150.00	0.00	0.00	13.30	13.30	10°07'56"
3	400.00	0.00	0.00	27.75	27.75	7°56'09"
4	300.00	0.00	0.00	10.71	10.71	4°05'26"
5	30.00	0.00	0.00	18.08	18.08	62°09'47"
6	0.00	0.00	0.00	0.00	0.00	0°00'00"

BENCHMARKS (WGS 84 Lo 27°)

Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
RM5	-19707.683	3399999.533	1637.753	12mm IRON PEG
RM6	-19530.446	3399839.878	1635.532	12mm IRON PEG
RM7	-19522.014	3399748.717	1634.514	12mm IRON PEG
RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
RM10	-19590.658	3400136.512	1632.733	12mm IRON PEG
RM11	-19613.567	3399577.003	1633.520	12mm IRON PEG
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG



Longsection for 0 to 670

CLIENT:	CONSULTANT:	PROFESSIONAL ENGINEER:	DESIGN BY:
19 Murray Street Lady Grey 9755 Tel: (051) 603 1449 Email: vanzylt@senqu.gov.za	THEWO & SMMMS - JV 58 Brebner Road Westdene Bloemfontein 9301 Tel: +27 (051) 430 1321 Email: PMO@thewo.co.za	L. MARAH PROF. Reg.No: 920281 DATE: 2024-03-25 SIGNATURE:	T. TSHABALALA DRAWN BY: B. MVUKUZO CHECKED BY: L. MARAH APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 1 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 2	0	A1

DWG NO P1027-BE-CIV-RD-LS01

TYPICAL CROSS SECTION

PROPOSED TYPICAL CROSS SECTION IN A 12m ROAD RESERVE WITH PAVED SIDEWALKS

SCALE N.T.S

BENCHMARKS (WGS 84 Lo 27°)				
Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
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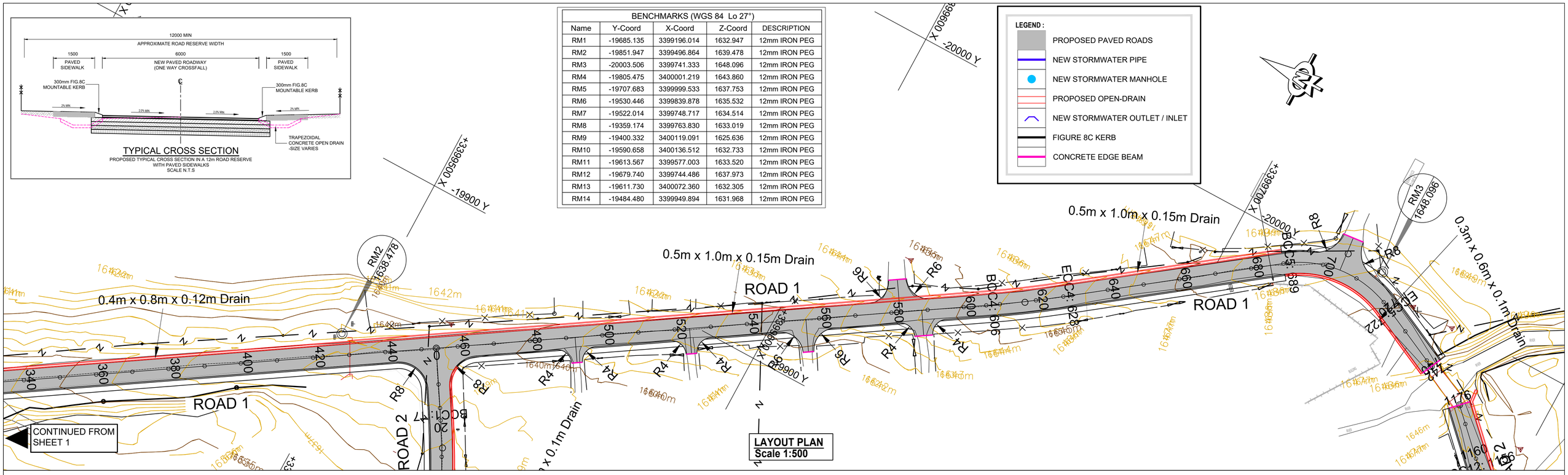
RM7	-19522.014	3399748.717	1634.514	12mm IRON PEG
RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
RM10	-19590.658	3400136.512	1632.733	12mm IRON PEG
RM11	-19613.567	3399577.003	1633.520	12mm IRON PEG
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG

LEGEND :

- PROPOSED PAVED ROADS
- NEW STORMWATER PIPE
- NEW STORMWATER MANHOLE
- PROPOSED OPEN-DRAIN
- NEW STORMWATER OUTLET / INLET
- FIGURE 8C KERB
- CONCRETE EDGE BEAM



LAYOUT PLAN
Scale 1:500

Road List

Road-1				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19673.635	3399112.717	0.000
BCC1	4.199	-19674.265	3399116.868	
PI1	17.665	-19676.286	3399130.194	250.000
ECC1	31.130	-19679.728	3399143.226	
BCC2	131.309	-19705.310	3399240.083	
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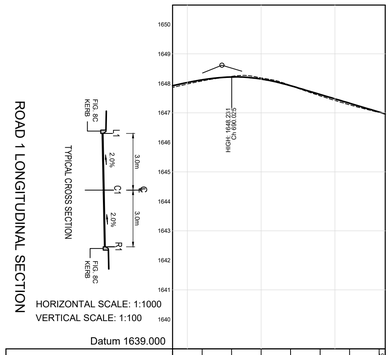
ECC2	157.835	-19714.310	3399264.999	
BCC3	247.802	-19752.229	3399346.584	
PI3	275.503	-19763.923	3399371.745	400.000
ECC3	303.204	-19778.979	3399395.050	
BCC4	606.214	-19943.403	3399649.569	
PI4	616.923	-19949.217	3399658.568	300.000
ECC4	627.632	-19955.658	3399667.129	
BCC5	688.983	-19992.540	3399716.156	
PI5	705.257	-20003.411	3399730.607	30.000
ECC5	721.532	-19995.709	3399746.969	
END	742.065	-19986.964	3399765.546	

Road Curve List

Road-1						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	250.00	0.00	0.00	13.48	13.48	6°10'20"
2	150.00	0.00	0.00	13.30	13.30	10°07'56"
3	400.00	0.00	0.00	27.75	27.75	7°56'09"
4	300.00	0.00	0.00	10.71	10.71	4°05'26"
5	30.00	0.00	0.00	18.08	18.08	62°09'47"
6	0.00	0.00	0.00	0.00	0.00	0°00'00"

ROAD 1 LONGITUDINAL SECTION



HORIZONTAL SCALE: 1:1000

VERTICAL SCALE: 1:100

Datum 1639.000

Chainage			670	680	690	700	710	720	730	740	750
Centreline Peg Levels			1647.892	1648.101	1648.243	1648.179	1647.929	1647.575	1647.261	1647.209	1647.292
Vertical Alignment	Des Road Levels	Left Edge (L1)	1647.800	1648.123	1648.261	1648.214	1647.992	1647.684	1647.386	1647.329	1647.409
		Centre Line (C1)	1647.920	1648.153	1648.231	1648.154	1647.923	1647.623	1647.323	1647.023	1647.323
		Right Edge (R1)	1647.980	1648.183	1648.201	1648.094	1647.862	1647.564	1647.265	1647.505	1647.237
	Grades			686.690 1648.616 4.013 %		-2.978 %					
	Vertical Curves			45.000m VC K=6.437 EVC = 709.195							
Superelevation			670.00000	2.0	2.0				-2.0		
				675.00000	685.00000				695.00000		
Horizontal Curves				Direction 143°02'46"	708.548 BCC	Curve 5 Right Radius=30.000 l= 62°09'47"		ECC 721.532	Direction 205°12'33"		

Longsection for 670 to 742

CLIENT:

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9755

Tel: (051) 603 1449
Email:
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CONSULTANT:

THEWO & SMMMS - JV

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9301

Tel: +27 (051) 430 1321
Email: PMO@thewo.co.za

PROFESSIONAL ENGINEER:
L. MARAH

PROF. Reg.No:
920281

DATE:
2024-03-25

SIGNATURE:

DESIGN BY:
T. TSHABALALA

DRAWN BY:
B. MVUKUZO

CHECKED BY:
L. MARAH

APPROVED BY:
L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 1 - LAYOUT AND LONGITUDINAL SECTION

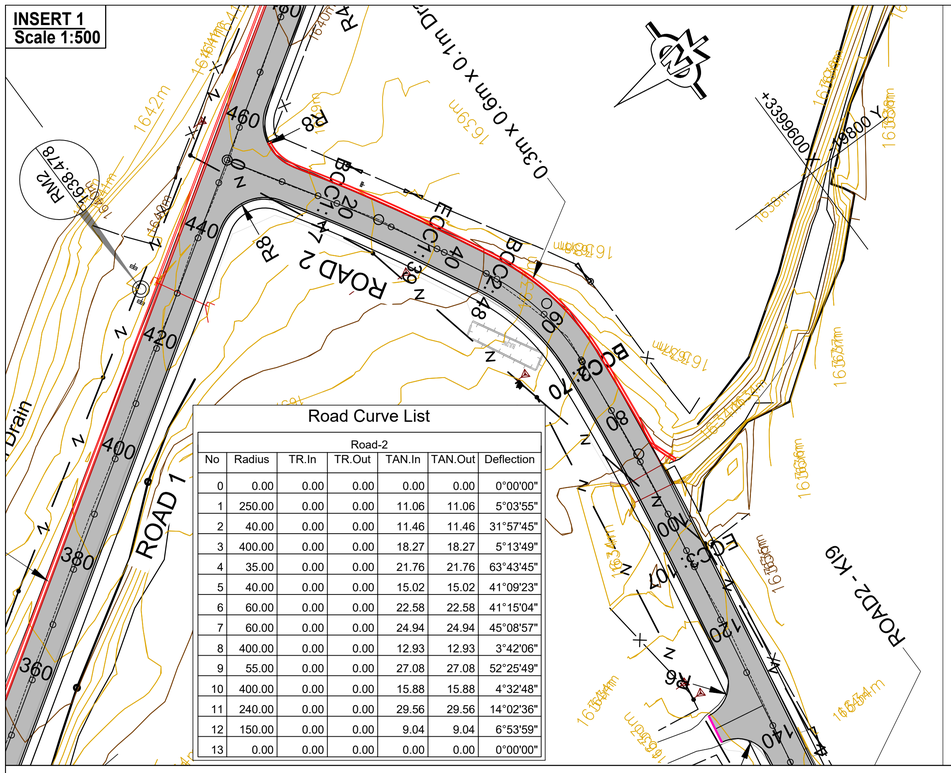
PROJECT STATUS:

TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	2 OF 2	0	A1

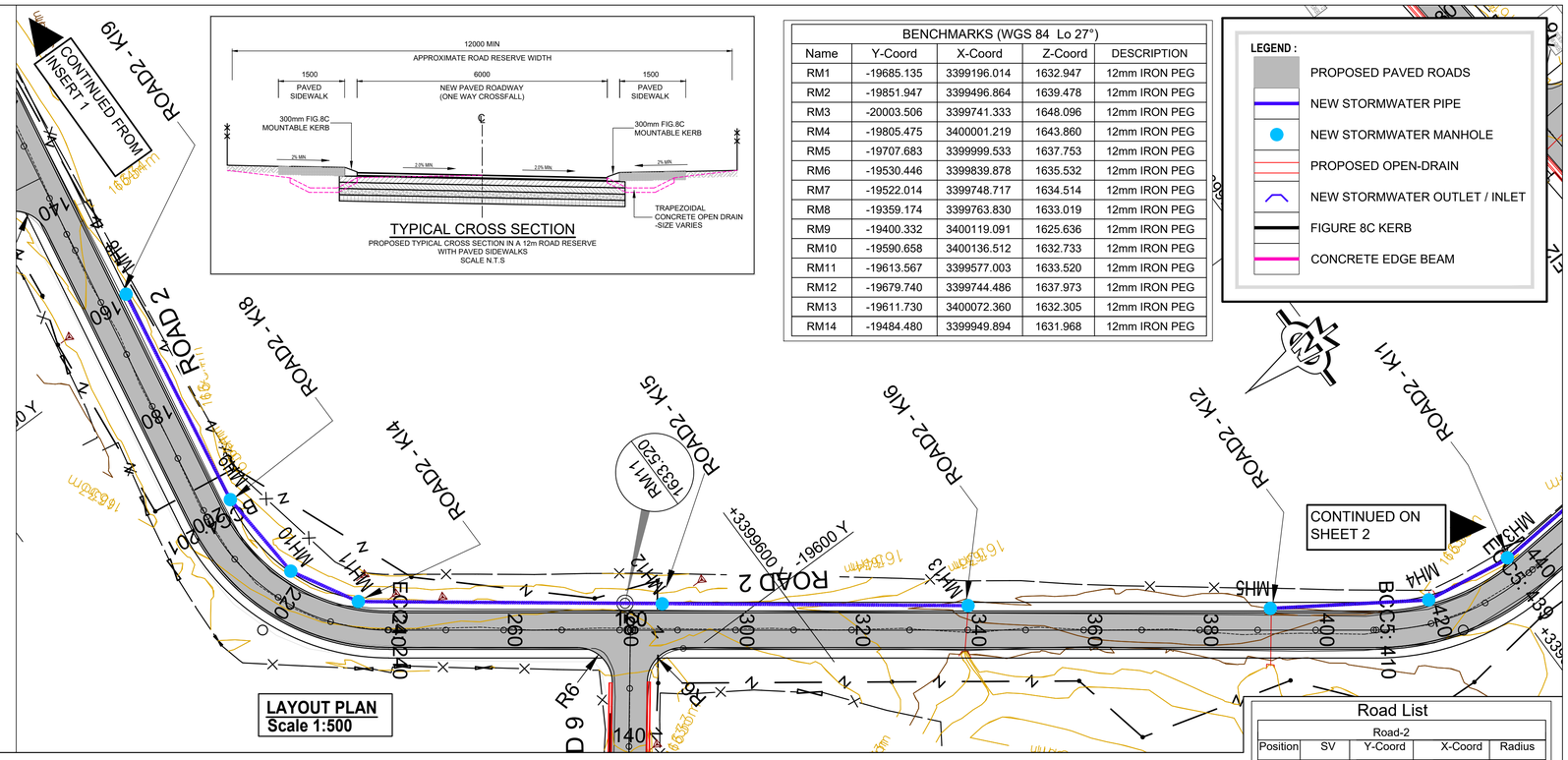
DWG NO

P1027-BE-CIV-RD-LS01



Road Curve List

Road-2						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	250.00	0.00	0.00	11.06	11.06	5°03'55"
2	40.00	0.00	0.00	11.46	11.46	31°57'45"
3	400.00	0.00	0.00	18.27	18.27	5°13'49"
4	35.00	0.00	0.00	21.76	21.76	63°43'45"
5	40.00	0.00	0.00	15.02	15.02	41°09'23"
6	60.00	0.00	0.00	22.58	22.58	41°15'04"
7	60.00	0.00	0.00	24.94	24.94	45°08'57"
8	400.00	0.00	0.00	12.93	12.93	3°42'06"
9	55.00	0.00	0.00	27.08	27.08	52°25'49"
10	400.00	0.00	0.00	15.88	15.88	4°32'48"
11	240.00	0.00	0.00	29.56	29.56	14°02'36"
12	150.00	0.00	0.00	9.04	9.04	6°53'59"
13	0.00	0.00	0.00	0.00	0.00	0°00'00"



12000 MIN
APPROXIMATE ROAD RESERVE WIDTH
1500 PAVED SIDEWALK
6000 NEW PAVED ROADWAY (ONE WAY CROSSFALL)
1500 PAVED SIDEWALK
300mm FIG.8C MOUNTABLE KERB
300mm FIG.8C MOUNTABLE KERB
2% MIN
TRAPEZOIDAL CONCRETE OPEN DRAIN -SIZE VARIES

TYPICAL CROSS SECTION

PROPOSED TYPICAL CROSS SECTION IN A 12m ROAD RESERVE WITH PAVED SIDEWALKS
SCALE N.T.S

BENCHMARKS (WGS 84 Lo 27°)

Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
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RM7	-19522.014	3399748.717	1634.514	12mm IRON PEG
RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
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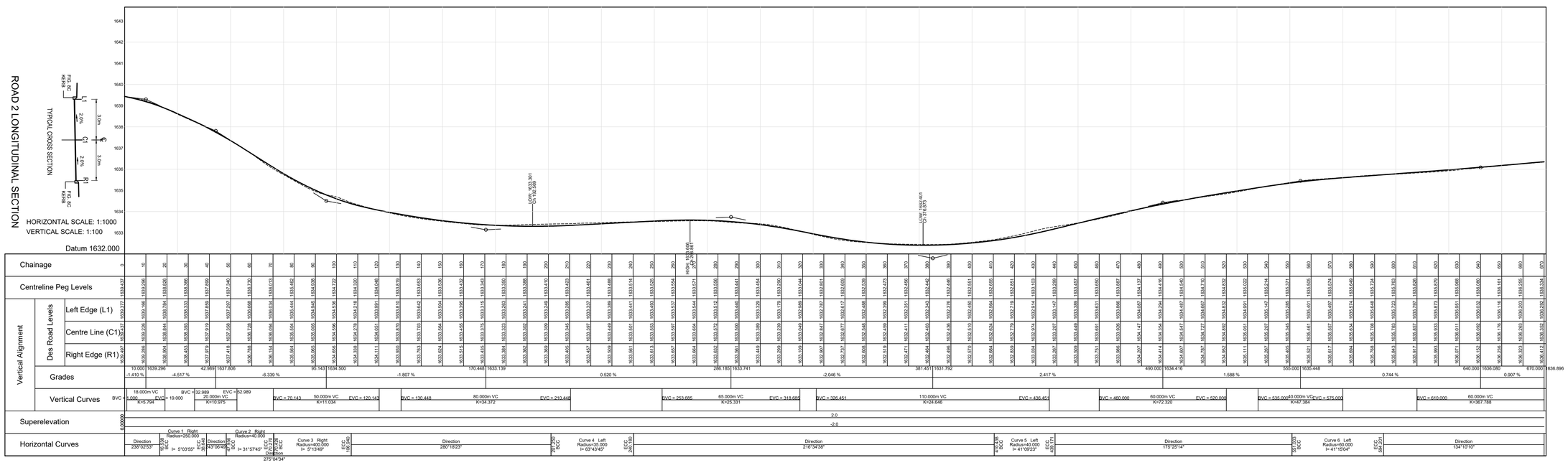
LEGEND :

- PROPOSED PAVED ROADS
- NEW STORMWATER PIPE
- NEW STORMWATER MANHOLE
- PROPOSED OPEN-DRAIN
- NEW STORMWATER OUTLET / INLET
- FIGURE 8C KERB
- CONCRETE EDGE BEAM

LAYOUT PLAN
Scale 1:500

Road List

Road-2				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19860.852	3399521.785	0.000
BCC1	16.538	-19846.820	3399530.537	
PI1	27.589	-19837.437	3399536.389	250.000
ECC1	38.640	-19827.574	3399541.390	
BCC2	47.956	-19819.266	3399545.602	
PI2	59.113	-19809.048	3399550.783	40.000
ECC2	70.270	-19797.637	3399549.769	
BCC3	70.426	-19797.482	3399549.756	
PI3	88.683	-19779.284	3399548.139	400.000
ECC3	106.940	-19761.310	3399544.871	
BCC4	201.250	-19668.521	3399527.997	
PI4	220.715	-19647.117	3399524.105	35.000
ECC4	240.180	-19634.152	3399541.576	
BCC5	410.438	-19532.695	3399678.303	
PI5	424.804	-19523.746	3399690.363	40.000
ECC5	439.171	-19524.945	3399705.332	
BCC6	551.003	-19533.873	3399816.808	
PI6	572.602	-19535.676	3399839.319	60.000
ECC6	594.201	-19551.875	3399855.054	
BCC7	768.926	-19677.202	3399976.800	
PI7	792.566	-19695.095	3399994.180	60.000
ECC7	816.206	-19720.035	3399993.754	
BCC8	836.727	-19740.553	3399993.403	
PI8	849.649	-19753.477	3399993.182	400.000
ECC8	862.570	-19766.360	3399992.127	
BCC9	878.986	-19782.721	3399990.787	
PI9	904.150	-19809.712	3399988.577	55.000
ECC9	929.315	-19824.418	3399965.836	
BCC10	952.978	-19837.267	3399945.966	
PI10	968.850	-19845.890	3399932.631	400.000
ECC10	984.721	-19855.542	3399920.022	
BCC11	1077.702	-19912.063	3399846.191	
PI11	1107.115	-19930.032	3399822.718	240.000
ECC11	1136.527	-19953.159	3399804.308	
BCC12	1137.736	-19954.105	3399803.555	
PI12	1146.767	-19961.179	3399797.923	150.000
ECC12	1155.799	-19967.526	3399791.482	
END	1175.514	-19981.364	3399777.439	



Longsection for 0 to 670

CLIENT:

19 Murray Street
Lady Grey
9755

Tel: (051) 603 1449
Email:
vanzylt@senqu.gov.za

CONSULTANT:

THEWO & SMMMS - JV

58 Brebner Road
Westdene
Bloemfontein
9301

Tel: +27 (051) 430 1321
Email: PMO@thewo.co.za

PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

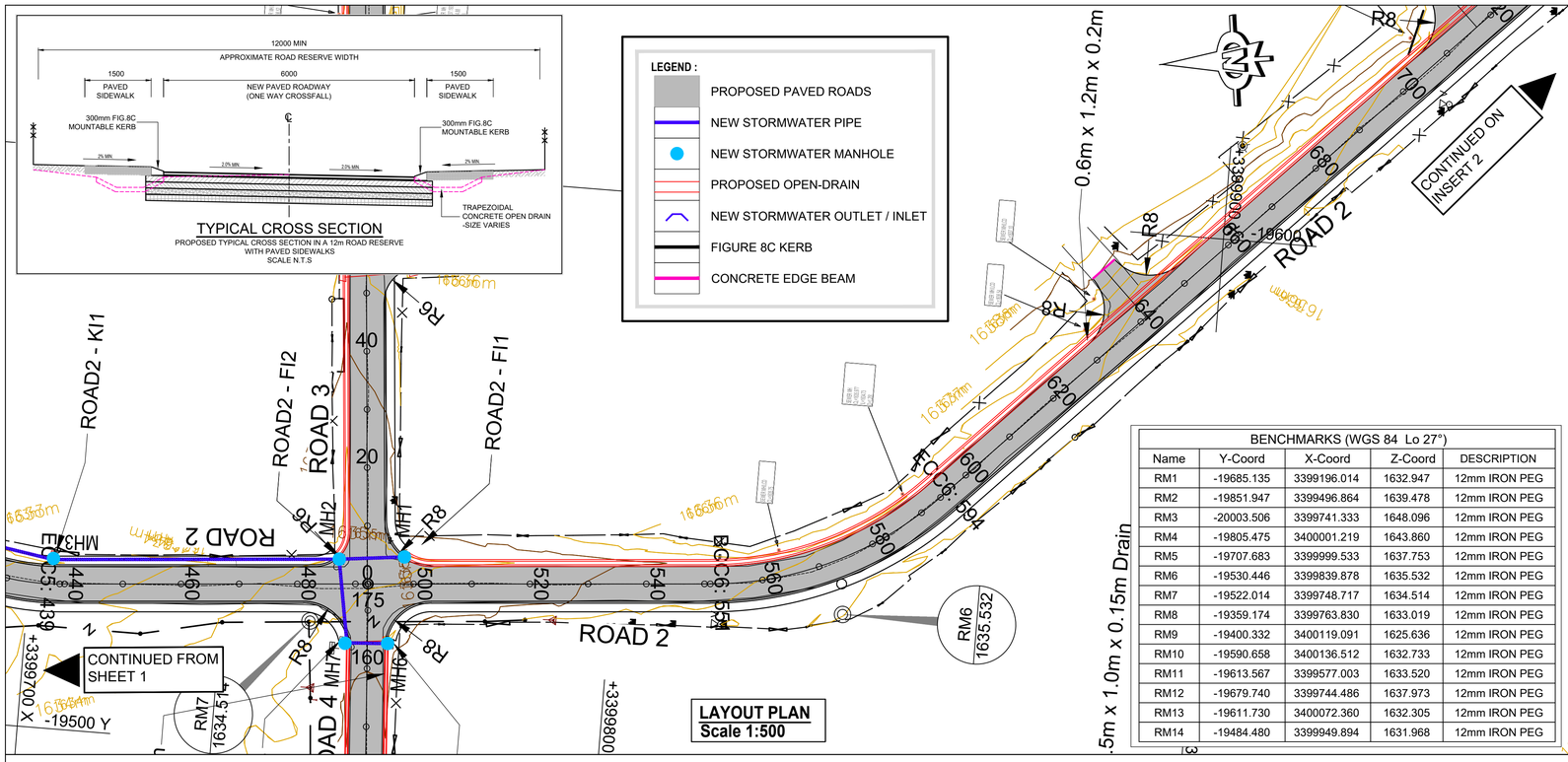
PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
ROAD 2 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS: **TENDER**

