

MAIDENS GREEN STAGE 5 CONSTRUCTION CERTIFICATE KIELY ROAD PROJECTS PTY LTD

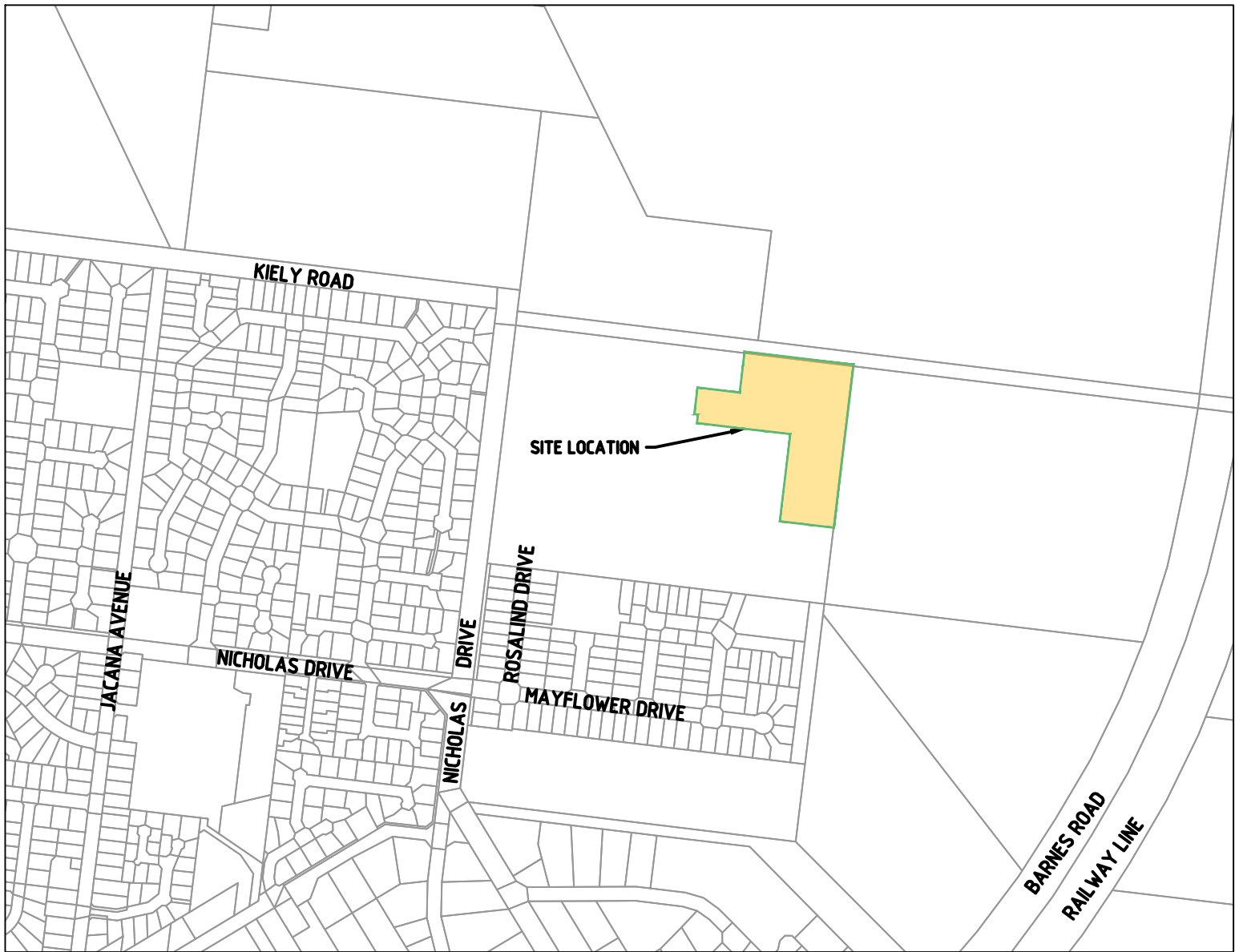
GENERAL NOTES

A. GENERAL

- ALL WORK TO BE CARRIED OUT TO MURRAY RIVER COUNCIL SPECIFICATIONS, STANDARD DRAWINGS AND TO THE SATISFACTION OF COUNCIL'S SENIOR SURVEILLANCE OFFICER OR HIS REPRESENTATIVE.
- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM AND ALL COORDINATES ARE TO MAP GRID OF AUSTRALIA (MGA) ZONE 55.
- THE LOCATION OF EXISTING SERVICES SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCING ANY EXCAVATION BY CONTACTING ALL SERVICE AUTHORITIES. ANY EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
- FILL AREAS ARE TO BE STRIPPED OF TOPSOIL, FILLED AND ONLY RE-TOPSOILED ON THE DIRECTION OF THE ENGINEER, TO THE FINAL FILL LEVELS SHOWN ON THE DRAWINGS. ALL FILLING IS TO BE:
 - APPROVED BY THE PROJECT GEOTECHNICAL CONSULTANT.
 - PLACED IN LAYERS NOT EXCEEDING 200MM LOOSE THICKNESS.
 - MOISTURE CONDITIONED TO WITHIN 85% TO 115% OF OPTIMUM MOISTURE CONTENT.
 - COMPACTED TO A MINIMUM 95% (STANDARD) DRY DENSITY RATIO.
 - PLACED UNDER "LEVEL 1" SUPERVISION IN ACCORDANCE WITH AS 3798-1996.
- EXISTING DEPRESSIONS & DRAINS TRAVERSING THE SITE ARE TO BE CLEANED OUT AND DESLUGGED TO FIRM BASE AND FILLED TO FINISHED SURFACE LEVELS TO THE SPECIFIED COMPACTION STANDARDS.
- TBM'S TO BE RE-ESTABLISHED BY THE LICENSED SURVEYOR IF FOUND TO BE MISSING AT THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR CARE AND MAINTENANCE OF TBM'S THEREAFTER.
- POSITION CONDUITS SO THAT A MINIMUM DISTANCE BETWEEN TAPPING IS 10M. CONDUITS TO BE LOCATED MIDWAY BETWEEN FENCE LINE OF LOT, UNLESS OTHERWISE SHOWN.
- BEFORE COMMENCING WORK ON EXCAVATIONS IN EXCESS OF 15 M DEEP, A SAFE WORK METHOD STATEMENT (SWMS) MUST BE PREPARED. ALL EXCAVATIONS ARE TO BE IN ACCORDANCE WITH THE RELEVANT NSW ACTS AND REGULATIONS.
- COUNCIL'S REPRESENTATIVE IS TO BE NOTIFIED IN WRITING 72 HOURS PRIOR TO THE COMMENCEMENT OF WORKS.
- NO EXCAVATION WITHIN 5M OF ANY EXISTING TREE WITHOUT APPROVAL OF THE ENGINEER.
- NO BLASTING IS PERMITTED WITHOUT OBTAINING COUNCIL'S SPECIAL DISPENSATION.
- EXCAVATED MATERIAL SURPLUS TO FILLING REQUIREMENTS OF THE WORKS SHALL BE REMOVED FROM SITE AS SPECIFIED.
- ALL SURPLUS ROCK, CONCRETE AND BITUMINOUS RUBBLE SHALL BE DISPOSED OFF SITE AS SPECIFIED. THE CONTRACTOR SHALL CHECK WITH SUPERINTENDENT WHETHER ANY LARGE ROCKS ARE REQUIRED FOR LANDSCAPE PURPOSES PRIOR TO DISPOSAL.
- NATURESTRIPS AND ALL AREAS OF CUT OUTSIDE ROAD RESERVE TO BE SURFACED WITH 100MM MINIMUM COMPACTED LAYER OF TOPSOIL.
- THE LOCATION OF ALL SERVICE CONDUITS ARE TO BE MARKED 5mm INTO THE FACE OF BOTH KERBS, IMMEDIATELY ABOVE THE CONDUIT WITH UNIFORM 50mm HIGH LETTER, WHERE CONDUITS CROSS FOOTPATHS, THE LOCATION IS TO BE MARKED IN THE PATH (NEAR THE EDGE) IN THE SAME FASHION.
- ENVIRONMENTAL REQUIREMENTS - ALL TREES MUST BE PRESERVED AND PROTECTED AT ALL TIMES. TREES MARKED X ON THE DESIGN PLANS MAY BE REMOVED.

B. ROAD WORKS

- FOOTPATHS ARE TO BE 15M WIDE UNLESS SHOWN OTHERWISE. FOOTPATHS TO BE CONSTRUCTED TO THE MURRAY RIVER COUNCIL'S STANDARDS.
- CONSTRUCT LAYBACK SECTION AT VEHICLE CROSSING, REVERSING BAYS AND CAR PARKING BAYS AND PRAM CROSSING TO MURRAY RIVER COUNCIL'S STANDARDS.
- ALL CHAINAGES REFER TO ROAD PAVEMENT CENTRELINES EXCEPT IN COURT HEADS AND INTERSECTIONS WHERE CHAINAGES REFER TO BACK OF KERB.
- THE CONTRACTOR IS REQUIRED TO CONFINE CONSTRUCTION VEHICLES TO THE ROAD RESERVE AND EASEMENTS. ANY DAMAGE CAUSED TO ALLOTMENTS MUST BE MADE GOOD.
- ALL BATTERS SHALL BE TO MURRAY RIVER COUNCIL STANDARDS.
 - CUT 1 IN 12 UNLESS OTHERWISE SHOWN.
 - FILL 1 IN 12 UNLESS OTHERWISE SHOWN.
- ALL SET OUT INFORMATION GIVEN IS TO LIP OF KERB UNLESS OTHERWISE SHOWN.
- WHERE CRUSHED ROCK IS SHOWN UNDER CONCRETE FOOTPATHS CONSTRUCTED ON FILL, THE CRUSHED ROCK IS TO BE 20MM CLASS
- WHERE CUT BATTERS ARE STEEPER THAN 1:6 THEY MUST BE HYDRO MULCHED.
- SUBGRADE BE COMPACTED TO A MINIMUM OF 98% STANDARD MAXIMUM DRY DENSITY (AS3798), WITH THE SUBBASE COMPACTED IN ACCORDANCE WITH SCALE C IN VICROADS TABLE 304.071 USING FINE CRUSHED ROCK AND THE BASE COURSE TO AN AVERAGE OF 100% MINIMUM MODIFIED DRY DENSITY. ANY FILLING BENEATH ROAD PAVEMENT AREAS TO BE COMPACTED TO 100% OF MAXIMUM DRY DENSITY.COMPACTION TESTING TO BE AS PER COUNCIL REQUIREMENTS.
- ANY BACKFILL WITHIN 1.0M OF A COUNCIL ASSET (ROAD) IS TO BE FCR. FILL MATERIAL IS ACCEPTABLE IF COMPACTED TO ENSURE 95% COMPACTION. COMPACTION TESTING TO BE PERFORMED AT ONE PER 60M OF TRENCH.
- CONCRETE TO HAVE 28DAY STRENGTH OF 25MPA UNLESS NOTED OTHERWISE
- LEVEL 1 COMPACTION REPORT REQUIRED FOR ANY FILL ON THE ROAD RESERVE. THIS MUST BE PROVIDED TO MURRAY RIVER COUNCIL PRIOR TO ANY PROOF ROLL.
- PAVEMENT TESTING IS TO BE COMPLETED IN ACCORDANCE WITH MURRAY RIVER COUNCIL 'ENGINEERING GUIDELINES FOR SUBDIVISIONS FOR SUBDIVISIONS AND DEVELOPMENT STANDARDS'.
- THE PRE-APPROVED PREFERRED DRIVEWAY LOCATIONS SHOWN ON DRG NO. "310338CC030" ARE TO BE CONSTRUCTED BY EACH LANDOWNER AT A LATER DATE.



LOCALITY PLAN

NOT TO SCALE



System Certified

© Spiire Australia Pty Ltd All Rights Reserved

This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

SERVICE LOCATION TABLE

ROAD NAME	FILTERED WATER		RAW WATER		GAS		NBN (TELECOM)		ELECTRICITY				SEWER	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	POLE		U/G CABLE		SIDE	OFFSET
DAKES LANE	N	2.15	N	2.55	N	2.95	N	1.00	N	15x	N	0.40	N	4.00
MAYFLOWER DRIVE (LOT 507 - 509)	E	2.50	E	3.00	E	3.50	W	1.00	W	10x	W	0.40	E	1.00
MAYFLOWER DRIVE (LOT 506)	W	2.30	W	2.80	W	3.30	W	1.00	W	10x	W	0.40	-	-
ROSALIND DRIVE	S	3.55	S	4.05	S	4.55	S	2.75	S	0.8x	S	2.15	-	-
KINGS CIRCUIT (LOT 509 - 513)	S	2.15	S	2.55	S	2.95	S	1.00	N	0.8x	S	0.40	S	3.73
KINGS CIRCUIT (LOT 514 - 522)	W	2.15	W	2.55	W	2.95	W	1.00	E	0.8x	W	0.40	W	3.875

- TELECOMMUNICATIONS AND ELECTRICITY CABLES TO BE CONSTRUCTED IN A COMMON TRENCH IN ACCORDANCE WITH ELECTRICITY AUTHORITY STANDARD DRG's.
- GAS AND WATER MAINS TO BE CONSTRUCTED IN A COMMON TRENCH.
- x = OFFSET FROM BACK OF KERB

LEGEND

DESCRIPTION

FILTERED WATER MAIN, VALVE AND HYDRANT
RAW WATER
UNDERGROUND ELECTRICITY
OVERHEAD ELECTRICITY & POLE
TELECOMMUNICATIONS & SERVICE PIT
GAS MAIN
SEWER & MANHOLE
SEWER RISING MAIN
COUNCIL STORMWATER DRAIN & PIT
COUNCIL STORMWATER PITS
STORMWATER DRAINAGE PIT NUMBER

GAS & WATER CONDUITS

PRE-APPROVED PREFERRED DRIVEWAY LOCATIONS

SURFACE CONTOUR MINOR

SURFACE CONTOUR MAJOR

SURFACE LEVEL

BATTER LEVEL (TOP / TOE)

EARTHWORKS GRADE

SIGN AND POST

LIGHT & POLE (BY OTHERS)

