

2	Issued For Development Application	07-11-2022	L.V.R.	L.V.R.	L.V.R.
1	Issued For Discussion	12-02-2022	L.V.R.	L.V.R.	L.V.R.
Revision	Amendment or reason for issue	Issue date	Drawing completed by	Designed & dwg. checked by	Verified by X = Not verified

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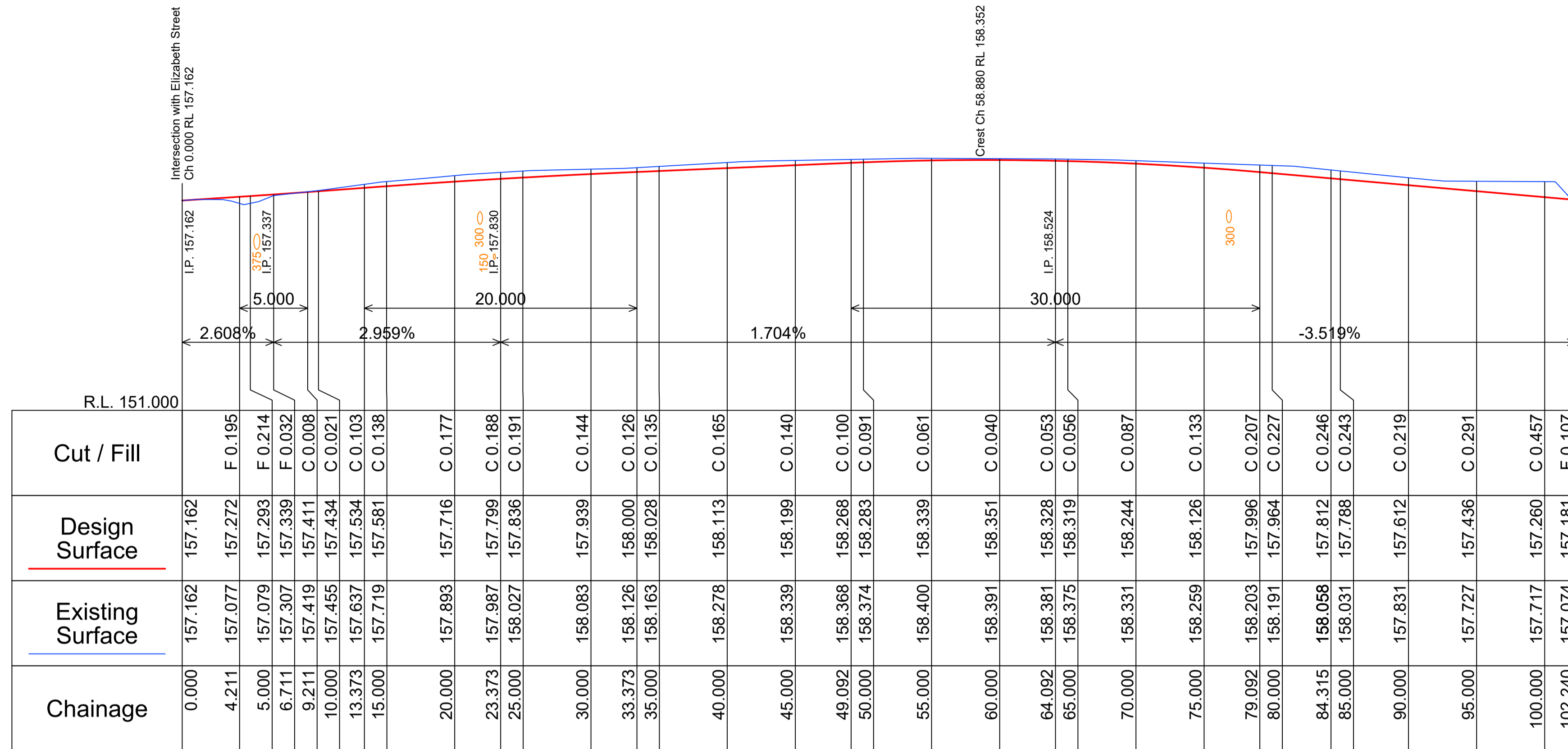
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North

Project
Residential Subdivision
Lot 2 DP 1275374
Elizabeth Street Narrandera NSW 2700

Client
Murray Nielson
Architect / Project Manager
Murray Nielson

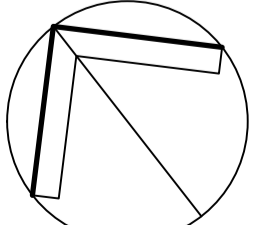
Drawing Title Layout Plan		Client Project No.
Scales 1:250(A1), 1:500(A3)		Sheet
Drawing No. 21W043 - C01		Revision 2



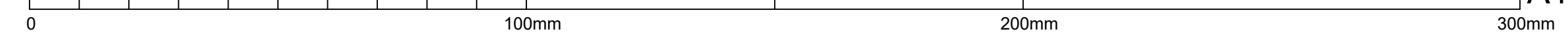
SCALES: HORIZONTAL 1:250 VERTICAL 1:100

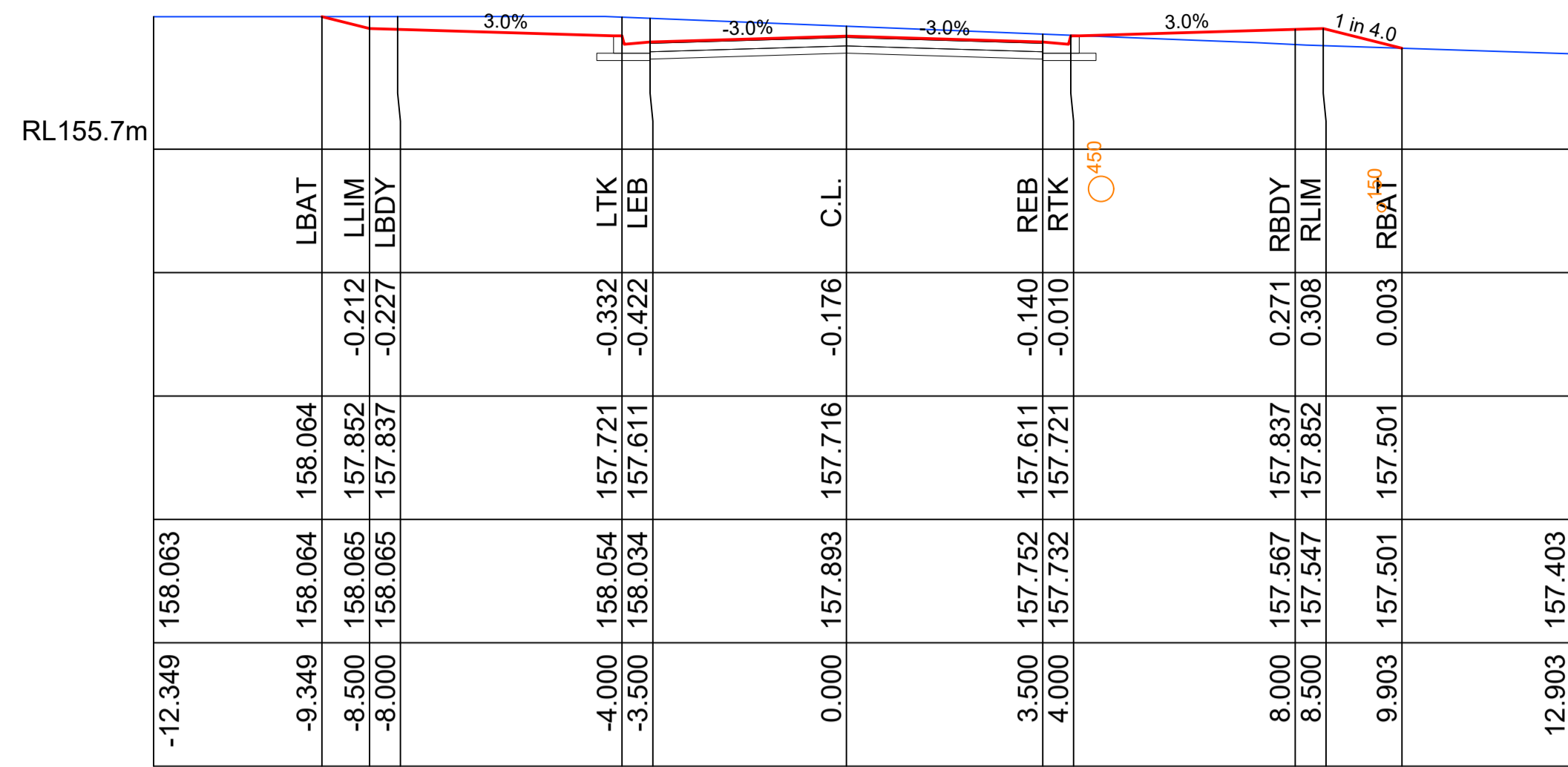
Entry Road

NOT FOR CONSTRUCTION

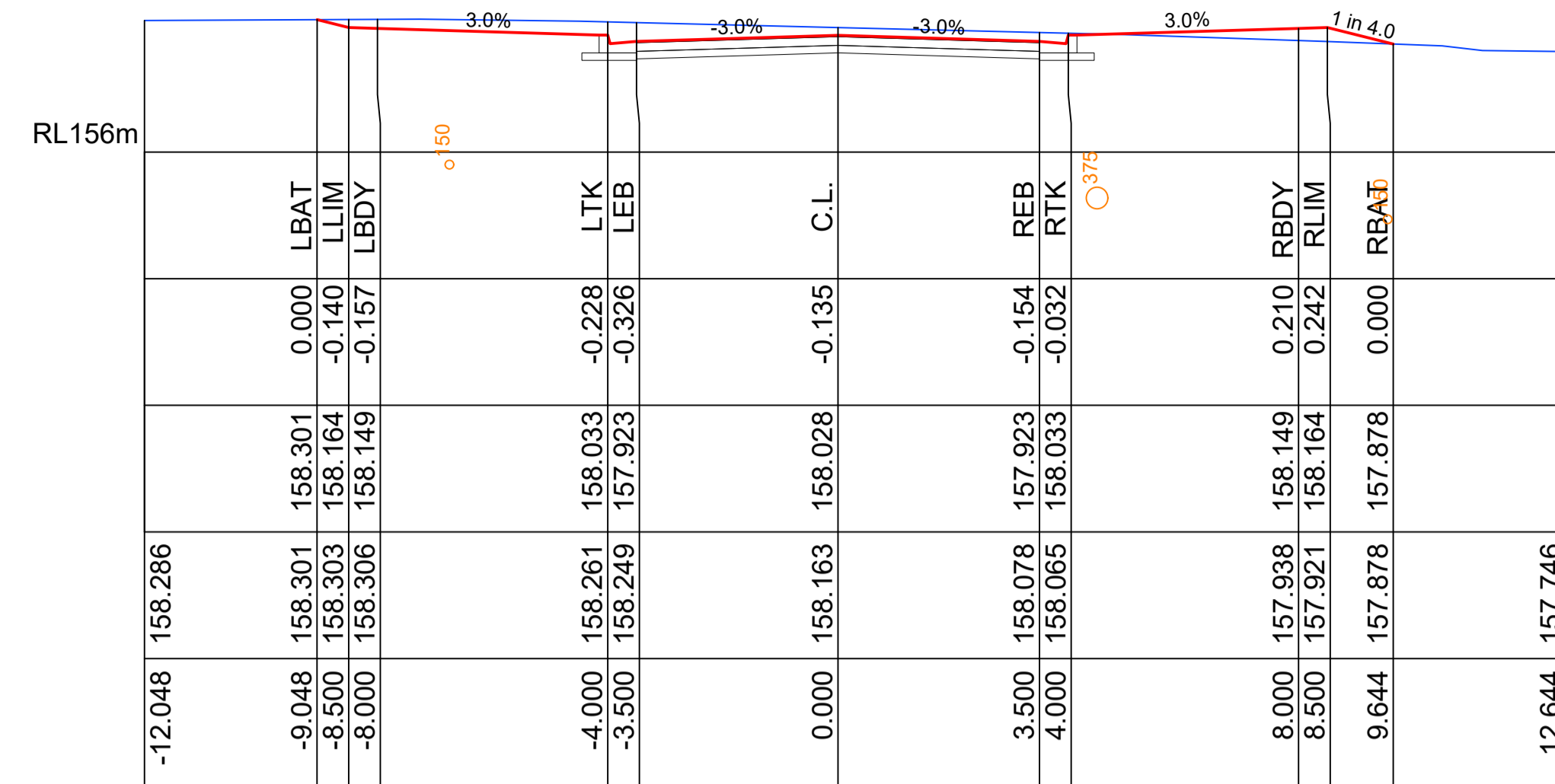
Revision		Amendment or reason for issue		Issue date	Drawing completed by	Designed & dwg. checked by	Verified by	Issue authorised (*)	Copyright This drawing remains the property of Lance Ryan Consulting Engineers Pty Ltd. It may only be used for the purpose for which it was commissioned & in accordance with the terms of engagements for that commission. Unauthorised use of this drawing is prohibited.	 LRCE Lance Ryan Consulting Engineers Pty Ltd Consulting Engineers Planners & Managers A.B.N. 53 831 529 091 52 Johnston Street, WAGGA WAGGA NSW 2650 P.O. Box 7 WAGGA WAGGA NSW 2650 PH: (02) 6921 1877 FAX: (02) 6921 7415 EMAIL: lancovyran@gmail.com	Project Residential Subdivision Lot 2 DP 1275374 Elizabeth Street Narrandera NSW 2700	Drawing Title Entry Road Longsection	
2	Issued For Development Application	07-11-2022	L.V.R.	L.V.R.	L.V.R.				* Drawing Status Warning: Unless there is an authorised Lance Ryan Consulting Engineers Pty. Ltd. signature at *, this drawing is not authorised for issue.		Client Murray Nielson Architect / Project Manager	Scales Hor1:250, Ver1:100	Client Project No.
1	Issued For Discussion	12-02-2022	L.V.R.	L.V.R.	L.V.R.						Drawing No. 21W043 - C02	Sheet 02 of 18	Revision 2