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 3	0	A1

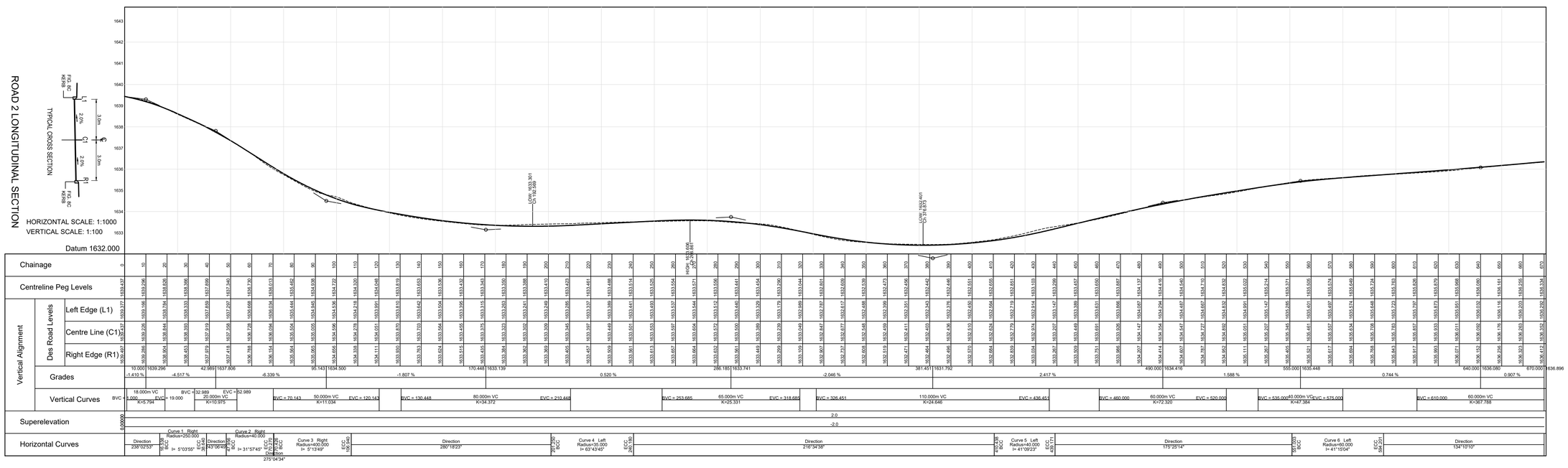
DWG NO
P1027-BE-CIV-RD-LS02



BENCHMARKS (WGS 84 Lo 27°)				
Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
RM5	-19707.683	3399999.533	1637.753	12mm IRON PEG
RM6	-19530.446	3399839.878	1635.532	12mm IRON PEG
RM7	-19522.014	3399748.717	1634.514	12mm IRON PEG
RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
RM10	-19590.658	3400136.512	1632.733	12mm IRON PEG
RM11	-19613.567	3399577.003	1633.520	12mm IRON PEG
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG

Road Curve List						
Road-2						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	250.00	0.00	0.00	11.06	11.06	5°03'55"
2	40.00	0.00	0.00	11.46	11.46	31°57'45"
3	400.00	0.00	0.00	18.27	18.27	5°13'49"
4	35.00	0.00	0.00	21.76	21.76	63°43'45"
5	40.00	0.00	0.00	15.02	15.02	41°09'23"
6	60.00	0.00	0.00	22.58	22.58	41°15'04"
7	60.00	0.00	0.00	24.94	24.94	45°08'57"
8	400.00	0.00	0.00	12.93	12.93	3°42'06"
9	55.00	0.00	0.00	27.08	27.08	52°25'49"
10	400.00	0.00	0.00	15.88	15.88	4°32'48"
11	240.00	0.00	0.00	29.56	29.56	14°02'36"
12	150.00	0.00	0.00	9.04	9.04	6°53'59"
13	0.00	0.00	0.00	0.00	0.00	0°00'00"

Road List				
Road-2				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19860.852	3399521.785	0.000
BCC1	16.538	-19846.820	3399530.537	
PI1	27.589	-19837.437	3399536.389	250.000
ECC1	38.640	-19827.574	3399541.390	
BCC2	47.956	-19819.266	3399545.602	
PI2	59.113	-19809.048	3399550.783	40.000
ECC2	70.270	-19797.637	3399549.769	
BCC3	70.426	-19797.482	3399549.756	
PI3	88.683	-19779.284	3399548.139	400.000
ECC3	106.940	-19761.310	3399544.871	
BCC4	201.250	-19668.521	3399527.997	
PI4	220.715	-19647.117	3399524.105	35.000
ECC4	240.180	-19634.152	3399541.576	
BCC5	410.438	-19532.695	3399678.303	
PI5	424.804	-19523.746	3399690.363	40.000
ECC5	439.171	-19524.945	3399705.332	
BCC6	551.003	-19533.873	3399816.808	
PI6	572.602	-19535.676	3399839.319	60.000
ECC6	594.201	-19551.875	3399855.054	
BCC7	768.926	-19677.202	3399976.800	
PI7	792.566	-19695.095	3399994.180	60.000
ECC7	816.206	-19720.035	3399993.754	
BCC8	836.727	-19740.553	3399993.403	
PI8	849.649	-19753.477	3399993.182	400.000
ECC8	862.570	-19766.360	3399992.127	
BCC9	878.986	-19782.721	3399990.787	
PI9	904.150	-19809.712	3399988.577	55.000
ECC9	929.315	-19824.418	3399965.836	
BCC10	952.978	-19837.267	3399945.966	
PI10	968.850	-19845.890	3399932.631	400.000
ECC10	984.721	-19855.542	3399920.022	
BCC11	1077.702	-19912.063	3399846.191	
PI11	1107.115	-19930.032	3399822.718	240.000
ECC11	1136.527	-19953.159	3399804.308	
BCC12	1137.736	-19954.105	3399803.555	
PI12	1146.767	-19961.179	3399797.923	150.000
ECC12	1155.799	-19967.526	3399791.482	
END	1175.514	-19981.364	3399777.439	



Longsection for 0 to 670

CLIENT:

19 Murray Street
Lady Grey
9755

Tel: (051) 603 1449
Email:
vanzylt@senqu.gov.za

CONSULTANT:

THEWO & SMMMS - JV

58 Brebner Road
Westdene
Bloemfontein
9301

Tel: +27 (051) 430 1321
Email: PMO@thewo.co.za

PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS			
REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

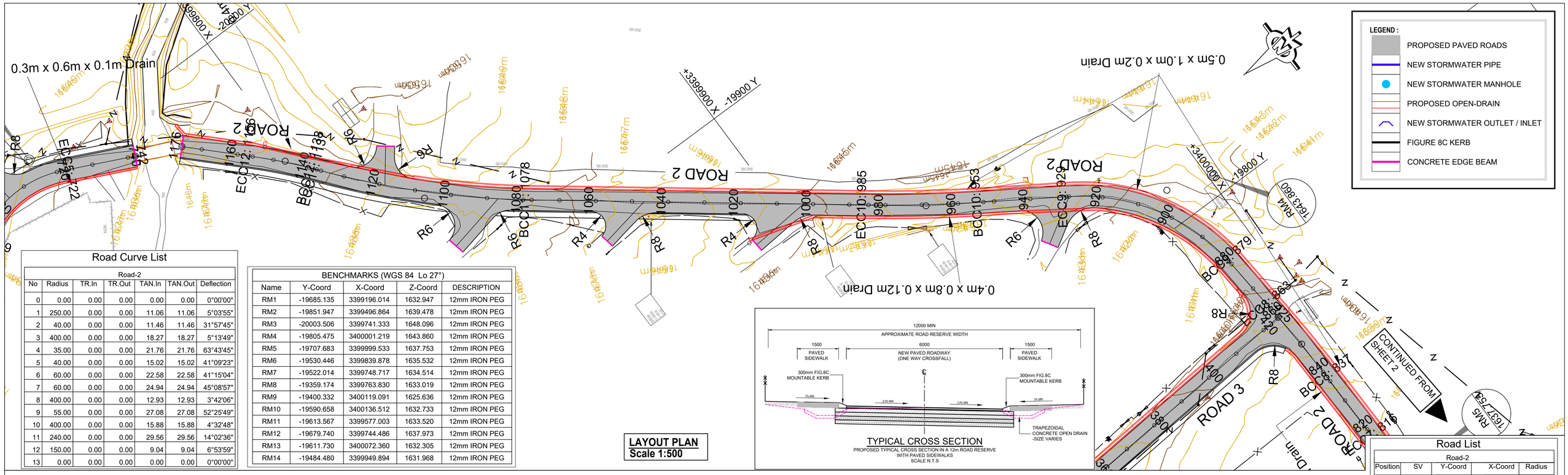
PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
ROAD 2 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	2 OF 3	0	A1

DWG NO
P1027-BE-CIV-RD-LS02



Road Curve List

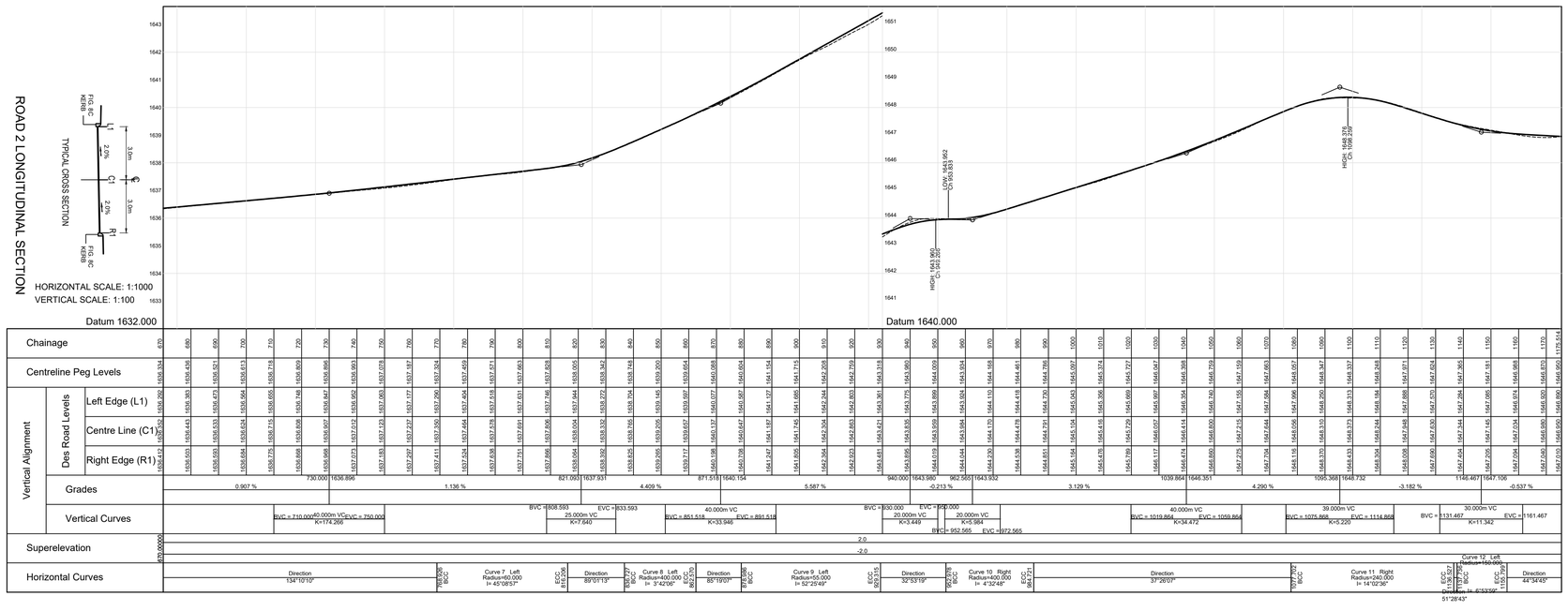
Road-2						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	250.00	0.00	0.00	11.06	11.06	5°03'55"
2	40.00	0.00	0.00	11.46	11.46	31°57'45"
3	400.00	0.00	0.00	18.27	18.27	5°13'49"
4	35.00	0.00	0.00	21.76	21.76	63°43'45"
5	40.00	0.00	0.00	15.02	15.02	41°09'23"
6	60.00	0.00	0.00	22.58	22.58	41°15'04"
7	60.00	0.00	0.00	24.94	24.94	45°08'57"
8	400.00	0.00	0.00	12.93	12.93	3°42'06"
9	55.00	0.00	0.00	27.08	27.08	52°25'49"
10	400.00	0.00	0.00	15.88	15.88	4°32'48"
11	240.00	0.00	0.00	29.56	29.56	14°02'36"
12	150.00	0.00	0.00	9.04	9.04	6°53'59"
13	0.00	0.00	0.00	0.00	0.00	0°00'00"

BENCHMARKS (WGS 84 Lo 27°)

Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
RM5	-19707.683	3399999.533	1637.753	12mm IRON PEG
RM6	-19530.446	3399839.878	1635.532	12mm IRON PEG
RM7	-19522.014	3399748.717	1634.514	12mm IRON PEG
RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
RM10	-19590.658	3400136.512	1632.733	12mm IRON PEG
RM11	-19613.567	3399577.003	1633.520	12mm IRON PEG
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG

Road List

Road-2				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19860.852	3399521.785	0.000
BCC1	16.538	-19846.820	3399530.537	
PI1	27.589	-19837.437	3399536.389	250.000
ECC1	38.640	-19827.574	3399541.390	
BCC2	47.956	-19819.266	3399545.602	
PI2	59.113	-19809.048	3399550.783	40.000
ECC2	70.270	-19797.637	3399549.769	
BCC3	70.426	-19797.482	3399549.756	
PI3	88.683	-19779.284	3399548.139	400.000
ECC3	106.940	-19761.310	3399544.871	
BCC4	201.250	-19668.521	3399527.997	
PI4	220.715	-19647.117	3399524.105	35.000
ECC4	240.180	-19634.152	3399541.576	
BCC5	410.438	-19532.695	3399678.303	
PI5	424.804	-19523.746	3399690.363	40.000
ECC5	439.171	-19524.945	3399705.332	
BCC6	551.003	-19533.873	3399816.808	
PI6	572.602	-19535.676	3399839.319	60.000
ECC6	594.201	-19551.875	3399855.054	
BCC7	768.926	-19677.202	3399976.800	
PI7	792.566	-19695.095	3399994.180	60.000
ECC7	816.206	-19720.035	3399993.754	
BCC8	836.727	-19740.553	3399993.403	
PI8	849.649	-19753.477	3399993.182	400.000
ECC8	862.570	-19766.360	3399992.127	
BCC9	878.986	-19782.721	3399990.787	
PI9	904.150	-19809.712	3399988.577	55.000
ECC9	929.315	-19824.418	3399965.836	
BCC10	952.978	-19837.267	3399945.966	
PI10	968.850	-19845.890	3399932.631	400.000
ECC10	984.721	-19855.542	3399920.022	
BCC11	1077.702	-19912.063	3399846.191	
PI11	1107.115	-19930.032	3399822.718	240.000
ECC11	1136.527	-19953.159	3399804.308	
BCC12	1137.736	-19954.105	3399803.555	
PI12	1146.767	-19961.179	3399797.923	150.000
ECC12	1155.799	-19967.526	3399791.482	
END	1175.514	-19981.364	3399777.439	



Longsection for 670 to 1175

CLIENT:

19 Murray Street
Lady Grey
9755

Tel: (051) 603 1449
Email:
vanzylt@senqu.gov.za

CONSULTANT:

THEWO & SMMMS - JV

58 Brebner Road
Westdene
Bloemfontein
9301

Tel: +27 (051) 430 1321
Email: PMO@thewo.co.za

PROFESSIONAL ENGINEER: L. MARAH

PROF. Reg.No: 920281

DATE: 2024-03-25

SIGNATURE:

DESIGN BY: T. TSHABALALA

DRAWN BY: B. MVUKUZO

CHECKED BY: L. MARAH

APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

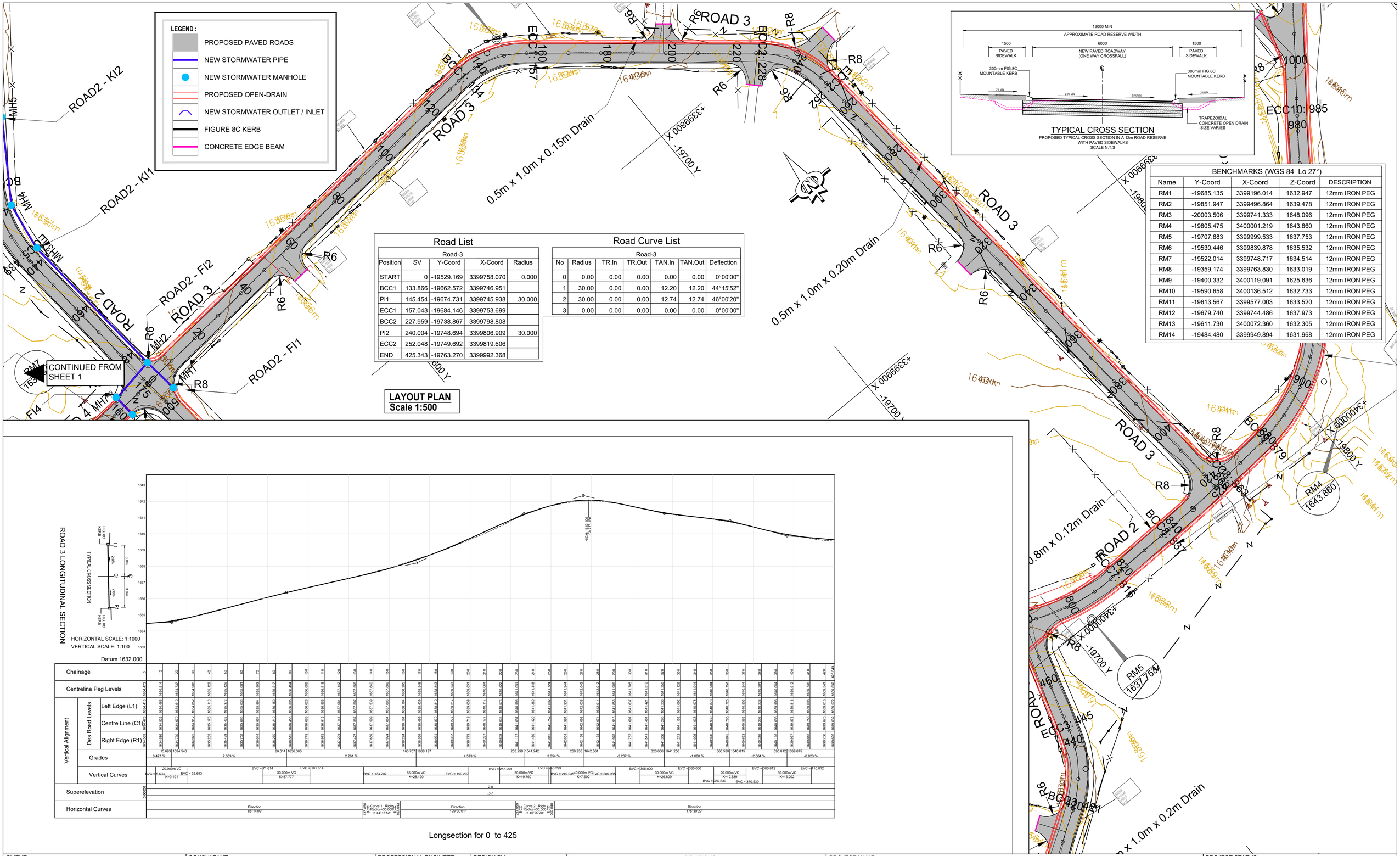
TITLE

ROAD 2 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	3 OF 3	0	A1

DWG NO P1027-BE-CIV-RD-LS02



Road List

Road-3				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19529.169	3399758.070	0.000
BCC1	133.866	-19662.572	3399746.951	
PI1	145.454	-19674.731	3399745.938	30.000
ECC1	157.043	-19684.146	3399753.699	
BCC2	227.959	-19738.867	3399798.808	
PI2	240.004	-19748.694	3399806.909	30.000
ECC2	252.048	-19749.692	3399819.606	
END	425.343	-19763.270	3399992.368	

Road Curve List

Road-3							
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	30.00	0.00	0.00	12.20	12.20	44°15'52"
2	30.00	0.00	0.00	12.74	12.74	46°00'20"
3	0.00	0.00	0.00	0.00	0.00	0°00'00"

BENCHMARKS (WGS 84 Lo 27°)

Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
RM5	-19707.683	3399999.533	1637.753	12mm IRON PEG
RM6	-19530.446	3399839.878	1635.532	12mm IRON PEG
RM7	-19522.014	3399748.717	1634.514	12mm IRON PEG
RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
RM10	-19590.658	3400136.512	1632.733	12mm IRON PEG
RM11	-19613.567	3399577.003	1633.520	12mm IRON PEG
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG

Longsection for 0 to 425

CLIENT:	CONSULTANT:	PROFESSIONAL ENGINEER:	DESIGN BY:
19 Murray Street Lady Grey 9755 Tel: (051) 603 1449 Email: vanzylt@senqu.gov.za	THEWO & SMMMS - JV 58 Brebner Road Westdene Bloemfontein 9301 Tel: +27 (051) 430 1321 Email: PMO@thewo.co.za	L. MARAH PROF. Reg.No: 920281 DATE: 2024-03-25 SIGNATURE:	T. TSHABALALA DRAWN BY: B. MVUKUZO CHECKED BY: L. MARAH APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

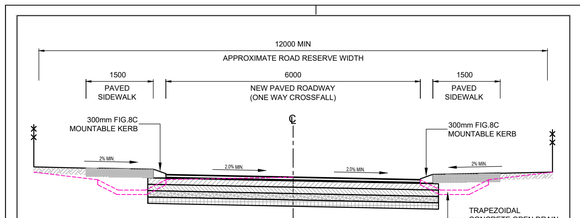
TITLE

ROAD 3 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS: **TENDER**

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO P1027-BE-CIV-RD-LS03

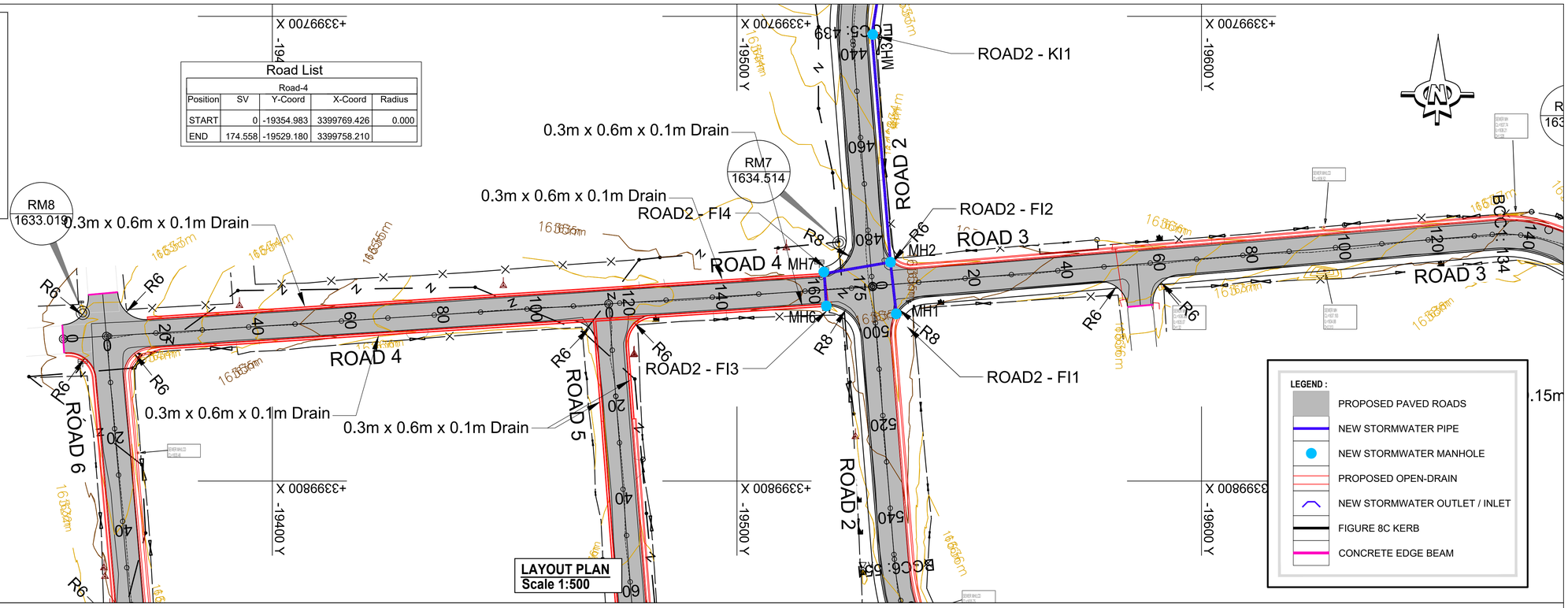


TYPICAL CROSS SECTION

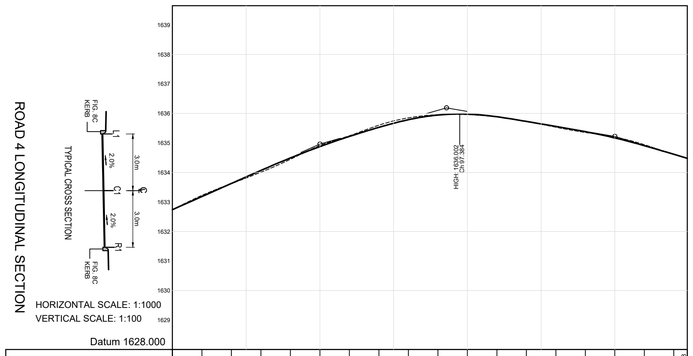
PROPOSED TYPICAL CROSS SECTION IN A 12m ROAD RESERVE WITH PAVED SIDEWALKS
SCALE N.T.S

