

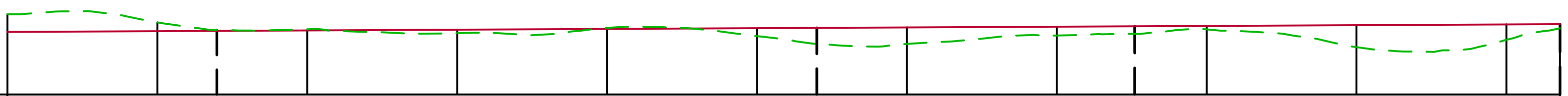
DATUM R.L. -2.00

VERT GEOMETRY: -1.55% 6.34m | 2.89% 23.63m | -0.69% 152.38m | 0.50% 64.69m | 0.50% 14.15m | -0.50% 31.81m | 0.50% 235.47m

HORIZ GEOMETRY: 26.23 318°36'24" | 13.06 316°48'42" | 32.29 325°25'18" | 23.42 327°35'42" | 24.39 329°22'57" | 30.11 330°03'55" | 21.67 327°52'22" | 7.67 326°47'35" | 20.13 326°51'47" | R=115.47 A=29.392 | 56.01 347°06'03" | R=23.30 A=18.259 | R=74.68 A=45.307

CHAINAGE	EXISTING LEVEL	DESIGN LEVEL	CUT/FILL DEPTH
0.00	6.62		
20.00	9.42	6.92	-2.50
26.23	11.13	7.10	-4.03
39.30	9.55	7.14	-2.40
40.00	9.39	7.14	-2.26
60.00	8.46	7.00	-1.46
71.59	6.86	6.92	0.06
80.00	4.66	6.86	2.20
95.01	4.46	6.76	2.29
100.00	4.29	6.72	2.43
119.40	6.79	6.59	-0.20
120.00	6.84	6.58	-0.26
140.00	6.99	6.45	-0.54
149.51	6.46	6.38	-0.08
160.00	6.22	6.31	0.09
171.18	5.76	6.23	0.47
178.85	5.58	6.18	0.59
180.00	5.60	6.17	0.57
198.98	5.88	6.23	0.35
200.00	5.87	6.24	0.37
220.00	5.77	6.34	0.57
228.37	5.59	6.38	0.79
240.00	5.30	6.44	1.14
260.00	5.51	6.41	0.90
280.00	4.74	6.31	1.58
284.38	4.55	6.29	1.74
300.00	5.82	6.28	0.46
302.64	6.48	6.29	-0.19
320.00	8.74	6.38	-2.36

LONGITUDINAL SECTION FOR ROAD 1



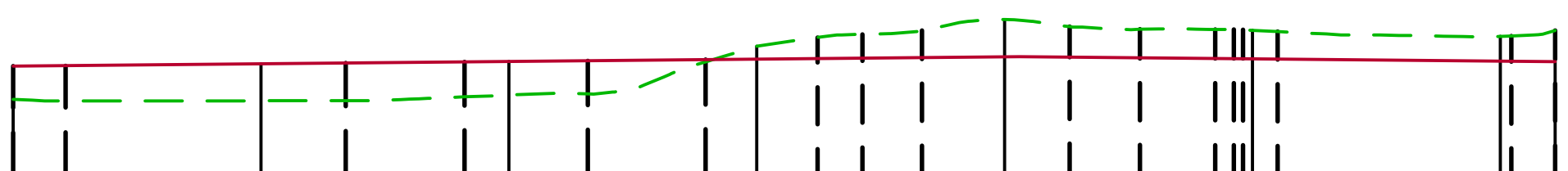
DATUM R.L. -2.00

Vertical Geometry: 0.50% 235.47m

HORIZ GEOMETRY: R=74.68 A=45.307 | 80.05 323°25'59" | 42.42 323°30'26" | 56.74 323°17'05"

CHAINAGE	EXISTING LEVEL	DESIGN LEVEL	CUT/FILL DEPTH
320.00	8.74	6.38	-2.36
340.00	7.64	6.48	-1.16
347.94	6.62	6.52	-0.10
360.00	6.72	6.58	-0.14
380.00	6.21	6.68	0.47
400.00	6.90	6.78	-0.12
420.00	5.80	6.88	1.08
427.99	4.75	6.92	2.17
440.00	4.77	6.98	2.21
460.00	5.88	7.08	1.20
470.41	6.11	7.13	1.02
480.00	6.71	7.18	0.47
500.00	4.34	7.28	2.94
520.00	5.33	7.38	2.05
527.14	6.86	7.42	0.55

LONGITUDINAL SECTION FOR ROAD 1



DATUM R.L. -2.00

VERT GEOMETRY: 0.95% 81.22m | -0.94% 43.21m

HORIZ GEOMETRY: 4.22 57°33'10" | 22.62 55°50'43" | R=7.76 A=9.572 | 9.95 129°32'08" | 9.51 127°53'35" | 9.05 126°49'13" | 3.61 4.81 126°05'28" 7'15" | R=7.75 A=11.908 | 5.67 218°51' | R=35.1 1.92 5.80 ... 49" | 18.86 237°38'26" | 3.53 226°48'42"

CHAINAGE	EXISTING LEVEL	DESIGN LEVEL	CUT/FILL DEPTH
0.00	4.05	6.72	2.68
4.22	3.92	6.76	2.84
20.00	3.93	6.91	2.99
26.84	3.93	6.98	3.05
36.42	4.25	7.07	2.82
40.00	4.39	7.10	2.71
46.37	4.48	7.16	2.68
55.87	7.08	7.25	0.18
60.00	8.33	7.29	-1.04
64.92	9.04	7.34	-1.70
68.53	9.30	7.38	-1.92
73.34	9.61	7.42	-2.19
80.00	10.49	7.48	-3.01
85.25	9.92	7.46	-2.46
90.92	9.71	7.40	-2.30
97.00	9.69	7.35	-2.35
98.49	9.69	7.33	-2.36
99.24	9.67	7.33	-2.34
100.00	9.63	7.32	-2.31
102.04	9.53	7.30	-2.23
120.00	9.14	7.13	-2.01
120.90	9.17	7.12	-2.04
124.43	9.61	7.09	-2.52

LONGITUDINAL SECTION FOR ROAD 2

LEGEND:

- FINISHED GROUND LEVEL (solid red line)
- EXISTING GROUND LEVEL (dashed green line)

NOTES:

1. REFER DWG 3000 FOR ROADING ALIGNMENTS.

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ROADING LONGSECTIONS SHEET 1

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: 1:1000 (A3 Original)

Job No: A25556 | Dwg No: 3100 | Rev: 1

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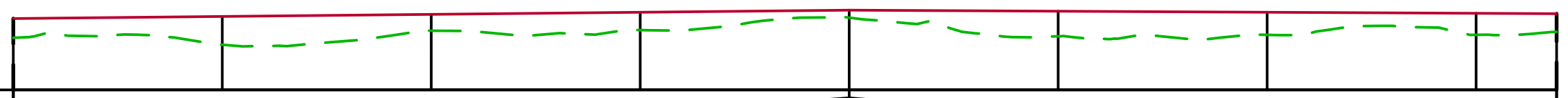
LEGEND:

- FINISHED GROUND LEVEL
- EXISTING GROUND LEVEL

NOTES:

1. REFER DWG 3000 FOR ROADING ALIGNMENTS.

LONGITUDINAL SECTION FOR ROAD 3



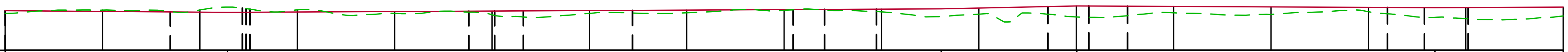
DATUM R.L. 0.00

Vertical Geometry: 1.00% 80.00m; -0.49% 67.70m

HORIZ GEOMETRY: 147.70 53°17'05"

CHAINAGE	CUT/FILL DEPTH	DESIGN LEVEL	EXISTING LEVEL
0.00	1.85	6.84	5.00
20.00	2.70	7.04	4.35
40.00	1.58	7.25	5.67
60.00	1.70	7.45	5.74
80.00	0.72	7.65	6.92
100.00	2.41	7.55	5.14
120.00	2.17	7.45	5.28
140.00	2.08	7.35	5.27
147.70	1.75	7.32	5.57

LONGITUDINAL SECTION FOR ROAD 4



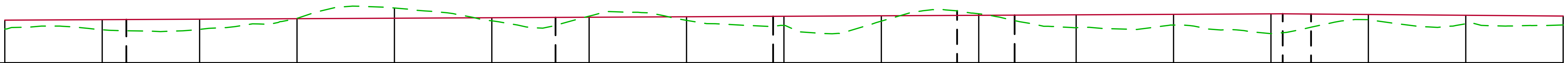
DATUM R.L. -2.00

VERT GEOMETRY: -0.75% 45.67m; 0.50% 146.58m; 2.13% 27.87m; -0.50% 73.55m; 0.50% 288.73m

HORIZ GEOMETRY: 33.93 55°52'33"; 14.79 59°41'45" (overlapping labels: 0.76 / 0.80, 55°45'..." / ...29'55" – not fully legible); 44.96 50°40'45"; 5.30 47°20'56"; 5.91 50°02'46"; R=71.23 A=22.416; 32.99 69°32'43"; 6.45 50°12'28"; R=7.76 A=10.651; 35.22 323°20'08"; R=24.56 A=8.390; R=20.02 A=7.973; 53.36 323°15'03"; R=15.93 A=7.617; R=24.25 A=8.958; 44.47 323°17'02"

CHAINAGE	CUT/FILL DEPTH	DESIGN LEVEL	EXISTING LEVEL
0.00	0.54	6.09	5.55
20.00	-0.27	5.93	6.21
33.93	-0.06	5.83	5.89
40.00	-0.46	5.78	6.25
48.72	-0.85	5.76	6.61
49.48	-0.75	5.76	6.51
50.29	-0.64	5.76	6.41
60.00	-0.44	5.81	6.26
80.00	0.37	5.91	5.55
95.25	0.20	5.99	5.79
100.00	0.75	6.01	5.26
100.54	0.90	6.02	5.11
106.45	1.24	6.04	4.80
120.00	0.56	6.11	5.55
128.87	0.54	6.16	5.62
140.00	0.55	6.21	5.66
160.00	0.15	6.31	6.16
161.86	0.05	6.32	6.27
168.31	0.09	6.35	6.26
178.96	0.48	6.41	5.93
180.00	0.56	6.41	5.85
200.00	1.26	6.64	5.38
214.19	1.57	6.94	5.37
220.00	2.26	7.06	4.80
222.58	2.32	7.05	4.73
230.55	1.97	7.01	5.05
240.00	1.31	6.97	5.66
260.00	1.55	6.87	5.31
280.00	0.87	6.77	5.89
283.91	1.29	6.75	5.46
291.53	2.02	6.71	4.69
300.00	2.28	6.73	4.45
300.48	2.33	6.73	4.40
320.00	1.83	6.83	5.00

LONGITUDINAL SECTION FOR ROAD 4



DATUM R.L. -2.00

VERT GEOMETRY: 0.50% 288.73m; -0.79% 90.27m

HORIZ GEOMETRY: 44.47 323°17'02"; 88.14 323°16'12"; 44.67 323°16'26"; 37.79 323°17'03"; R=7.75 A=11.795; 55.05 233°16'01"; 5.83 233°20'50"; 77.63 233°15'14"

CHAINAGE	CUT/FILL DEPTH	DESIGN LEVEL	EXISTING LEVEL
320.00	1.83	6.83	5.00
340.00	2.09	6.93	4.84
344.96	2.32	6.96	4.64
360.00	2.11	7.03	4.92
380.00	-0.07	7.13	7.20
400.00	-2.12	7.23	9.35
420.00	0.64	7.33	6.69
433.10	1.65	7.40	5.75
440.00	-0.22	7.43	7.65
460.00	0.74	7.53	6.79
477.77	2.11	7.62	5.51
480.00	1.89	7.63	5.74
500.00	1.09	7.73	6.64
515.56	-0.96	7.81	8.76
520.00	-0.32	7.83	8.16
527.35	1.13	7.87	6.74
540.00	2.66	7.93	5.27
560.00	2.20	8.03	5.83
580.00	4.09	8.13	4.04
582.41	3.92	8.14	4.23
588.24	2.73	8.10	5.37
600.00	1.09	8.00	6.92
620.00	1.76	7.85	6.09
640.00	1.85	7.69	5.84

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ROADING LONGSECTIONS SHEET 2

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: 1:1000 (A3 Original)

Job No: A25556 Dwg No: 3101 Rev: 1

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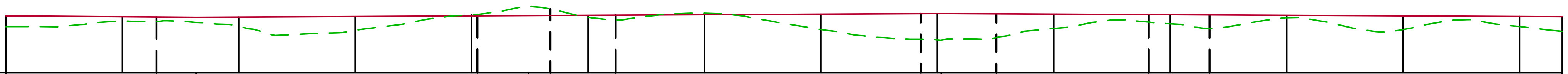
LEGEND:

FINISHED GROUND LEVEL

EXISTING GROUND LEVEL

NOTES:

1. REFER DWG 3000 FOR ROADING ALIGNMENTS.



DATUM R.L. -2.00

LONGITUDINAL SECTION FOR ROAD 4

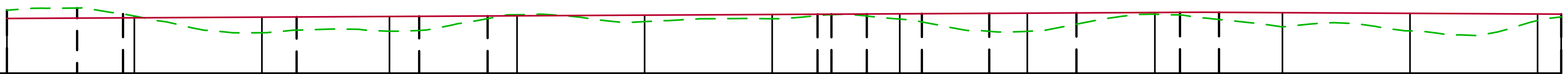
VERT GEOMETRY

Grade	Length
-0.79%	90.27m
0.50%	57.12m
0.50%	70.88m
-0.51%	107.32m

HORIZ GEOMETRY

Length / Radius	Bearing / Arc
77.63	233°15'14"
55.13	233°19'07"
R=8.25	A=12.541
11.20	323°29'30"
52.44	327°46'12"
R=7.75	A=12.961
26.17	66°33'15"
R=7.75	A=10.454
62.03	146°26'00"

CHAINAGE	EXISTING LEVEL	DESIGN LEVEL	CUT/FILL DEPTH
640.00	5.84	7.69	1.85
660.00	6.81	7.53	0.72
665.87	6.70	7.49	0.78
680.00	5.88	7.47	1.58
700.00	5.21	7.57	2.36
720.00	7.82	7.67	-0.15
721.00	7.92	7.67	-0.25
733.54	8.86	7.74	-1.12
740.00	7.45	7.77	0.32
744.74	7.03	7.79	0.77
760.00	8.14	7.87	-0.27
780.00	5.36	7.97	2.61
797.18	3.68	8.05	4.38
800.00	3.59	8.07	4.48
810.14	3.97	8.02	4.05
820.00	5.53	7.97	2.44
836.30	6.61	7.89	1.28
840.00	6.33	7.87	1.54
846.76	5.48	7.84	2.36
860.00	7.37	7.77	0.40
880.00	5.35	7.67	2.32
900.00	5.86	7.57	1.71
907.32	5.04	7.53	2.49



DATUM R.L. -2.00

LONGITUDINAL SECTION FOR ROAD 5

VERT GEOMETRY

Grade	Length
0.52%	187.37m
-0.50%	56.34m

HORIZ GEOMETRY

Length / Radius	Bearing / Arc
11.01	233°44'02"
R=12.75	A=7.209
R=72.59	A=27.209
19.24	245°02'29"
R=8.25	A=10.731
51.72	327°53'38"
2.19 5.54	330°30°46'434°19'05
8.64	
10.56	330°35'31"
13.66	326°09'31"
16.23	327°29'25"
R=4.25	A=6.122
53.66	53°16'43"