A1 SHEET

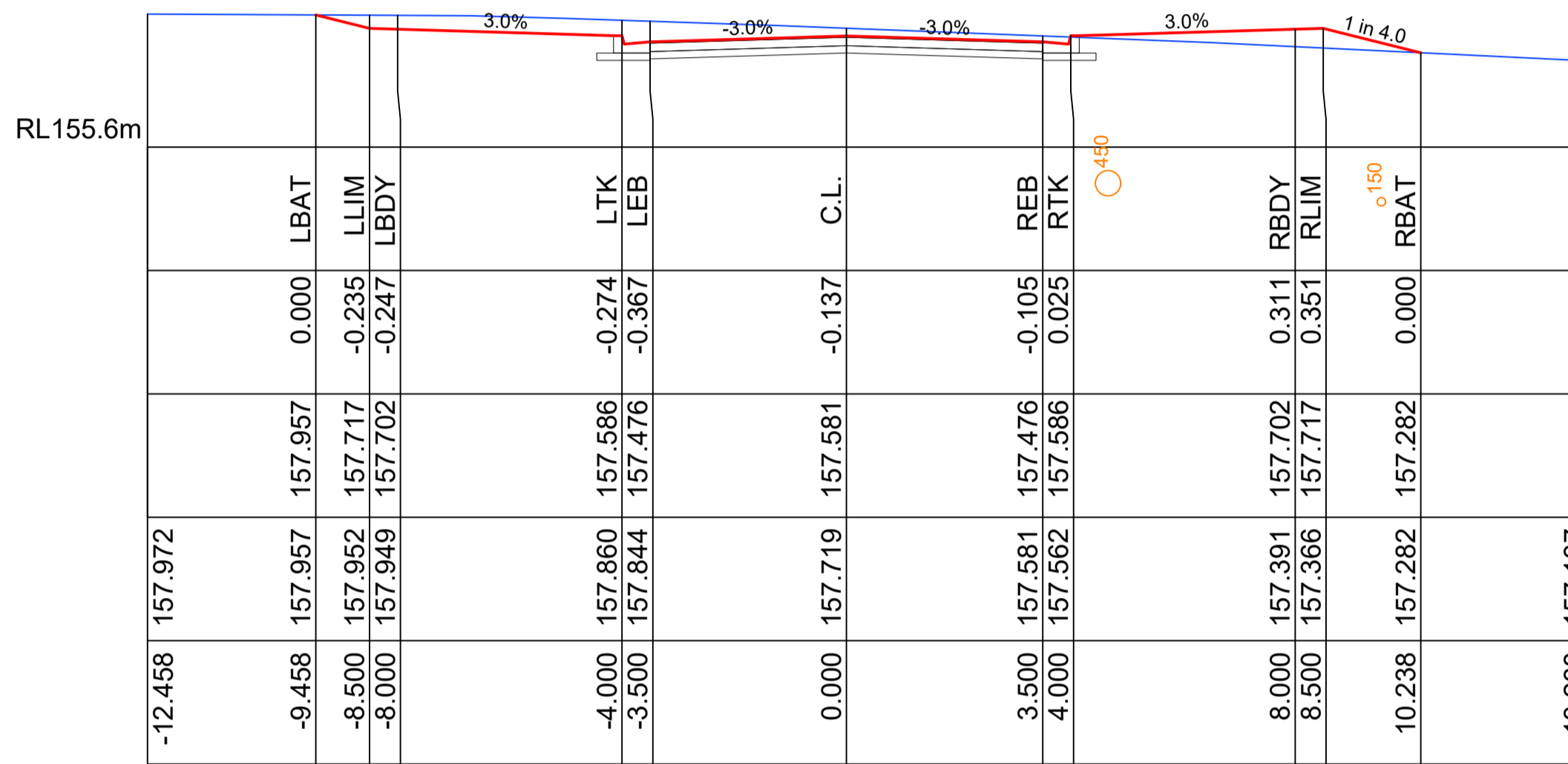




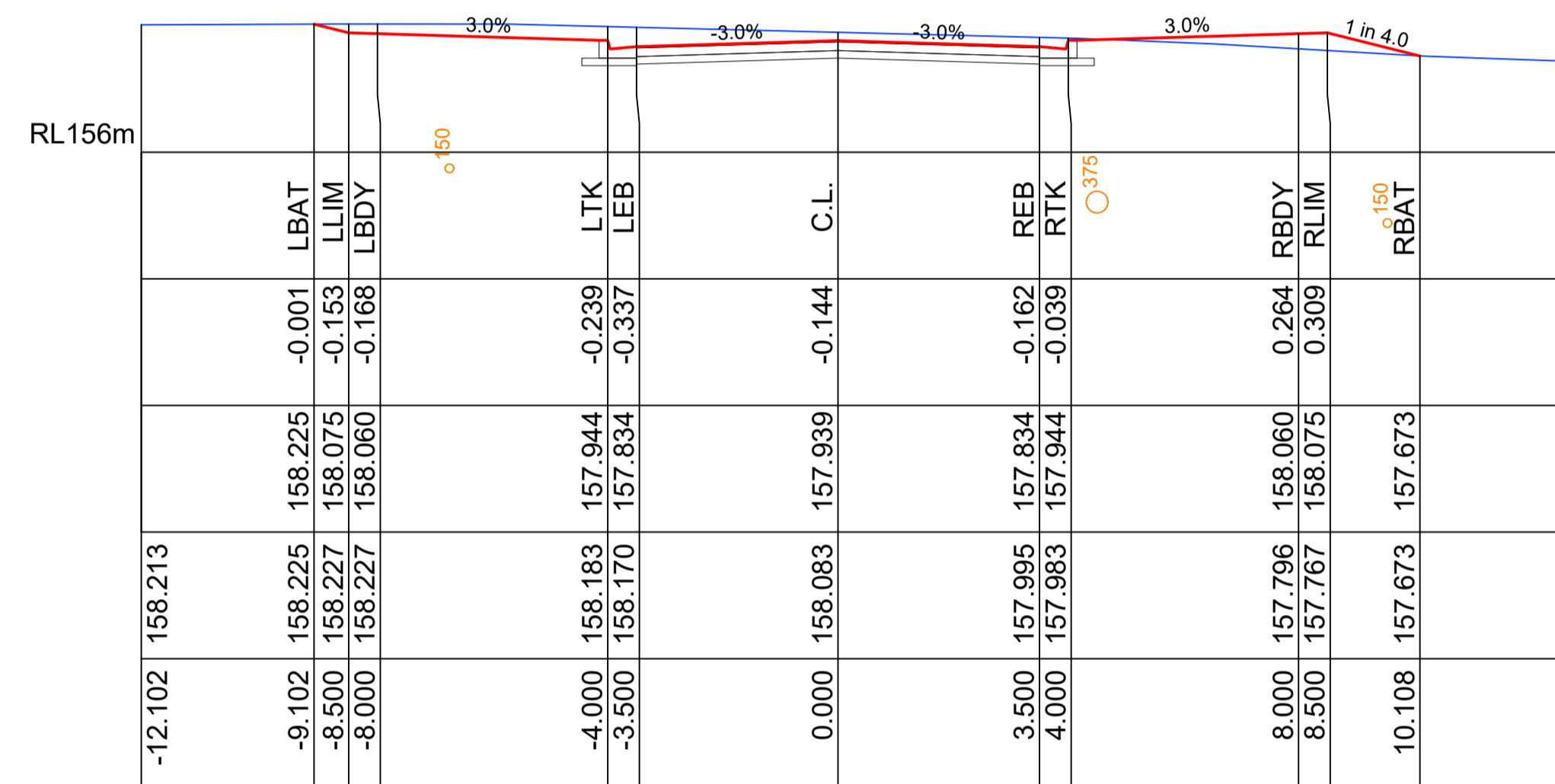
Ch 20.000 m Entry Road



Ch 35.000 m Entry Road



Ch 15.000 m Entry Road

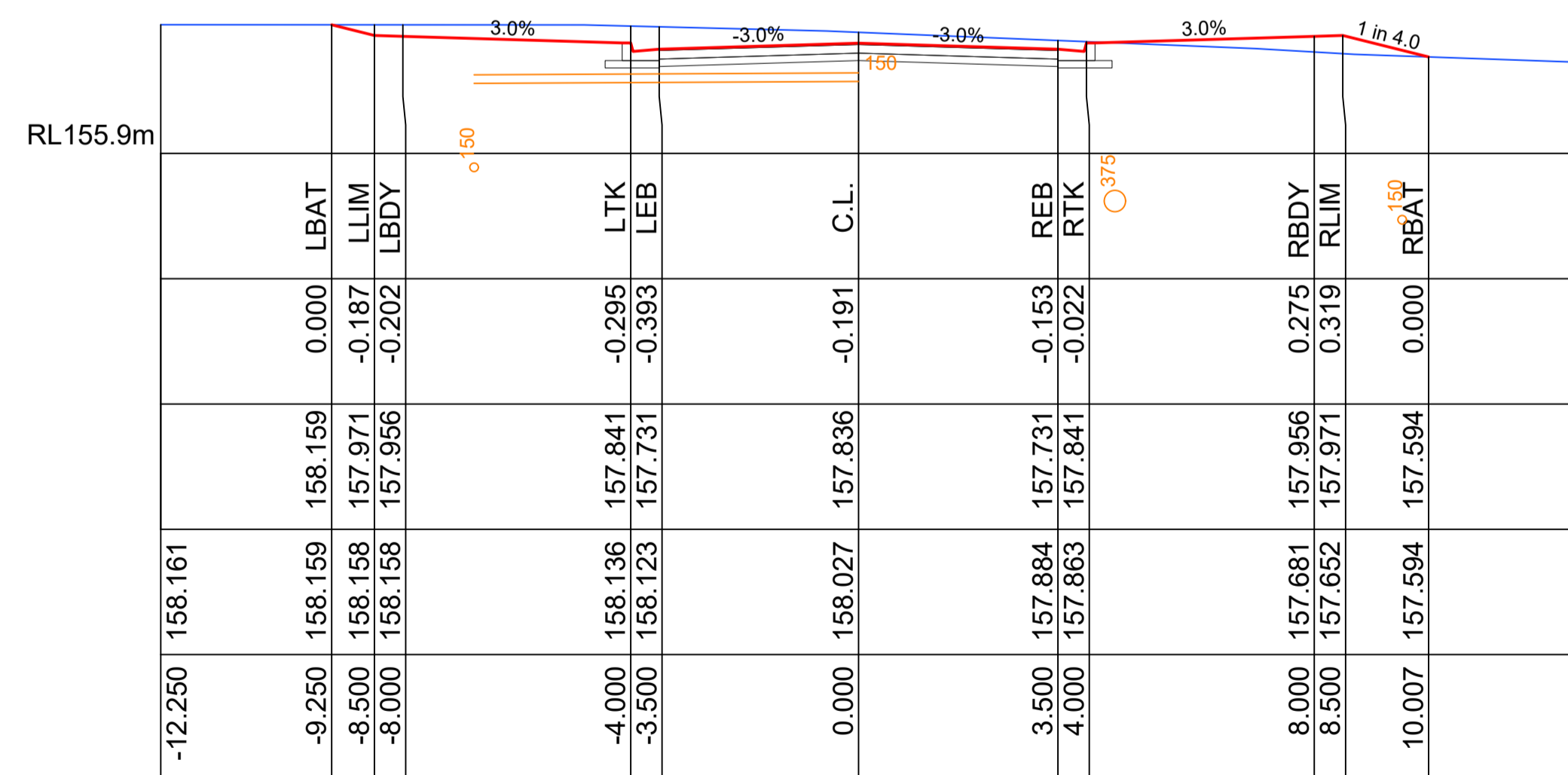


Ch 30.000 m Entry Road

DESIGN CODE	LBAT	LLIM	LBDY	LTK	LEB	C.L.	REB	RTK	RBDY	RLIM	RBAT
HEIGHT DIFFERENCE		-0.153	-0.154	-0.148	-0.241	-0.019	-0.021	0.104	0.340	0.370	0.002
DESIGN SURFACE	157.745	157.570	157.555	157.439	157.329	157.434	157.329	157.439	157.555	157.570	157.149
EXISTING	157.745	157.726	157.712	157.590	157.573	157.455	157.352	157.337	157.217	157.201	157.149
OFFSET	-9.202	-8.500	-8.000	-4.000	-3.500	0.000	3.500	4.000	8.000	8.500	10.183

HOR 1:100 VER 1:100

Ch 10.000 m Entry Road



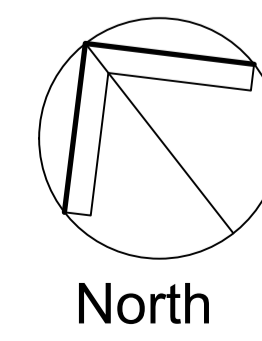
Ch 25.000 m Entry Road

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Project
Residential Subdivision
Lot 2 DP 1275374
Elizabeth Street Narrandera NSW 2700

Client
Murray Nielson
Architect / Project Manager

Drawing Title
Entry Road
Cross Sections

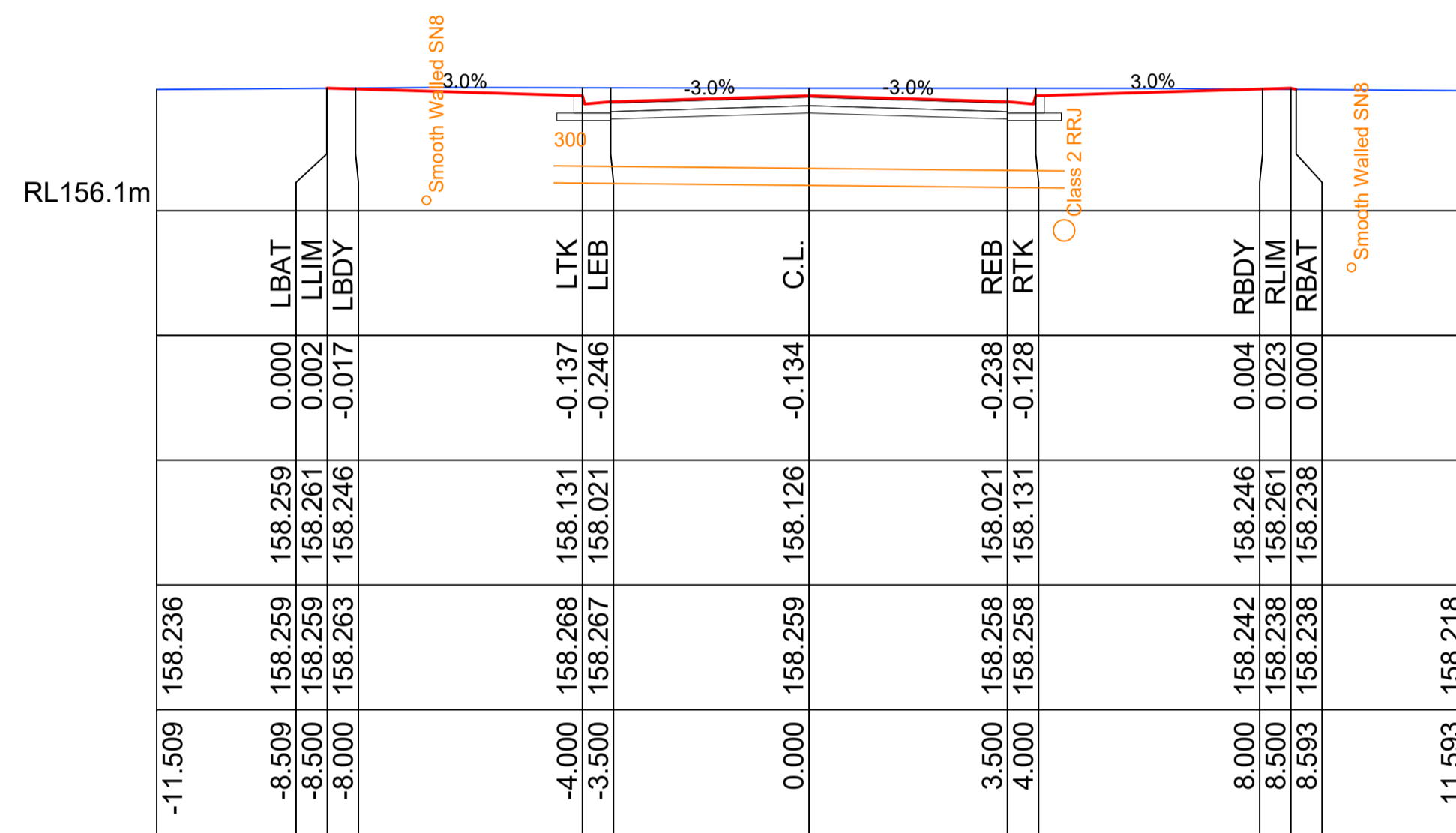
Scales
1:100 (A1), 1:200 (A3)

Drawing No.
21W043 - C03

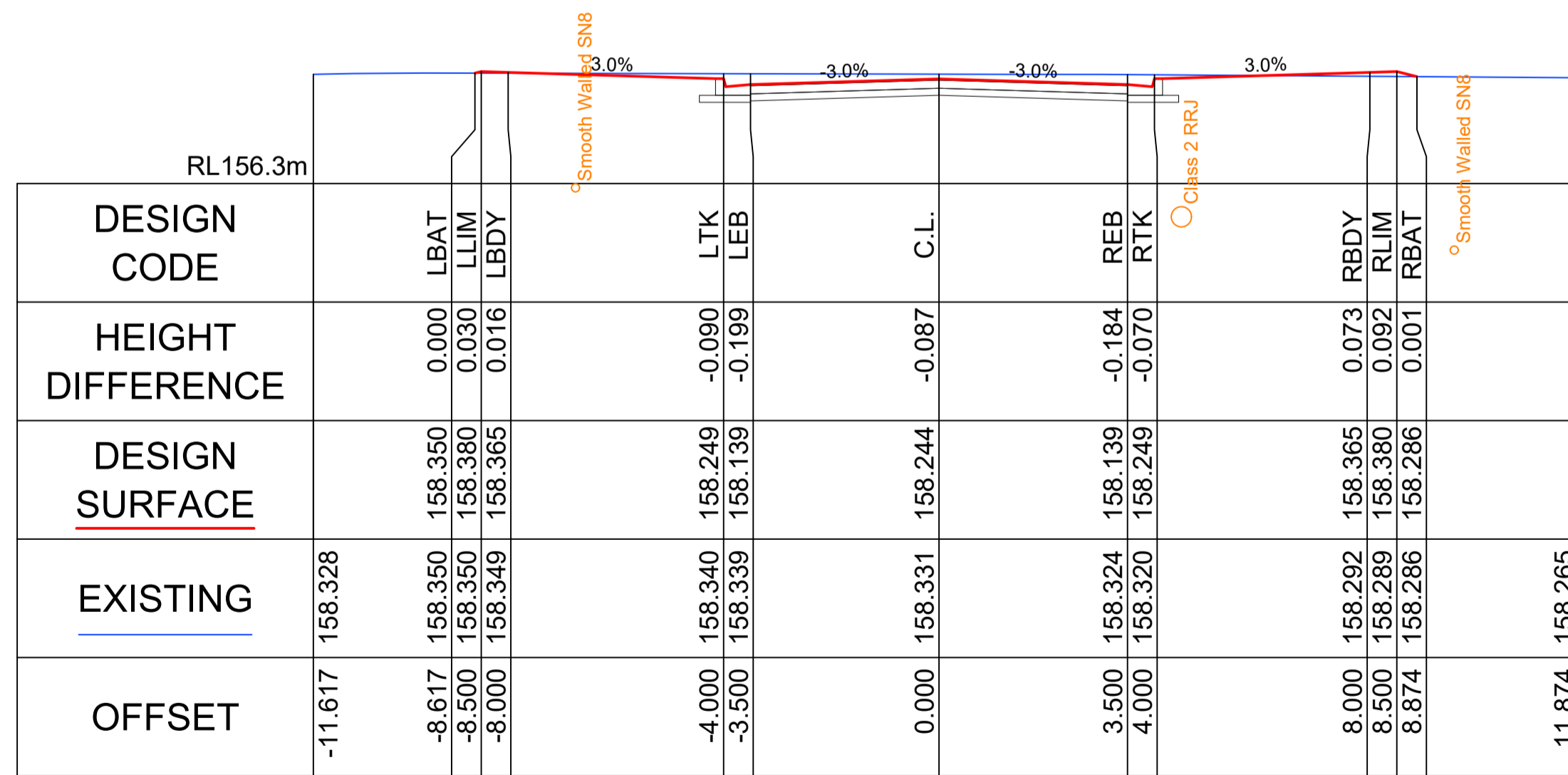
Client Project No.

Sheet
03 of 18

Revision
2



Ch 75.000 m
Entry Road



Ch 70.000 m
Entry Road

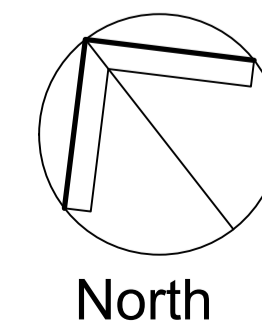
HOR 1:100 VER 1:100

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Client
Murray Nielson
Architect / Project Manager

Drawing Title
Entry Road
Cross Sections

Scales
1:100 (A1), 1:200 (A3)

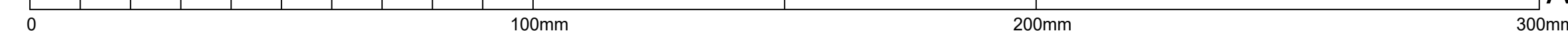
Drawing No.
21W043 - C05

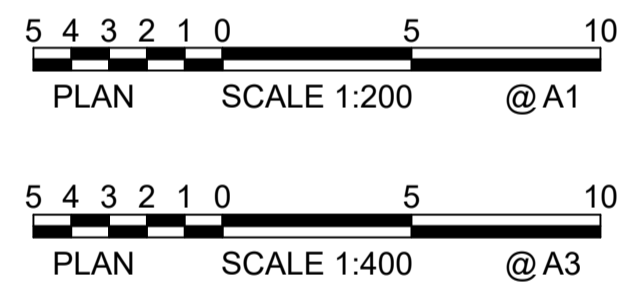
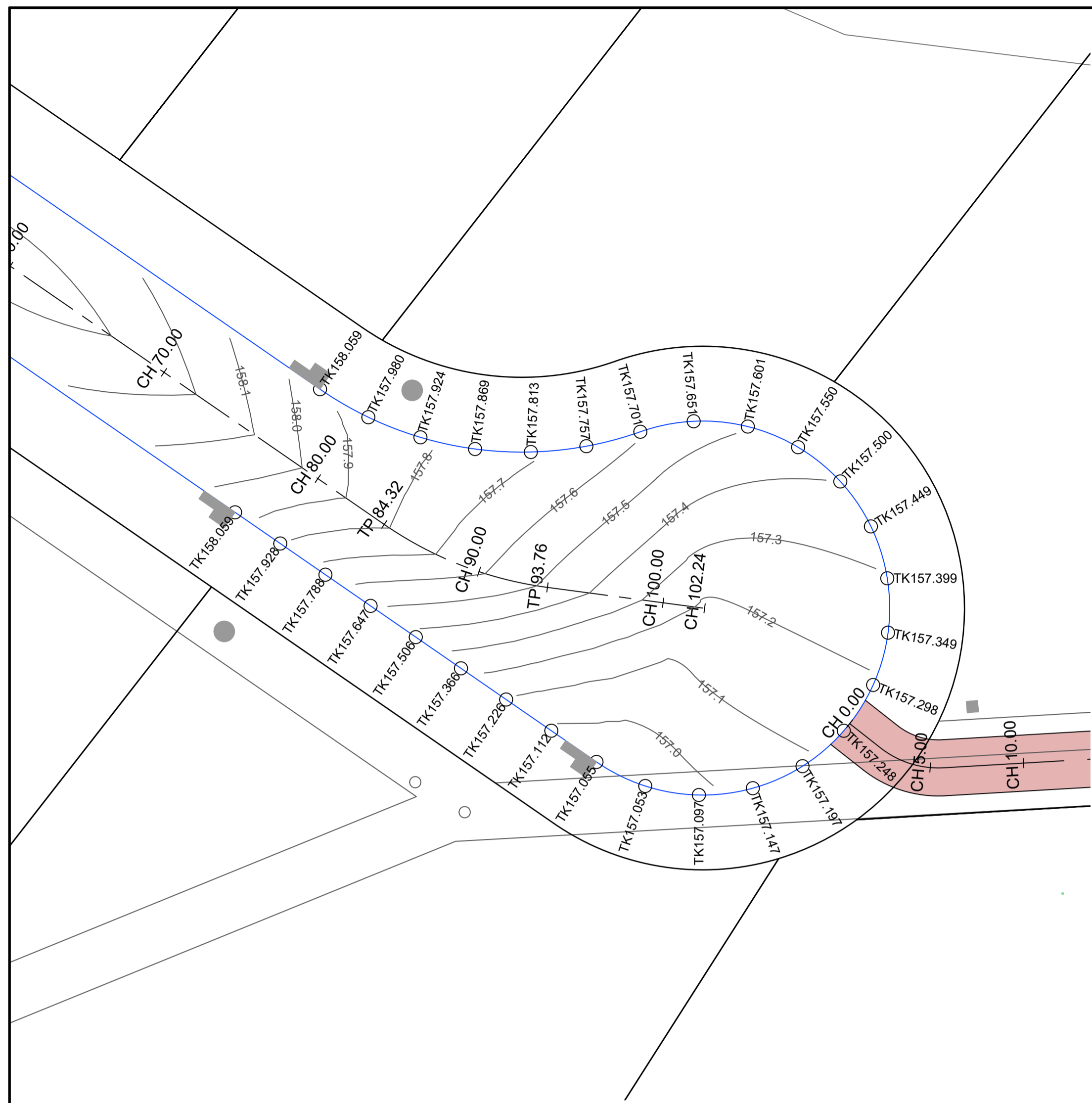
Client Project No.