STREET SIGN

PERMANENT SURVEY MARK

TEMPORARY BENCH MARK

BOLLARD

ROAD CHAINAGES

LOT CHAINAGE

SETOUT POINT

LIMIT OF WORKS

EARTHWORK - FILL GREATER THAN 200mm

BATTER

ROCK BEACHING

FENCE - TREE PROTECTION

FENCE - VEHICLE EXCLUSION

FENCES

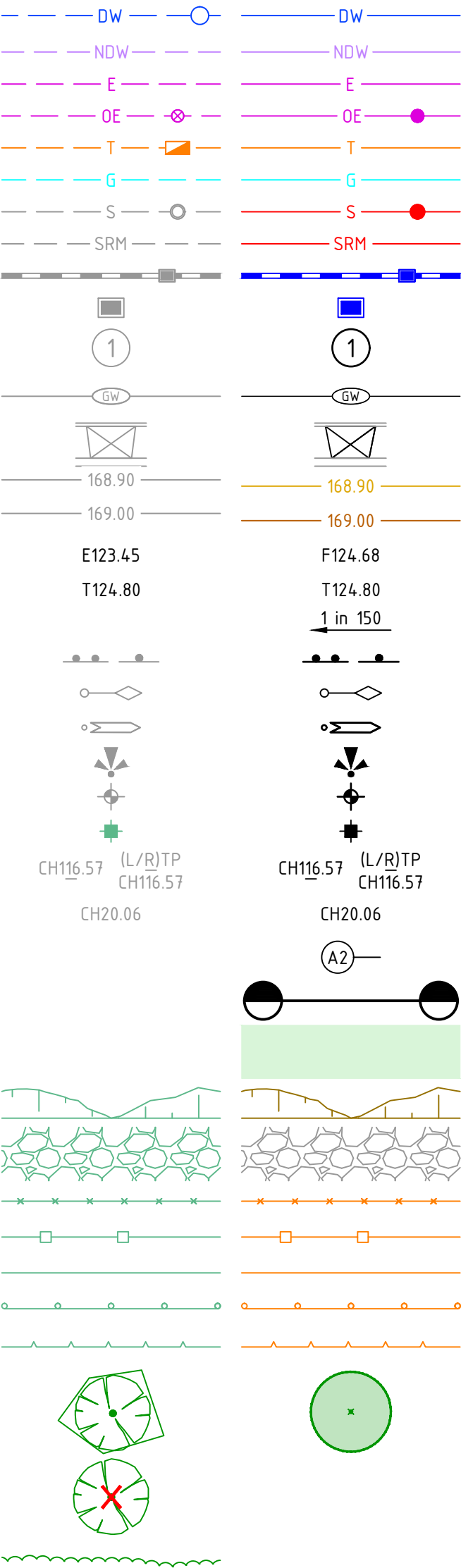
TREE (& SURVEYED CANOPY) TO BE RETAINED

TREE TO BE REMOVED

VEGETATION LINE

EXISTING

PROPOSED

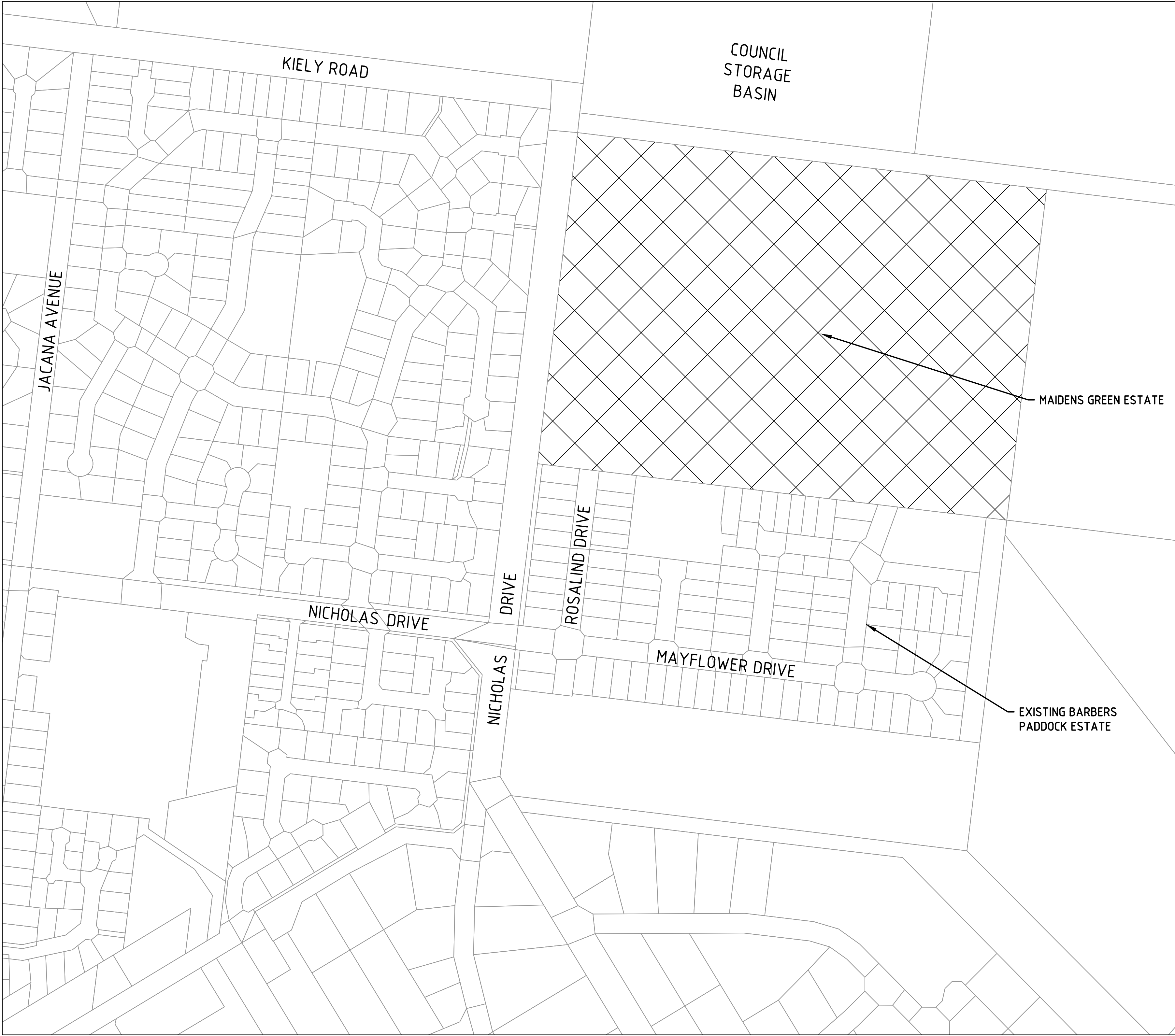


file name: 310338CC000.dwg layout name: CC002 - plotted by: Doreen Sheehan
file location: \\spire\bandra\data\310338\dwg\A1\A1.dwg plot date: 12/12/2024 12:03 PM Sheet 2 of 21 Sheets

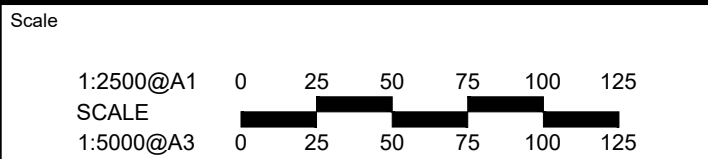
DRAWING SCHEDULE

DRAWING	DESCRIPTION	SHEET No.	REVISION
CC001	COVER SHEET	1	2
CC002	DRAWING SCHEDULE	2	2
CC005	GENERAL ARRANGEMENT PLAN - TYPICAL DETAILS AND SECTIONS	3	2
CC025	STAGING PLAN	4	2
CC030	ROAD LAYOUT PLAN	5	2
CC031	ROAD LAYOUT PLAN - CONCRETE JOINTING PLAN	6	2
CC100	ROAD LONGITUDINAL SECTIONS - ROSALIND - MAYFLOWER DRIVE & OAKES LANE	7	2
CC101	ROAD LONGITUDINAL SECTIONS - KINGS CIRCUIT	8	2
CC140	ROAD CROSS SECTIONS - MAYFLOWER DRIVE & ROSALIND DRIVE	9	2
CC141	ROAD CROSS SECTIONS - OAKES LANE	10	2
CC142	ROAD CROSS SECTIONS - KINGS CIRCUIT SHEET 1 OF 3	11	2
CC143	ROAD CROSS SECTIONS - KINGS CIRCUIT SHEET 2 OF 3	12	2
CC270	INTERSECTION DETAILS - MAYFLOWER DRIVE - OAKES LANE - KINGS CIRCUIT	13	2
CC400	HYDRAULICS - NOTES & LEGEND - DRAINAGE, SEWER & WATER NOTES	14	2
CC430	HYDRAULICS - DRAINAGE PROFILES - SHEET 1 OF 3	15	2
CC431	HYDRAULICS - DRAINAGE PROFILES - SHEET 2 OF 3	16	2
CC432	HYDRAULICS - DRAINAGE PROFILES - SHEET 3 OF 3	17	2
CC500	HYDRAULICS - SEWER & WATER - WATER LAYOUT PLAN	18	2
CC501	HYDRAULICS - SEWER & WATER - WATER DETAILS	19	2
CC502	HYDRAULICS - SEWER & WATER - SEWER LAYOUT PLAN	20	2
CC530	HYDRAULICS - SEWER PROFILES	21	2

2



2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023
Rev	Amendments	Approved	Date



System Certified

© Spiire Australia Pty Ltd All Rights Reserved

This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

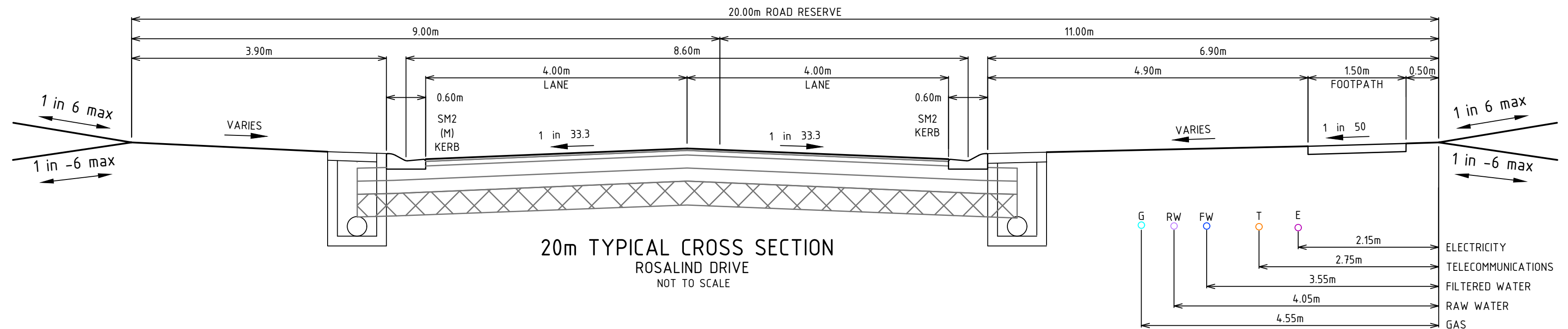
Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 2024

MAIDENS GREEN
STAGE 5
DRAWING SCHEDULE
SHEET 1
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No 310338CC002 Rev 2

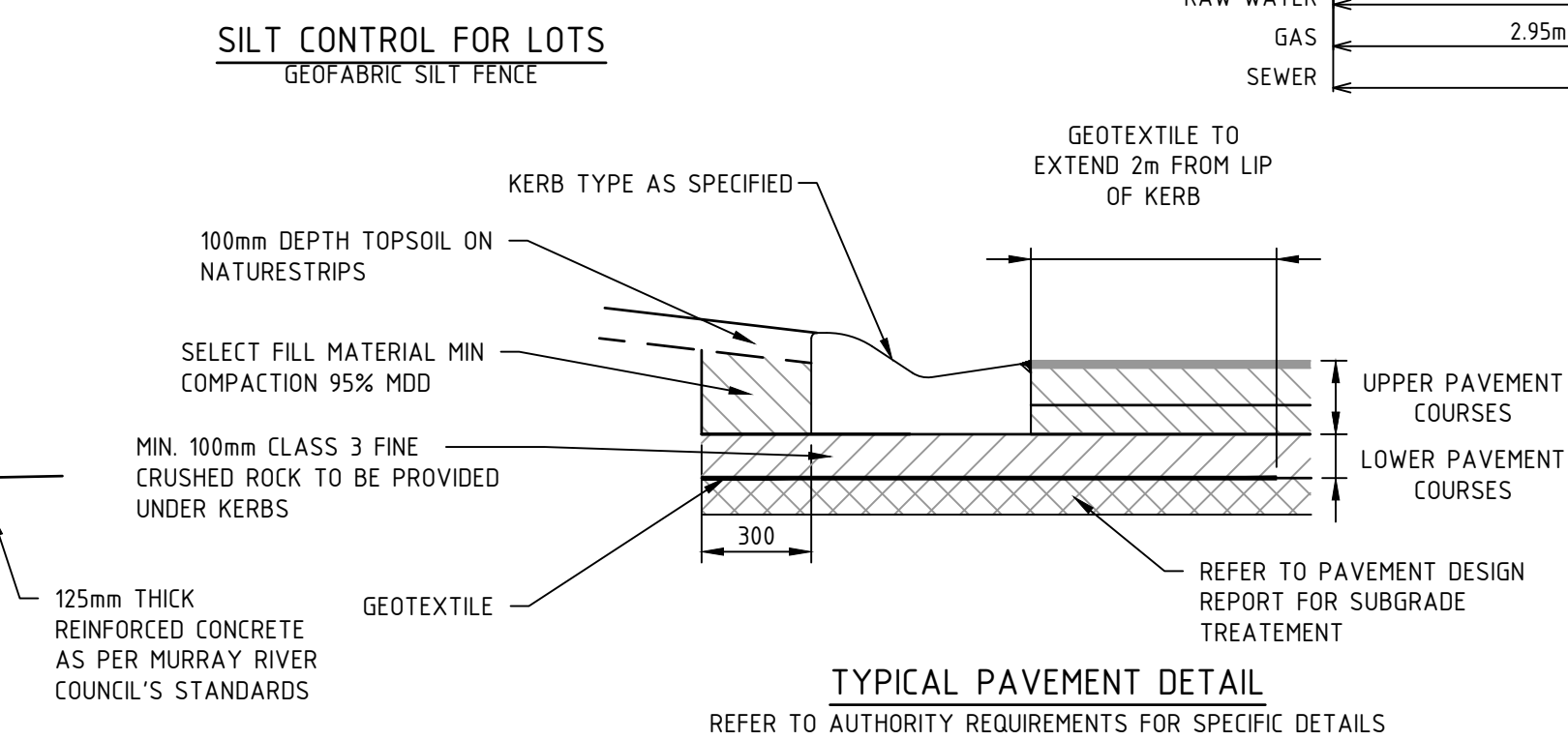
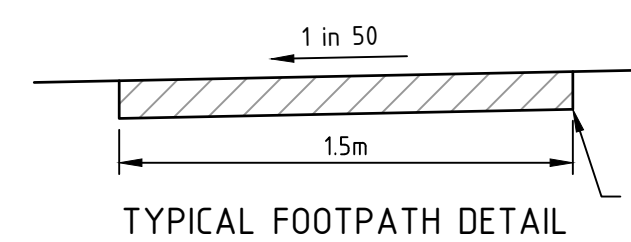
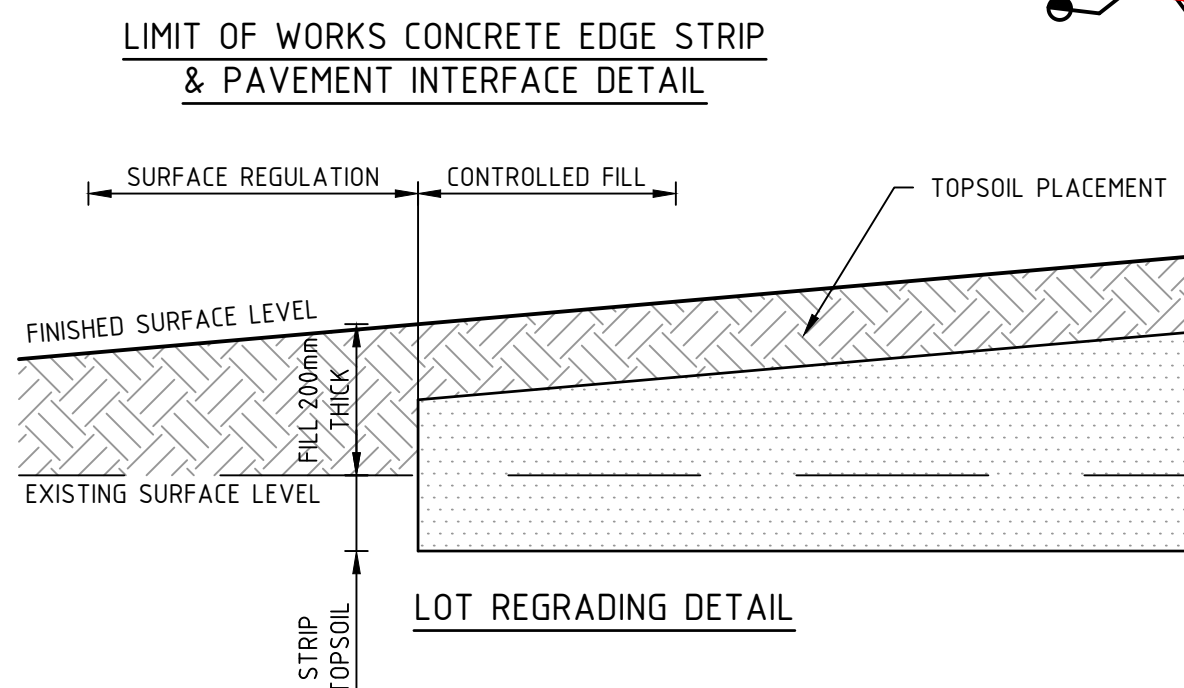
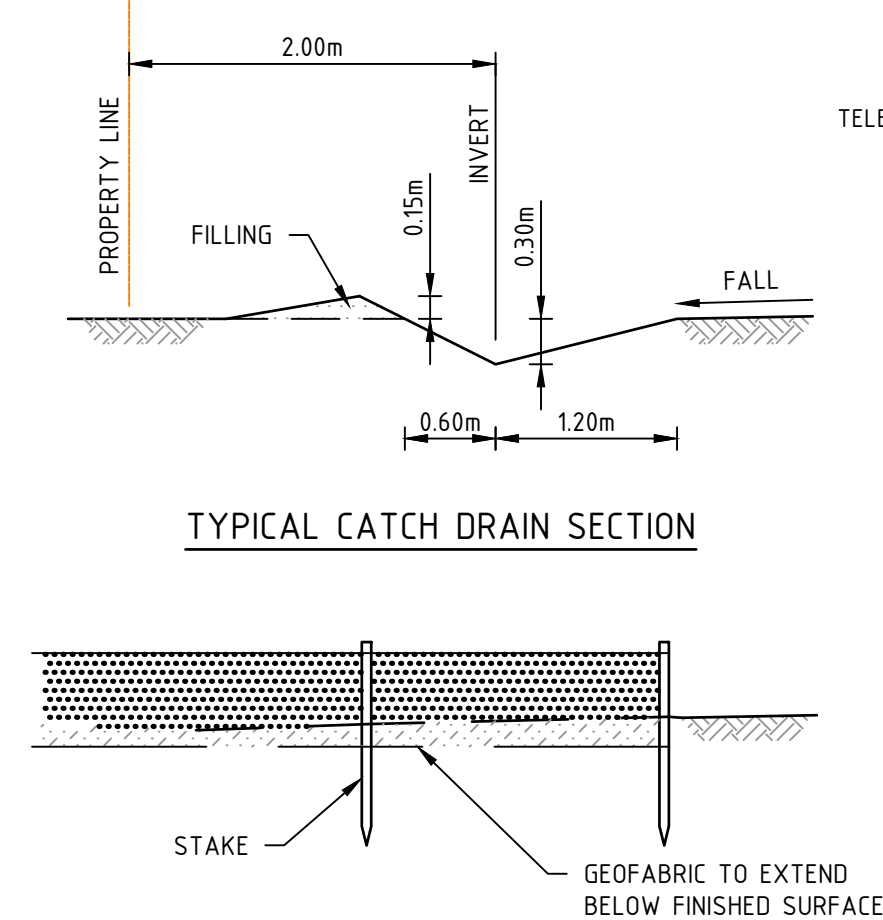
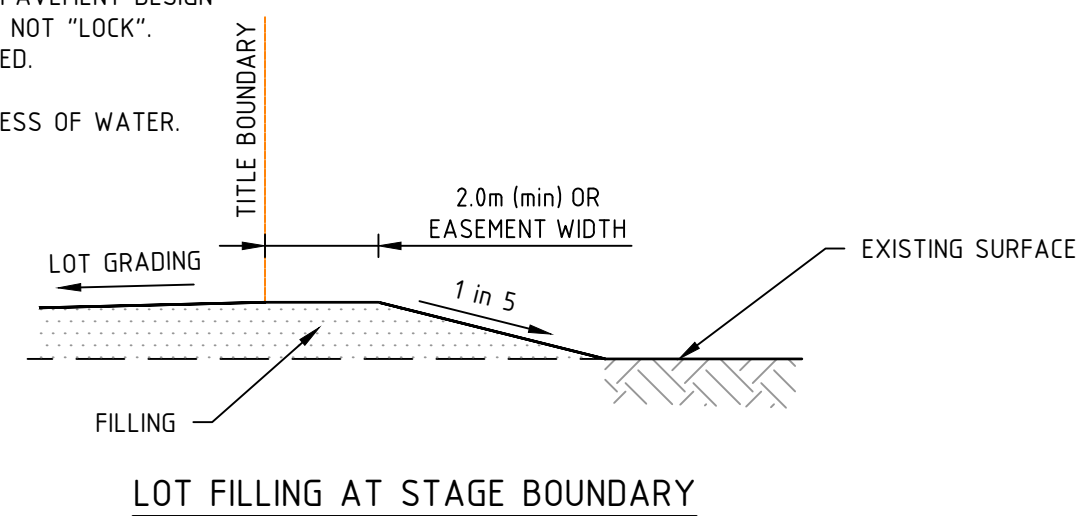
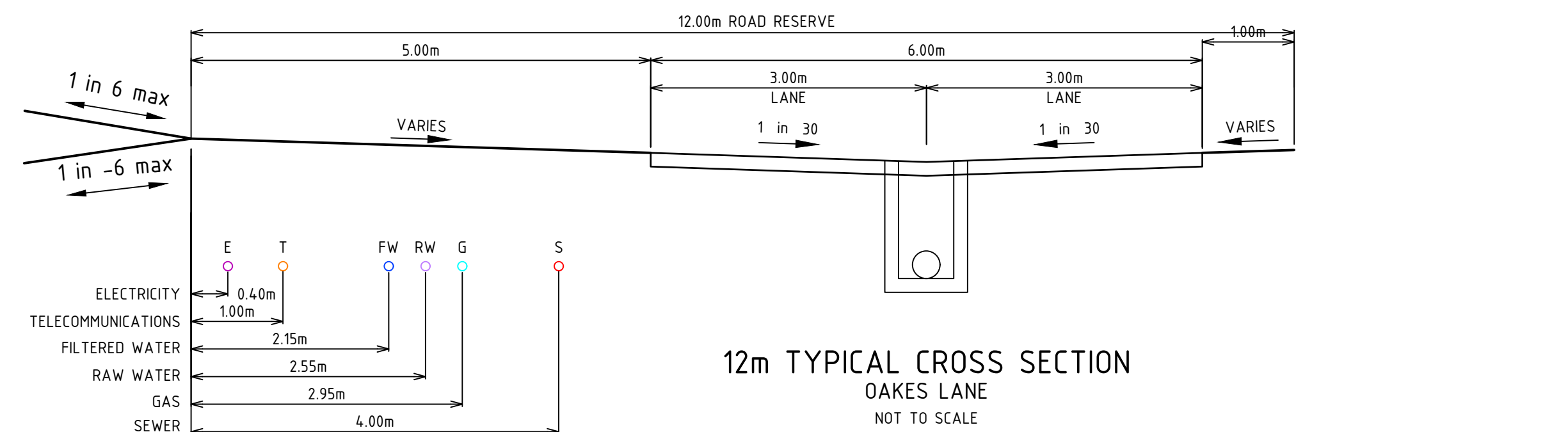
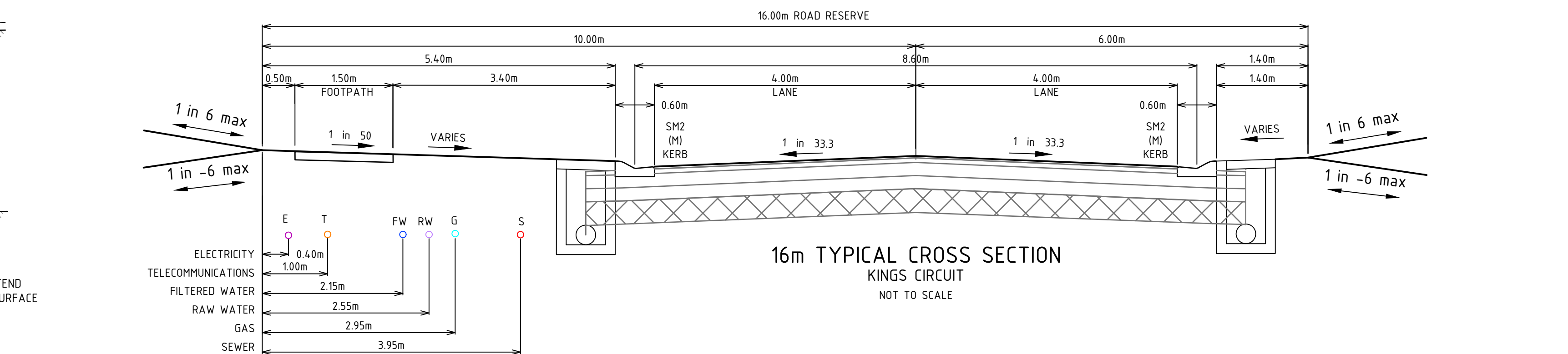
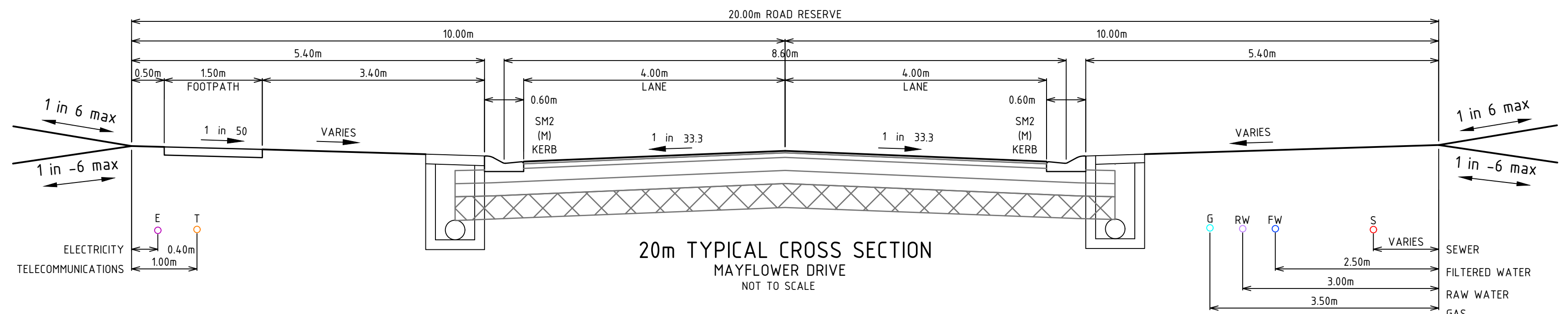
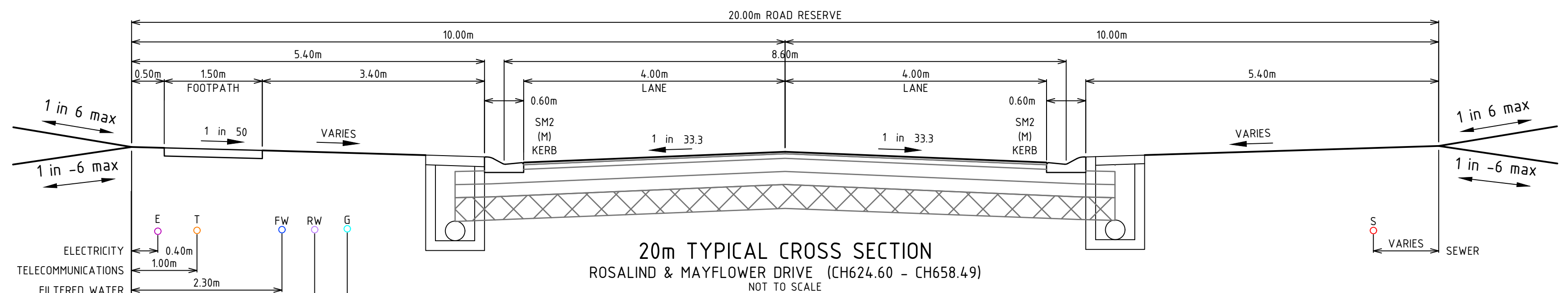
PAVEMENT LAYER	DESCRIPTION	DEPTH (mm)	DEPTH (mm)
		TYPE A	TYPE B
WEARING COURSE	SIZE 10 TYPE N ASPHALT, WITH PRIME	40	-
BASE COURSE	CLASS 1 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MMD)	160	-
CONCRETE	32 MPa CONCRETE WITH SL82 MESH CENTRALLY PLACED	-	160
SUBBASE COURSE	CLASS 3 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MMD)	140	100
GEOFABRIC	A14 BIDIM NONWOVEN GEOTEXTILE (EXTEND 300mm BEHIND BACK OF KERB)	-	-
SUBGRADE	3% LIME, 1% CEMENT STABILISATION OF EXISTING MATERIAL, COMPACTED TO 98% STANDARD COMPACTION.	200	-
TOTAL PAVEMENT DEPTH		540	260