CHAINAGE	EXISTING LEVEL	DESIGN LEVEL	CUT/FILL DEPTH
0.00	7.83	6.54	-1.29
11.01	8.18	6.60	-1.58
18.21	7.24	6.64	-0.61
20.00	6.93	6.64	-0.28
40.00	4.32	6.75	2.43
45.42	4.72	6.78	2.06
60.00	4.55	6.85	2.30
64.66	4.67	6.88	2.21
75.39	6.52	6.93	0.41
80.00	7.13	6.96	-0.18
100.00	6.06	7.06	1.00
120.00	6.50	7.16	0.66
127.11	6.96	7.20	0.24
129.29	7.13	7.21	0.08
134.84	6.93	7.24	0.31
140.00	6.45	7.27	0.82
143.48	6.01	7.29	1.28
154.04	4.54	7.34	2.80
160.00	4.52	7.37	2.85
167.70	5.66	7.41	1.75
180.00	7.20	7.47	0.28
183.93	7.11	7.50	0.38
190.05	6.37	7.50	1.13
200.00	5.23	7.45	2.22
220.00	4.60	7.35	2.75
240.00	6.23	7.25	1.02
243.71	6.80	7.23	0.43

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ROADING LONGSECTIONS SHEET 3

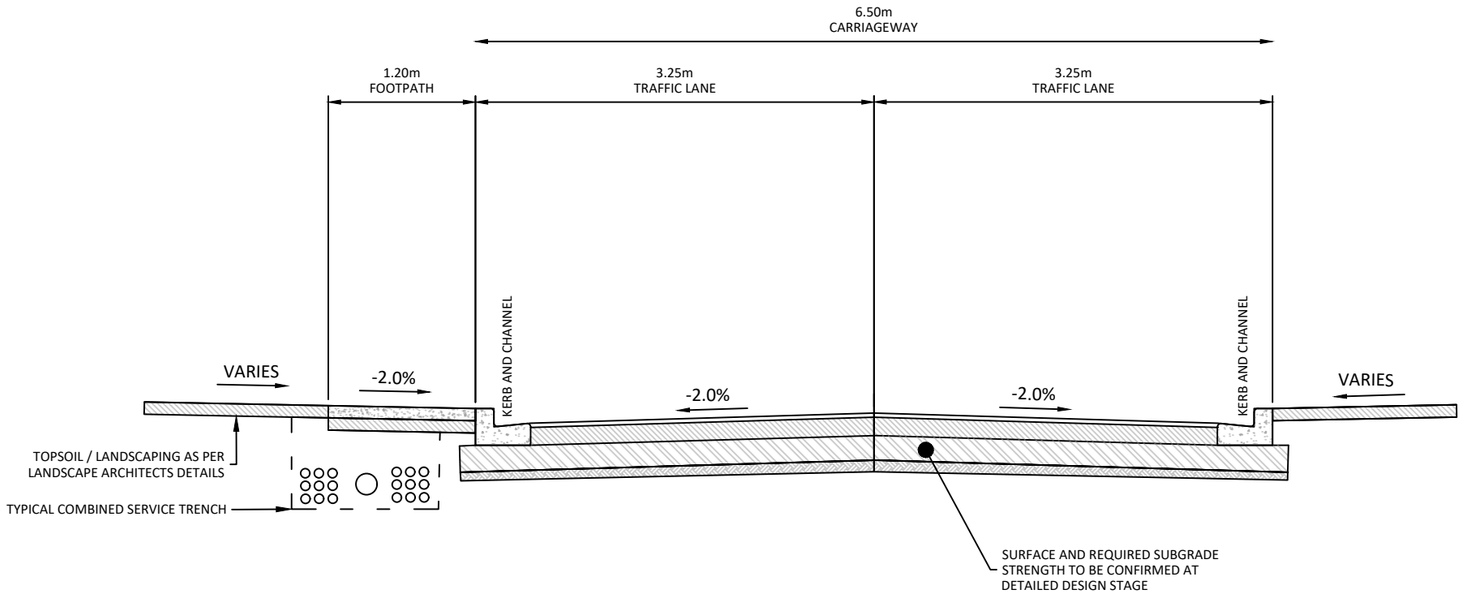
Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

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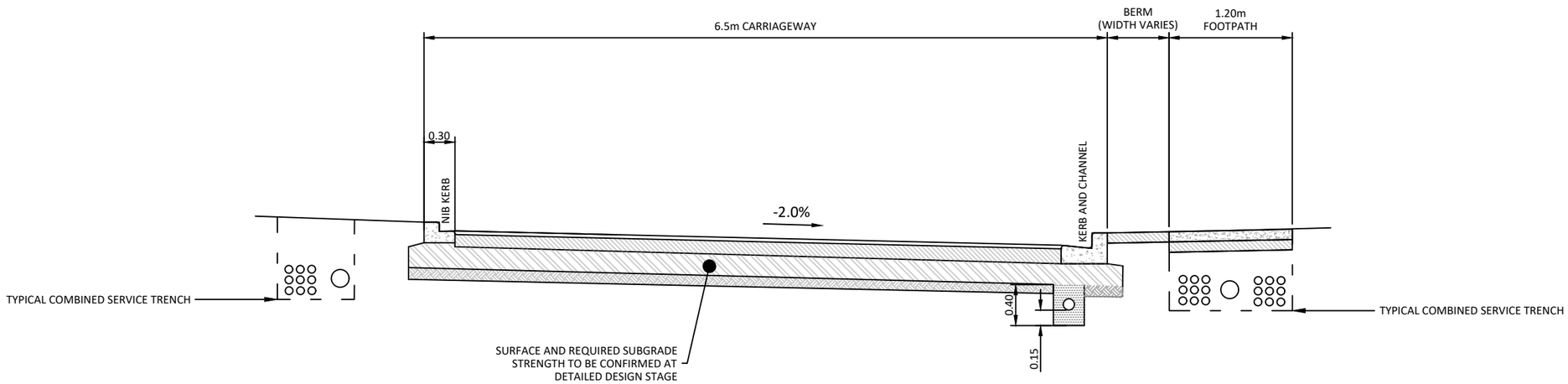
Job No: **A25556** Dwg No: **3102** Rev: **1**

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A 3200 PROPOSED ROAD 1 (CH 16 - 240) CROSS SECTION

SCALE 1:50



B 3200 PROPOSED ROAD 1 AND 3 CROSS SECTION

SCALE 1:50

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TYPICAL ROAD CROSS SECTIONS SHEET 1

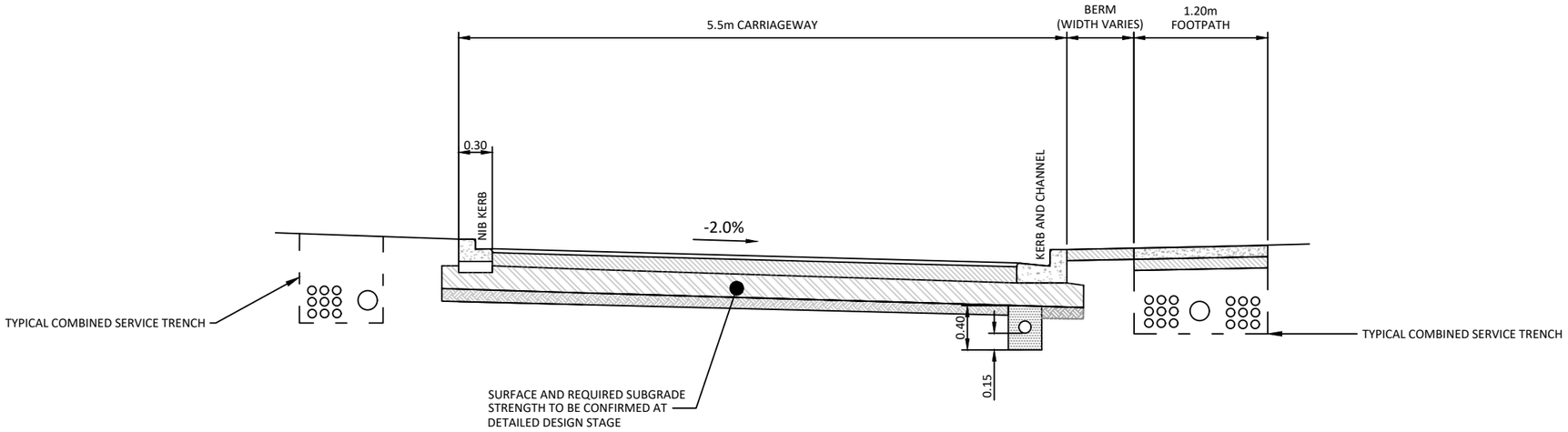
Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

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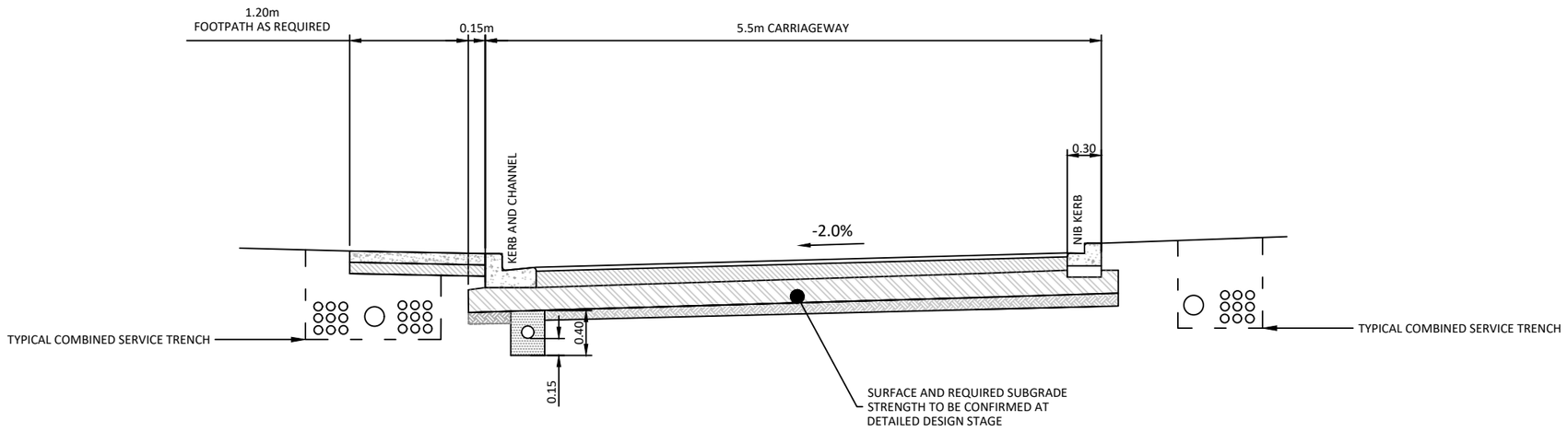
Job No: A25556 | Dwg No: 3200 | Rev: 1

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C / 3201 PROPOSED ROAD 1 AND 5 CROSS SECTION

SCALE 1:50



C / 3201 PROPOSED ROAD 1 AND 5 CROSS SECTION

SCALE 1:50

FOR RESOURCE CONSENT

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TYPICAL ROAD CROSS SECTIONS SHEET 2

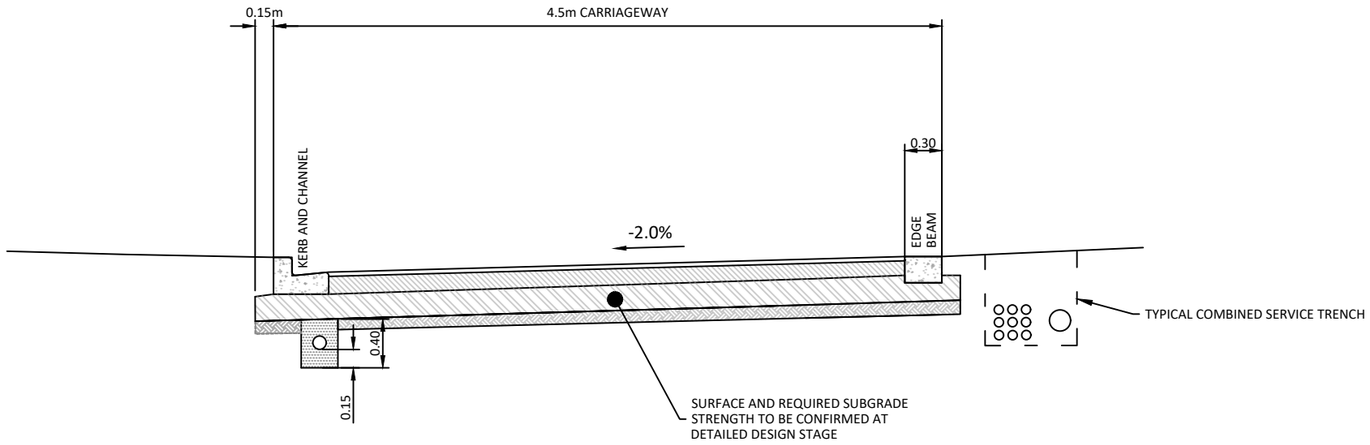
Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: **1:50** (A3 Original)

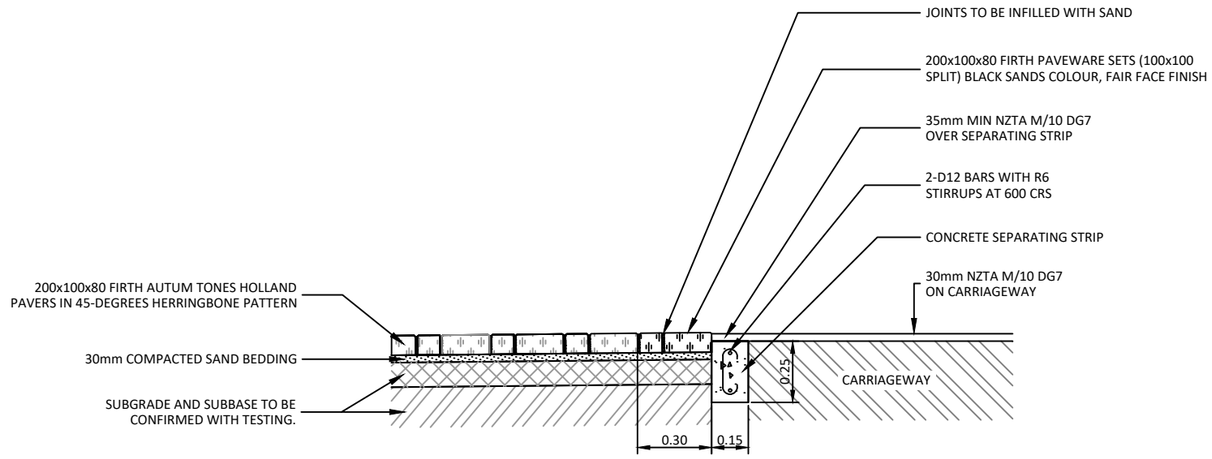
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E 3202 PROPOSED ACCESSWAY CROSS SECTION

SCALE 1:50



F 3202 PROPOSED PERMEABLE PAVING CROSS SECTION

SCALE 1:25

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73 RATANUI ROAD, PARAPARAUMU