BENCHMARKS (WGS 84 Lo 27°)				
Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
RM5	-19707.683	3399999.533	1637.753	12mm IRON PEG
RM6	-19530.446	3399839.878	1635.532	12mm IRON PEG
RM7	-19522.014	3399748.717	1634.514	12mm IRON PEG
RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
RM10	-19590.658	3400136.512	1632.733	12mm IRON PEG
RM11	-19613.567	3399577.003	1633.520	12mm IRON PEG
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG

Road List				
Road-4				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19354.983	3399769.426	0.000
END	174.558	-19529.180	3399758.210	



LAYOUT PLAN
Scale 1:500



Chainage	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	174.558
Centreline Peg Levels	1632.726	1633.255	1633.618	1634.000	1634.426	1634.861	1635.216	1635.631	1635.874	1635.973	1635.972	1635.890	1635.743	1635.526	1635.347	1635.220	1634.964	1634.595	1634.476
Vertical Alignment – Des Road Levels – Left Edge (L1)	1632.676	1633.121	1633.566	1634.011	1634.436	1634.871	1635.197	1635.473	1635.745	1635.906	1635.937	1635.838	1635.669	1635.499	1635.328	1635.118	1634.855	1634.554	1634.416
Vertical Alignment – Des Road Levels – Centre Line (C1)	1632.726	1633.181	1633.626	1634.071	1634.496	1634.881	1635.222	1635.533	1635.805	1635.966	1635.997	1635.898	1635.729	1635.559	1635.388	1635.178	1634.915	1634.614	1634.476
Vertical Alignment – Des Road Levels – Right Edge (R1)	1632.776	1633.121	1633.566	1634.011	1634.436	1634.871	1635.197	1635.473	1635.745	1635.906	1635.937	1635.838	1635.669	1635.499	1635.328	1635.118	1634.855	1634.554	1634.416
Vertical Alignment – Grades		4.450 %				50.000	1634.961	2.859 %			92.913	1636.188	-1.696 %			150.000	1635.220	-3.030 %	
Vertical Alignment – Vertical Curves				BVC = 30.000	40.000m VC K=25.146	EVC = 70.000			BVC = 75.413	35.000m VC K=7.684	EVC = 110.413			BVC = 137.500	25.000m VC K=18.742	EVC = 162.500			
Superelevation	0.00000	-2.0																	
Horizontal Curves		Direction 86°18'57"																	

Longsection for 0 to 174

CLIENT:	CONSULTANT:	PROFESSIONAL ENGINEER:	DESIGN BY:
19 Murray Street Lady Grey 9755 Tel: (051) 603 1449 Email: vanzylt@senqu.gov.za	THEWO & SMMMS - JV 58 Brebner Road Westdene Bloemfontein 9301 Tel: +27 (051) 430 1321 Email: PMO@thewo.co.za	L. MARAH PROF. Reg.No: 920281 DATE: 2024-03-25 SIGNATURE:	T. TSHABALALA DRAWN BY: B. MVUKUZO CHECKED BY: L. MARAH APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 4 - LAYOUT AND LONGITUDINAL SECTION

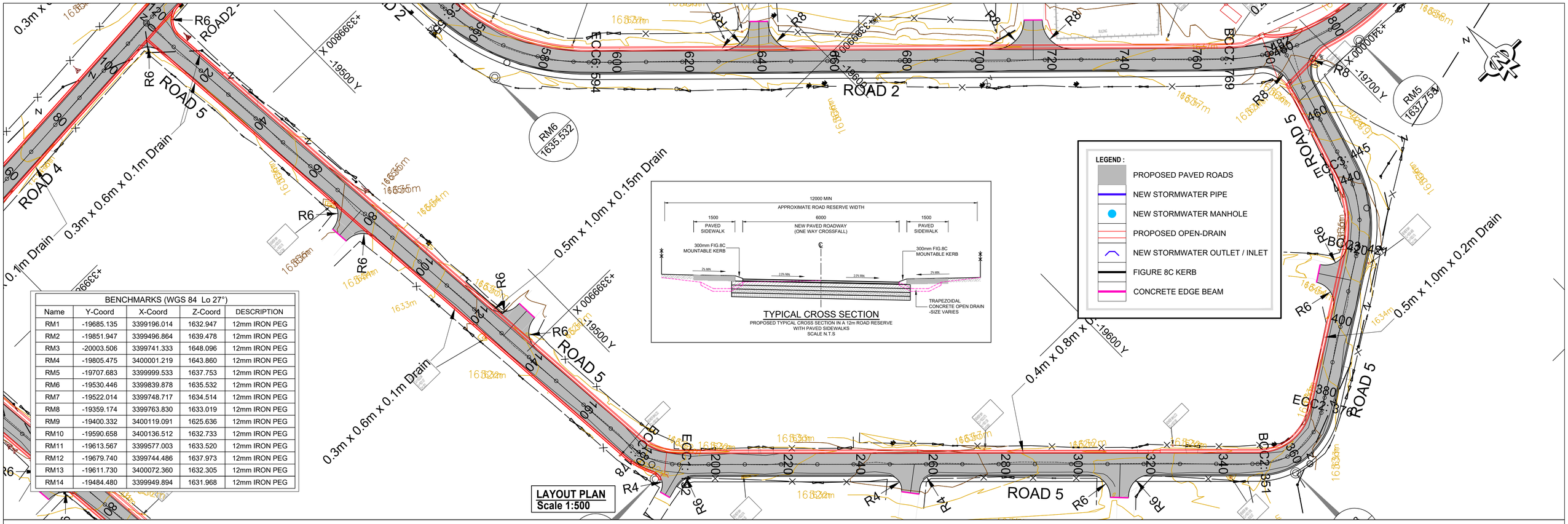
PROJECT STATUS:

TENDER

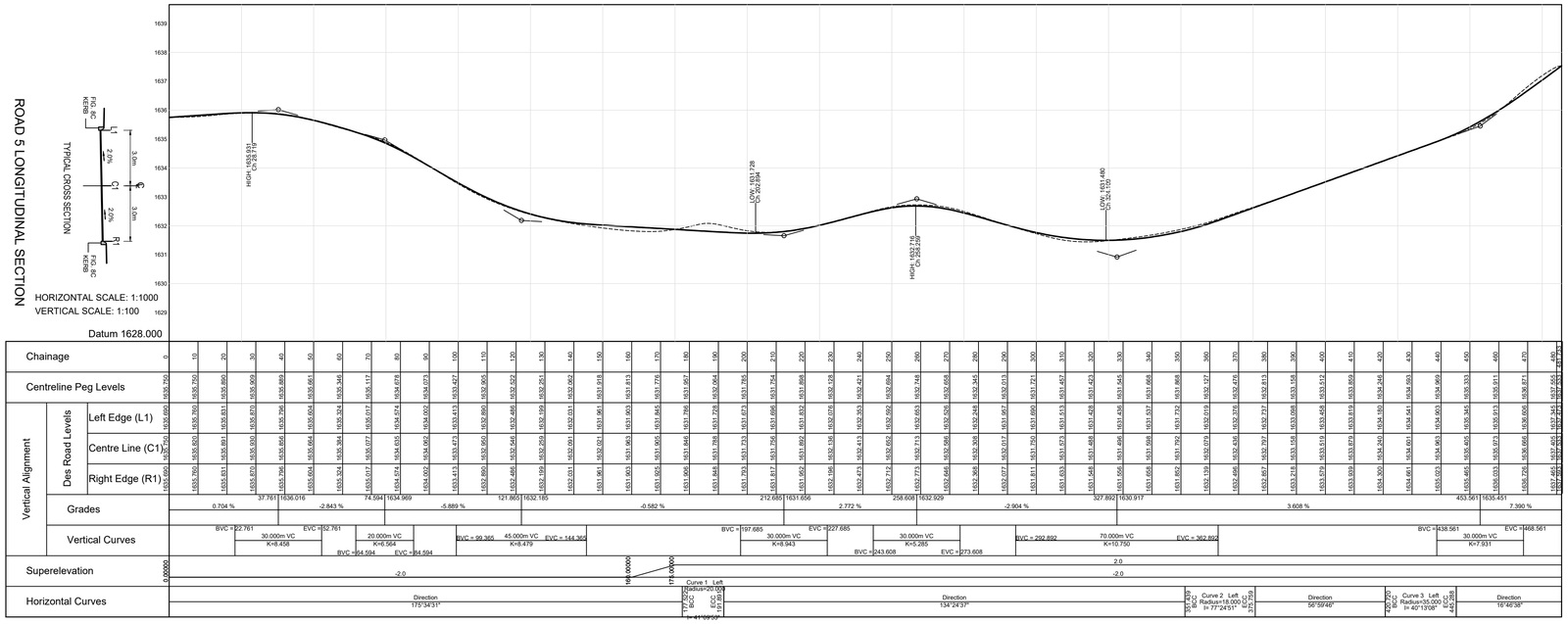
DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO

P1027-BE-CIV-RD-LS04



BENCHMARKS (WGS 84 Lo 27°)				
Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
RM5	-19707.683	3399999.533	1637.753	12mm IRON PEG
RM6	-19530.446	3399839.878	1635.532	12mm IRON PEG
RM7	-19522.014	3399748.717	1634.514	12mm IRON PEG
RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
RM10	-19590.658	3400136.512	1632.733	12mm IRON PEG
RM11	-19613.567	3399577.003	1633.520	12mm IRON PEG
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG



Road List

Road-5				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19472.381	3399761.867	0.000
BCC1	177.522	-19486.077	3399938.860	
PI1	184.707	-19486.657	3399946.348	20.000
ECC1	191.891	-19492.022	3399951.604	
BCC2	351.439	-19605.994	3400063.254	
PI2	363.599	-19616.298	3400073.348	18.000
ECC2	375.759	-19628.395	3400065.491	
BCC3	420.720	-19666.101	3400041.002	
PI3	433.004	-19676.847	3400034.022	35.000
ECC3	445.288	-19680.546	3400021.752	
END	481.733	-19691.066	3399986.859	

Road Curve List

Road-5						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	20.00	0.00	0.00	7.51	7.51	41°09'53"
2	18.00	0.00	0.00	14.42	14.42	77°24'51"
3	35.00	0.00	0.00	12.81	12.81	40°13'08"
4	0.00	0.00	0.00	0.00	0.00	0°00'00"

CLIENT:
19 Murray Street
Lady Grey
9755
Tel: (051) 603 1449
Email:
vanzylt@senqu.gov.za

CONSULTANT:
THEWO & SMMMS - JV
58 Brebner Road
Westdene
Bloemfontein
9301
Tel: +27 (051) 430 1321
Email: PMO@thewo.co.za

PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

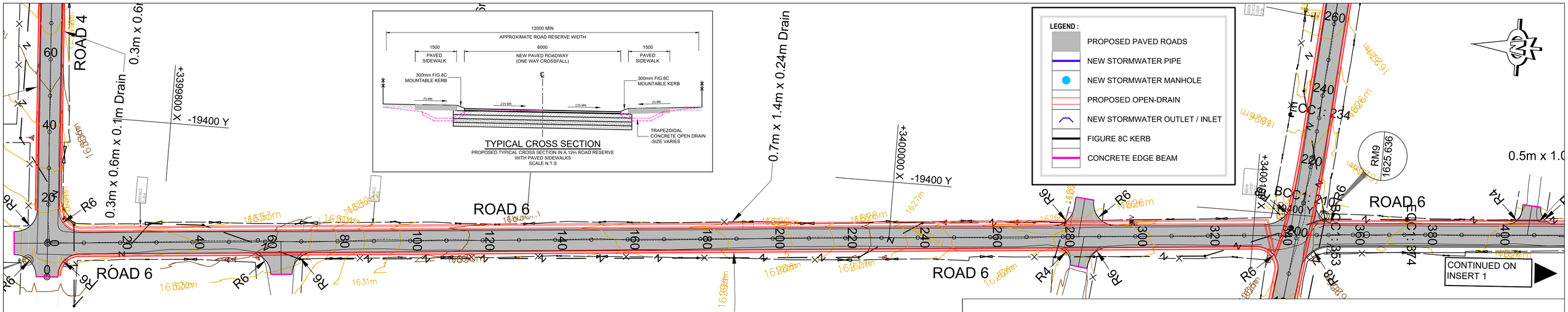
PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
ROAD 5 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO
P1027-BE-CIV-RD-LS05



BENCHMARKS (WGS 84 Lo 27°)				
Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
RM5	-19707.683	3399999.533	1637.753	12mm IRON PEG
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RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
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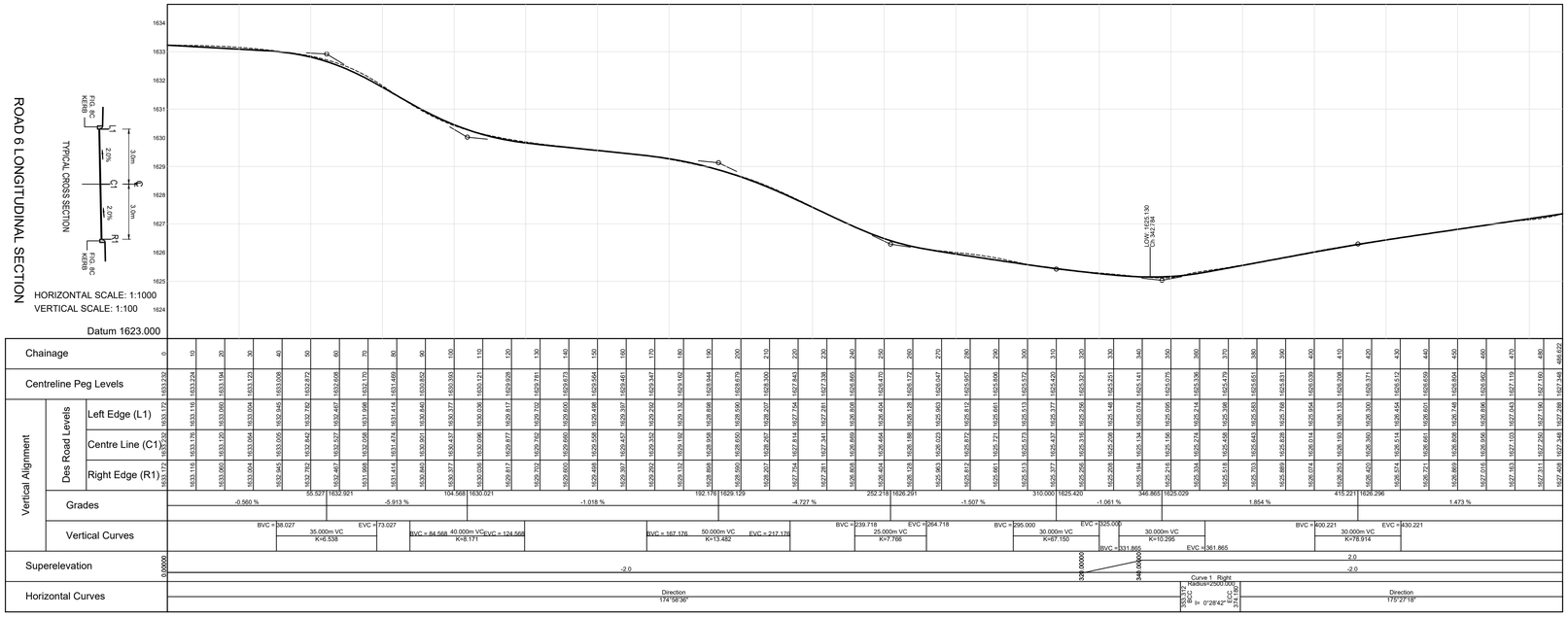
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG



Road List

Road-6				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19364.268	3399768.828	0.000
BCC1	353.312	-19395.204	3400120.784	
PI1	363.746	-19396.118	3400131.177	2500.000
ECC1	374.180	-19396.945	3400141.578	
END	486.622	-19405.855	3400253.667	

Road Curve List

Road-6						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	2500.00	0.00	0.00	10.43	10.43	0°28'42"
2	0.00	0.00	0.00	0.00	0.00	0°00'00"

CLIENT:

19 Murray Street
Lady Grey
9755

Tel: (051) 603 1449
Email:
vanzylt@senqu.gov.za

CONSULTANT:

THEWO & SMMMS - JV

58 Brebner Road
Westdene
Bloemfontein
9301

Tel: +27 (051) 430 1321
Email: PMO@thewo.co.za

PROFESSIONAL ENGINEER:
L. MARAH

PROF. Reg.No:
920281

DATE:
2024-03-25

SIGNATURE:

DESIGN BY:
T. TSHABALALA

DRAWN BY:
B. MVUKUZO

CHECKED BY:
L. MARAH

APPROVED BY:
L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 6 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS: **TENDER**

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO

P1027-BE-CIV-RD-LS06

Road List

Road-7				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19195.171	3400087.098	0.000
BCC1	209.763	-19403.312	3400113.129	
PI1	221.750	-19415.209	3400114.617	500.000
ECC1	233.738	-19427.164	3400115.533	
END	399.324	-19592.266	3400128.182	

Road Curve List

Road-7						
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	500.00	0.00	0.00	11.99	11.99	2°44'50"
2	0.00	0.00	0.00	0.00	0.00	0°00'00"

BENCHMARKS (WGS 84 Lo 27°)

Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
RM4	-19805.475	3400001.219	1643.860	12mm IRON PEG
RM5	-19707.683	3399999.533	1637.753	12mm IRON PEG
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RM8	-19359.174	3399763.830	1633.019	12mm IRON PEG
RM9	-19400.332	3400119.091	1625.636	12mm IRON PEG
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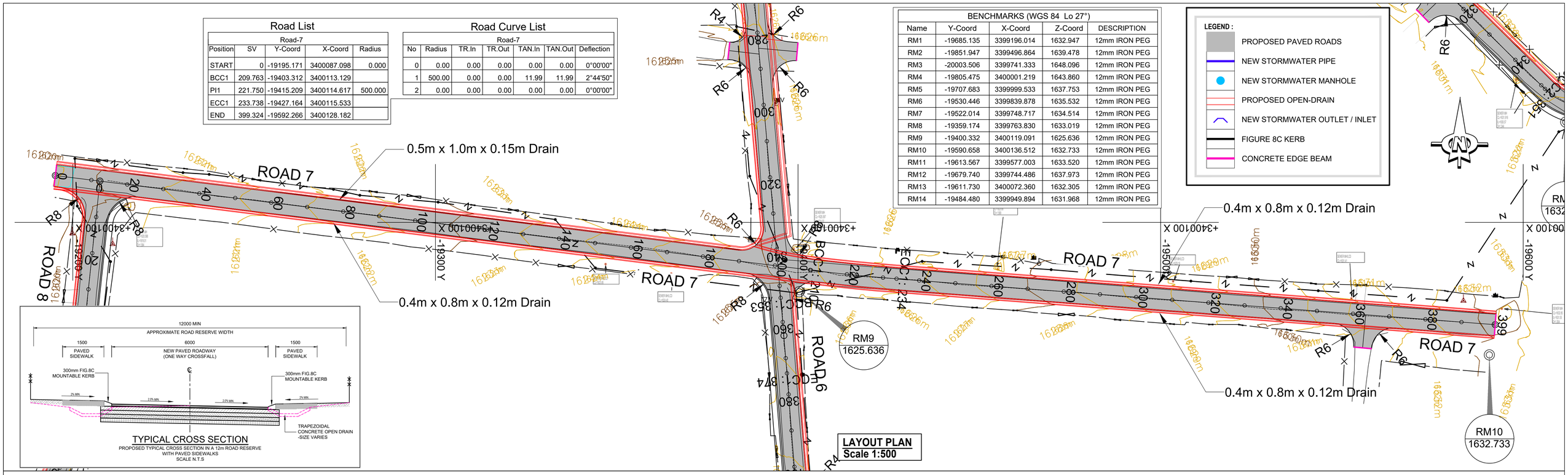
RM11	-19613.567	3399577.003	1633.520	12mm IRON PEG
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG

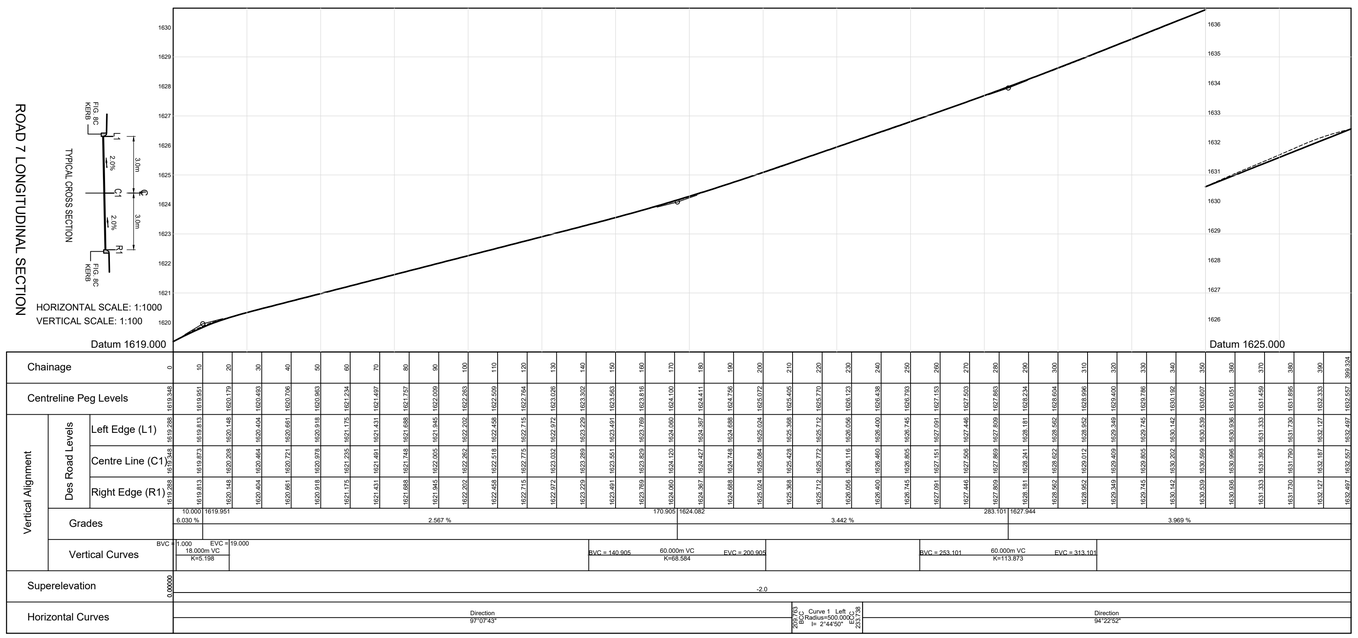
LEGEND :

- PROPOSED PAVED ROADS
- NEW STORMWATER PIPE
- NEW STORMWATER MANHOLE
- PROPOSED OPEN-DRAIN
- NEW STORMWATER OUTLET / INLET
- FIGURE 8C KERB
- CONCRETE EDGE BEAM



LAYOUT PLAN
Scale 1:500

TYPICAL CROSS SECTION
PROPOSED TYPICAL CROSS SECTION IN A 12m ROAD RESERVE WITH PAVED SIDEWALKS
SCALE N.T.S



Longsection for 0 to 399

CLIENT:	CONSULTANT:	PROFESSIONAL ENGINEER:	DESIGN BY:
19 Murray Street Lady Grey 9755 Tel: (051) 603 1449 Email: vanzylt@senqu.gov.za	THEWO & SMMMS - JV 58 Brebner Road Westdene Bloemfontein 9301 Tel: +27 (051) 430 1321 Email: PMO@thewo.co.za	L. MARAH PROF. Reg.No: 920281 DATE: 2024-03-25 SIGNATURE:	T. TSHABALALA DRAWN BY: B. MVUKUZO CHECKED BY: L. MARAH APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
ROAD 7 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS:
TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