Sheet
05 of 18

Revision
2

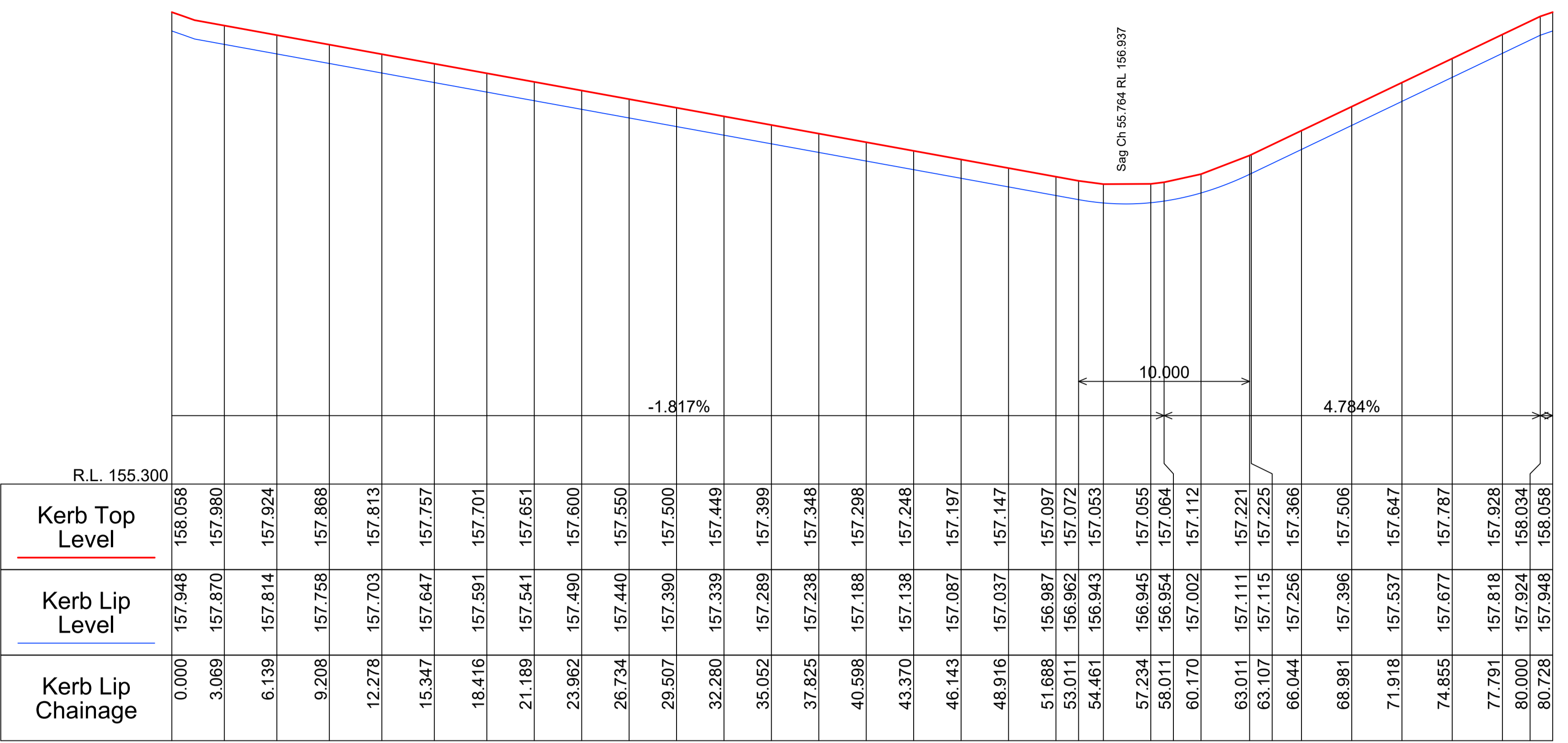
A1 SHEET





Legend

New Concrete path.
3.0m wide, 150mm thick,
F_c = 25MPa, SL72
Slump 80mm



SCALES: HORIZONTAL 1:200 VERTICAL 1:20

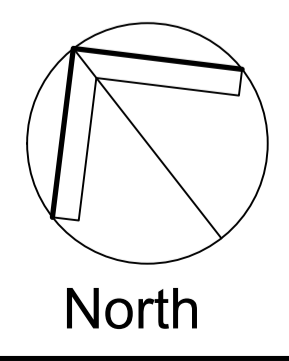
Cul-de-Sac

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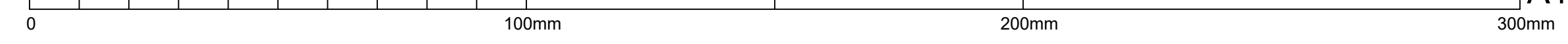
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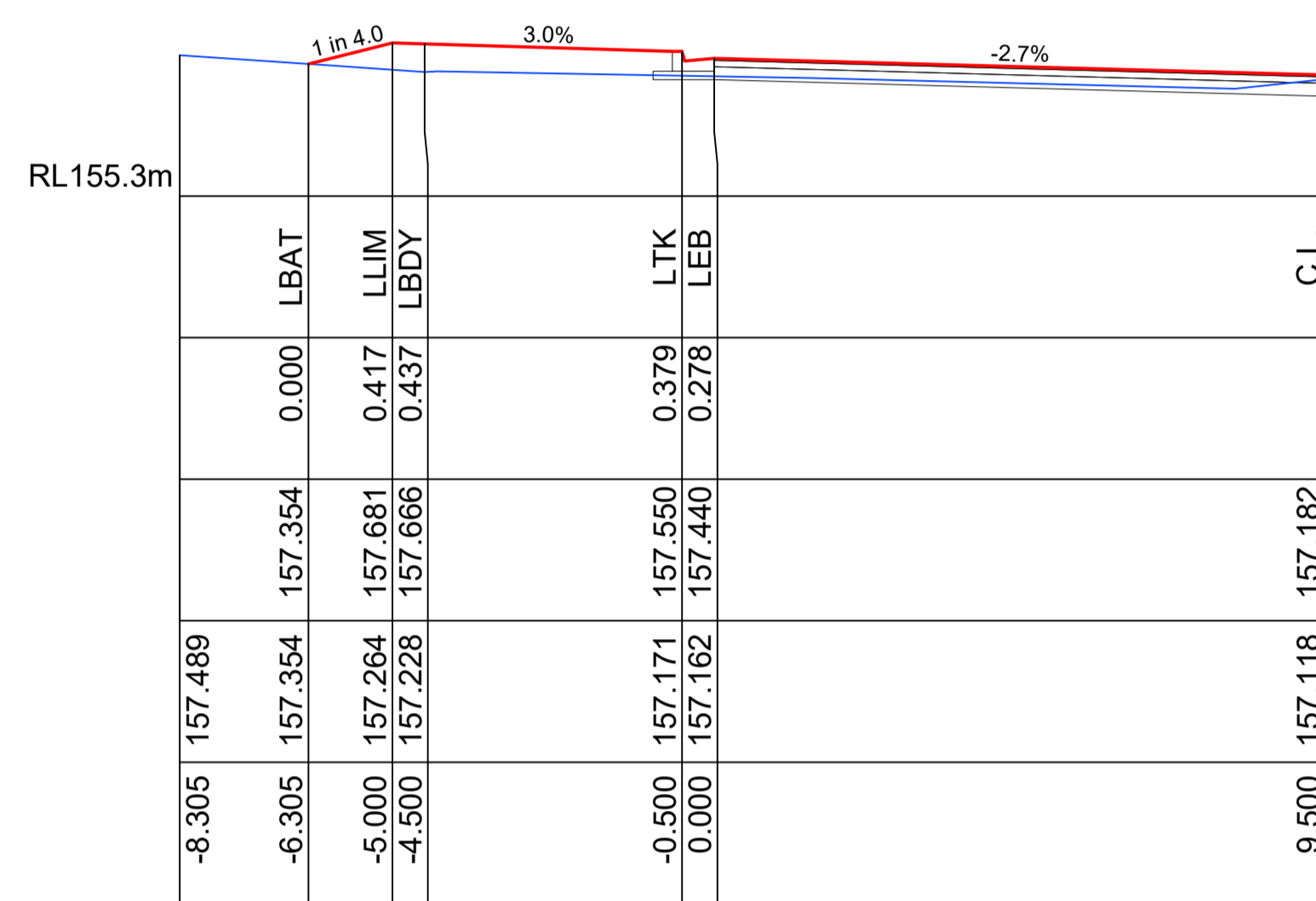
Project
Residential Subdivision
Lot 2 DP 1275374
Elizabeth Street Narrandera NSW 2700

Client
Murray Nielson
Architect / Project Manager

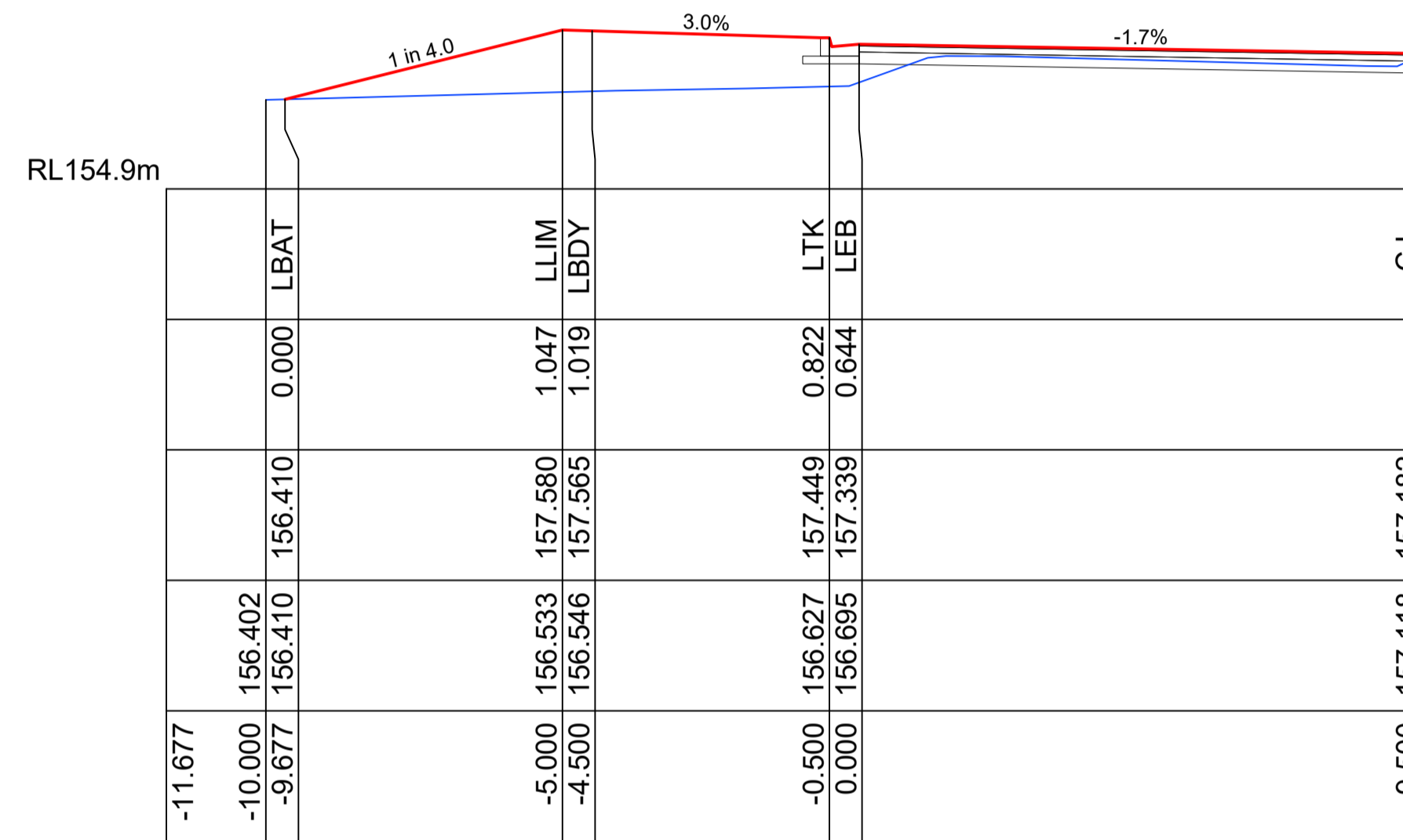
Drawing Title Kerb Returns		Client Project No.
Scale As Shown	Drawing No. 21W043 - C07	
Sheet 07 of 18	Revision 2	