ROAD NAME	TYPE
ROSALIND DRIVE	A
MAYFLOWER DRIVE	A
KINGS CIRCUIT	A
OAKES LANE	B



THE PAVEMENT DESIGNS SHOWN HERE HAVE BEEN PROVIDED BY MURRAY RIVER COUNCIL (TYPE A) AND GEOTECHNICAL TESTING SERVICES (GTS) (TYPE B). SPIRE DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THE GEOTECHNICAL WORK AND PAVEMENT DESIGNS. ANY QUERIES IN RESPECT TO THE PAVEMENT DESIGNS SHOULD BE ADDRESSED TO MURRAY RIVER COUNCIL OR GTS AND COPIED TO SPIRE.

1. ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AND CCAA LITERATURE.
2. ALL CONCRETE TO BE MINIMUM 25MPa COMPRESSIVE STRENGTH
3. CONCRETE TO BE THOROUGHLY COMPACTED USING EITHER SURFACE AND/OR IMMERSION VIBRATORS, PARTICULARLY AROUND REINFORCEMENT AND IN CORNERS OF FORMS.
4. PRIOR TO CASTING, THE UNBOUND GRANULAR SUBBASE MUST BE DAMP TO ENSURE NO EARLY "DRYING OUT" OF THE CONCRETE.
5. SAW CUTTING OF CONCRETE SHOULD BE COMMENCED AS SOON AS CONCRETE PERMITS BY EXPERIENCED CONTRACTORS, BUT NO LATER THAN 12 HOURS AFTER POUR.
6. ALL DOWELS TO BE GRADE 250R STEEL BARS, 800mm LONG AND PLACED AT 300mm CENTRES. REFER CCAA- "CONCRETE PAVEMENT DESIGN FOR RESIDENTIAL STREETS" FOR DOWEL DIAMETERS. DOWELS MUST BE ACCURATELY PLACED TO ENSURE THE JOINT DOES NOT "LOCK". INSERTION OF DOWELS DURING THE PLACING OF CONCRETE IS NOT ACCEPTABLE. DOWELS MUST BE SAWN AND NOT CROPPED.
7. ALL JOINTS TO BE APPROPRIATELY SEALED TO RESIST THE INTRUSION OF SAND AND GRAVEL AND TO MINIMISE THE INGRESS OF WATER.



2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023
Rev	Amendments	Approved	Date

AS SHOWN



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

spiire

16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

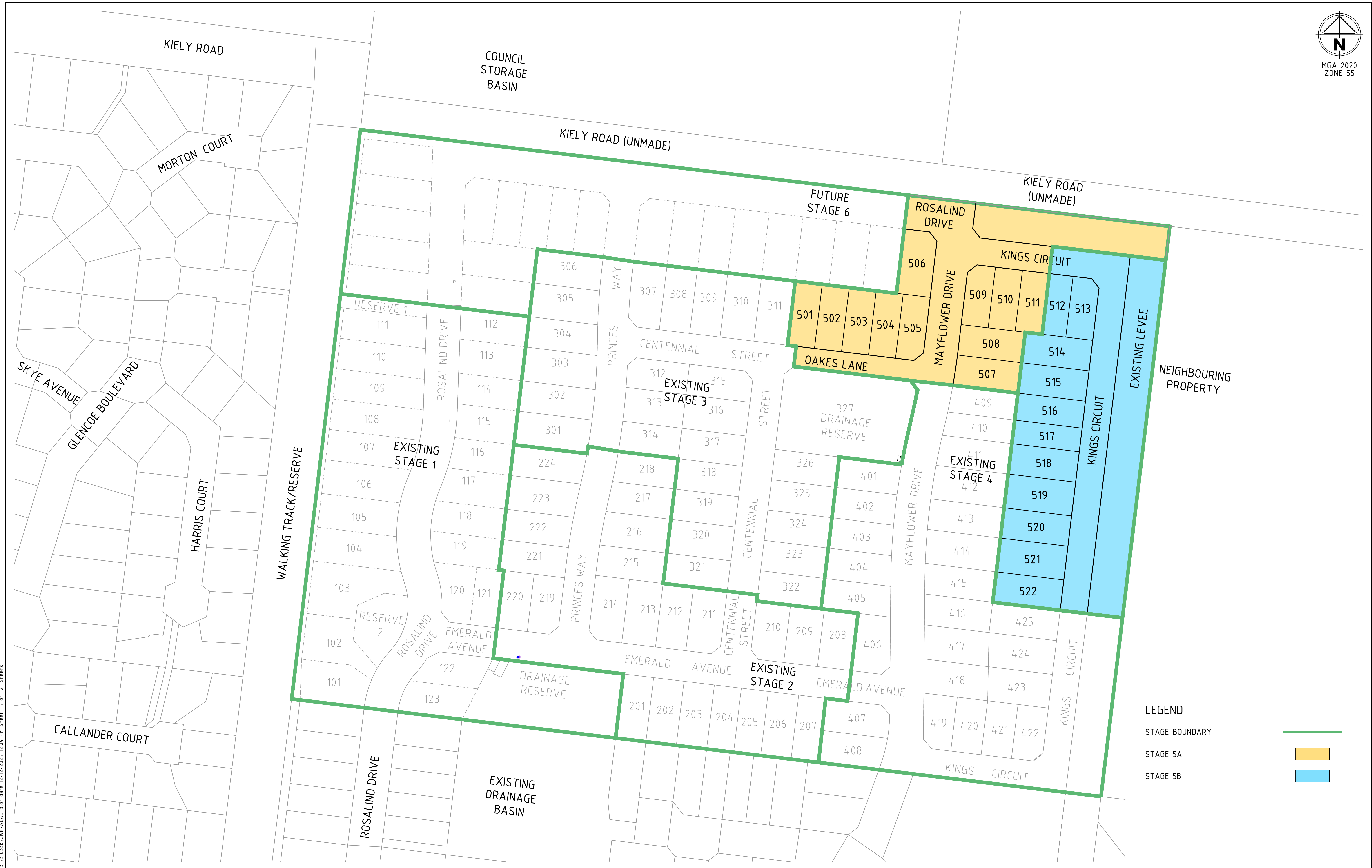
Designed
D.SHEEHAN
Authorised
J.FEHRING

Checked
B.IBBS
Date
OCT 2024

**MAIDENS GREEN
STAGE 5
GENERAL ARRANGEMENT PLAN
SHEET 1
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD**

TENDER Drg No 310338CC005 Rev 2

file name 310338CC005.dwg layout name CC005 plotted by Dermot Sheehan
file location \\spire.bendata\Data\31\310338\Civil\ACAD plot date 12/12/2024 12:04 PM Sheet 3 of 21 Sheets



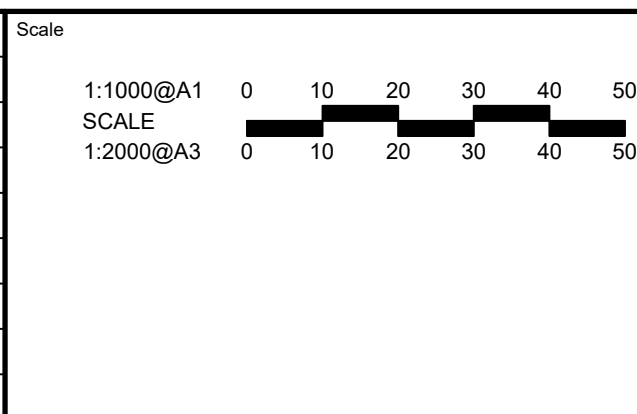
LEGEND

STAGE BOUNDARY

STAGE 5A

STAGE 5B

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



System Certified

© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

spiire

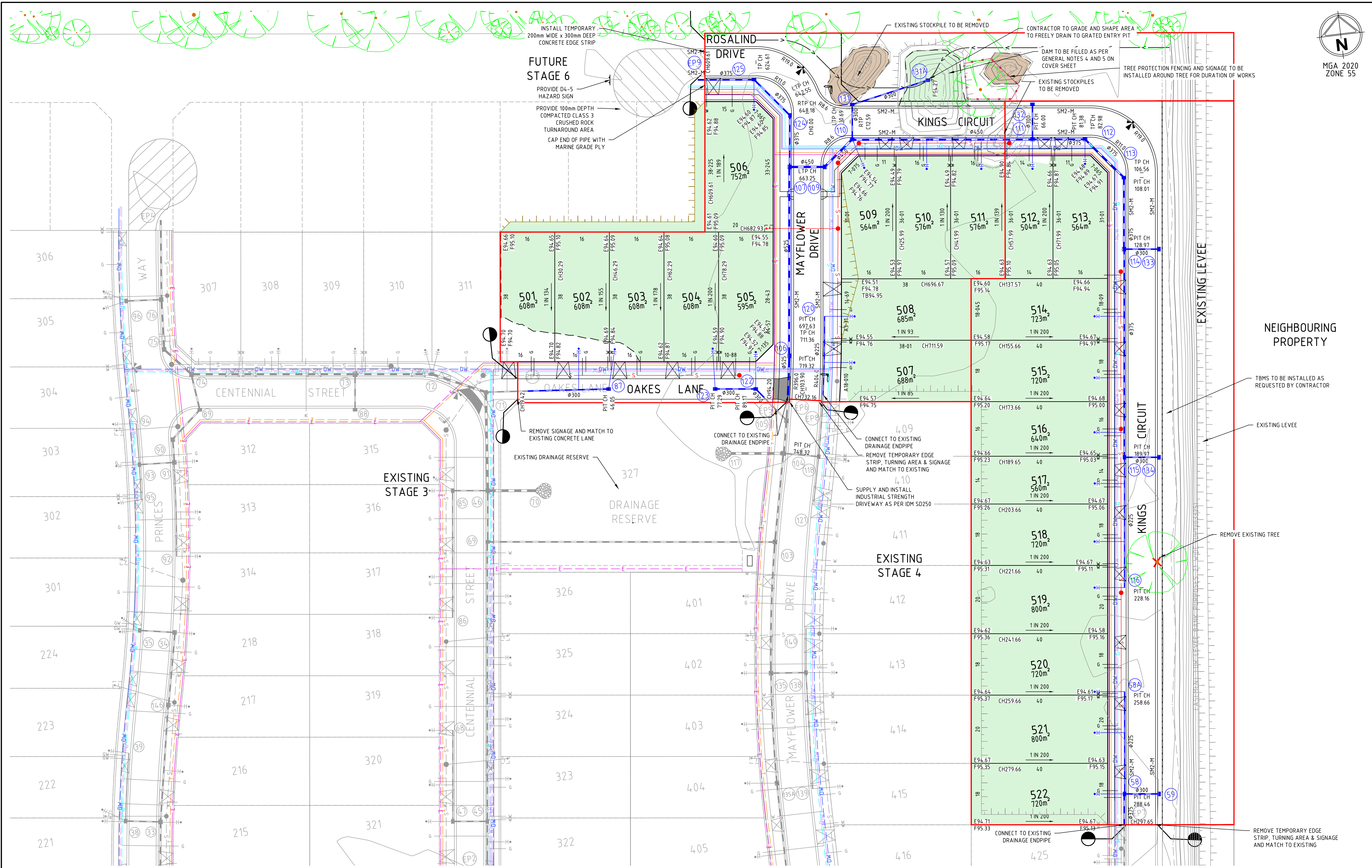
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 2024