TYPICAL ROAD CROSS SECTIONS SHEET 3

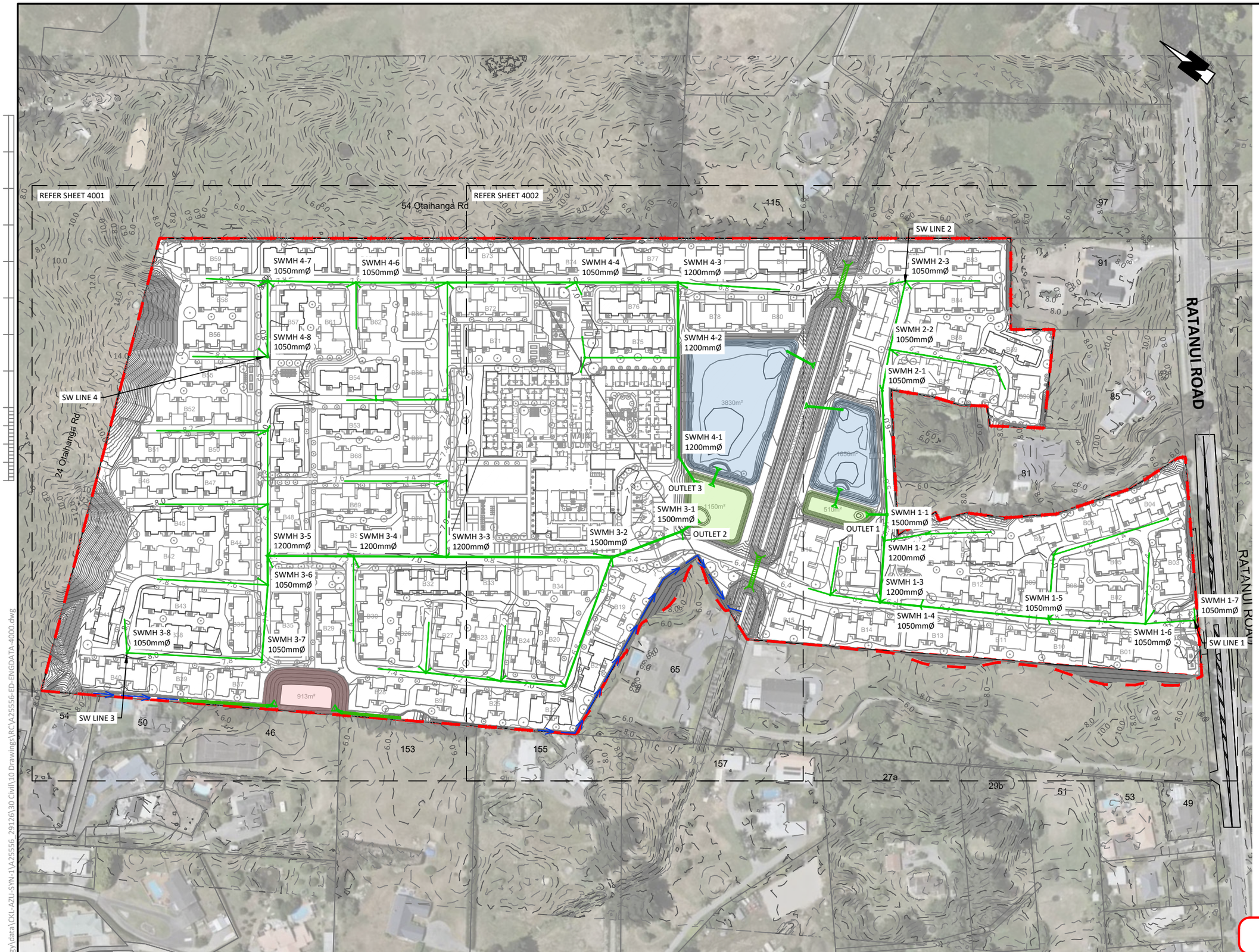
Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: AS SHOWN (A3 Original)

Job No: A25556 Dwg No: 3202 Rev: 1

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DRAINAGE NOTES:

1. ALL PUBLIC DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH KCDC ENGINEERING STANDARDS.
2. ALL PRIVATE DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE (NZBC) AND APPLICABLE STANDARDS.
3. ALL WASTEWATER AND STORMWATER LOT CONNECTIONS WILL BE uPVC SN16.
4. ALL PIPELINES UNDER TRAFFICABLE AREAS TO BE HARDFILL BACKFILLED WITH GAP40/65 AS SPECIFIED. ALL PIPE CROSS-OVERS <250mm ARE TO BE POLYSTYRENE PACKED.
5. ALL DRAINAGE WORKS SHALL BE CARRIED OUT UNDER THE SUPERVISION OF A REGISTERED DRAIN LAYER AND IN ACCORDANCE WITH CURRENT HEALTH AND SAFETY PRACTICES. WHERE REQUIRED, DRAINAGE WORKS TO BE UNDERTAKEN BY AN APPROVED LICENSED CONTRACTOR (A.L.C.).
6. THE CONTRACTOR SHALL LIAISE WITH THE UTILITY PROVIDER FOR THE STANDARD CLEARANCE REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING SERVICES WITHIN THE EXTENT OF THE WORKS PRIOR TO WORKS COMMENCEMENT. ALL TESTING AND POTHOLING SHALL BE AT THE CONTRACTOR'S EXPENSE.
7. ALL EXISTING BERMS, CARRIAGEWAYS AND CROSSINGS TO BE RE-INSTATED AS PER COUNCIL/CONTROLLING AUTHORITY REQUIREMENTS.
8. A COPY OF THE SITE SPECIFIC HEALTH AND SAFETY PLAN SHALL BE AVAILABLE ON SITE.
9. ALL TRAFFIC MANAGEMENT AND CORRIDOR ACCESS PERMIT(S) SHOULD BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION WITH THE ROAD CORRIDOR/RESERVE.
10. 45-DEGREE WYE JUNCTIONS TO BE USED FOR ALL LOT CONNECTIONS TO MAIN DRAINAGE LINES AS PER NZBC E1 AND G13.
11. INSPECTION POINTS AND RISERS MUST BE INSTALLED AT WASTEWATER WYE JUNCTIONS AS PER NZBC G13.

DRAINAGE PRE-CONSTRUCTION NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND ACCURATELY CONFIRM INVERT AND LID LEVELS OF EXISTING DRAINAGE MANHOLES AND CONNECTION POINTS PRIOR TO COMMENCING CONSTRUCTION. WHERE LEVELS DIFFER TO THOSE SHOWN THE CONTRACTOR SHALL ADVISE THE ENGINEER ACCORDINGLY.
2. THE DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING SERVICES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE AND PROTECT ALL EXISTING SERVICES DURING THE CONSTRUCTION PERIOD.

LEGEND:

- 49.5 — EXISTING CONTOURS - MAJOR (0.5m)
- 49.9 — EXISTING CONTOURS - MINOR (0.1m)
- 49.5 — FINISHED CONTOURS - MAJOR (0.5m)
- 49.9 — FINISHED CONTOURS - MINOR (0.1m)
- FFL:22.00 — FINISHED FLOOR LEVELS
- FINISH SURFACE FALL DIRECTION
- PROPOSED EARTHWORKS BOUNDARY

DRAINAGE LEGEND:

- SW — EXISTING SW (PUBLIC)
- PROPOSED SW (PRIVATE)
- PROPOSED SW CULVERT (PRIVATE)

FOR RESOURCE CONSENT

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OTAIHANGA RETIREMENT VILLAGE
SUMMERSET VILLAGES (PARAPARAUMU) LTD
73 RATANUI ROAD, PARAPARAUMU

STORMWATER LAYOUT OVERVIEW PLAN

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: 1:2000 (A3 Original)

Job No: A25556 | Dwg No: 4000 | Rev: 1

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54 Otaihanga Rd

24 Otaihanga Rd

REFER SHEET 4002

115

SWMH 4-7 1050mmØ

SWMH 4-6 1050mmØ

SWMH 4-4 1050mmØ

SWMH 4-3 1200mmØ

SWMH 4-2 1200mmØ

SWMH 4-1 1200mmØ

SWMH 4-8 1050mmØ

SWMH 3-5 1200mmØ

SWMH 3-4 1200mmØ

SWMH 3-3 1200mmØ

SWMH 3-2 1500mmØ

SWMH 3-1 1500mmØ

SWMH 3-6 1050mmØ

SWMH 3-8 1050mmØ

SWMH 3-7 1050mmØ

375 NB uPVC SN16

450 NB RCRRJ CLASS 4

525 NB RCRRJ CLASS 4

600 NB RCRRJ CLASS 4

675 NB RCRRJ CLASS 4

750 NB RCRRJ CLASS 4

225 NB uPVC SN16

3830m²

1150m²

913m²

MAIN BUILDING

OUTLET 3

OUTLET 2

PROPOSED 1.5M WIDE OLFP CHANNEL

PROPOSED 1050 NB @ 0.5% SW CULVERT TO CONVEY OVERLAND FLOWS FROM NEIGHBOURING PROPRERTY

PROPOSED STORAGE POND

PROPOSED 1.0M WIDE OLFP CHANNEL

PROPOSED 1050 NB @ 0.5% SW CULVERT TO CONVEY OVERLAND FLOWS FROM NEIGHBOURING PROPRERTY

50

65

155

157

DRAINAGE NOTES:

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- FFL:22.00 FINISHED FLOOR LEVELS
- FINISH SURFACE FALL DIRECTION
- PROPOSED EARTHWORKS BOUNDARY

DRAINAGE LEGEND:

- SW EXISTING SW (PUBLIC)
- PROPOSED SW (PRIVATE)
- PROPOSED SW CULVERT (PRIVATE)

FOR RESOURCE CONSENT

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OTAIHANGA RETIREMENT VILLAGE
SUMMERSET VILLAGES (PARAPARAUMU) LTD
73 RATANUI ROAD, PARAPARAUMU

STORMWATER LAYOUT SHEET 1

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: 1:1250 (A3 Original)

Job No: A25556 | Dwg No: 4001 | Rev: 1

C:\ProgramData\12DSynergy\data\CKL-AZU-SYN-1\A25556_29126\30 Civil\10 Drawings\RC\A25556-ED-ENGDATA-4000.dwg

REFER SHEET 4001

PROPOSED SW CULVERT AT ROAD CROSSING. REFER TO DWG 4502 FOR FURTHER DETAILS

SWMH 4-4 1050mmØ

SWMH 4-3 1200mmØ

SWMH 2-3 1050mmØ

525 NB RCRRJ CLASS 4

600 NB RCRRJ CLASS 4

675 NB RCRRJ CLASS 4

PROPOSED CATCHPIT FOR GENERATOR AREA WITH SEPARATION PUMP

SWMH 4-2 1200mmØ

750 NB RCRRJ CLASS 4

300 NB uPVC SN16

SWMH 2-2 1050mmØ

375 NB uPVC SN16

SWMH 2-1 1050mmØ

3830m²

PROPOSED STORMWATER BIO-RETENTION DEVICE AND WETLAND. REFER TO DWG 4500 FOR FURTHER DETAILS

MAIN BUILDING

SWMH 4-1 1200mmØ

450 NB RCRRJ CLASS 4

1650m²

PROPOSED STORMWATER BIO-RETENTION DEVICE AND WETLAND. REFER TO DWG 4500 FOR FURTHER DETAILS

PROPOSED STORMWATER CONNECTION TO SERVICE 81 RATANUI ROAD, REPLACING THE EXISTING CONNECTION

OUTLET 3

1150m²

510m²

675 NB RCRRJ CLASS 4

SWMH 3-1 1500mmØ

OUTLET 1

600 NB RCRRJ CLASS 2

SWMH 1-1 1500mmØ

OUTLET 2

SWMH 3-2 1500mmØ

SWMH 1-2 1200mmØ

SWMH 1-3 1200mmØ

525 NB RCRRJ CLASS 4

450 NB RCRRJ CLASS 4

SWMH 1-5 1050mmØ

225 NB uPVC SN16

SWMH 1-7 1050mmØ

300 NB uPVC SN16

SWMH 1-4 1050mmØ

SWMH 1-6 1050mmØ

PROPOSED 1.0M WIDE OLFP CHANNEL

PROPOSED SW CULVERT AT ROAD CROSSING. REFER TO DWG 4502 FOR FURTHER DETAILS

RATANUI ROAD

115 97 91 85 81 65 155 157 27a

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- FINISH SURFACE FALL DIRECTION
- PROPOSED EARTHWORKS BOUNDARY

DRAINAGE LEGEND:

- SW — EXISTING SW (PUBLIC)
- PROPOSED SW (PRIVATE)
- PROPOSED SW CULVERT (PRIVATE)

FOR RESOURCE CONSENT

CKL
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OTAIHANGA RETIREMENT VILLAGE
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73 RATANUI ROAD, PARAPARAUMU

STORMWATER LAYOUT SHEET 2

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: 1:1250 (A3 Original)

Job No: A25556 | Dwg No: 4002 | Rev: 1

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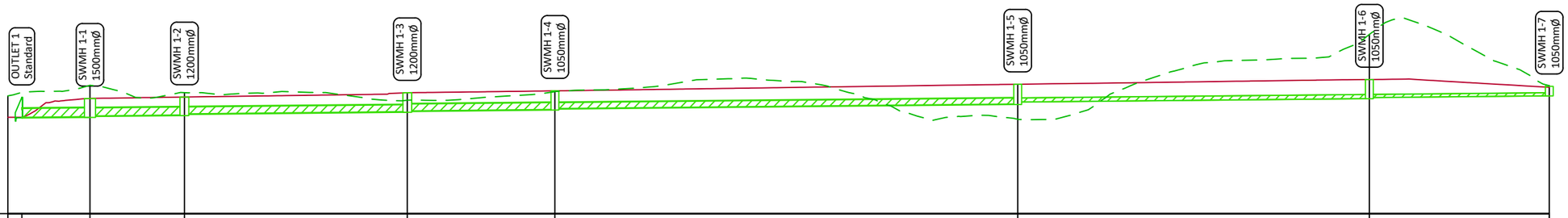
NOTES:

1. LONGITUDINAL SECTIONS DRAWN AT 2x VERTICAL EXAGGERATION.
2. REFER DWG 4000 FOR STORMWATER LINE ALIGNMENTS.

LEGEND:

FINISHED GROUND LEVEL

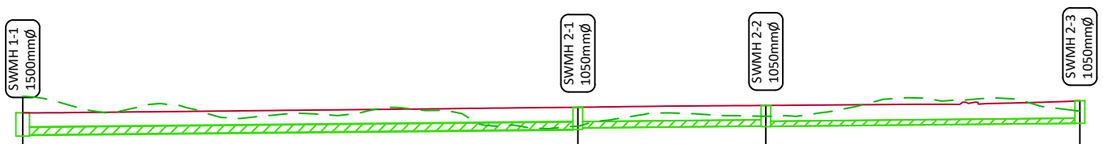
EXISTING GROUND LEVEL



DATUM R.L. -3.00

DEPTH TO INVERT	6.71	1.43		1.40		1.48		1.46		1.53		1.45	0.72
LID LEVEL	5.81	5.72		5.83		6.16		6.30		6.80		7.15	6.64
INVERT LEVEL		4.30	4.35	4.40	4.47	4.56	4.73	4.78	4.89	4.96	5.31	5.46	5.72	5.79	5.93
PIPE GRADE		0.50%		0.50%		0.50%		0.50%		0.50%		0.50%		0.49%	
	675	NB RCRRJ CLASS 4		600 NB RCRRJ CLASS 2		525 NB RCRRJ CLASS 4		525 NB RCRRJ CLASS 4		450 NB RCRRJ CLASS 4		300 NB uPVC SN16		225 NB uPVC SN16	
CHAINAGE	2.13	10.36m	12.45	14.31m	26.77	33.78m	60.55	22.37m	82.92	70.16m	153.08	52.23m	206.38	27.27m	233.65

LONGITUDINAL SECTION FOR SW LINE 1



DATUM R.L. 2.00

DEPTH TO INVERT	1.43	1.35		1.29		1.38	
LID LEVEL	5.72	6.05		6.17		6.46	
INVERT LEVEL	4.37	4.70	4.80	4.91	4.90	5.08	
PIPE GRADE	0.50%		0.50%		0.50%		
	450 NB RCRRJ CLASS 4		375 NB uPVC SN16		300 NB uPVC SN16		
CHAINAGE	0.00	66.62m	67.91	21.93m	90.91	37.35m	129.32

LONGITUDINAL SECTION FOR SW LINE 2

FOR RESOURCE CONSENT

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OTAIHANGA RETIREMENT VILLAGE
SUMMERSET VILLAGES (PARAPARAUMU) LTD
73 RATANUI ROAD, PARAPARAUMU

STORMWATER LONGSECTION SHEET 1

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: **1:750** (A3 Original)