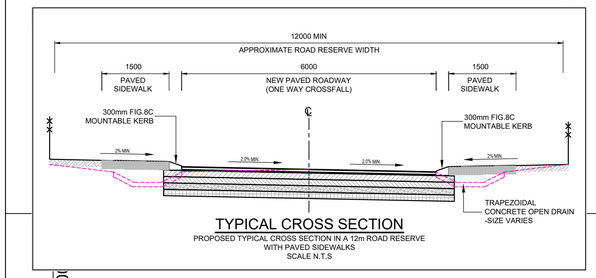
DWG NO
P1027-BE-CIV-RD-LS07

Road List

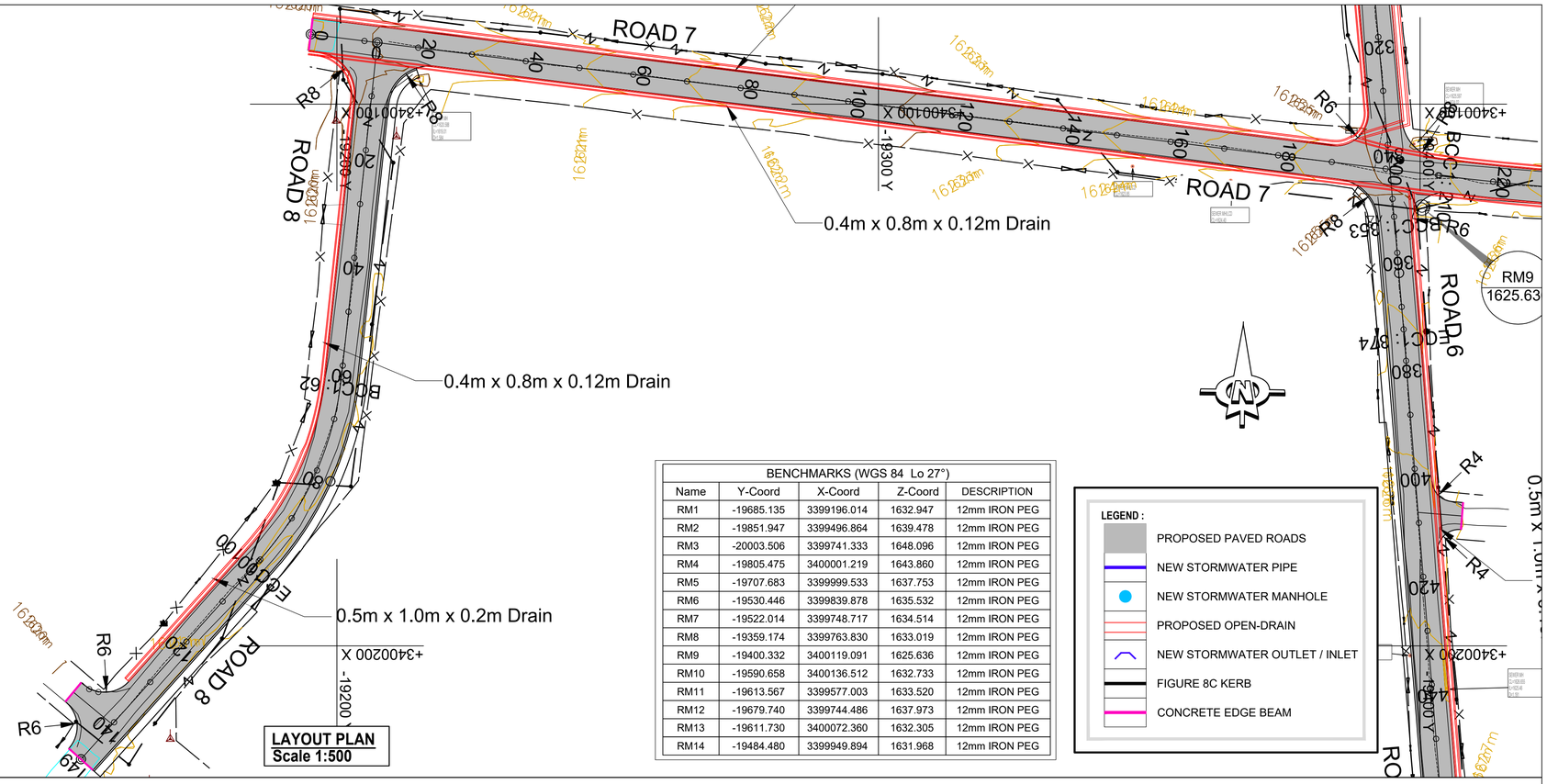
Road-8				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19207.472	3400088.603	0.000
BCC1	62.113	-19200.856	3400150.363	
PI1	80.857	-19198.791	3400169.631	60.000
ECC1	99.601	-19185.846	3400184.052	
END	149.160	-19152.740	3400220.932	

Road Curve List

Road-8							
No	Radius	TR.In	TR.Out	TAN.In	TAN.Out	Deflection
0	0.00	0.00	0.00	0.00	0.00	0°00'00"
1	60.00	0.00	0.00	19.38	19.38	35°47'55"
2	0.00	0.00	0.00	0.00	0.00	0°00'00"



TYPICAL CROSS SECTION
PROPOSED TYPICAL CROSS SECTION IN A 12m ROAD RESERVE WITH PAVED SIDEWALKS
SCALE N.T.S



LAYOUT PLAN
Scale 1:500

BENCHMARKS (WGS 84 Lo 27°)

Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
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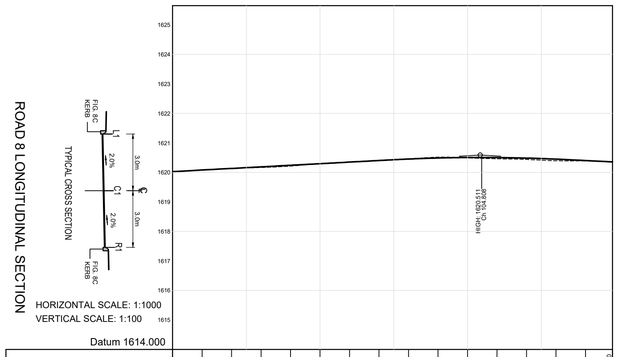
RM12	-19679.740	3399744.486	1637.973	12mm IRON PEG
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG

LEGEND :

- PROPOSED PAVED ROADS
- NEW STORMWATER PIPE
- NEW STORMWATER MANHOLE
- PROPOSED OPEN-DRAIN
- NEW STORMWATER OUTLET / INLET
- FIGURE 8C KERB
- CONCRETE EDGE BEAM

ROAD 8 LONGITUDINAL SECTION



Chainage	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	149.160
Centreline Peg Levels	1620.029	1620.095	1620.145	1620.165	1620.206	1620.307	1620.348	1620.400	1620.461	1620.505	1620.584	1620.660	1620.654	1620.373	1620.450	1620.307
Vertical Alignment – Des Road Levels – Left Edge (L1)	1620.089	1620.143	1620.197	1620.252	1620.304	1620.358	1620.412	1620.466	1620.517	1620.558	1620.609	1620.658	1620.650	1620.515	1620.465	1620.417
Vertical Alignment – Des Road Levels – Centre Line (C1)	1620.029	1620.083	1620.137	1620.190	1620.244	1620.298	1620.352	1620.406	1620.457	1620.491	1620.509	1620.558	1620.490	1620.455	1620.405	1620.347
Vertical Alignment – Des Road Levels – Right Edge (R1)	1619.969	1620.023	1620.077	1620.130	1620.184	1620.238	1620.292	1620.346	1620.396	1620.431	1620.449	1620.448	1620.430	1620.395	1620.344	1620.297
Vertical Alignment – Grades		0.538 %									104.268	1620.590	-0.519 %			
Vertical Alignment – Vertical Curves									BVC = 74.268		60.000m VC K=56.761		EVC = 134.268			
Superelevation	0.00000	2.0														
		-2.0														
Horizontal Curves		Direction 186°06'54"						62.113 BCC	Curve 1 Right Radius=60.000 l= 35°47'55"		99.601 ECC	Direction 221°54'49"				

Longsection for 0 to 149

CLIENT:
19 Murray Street
Lady Grey
9755
Tel: (051) 603 1449
Email:
vanzylt@senqu.gov.za

CONSULTANT:
THEWO & SMMMS - JV
58 Brebner Road
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Tel: +27 (051) 430 1321
Email: PMO@thewo.co.za

PROFESSIONAL ENGINEER:
L. MARAH
PROF. Reg.No:
920281
DATE:
2024-03-25
SIGNATURE:

DESIGN BY:
T. TSHABALALA
DRAWN BY:
B. MVUKUZO
CHECKED BY:
L. MARAH
APPROVED BY:
L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
ROAD 8 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS:
TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO
P1027-BE-CIV-RD-LS08

Road List				
Road-9				
Position	SV	Y-Coord	X-Coord	Radius
START	0	-19482.100	3399477.911	0.000
END	160.060	-19609.314	3399575.050	

BENCHMARKS (WGS 84 Lo 27°)				
Name	Y-Coord	X-Coord	Z-Coord	DESCRIPTION
RM1	-19685.135	3399196.014	1632.947	12mm IRON PEG
RM2	-19851.947	3399496.864	1639.478	12mm IRON PEG
RM3	-20003.506	3399741.333	1648.096	12mm IRON PEG
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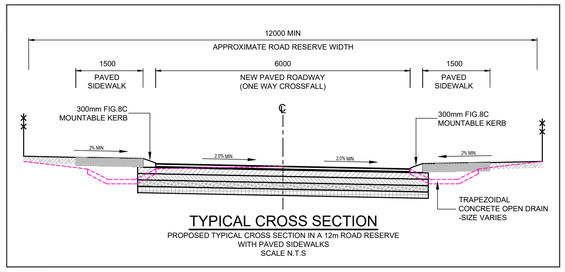
RM13	-19611.730	3400072.360	1632.305	12mm IRON PEG
RM14	-19484.480	3399949.894	1631.968	12mm IRON PEG

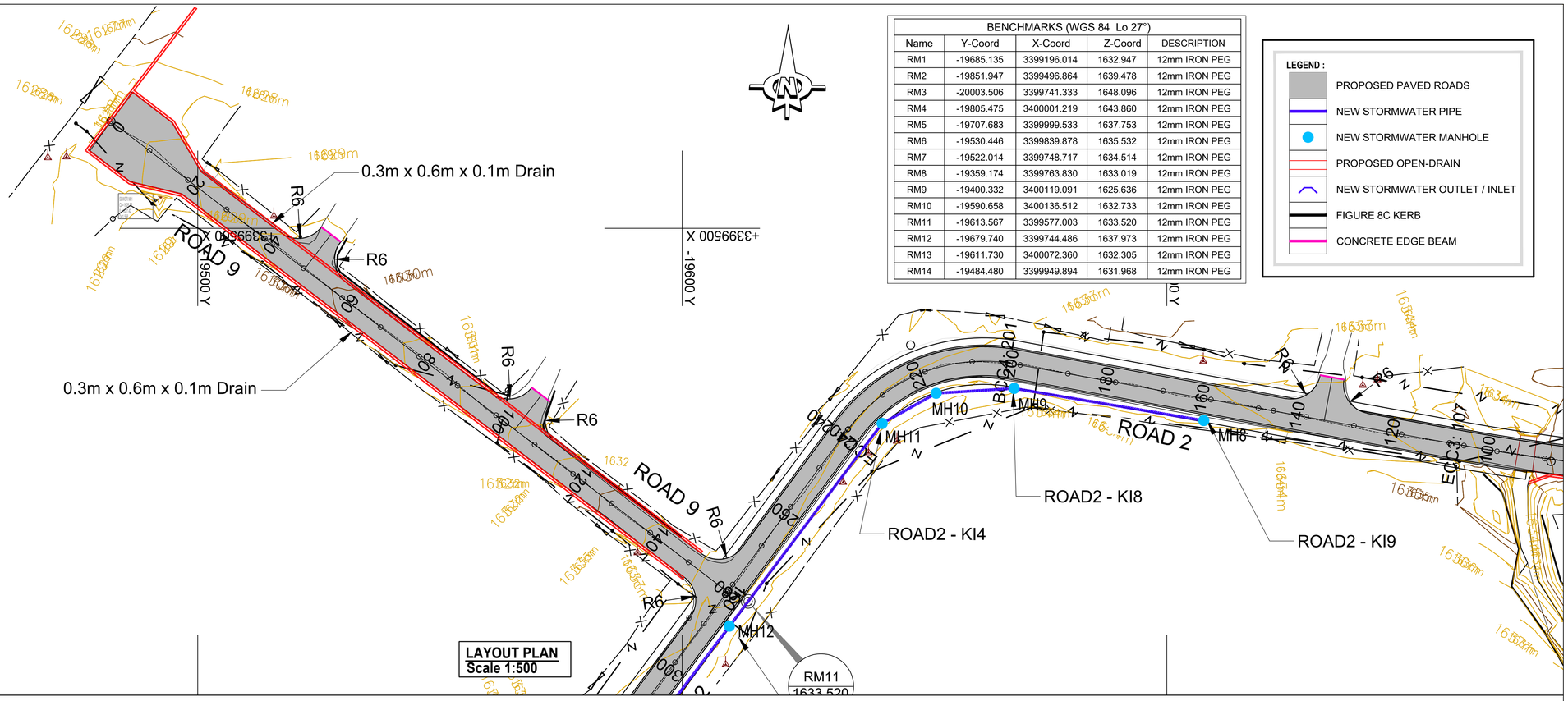
LEGEND :

- PROPOSED PAVED ROADS
- NEW STORMWATER PIPE
- NEW STORMWATER MANHOLE
- PROPOSED OPEN-DRAIN
- NEW STORMWATER OUTLET / INLET
- FIGURE 8C KERB
- CONCRETE EDGE BEAM

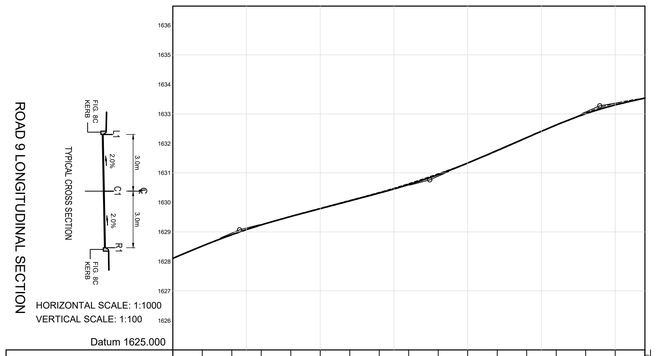


TYPICAL CROSS SECTION

PROPOSED TYPICAL CROSS SECTION IN A 12m ROAD RESERVE WITH PAVED SIDEWALKS
SCALE N.T.S



LAYOUT PLAN
Scale 1:500



Chainage	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
Centreline Peg Levels	1628.934	1628.630	1628.930	1628.265	1629.535	1629.807	1630.071	1630.339	1630.633	1630.974	1631.329	1631.738	1632.183	1632.629	1633.043	1633.410	1633.537
Vertical Alignment – Des Road Levels – Left Edge (L1)	1627.564	1628.379	1628.649	1629.187	1629.466	1629.729	1629.992	1630.255	1630.536	1630.873	1631.267	1631.701	1632.136	1632.571	1633.000	1633.261	1633.475
Vertical Alignment – Des Road Levels – Centre Line (C1)	1628.194	1628.509	1628.915	1629.247	1629.526	1629.789	1630.052	1630.315	1630.596	1630.933	1631.327	1631.761	1632.196	1632.631	1633.050	1633.321	1633.535
Vertical Alignment – Des Road Levels – Right Edge (R1)	1627.564	1628.379	1628.649	1629.187	1629.466	1629.729	1629.992	1630.255	1630.536	1630.873	1631.267	1631.701	1632.136	1632.571	1633.000	1633.261	1633.475
Vertical Alignment – Grades		22.631	1629.069						87.082	1630.764					144.721	1633.271	
		4.264 %			2.630 %						4.349 %					1.728 %	
Vertical Alignment – Vertical Curves		BVC = 7.631		EVC = 37.631				BVC = 72.082		EVC = 102.082			BVC = 129.721			EVC = 159.721	
		30.000m VC K=18.358						30.000m VC K=17.446					30.000m VC K=11.442				
Superelevation	0.00000	-2.0															
Horizontal Curves		Direction 127°21'54"															

Longsection for 0 to 160

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PROFESSIONAL ENGINEER: L. MARAH

PROF. Reg.No: 920281

DATE: 2024-03-25

SIGNATURE:

DESIGN BY: T. TSHABALALA

DRAWN BY: B. MVUKUZO

CHECKED BY: L. MARAH

APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 9 - LAYOUT AND LONGITUDINAL SECTION

PROJECT STATUS: TENDER

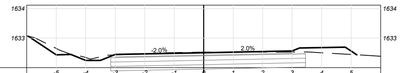
DATE	SCALE	SHEET	REV	A1
2024-03-25	AS SHOWN	1 OF 1	0	

DWG NO

P1027-BE-CIV-RD-LS09

CHAINAGE 120

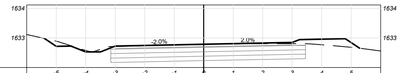
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.063		1632.445			1632.505		1632.565		1632.434
GROUND	1633.063		1632.429			1632.527		1632.528		1632.434
OFFSET	-5.943		-3.000			0.000		3.000		5.190

CHAINAGE 100

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1632.978		1632.720			1632.786		1632.846		1632.653
GROUND	1632.978		1632.711			1632.793		1632.808		1632.653
OFFSET	-5.394		-3.000			0.000		3.000		5.284

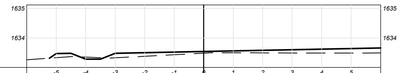
CHAINAGE 80

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.184		1633.063			1633.143		1633.203		1633.056
GROUND	1633.184		1632.985			1633.118		1633.122		1633.056
OFFSET	-5.167		-3.000			0.000		3.000		5.214

CHAINAGE 60

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.315		1633.481			1633.541				1633.661
GROUND	1633.315		1633.329			1633.485				1633.492
OFFSET	-5.234		-3.000			0.000				6.000

CHAINAGE 40

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.919		1633.878			1633.939		1633.996		1634.128
GROUND	1633.919		1633.908			1633.875		1633.886		1634.128
OFFSET	-4.844		-3.000			0.000		3.000		4.801

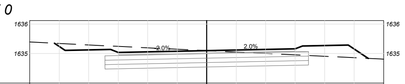
CHAINAGE 20

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1634.345		1634.281			1634.324		1634.414		1634.495
GROUND	1634.341		1634.126			1634.298		1634.324		1634.495
OFFSET	-4.833		-3.000			0.000		3.000		4.872

CHAINAGE 0

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1635.350		1635.038			1635.099		1635.156		1634.837
GROUND	1635.350		1635.243			1635.099		1634.956		1634.837
OFFSET	-5.161		-3.000			0.000		3.000		5.477

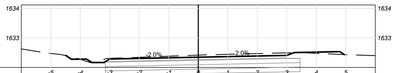
CHAINAGE 240

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.091		1632.880			1632.945		1633.000		1633.039
GROUND	1633.091		1632.848			1632.960		1633.055		1633.039
OFFSET	-4.631		-3.000			0.000		3.000		4.956

CHAINAGE 220

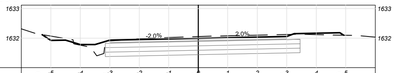
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1632.403		1632.287			1632.347		1632.407		1632.437
GROUND	1632.403		1632.308			1632.419		1632.465		1632.437
OFFSET	-4.489		-3.000			0.000		3.000		4.950

CHAINAGE 200

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1632.119		1631.934			1631.994		1632.054		1632.099
GROUND	1632.119		1631.907			1632.053		1632.125		1632.099
OFFSET	-5.293		-3.000			0.000		3.000		4.927

CHAINAGE 180

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1632.179		1631.822			1631.882		1631.942		1631.976
GROUND	1632.179		1631.814			1631.951		1632.000		1631.976
OFFSET	-5.551		-3.000			0.000		3.000		4.943

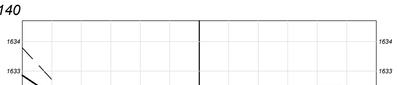
CHAINAGE 160

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1632.608		1631.950			1632.010		1632.070		1631.973
GROUND	1632.729		1631.942			1632.015		1632.066		1631.973
OFFSET	-6.000		-3.000			0.000		3.000		5.140

CHAINAGE 140

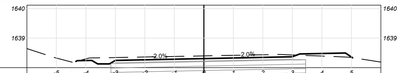
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1632.854		1632.197			1632.257		1632.317		1632.135
GROUND	1633.788		1632.212			1632.294		1632.294		1632.135
OFFSET	-6.000		-3.000			0.000		3.000		5.268

CHAINAGE 380

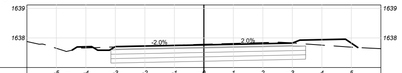
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1638



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1638.209		1638.245			1638.305		1638.365		1638.333
GROUND	1638.209		1638.342			1638.398		1638.430		1638.333
OFFSET	-4.339		-3.000			0.000		3.000		5.042

CHAINAGE 360

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1637



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1637.586		1637.705			1637.765		1637.826		1637.678
GROUND	1637.586		1637.694			1637.785		1637.830		1637.675
OFFSET	-4.464		-3.000			0.000		3.000		5.219

CHAINAGE 340

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1636.869		1637.011			1637.071		1637.131		1636.988
GROUND	1636.869		1636.979			1637.074		1637.127		1636.988
OFFSET	-4.497		-3.000			0.000		3.000		5.209

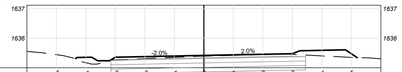
CHAINAGE 320

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1636.106		1636.185			1636.248		1636.309		1636.202
GROUND	1636.106		1636.126			1636.258		1636.305		1636.202
OFFSET	-4.409		-3.000			0.000		3.000		5.155

CHAINAGE 300

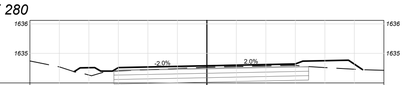
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1635.308		1635.354			1635.414		1635.474		1635.339
GROUND	1635.308		1635.262			1635.392		1635.459		1635.339
OFFSET	-4.354		-3.000			0.000		3.000		5.197

CHAINAGE 280

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1634.379		1634.518			1634.578		1634.638		1634.448
GROUND	1634.379		1634.402			1634.529		1634.590		1634.448
OFFSET	-4.495		-3.000			0.000		3.000		5.281

CHAINAGE 260

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.863		1633.684			1633.745		1633.805		1633.727
GROUND	1633.865		1633.504			1633.755		1633.868		1633.727
OFFSET	-4.586		-3.000			0.000		3.000		5.111

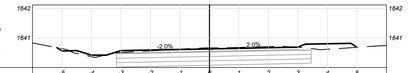
CHAINAGE 520

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1641

	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1641.613		1641.313			1641.373		1641.433		1641.370
GROUND	1641.613		1641.337			1641.440		1641.565		1641.370
OFFSET	-5.466		-3.000			0.000		3.000		5.089

CHAINAGE 500

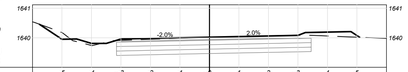
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1640



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1640.671		1640.565			1640.625		1640.685		1640.653
GROUND	1640.671		1640.505			1640.662		1640.683		1640.653
OFFSET	-5.168		-3.000			0.000		3.000		5.003

CHAINAGE 480

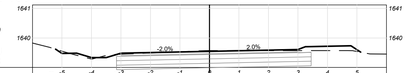
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1639



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1640.457		1639.959			1640.020		1640.080		1640.016
GROUND	1640.457		1639.913			1640.024		1640.089		1640.016
OFFSET	-5.762		-3.000			0.000		3.000		5.090

CHAINAGE 460

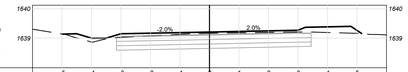
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1639



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1639.620		1639.486			1639.546		1639.606		1639.518
GROUND	1639.620		1639.449			1639.575		1639.574		1639.518
OFFSET	-5.217		-3.000			0.000		3.000		5.126

CHAINAGE 440

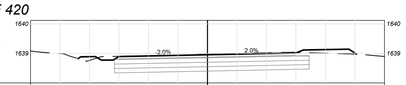
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1638



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1639.144		1639.148			1639.208		1639.268		1639.159
GROUND	1639.144		1639.024			1639.165		1639.208		1639.159
OFFSET	-5.009		-3.000			0.000		3.000		5.158