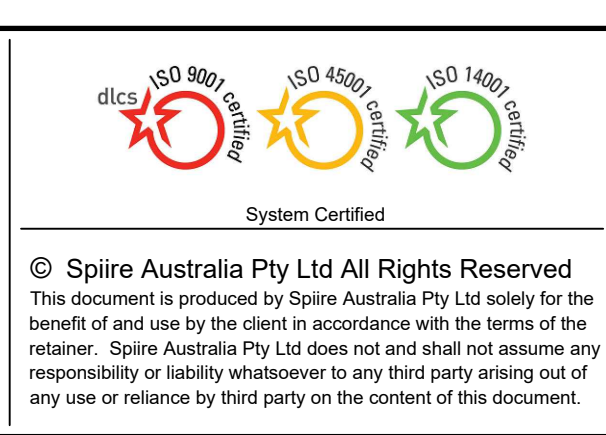
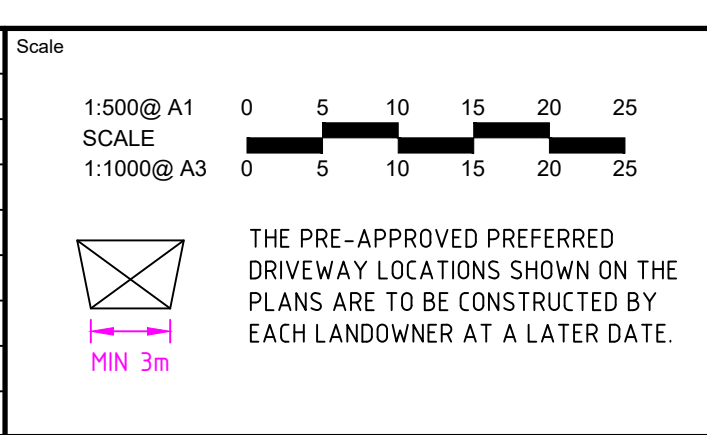
**MAIDENS GREEN
STAGE 5
STAGING PLAN
SHEET 1**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No 310338CC025 Rev 2

file name: 310338CC030.dwg, layout name: CC030, plotted by: Doranet, Station
file location: \\spire\bandara\data\310338\Main\A\CAD Plot date: 12/12/2024, 12:34 PM Sheet 5 of 21 Sheets



Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



spiire

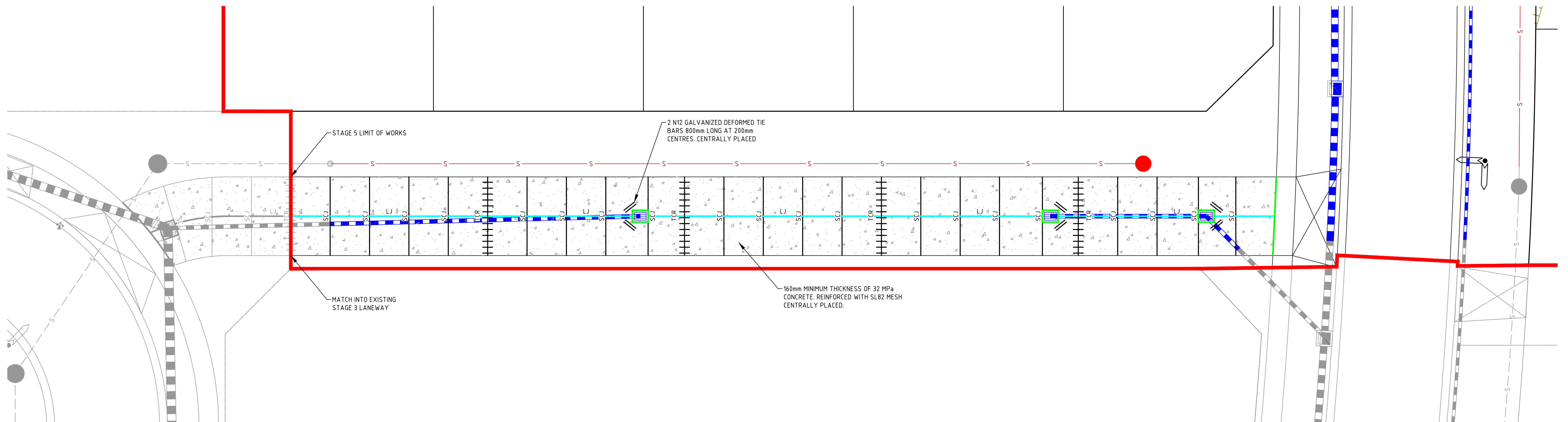
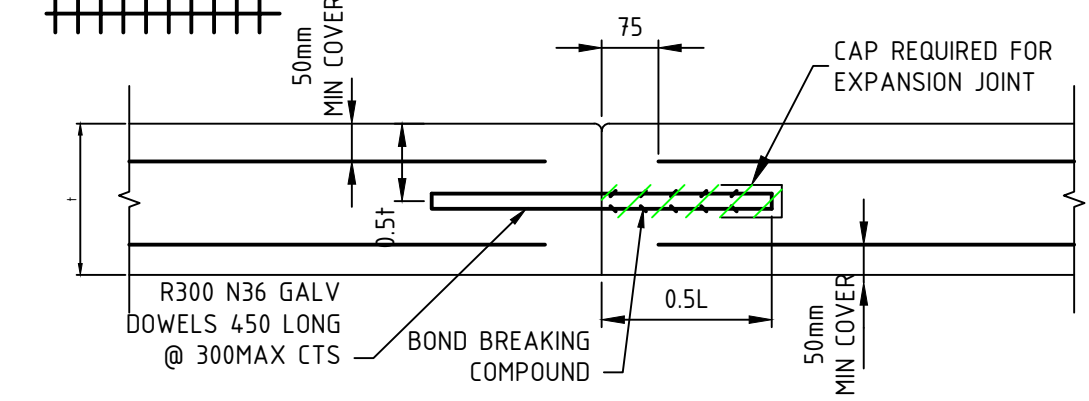
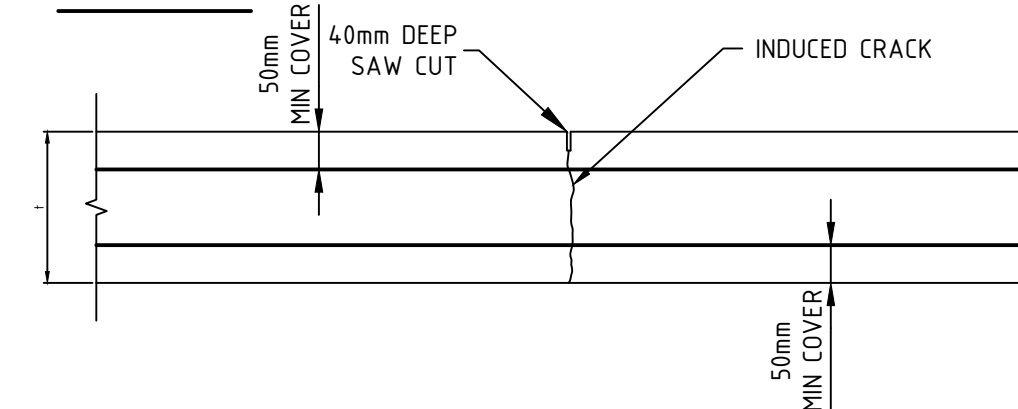
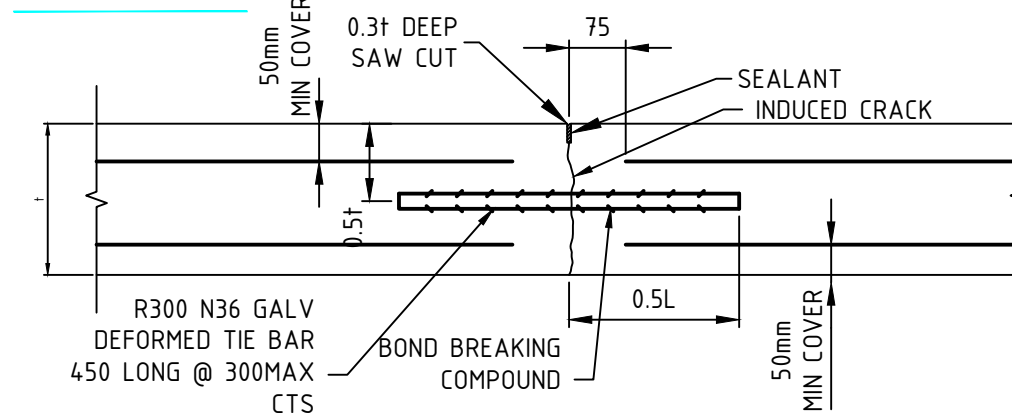
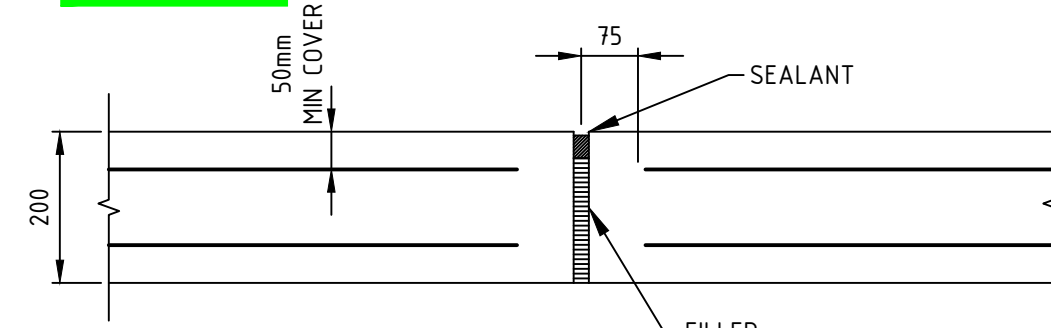
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 2024

**MAIDENS GREEN
STAGE 5
ROAD LAYOUT PLAN**

MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No **310338CC030** Rev **2**



1:150@A1 0 1.5 3 4.5 6 7.5
SCALE
1:300@A3 0 1.5 3 4.5 6 7.5

2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023
Rev	Amendments	Approved	Date

Scale

1:1000@A1	0	10	20	30	40	50
SCALE						
1:2000@A3	0	10	20	30	40	50



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

spiire

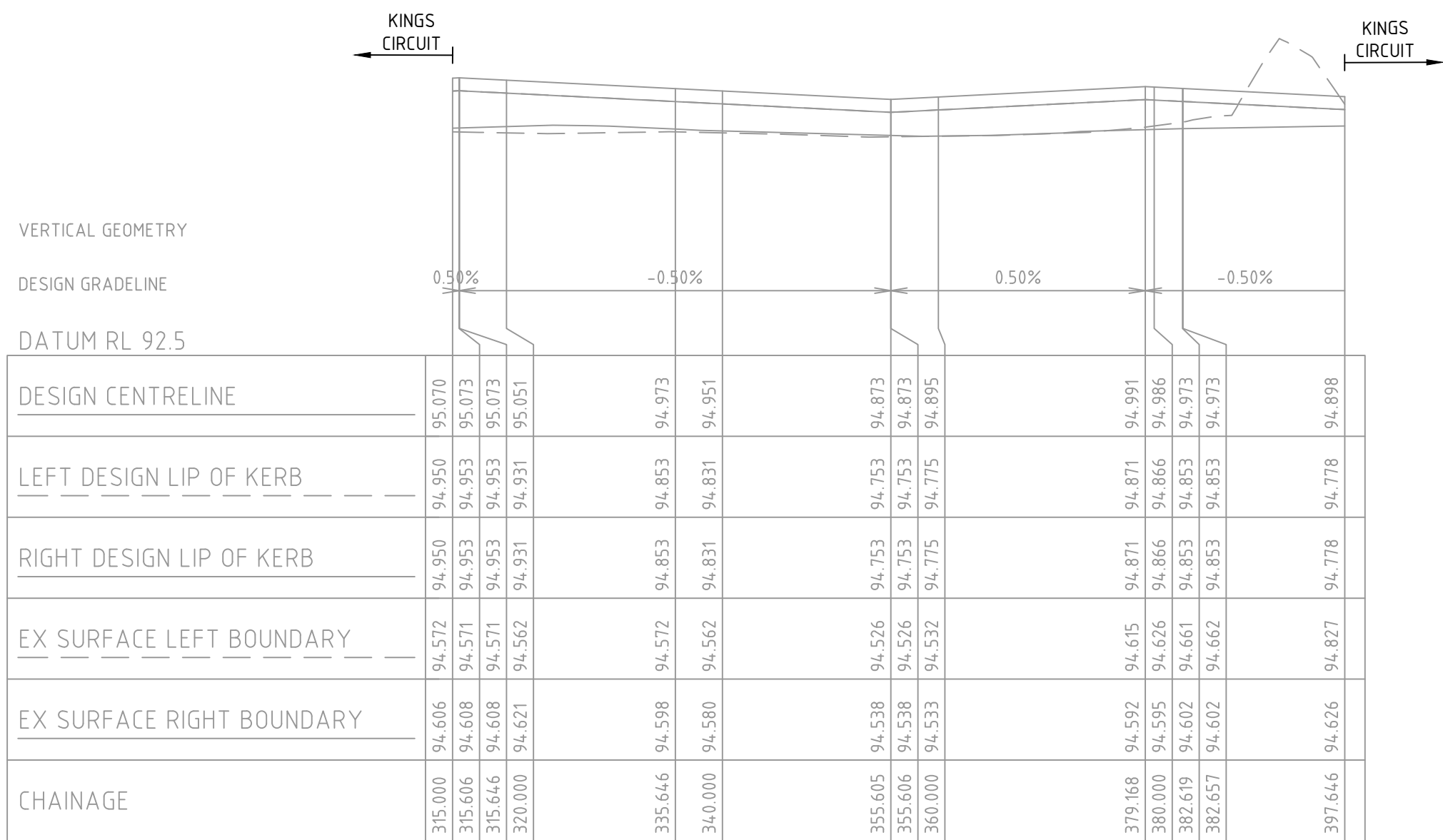
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Authorised
J.FEHRING

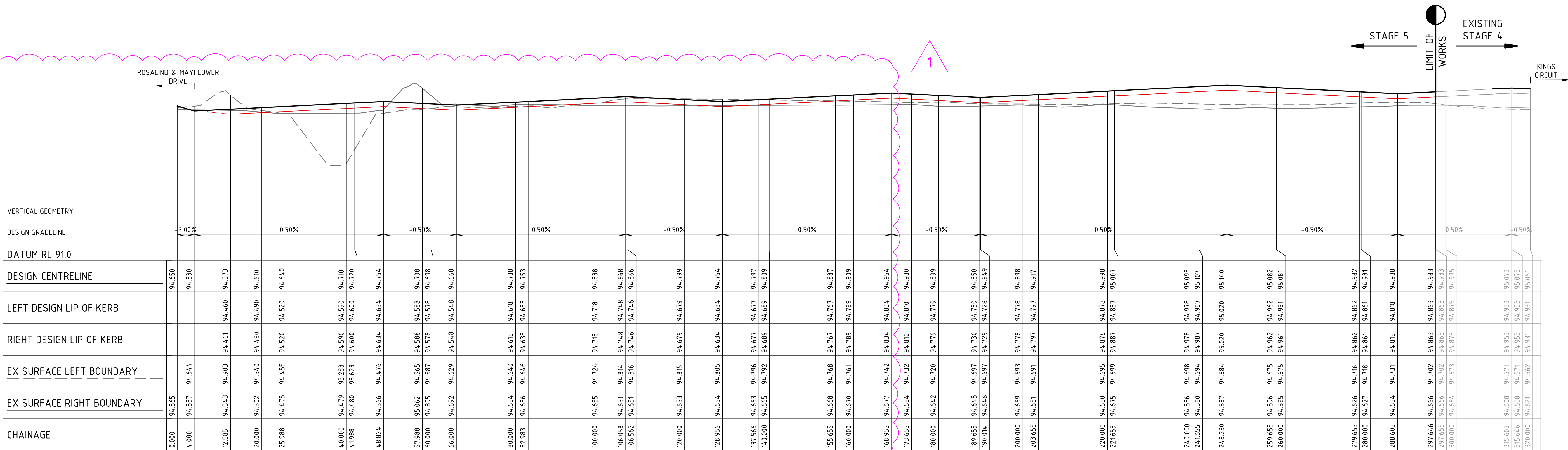
Date
OCT 2024

TENDER	Drg No 310338CC031	Rev 2
---------------	------------------------------	-----------------