Job No: **A25556** Dwg No: **4100** Rev: **1**

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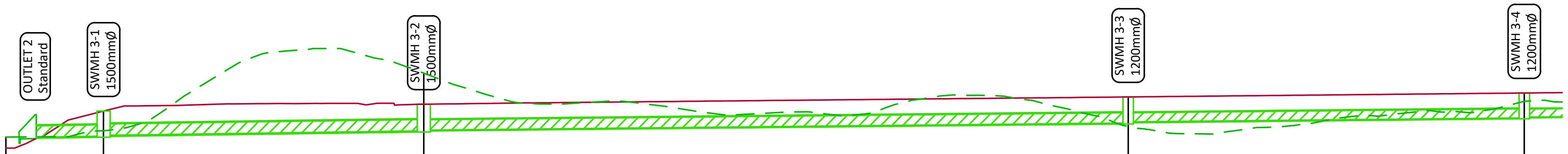
NOTES:

1. LONGITUDINAL SECTIONS DRAWN AT 2x VERTICAL EXAGGERATION.
2. REFER DWG 4000 FOR STORMWATER LINE ALIGNMENTS.

LEGEND:

FINISHED GROUND LEVEL

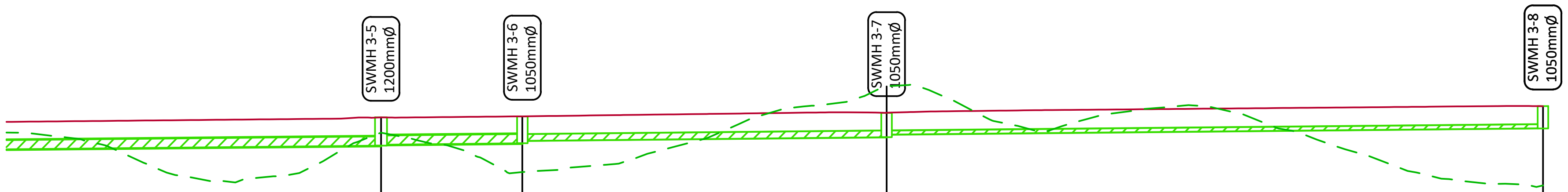
EXISTING GROUND LEVEL



DATUM R.L. 1.00

DEPTH TO INVERT	1.45	1.68	1.79	1.74	1.66					
LID LEVEL	5.75	5.99	6.42	6.89	7.14					
INVERT LEVEL	4.30	4.37	4.42	4.71	4.76	5.21	5.29	5.54	5.59	5.83
PIPE GRADE	0.80% 750 NB RCRRJ CLASS 4	0.70% 750 NB RCRRJ CLASS 4	0.50% 675 NB RCRRJ CLASS 4	0.50% 600 NB RCRRJ CLASS 4	0.50% 525 NB RCRRJ CLASS 4					
CHAINAGE	3.78	8.79m	12.56	41.14m	53.70	90.53m	144.23	50.90m	195.13	47.05m

LONGITUDINAL SECTION FOR SW LINE 3



DATUM R.L. 1.00

DEPTH TO INVERT	1.59	1.52	1.38	1.27				
LID LEVEL	7.42	7.48	7.68	8.06				
INVERT LEVEL	5.59	5.83	5.88	5.96	6.10	6.30	6.45	6.81
PIPE GRADE	0.50% 525 NB RCRRJ CLASS 4	0.50% 525 NB RCRRJ CLASS 4	0.50% 375 NB uPVC SN16	0.49% 225 NB uPVC SN16				
CHAINAGE	47.05m	242.18	15.32m	258.10	40.49m	299.12	73.39m	373.05

LONGITUDINAL SECTION FOR SW LINE 3

FOR RESOURCE CONSENT

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STORMWATER LONGSECTION SHEET 2

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: 1:750 (A3 Original)

Job No: A25556 Dwg No: 4101 Rev: 1

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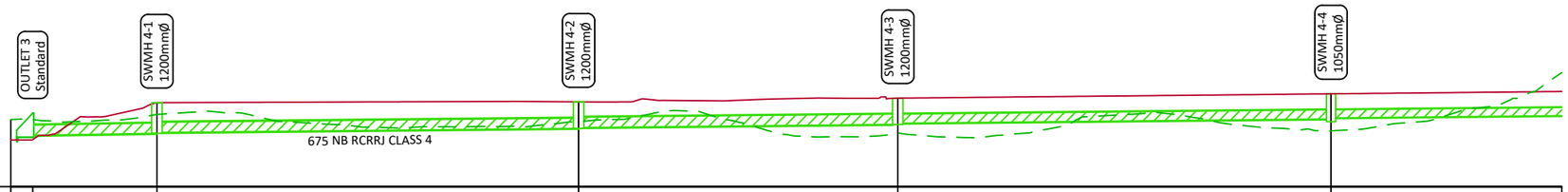
NOTES:

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2. REFER DWG 4000 FOR STORMWATER LINE ALIGNMENTS.

LEGEND:

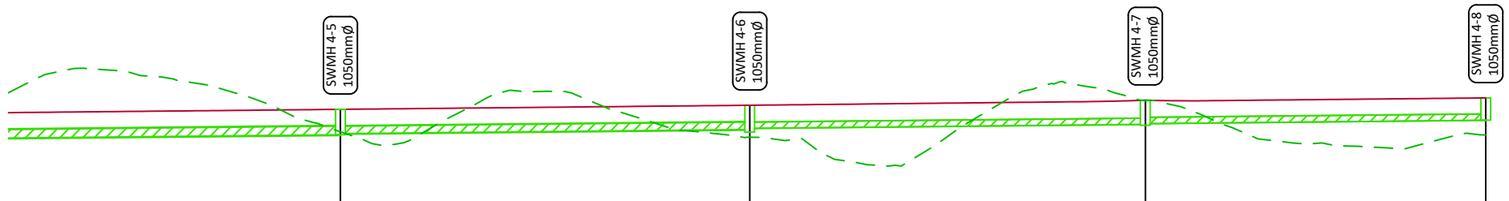
FINISHED GROUND LEVEL

EXISTING GROUND LEVEL



DATUM R.L. 1.00												
DEPTH TO INVERT	1.75	1.97		1.71		1.69		1.79				
LID LEVEL	5.73	6.40		6.45		6.69		6.97				
INVERT LEVEL		4.30	4.43	4.48	4.75	4.80	5.00	5.08	5.35	5.42	5.77	
PIPE GRADE		0.800% 1:125.0		0.500% 1:200.0		0.500% 1:200.0		0.500% 1:200.0		0.500% 1:200.0		
CHAINAGE	2.83	Pipe=16.01	18.84	Pipe=53.77	73.22	Pipe=40.56	114.38	Pipe=54.73	170.25	Pipe=70.36		

LONGITUDINAL SECTION FOR SW LINE 4



DATUM R.L. 1.00								
DEPTH TO INVERT		1.55	1.64		1.53		1.36	
LID LEVEL		7.32	7.57		7.88		8.02	
INVERT LEVEL	5.42	5.77	5.84	6.09	6.16	6.40	6.45	6.66
PIPE GRADE		0.50% 525 NB RCRRJ CLASS 4		0.50% 450 NB RCRRJ CLASS 4		0.50% 375 NB uPVC SN16		0.50% 375 NB uPVC SN16
CHAINAGE		70.36m	240.60	50.07m	290.68	48.39m	339.06	41.62m	380.71

LONGITUDINAL SECTION FOR SW LINE 4

FOR RESOURCE CONSENT

CKL
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OTAIHANGA RETIREMENT VILLAGE
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STORMWATER LONGSECTION SHEET 3

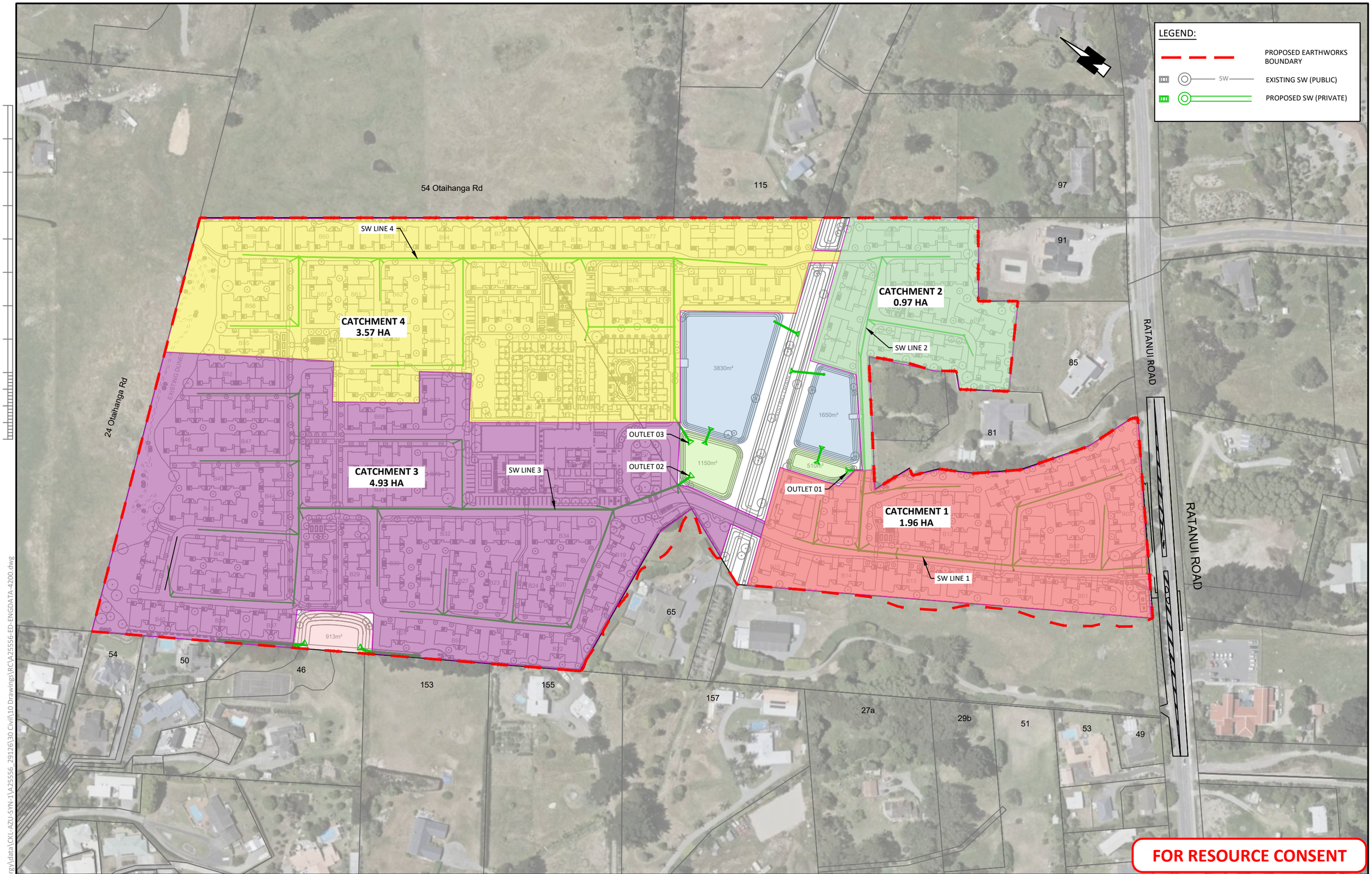
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Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: **1:750** (A3 Original)

Job No: **A25556** Dwg No: **4102** Rev: **1**

C:\ProgramData\12DSynergy\data\CKL-AZU-SYN-1\A25556_2912\6\30 Civil\10 Drawings\RC\A25556-ED-ENGDATA-4000.dwg



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73 RATANUI ROAD, PARAPARAUMU

STORMWATER CATCHMENT PLAN

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: 1:2000 (A3 Original)

Job No: A25556 | Dwg No: 4200 | Rev: 1

C:\ProgramData\12DSynergy\data\CKL-AZU-SYN-1\A25556_29126\30 Civil\10 Drawings\RC\A25556-ED-ENGDATA-4200.dwg

LEGEND:

- PROPOSED EARTHWORKS BOUNDARY
- PROPOSED OVERLAND FLOW PATH
- EXISTING OVERLAND FLOW PATH
- EXISTING DRAIN FLOW PATH

54 Otaihanga Rd

115

EXISTING DRAIN FLOW PATH

97

91

85

81

65

24 Otaihanga Rd

EXISTING DUNES

RATANUI ROAD

RATANUI ROAD

3830m²

1650m²

1150m²

510m²

PROPOSED OVERLAND FLOW PATH CHANNEL. FLOWS TO BE CONVEYED TO STORAGE POND VIA CULVERT

PROPOSED OVERLAND FLOW PATH CHANNEL. FLOWS TO BE CONVEYED TO STORAGE POND VIA CULVERT

PROPOSED OVERLAND FLOW PATH CHANNEL

PROPOSED STORAGE POND TO CAPTURE EXISTING OVERLAND FLOW FROM NEIGHBOURING PROPERTIES

54

50

46

153

155

157

27a

29b

51

53

49

FOR RESOURCE CONSENT

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73 RATANUI ROAD, PARAPARAUMU

STORMWATER OVERLAND FLOW PATH PLAN

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	NP	19.10.26

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: 1:2000 (A3 Original)

Job No: A25556 | Dwg No: 4300 | Rev: 1

C:\ProgramData\12DSynergy\data\CKL-AZU-SYN-1\A25556_29126\30 Civil\10 Drawings\RC\A25556-FD-ENGDATA-4200.dwg

taihanga Rd

INDICATIVE STORMWATER CULVERT AT ROAD CROSSING 2.0m x 2.0m x 19.1m

3830m2 PROPOSED STORMWATER WETLAND

MAINTENANCE ACCESS WAY FINAL WIDTH TBC

1650m2 PROPOSED STORMWATER WETLAND

WETLAND FOREBAY WITH BUND

BIO RETENTION DEVICE FOREBAY'S

1150m2 PROPOSED STORMWATER BIO RETENTION DEVICE

510m2 PROPOSED STORMWATER BIO RETENTION DEVICE

INDICATIVE STORMWATER CULVERT AT ROAD CROSSING 2.0m x 2.0m x 17.1m

MAIN BUILDING

FOR RESOURCE CONSENT

C:\ProgramData\12DSynergy\data\CKL-AZU-SYN-1\A25556_29126\30 Civil\10 Drawings\RC\A25556-ED-ENGDATA-4500.dwg

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73 RATANUI ROAD, PARAPARAUMU

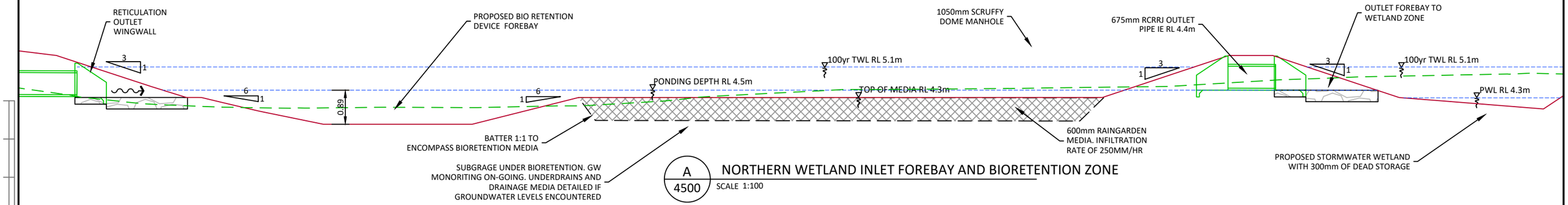
STORMWATER DETENTION PONDS LAYOUT PLAN

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	19.10.26	NP

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

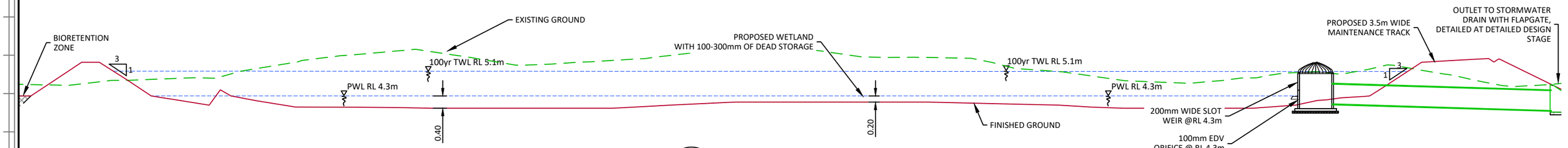
Scale: 1:1000 (A3 Original)