A1 SHEET

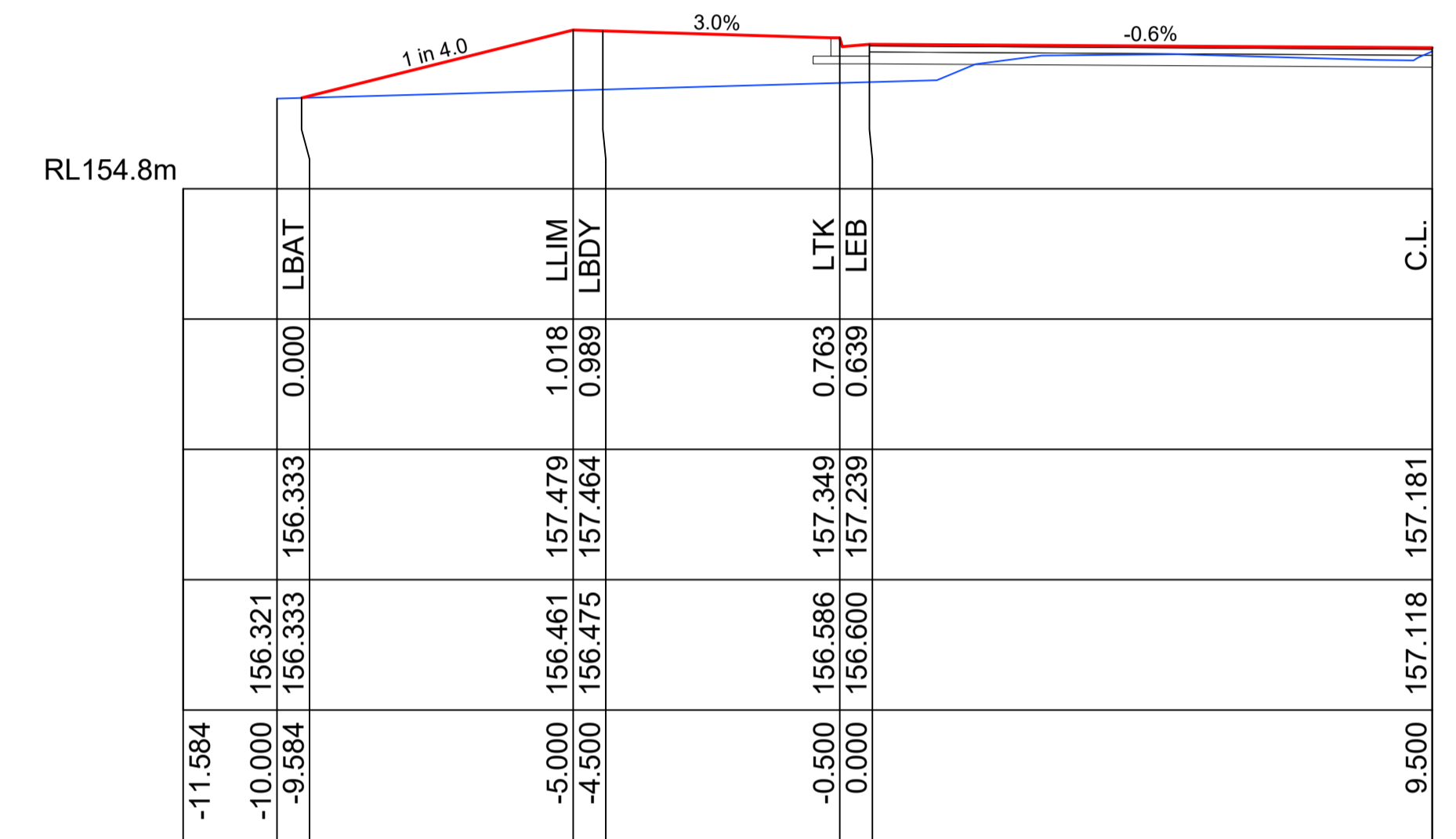




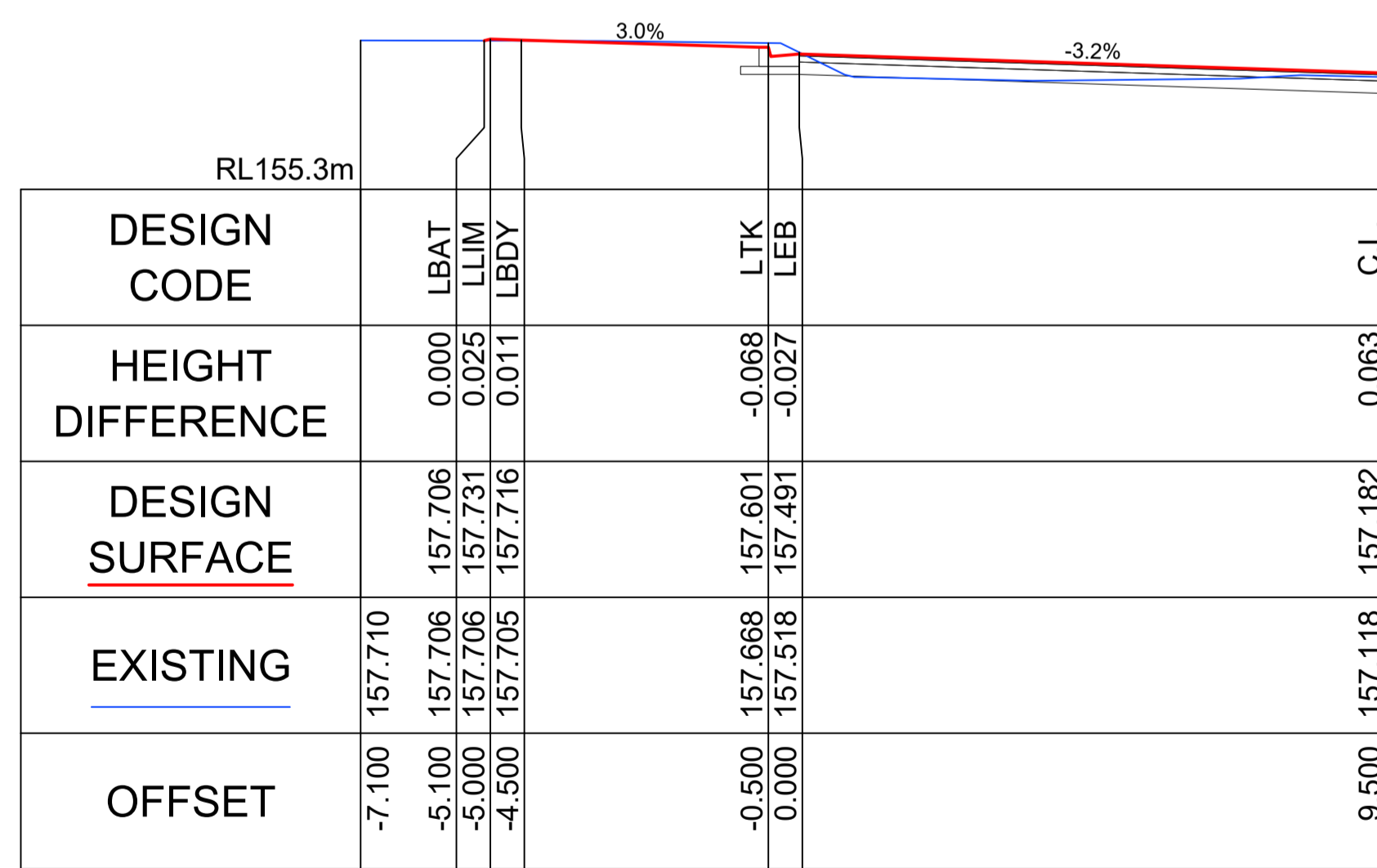
Ch 26.734 m
Cul-de-Sac



Ch 32.280 m
Cul-de-Sac

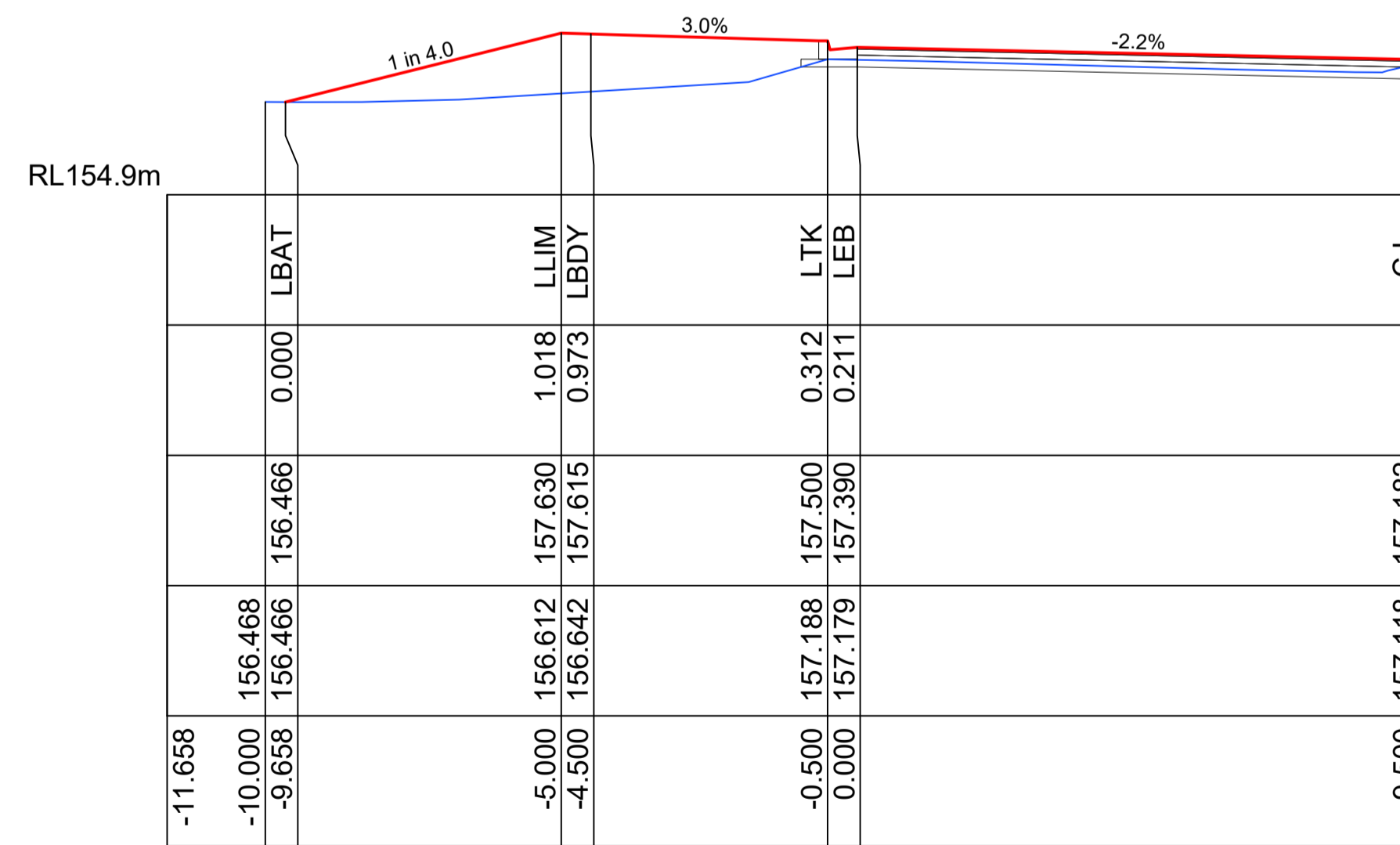


Ch 37.825 m
Cul-de-Sac

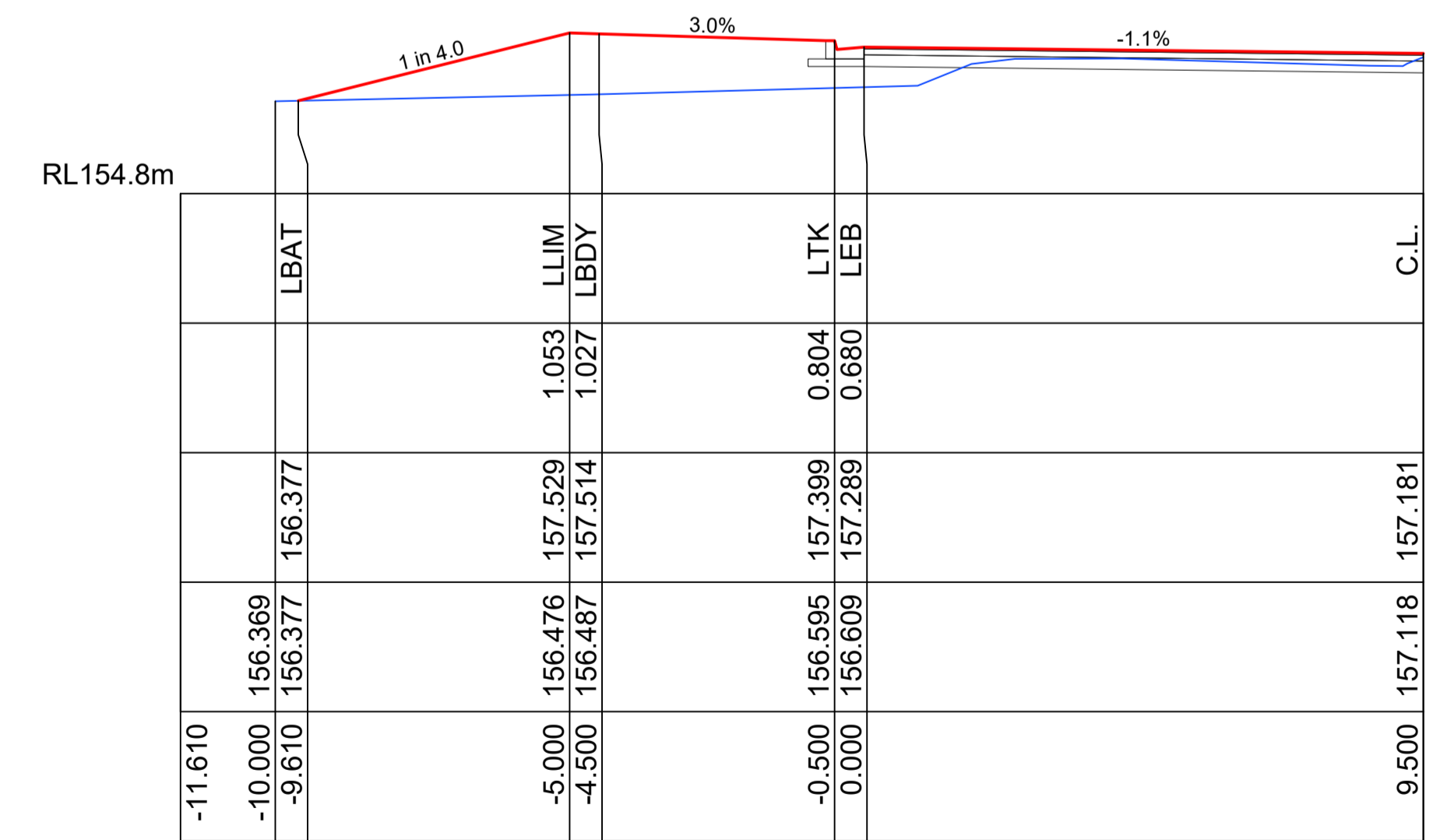


HOR 1:100 VER 1:100

Ch 23.962 m
Cul-de-Sac



Ch 29.507 m
Cul-de-Sac



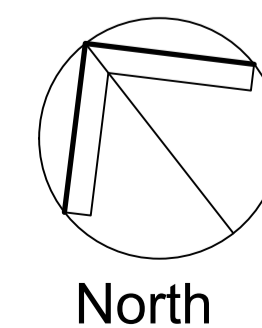
Ch 35.052 m
Cul-de-Sac

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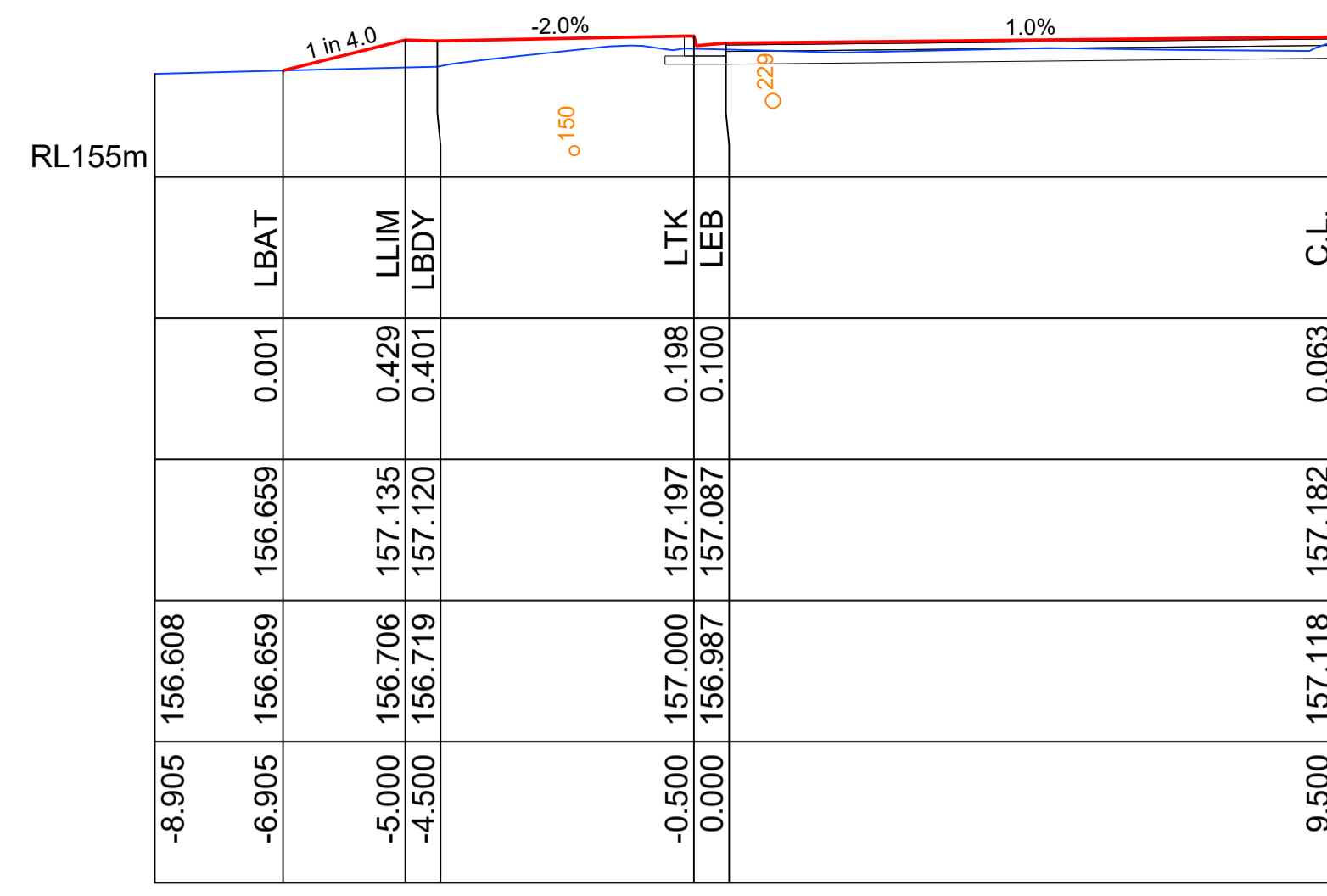
Project
Residential Subdivision
Lot 2 DP 1275374
Elizabeth Street Narrandera NSW 2700

Client
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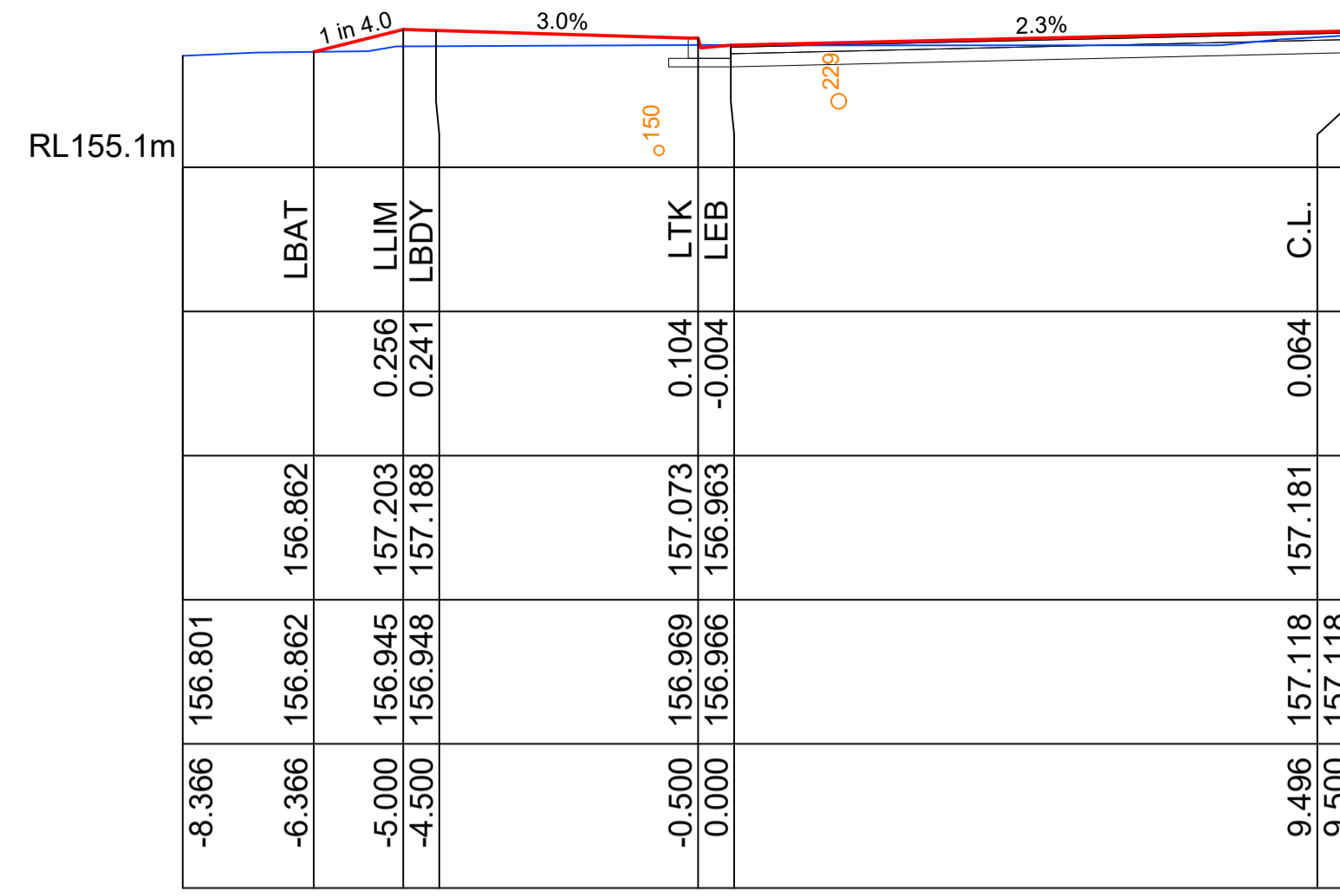
Drawing Title
Cul-de-Sac
Cross Sections

Scales
1:100 (A1), 1:200 (A3)
Drawing No.
21W043 - C09

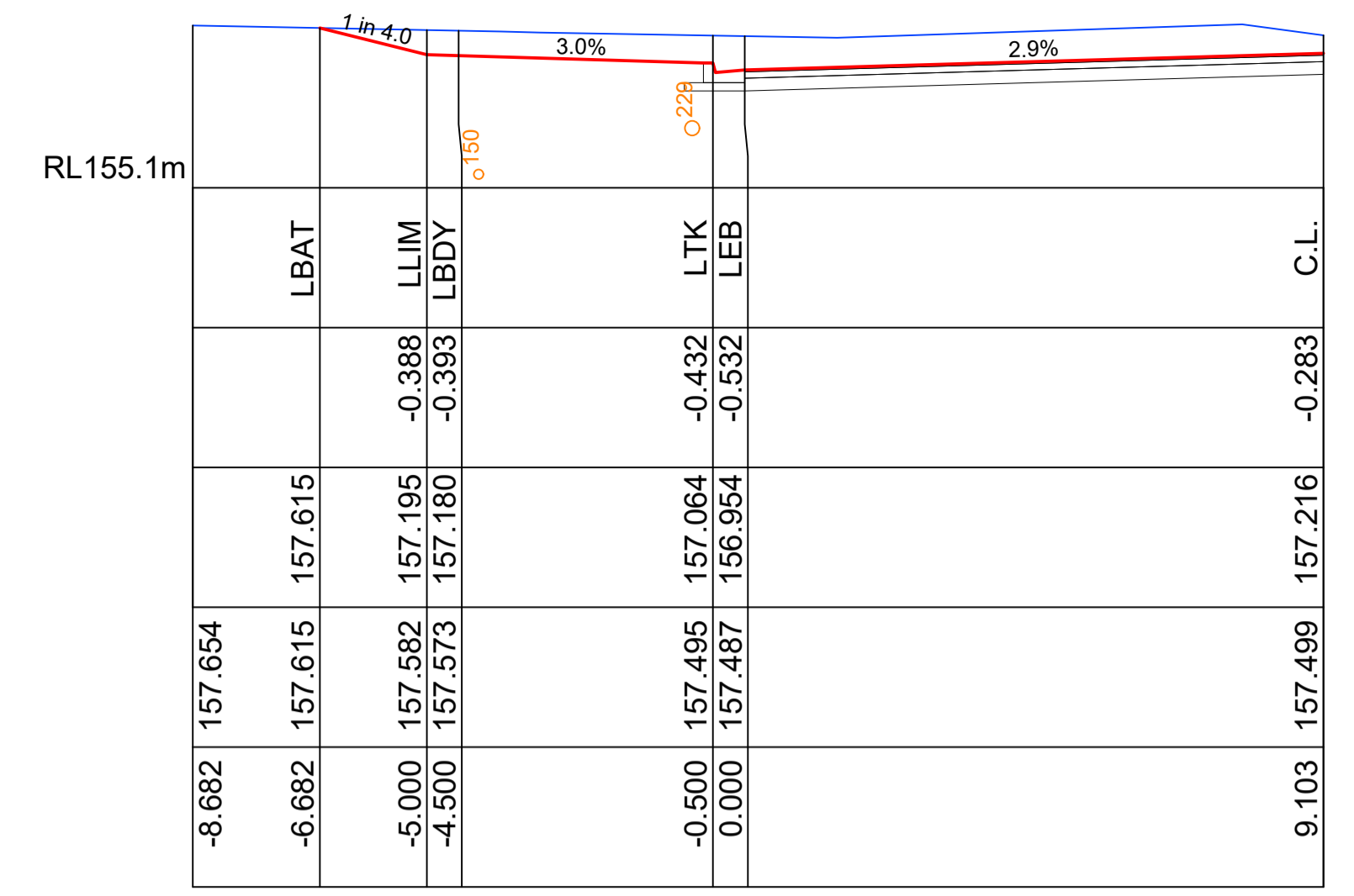
Client Project No.
Sheet
09 of 18
Revision
2