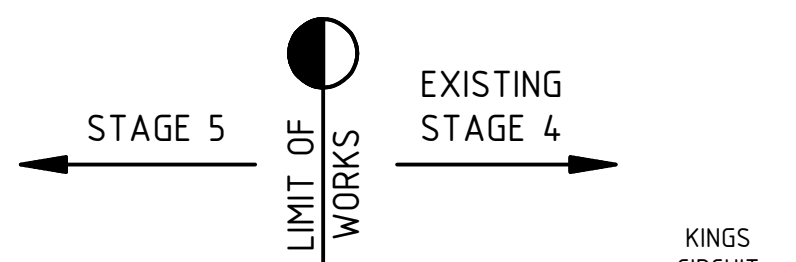
file name: 310338CC100.dwg, layout: rnas CC100, plotted by: Gannet Sheehan, file location: \\spire\murray\projects\310338\MAIDENS GREEN\310338.dwg, date: 20/12/2024, 12:04 PM, Sheet 8 of 21 Sheets



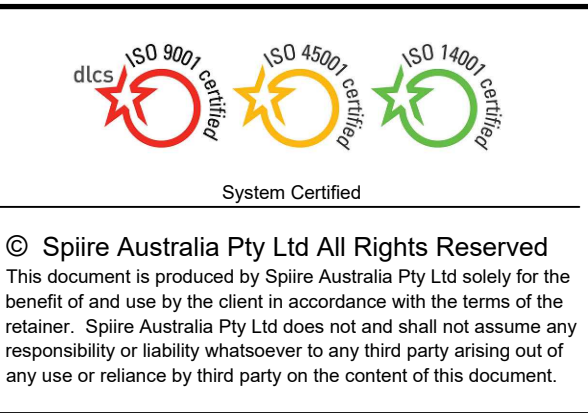
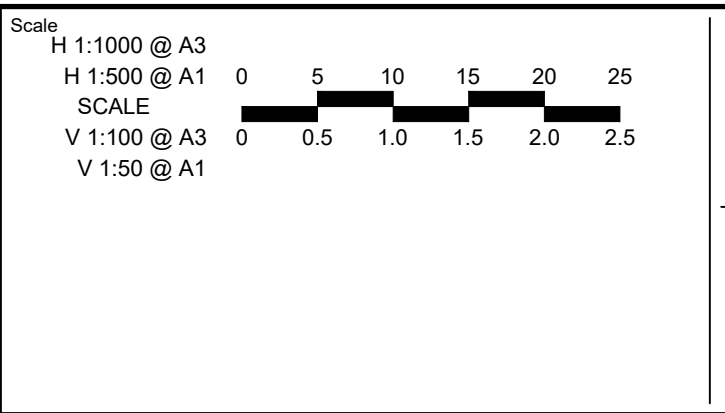
KINGS CIRCUIT



KINGS CIRCUIT



Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



spiire

16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

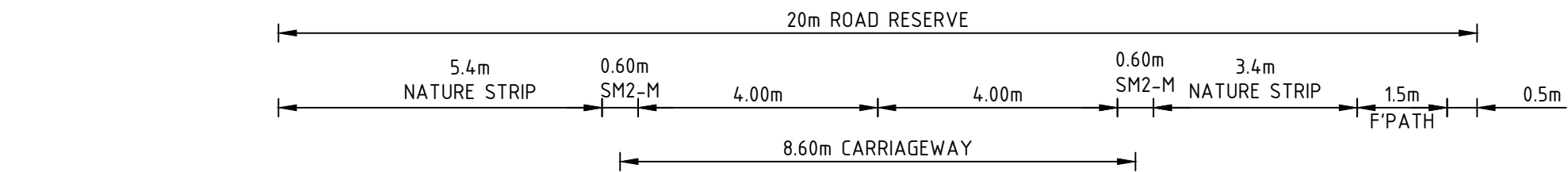
Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 2024

**MAIDENS GREEN
STAGE 5
ROAD LONGITUDINAL SECTIONS
KINGS CIRCUIT**

MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No **310338CC101** Rev **2**

file name: 310338CC140.dwg, layout name: CC140, plotted by: Darragh Sheehan, file location: \\spire\shared\proj_data\310338\dwg\CAD\plot_date: 12/12/2024, 12:34 PM, Sheet 9 of 21 Sheets

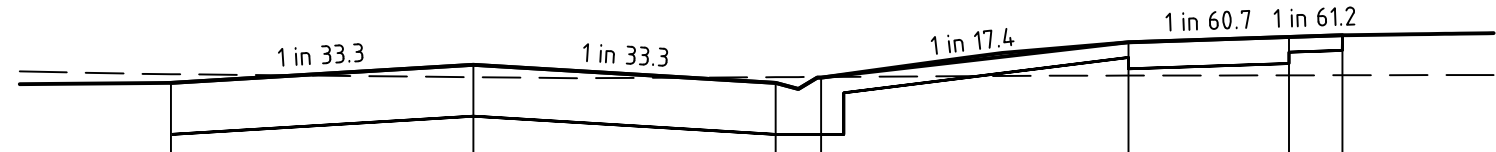


DATUM R.L. 93.0

DESIGN SURFACE LEVEL		94.765	94.754		94.502	94.467		94.587		94.772	94.802	94.812	
EXISTING SURFACE LEVEL		94.540	94.542	94.547	94.557	94.558		94.567		94.575	94.577	94.586	
OFFSET		-12.400	-11.694	-9.573	-4.600	-4.000		0.000		4.000	4.600	8.000	9.500

MAYFLOWER DRIVE

CH 663.25

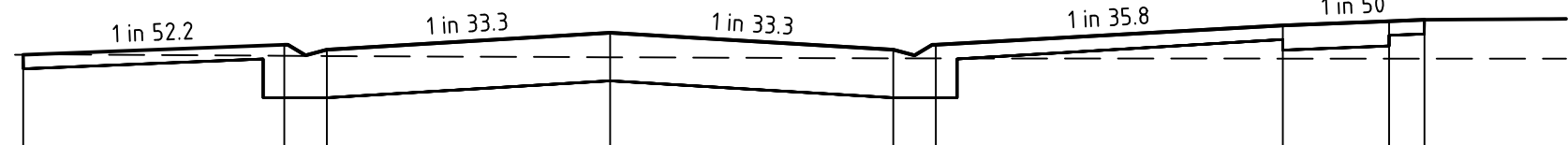


DATUM R.L. 93.0

DESIGN SURFACE LEVEL			94.542		94.662		94.542		94.811		94.846	
EXISTING SURFACE LEVEL			94.600		94.580		94.582		94.591		94.592	
OFFSET			-4.000		0.000		4.000		8.666		10.788	

ROSALIND DRIVE

CH 648.18

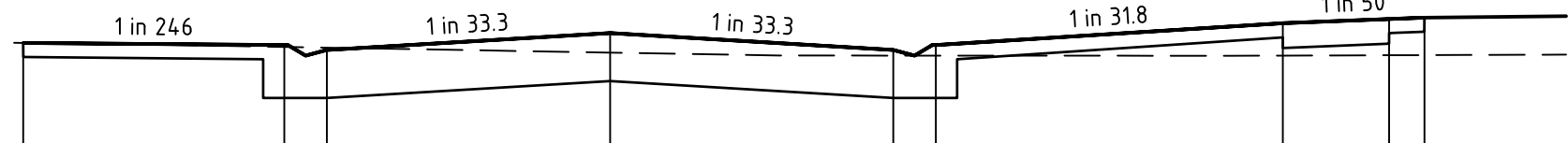


DATUM R.L. 93.0

DESIGN SURFACE LEVEL		94.624		94.695	94.660		94.780		94.832		94.862	94.872	
EXISTING SURFACE LEVEL		94.624		94.617	94.615		94.607		94.597		94.597	94.597	
OFFSET		-8.287		-4.600	-4.000		0.000		9.500		11.000	11.500	

ROSALIND DRIVE

CH 624.61

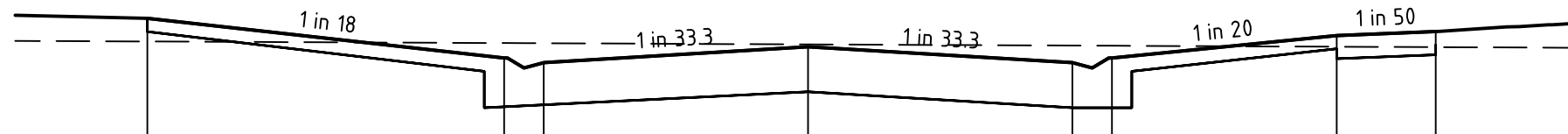


DATUM R.L. 93.0

DESIGN SURFACE LEVEL		94.704		94.689	94.654		94.774		94.843		94.873	94.883	
EXISTING SURFACE LEVEL		94.704		94.676	94.670		94.635		94.614		94.617	94.617	
OFFSET		-8.287		-4.600	-4.000		0.000		9.500		11.000	11.500	

ROSALIND DRIVE

CH 609.61

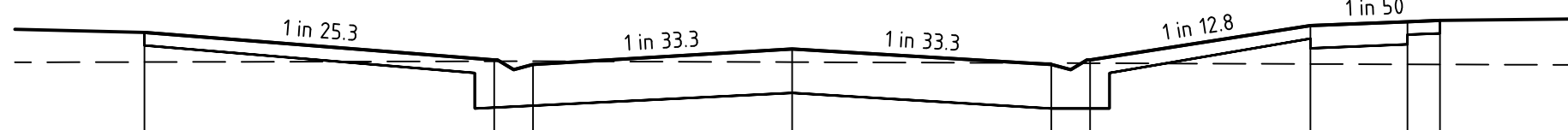


DATUM R.L. 93.0

DESIGN SURFACE LEVEL		94.747		94.447	94.442		94.532		94.617		94.647	
EXISTING SURFACE LEVEL		94.572		94.560	94.559		94.550		94.533		94.529	
OFFSET		-10.000		-4.600	-4.000		0.000		8.000		9.500	

MAYFLOWER DRIVE

CH 732.16

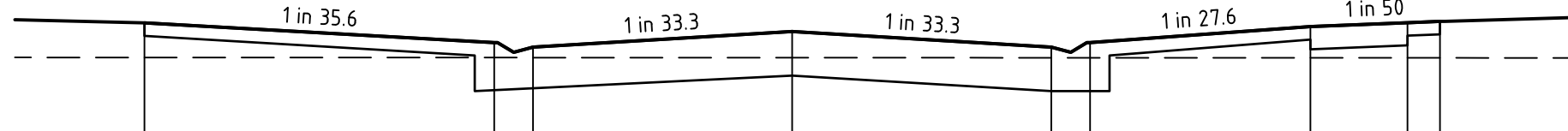


DATUM R.L. 93.0

DESIGN SURFACE LEVEL		94.764		94.551	94.516		94.636		94.816		94.846	94.856	
EXISTING SURFACE LEVEL		94.535		94.541	94.541		94.534		94.520		94.517	94.516	
OFFSET		-10.000		-4.600	-4.000		0.000		8.000		9.500	10.000	

MAYFLOWER DRIVE

CH 711.36

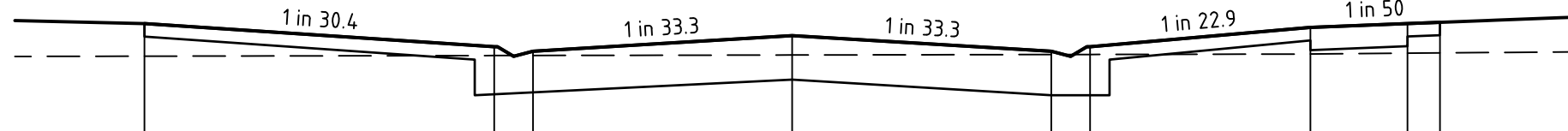


DATUM R.L. 93.0

DESIGN SURFACE LEVEL		94.775		94.624	94.589		94.709		94.747		94.777	94.787	
EXISTING SURFACE LEVEL		94.508		94.507	94.507		94.507		94.506		94.505	94.505	
OFFSET		-10.000		-4.600	-4.000		0.000		8.000		9.500	10.000	

MAYFLOWER DRIVE

CH 696.67



DATUM R.L. 93.0

DESIGN SURFACE LEVEL		94.772		94.594	94.559		94.679		94.742		94.772	94.782	
EXISTING SURFACE LEVEL		94.521		94.525	94.526		94.530		94.538		94.544	94.546	
OFFSET		-10.000		-4.600	-4.000		0.000		8.000		9.500	10.000	

MAYFLOWER DRIVE

CH 682.93

1

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023

Scale	H 1:200 @ A3 H 1:100 @ A1 SCALE V 1:100 @ A3 V 1:50 @ A1
0	1 2 3 4 5 0.5 1.0 1.5 2.0 2.5



System Certified

© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



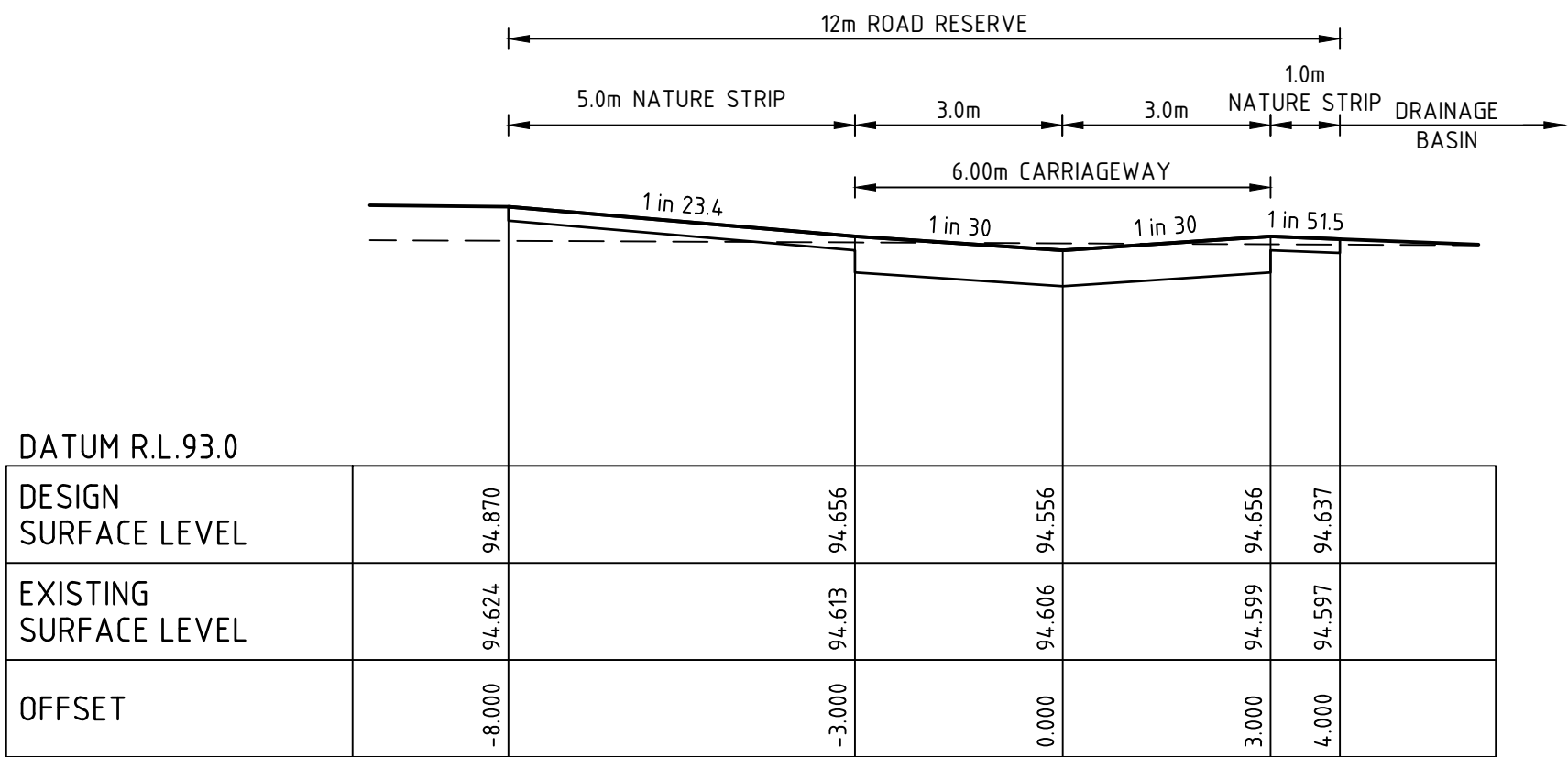
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 2024

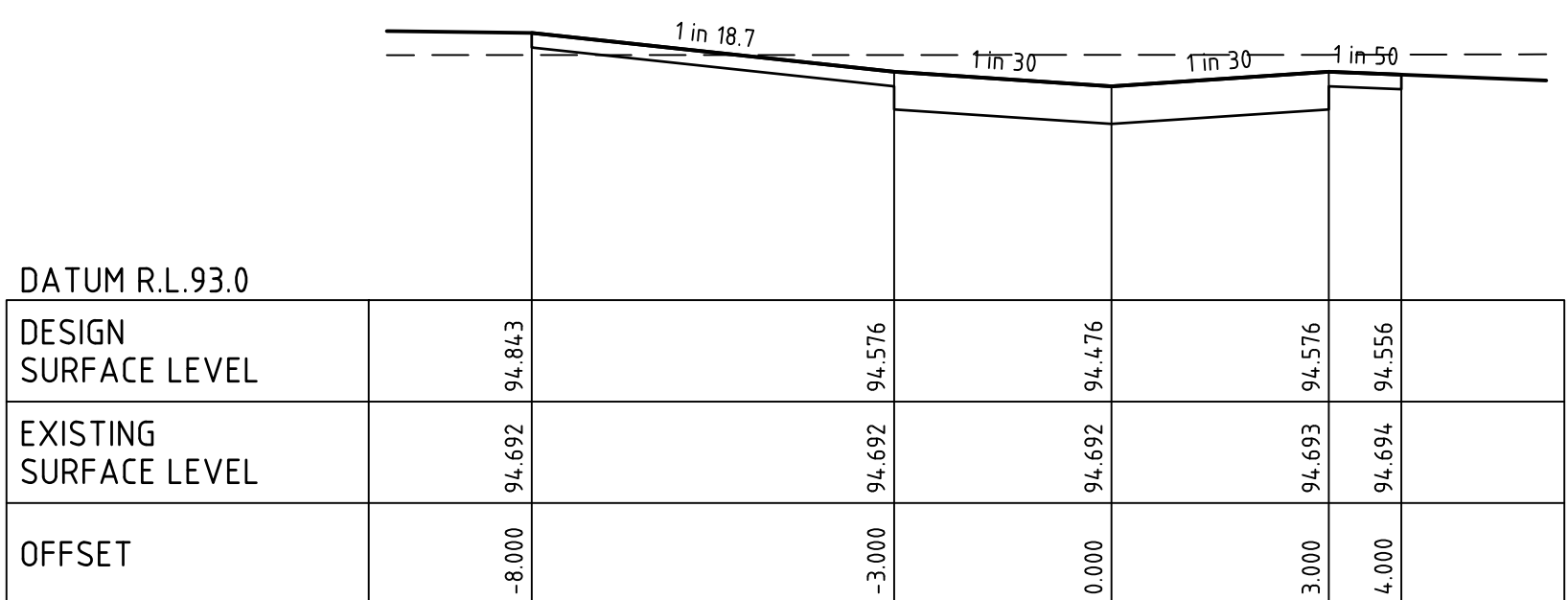
**MAIDENS GREEN
STAGE 5
ROAD CROSS SECTIONS
ROSALIND DRIVE & MAYFLOWER DRIVE**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No **310338CC140** Rev **2**