Job No: A25556 Dwg No: 4500 Rev: 1



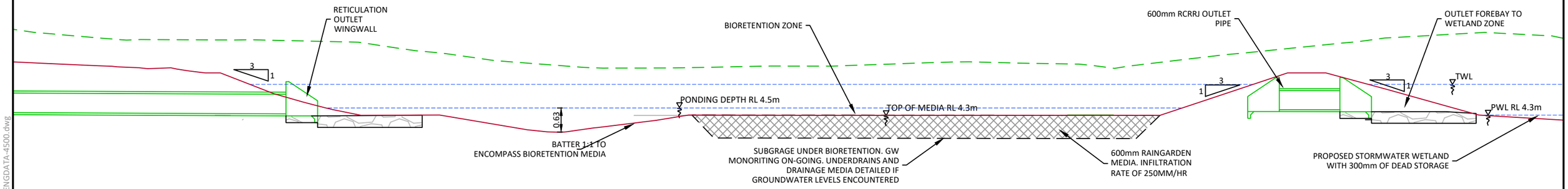
A 4500 NORTHERN WETLAND INLET FOREBAY AND BIORETENTION ZONE

SCALE 1:100



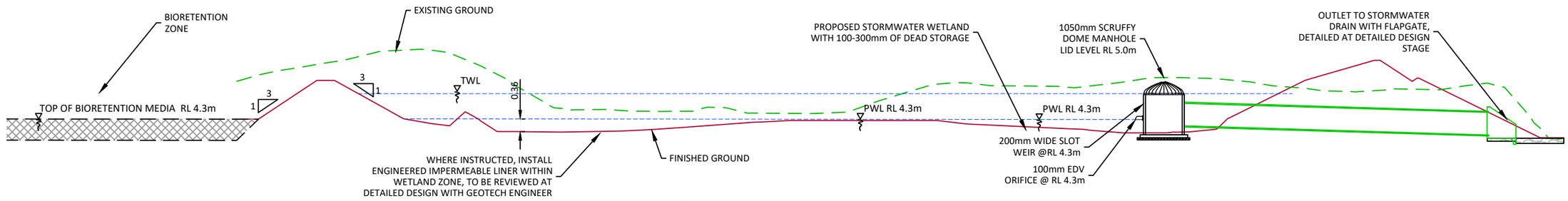
B 4500 NORTHERN WETLAND ZONE AND OUTLET TO DRAIN

SCALE 1:250 (2X VERTICAL EXAGGERATION)



C 4500 SOUTHERN WETLAND INLET FOREBAY AND BIORETENTION ZONE

SCALE 1:100



D 4500 SOUTHERN WETLAND ZONE AND OUTLET TO DRAIN

SCALE 1:250 (2X VERTICAL EXAGGERATION)

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STORMWATER DETENTION POND CROSS SECTIONS

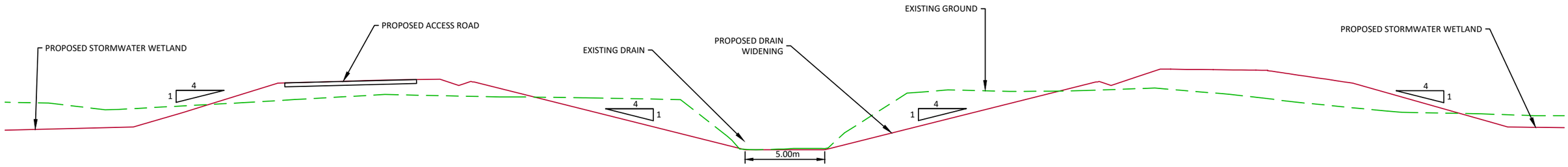
Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	19.10.26	NP

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: **1:500** (A3 Original)

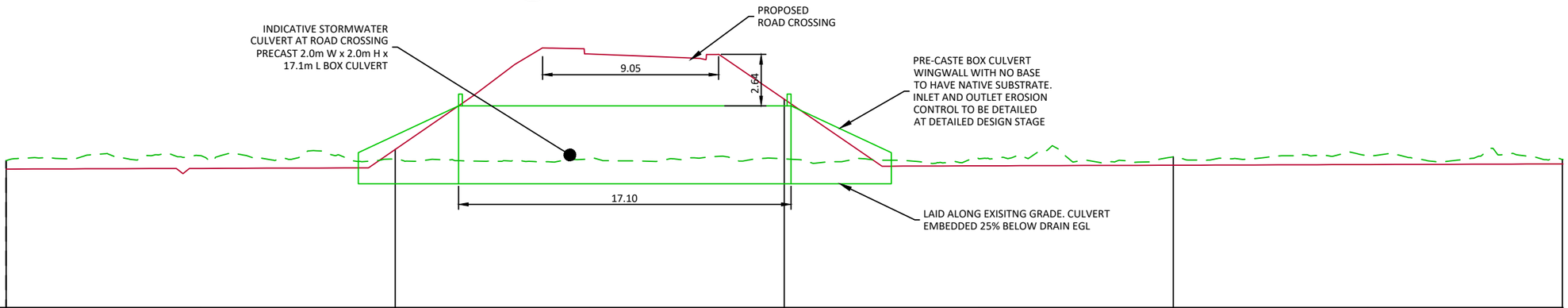
Job No: **A25556** Dwg No: **4501** Rev: **1**

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F 4500 STORMWATER DRAIN LONGSECTION (CHAINAGE 150m - 228m)

SCALE 1:250 (2x VERTICAL EXAGGERATION)

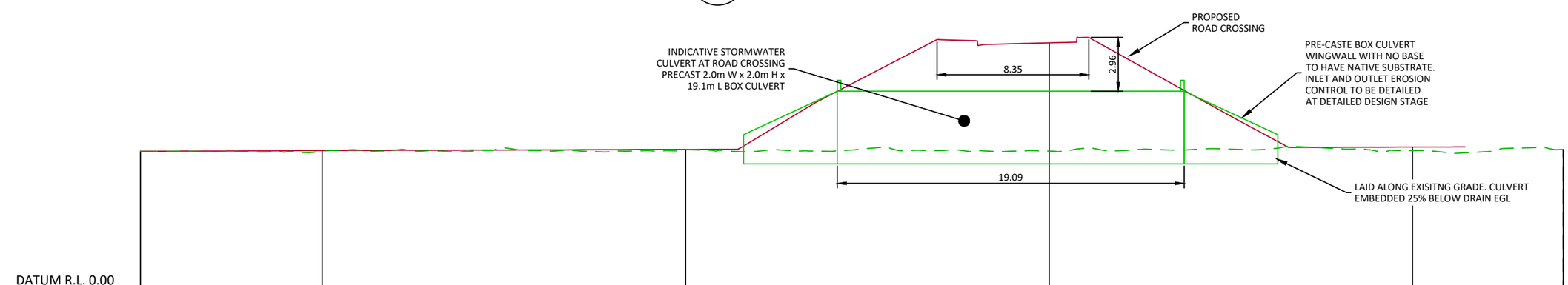


DATUM R.L. 0.00

DESIGN LEVEL	3.55	3.56	4.05	6.50	5.34	3.63	3.65	3.66	3.68
CHAINAGE	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00

F 4500 STORMWATER DRAIN LONGSECTION (CHAINAGE 150m - 228m)

SCALE 1:250 (2x VERTICAL EXAGGERATION)



DATUM R.L. 0.00

DESIGN LEVEL	3.80	3.81	3.83	3.85	5.88	6.78	4.76	3.91	
CHAINAGE	150.00	160.00	170.00	180.00	190.00	200.00	210.00	220.00	228.30

F 4500 STORMWATER DRAIN LONGSECTION (CHAINAGE 150m - 228m)

SCALE 1:250 (2x VERTICAL EXAGGERATION)

FOR RESOURCE CONSENT

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STORMWATER DRAIN & CULVERTS LONG SECTION

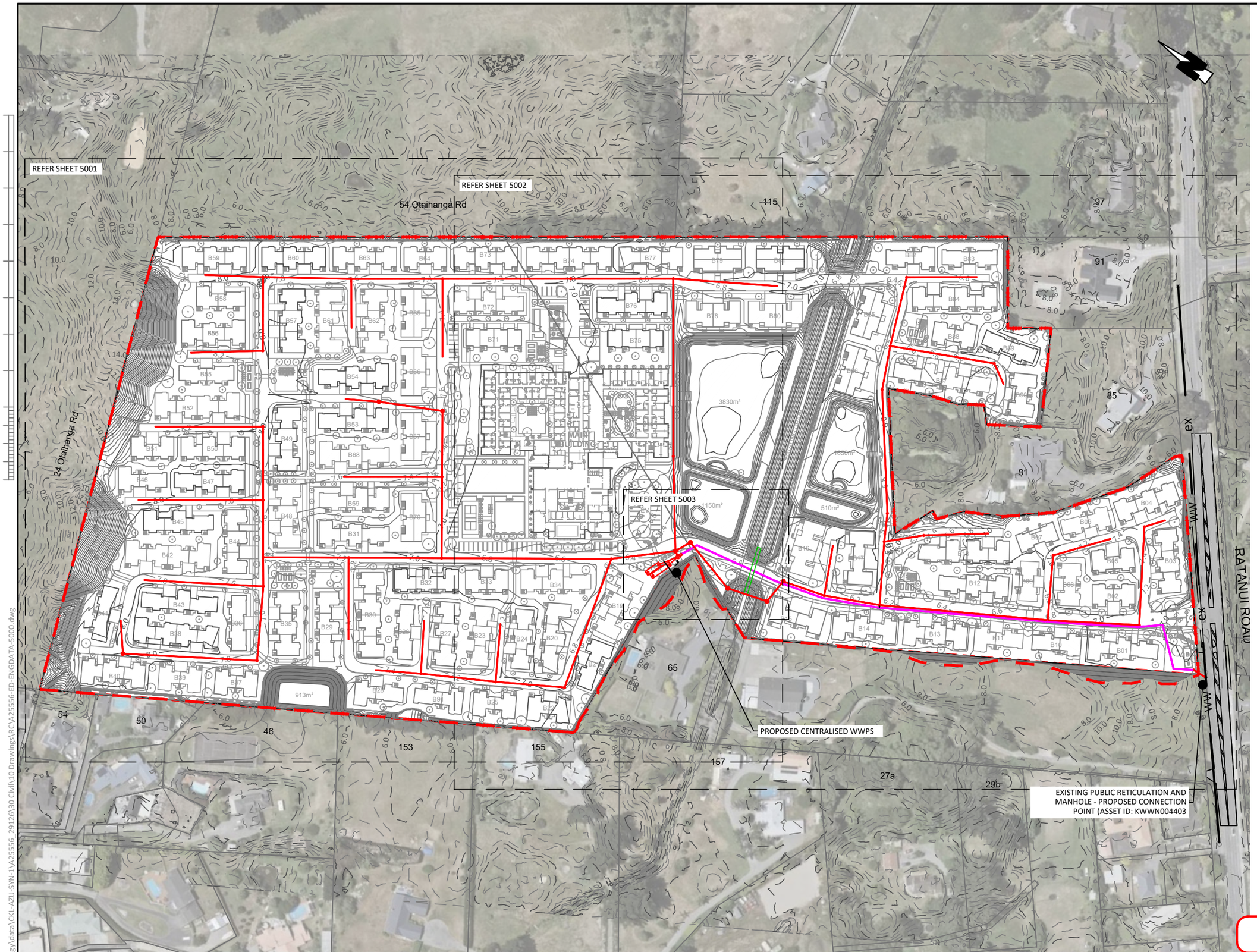
Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	19.10.26	NP

		Date
Designed:	AV	22.07.26
Drawn:	LL	22.07.26
Checked:	NP	19.10.26

Scale: **1:500** (A3 Original)

Job No: **A25556** Dwg No: **4502** Rev: **1**

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DRAINAGE NOTES:

1. ALL PUBLIC DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH KCDC ENGINEERING STANDARDS.
2. ALL PRIVATE DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE (NZBC) AND APPLICABLE STANDARDS.
3. ALL WASTEWATER AND STORMWATER LOT CONNECTIONS WILL BE uPVC SN16.
4. ALL PIPELINES UNDER TRAFFICABLE AREAS TO BE HARDFILL BACKFILLED WITH GAP40/65 AS SPECIFIED. ALL PIPE CROSS-OVERS <250mm ARE TO BE POLYSTYRENE PACKED.
5. ALL DRAINAGE WORKS SHALL BE CARRIED OUT UNDER THE SUPERVISION OF A REGISTERED DRAIN LAYER AND IN ACCORDANCE WITH CURRENT HEALTH AND SAFETY PRACTICES. WHERE REQUIRED, DRAINAGE WORKS TO BE UNDERTAKEN BY AN APPROVED LICENSED CONTRACTOR (A.L.C.).
6. THE CONTRACTOR SHALL LIAISE WITH THE UTILITY PROVIDER FOR THE STANDARD CLEARANCE REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING SERVICES WITHIN THE EXTENT OF THE WORKS PRIOR TO WORKS COMMENCEMENT. ALL TESTING AND POTHOLING SHALL BE AT THE CONTRACTOR'S EXPENSE.
7. ALL EXISTING BERMS, CARRIAGEWAYS AND CROSSINGS TO BE RE-INSTATED AS PER COUNCIL/CONTROLLING AUTHORITY REQUIREMENTS.
8. A COPY OF THE SITE SPECIFIC HEALTH AND SAFETY PLAN SHALL BE AVAILABLE ON SITE.
9. ALL TRAFFIC MANAGEMENT AND CORRIDOR ACCESS PERMIT(S) SHOULD BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION WITH THE ROAD CORRIDOR/RESERVE.
10. 45-DEGREE WYE JUNCTIONS TO BE USED FOR ALL LOT CONNECTIONS TO MAIN DRAINAGE LINES AS PER NZBC E1 AND G13.
11. INSPECTION POINTS AND RISERS MUST BE INSTALLED AT WASTEWATER WYE JUNCTIONS AS PER NZBC G13.

DRAINAGE PRE-CONSTRUCTION NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND ACCURATELY CONFIRM INVERT AND LID LEVELS OF EXISTING DRAINAGE MANHOLES AND CONNECTION POINTS PRIOR TO COMMENCING CONSTRUCTION. WHERE LEVELS DIFFER TO THOSE SHOWN THE CONTRACTOR SHALL ADVISE THE ENGINEER ACCORDINGLY.
2. THE DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING SERVICES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE AND PROTECT ALL EXISTING SERVICES DURING THE CONSTRUCTION PERIOD.