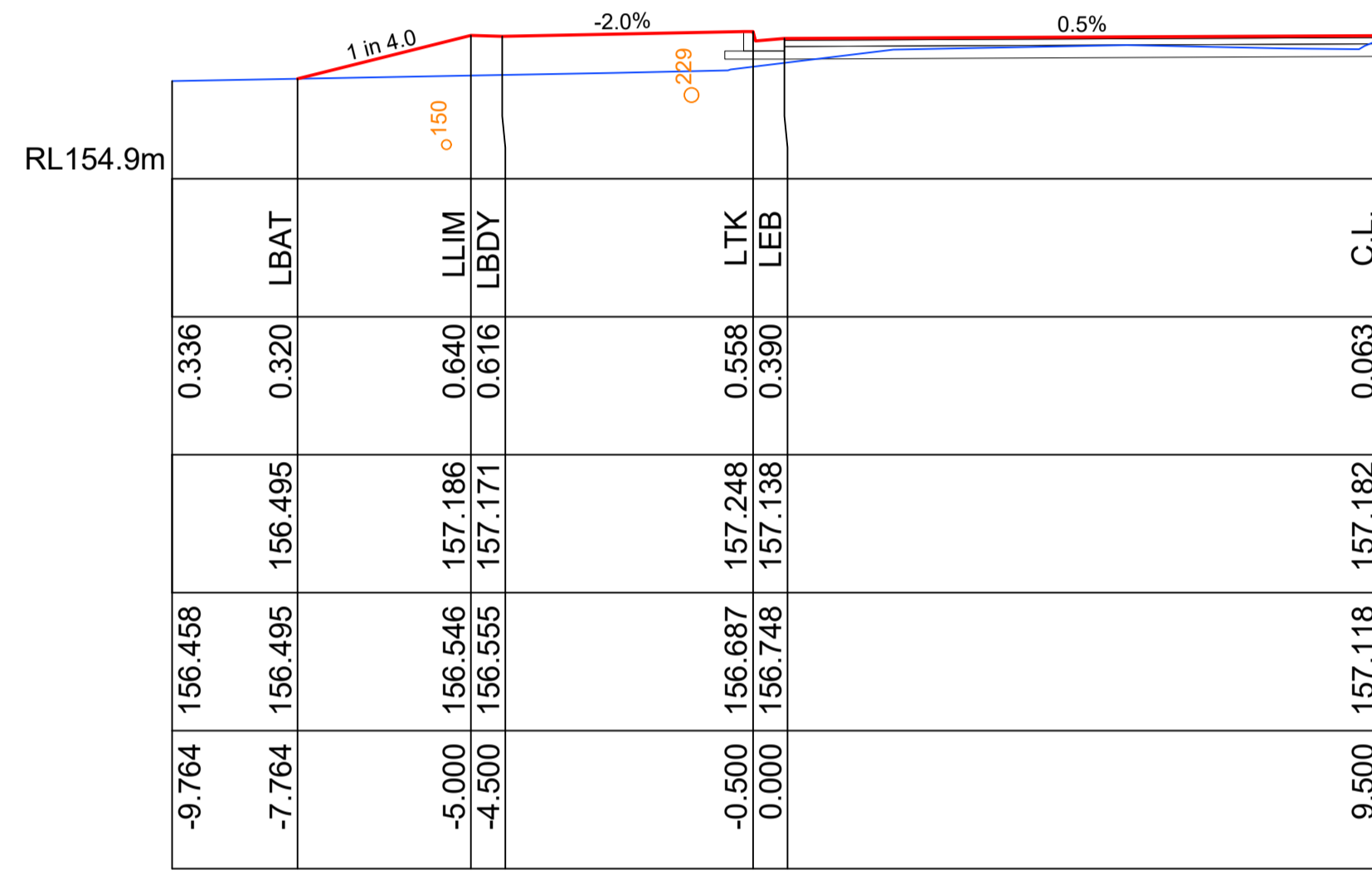
Ch 46.143 m
Cul-de-Sac



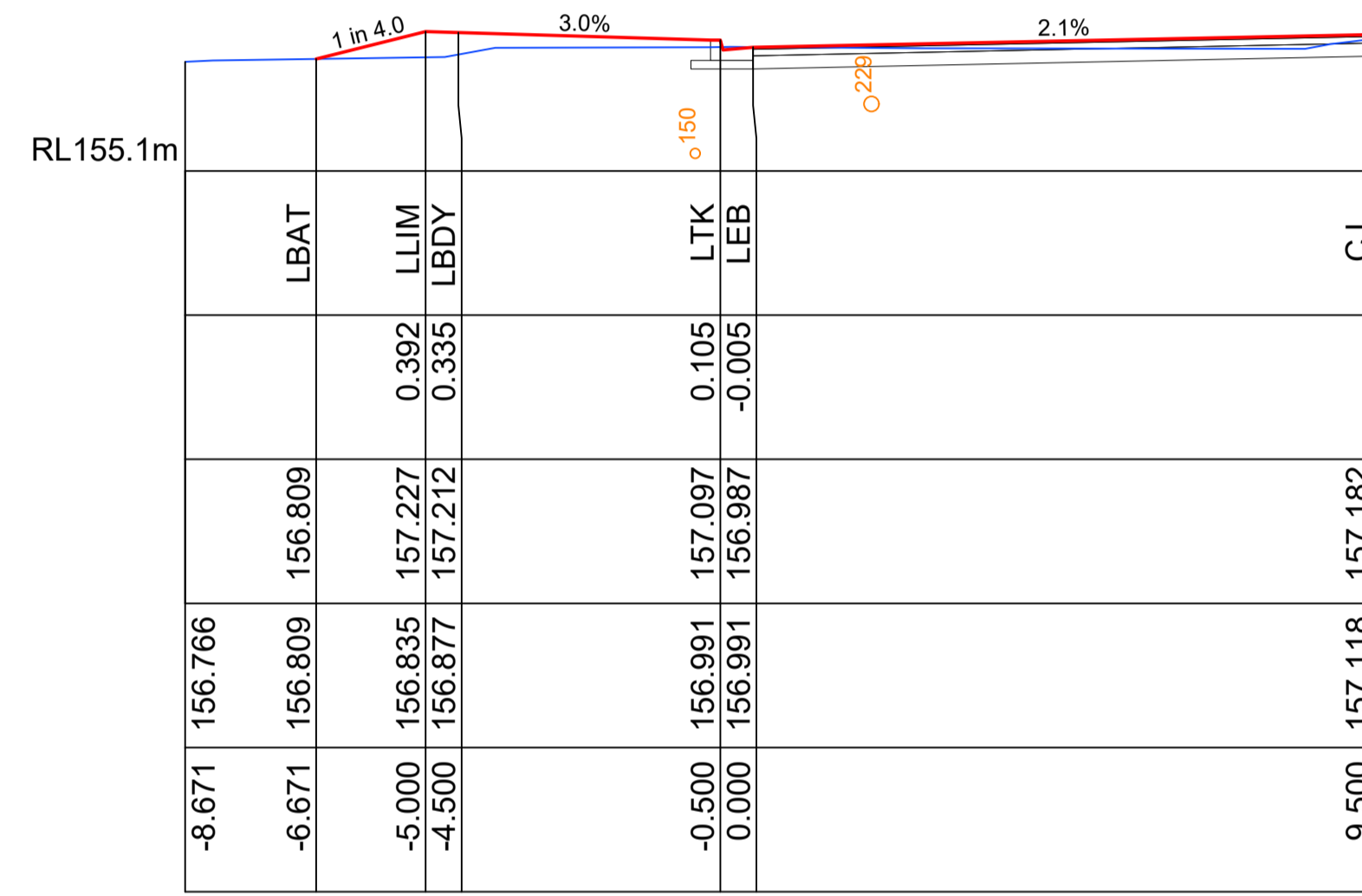
Ch 53.011 m
Cul-de-Sac



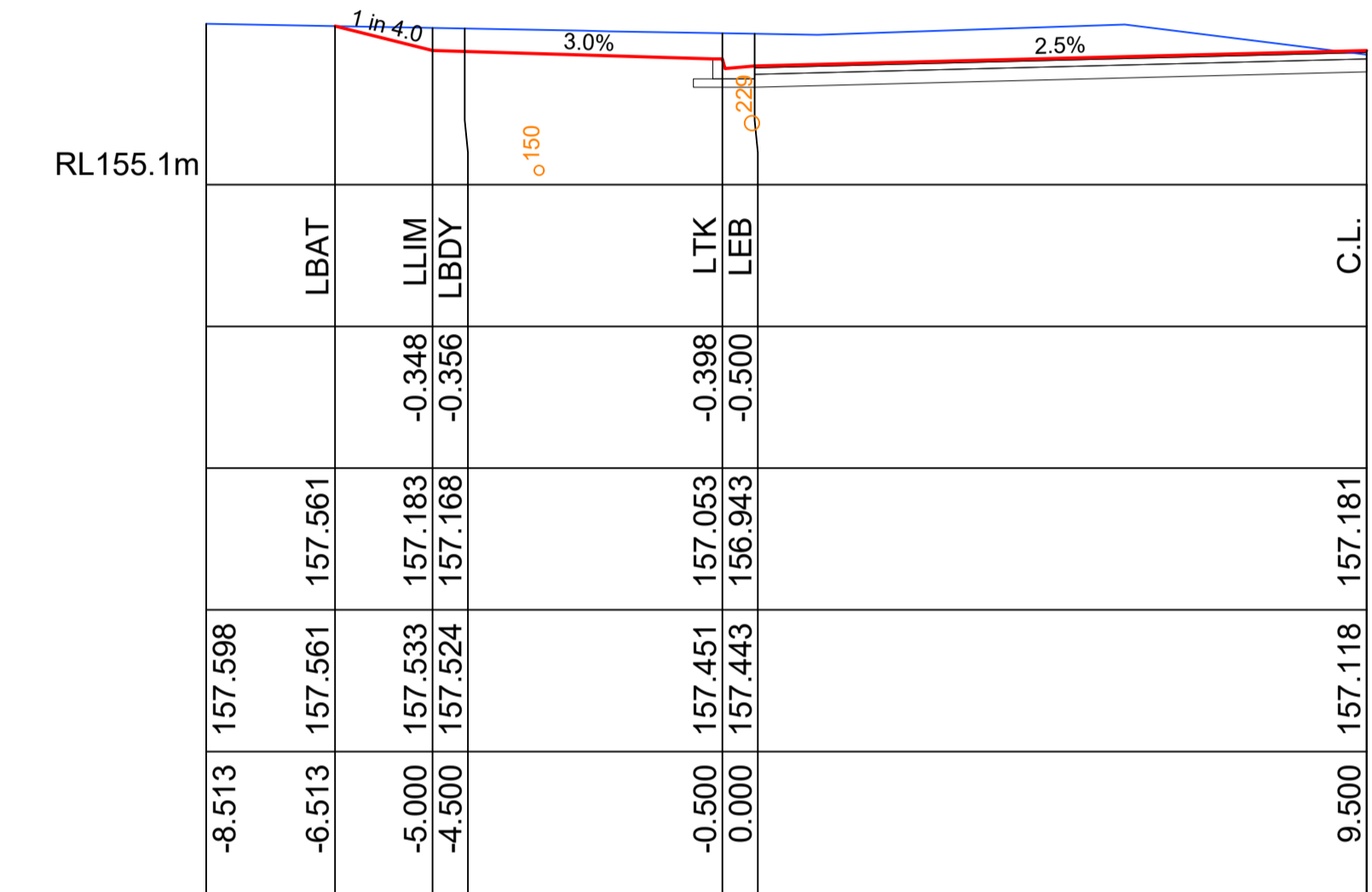
Ch 58.011 m
Cul-de-Sac



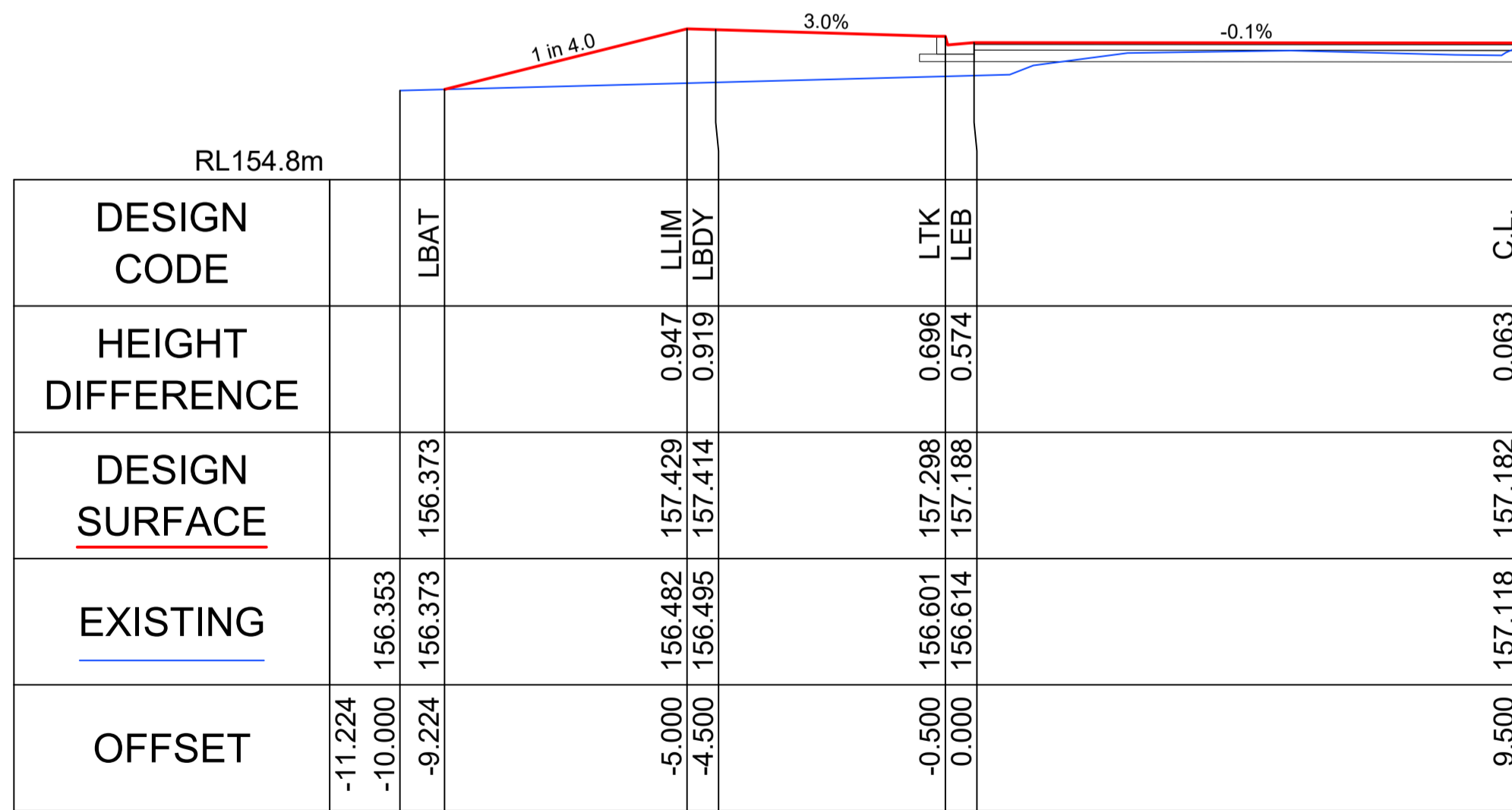
Ch 43.370 m
Cul-de-Sac



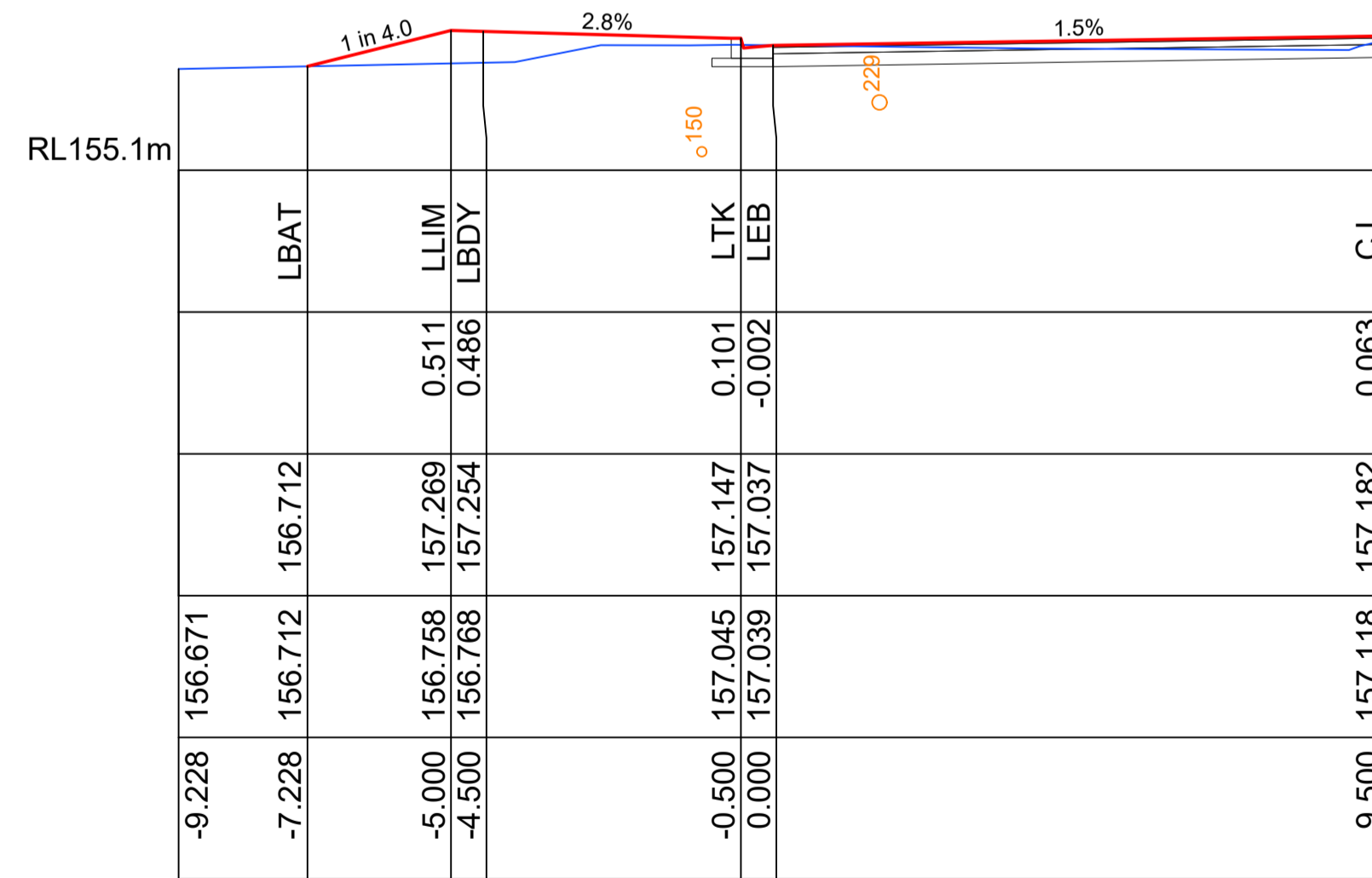
Ch 51.688 m
Cul-de-Sac



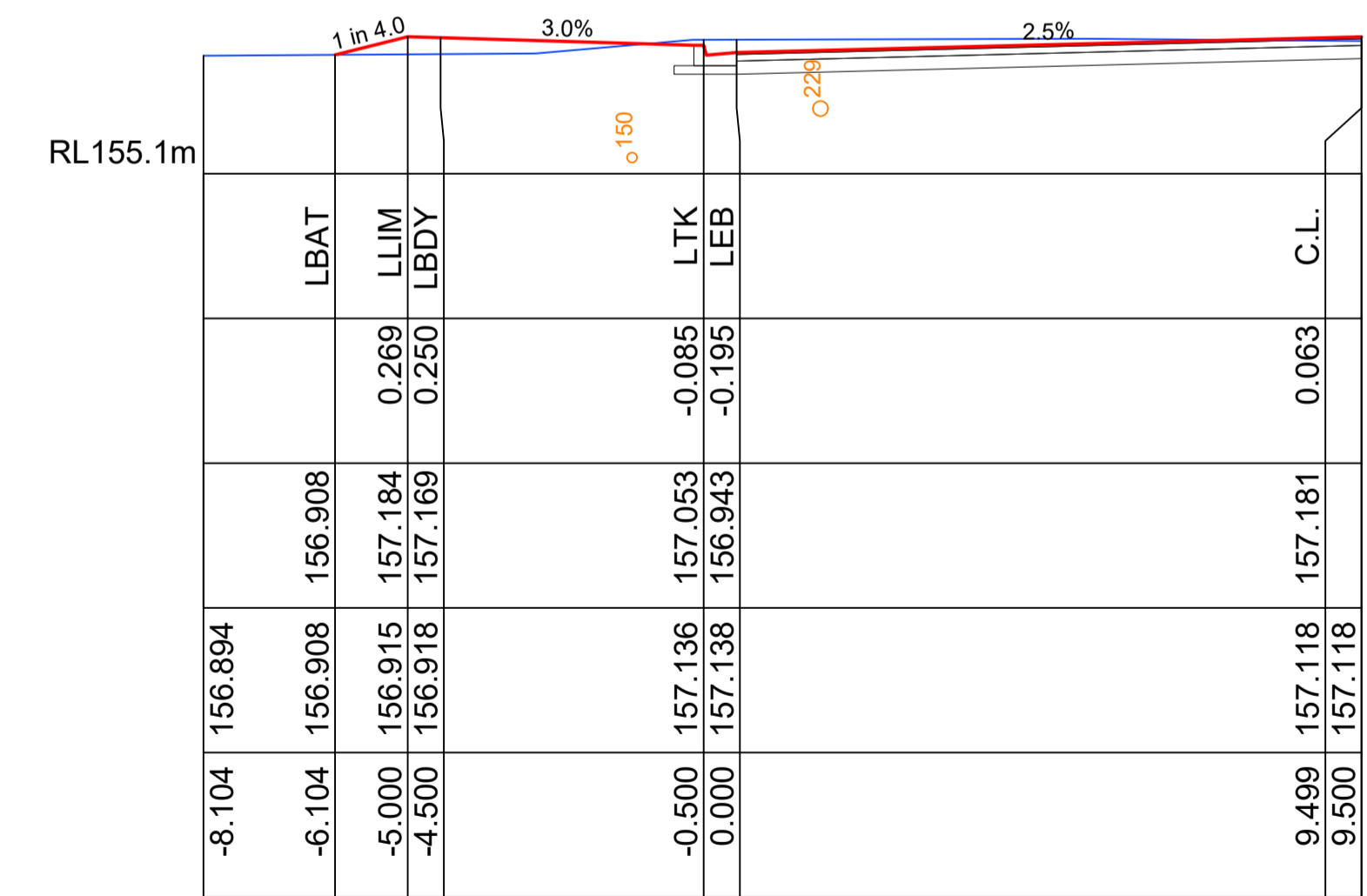
Ch 57.000 m
Cul-de-Sac



Ch 40.598 m
Cul-de-Sac



Ch 48.916 m
Cul-de-Sac



Ch 54.461 m
Cul-de-Sac

NOT FOR CONSTRUCTION

HOR 1:100 VER 1:100

DESIGN CODE	HEIGHT DIFFERENCE	DESIGN SURFACE	EXISTING	OFFSET
LBAT		156.373	156.373	-9.224
LLIM	0.947	157.429	156.482	-5.000
LBDY	0.919	157.414	156.495	-4.500
LTK	0.696	157.298	156.601	-0.500
LEB	0.574	157.188	156.614	0.000
C.L.	0.063	157.182	157.118	9.500

Issue date	Drawing completed by	Designed & dwg. checked by	Verified by	Issue authorised (*)