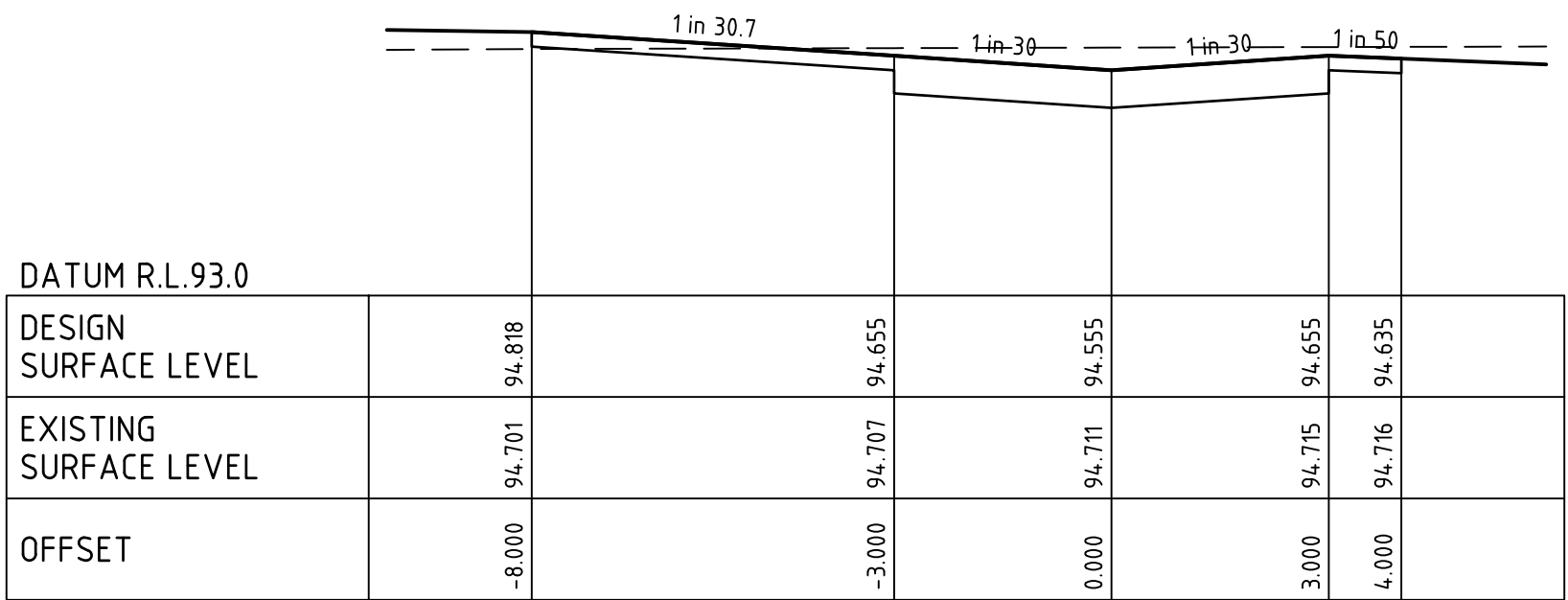
file name: 310338CC1410.dwg, layout: oaks, CC141, plotted by: Darnett, Stephen
file location: \\spiire\ben\data\data\310338\KML\ACAD\plot_date: 12/12/2024, 12:04 PM, Sheet: 10 of 21 Sheets



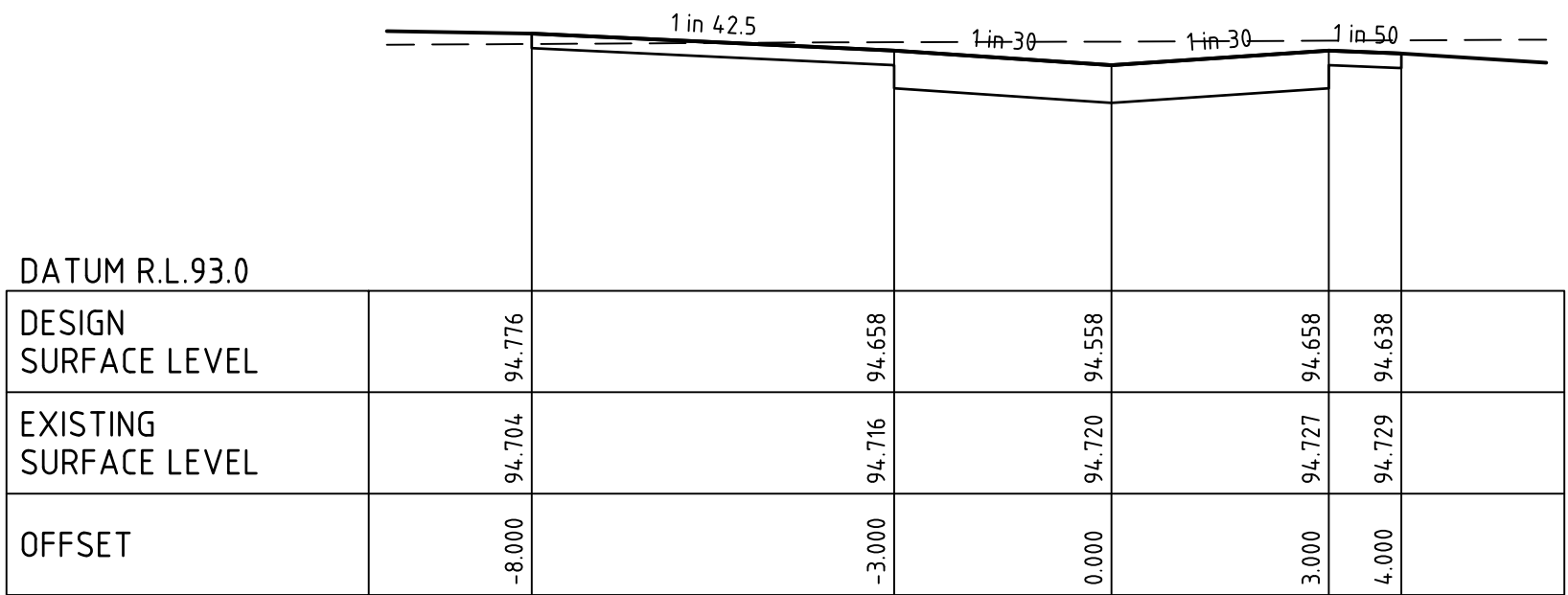
OAKES LANE CH 62.29



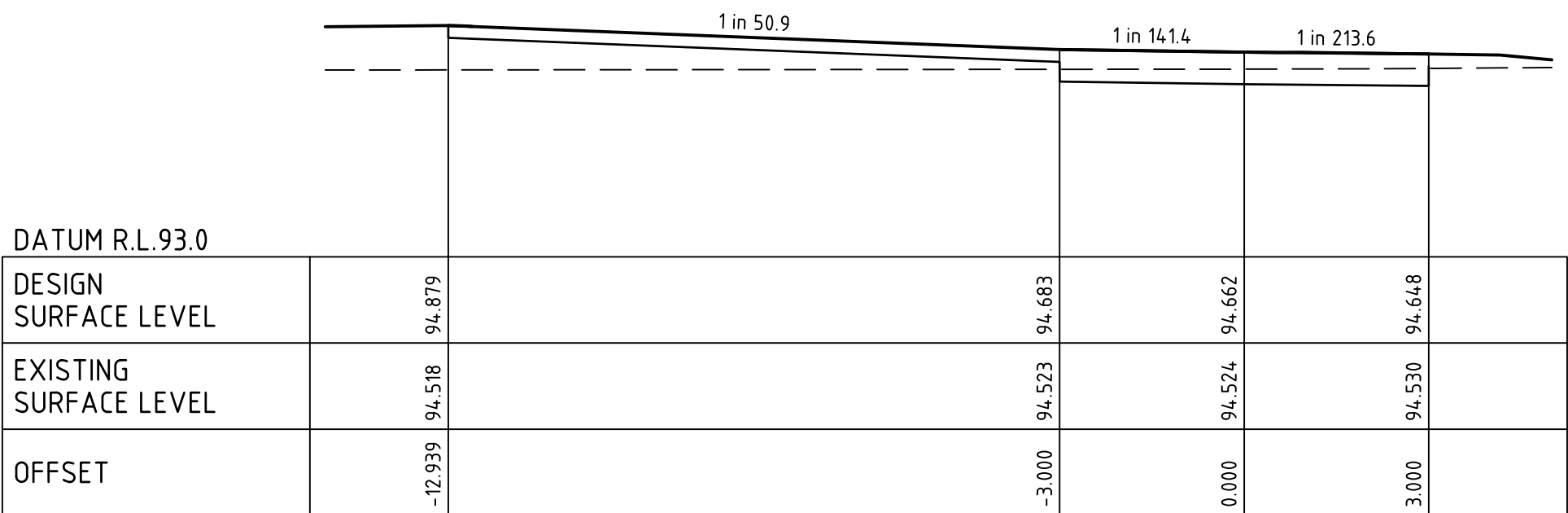
OAKES LANE CH 46.06



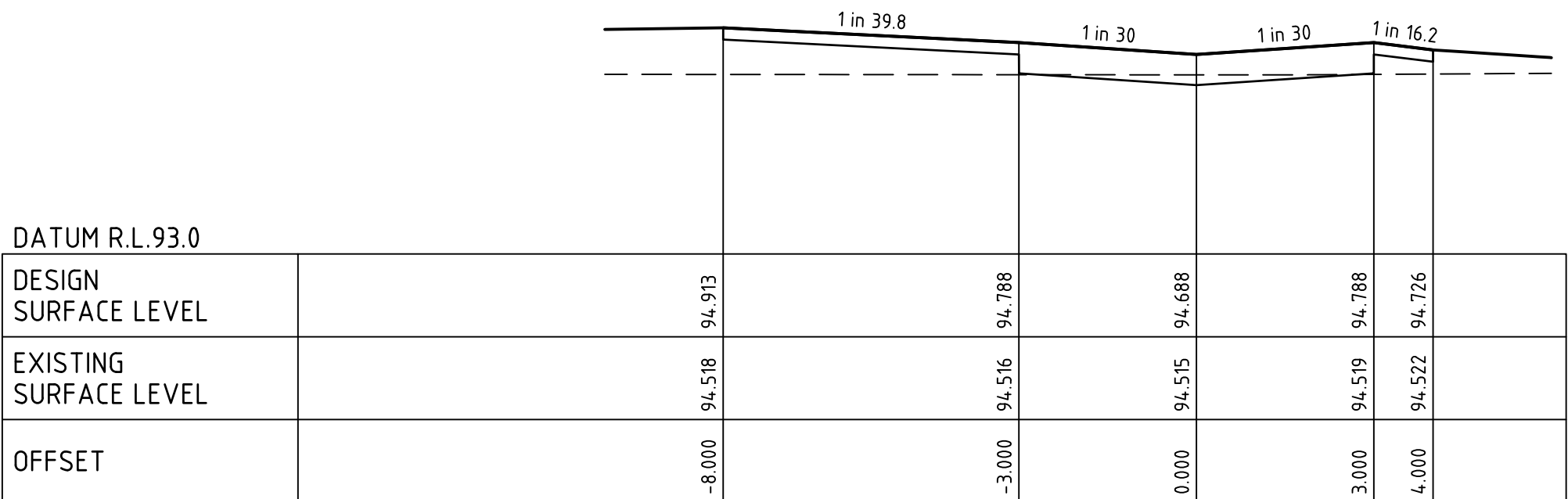
OAKES LANE CH 30.29



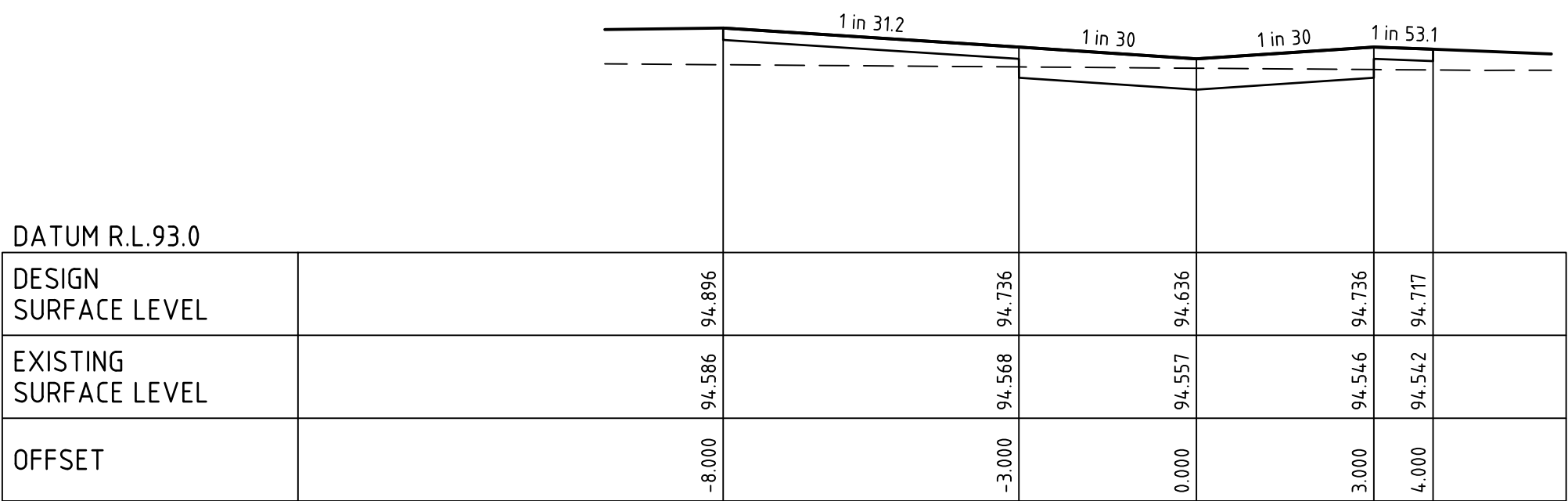
OAKES LANE CH 19.42



OAKES LANE CH 94.20

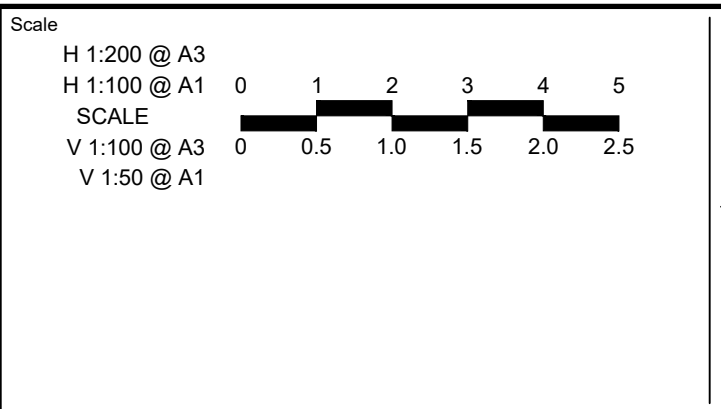


OAKES LANE CH 88.69



OAKES LANE CH 78.29

2	ISSUED FOR TENDER	J.F	12/12/24	
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24	
B	ISSUED FOR TENDER	J.F	11/06/24	
A	ISSUED FOR APPROVAL	J.F	JUL 2023	
Rev	Amendments	Approved	Date	




System Certified

© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.