LEGEND:

- 49.5 — EXISTING CONTOURS - MAJOR (0.5m)
- 49.9 — EXISTING CONTOURS - MINOR (0.1m)
- 49.5 — FINISHED CONTOURS - MAJOR (0.5m)
- 49.9 — FINISHED CONTOURS - MINOR (0.1m)
- PROPOSED EARTHWORKS BOUNDARY

DRAINAGE LEGEND:

- WW — EXISTING WW (PUBLIC)
- PROPOSED WW (PRIVATE)
- PROPOSED WW CONNECTION (PRIVATE)
- PROPOSED RISING MAIN (PRIVATE)

FOR RESOURCE CONSENT

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WASTEWATER LAYOUT OVERVIEW PLAN

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	KG	19.10.26

		Date
Designed:	JA	22.07.26
Drawn:	JA	22.07.26
Checked:	KG	19.10.26

Scale: 1:2000 (A3 Original)

Job No: A25556 | Dwg No: 5000 | Rev: 1

C:\ProgramData\12DSynergy\data\CKL-AZU-SYN-1\A25556_29126\30 Civil\10 Drawings\RCVA25556-ED-ENGDATA-5000.dwg

54 Otaihanga Rd

24 Otaihanga Rd

115

WWMH F-4 1050mmØ
WWMH F-3 1050mmØ
WWMH F-2 1050mmØ
WWMH F-1 1050mmØ
WWMH D-2 1050mmØ
WWMH D-1 1050mmØ
WWMH J-3 1050mmØ
WWMH J-2 1050mmØ
WWMH J-1 1050mmØ
WWMH E-6 1050mmØ
WWMH E-5 1050mmØ
WWMH E-4 1050mmØ
WWMH E-3 1050mmØ
WWMH E-2 1050mmØ
WWMH E-1 1050mmØ
WWMH K-1 1050mmØ
WWMH K-2 1050mmØ
WWMH K-3 1050mmØ
WWMH I-3 1050mmØ
WWMH I-2 1050mmØ
WWMH I-1 1050mmØ
WWPS

MAIN BUILDING

3830m²
1150m²
913m²

B59 B60 B63 B64 B73 B74 B77 B79 B58 B57 B61 B62 B65 B72 B76 B78 B56 B55 B54 B66 B71 B75 B52 B53 B67 B49 B68 B51 B50 B46 B47 B69 B48 B70 B45 B31 B44 B42 B32 B33 B34 B43 B41 B36 B35 B29 B30 B19 B38 B26 B27 B23 B24 B20 B40 B39 B37 B28 B91 B25 B22 B21

54 50 46 153 155 65

DRAINAGE NOTES:

1. ALL PUBLIC DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH KCDC ENGINEERING STANDARDS.
2. ALL PRIVATE DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE (NZBC) AND APPLICABLE STANDARDS.
3. ALL WASTEWATER AND STORMWATER LOT CONNECTIONS WILL BE uPVC SN16.
4. ALL PIPELINES UNDER TRAFFICABLE AREAS TO BE HARDFILL BACKFILLED WITH GAP40/65 AS SPECIFIED. ALL PIPE CROSS-OVERS <250mm ARE TO BE POLYSTYRENE PACKED.
5. ALL DRAINAGE WORKS SHALL BE CARRIED OUT UNDER THE SUPERVISION OF A REGISTERED DRAIN LAYER AND IN ACCORDANCE WITH CURRENT HEALTH AND SAFETY PRACTICES. WHERE REQUIRED, DRAINAGE WORKS TO BE UNDERTAKEN BY AN APPROVED LICENSED CONTRACTOR (A.L.C.).
6. THE CONTRACTOR SHALL LIAISE WITH THE UTILITY PROVIDER FOR THE STANDARD CLEARANCE REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING SERVICES WITHIN THE EXTENT OF THE WORKS PRIOR TO WORKS COMMENCEMENT. ALL TESTING AND POTHOLING SHALL BE AT THE CONTRACTOR'S EXPENSE.
7. ALL EXISTING BERMS, CARRIAGEWAYS AND CROSSINGS TO BE RE-INSTATED AS PER COUNCIL/CONTROLLING AUTHORITY REQUIREMENTS.
8. A COPY OF THE SITE SPECIFIC HEALTH AND SAFETY PLAN SHALL BE AVAILABLE ON SITE.
9. ALL TRAFFIC MANAGEMENT AND CORRIDOR ACCESS PERMIT(S) SHOULD BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION WITH THE ROAD CORRIDOR/RESERVE.
10. 45-DEGREE WYE JUNCTIONS TO BE USED FOR ALL LOT CONNECTIONS TO MAIN DRAINAGE LINES AS PER NZBC E1 AND G13.
11. INSPECTION POINTS AND RISERS MUST BE INSTALLED AT WASTEWATER WYE JUNCTIONS AS PER NZBC G13.

DRAINAGE PRE-CONSTRUCTION NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND ACCURATELY CONFIRM INVERT AND LID LEVELS OF EXISTING DRAINAGE MANHOLES AND CONNECTION POINTS PRIOR TO COMMENCING CONSTRUCTION. WHERE LEVELS DIFFER TO THOSE SHOWN THE CONTRACTOR SHALL ADVISE THE ENGINEER ACCORDINGLY.
2. THE DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING SERVICES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE AND PROTECT ALL EXISTING SERVICES DURING THE CONSTRUCTION PERIOD.

LEGEND:

- 49.5 — EXISTING CONTOURS - MAJOR (0.5m)
- 49.9 — EXISTING CONTOURS - MINOR (0.1m)
- 49.5 — FINISHED CONTOURS - MAJOR (0.5m)
- 49.9 — FINISHED CONTOURS - MINOR (0.1m)
- PROPOSED EARTHWORKS BOUNDARY

DRAINAGE LEGEND:

- WW — EXISTING WW (PUBLIC)
- PROPOSED WW (PRIVATE)
- PROPOSED WW CONNECTION (PRIVATE)
- PROPOSED RISING MAIN (PRIVATE)

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WASTEWATER LAYOUT SHEET 1

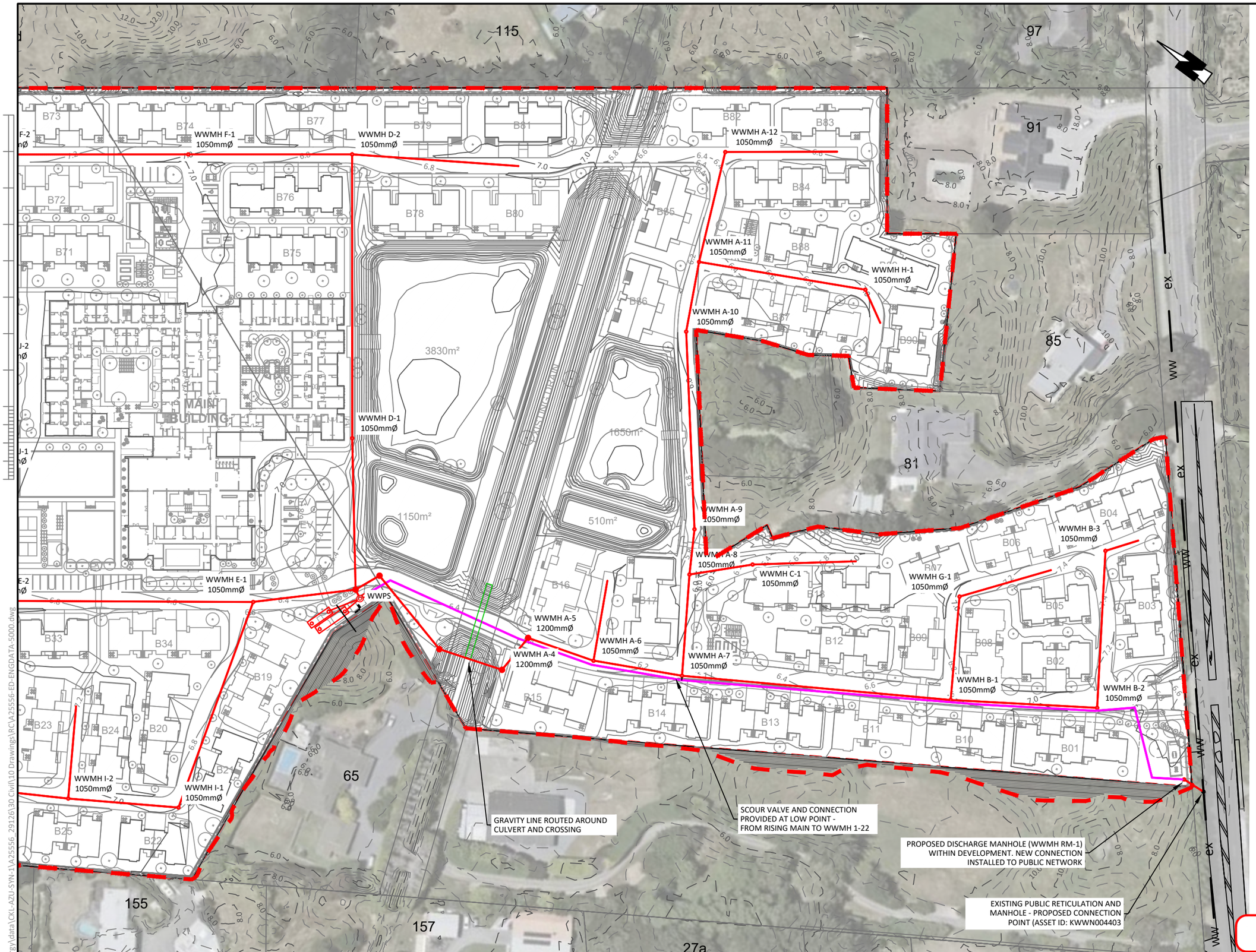
Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	KG	19.10.26

		Date
Designed:	JA	22.07.26
Drawn:	JA	22.07.26
Checked:	KG	19.10.26

Scale: 1:1250 (A3 Original)

Job No: A25556 | Dwg No: 5001 | Rev: 1

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DRAINAGE NOTES:

1. ALL PUBLIC DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH KCDC ENGINEERING STANDARDS.
2. ALL PRIVATE DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE (NZBC) AND APPLICABLE STANDARDS.
3. ALL WASTEWATER AND STORMWATER LOT CONNECTIONS WILL BE uPVC SN16.
4. ALL PIPELINES UNDER TRAFFICABLE AREAS TO BE HARDFILL BACKFILLED WITH GAP40/65 AS SPECIFIED. ALL PIPE CROSS-OVERS <250mm ARE TO BE POLYSTYRENE PACKED.
5. ALL DRAINAGE WORKS SHALL BE CARRIED OUT UNDER THE SUPERVISION OF A REGISTERED DRAIN LAYER AND IN ACCORDANCE WITH CURRENT HEALTH AND SAFETY PRACTICES. WHERE REQUIRED, DRAINAGE WORKS TO BE UNDERTAKEN BY AN APPROVED LICENSED CONTRACTOR (A.L.C.).
6. THE CONTRACTOR SHALL LIAISE WITH THE UTILITY PROVIDER FOR THE STANDARD CLEARANCE REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING SERVICES WITHIN THE EXTENT OF THE WORKS PRIOR TO WORKS COMMENCEMENT. ALL TESTING AND POTHOLING SHALL BE AT THE CONTRACTOR'S EXPENSE.
7. ALL EXISTING BERMS, CARRIAGEWAYS AND CROSSINGS TO BE RE-INSTATED AS PER COUNCIL/CONTROLLING AUTHORITY REQUIREMENTS.
8. A COPY OF THE SITE SPECIFIC HEALTH AND SAFETY PLAN SHALL BE AVAILABLE ON SITE.
9. ALL TRAFFIC MANAGEMENT AND CORRIDOR ACCESS PERMIT(S) SHOULD BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION WITH THE ROAD CORRIDOR/RESERVE.
10. 45-DEGREE WYE JUNCTIONS TO BE USED FOR ALL LOT CONNECTIONS TO MAIN DRAINAGE LINES AS PER NZBC E1 AND G13.
11. INSPECTION POINTS AND RISERS MUST BE INSTALLED AT WASTEWATER WYE JUNCTIONS AS PER NZBC G13.

DRAINAGE PRE-CONSTRUCTION NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND ACCURATELY CONFIRM INVERT AND LID LEVELS OF EXISTING DRAINAGE MANHOLES AND CONNECTION POINTS PRIOR TO COMMENCING CONSTRUCTION. WHERE LEVELS DIFFER TO THOSE SHOWN THE CONTRACTOR SHALL ADVISE THE ENGINEER ACCORDINGLY.
2. THE DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING SERVICES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE AND PROTECT ALL EXISTING SERVICES DURING THE CONSTRUCTION PERIOD.

LEGEND:

- 49.5 — EXISTING CONTOURS - MAJOR (0.5m)
- 49.9 — EXISTING CONTOURS - MINOR (0.1m)
- 49.5 — FINISHED CONTOURS - MAJOR (0.5m)
- 49.9 — FINISHED CONTOURS - MINOR (0.1m)
- PROPOSED EARTHWORKS BOUNDARY

DRAINAGE LEGEND:

- WW — EXISTING WW (PUBLIC)
- PROPOSED WW (PRIVATE)
- PROPOSED WW CONNECTION (PRIVATE)
- PROPOSED RISING MAIN (PRIVATE)

FOR RESOURCE CONSENT

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WASTEWATER LAYOUT SHEET 2

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	KG	19.10.26

		Date
Designed:	JA	22.07.26
Drawn:	JA	22.07.26
Checked:	KG	19.10.26

Scale: 1:1250 (A3 Original)

Job No: A25556 Dwg No: 5002 Rev: 1

C:\ProgramData\12DSynergy\data\CKL-AZU-SYN-1\A25556_29126\30 Civil\10 Drawings\RC\A25556-ED-ENGDATA-5000.dwg

1150m²

RECEIVING MANHOLE
GRAVITY WW SYSTEM

WWMH A-1
1200mmØ

WWMH A-2
1200mmØ

WWMH A-3
1200mmØ

WWMH A-4
1200mmØ

150 NB uPVC SN16

90 OD PE100 PN16

WWPS

2.1m Ø CONCRETE WETWELL
AND VALVE CHAMBER
AS PER KCDC LDMR DRAWING
WW-003

CONNECTION TO WATER
SUPPLY WITH RPZ
BACKFLOW DEVICE

PASSIVE ODOUR FILTER

ELECTRICAL CABINET WITH
TELEMETRY/CONTROLS AND
CONNECTION TO EMERGENCY
POWER GENERATOR

EMERGENCY STORAGE TANKS
(2 X 2.5m Ø GRP TANKS WITH BUOYANCY MITIGATION)
REFER SHEET 5200
SETBACKS FROM FOUNDATIONS, TREES AND RETAINING
WALLS TBC AT DETAILED DESIGN, WITH MITIGATION OF
STRUCTURAL LOADS PROVIDED WHERE NECESSARY

GRAVITY LINE ROUTED OUTSIDE
OF EXTENT OF CULVERT

9.00
12.50
4.50
2.50
4.69

EV
EV

6.8
6.6
6.4
6.4
6.4
8.0
8.0
6.0

DRAINAGE NOTES:

1. ALL PUBLIC DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH KCDC ENGINEERING STANDARDS.
2. ALL PRIVATE DRAINAGE WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE (NZBC) AND APPLICABLE STANDARDS.
3. ALL WASTEWATER AND STORMWATER LOT CONNECTIONS WILL BE uPVC SN16.
4. ALL PIPELINES UNDER TRAFFICABLE AREAS TO BE HARDFILL BACKFILLED WITH GAP40/65 AS SPECIFIED. ALL PIPE CROSS-OVERS <250mm ARE TO BE POLYSTYRENE PACKED.
5. ALL DRAINAGE WORKS SHALL BE CARRIED OUT UNDER THE SUPERVISION OF A REGISTERED DRAIN LAYER AND IN ACCORDANCE WITH CURRENT HEALTH AND SAFETY PRACTICES. WHERE REQUIRED, DRAINAGE WORKS TO BE UNDERTAKEN BY AN APPROVED LICENSED CONTRACTOR (A.L.C.).
6. THE CONTRACTOR SHALL LIAISE WITH THE UTILITY PROVIDER FOR THE STANDARD CLEARANCE REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING SERVICES WITHIN THE EXTENT OF THE WORKS PRIOR TO WORKS COMMENCEMENT. ALL TESTING AND POTHOLING SHALL BE AT THE CONTRACTOR'S EXPENSE.
7. ALL EXISTING BERMS, CARRIAGEWAYS AND CROSSINGS TO BE RE-INSTATED AS PER COUNCIL/CONTROLLING AUTHORITY REQUIREMENTS.
8. A COPY OF THE SITE SPECIFIC HEALTH AND SAFETY PLAN SHALL BE AVAILABLE ON SITE.
9. ALL TRAFFIC MANAGEMENT AND CORRIDOR ACCESS PERMIT(S) SHOULD BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION WITH THE ROAD CORRIDOR/RESERVE.
10. 45-DEGREE WYE JUNCTIONS TO BE USED FOR ALL LOT CONNECTIONS TO MAIN DRAINAGE LINES AS PER NZBC E1 AND G13.
11. INSPECTION POINTS AND RISERS MUST BE INSTALLED AT WASTEWATER WYE JUNCTIONS AS PER NZBC G13.