CHAINAGE 420

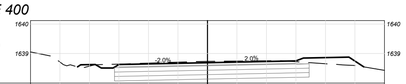
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1638



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1638.823		1638.893			1638.953		1639.013		1638.973
GROUND	1638.823		1638.900			1638.870		1639.035		1638.973
OFFSET	-4.391		-3.000			0.000		3.000		5.054

CHAINAGE 400

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1638



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1638.550		1638.630			1638.690		1638.750		1638.547
GROUND	1638.550		1638.643			1638.735		1638.725		1638.547
OFFSET	-4.404		-3.000			0.000		3.000		5.298

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PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 1 - DETAILED CROSS SECTIONS

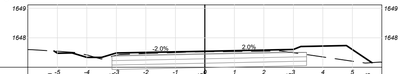
PROJECT STATUS: **TENDER**

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 2	0	A1

DWG NO P1027-BE-CIV-RD-CS01

CHAINAGE 660

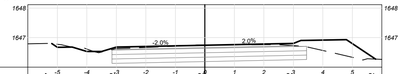
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1647



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1647.550		1647.495			1647.545			1647.605		1647.158
GROUND	1647.550		1647.407			1647.525			1647.495		1647.158
OFFSET	-5.113		-3.000			0.000			3.000		5.665

CHAINAGE 640

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1646



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1646.797		1646.662			1646.742			1646.802		1646.272
GROUND	1646.797		1646.629			1646.750			1646.730		1646.272
OFFSET	-5.187		-3.000			0.000			3.000		5.790

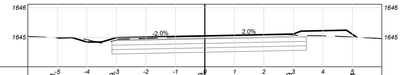
CHAINAGE 620

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1645

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1645.744		1645.872			1645.932			1645.992		1645.968
GROUND	1645.744		1645.776			1645.928			1645.949		1645.968
OFFSET	-5.176		-3.000			0.000			3.000		5.029

CHAINAGE 600

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1644



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1644.991		1644.988			1645.048			1645.108		1645.071
GROUND	1644.991		1644.909			1645.038			1645.075		1645.001
OFFSET	-5.018		-3.000			0.000			3.000		5.156

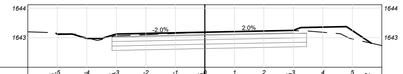
CHAINAGE 580

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1643

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1643.971		1644.057			1644.117			1644.177		1643.978
GROUND	1643.971		1643.990			1644.092			1644.153		1643.978
OFFSET	-5.114		-3.000			0.000			3.000		5.295

CHAINAGE 560

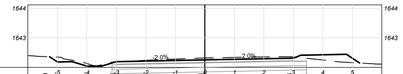
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1642



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1643.144		1643.125			1643.185			1643.245		1642.812
GROUND	1643.144		1643.059			1643.177			1643.240		1642.812
OFFSET	-5.044		-3.000			0.000			3.000		5.643

CHAINAGE 540

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1642



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1642.259		1642.191			1642.252			1642.313		1642.147
GROUND	1642.259		1642.191			1642.317			1642.353		1642.147
OFFSET	-5.265		-3.000			0.000			3.000		5.242

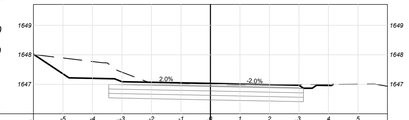
CHAINAGE 742

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1646

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1647.648		1647.027			1646.967			1646.907		1646.399
GROUND	1647.648		1647.477			1646.967			1646.726		1646.399
OFFSET	-5.535		-3.000			0.000			3.000		4.847

CHAINAGE 740

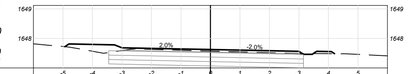
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1646



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1648.005		1647.088			1647.028			1646.968		1646.959
GROUND	1648.006		1647.410			1647.008			1646.991		1646.999
OFFSET	-5.980		-3.000			0.000			3.000		4.161

CHAINAGE 720

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1647



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1647.723		1647.684			1647.624			1647.564		1647.484
GROUND	1647.723		1647.590			1647.575			1647.491		1647.484
OFFSET	-4.936		-3.000			0.000			3.000		4.205

CHAINAGE 700

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1647

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1648.385		1648.214			1648.154			1648.094		1648.020
GROUND	1648.386		1648.290			1648.179			1648.075		1648.026
OFFSET	-4.861		-3.000			0.000			3.000		4.186

CHAINAGE 680

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1647

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1648.512		1648.123			1648.153			1648.183		1647.980
GROUND	1648.512		1647.993			1648.101			1648.092		1647.980
OFFSET	-5.590		-3.000			0.000			3.000		5.277

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PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 1 - DETAILED CROSS SECTIONS

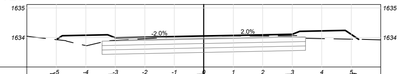
PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	2 OF 2	0	A1

DWG NO P1027-BE-CIV-RD-CS01

CHAINAGE 120

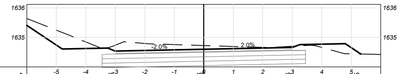
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.928	1633.991	1634.091	1634.111	1633.939
GROUND	1633.928	1633.903	1634.048	1634.062	1633.939
OFFSET	-4.999	-3.000	0.000	3.000	5.252

CHAINAGE 100

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



FINISHED	1635.407	1634.536	1634.596	1634.656	1634.435
GROUND	1635.637	1634.733	1634.722	1634.699	1634.435
OFFSET	-5.000	-3.000	0.000	3.000	5.326

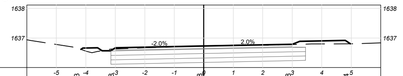
CHAINAGE 80

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

FINISHED	1635.353	1635.444	1635.504	1635.564	1635.584
GROUND	1635.353	1635.345	1635.462	1635.504	1635.584
OFFSET	-4.222	-3.000	0.000	3.000	4.964

CHAINAGE 60

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636



FINISHED	1636.613	1636.668	1636.728	1636.788	1636.904
GROUND	1636.613	1636.630	1636.730	1636.760	1636.904
OFFSET	-4.166	-3.000	0.000	3.000	4.970

CHAINAGE 40

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1637

FINISHED	1637.738	1637.869	1637.919	1637.979	1637.890
GROUND	1637.738	1637.815	1637.899	1637.917	1637.890
OFFSET	-4.266	-3.000	0.000	3.000	5.127

CHAINAGE 20

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1638

FINISHED	1638.723	1638.784	1638.844	1638.904	1638.811
GROUND	1638.723	1638.725	1638.826	1638.851	1638.811
OFFSET	-4.176	-3.000	0.000	3.000	5.134

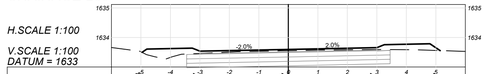
CHAINAGE 0

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1639

FINISHED	1639.542	1639.377	1639.437	1639.497	1639.328
GROUND	1639.542	1639.509	1639.437	1639.375	1639.328
OFFSET	-4.383	-3.000	0.000	3.000	5.247

CHAINAGE 260

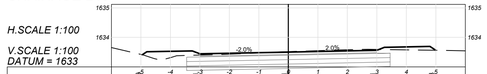
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.498	1633.537	1633.597	1633.657	1633.556
GROUND	1633.498	1633.460	1633.554	1633.592	1633.556
OFFSET	-4.963	-3.000	0.000	3.000	5.145

CHAINAGE 240

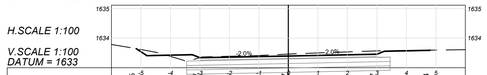
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.409	1633.437	1633.501	1633.561	1633.563
GROUND	1633.409	1633.398	1633.514	1633.590	1633.563
OFFSET	-4.951	-3.000	0.000	3.000	4.991

CHAINAGE 220

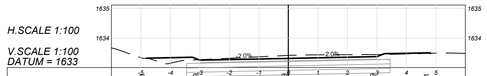
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.645	1633.337	1633.397	1633.457	1633.594
GROUND	1633.645	1633.341	1633.461	1633.568	1633.594
OFFSET	-5.157	-3.000	0.000	3.000	4.810

CHAINAGE 200

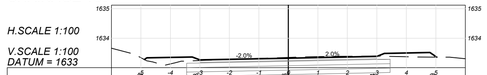
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.311	1633.246	1633.309	1633.369	1633.481
GROUND	1633.311	1633.297	1633.410	1633.441	1633.481
OFFSET	-4.811	-3.000	0.000	3.000	4.826

CHAINAGE 180

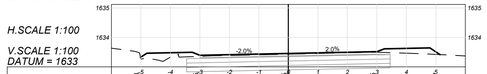
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.278	1633.245	1633.325	1633.384	1633.359
GROUND	1633.278	1633.244	1633.350	1633.396	1633.359
OFFSET	-4.883	-3.000	0.000	3.000	5.031

CHAINAGE 160

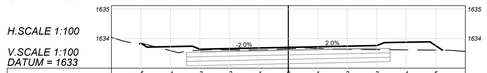
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.323	1633.395	1633.455	1633.515	1633.417
GROUND	1633.322	1633.380	1633.452	1633.499	1633.416
OFFSET	-5.013	-3.000	0.000	3.000	5.142

CHAINAGE 140

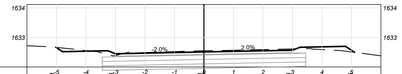
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.838	1633.642	1633.703	1633.763	1633.607
GROUND	1633.838	1633.606	1633.653	1633.625	1633.607
OFFSET	-4.987	-3.000	0.000	3.000	5.227

CHAINAGE 400

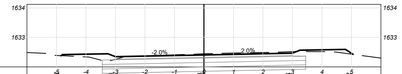
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



FINISHED	1632.669	1632.450	1632.510	1632.570	1632.496
GROUND	1632.669	1632.391	1632.551	1632.613	1632.496
OFFSET	-5.022	-3.000	0.000	3.000	5.105

CHAINAGE 380

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



FINISHED	1632.378	1632.341	1632.403	1632.464	1632.423
GROUND	1632.378	1632.255	1632.442	1632.517	1632.423
OFFSET	-4.852	-3.000	0.000	3.000	5.056

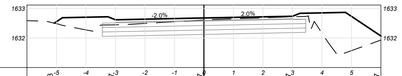
CHAINAGE 360

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632

FINISHED	1632.412	1632.398	1632.459	1632.519	1632.414
GROUND	1632.412	1632.358	1632.573	1632.513	1632.414
OFFSET	-4.884	-3.000	0.000	3.000	5.153

CHAINAGE 340

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1632.503	1632.617	1632.677	1632.737	1632.667
GROUND	1632.503	1632.444	1632.669	1632.719	1631.931
OFFSET	-5.075	-3.000	0.000	3.000	6.000

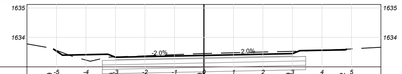
CHAINAGE 320

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632

FINISHED	1633.002	1632.989	1633.049	1633.109	1633.232
GROUND	1633.002	1632.945	1633.044	1633.154	1633.232
OFFSET	-4.865	-3.000	0.000	3.000	4.811

CHAINAGE 300

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.999	1633.326	1633.386	1633.448	1633.602
GROUND	1633.999	1633.338	1633.454	1633.527	1633.602
OFFSET	-5.098	-3.000	0.000	3.000	4.832

CHAINAGE 280

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633

FINISHED	1633.566	1633.512	1633.572	1633.632	1633.569
GROUND	1633.566	1633.502	1633.556	1633.576	1633.569
OFFSET	-4.824	-3.000	0.000	3.000	5.088

CHAINAGE 540

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634

FINISHED	1635.330	1635.147	1635.207	1635.267	1635.510
GROUND	1635.330	1635.088	1635.214	1635.307	1635.510
OFFSET	-4.989	-3.000	0.000	3.000	4.968

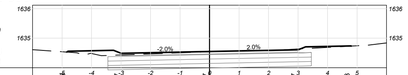
CHAINAGE 520

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634

FINISHED	1634.812	1634.832	1634.892	1634.952	1635.337
GROUND	1634.812	1634.690	1634.832	1634.861	1635.337
OFFSET	-4.716	-3.000	0.000	3.000	5.181

CHAINAGE 500

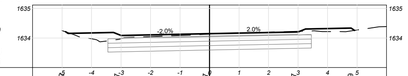
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



FINISHED	1634.529	1634.487	1634.547	1634.607	1634.733
GROUND	1634.529	1634.432	1634.540	1634.633	1634.733
OFFSET	-4.841	-3.000	0.000	3.000	4.805

CHAINAGE 480

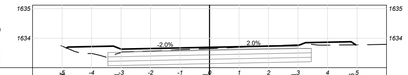
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1634.212	1634.087	1634.147	1634.207	1634.259
GROUND	1634.212	1633.979	1634.137	1634.226	1634.259
OFFSET	-4.882	-3.000	0.000	3.000	4.916

CHAINAGE 460

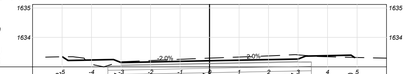
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.668	1633.631	1633.691	1633.751	1633.776
GROUND	1633.668	1633.514	1633.660	1633.778	1633.776
OFFSET	-4.848	-3.000	0.000	3.000	4.957

CHAINAGE 440

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.342	1633.147	1633.207	1633.267	1633.320
GROUND	1633.342	1633.174	1633.299	1633.408	1633.320
OFFSET	-4.986	-3.000	0.000	3.000	4.916

CHAINAGE 420

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632

FINISHED	1632.995	1632.719	1632.779	1632.839	1632.717
GROUND	1632.995	1632.691	1632.851	1632.942	1632.717
OFFSET	-5.109	-3.000	0.000	3.000	5.177

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PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 2 - DETAILED CROSS SECTIONS

PROJECT STATUS: **TENDER**

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 3	0	A1

DWG NO P1027-BE-CIV-RD-CS02

CHAINAGE 680

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636

FINISHED	1636.630	1636.383	1636.443	1636.500	1636.513	
GROUND	1636.630	1636.315	1636.436	1636.503	1636.513	
OFFSET	-5.085	-3.000	0.000	3.000	4.979	

CHAINAGE 660

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636

FINISHED	1636.472	1636.203	1636.263	1636.320	1636.141	
GROUND	1636.472	1636.179	1636.255	1636.262	1636.142	
OFFSET	-5.119	-3.000	0.000	3.000	5.266	

CHAINAGE 640

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

FINISHED	1636.089	1636.032	1636.092	1636.152	1636.008	
GROUND	1636.089	1635.944	1636.080	1636.154	1636.008	
OFFSET	-4.800	-3.000	0.000	3.000	5.210	

CHAINAGE 620

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

FINISHED	1635.853	1635.873	1635.933	1635.995	1635.691	
GROUND	1635.853	1635.782	1635.879	1635.916	1635.691	
OFFSET	-4.715	-3.000	0.000	3.000	5.446	

CHAINAGE 600

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

FINISHED	1635.794	1635.723	1635.783	1635.841	1635.648	
GROUND	1635.794	1635.669	1635.763	1635.841	1635.648	
OFFSET	-4.823	-3.000	0.000	3.000	5.286	

CHAINAGE 580

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

FINISHED	1635.921	1635.574	1635.634	1635.694	1635.706	
GROUND	1635.921	1635.578	1635.649	1635.710	1635.706	
OFFSET	-5.235	-3.000	0.000	3.000	4.976	

CHAINAGE 560

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

FINISHED	1635.150	1635.401	1635.461	1635.521	1635.602	
GROUND	1635.150	1635.350	1635.505	1635.547	1635.602	
OFFSET	-5.839	-3.000	0.000	3.000	4.874	

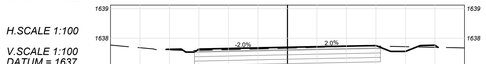
CHAINAGE 820

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1637

FINISHED	1637.917	1637.944	1638.004	1638.064	1637.999	
GROUND	1637.917	1637.902	1638.005	1638.069	1637.998	
OFFSET	-4.125	-3.000	0.000	3.000	5.114	

CHAINAGE 800

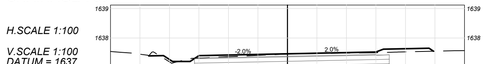
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1637



FINISHED	1637.615	1637.631	1637.691	1637.751	1637.689	
GROUND	1637.615	1637.588	1637.693	1637.731	1637.689	
OFFSET	-4.109	-3.000	0.000	3.000	5.109	

CHAINAGE 780

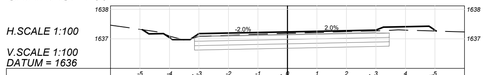
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1637



FINISHED	1637.395	1637.404	1637.464	1637.524	1637.553	
GROUND	1637.395	1637.322	1637.459	1637.501	1637.553	
OFFSET	-4.702	-3.000	0.000	3.000	4.951	

CHAINAGE 760

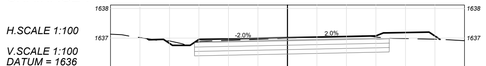
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636



FINISHED	1637.316	1637.177	1637.237	1637.297	1637.264	
GROUND	1637.311	1637.081	1637.187	1637.273	1637.264	
OFFSET	-4.916	-3.000	0.000	3.000	5.043	

CHAINAGE 740

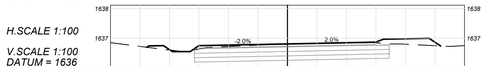
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636



FINISHED	1636.977	1636.952	1637.012	1637.072	1636.959	
GROUND	1636.977	1636.876	1636.993	1637.032	1636.955	
OFFSET	-4.752	-3.000	0.000	3.000	5.170	

CHAINAGE 720

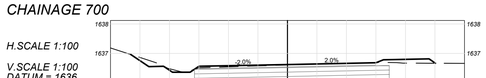
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636



FINISHED	1636.693	1636.748	1636.808	1636.868	1636.737	
GROUND	1636.693	1636.636	1636.809	1636.844	1636.737	
OFFSET	-4.768	-3.000	0.000	3.000	5.191	

CHAINAGE 700

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636



FINISHED	1636.965	1636.564	1636.624	1636.684	1636.668	
GROUND	1636.965	1636.513	1636.613	1636.689	1636.668	
OFFSET	-5.316	-3.000	0.000	3.000	5.018	

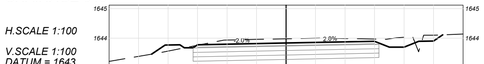
CHAINAGE 960

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1643

FINISHED	1643.818	1643.924	1643.984	1644.044	1643.989	
GROUND	1643.818	1643.980	1643.934	1643.781	1643.989	
OFFSET	-4.244	-3.000	0.000	3.000	5.097	

CHAINAGE 940

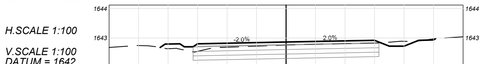
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1643



FINISHED	1643.459	1643.775	1643.835	1643.895	1644.113	
GROUND	1643.459	1643.759	1643.980	1643.969	1644.113	
OFFSET	-4.559	-3.000	0.000	3.000	5.312	

CHAINAGE 920

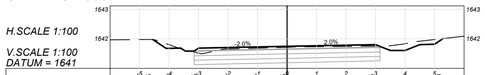
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1642



FINISHED	1642.681	1642.803	1642.863	1642.923	1642.990	
GROUND	1642.681	1642.647	1642.759	1642.832	1642.990	
OFFSET	-4.267	-3.000	0.000	3.000	5.071	

CHAINAGE 900

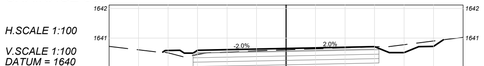
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1641



FINISHED	1641.975	1641.685	1641.745	1641.805	1642.010	
GROUND	1641.975	1641.518	1641.715	1641.758	1642.009	
OFFSET	-4.550	-3.000	0.000	3.000	5.291	

CHAINAGE 880

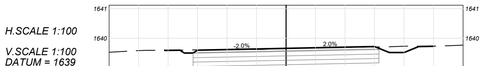
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1640



FINISHED	1640.525	1640.582	1640.647	1640.708	1640.941	
GROUND	1640.525	1640.443	1640.604	1640.702	1640.941	
OFFSET	-4.179	-3.000	0.000	3.000	5.335	

CHAINAGE 860

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1639



FINISHED	1639.594	1639.667	1639.657	1639.717	1639.732	
GROUND	1639.594	1639.605	1639.654	1639.703	1639.732	
OFFSET	-4.112	-3.000	0.000	3.000	5.008	

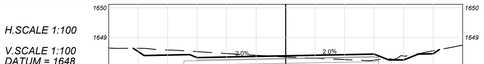
CHAINAGE 840

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1638

FINISHED	1638.584	1638.704	1638.765	1638.825	1638.756	
GROUND	1638.584	1638.610	1638.748	1638.792	1638.756	
OFFSET	-4.265	-3.000	0.000	3.000	5.118	

CHAINAGE 1100

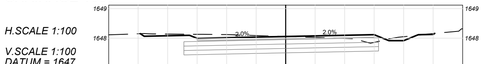
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1648



FINISHED	1648.629	1648.315	1648.375	1648.433	1648.584	
GROUND	1648.629	1648.517	1648.337	1648.227	1648.584	
OFFSET	-5.168	-3.000	0.000	3.000	5.211	

CHAINAGE 1080

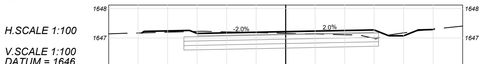
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1647



FINISHED	1648.153	1647.996	1648.056	1648.116	1648.162	
GROUND	1648.153	1648.133	1648.057	1647.857	1648.162	
OFFSET	-4.929	-3.000	0.000	3.000	5.054	

CHAINAGE 1060

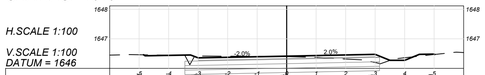
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1646



FINISHED	1647.174	1647.155	1647.215	1647.275	1647.304	
GROUND	1647.174	1647.223	1647.159	1646.986	1647.304	
OFFSET	-4.875	-3.000	0.000	3.000	5.029	

CHAINAGE 1040

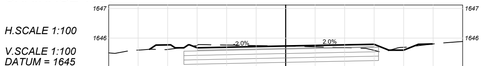
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1646



FINISHED	1646.469	1646.364	1646.414	1646.474	1646.470	
GROUND	1646.460	1646.418	1646.398	1646.198	1646.470	
OFFSET	-4.853	-3.000	0.000	3.000	5.021	

CHAINAGE 1020

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1645



FINISHED	1645.620	1645.698	1645.728	1645.788	1645.802	
GROUND	1645.620	1645.751	1645.727	1645.584	1645.801	
OFFSET	-4.608	-3.000	0.000	3.000	5.083	

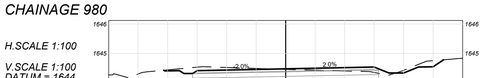
CHAINAGE 1000

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1644

FINISHED	1645.075	1645.043	1645.104	1645.164	1645.016	
GROUND	1645.075	1645.151	1645.097	1644.969	1645.016	
OFFSET	-4.162	-3.000	0.000	3.000	5.237	

CHAINAGE 980

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1644



FINISHED	1644.429	1644.416	1644.476	1644.538	1644.785	
GROUND	1644.429	1644.535	1644.461	1644.355	1644.785	
OFFSET	-4.133	-3.000	0.000	3.000	5.357	

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PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 2 - DETAILED CROSS SECTIONS

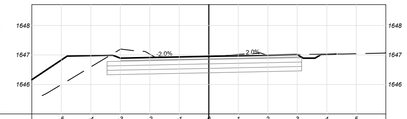
PROJECT STATUS: **TENDER**

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	2 OF 3	0	A1

DWG NO P1027-BE-CIV-RD-CS02

CHAINAGE 1176

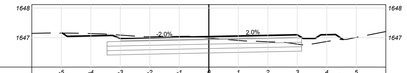
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1645



FINISHED	1645.159	-5	1646.896	-4	-3	-2	-1	0	1	2	3	1647.010	4	1647.029	5
GROUND	0.000		1647.192					1646.950				1647.010		1647.029	
OFFSET	-8.000		-3.000					0.000				3.000		4.314	

CHAINAGE 1160

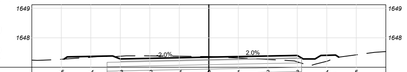
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1646



FINISHED	1547.153	-5	1546.974	-4	-3	-2	-1	0	1	2	3	1547.094	4	1546.938	5
GROUND	1547.153		1547.085					1546.988				1546.762		1546.938	
OFFSET	-4.962		-3.000					0.000				3.000		4.549	

CHAINAGE 1140

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1647



FINISHED	1647.289	-5	1647.299	-4	-3	-2	-1	0	1	2	3	1647.404	4	1647.344	5
GROUND	1647.280		1647.377					1647.365				1647.185		1647.344	
OFFSET	-4.910		-3.000					0.000				3.000		4.405	