16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed
D.SHEEHAN

Authorised
J.FEHRING

Checked
B.IBBS

Date
OCT 2024

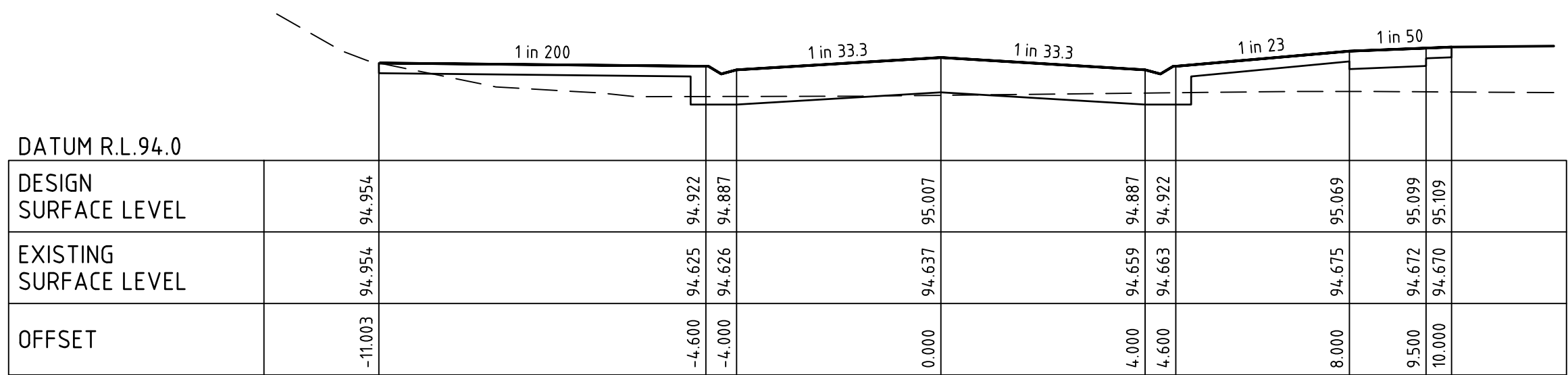
**MAIDENS GREEN
STAGE 5
ROAD CROSS SECTIONS
OAKES LANE**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No **310338CC141** Rev **2**



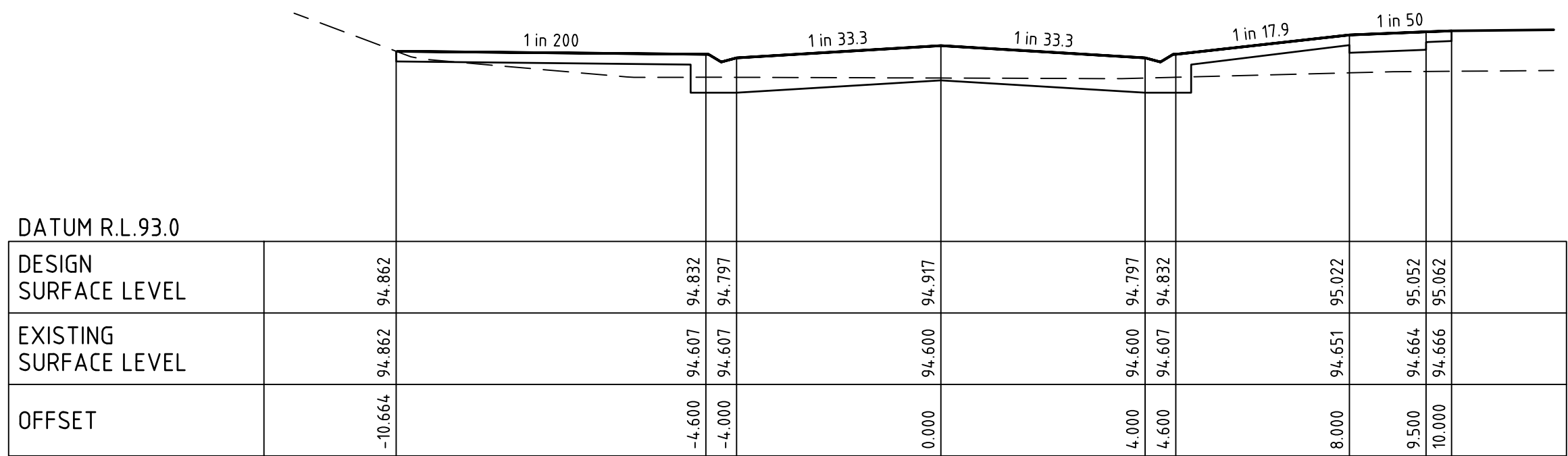
file name: 310338CC140.dwg layout: mpaas_CCI13 plotted by: Darnett, Stephen
file location: \\spiire\bandra\data\310338\Kings Circuit.dwg date: 12/12/2024 12:34 PM Sheet 12 of 21 Sheets

1



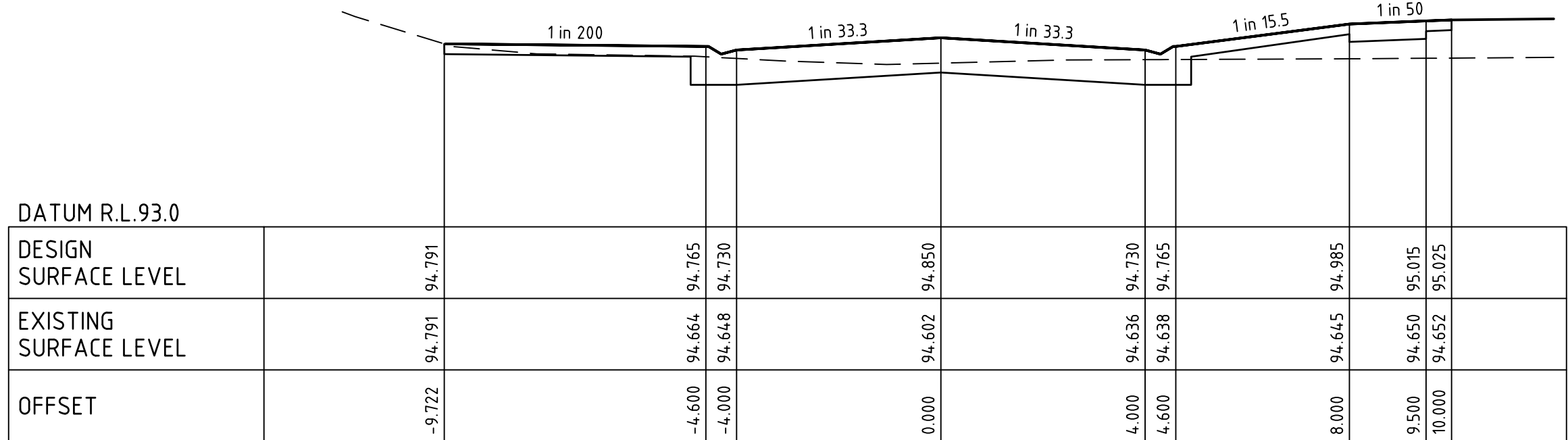
KINGS CIRCUIT

CH 221.66



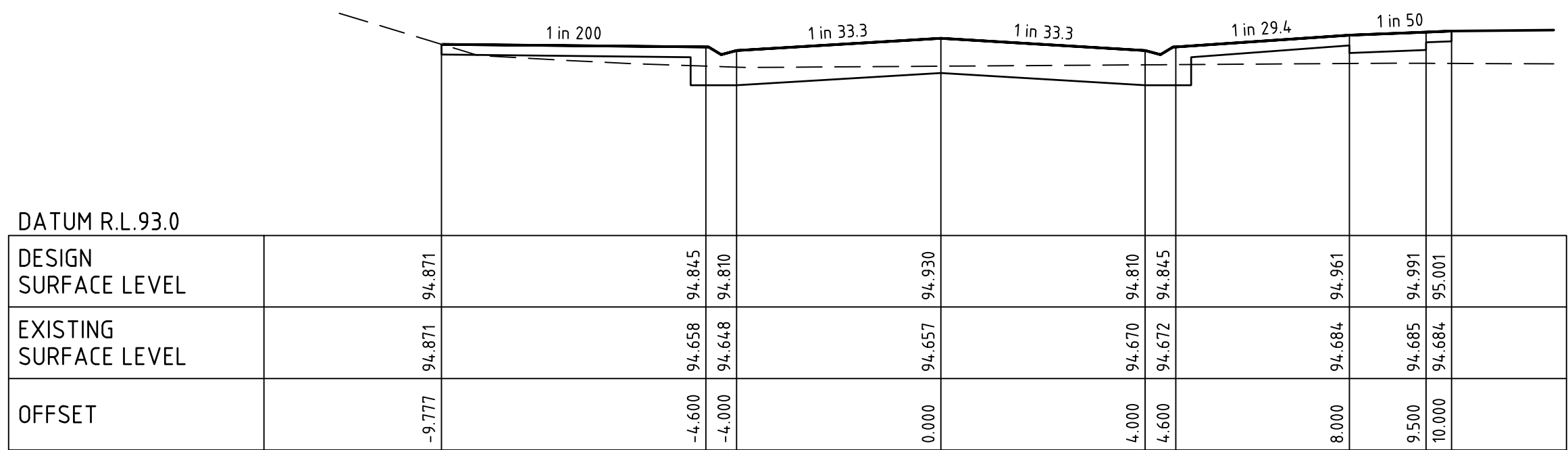
KINGS CIRCUIT

CH 203.66



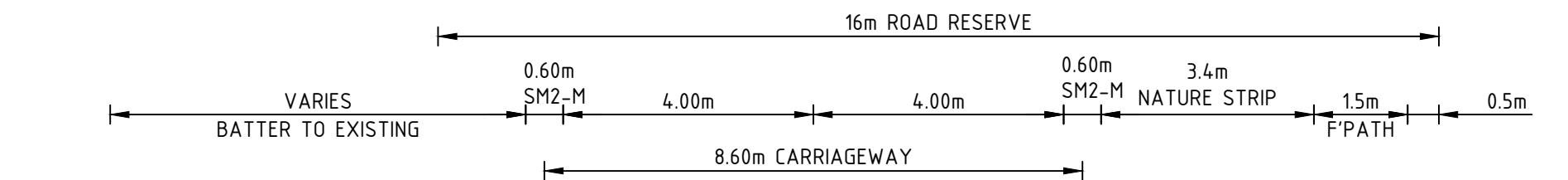
KINGS CIRCUIT

CH 189.66

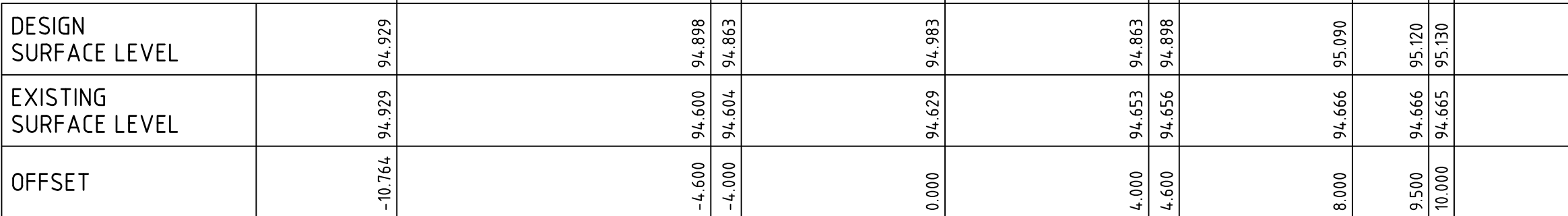


KINGS CIRCUIT

CH 173.66

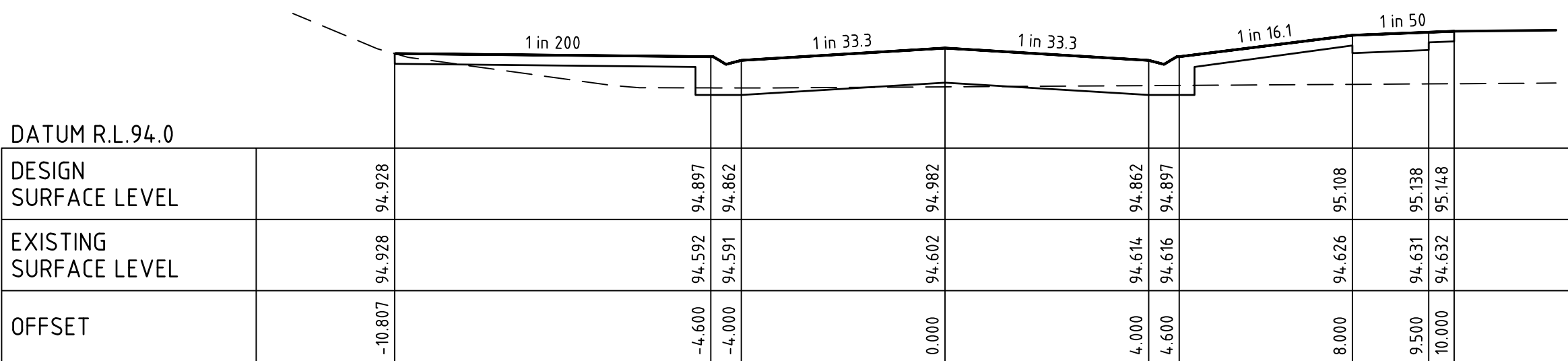


DATUM R.L. 94.0



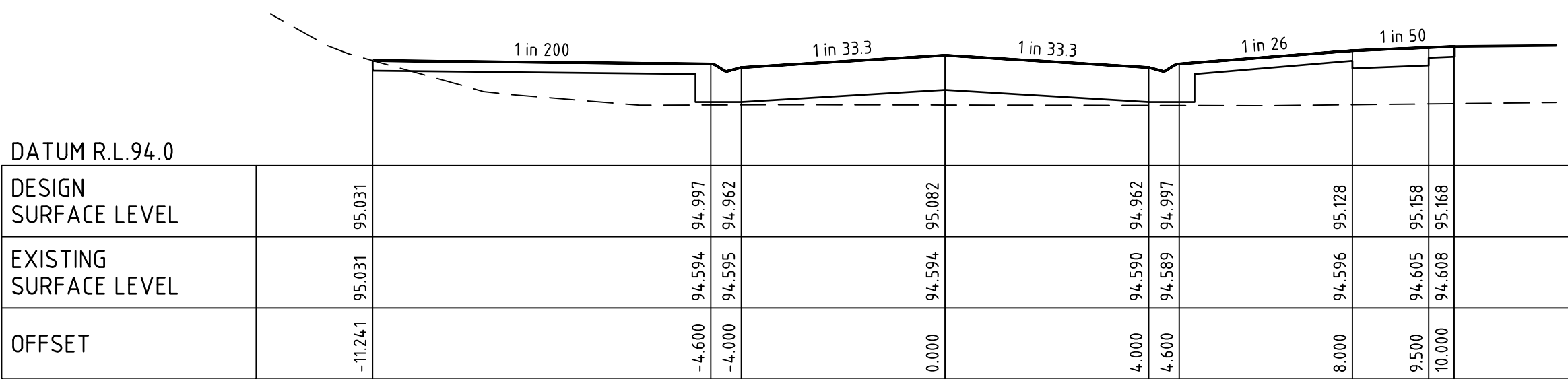
KINGS CIRCUIT

CH 297.65



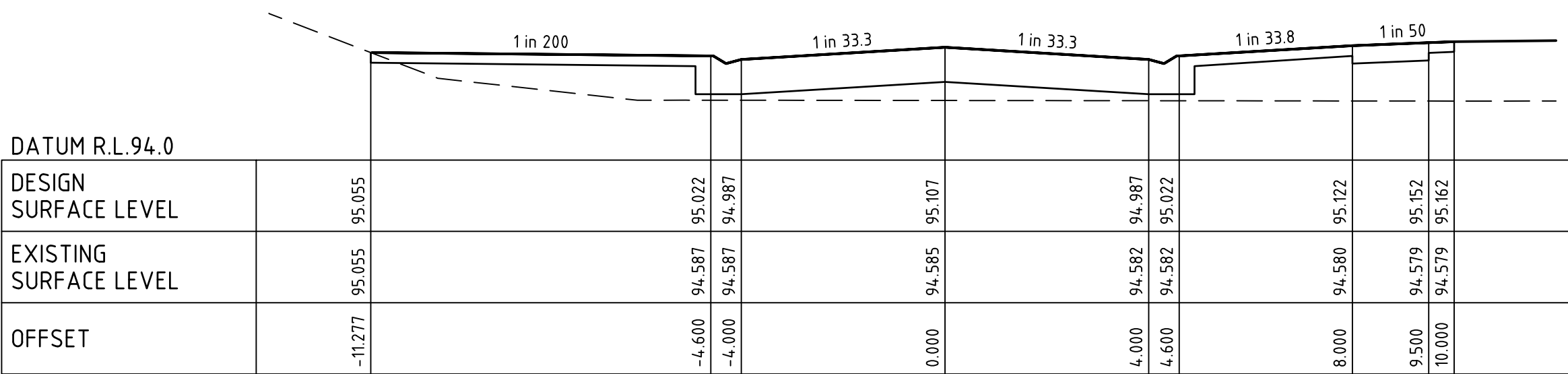
KINGS CIRCUIT

CH 279.65



KINGS CIRCUIT

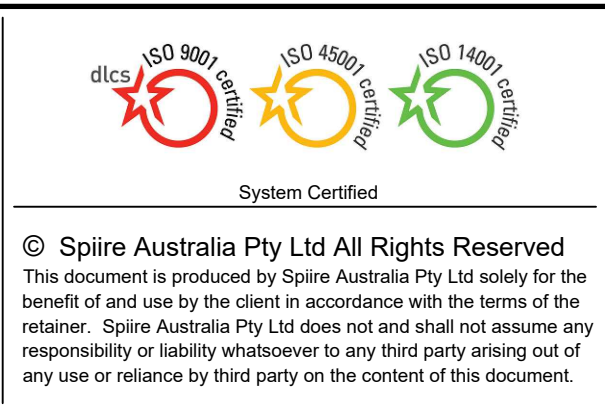
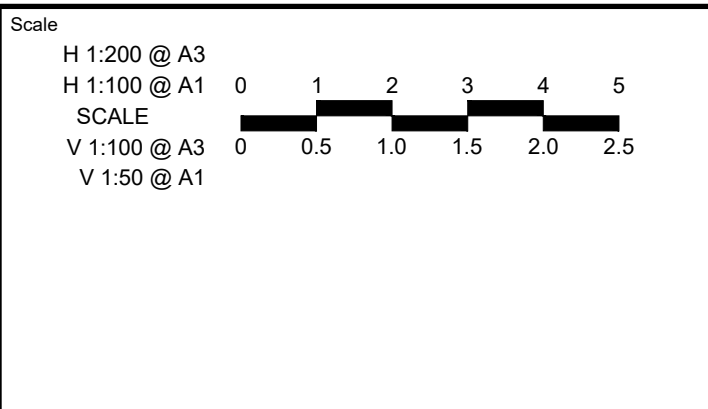
CH 259.65