DRAINAGE PRE-CONSTRUCTION NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND ACCURATELY CONFIRM INVERT AND LID LEVELS OF EXISTING DRAINAGE MANHOLES AND CONNECTION POINTS PRIOR TO COMMENCING CONSTRUCTION. WHERE LEVELS DIFFER TO THOSE SHOWN THE CONTRACTOR SHALL ADVISE THE ENGINEER ACCORDINGLY.
2. THE DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING SERVICES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE AND PROTECT ALL EXISTING SERVICES DURING THE CONSTRUCTION PERIOD.

LEGEND:

- 49.5 — EXISTING CONTOURS - MAJOR (0.5m)
- 49.9 — EXISTING CONTOURS - MINOR (0.1m)
- 49.5 — FINISHED CONTOURS - MAJOR (0.5m)
- 49.9 — FINISHED CONTOURS - MINOR (0.1m)
- PROPOSED EARTHWORKS BOUNDARY

DRAINAGE LEGEND:

- WW — EXISTING WW (PUBLIC)
- PROPOSED WW (PRIVATE)
- PROPOSED WW CONNECTION (PRIVATE)
- PROPOSED RISING MAIN (PRIVATE)

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WASTEWATER
PUMP STATION LAYOUT

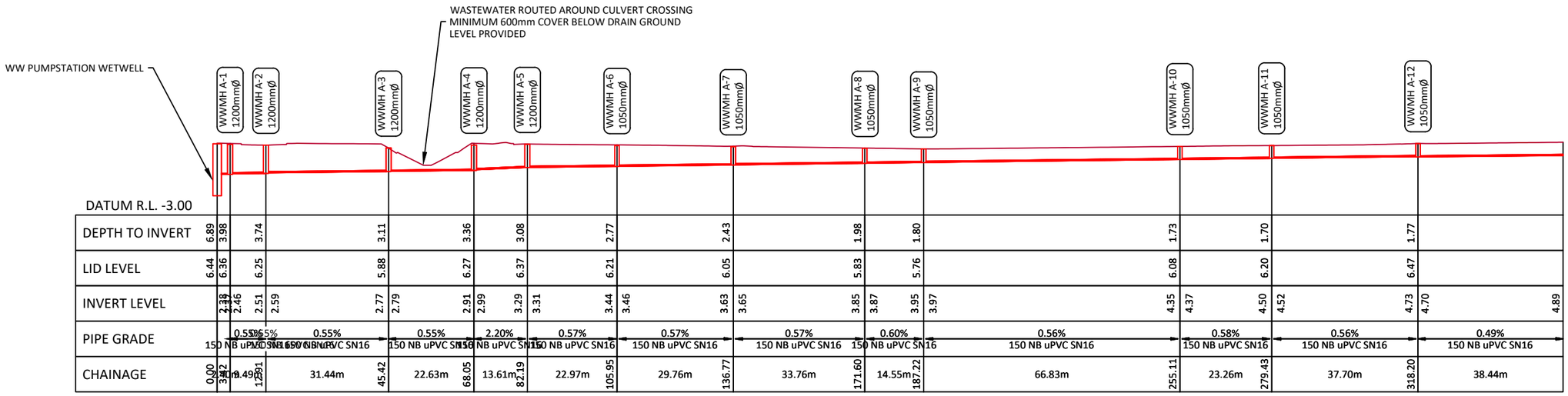
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		Date
Designed:	JA	22.07.26
Drawn:	JA	22.07.26
Checked:	KG	19.10.26

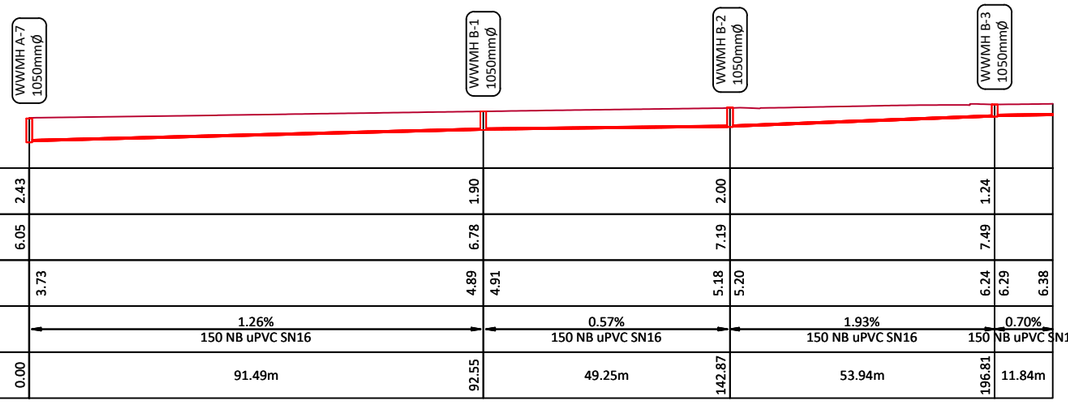
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Job No: A25556 | Dwg No: 5003 | Rev: 1

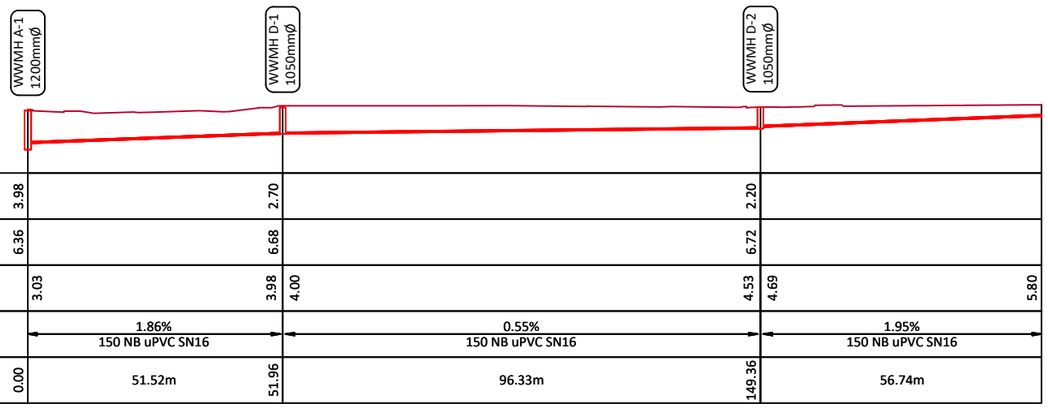
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LONGITUDINAL SECTION FOR WW LINE A



LONGITUDINAL SECTION FOR WW LINE B



LONGITUDINAL SECTION FOR WW LINE D

LEGEND:

FINISHED GROUND LEVEL

NOTES:

1. LONGITUDINAL SECTIONS DRAWN AT 2X VERTICAL EXAGGERATION.
2. REFER DWG 5000 FOR WASTEWATER LINE ALIGNMENTS.

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WASTEWATER LONGSECTION SHEET 1

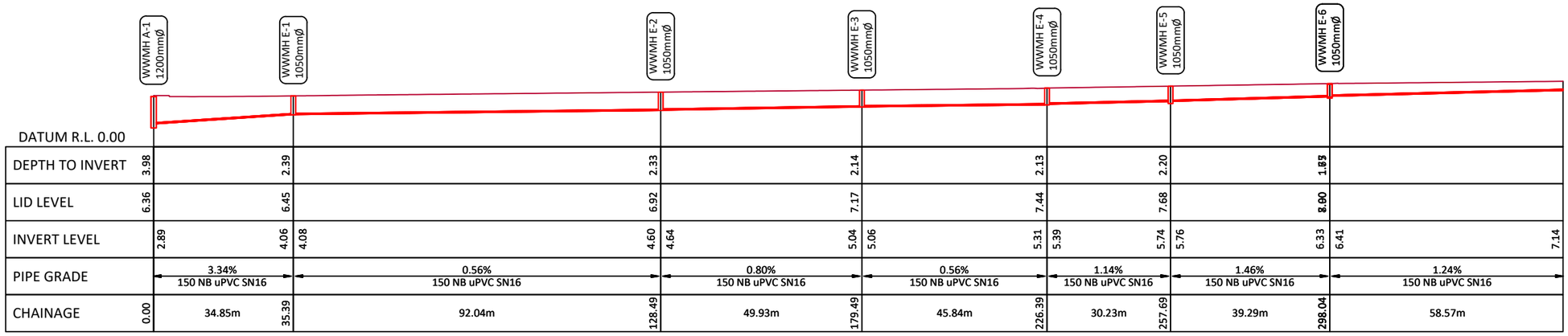
Issue	Description	Checked	Date
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		Date
Designed:	JA	22.07.26
Drawn:	JA	22.07.26
Checked:	KG	19.10.26

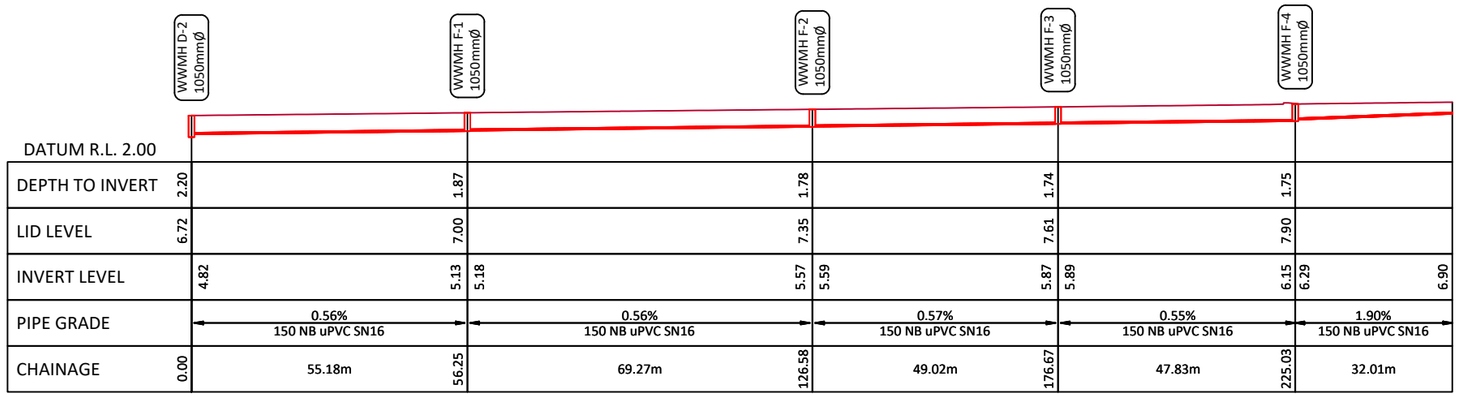
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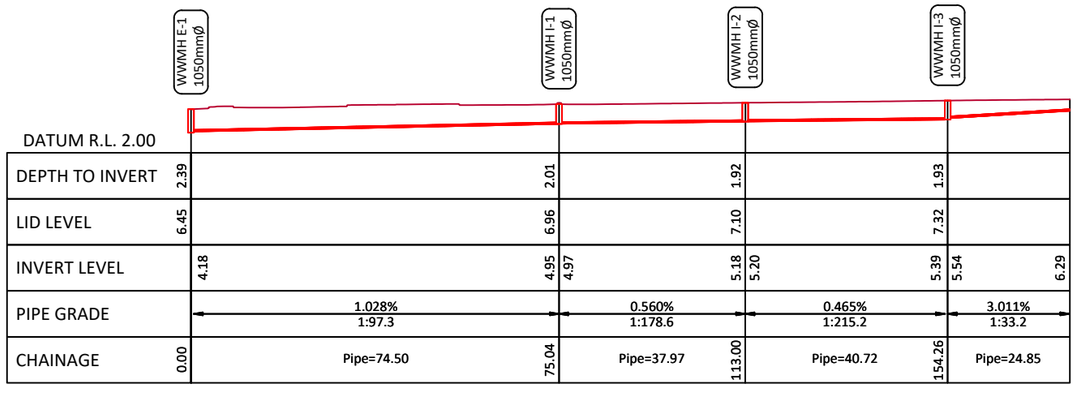
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LONGITUDINAL SECTION FOR WW LINE E



LONGITUDINAL SECTION FOR WW LINE F



LONGITUDINAL SECTION FOR WW LINE I

LEGEND:

FINISHED GROUND LEVEL

NOTES:

1. LONGITUDINAL SECTIONS DRAWN AT 2X VERTICAL EXAGGERATION.
2. REFER DWG 5000 FOR WASTEWATER LINE ALIGNMENTS.

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WASTEWATER LONGSECTION SHEET 2

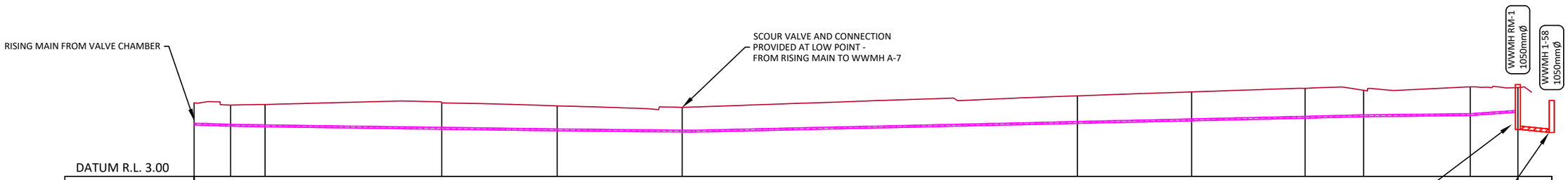
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1	FOR RESOURCE CONSENT	KG	19.10.26

		Date
Designed:	JA	22.07.26
Drawn:	JA	22.07.26
Checked:	KG	19.10.26

Scale: 1:1250 (A3 Original)

Job No: A25556 Dwg No: 5101 Rev: 1

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LONGITUDINAL SECTION FOR WW RISING MAIN
5x VERTICAL EXAGGERATION

LEGEND:

FINISHED GROUND LEVEL

NOTES:

1. LONGITUDINAL SECTION DRAWN AT 5X VERTICAL EXAGGERATION.
2. REFER DWG 5000 FOR WASTEWATER LINE ALIGNMENTS.

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WASTEWATER LONGSECTION SHEET 3

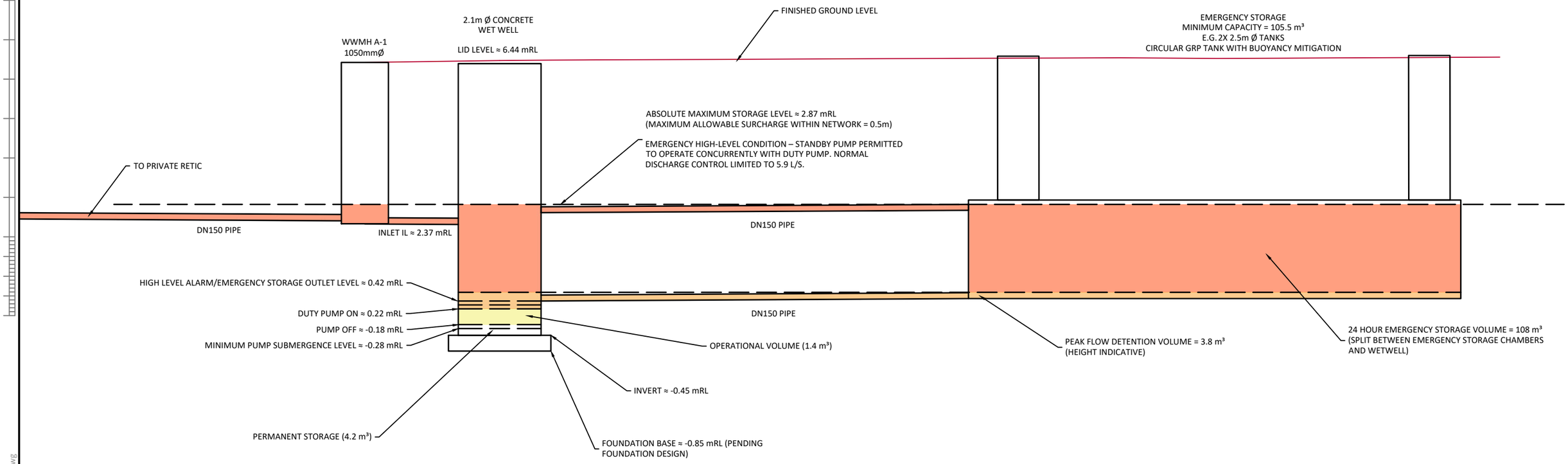
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		Date
Designed:	JA	22.07.26
Drawn:	JA	22.07.26
Checked:	KG	19.10.26