CHAINAGE 1120

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1647

FINISHED	1648.281	-5	1647.898	-4	-3	-2	-1	0	1	2	3	1648.006	4	1647.855	5
GROUND	1648.281		1648.001					1647.971				1647.828		1647.855	
OFFSET	-5.283		-3.000					0.000				3.000		4.545	

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PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
ROAD 2 - DETAILED CROSS SECTIONS

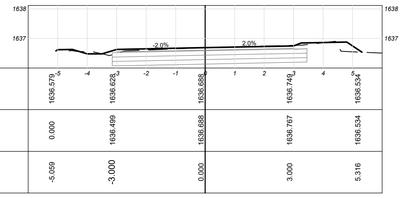
PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	3 OF 3	0	A1

DWG NO
P1027-BE-CIV-RD-CS02

CHAINAGE 100

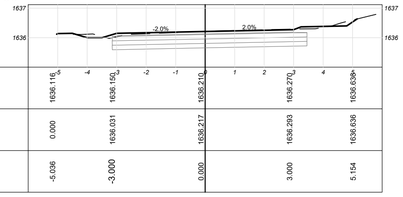
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1636.579		1636.628			1636.688			1636.749		1636.534
GROUND	0.000		1636.499			1636.688			1636.767		1636.534
OFFSET	-5.569		-3.000			0.000			3.000		5.316

CHAINAGE 80

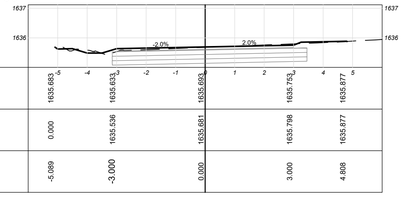
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1636.116		1636.156			1636.210			1636.270		1636.636
GROUND	0.000		1636.031			1636.217			1636.393		1636.636
OFFSET	-5.036		-3.000			0.000			3.000		5.154

CHAINAGE 60

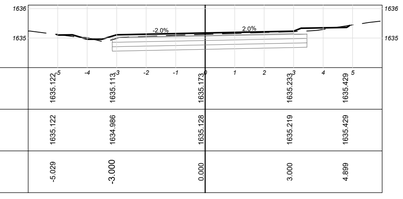
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1635.683		1635.633			1635.693			1635.753		1635.877
GROUND	0.000		1635.536			1635.681			1635.798		1635.877
OFFSET	-5.089		-3.000			0.000			3.000		4.808

CHAINAGE 40

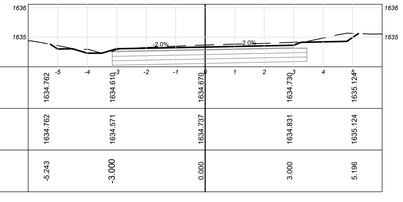
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1635.122		1635.113			1635.173			1635.233		1635.429
GROUND	1635.122		1634.986			1635.128			1635.219		1635.429
OFFSET	-5.029		-3.000			0.000			3.000		4.899

CHAINAGE 20

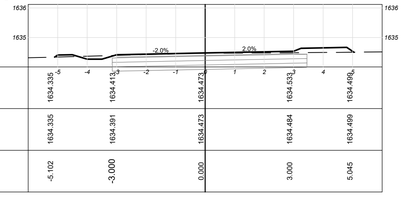
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1634.762		1634.610			1634.670			1634.730		1635.124
GROUND	1634.762		1634.571			1634.737			1634.831		1635.124
OFFSET	-5.243		-3.000			0.000			3.000		5.196

CHAINAGE 0

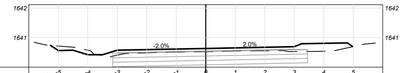
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1634.335		1634.413			1634.473			1634.533		1634.489
GROUND	1634.335		1634.391			1634.473			1634.484		1634.489
OFFSET	-5.102		-3.000			0.000			3.000		5.045

CHAINAGE 220

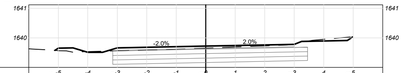
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1640



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1640.738		1640.573			1640.633			1640.693		1640.695
GROUND	1640.738		1640.408			1640.522			1640.528		1640.695
OFFSET	-5.262		-3.000			0.000			3.000		4.991

CHAINAGE 200

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1639



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1639.574		1639.605			1639.718			1639.779		1640.028
GROUND	1639.574		1639.560			1639.651			1639.794		0.000
OFFSET	-5.113		-3.000			0.000			3.000		4.977

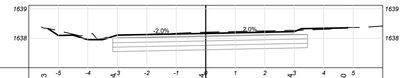
CHAINAGE 180

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1638

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1638.971		1638.810			1638.870			1638.931		1639.138
GROUND	1638.971		1638.770			1638.843			1638.979		0.000
OFFSET	-5.256		-3.000			0.000			3.000		4.916

CHAINAGE 160

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1637

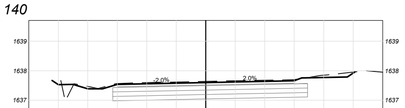


	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1638.323		1638.104			1638.164			1638.224		1638.360
GROUND	1638.323		1638.098			1638.205			1638.264		1638.360
OFFSET	-5.345		-3.000			0.000			3.000		4.809

CHAINAGE 140

H.SCALE 1:100
V.SCALE 1:100

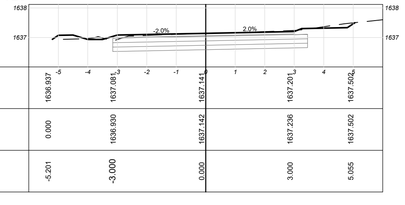
DATUM = 1636



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1637.669		1637.538			1637.598			1637.658		1637.960
GROUND	0.000		1637.567			1637.640			1637.700		1637.960
OFFSET	-5.210		-3.000			0.000			3.000		5.055

CHAINAGE 120

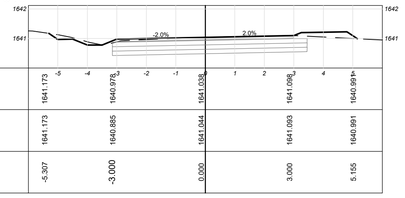
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1636



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1636.937		1637.081			1637.141			1637.201		1637.502
GROUND	0.000		1636.930			1637.142			1637.238		1637.502
OFFSET	-5.201		-3.000			0.000			3.000		5.055

CHAINAGE 340

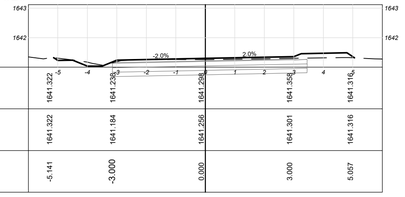
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1640



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1641.173		1640.978			1641.038			1641.098		1640.991
GROUND	1641.173		1640.885			1641.044			1641.093		1640.991
OFFSET	-5.307		-3.000			0.000			3.000		5.155

CHAINAGE 320

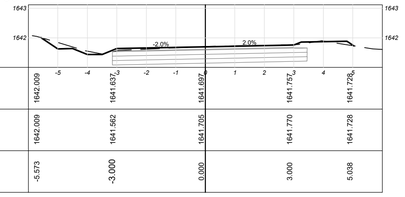
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1641



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1641.322		1641.238			1641.298			1641.358		1641.316
GROUND	1641.322		1641.184			1641.256			1641.301		1641.316
OFFSET	-5.141		-3.000			0.000			3.000		5.057

CHAINAGE 300

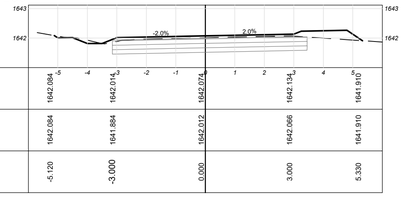
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1641



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1642.009		1641.637			1641.697			1641.757		1641.728
GROUND	1642.009		1641.562			1641.705			1641.770		1641.728
OFFSET	-5.573		-3.000			0.000			3.000		5.038

CHAINAGE 280

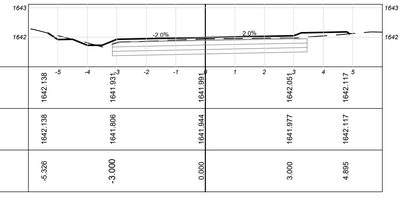
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1641



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1642.084		1642.014			1642.074			1642.134		1641.910
GROUND	1642.084		1641.884			1642.012			1642.066		1641.910
OFFSET	-5.120		-3.000			0.000			3.000		5.330

CHAINAGE 260

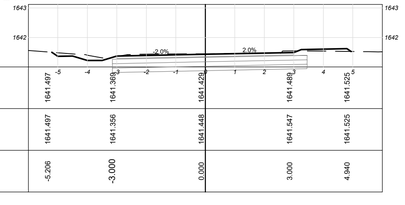
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1641



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1642.138		1641.931			1641.991			1642.051		1642.117
GROUND	1642.138		1641.806			1641.944			1641.977		1642.117
OFFSET	-5.326		-3.000			0.000			3.000		4.895

CHAINAGE 240

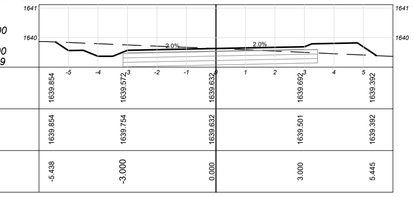
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1641



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1641.497		1641.369			1641.429			1641.489		1641.525
GROUND	1641.497		1641.356			1641.448			1641.547		1641.525
OFFSET	-5.206		-3.000			0.000			3.000		4.940

CHAINAGE 425

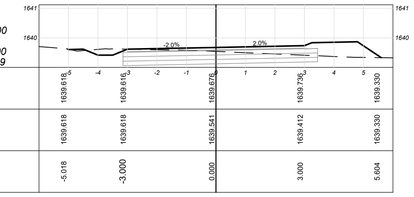
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1639



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1639.654		1639.572			1639.632			1639.692		1639.392
GROUND	1639.654		1639.754			1639.632			1639.501		1639.392
OFFSET	-5.438		-3.000			0.000			3.000		5.445

CHAINAGE 420

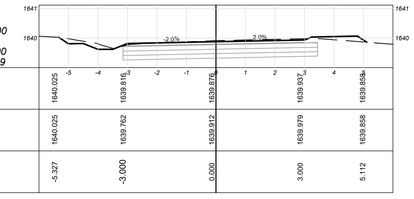
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1639



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1639.618		1639.616			1639.676			1639.736		1639.330
GROUND	1639.618		1639.618			1639.541			1639.412		1639.330
OFFSET	-5.018		-3.000			0.000			3.000		5.604

CHAINAGE 400

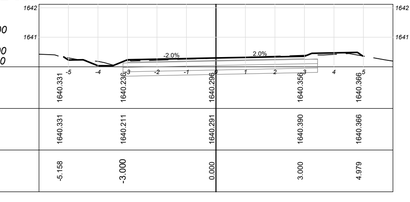
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1639



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1640.025		1639.816			1639.876			1639.937		1639.658
GROUND	1640.025		1639.762			1639.912			1639.979		1639.658
OFFSET	-5.327		-3.000			0.000			3.000		5.112

CHAINAGE 380

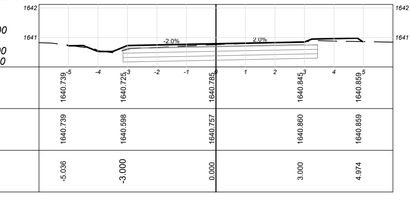
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1640



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1640.331		1640.236			1640.296			1640.356		1640.366
GROUND	1640.331		1640.211			1640.291			1640.380		1640.366
OFFSET	-5.158		-3.000			0.000			3.000		4.979

CHAINAGE 360

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1640



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1640.739		1640.723			1640.785			1640.845		1640.859
GROUND	1640.739		1640.598			1640.757			1640.860		1640.859
OFFSET	-5.036		-3.000			0.000			3.000		4.974

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PROFESSIONAL ENGINEER: L. MARAH

PROF. Reg.No: 920281

DATE: 2024-03-25

SIGNATURE:

DESIGN BY: T. TSHABALALA

DRAWN BY: B. MVUKUZO

CHECKED BY: L. MARAH

APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 3 - DETAILED CROSS SECTIONS

PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO P1027-BE-CIV-RD-CS03

CHAINAGE 100

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1635.835	1635.937				1635.997			1635.937	1636.007	
GROUND	1635.835	1635.851				1635.972			1635.817	1636.007	
OFFSET	-4.238	-3.000				0.000			3.000	4.220	

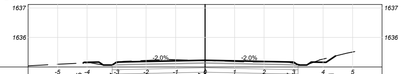
CHAINAGE 80

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1635.719	1635.745				1635.805			1635.745	1636.059	
GROUND	1635.719	1635.680				1635.874			1635.731	1636.059	
OFFSET	-4.123	-3.000				0.000			3.000	4.586	

CHAINAGE 60

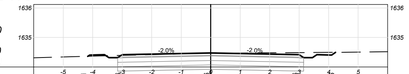
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1635.135	1635.167				1635.227			1635.167	1635.371	
GROUND	1635.135	1635.137				1635.216			1635.125	1635.371	
OFFSET	-4.134	-3.000				0.000			3.000	4.422	

CHAINAGE 175

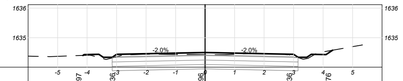
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1634.361	1634.416				1634.476			1634.416	1634.496	
GROUND	1634.361	1634.393				1634.476			1634.487	1634.496	
OFFSET	-4.167	-3.000				0.000			3.000	4.235	

CHAINAGE 40

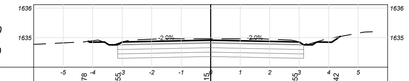
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1634.397	1634.436				1634.496			1634.436	1634.576	
GROUND	1634.397	1634.356				1634.426			1634.373	1634.576	
OFFSET	-4.143	-3.000				0.000			3.000	4.325	

CHAINAGE 160

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1634.878	1634.855				1634.915			1634.855	1635.042	
GROUND	1634.878	1634.852				1634.964			1634.857	1635.042	
OFFSET	-4.148	-3.000				0.000			3.000	4.395	

CHAINAGE 20

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1633.508	1633.566				1633.626			1633.566	1633.517	
GROUND	1633.508	1633.519				1633.616			1633.480	1633.517	
OFFSET	-4.172	-3.000				0.000			3.000	4.158	

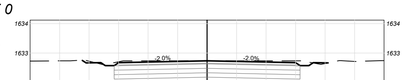
CHAINAGE 140

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1635.204	1635.328				1635.388			1635.328	1635.349	
GROUND	1635.204	1635.215				1635.347			1635.275	1635.349	
OFFSET	-4.271	-3.000				0.000			3.000	4.147	

CHAINAGE 0

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1632.752	1632.676				1632.736			1632.676	1632.666	
GROUND	1632.752	1632.705				1632.736			1632.735	1632.666	
OFFSET	-4.229	-3.000				0.000			3.000	4.101	

CHAINAGE 120

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1635.592	1635.669				1635.729			1635.669	1635.629	
GROUND	1635.592	1635.610				1635.743			1635.538	1635.625	
OFFSET	-4.201	-3.000				0.000			3.000	4.151	

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PROFESSIONAL ENGINEER: L. MARAH

PROF. Reg.No: 920281

DATE: 2024-03-25

SIGNATURE:

DESIGN BY: T. TSHABALALA

DRAWN BY: B. MVUKUZO

CHECKED BY: L. MARAH

APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 4 - DETAILED CROSS SECTIONS

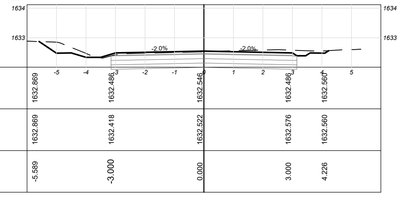
PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO P1027-BE-CIV-RD-CS04

CHAINAGE 120

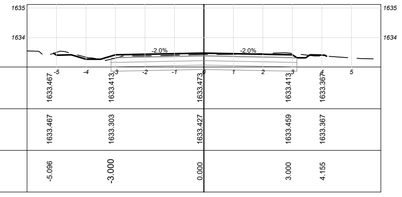
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



FINISHED	1632.869	-5	-4	1632.486	-3	-2	-1	1632.548	1	2	1632.486	3	4	1632.560	5
GROUND	1632.869			1632.418				1632.522			1632.576			1632.560	
OFFSET	-5.599			-3.000				0.000			3.000			4.226	

CHAINAGE 100

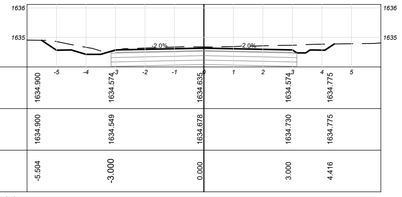
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.467	-5	-4	1633.413	-3	-2	-1	1633.473	1	2	1633.413	3	4	1633.367	5
GROUND	1633.467			1633.303				1633.427			1633.459			1633.367	
OFFSET	-5.096			-3.000				0.000			3.000			4.155	

CHAINAGE 80

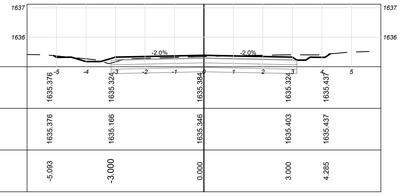
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



FINISHED	1634.900	-5	-4	1634.574	-3	-2	-1	1634.635	1	2	1634.574	3	4	1634.775	5
GROUND	1634.900			1634.549				1634.678			1634.730			1634.775	
OFFSET	-5.504			-3.000				0.000			3.000			4.416	

CHAINAGE 60

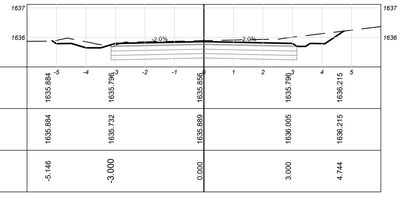
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



FINISHED	1635.376	-5	-4	1635.324	-3	-2	-1	1635.384	1	2	1635.324	3	4	1635.437	5
GROUND	1635.376			1635.166				1635.346			1635.403			1635.437	
OFFSET	-5.093			-3.000				0.000			3.000			4.285	

CHAINAGE 40

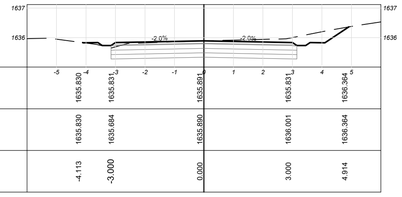
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



FINISHED	1635.684	-5	-4	1635.796	-3	-2	-1	1635.856	1	2	1635.796	3	4	1636.215	5
GROUND	1635.684			1635.732				1635.889			1636.005			1636.215	
OFFSET	-5.146			-3.000				0.000			3.000			4.744	

CHAINAGE 20

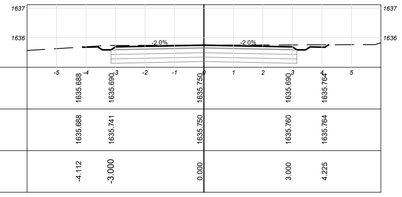
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



FINISHED	1635.630	-5	-4	1635.831	-3	-2	-1	1635.891	1	2	1635.831	3	4	1636.364	5
GROUND	1635.630			1635.684				1635.899			1636.001			1636.364	
OFFSET	-4.113			-3.000				0.000			3.000			4.914	

CHAINAGE 0

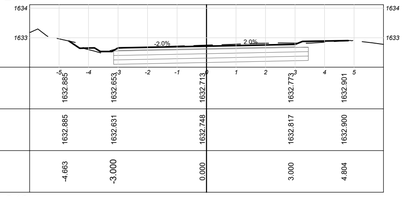
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



FINISHED	1635.688	-5	-4	1635.690	-3	-2	-1	1635.750	1	2	1635.690	3	4	1635.764	5
GROUND	1635.688			1635.741				1635.750			1635.760			1635.764	
OFFSET	-4.112			-3.000				0.000			3.000			4.225	

CHAINAGE 260

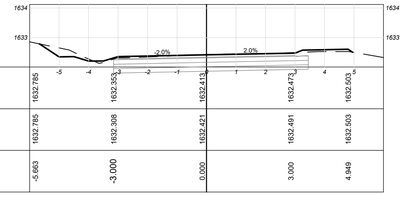
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



FINISHED	1632.865	-5	-4	1632.653	-3	-2	-1	1632.713	1	2	1632.773	3	4	1632.901	5
GROUND	1632.865			1632.631				1632.748			1632.817			1632.900	
OFFSET	-4.663			-3.000				0.000			3.000			4.804	

CHAINAGE 240

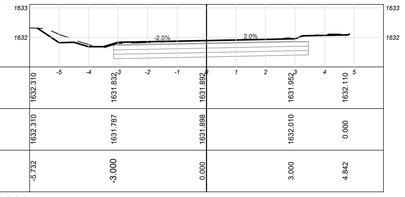
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



FINISHED	1632.785	-5	-4	1632.353	-3	-2	-1	1632.413	1	2	1632.473	3	4	1632.503	5
GROUND	1632.785			1632.308				1632.421			1632.491			1632.503	
OFFSET	-5.663			-3.000				0.000			3.000			4.949	

CHAINAGE 220

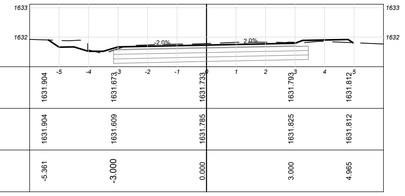
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1633.310	-5	-4	1631.832	-3	-2	-1	1631.892	1	2	1631.952	3	4	1632.110	5
GROUND	1633.310			1631.787				1631.888			1632.010			0.000	
OFFSET	-5.732			-3.000				0.000			3.000			4.842	

CHAINAGE 200

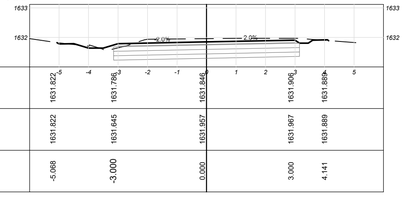
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1631.904	-5	-4	1631.673	-3	-2	-1	1631.733	1	2	1631.793	3	4	1631.812	5
GROUND	1631.904			1631.609				1631.785			1631.825			1631.812	
OFFSET	-5.361			-3.000				0.000			3.000			4.965	

CHAINAGE 180

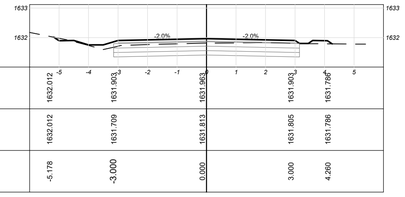
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1631.822	-5	-4	1631.786	-3	-2	-1	1631.846	1	2	1631.906	3	4	1631.889	5
GROUND	1631.822			1631.645				1631.857			1631.967			1631.889	
OFFSET	-5.088			-3.000				0.000			3.000			4.141	

CHAINAGE 160

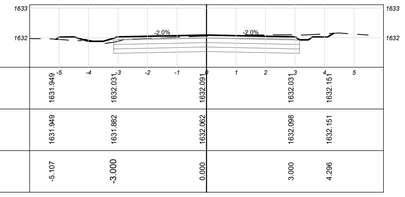
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1632.012	-5	-4	1631.903	-3	-2	-1	1631.963	1	2	1631.903	3	4	1631.788	5
GROUND	1632.012			1631.709				1631.813			1631.805			1631.766	
OFFSET	-5.178			-3.000				0.000			3.000			4.260	

CHAINAGE 140

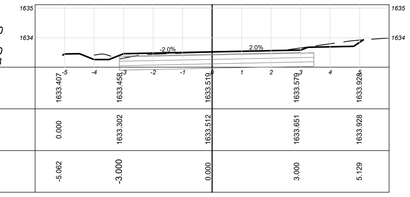
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1631.949	-5	-4	1632.031	-3	-2	-1	1632.091	1	2	1632.031	3	4	1632.151	5
GROUND	1631.949			1631.882				1632.002			1632.086			1632.151	
OFFSET	-5.107			-3.000				0.000			3.000			4.296	

CHAINAGE 400

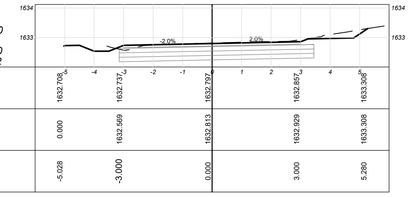
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1633.407	-5	-4	1633.458	-3	-2	-1	1633.518	1	2	1633.578	3	4	1633.928	5
GROUND	0.000			1633.302				1633.512			1633.651			1633.928	
OFFSET	-5.062			-3.000				0.000			3.000			5.129	

CHAINAGE 380

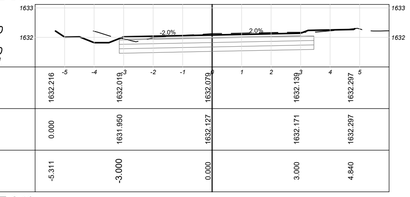
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