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12-02-2022	L.V.R.	L.V.R.	L.V.R.	

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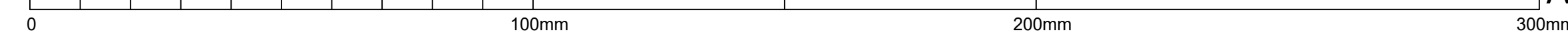
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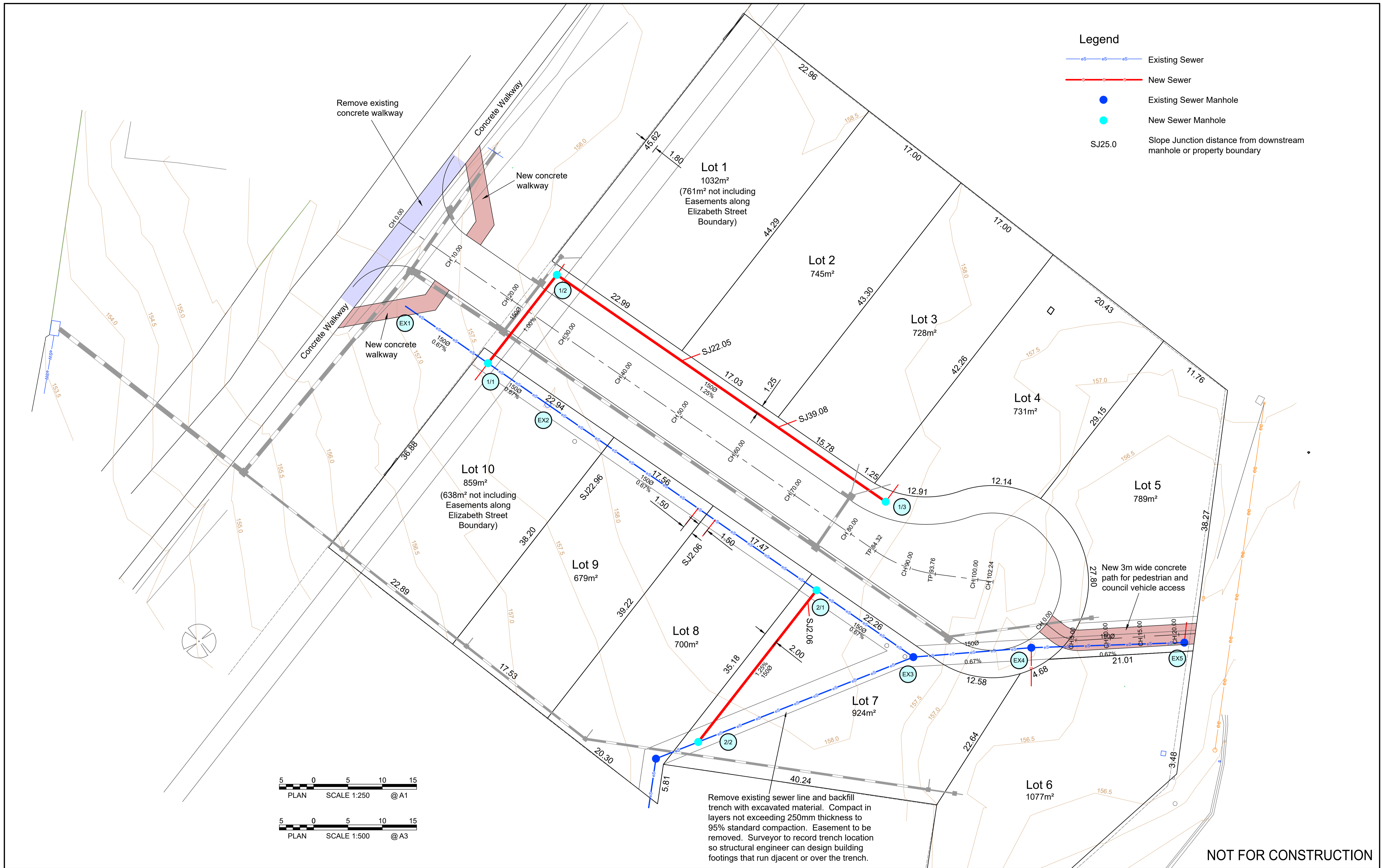
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North

Project Residential Subdivision Lot 2 DP 1275374 Elizabeth Street Narrandera NSW 2700	Drawing Title Cul-de-Sac Cross Sections
Client Murray Nielson Architect / Project Manager	Scales 1:100 (A1), 1:200 (A3)
Architect / Project Manager Murray Nielson	Client Project No.
	Drawing No. 21W043 - C10

Sheet 10 of 18	Revision 2
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Issue authorised (*)

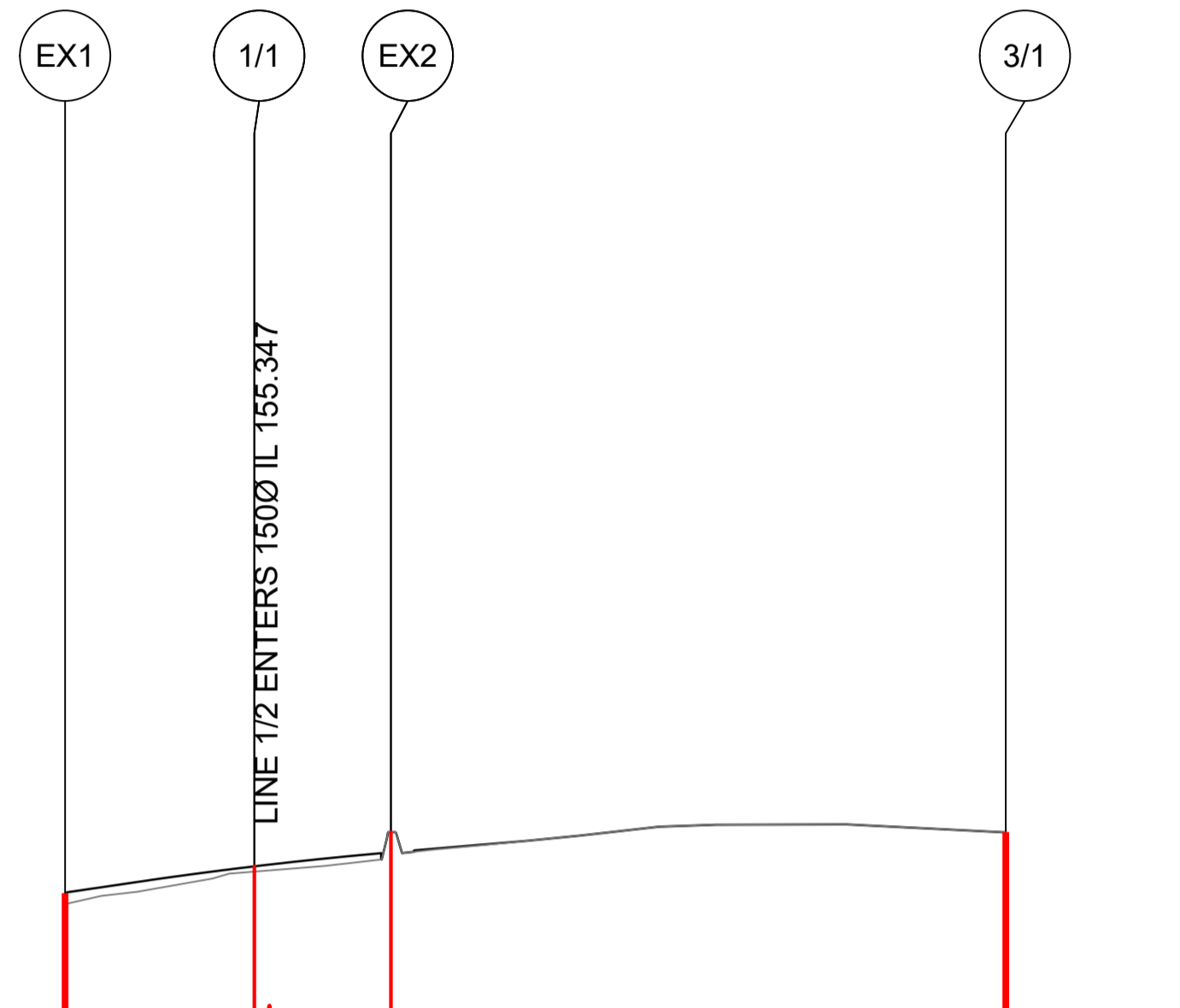
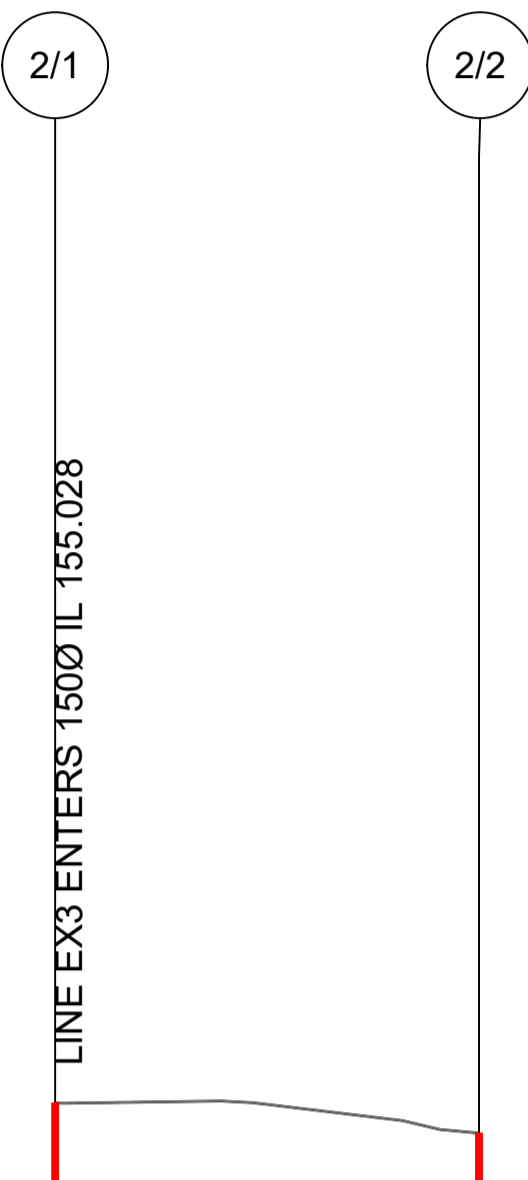
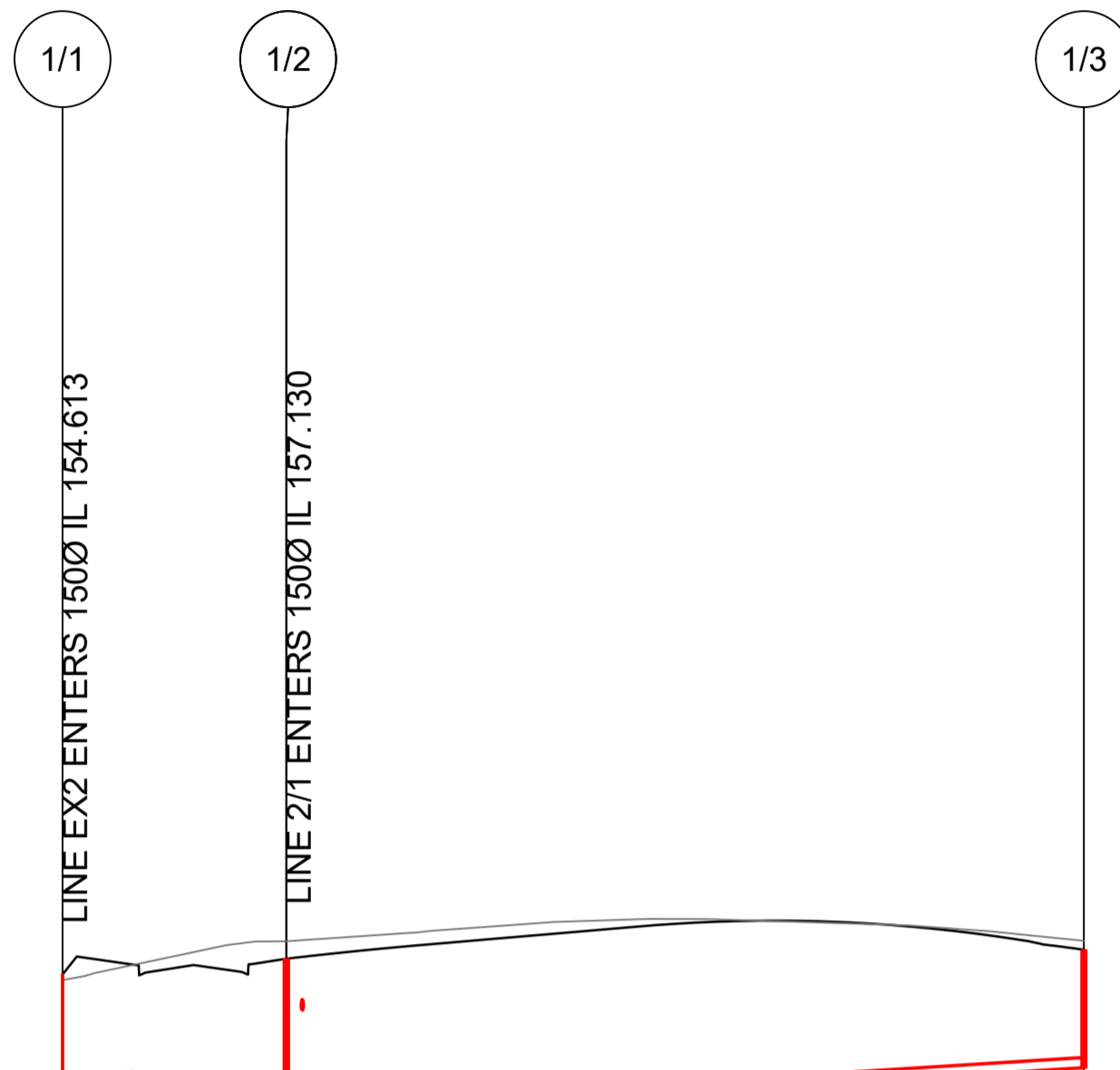
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North