Scale: **1:1000** (A3 Original)

Job No: **A25556** Dwg No: **5102** Rev: **1**

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EMERGENCY STORAGE REQUIRED

- 24 HOUR ADWF REQUIRED = 108 m³
- DETENTION VOLUME REQUIRED = 3.8m³
  (3 HOURS OF PWWF FLOW DEFICIT (PEAK INFLOW - DUTY FLOW))
- VOLUME OF RISING MAIN = 1.3 m³
- **TOTAL = 113.1 m³**

EMERGENCY STORAGE PROVIDED

- STORAGE PROVIDED IN WETWELL = 8.5 m³
  (MEASURED BELOW MAX ALLOWABLE SURCHARGE LEVEL)
- STORAGE WITHIN NETWORK = NA
- EMERGENCY STORAGE VOLUME = 105.5 m³
- **TOTAL SYSTEM STORAGE PROVIDED (BELOW ALLOWABLE SURCHARGE LEVEL) = 114 m³**

- **AVERAGE DAILY FLOW = 1.3 L/s**
- **EMERGENCY STORAGE PROVIDED = 24.4 HRS**

ALL LEVELS ARE INDICATIVE ONLY [NZVD2016]

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WASTEWATER
PUMP STATION STORAGE

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	KG	19.10.26

		Date
Designed:	JA	21.09.26
Drawn:	JA	21.09.26
Checked:	KG	19.10.26

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Job No: **A25556** Dwg No: **5200** Rev: **1**

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REFER SHEET 6001

REFER SHEET 6002

54 Otaihanga Rd

24 Otaihanga Rd

RATANUI ROAD

EXISTING 375mm AC WATERMAIN

FIRE SPRINKLER SYSTEM SUPPLY POINT - APPROX DN150 TO BE CONFIRMED BY A SUITABLY QUALIFIED FIRE ENGINEER

IRRIGATION BRANCH OFF WITH SUITABLE RPZ DEVICE

DN150 (POTABLE + FIREFIGHTING) RPZ ARRANGEMENT INCLUDING SEPERATE DN150 RPZ ARRANGMENT FOR FIRE SPRINKLER SYSTEM. **SEE FIGURE A**

EXISTING 20mm WATER CONNECTION- (14MC186802) TO BE UPSIZED TO DN150

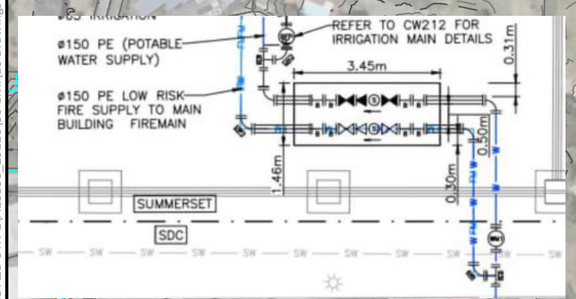


FIGURE A: BACKFLOW ARRANGEMENT AT BOUNDARY - NTS

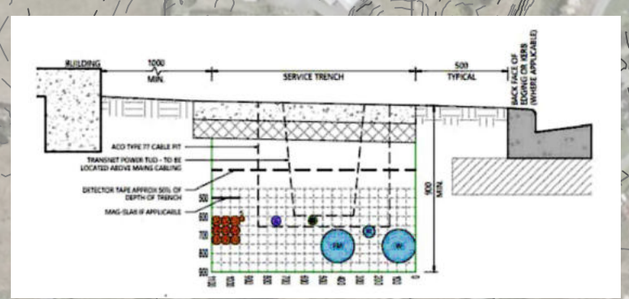


FIGURE B: STANDARD TRENCH DETAIL 1100mm WIDE - INCLUDES ICT CONNECTIONS

WATER SUPPLY NOTES:

1. ALL WATERMAINS ARE TO BE POSITIONED IN ACCORDANCE WITH COMMON SERVICES TRENCH DETAILS UNLESS SHOWN OTHERWISE.
2. ALL WATERMAINS SHALL HAVE MIN. 750mm COVER IN BERMS AND MIN. 1200mm COVER IN CARRIAGEWAYS.
3. ALL WORKS ON THE EXISTING WATER NETWORK IS TO BE UNDERTAKEN BY THE CONTRACTOR UNDER THE SUPERVISION OF KCDC REPRESENTATIVES FOLLOWING PRESSURE TESTING, AS-BUILTS & CERTIFICATIONS .
4. ALL SERVICE CONNECTIONS TO BE DN 20 UNLESS SHOWN OTHERWISE.
5. ALL RIDERMAINS/WATERMAINS DN 50-355 TO COMPRISE PE80B/PE100 AS/NZS 4130/2003 PN12.5 SDR11/SDR13.6 COLOURED BLUE AND INCLUDE TRACER WIRE.
6. THE CONTRACTOR IS TO FIX BY SURVEY ALL CHANGES IN DIRECTION AND OR DEPTH OF THE PROPOSED WATERMAIN.
7. ALL TRENCHES UNDER THE CARRIAGEWAY ARE TO BE BACKFILLED HARDFILL. ALL ROAD CROSSINGS SHALL HAVE MINIMUM 900mm COVER.
8. ALL VALVES ARE TO BE LAID IN GRASS BERMS, WHERE VALVE/HYDRANT BOXES ARE REQUIRED LIDS TO BE FLUSH WITH CONCRETE FINISHED LEVEL.
9. THE DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING SERVICES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE AND PROTECT ALL EXISTING SERVICES DURING THE CONSTRUCTION PERIOD.

LEGEND:

- 49.5 EXISTING CONTOURS - MAJOR (2.0m)
- 49.9 EXISTING CONTOURS - MINOR (0.5m)
- 49.5 FINISHED CONTOURS - MAJOR (1.0m)
- 49.9 FINISHED CONTOURS - MINOR (0.2m)
- PROPOSED EARTHWORKS BOUNDARY

WATER SUPPLY LEGEND:

- LOT CONNECTION
- PRIVATE LOT CONNECTION
- M PROPOSED BULK METER
- FH PROPOSED FIRE HYDRANT
- PROPOSED SLUICE VALVE
- W 150 PROPOSED WATER MAIN DN150
- W 50 PROPOSED WATER MAIN DN50
- W 150 DEDICATED FIRE SPRINKLER MAIN DN150
- EXISTING WATER MAIN
- EXISTING SLUICE VALVE

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WATER LAYOUT OVERVIEW PLAN

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	KG	9.10.26

		Date
Designed:	KWG	21.09.26
Drawn:	KWG	21.09.26
Checked:		

Scale: 1:2000 (A3 Original)

Job No: A25556 Dwg No: 6000 Rev: 1

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54 Otaihanga Rd

REFER SHEET 6002

115

24 Otaihanga Rd

54

50

46

153

155

157

65

WATER SUPPLY NOTES:

1. ALL WATERMAINS ARE TO BE POSITIONED IN ACCORDANCE WITH COMMON SERVICES TRENCH DETAILS UNLESS SHOWN OTHERWISE.
2. ALL WATERMAINS SHALL HAVE MIN. 600mm COVER IN BERMS AND MIN. 900mm COVER IN CARRIAGEWAYS.
3. ALL WORKS ON THE EXISTING WATER NETWORK IS TO BE UNDERTAKEN BY THE CONTRACTOR UNDER THE SUPERVISION OF PINE HARBOUR WATER REPRESENTATIVES FOLLOWING PRESSURE TESTING, AS-BUILTS & CERTIFICATIONS .
4. ALL SERVICE CONNECTIONS TO BE DN 20 UNLESS SHOWN OTHERWISE.
5. ALL RIDERMAINS/WATERMAINS DN 50-355 TO COMPRISE PE80B/PE100 AS/NZS 4130/2003 PN12.5 SDR11/SDR13.6 COLOURED BLUE AND INCLUDE TRACER WIRE.
6. THE CONTRACTOR IS TO FIX BY SURVEY ALL CHANGES IN DIRECTION AND OR DEPTH OF THE PROPOSED WATERMAIN.
7. ALL TRENCHES UNDER THE CARRIAGEWAY ARE TO BE BACKFILLED HARDFILL. ALL ROAD CROSSINGS SHALL HAVE MINIMUM 900mm COVER.
8. ALL FITTINGS ARE TO BE PE. NO DI FITTINGS PERMITTED.
9. ALL VALVES ARE TO BE LAID IN GRASS BERMS, WHERE VALVE/HYDRANT BOXES ARE REQUIRED LIDS TO BE FLUSH WITH CONCRETE FINISHED LEVEL.
10. THE DRAWINGS DO NOT NECESSARILY SHOW ALL EXISTING SERVICES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE AND PROTECT ALL EXISTING SERVICES DURING THE CONSTRUCTION PERIOD.

LEGEND:

- 49.5 EXISTING CONTOURS - MAJOR (2.0m)
- 49.9 EXISTING CONTOURS - MINOR (0.5m)
- 49.5 FINISHED CONTOURS - MAJOR (1.0m)
- 49.9 FINISHED CONTOURS - MINOR (0.2m)
- PROPOSED EARTHWORKS BOUNDARY

WATER SUPPLY LEGEND:

- LOT CONNECTION
- PRIVATE LOT CONNECTION
- M PROPOSED BULK METER
- FH PROPOSED FIRE HYDRANT
- PROPOSED SLUICE VALVE
- W 150 PROPOSED WATER MAIN DN150
- W 50 PROPOSED WATER MAIN DN50
- W 150 DEDICATED FIRE SPRINKLER MAIN DN150
- EXISTING WATER MAIN
- EXISTING SLUICE VALVE

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WATER LAYOUT PLAN SHEET 1

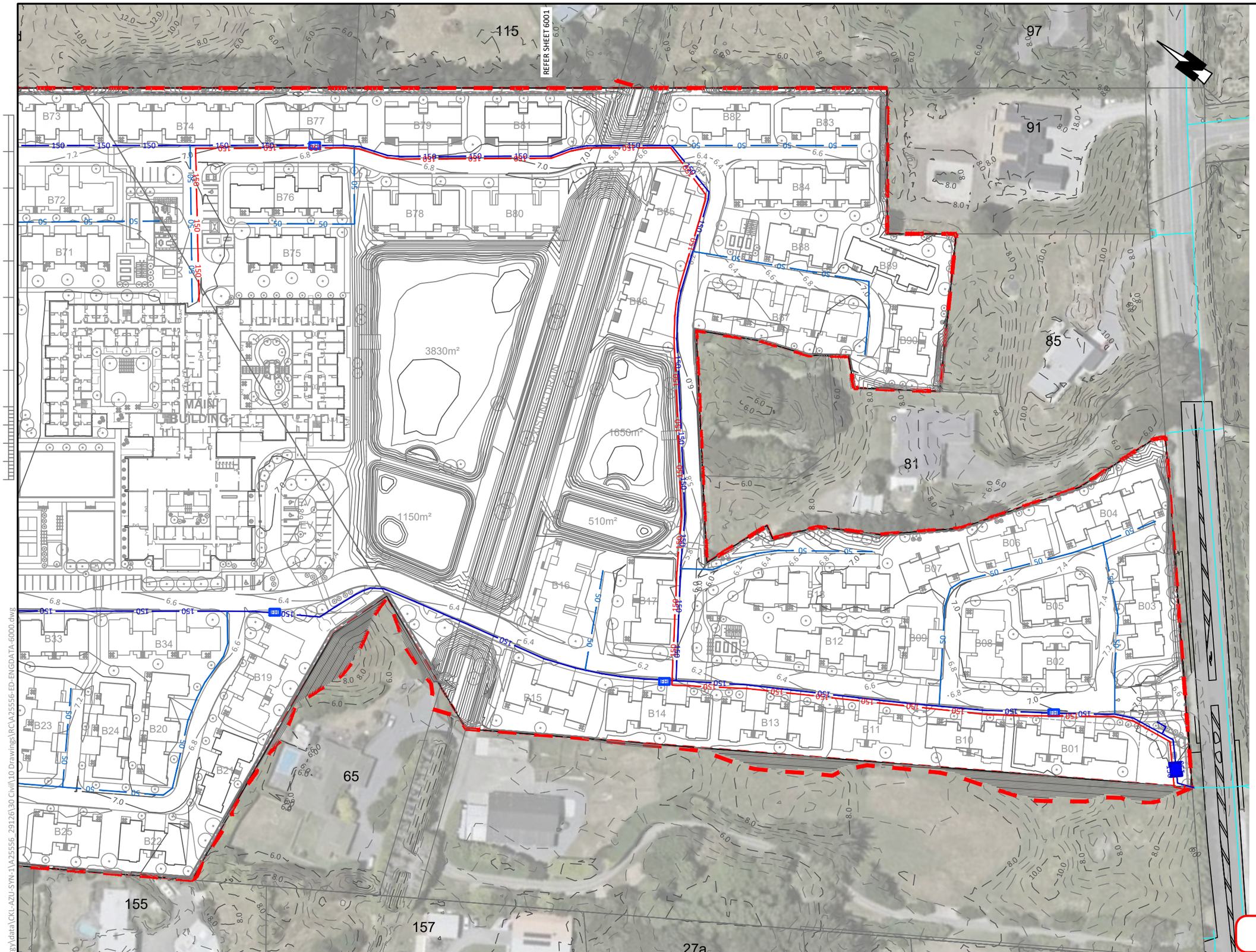
Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	KG	9.10.26

		Date
Designed:	KWG	22.07.26
Drawn:	KWG	22.07.26
Checked:		

Scale: 1:1250 (A3 Original)

Job No: A25556 Dwg No: 6001 Rev: 1

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WATER SUPPLY NOTES:

1. ALL WATERMAINS ARE TO BE POSITIONED IN ACCORDANCE WITH COMMON SERVICES TRENCH DETAILS UNLESS SHOWN OTHERWISE.
2. ALL WATERMAINS SHALL HAVE MIN. 600mm COVER IN BERMS AND MIN. 900mm COVER IN CARRIAGEWAYS.
3. ALL WORKS ON THE EXISTING WATER NETWORK IS TO BE UNDERTAKEN BY THE CONTRACTOR UNDER THE SUPERVISION OF PINE HARBOUR WATER REPRESENTATIVES FOLLOWING PRESSURE TESTING, AS-BUILTS & CERTIFICATIONS .
4. ALL SERVICE CONNECTIONS TO BE DN 20 UNLESS SHOWN OTHERWISE.
5. ALL RIDERMAINS/WATERMAINS DN 50-355 TO COMPRISE PE80B/PE100 AS/NZS 4130/2003 PN12.5 SDR11/SDR13.6 COLOURED BLUE AND INCLUDE TRACER WIRE.
6. THE CONTRACTOR IS TO FIX BY SURVEY ALL CHANGES IN DIRECTION AND OR DEPTH OF THE PROPOSED WATERMAIN.
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- 49.5 FINISHED CONTOURS - MAJOR (1.0m)
- 49.9 FINISHED CONTOURS - MINOR (0.2m)
- PROPOSED EARTHWORKS BOUNDARY

WATER SUPPLY LEGEND:

- LOT CONNECTION
- PRIVATE LOT CONNECTION
- M PROPOSED BULK METER
- FH PROPOSED FIRE HYDRANT
- PROPOSED SLUICE VALVE
- W 150 PROPOSED WATER MAIN DN150
- W 50 PROPOSED WATER MAIN DN50
- W 150 DEDICATED FIRE SPRINKLER MAIN DN150
- EXISTING WATER MAIN
- EXISTING SLUICE VALVE

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WATER LAYOUT PLAN SHEET 2

Issue	Description	Checked	Date
1	FOR RESOURCE CONSENT	KG	9.10.26

		Date
Designed:	KWG	22.07.26
Drawn:	KWG	22.07.26
Checked:		

Scale: 1:1250 (A3 Original)

Job No: A25556 Dwg No: 6002 Rev: 1

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