FINISHED	1632.705	-5	-4	1632.737	-3	-2	-1	1632.797	1	2	1632.857	3	4	1633.308	5
GROUND	0.000			1632.569				1632.813			1632.929			1633.308	
OFFSET	-5.028			-3.000				0.000			3.000			5.280	

CHAINAGE 360

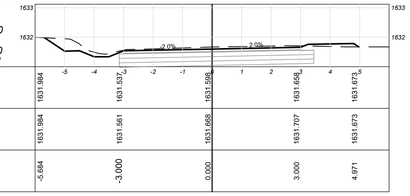
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1632.216	-5	-4	1632.018	-3	-2	-1	1632.078	1	2	1632.138	3	4	1632.297	5
GROUND	0.000			1631.950				1632.077			1632.171			1632.297	
OFFSET	-5.311			-3.000				0.000			3.000			4.840	

CHAINAGE 340

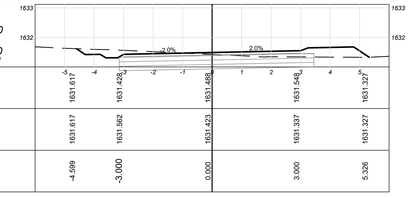
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1631.964	-5	-4	1631.537	-3	-2	-1	1631.598	1	2	1631.658	3	4	1631.673	5
GROUND	1631.964			1631.561				1631.668			1631.707			1631.673	
OFFSET	-5.684			-3.000				0.000			3.000			4.971	

CHAINAGE 320

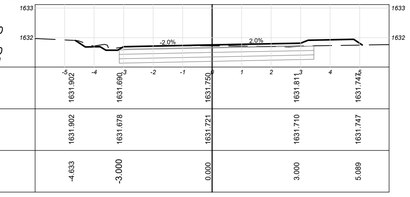
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1631.617	-5	-4	1631.428	-3	-2	-1	1631.488	1	2	1631.548	3	4	1631.327	5
GROUND	1631.617			1631.562				1631.473			1631.337			1631.327	
OFFSET	-4.599			-3.000				0.000			3.000			5.326	

CHAINAGE 300

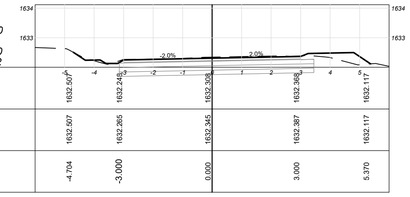
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



FINISHED	1631.902	-5	-4	1631.690	-3	-2	-1	1631.750	1	2	1631.811	3	4	1631.748	5
GROUND	1631.902			1631.678				1631.721			1631.710			1631.747	
OFFSET	-4.633			-3.000				0.000			3.000			5.089	

CHAINAGE 280

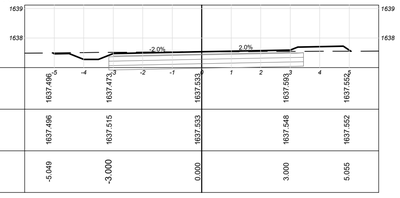
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



FINISHED	1632.507	-5	-4	1632.245	-3	-2	-1	1632.305	1	2	1632.365	3	4	1632.117	5
GROUND	1632.507			1632.265				1632.345			1632.387			1632.117	
OFFSET	-4.704			-3.000				0.000			3.000			5.370	

CHAINAGE 482

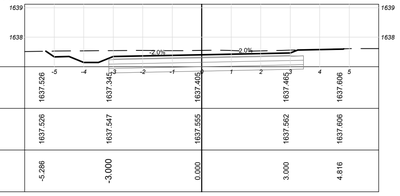
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1637



FINISHED	1637.496	-5	-4	1637.473	-3	-2	-1	1637.533	1	2	1637.593	3	4	1637.552	5
GROUND	1637.496			1637.515				1637.533			1637.548			1637.552	
OFFSET	-5.049			-3.000				0.000			3.000			5.055	

CHAINAGE 480

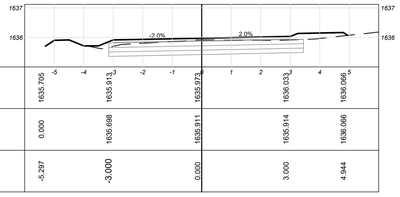
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1637



FINISHED	1637.326	-5	-4	1637.345	-3	-2	-1	1637.405	1	2	1637.465	3	4	1637.606	5
GROUND	1637.326			1637.547				1637.555			1637.562			1637.606	
OFFSET	-5.286			-3.000				0.000			3.000			4.816	

CHAINAGE 460

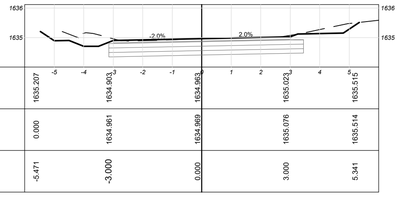
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1635



FINISHED	1635.705	-5	-4	1635.913	-3	-2	-1	1635.973	1	2	1636.033	3	4	1636.066	5
GROUND	0.000			1635.698				1635.911			1635.914			1636.066	
OFFSET	-5.297			-3.000				0.000			3.000			4.944	

CHAINAGE 440

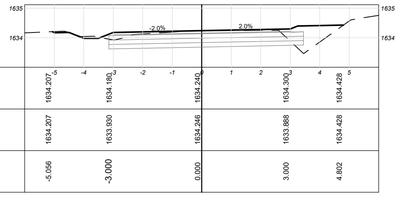
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1634



FINISHED	1635.207	-5	-4	1634.903	-3	-2	-1	1634.963	1	2	1635.023	3	4	1635.515	5
GROUND	0.000			1634.961				1634.989			1635.076			1635.514	
OFFSET	-5.471			-3.000				0.000			3.000			5.341	

CHAINAGE 420

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



FINISHED	1634.207	-5	-4	1634.180	-3	-2	-1	1634.240	1	2	1634.300	3	4	1634.428	5
GROUND	1634.207			1633.930				1634.248			1633.888			1634.428	
OFFSET	-5.056			-3.000				0.000			3.000			4.802	

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PROFESSIONAL ENGINEER: L. MARAH

PROF. Reg.No: 920281

DATE: 2024-03-25

SIGNATURE:

DESIGN BY: T. TSHABALALA

DRAWN BY: B. MVUKUZO

CHECKED BY: L. MARAH

APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 5 - DETAILED CROSS SECTIONS

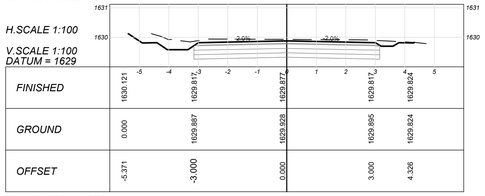
PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO P1027-BE-CIV-RD-CS05

CHAINAGE 120

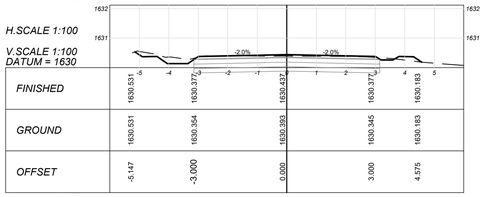
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1629



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1630.121		1629.917			1629.877		1629.917		1629.924
GROUND	0.000		1629.887			1629.928		1629.895		1629.924
OFFSET	-5.371		-3.000			0.000		3.000		4.326

CHAINAGE 100

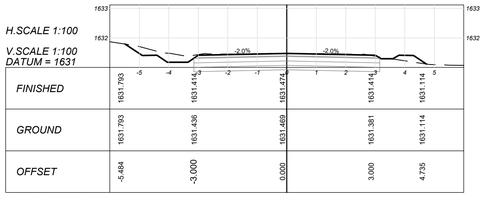
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1630



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1630.531		1630.377			1630.437		1630.377		1630.183
GROUND	1630.531		1630.354			1630.393		1630.345		1630.183
OFFSET	-5.147		-3.000			0.000		3.000		4.575

CHAINAGE 80

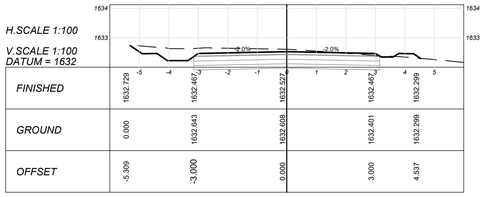
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1631.793		1631.414			1631.474		1631.414		1631.114
GROUND	1631.793		1631.436			1631.469		1631.381		1631.114
OFFSET	-5.484		-3.000			0.000		3.000		4.735

CHAINAGE 60

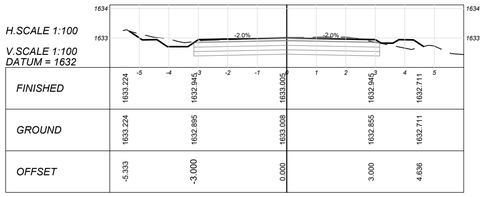
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1632.729		1632.467			1632.527		1632.467		1632.299
GROUND	0.000		1632.843			1632.608		1632.401		1632.299
OFFSET	-5.309		-3.000			0.000		3.000		4.537

CHAINAGE 40

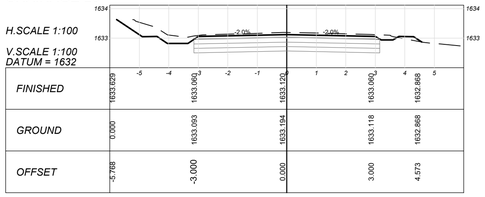
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.224		1632.945			1633.005		1632.945		1632.711
GROUND	1633.224		1632.895			1633.008		1632.855		1632.711
OFFSET	-5.333		-3.000			0.000		3.000		4.636

CHAINAGE 20

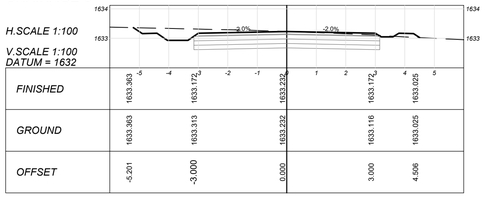
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.629		1633.090			1633.120		1633.090		1632.868
GROUND	0.000		1633.093			1633.194		1633.118		1632.868
OFFSET	-5.768		-3.000			0.000		3.000		4.573

CHAINAGE 0

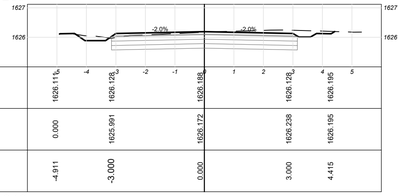
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1633.363		1633.172			1633.232		1633.172		1633.025
GROUND	1633.363		1633.313			1633.232		1633.116		1633.025
OFFSET	-5.201		-3.000			0.000		3.000		4.506

CHAINAGE 260

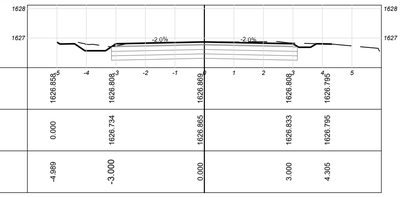
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1626.111		1626.128			1626.188		1626.128		1626.195
GROUND	0.000		1625.991			1626.172		1626.239		1626.195
OFFSET	-4.911		-3.000			0.000		3.000		4.415

CHAINAGE 240

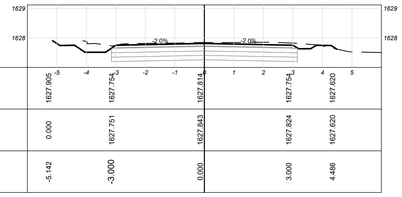
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1626



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1626.868		1626.808			1626.868		1626.808		1626.795
GROUND	0.000		1626.734			1626.865		1626.833		1626.795
OFFSET	-4.989		-3.000			0.000		3.000		4.305

CHAINAGE 220

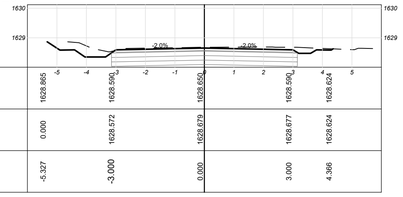
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1627



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1627.905		1627.754			1627.814		1627.754		1627.620
GROUND	0.000		1627.751			1627.843		1627.824		1627.620
OFFSET	-5.142		-3.000			0.000		3.000		4.486

CHAINAGE 200

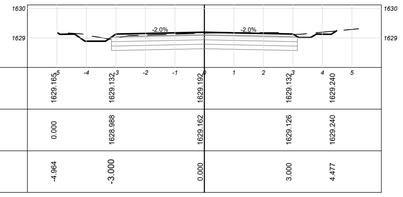
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1628



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1628.865		1628.590			1628.650		1628.590		1628.624
GROUND	0.000		1628.572			1628.679		1628.677		1628.624
OFFSET	-5.327		-3.000			0.000		3.000		4.366

CHAINAGE 180

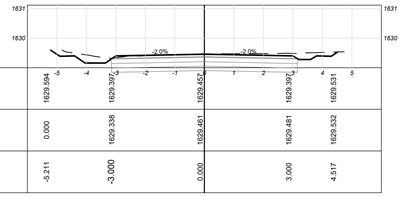
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1628



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1629.165		1629.132			1629.192		1629.132		1629.240
GROUND	0.000		1628.988			1629.162		1629.126		1629.240
OFFSET	-4.984		-3.000			0.000		3.000		4.477

CHAINAGE 160

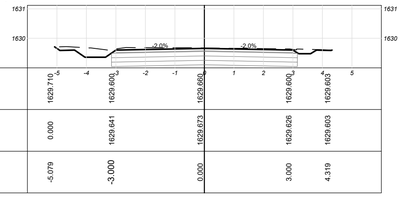
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1629



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1629.594		1629.397			1629.457		1629.397		1629.531
GROUND	0.000		1629.338			1629.461		1629.481		1629.532
OFFSET	-5.211		-3.000			0.000		3.000		4.517

CHAINAGE 140

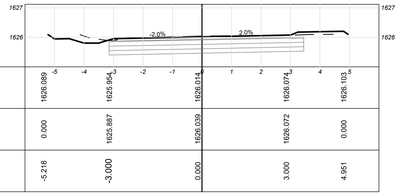
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1629



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1629.710		1629.600			1629.660		1629.600		1629.603
GROUND	0.000		1629.641			1629.673		1629.626		1629.603
OFFSET	-5.079		-3.000			0.000		3.000		4.319

CHAINAGE 400

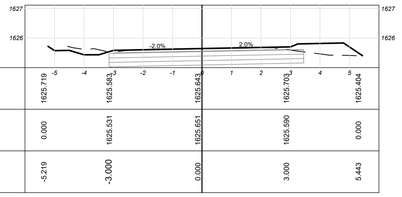
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1626.089		1625.954			1626.014		1626.074		1626.103
GROUND	0.000		1625.887			1626.039		1626.072		0.000
OFFSET	-5.218		-3.000			0.000		3.000		4.951

CHAINAGE 380

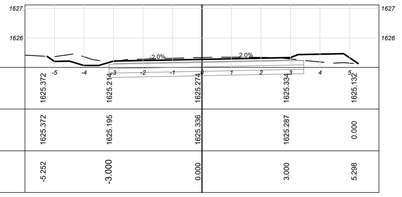
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1625.719		1625.583			1625.643		1625.703		1625.404
GROUND	0.000		1625.531			1625.651		1625.580		0.000
OFFSET	-5.219		-3.000			0.000		3.000		5.443

CHAINAGE 360

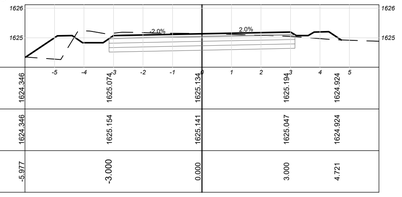
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1625.372		1625.214			1625.274		1625.334		1625.132
GROUND	1625.372		1625.195			1625.338		1625.287		0.000
OFFSET	-5.252		-3.000			0.000		3.000		5.298

CHAINAGE 340

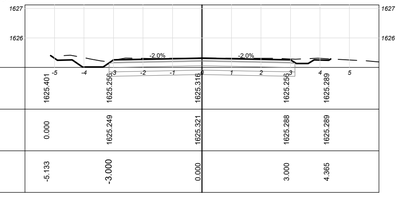
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1624



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1624.348		1625.074			1625.134		1625.194		1624.924
GROUND	1624.348		1625.154			1625.141		1625.047		1624.924
OFFSET	-5.977		-3.000			0.000		3.000		4.721

CHAINAGE 320

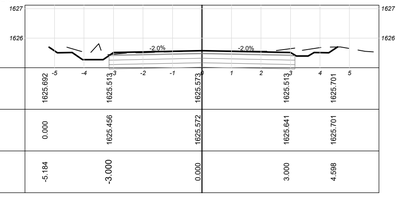
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1625.401		1625.259			1625.319		1625.259		1625.289
GROUND	0.000		1625.249			1625.321		1625.288		1625.289
OFFSET	-5.133		-3.000			0.000		3.000		4.365

CHAINAGE 300

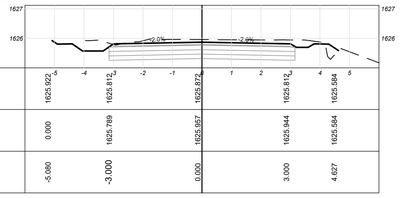
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1625.692		1625.513			1625.573		1625.513		1625.701
GROUND	0.000		1625.456			1625.572		1625.641		1625.701
OFFSET	-5.184		-3.000			0.000		3.000		4.598

CHAINAGE 280

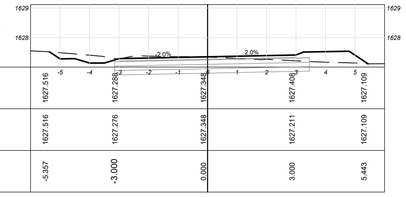
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1625.502		1625.812			1625.872		1625.812		1625.584
GROUND	0.000		1625.789			1625.957		1625.944		1625.584
OFFSET	-5.080		-3.000			0.000		3.000		4.627

CHAINAGE 487

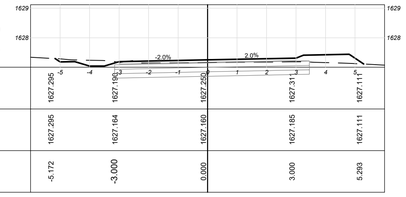
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1627



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1627.516		1627.276			1627.348		1627.408		1627.109
GROUND	1627.516		1627.276			1627.348		1627.411		1627.109
OFFSET	-5.357		-3.000			0.000		3.000		5.443

CHAINAGE 480

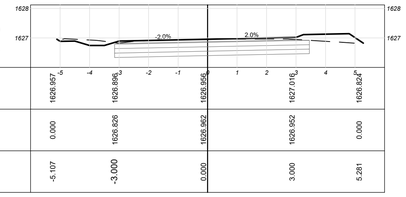
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1627



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1627.295		1627.195			1627.255		1627.31		1627.111
GROUND	1627.295		1627.164			1627.160		1627.183		1627.111
OFFSET	-5.172		-3.000			0.000		3.000		5.293

CHAINAGE 460

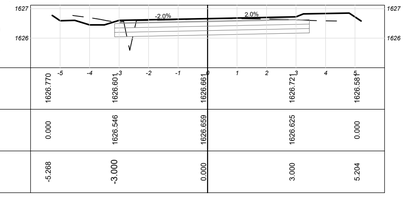
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1626



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1626.957		1626.896			1626.956		1627.016		1626.824
GROUND	0.000		1626.826			1626.962		1626.952		0.000
OFFSET	-5.107		-3.000			0.000		3.000		5.281

CHAINAGE 440

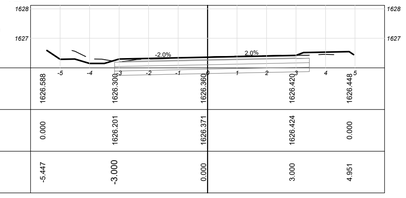
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1626.770		1626.601			1626.661		1626.721		1626.581
GROUND	0.000		1626.546			1626.659		1626.625		0.000
OFFSET	-5.268		-3.000			0.000		3.000		5.204

CHAINAGE 420

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1626



	-5	-4	-3	-2	-1	1	2	3	4	5
FINISHED	1626.588		1626.308			1626.368		1626.428		1626.448
GROUND	0.000		1626.201			1626.371		1626.424		0.000
OFFSET	-5.447		-3.000			0.000		3.000		4.951

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PROFESSIONAL ENGINEER:
L. MARAH

PROF. Reg.No:
920281

DATE:
2024-03-25

SIGNATURE:

DESIGN BY:
T. TSHABALALA

DRAWN BY:
B. MVUKUZO

CHECKED BY:
L. MARAH

APPROVED BY:
L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 6 - DETAILED CROSS SECTIONS

PROJECT STATUS:

TENDER

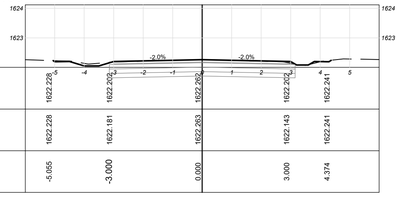
DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO

P1027-BE-CIV-RD-CS06

CHAINAGE 100

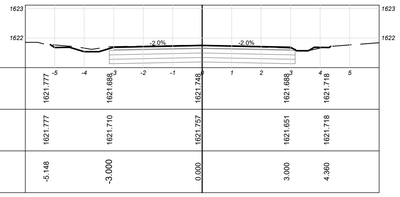
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1622



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1622.228		1622.203			1622.202			1622.202	1622.241	
GROUND	1622.228		1622.181			1622.263			1622.143	1622.241	
OFFSET	-5.055		-3.000			0.000			3.000	4.374	

CHAINAGE 80

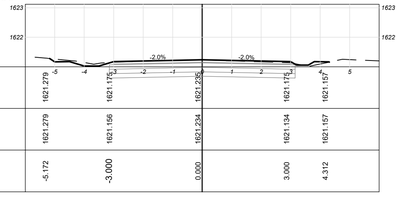
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1621



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1621.777		1621.688			1621.748			1621.688	1621.718	
GROUND	1621.777		1621.710			1621.757			1621.651	1621.718	
OFFSET	-5.148		-3.000			0.000			3.000	4.360	

CHAINAGE 60

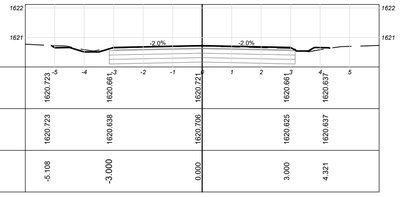
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1621



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1621.279		1621.175			1621.235			1621.175	1621.157	
GROUND	1621.279		1621.156			1621.234			1621.134	1621.157	
OFFSET	-5.172		-3.000			0.000			3.000	4.312	

CHAINAGE 40

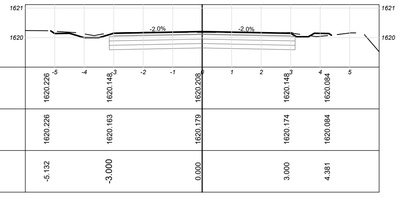
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1620



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1620.723		1620.661			1620.721			1620.661	1620.637	
GROUND	1620.723		1620.638			1620.706			1620.625	1620.637	
OFFSET	-5.108		-3.000			0.000			3.000	4.321	

CHAINAGE 20

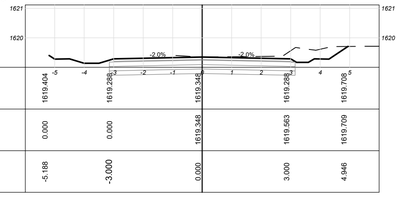
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1619



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1620.226		1620.148			1620.208			1620.148	1620.084	
GROUND	1620.226		1620.163			1620.179			1620.174	1620.084	
OFFSET	-5.132		-3.000			0.000			3.000	4.381	

CHAINAGE 0

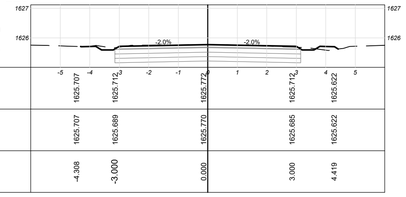
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1619



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1619.404		1619.288			1619.348			1619.288	1619.708	
GROUND	0.000		0.000			1619.348			1619.563	1619.709	
OFFSET	-5.188		-3.000			0.000			3.000	4.946	

CHAINAGE 220

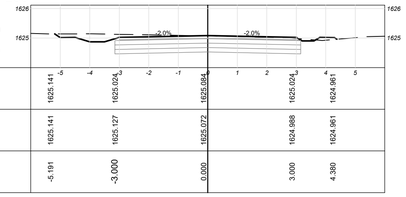
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1625