Project
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Lot 2 DP 1275374
Elizabeth Street Narrandera NSW 2700

Client
Murray Nielson
Architect / Project Manager
Murray Nielson

Drawing Title Sewer Plan		Client Project No.
Scales 1:250(A1), 1:500(A3)		Sheet 12 of 18
Drawing No. 21W043 - C12		Revision 2



	1/1	1/2	1/3
DESIGN TENEMENTS MAX / MIN TENEMENTS			
PIPE DETAILS SLOPE/GRADE	150Ø Smooth Walled Smooth Walled SN8 1 in 100.1 / 1.00%	150Ø Smooth Walled Smooth Walled SN8 1 in 79.7 / 1.25%	
DATUM RL 147.3			
DEPTH TO INVERT	2.303	2.370 2.320	1.722
INVERT LEVEL	155.347	155.510 155.560	156.290
FINISHED SURFACE	157.650	157.880	158.012
EXISTING SURFACE	157.568	158.134	158.138
CHAINAGE	0.000	16.319	74.487
	16.319	58.168	

Line 1

	2/1	2/2
DEPTH TO INVERT	1.925	1.177
INVERT LEVEL	156.250	156.600
FINISHED SURFACE	158.175	157.777
EXISTING SURFACE	158.175	157.777
CHAINAGE	0.000	28.033
	28.033	

Line 2

	EX1	1/1	EX2	3/1
DEPTH TO INVERT	2.726	3.050 3.037	3.495 3.465	3.145
INVERT LEVEL	154.502	154.600 154.613	154.683 154.713	155.031
FINISHED SURFACE	157.228	157.650	158.178	158.175
EXISTING SURFACE	157.066	157.568	158.178	158.175
CHAINAGE	0.000	14.646	25.217	72.813
	14.646	10.571	47.596	

EX

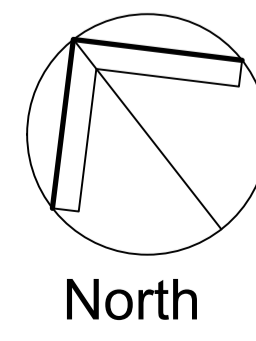
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

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Revision	Amendment or reason for issue	Issue date	Drawing completed by	Designed & dwg. checked by	Verified by	Issue authorised (*)
2	Issued For Development Application	07-11-2022	L.V.R.	L.V.R.	L.V.R.	
1	Issued For Discussion	12-02-2022	L.V.R.	L.V.R.	L.V.R.	

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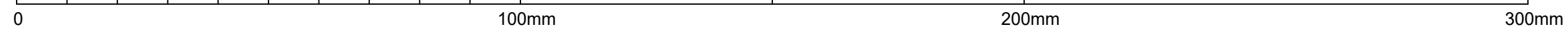


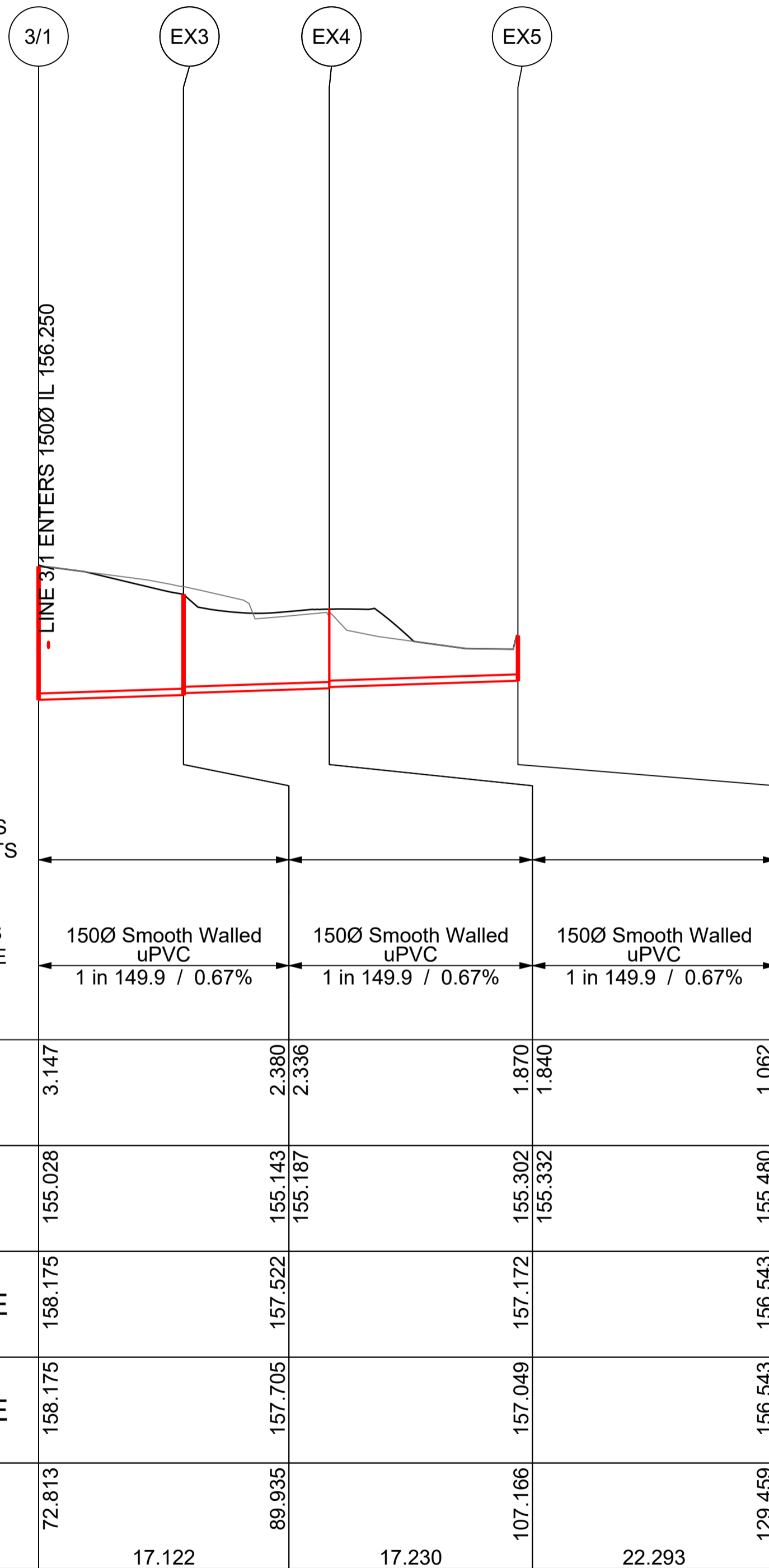
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Project
Residential Subdivision
Lot 2 DP 1275374
Elizabeth Street Narrandera NSW 2700

Client
Murray Nielson
Architect / Project Manager

Drawing Title Sewer Longsections		Client Project No.
Scale Hor1:500, Ver1:100	Drawing No. 21W043 - C13	
Sheet 13 of 18	Revision 2	

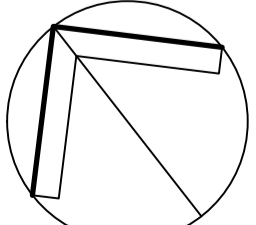


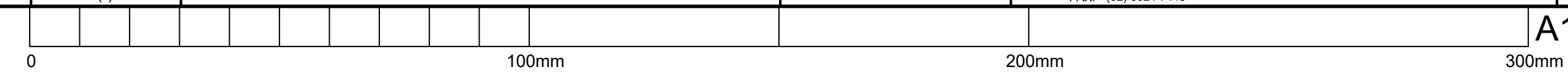


SCALES: HORIZONTAL 1:500 VERTICAL 1:100

EX

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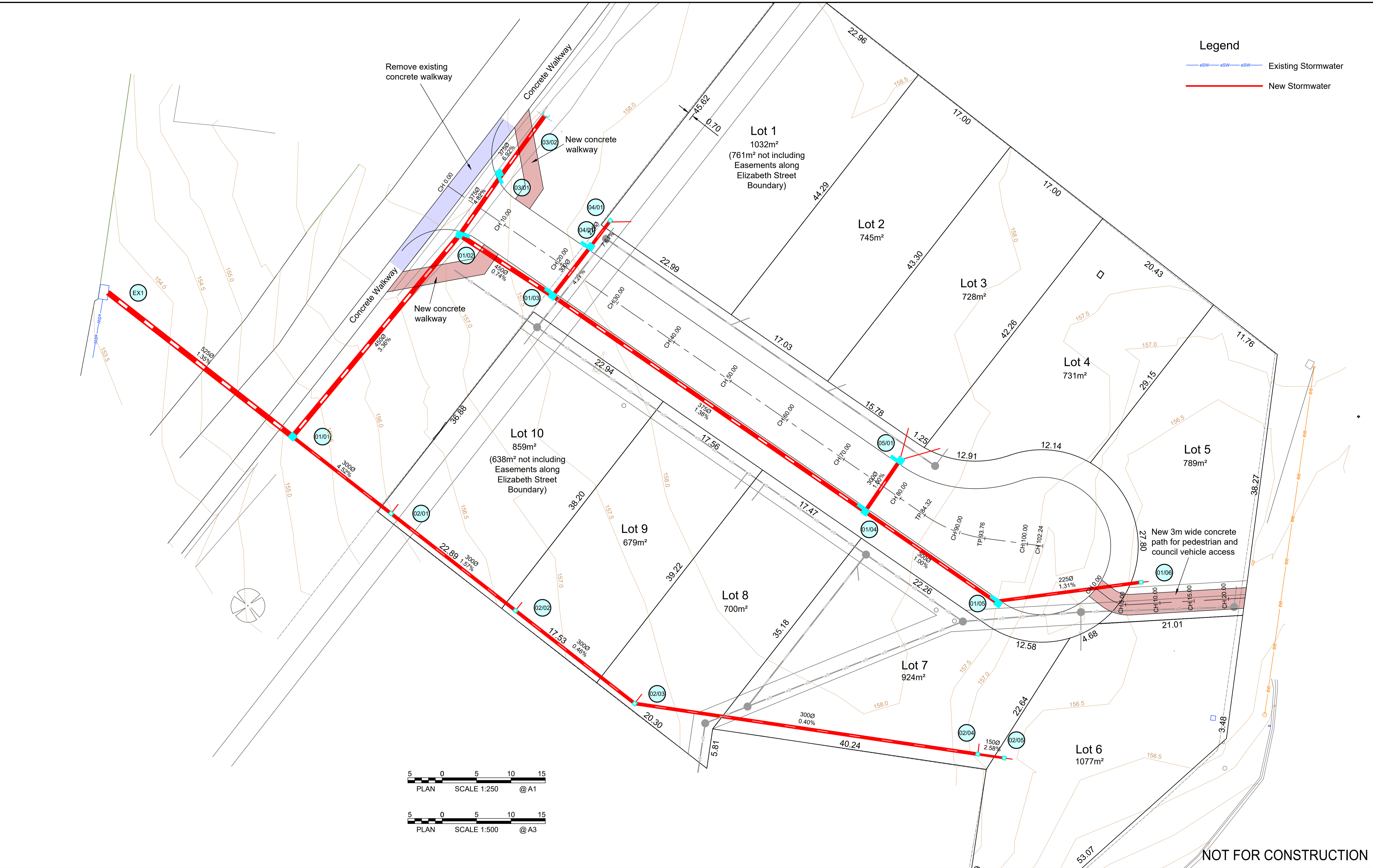
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Revision Amendment or reason for issue Issue date Drawing completed by Designed & dwg. checked by Verified by Issue authorised (*)						Drawing No. 21W043 - C14		Sheet 14 of 18		Revision 2	



A1 SHEET

Legend

- eSW — eSW — eSW Existing Stormwater
- New Stormwater



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1	Issued For Discussion	12-02-2022	L.V.R.	L.V.R.	L.V.R.
Revision	Amendment or reason for issue	Issue date	Drawing completed by	Designed & dwg. checked by	Verified by X = Not verified

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North

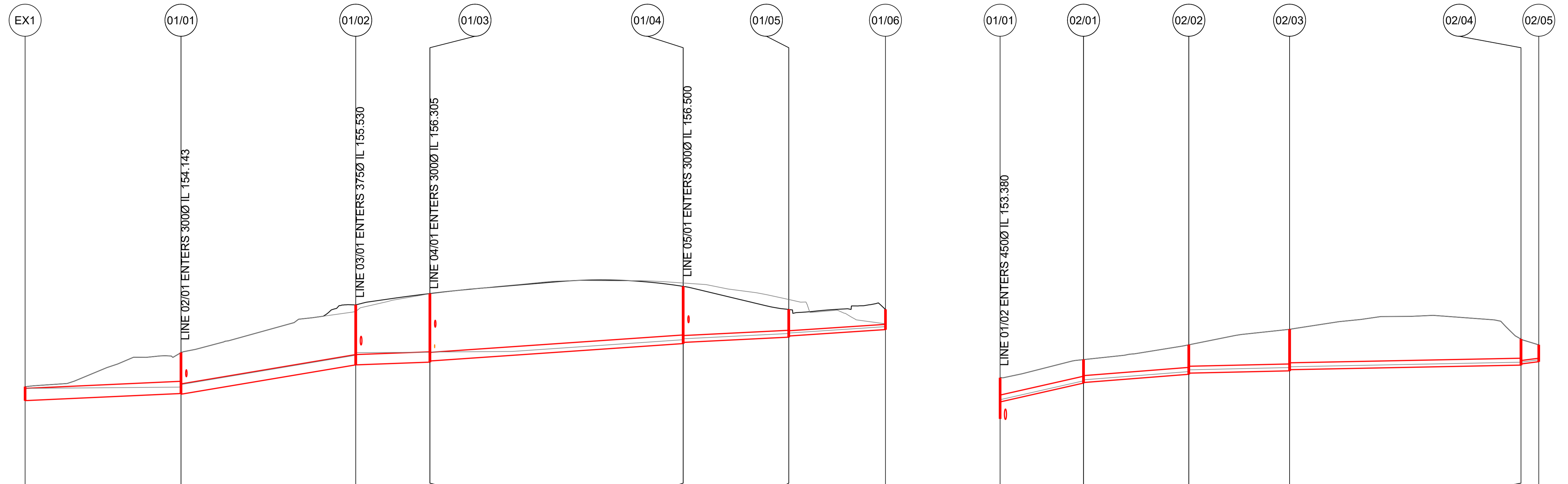
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Client
Murray Nielson
Architect / Project Manager

Drawing Title Stormwater Plan		Client Project No.
Scale Hor:1:500, Ver:1:100	Sheet 15 of 18	
Drawing No. 21W043 - C15	Revision 2	



CAPACITY (L/s)	586	731	337	287	135	77
VELOCITY (m/s)	2.09	2.14	1.35	1.47	0.93	0.78
PIPE FLOW (L/s)	467	340	215	163	65	32
PIPE DETAILS	525Ø Class 2 RRJ	450Ø Class 2 RRJ	450Ø Class 2 RRJ	375Ø Class 2 RRJ	300Ø Class 2 RRJ	225Ø Class 2 RRJ
SLOPE/GRADE	0.91%	3.36%	0.74%	1.38%	1.00%	1.33%

DATUM RL 142.5							
HGL	153.634	153.944 154.341	154.924 155.349	155.399 155.442	155.841 155.990	156.051 156.119	156.620
DEPTH TO INVERT	0.607	1.785 1.815	2.616	2.992 2.942	2.496 2.446	1.210 1.160	0.877
INVERT LEVEL	153.100	153.410 153.380	154.660	154.780 154.830	155.590 155.640	155.870 155.920	156.200
FINISHED SURFACE	153.707	155.195	157.276	157.772	158.086	157.080	157.077
EXISTING SURFACE	153.707	155.195	156.989	157.760	158.233	157.514	156.451
CHAINAGE	0.000	33.998	72.102	88.274	143.508	166.537	187.622

CAPACITY (L/s)	302	175	91	85	37
VELOCITY (m/s)	1.87	1.49	1.19	0.89	1.78
PIPE FLOW (L/s)	132	105	84	63	31
PIPE DETAILS	300Ø PVC	300Ø PVC	300Ø PVC	300Ø PVC	150Ø PVC
SLOPE/GRADE	4.52%	1.57%	0.46%	0.40%	2.58%

DATUM RL 143.6						
HGL	154.341	155.163 155.330	155.518 155.622	155.722 155.810	156.010 156.018	156.542
DEPTH TO INVERT	1.052	1.025 1.000	1.286 1.236	1.812 1.762	1.136 1.086	0.733
INVERT LEVEL	154.143	154.965 154.990	155.350 155.400	155.500 155.550	155.750 155.800	155.900
FINISHED SURFACE	155.195	155.990	156.636	157.312	156.886	156.633
EXISTING SURFACE	155.195	155.990	156.636	157.312	156.886	156.633
CHAINAGE	0.000	18.192	41.153	63.129	113.590	117.468

SCALES: HORIZONTAL 1:500 VERTICAL 1:100

Line 1

Line 2

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2	Issued For Development Application	07-11-2022	L.V.R.	L.V.R.	L.V.R.
1	Issued For Discussion	12-02-2022	L.V.R.	L.V.R.	L.V.R.
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Issue authorised (*)