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1625.707		1625.712			1625.772			1625.712	1625.622	
GROUND	1625.707		1625.689			1625.770			1626.685	1625.622	
OFFSET	-4.308		-3.000			0.000			3.000	4.419	

CHAINAGE 200

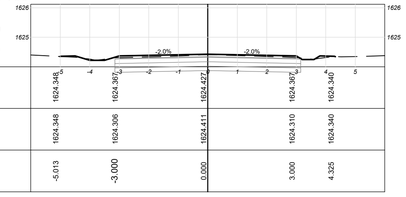
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1624



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1625.141		1625.024			1625.084			1625.024	1624.961	
GROUND	1625.141		1625.127			1625.072			1624.988	1624.961	
OFFSET	-5.191		-3.000			0.000			3.000	4.380	

CHAINAGE 180

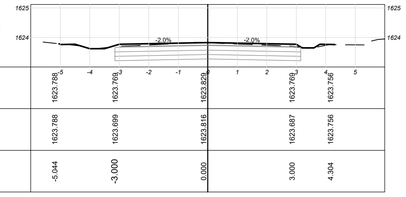
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1624



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1624.348		1624.367			1624.427			1624.367	1624.340	
GROUND	1624.348		1624.306			1624.411			1624.310	1624.340	
OFFSET	-5.013		-3.000			0.000			3.000	4.325	

CHAINAGE 160

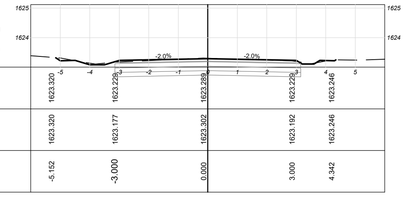
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1623



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1623.788		1623.769			1623.829			1623.769	1623.756	
GROUND	1623.788		1623.699			1623.816			1623.687	1623.756	
OFFSET	-5.044		-3.000			0.000			3.000	4.304	

CHAINAGE 140

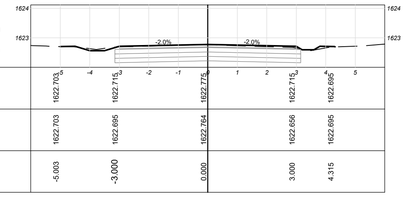
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1623



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1623.320		1623.223			1623.289			1623.223	1623.246	
GROUND	1623.320		1623.177			1623.302			1623.192	1623.246	
OFFSET	-5.152		-3.000			0.000			3.000	4.342	

CHAINAGE 120

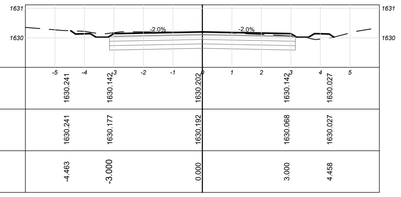
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1622



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1622.703		1622.715			1622.775			1622.715	1622.695	
GROUND	1622.703		1622.695			1622.764			1622.656	1622.695	
OFFSET	-5.093		-3.000			0.000			3.000	4.315	

CHAINAGE 340

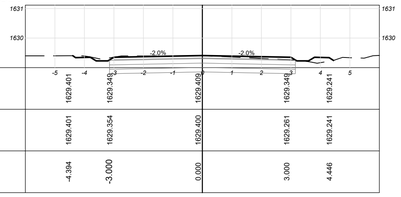
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1629



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1630.241		1630.142			1630.202			1630.142	1630.027	
GROUND	1630.241		1630.177			1630.192			1630.068	1630.027	
OFFSET	-4.463		-3.000			0.000			3.000	4.458	

CHAINAGE 320

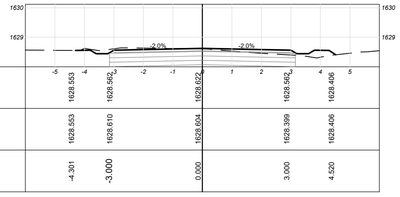
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1629



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1629.401		1629.346			1629.409			1629.346	1629.241	
GROUND	1629.401		1629.354			1629.400			1629.261	1629.241	
OFFSET	-4.394		-3.000			0.000			3.000	4.446	

CHAINAGE 300

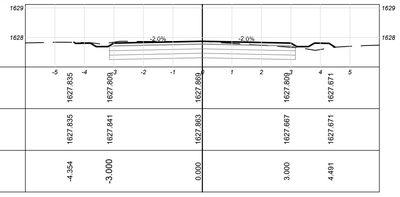
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1628



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1628.553		1628.582			1628.622			1628.582	1628.406	
GROUND	1628.553		1628.610			1628.604			1628.399	1628.406	
OFFSET	-4.301		-3.000			0.000			3.000	4.520	

CHAINAGE 280

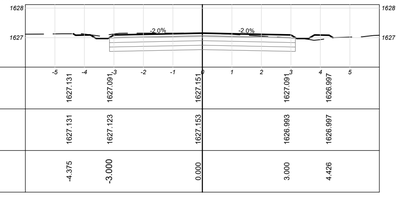
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1627



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1627.835		1627.808			1627.869			1627.808	1627.671	
GROUND	1627.835		1627.841			1627.863			1627.667	1627.671	
OFFSET	-4.354		-3.000			0.000			3.000	4.491	

CHAINAGE 260

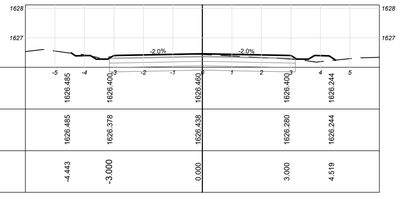
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1626



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1627.131		1627.091			1627.151			1627.091	1626.997	
GROUND	1627.131		1627.123			1627.153			1626.993	1626.997	
OFFSET	-4.375		-3.000			0.000			3.000	4.426	

CHAINAGE 240

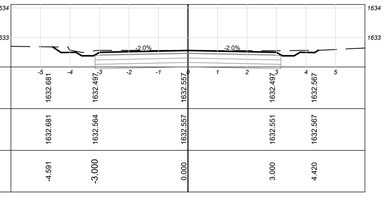
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1626



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1626.485		1626.400			1626.460			1626.400	1626.244	
GROUND	1626.485		1626.378			1626.438			1626.280	1626.244	
OFFSET	-4.443		-3.000			0.000			3.000	4.519	

CHAINAGE 399

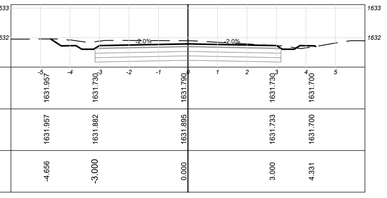
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1632.681		1632.497			1632.557			1632.497	1632.567	
GROUND	1632.681		1632.564			1632.557			1632.551	1632.567	
OFFSET	-4.591		-3.000			0.000			3.000	4.420	

CHAINAGE 380

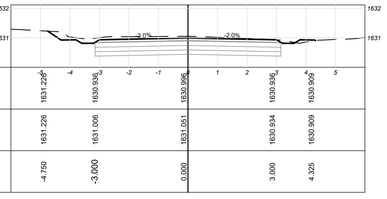
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1631.957		1631.790			1631.790			1631.790	1631.700	
GROUND	1631.957		1631.882			1631.895			1631.733	1631.700	
OFFSET	-4.656		-3.000			0.000			3.000	4.331	

CHAINAGE 360

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1630



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1631.226		1630.938			1630.996			1630.938	1630.909	
GROUND	1631.226		1631.006			1631.051			1630.934	1630.909	
OFFSET	-4.750		-3.000			0.000			3.000	4.325	

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PROFESSIONAL ENGINEER: L. MARAH

PROF. Reg.No: 920281

DATE: 2024-03-25

SIGNATURE:

DESIGN BY: T. TSHABALALA

DRAWN BY: B. MVUKUZO

CHECKED BY: L. MARAH

APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 7 - DETAILED CROSS SECTIONS

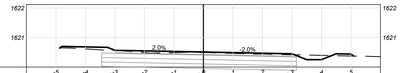
PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO P1027-BE-CIV-RD-CS07

CHAINAGE 100

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1620



FINISHED	1620.644	1620.589	1620.509	1620.449	1620.372	
GROUND	0.000	1620.558	1620.484	1620.418	1620.372	
OFFSET	-4.881	-3.000	0.000	3.000	5.100	

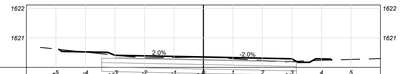
CHAINAGE 80

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1620

FINISHED	1620.599	1620.517	1620.457	1620.396	1620.341	
GROUND	1620.598	1620.517	1620.451	1620.352	1620.341	
OFFSET	-4.873	-3.000	0.000	3.000	5.068	

CHAINAGE 60

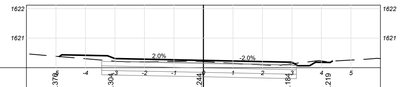
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1620



FINISHED	1620.673	1620.413	1620.352	1620.292	1620.251	
GROUND	1620.672	1620.413	1620.348	1620.201	1620.251	
OFFSET	-4.904	-3.000	0.000	3.000	4.347	

CHAINAGE 40

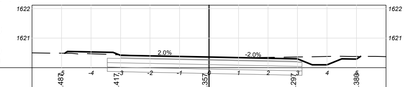
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1620



FINISHED	1620.378	1620.304	1620.246	1620.184	1620.219	
GROUND	1620.376	1620.218	1620.206	1620.128	1620.219	
OFFSET	-4.887	-3.000	0.000	3.000	4.368	

CHAINAGE 149

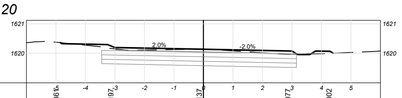
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1620



FINISHED	1620.482	1620.417	1620.357	1620.297	1620.389	
GROUND	1620.487	1620.434	1620.357	1620.359	1620.380	
OFFSET	-4.889	-3.000	0.000	3.000	5.140	

CHAINAGE 20

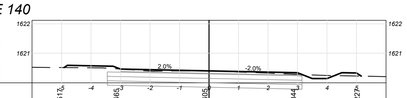
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1619



FINISHED	1620.361	1620.197	1620.137	1620.077	1620.002	
GROUND	1620.361	1620.151	1620.145	1619.971	1620.002	
OFFSET	-4.850	-3.000	0.000	3.000	4.397	

CHAINAGE 140

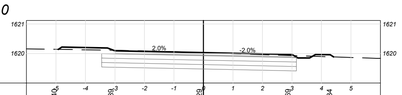
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1620



FINISHED	1620.515	1620.465	1620.405	1620.344	1620.227	
GROUND	1620.517	1620.466	1620.405	1620.289	1620.227	
OFFSET	-4.916	-3.000	0.000	3.000	5.161	

CHAINAGE 0

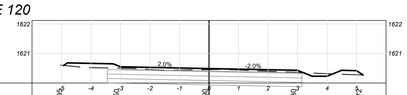
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1619



FINISHED	1620.140	1620.086	1620.029	1619.969	1619.884	
GROUND	1620.140	1620.112	1620.029	1619.931	1619.884	
OFFSET	-4.918	-3.000	0.000	3.000	4.412	

CHAINAGE 120

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1620



FINISHED	1620.595	1620.505	1620.450	1620.430	1620.272	
GROUND	1620.595	1620.505	1620.454	1620.361	0.000	
OFFSET	-4.927	-3.000	0.000	3.000	5.223	

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PROFESSIONAL ENGINEER:
L. MARAH

PROF. Reg.No:
920281

DATE:
2024-03-25

SIGNATURE:

DESIGN BY:
T. TSHABALALA

DRAWN BY:
B. MVUKUZO

CHECKED BY:
L. MARAH

APPROVED BY:
L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME

REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE

ROAD 8 - DETAILED CROSS SECTIONS

PROJECT STATUS:

TENDER

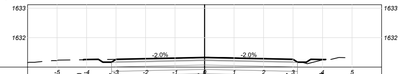
DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO

P1027-BE-CIV-RD-CS08

CHAINAGE 100

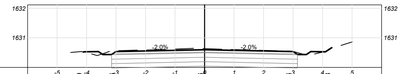
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1631.250		1631.267			1631.327			1631.267	1631.260	
GROUND	1631.251		1631.267			1631.329			1631.262	1631.261	
OFFSET	-4.110		-3.000			0.000			3.000	4.105	

CHAINAGE 80

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1630



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1630.519		1630.536			1630.596			1630.536	1630.668	
GROUND	1630.519		1630.564			1630.633			1630.544	1630.668	
OFFSET	-4.110		-3.000			0.000			3.000	4.314	

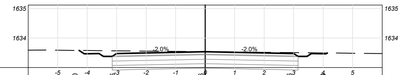
CHAINAGE 60

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1629

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1629.878		1629.992			1630.052			1629.992	1629.975	
GROUND	1629.878		1629.968			1630.071			1629.978	1629.975	
OFFSET	-4.255		-3.000			0.000			3.000	4.110	

CHAINAGE 160

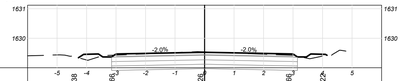
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1633.580		1633.476			1633.536			1633.476	1633.484	
GROUND	1633.580		1633.567			1633.536			1633.506	1633.484	
OFFSET	-4.271		-3.000			0.000			3.000	4.142	

CHAINAGE 40

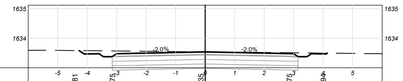
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1629



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1629.338		1629.466			1629.526			1629.466	1629.422	
GROUND	1629.338		1629.430			1629.535			1629.425	1629.422	
OFFSET	-4.277		-3.000			0.000			3.000	4.151	

CHAINAGE 160

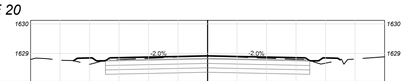
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1633



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1633.581		1633.475			1633.535			1633.475	1633.484	
GROUND	1633.581		1633.567			1633.537			1633.506	1633.484	
OFFSET	-4.274		-3.000			0.000			3.000	4.144	

CHAINAGE 20

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1628



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1628.752		1628.849			1628.915			1628.849	1628.786	
GROUND	1628.752		1628.778			1628.920			1628.791	1628.786	
OFFSET	-4.545		-3.315			0.000			3.315	4.494	

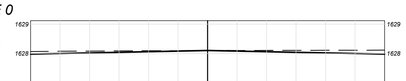
CHAINAGE 140

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1632

	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1633.029		1632.959			1633.029			1632.959	1633.049	
GROUND	0.000		1632.865			1633.043			1632.990	1633.049	
OFFSET	-4.219		-3.000			0.000			3.000	4.249	

CHAINAGE 0

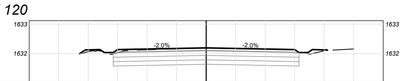
H.SCALE 1:100
V.SCALE 1:100
DATUM = 1627



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1627.984					1628.104					1627.984
GROUND	1628.072					1628.104					1628.117
OFFSET	-6.000					0.000					6.000

CHAINAGE 120

H.SCALE 1:100
V.SCALE 1:100
DATUM = 1631



	-5	-4	-3	-2	-1	0	1	2	3	4	5
FINISHED	1631.997		1632.136			1632.196			1632.136	1632.115	
GROUND	0.000		1632.031			1632.183			1632.129	1632.115	
OFFSET	-4.252		-3.000			0.000			3.000	4.117	

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PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
SIGNATURE:

DESIGN BY: T. TSHABALALA
DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
ROAD 9 - DETAILED CROSS SECTIONS

PROJECT STATUS: TENDER

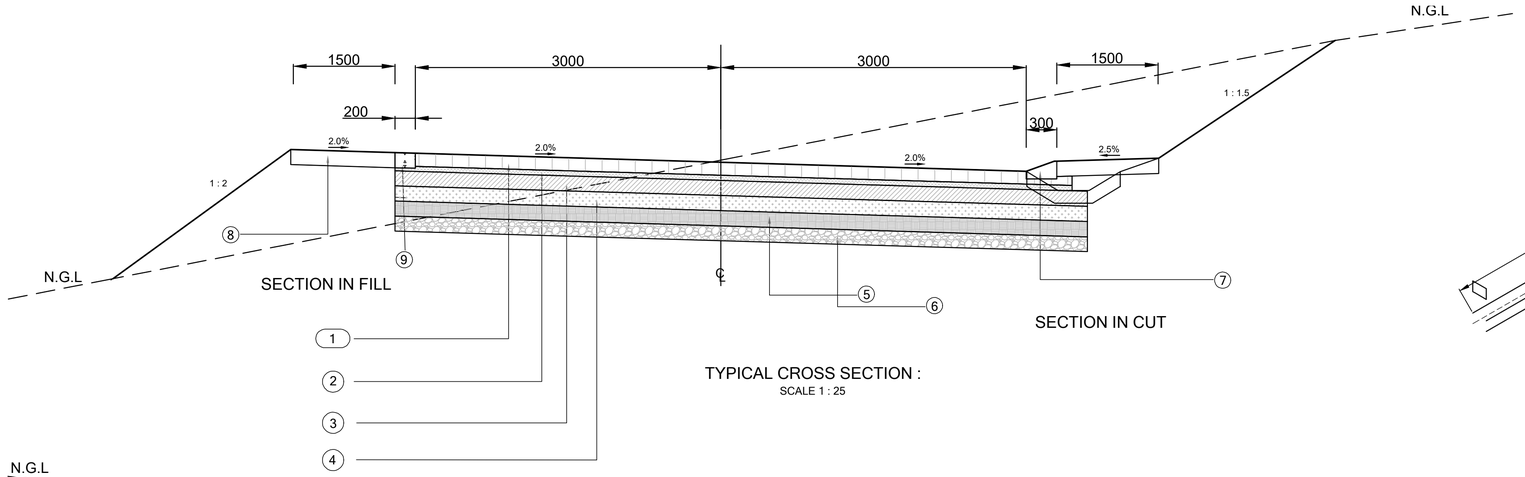
DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO
P1027-BE-CIV-RD-CS09

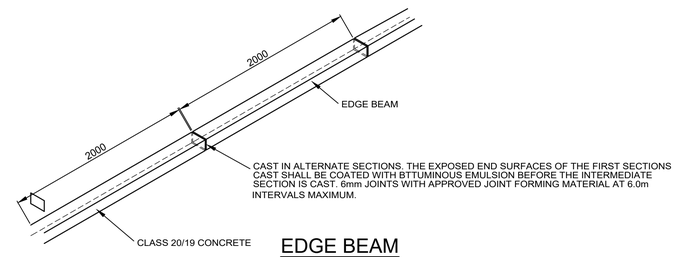
MATERIAL REQUIREMENTS

LAYER	LAYER No	THICKNESS (mm)	DESCRIPTION	TRH 14 MATERIAL AND/OR COLTO CLASSIFICATION	COLTO SPECIFICATION	Min COMPACTION REQUIREMENT	PLASTICITY INDEX	GRADING MODULUS (MIN)	CBR @ % OF Mod AASHTO Denstity	UCS @ 100% Mod AASHTO DENSITY (Mpa)	ITS @ 100% Mod AASHTO DENSITY (kPa)	MAX CBR SWELL @ 100 Mod AASHTO
SURFACING	1	80	INTERLOCKING CONCRETE BLOCKS	S-A	7300	--	--	--	--	--	--	--
BEDDING SAND	2	25	BEDDING SAND LAYER	SND	7300	--	--	--	--	--	--	--
BASE	3	150	CEMENTED NATURAL GRAVEL (G5)	C3	3400 & 3500	97%	6 MAX	1.2	25 @ 95%	1.5 MIN	250 MIN	0.5%
SUB BASE	4	150	NATURAL GRAVEL	G6	3400	96%	12 MAX	1.2	25 @ 93%	--	--	1.0%
SELECTED FILL	5	150	IMPORTED SELECTED LAYER	G7/G8/G9	3400	93%	--	--	15/10/7 @ 93%	--	--	1.5%
ROCKFILL	6	150	ROCKFILL LAYER	--	3200	--	--	--	--	--	--	--
KERB	7	1000 X 300 X 200	FIGURE 8C MOUNTABLE KERB	--	2300	--	--	--	--	--	--	--
PAVED SIDEWALK	8	150	PAVED SIDEWALK	G6	3400	90%	12 MAX	1.2	25 @ 93%	--	--	1.0%
EDGE BEAM	9	200 X 150	CONCRETE EDGE BEAM	--	2300	--	--	--	--	--	--	--
OPEN DRAIN	10	SIZE VARIES	CLASS 30/19 CONCRETE V-DRAIN	--	2300	--	--	--	--	--	--	--

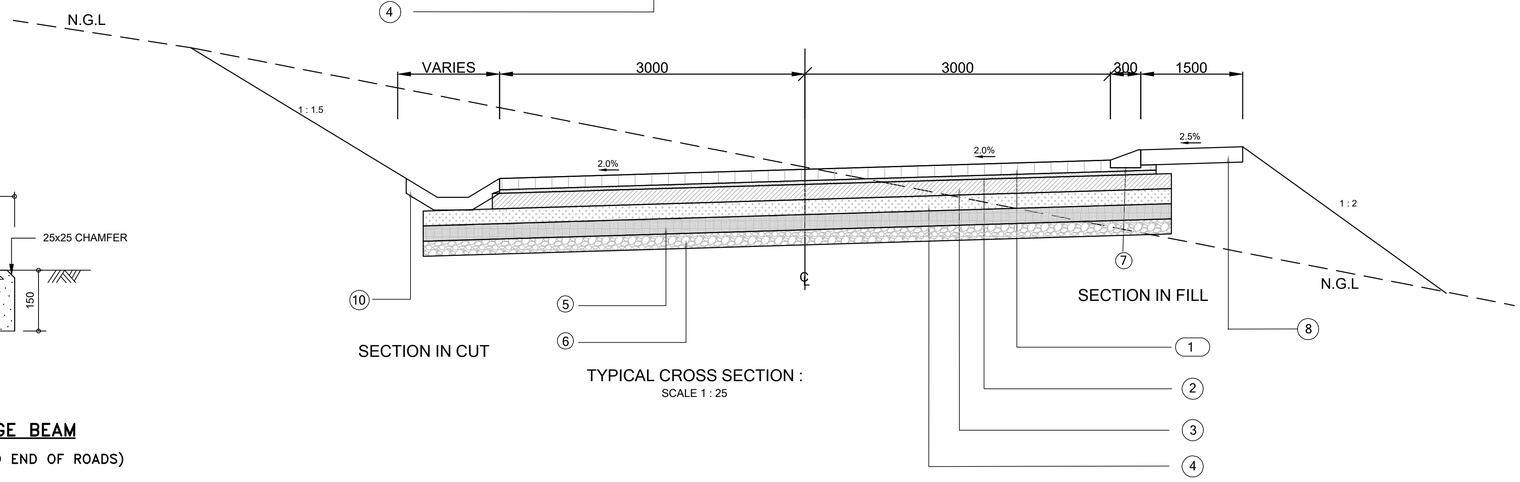
NOTES: VIM - DESIGN VOIDS IN MIX
ARD - APPARENT RELATIVE DENSITY



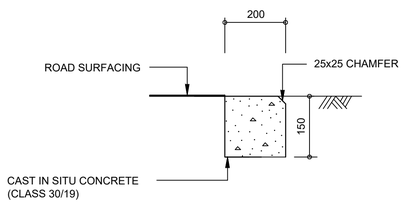
TYPICAL CROSS SECTION :
SCALE 1 : 25



EDGE BEAM

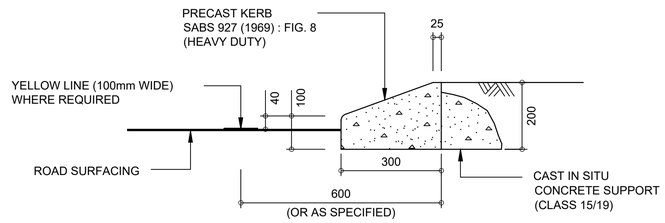


TYPICAL CROSS SECTION :
SCALE 1 : 25



CONCRETE EDGE BEAM

(AT ROAD JUNCTIONS AND END OF ROADS)



MOUNTABLE KERB TYPE 8

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PROFESSIONAL ENGINEER: L. MARAH
PROF. Reg.No: 920281
DATE: 2024-03-25
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DRAWN BY: B. MVUKUZO
CHECKED BY: L. MARAH
APPROVED BY: L. MARAH

REVISIONS

REV	DATE	DESCRIPTION	BY
0	2024-03-25	ISSUED FOR TENDER	L.M.

PROJECT NAME
REHABILITATION OF ROADS & STORMWATER IN LADY GREY WARD 14

TITLE
TYPICAL CROSS SECTION AND PAVEMENT DESIGN

PROJECT STATUS: TENDER

DATE	SCALE	SHEET	REV	
2024-03-25	AS SHOWN	1 OF 1	0	A1

DWG NO
P1027-BE-CIV-RD-TD01