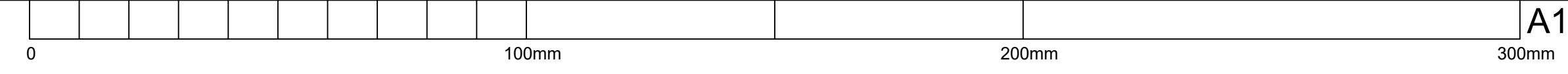


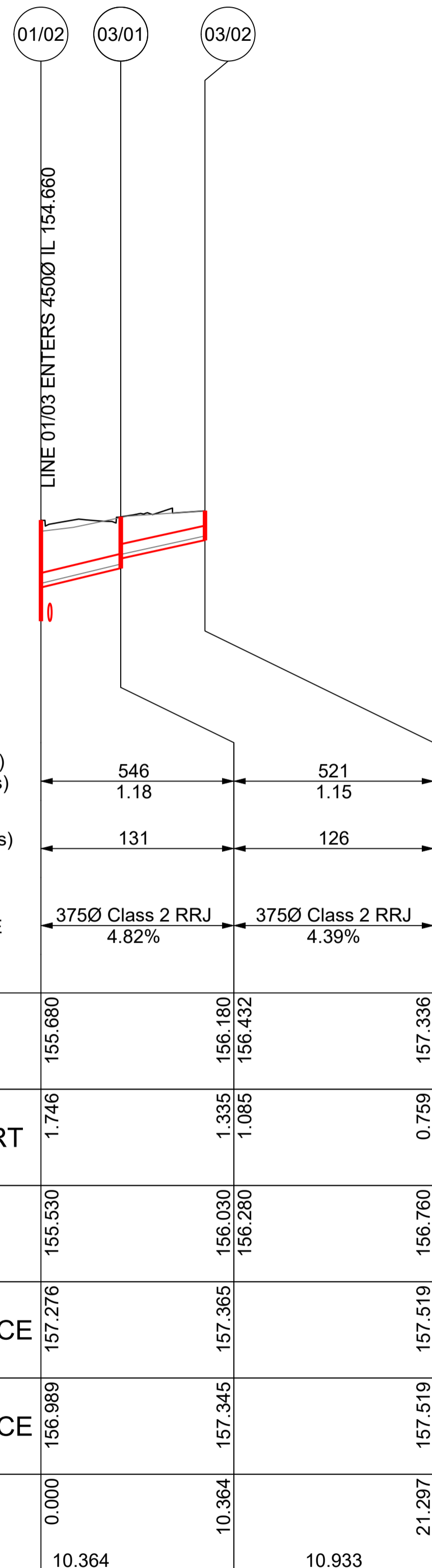
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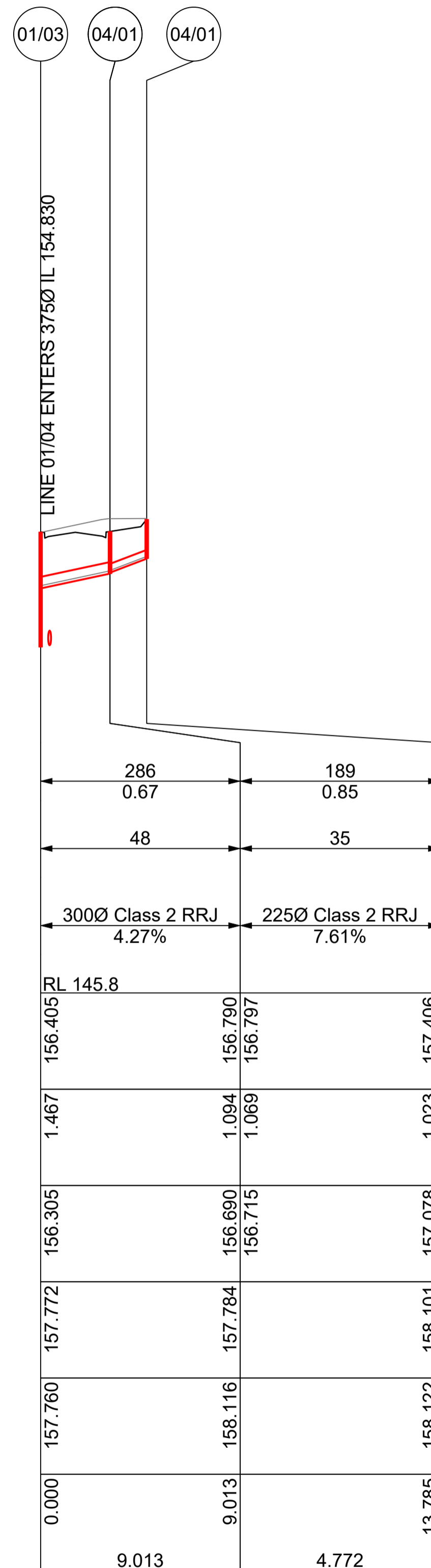
Client
Murray Nielson
Architect / Project Manager
Murray Nielson

Drawing Title Stormwater Longsections		Client Project No.
Scales H1:500, V1:100	Sheet 16 of 18	
Drawing No. 21W043 - C16	Revision 2	

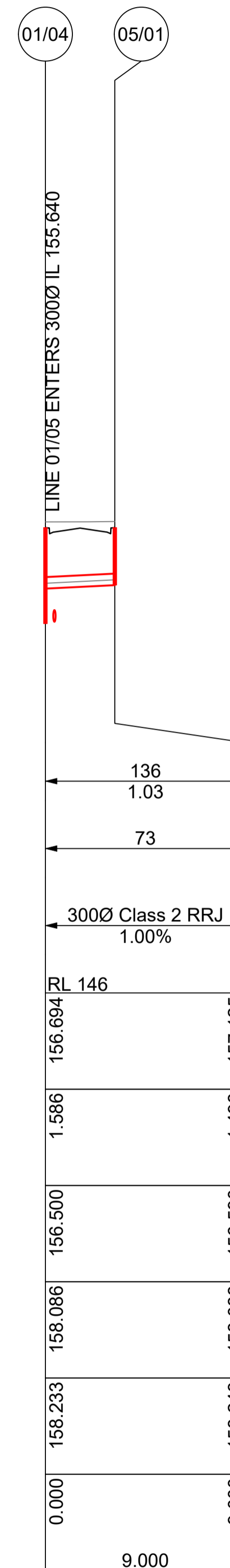




Line 3



Line 4



Line 5

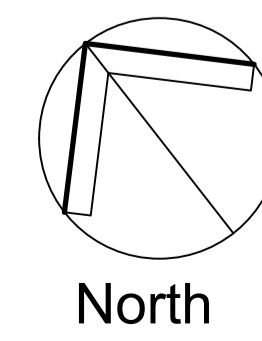
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

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Client
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Architect / Project Manager

Drawing Title
Stormwater Longsections

Scales
H1:500, V1:100

Drawing No.
21W043 - C17

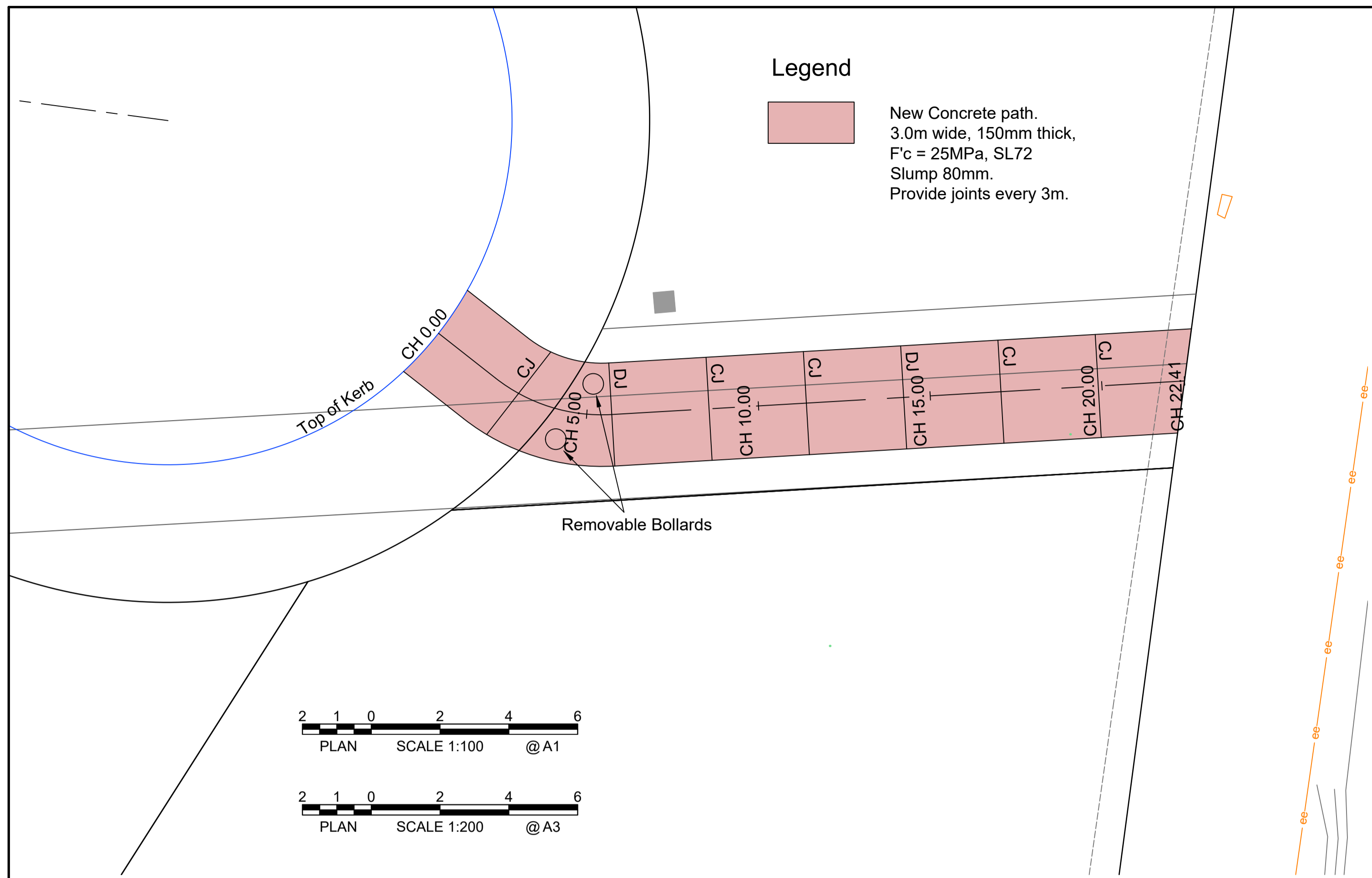
Client Project No.

Sheet
17 of 18

Revision
2

A1 SHEET

0 100mm 200mm 300mm



Chainage	Existing Surface	Design Surface	Cut / Fill
0.000	156.644	157.256	F 0.612
1.000	156.606	157.245	F 0.639
2.000	156.593	157.234	F 0.651
2.104	156.581	157.233	F 0.652
3.000	156.559	157.224	F 0.665
4.000	156.533	157.170	F 0.637
5.000	156.506	157.115	F 0.609
5.728	156.486	157.075	F 0.589
6.000	156.479	157.060	F 0.581
7.000	156.451	157.006	F 0.555
8.000	156.424	156.951	F 0.527
9.000	156.396	156.897	F 0.501
10.000	156.369	156.842	F 0.473
11.000	156.342	156.787	F 0.445
12.000	156.314	156.733	F 0.419
13.000	156.287	156.678	F 0.391
14.000	156.260	156.624	F 0.364
15.000	156.237	156.569	F 0.332
15.887	156.235	156.521	F 0.286
16.000	156.234	156.517	F 0.283
17.000	156.231	156.483	F 0.252
18.000	156.229	156.450	F 0.221
19.000	156.226	156.416	F 0.190
20.000	156.255	156.383	F 0.128
21.000	156.264	156.349	F 0.085
22.000	156.279	156.316	F 0.037
22.406	156.300	156.302	F 0.002

IP: 157.266
 IP: 157.233
 IP: 157.224
 IP: 156.521

-1.093%
 -0.021%
 -5.460%
 -3.351%

R.L. 155.000

SCALES: HORIZONTAL 1:100 VERTICAL 1:20

Walkway

RL155.6m

DESIGN CODE	LBAT	LW	C.L.	RW	RBAT
HEIGHT DIFFERENCE	0.196	0.142	0.034		
DESIGN SURFACE	156.375	156.852	156.842	156.832	156.363
EXISTING	156.377	156.372	156.369	156.366	156.363
OFFSET	-2.500	-1.000	0.000	1.000	1.938
	-1.953				2.500

Ch 10.000 m Walkway

RL155.4m

DESIGN CODE	LBAT	LW	C.L.	RW	RBAT
HEIGHT DIFFERENCE					
DESIGN SURFACE	156.255	156.255	156.383	156.255	156.327
EXISTING	156.255	156.256	156.393	156.227	156.356
OFFSET	-2.500	-1.276	0.000	1.000	1.292
	-1.000				2.500

Ch 20.000 m Walkway

RL155.7m

DESIGN CODE	LBAT	LW	C.L.	RW	RBAT
HEIGHT DIFFERENCE	0.879	0.867	0.814	0.497	0.269
DESIGN SURFACE	156.504	157.125	157.115	157.105	156.525
EXISTING	156.504	156.505	156.506	156.507	156.525
OFFSET	-2.500	-2.241	0.000	1.000	2.160
					2.500

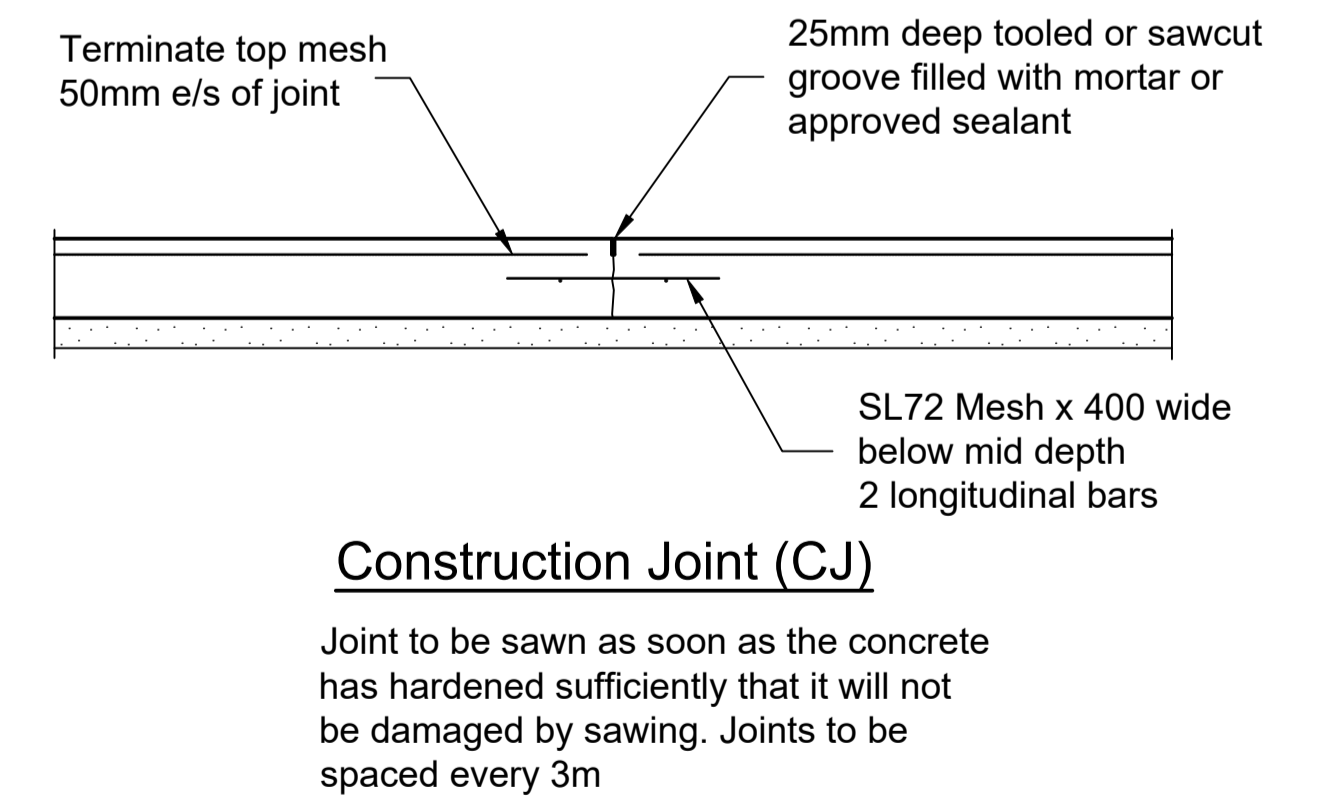
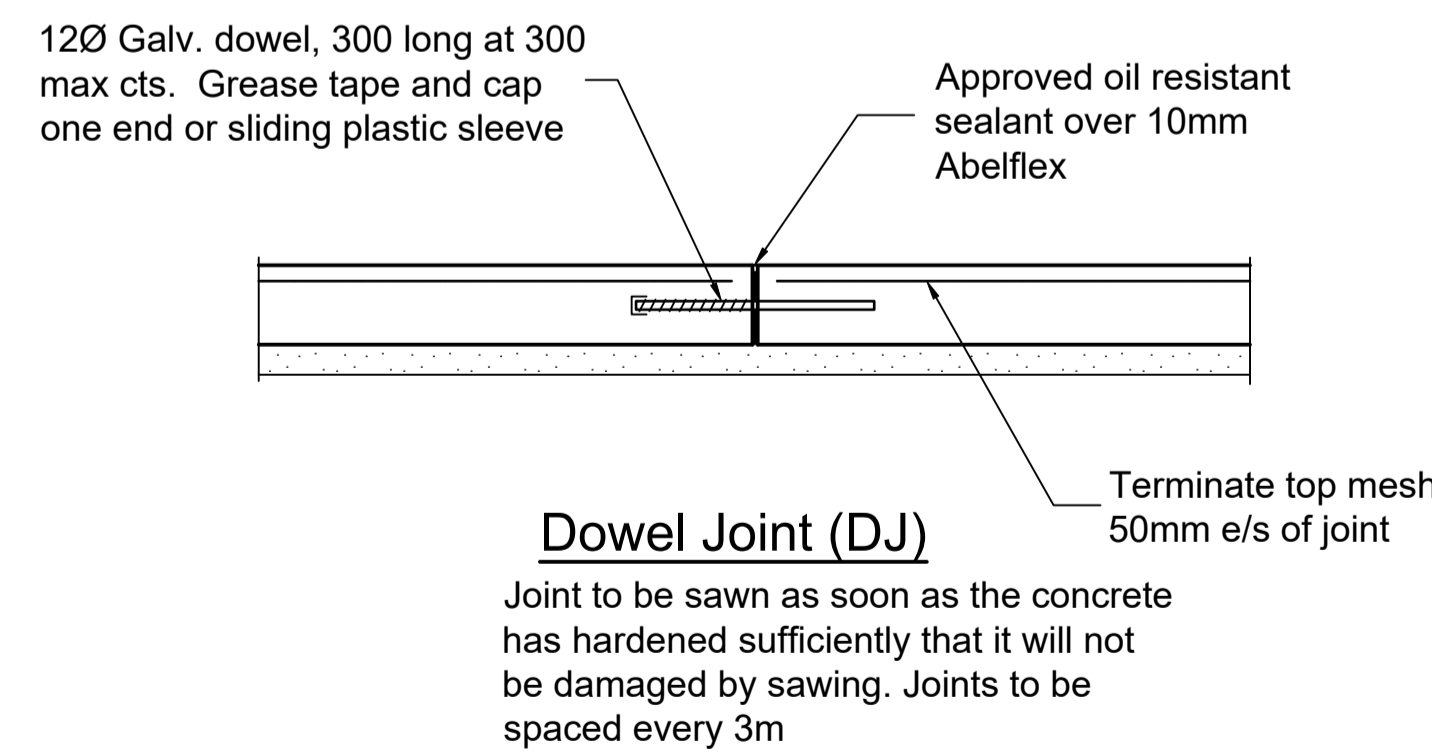
Ch 5.000 m Walkway

HOR 1:50 VER 1:50

RL155.4m

DESIGN CODE	LBAT	LW	C.L.	RW	RBAT
HEIGHT DIFFERENCE	-56.490	-56.406	-56.335	-56.237	-56.340
DESIGN SURFACE	156.238	156.238	156.579	156.569	156.559
EXISTING	156.240	156.238	156.235	156.237	156.240
OFFSET	-2.500	-1.683	-1.000	0.000	1.000
					1.634
					2.500

Ch 15.000 m Walkway



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North

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Client
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 Architect / Project Manager
 Murray Nielson

Drawing Title	Client Project No.
Walkway	
Scales	Sheet
As Shown	18 of 18
Drawing No.	Revision
21W043 - C18	2