KINGS CIRCUIT

CH 241.66

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

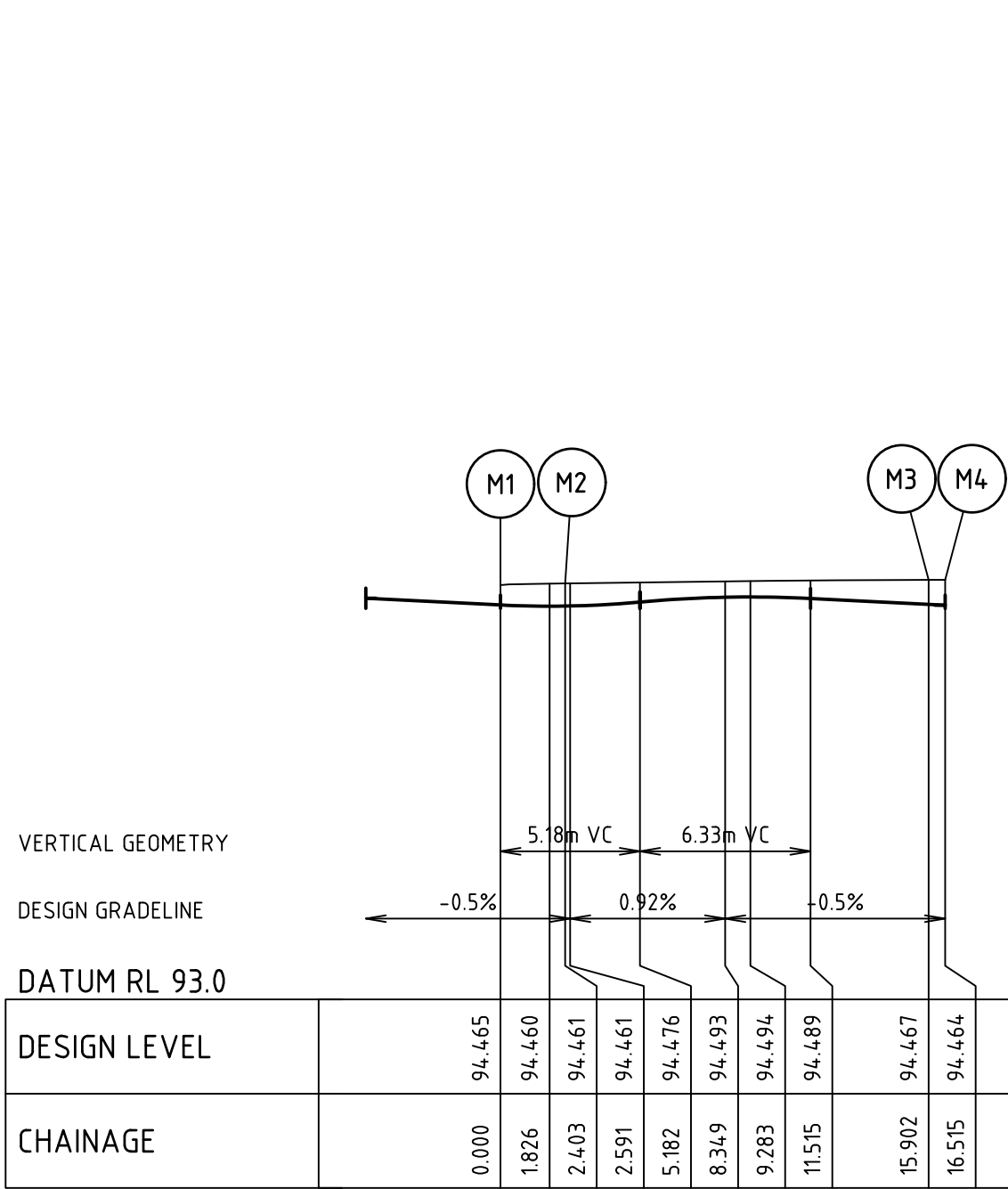
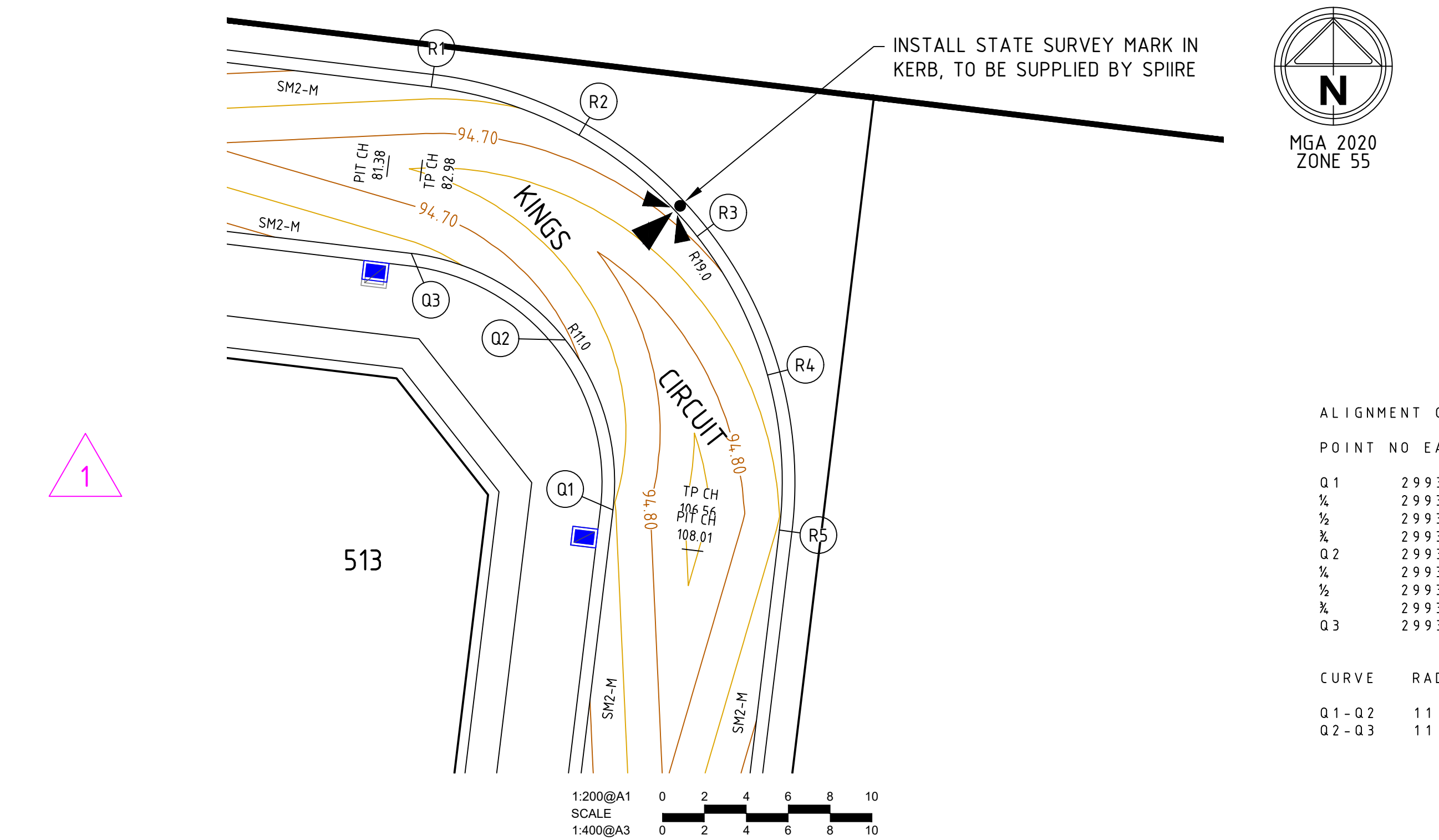
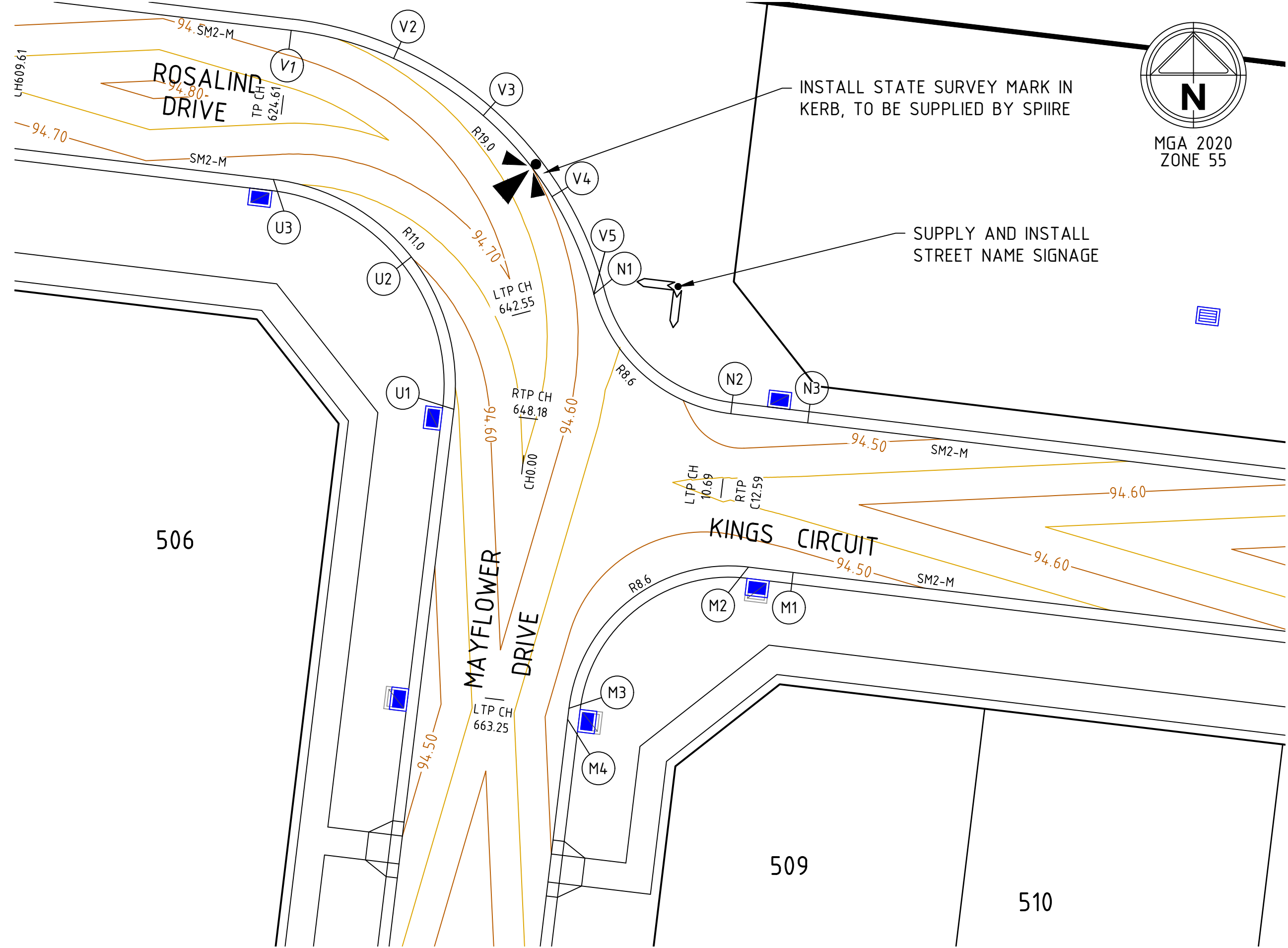
Designed
D.SHEEHAN
Authorised
J.FEHRING

Checked
B.IBBS
Date
OCT 2024

MAIDENS GREEN
STAGE 5
ROAD CROSS SECTIONS
KINGS CIRCUIT - SHEET 2 OF 3
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No 310338CC143 Rev 2

file name: 310338CC270.dwg layout name: CC270 - plotted by: Doranet - Station
file location: \\spire\bandra\data\310338\WV\ALCAD\plot date: 12/12/2024 12:30 PM Sheet 13 of 21 Sheets



ALIGNMENT M

ALIGNMENT M				
POINT NO	EASTING	NORTHING	RL	CHAINAGE
M1	299272.413	6002923.727	94.465	0.000
M2	299270.027	6002924.012	94.461	2.403
1/2	299266.426	6002923.676	94.483	6.046
3/4	299263.694	6002922.235	94.494	9.152
1	299261.647	6002919.922	94.485	12.258
M3	299260.469	6002916.503	94.467	15.902
M4	299260.395	6002915.894	94.464	16.515

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
M2-M3	8.600	13.499	12.155	2.515	1.961

ALIGNMENT U				
POINT NO	EASTING	NORTHING	RL	CHAINAGE
U1	299254.331	6002932.420	94.542	0.000
1/2	299254.375	6002934.620	94.557	2.204
3/4	299254.003	6002936.703	94.572	4.323
1	299253.239	6002938.676	94.586	6.442
U2	299252.060	6002940.533	94.601	8.646
1/2	299250.535	6002942.119	94.616	10.849
3/4	299248.798	6002943.328	94.631	12.969
1	299246.862	6002944.182	94.645	15.088
U3	299244.715	6002944.660	94.660	17.292

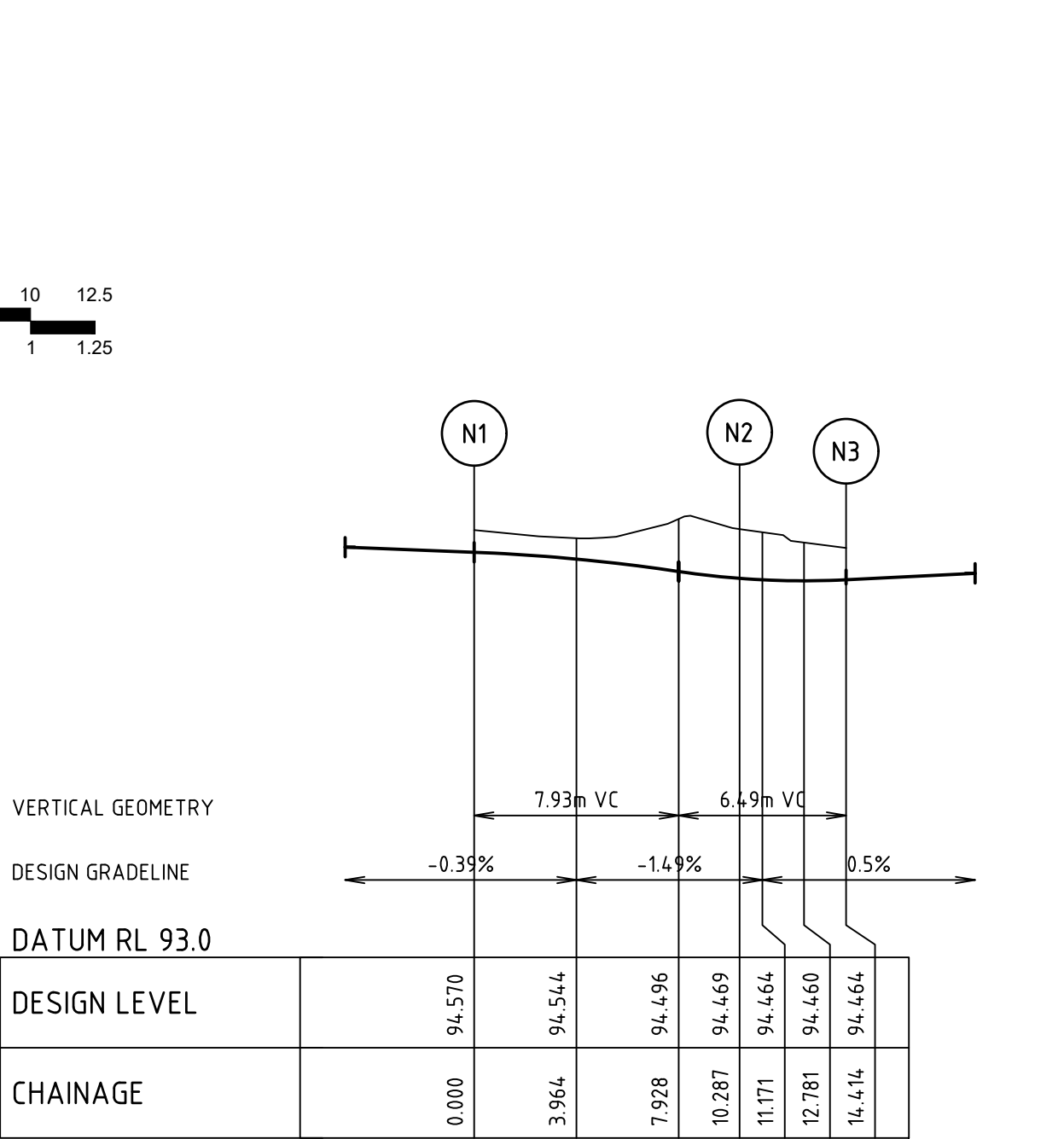
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
U1-U2	11.000	8.646	8.425	0.839	0.635
U2-U3	11.000	8.646	8.425	0.839	0.635

ALIGNMENT Q				
POINT NO	EASTING	NORTHING	RL	CHAINAGE
Q1	299349.543	6002903.421	94.746	0.000
1/2	299349.587	6002905.621	94.735	2.204
3/4	299349.215	6002907.704	94.721	4.323
1	299348.451	6002909.677	94.707	6.442
Q2	299347.272	6002911.535	94.692	8.646
1/2	299345.747	6002913.120	94.677	10.849
3/4	299344.010	6002914.329	94.662	12.969
1	299342.074	6002915.183	94.648	15.088
Q3	299339.927	6002915.661	17.292	

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
Q1-Q2	11.000	8.646	8.425	0.839	0.635
Q2-Q3	11.000	8.646	8.425	0.839	0.635

ALIGNMENT R				
POINT NO	EASTING	NORTHING	RL	CHAINAGE
R1	299340.876	6002923.605	94.633	0.000
1/2	299342.725	6002923.291	94.640	1.876
3/4	299344.516	6002922.802	94.647	3.733
1	299346.251	6002922.140	94.655	5.591
R2	299347.929	6002921.304	94.662	7.467
1/2	299349.516	6002920.306	94.669	9.343
3/4	299350.984	6002919.168	94.676	11.200
1	299352.333	6002917.892	94.684	13.058
R3	299353.563	6002916.477	94.692	14.934
1/2	299354.647	6002914.947	94.698	16.809
3/4	299355.567	6002913.334	94.705	18.667
1	299356.325	6002911.639	94.713	20.525
R4	299356.919	6002909.860	94.720	22.400
1/2	299357.335	6002908.032	94.728	24.276
3/4	299357.567	6002906.190	94.735	26.134
1	299357.618	6002904.333	94.741	27.992
R5	299357.486	6002902.463	29.867	

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
R1-R2	19.000	7.467	7.419	0.366	0.275
R2-R3	19.000	7.467	7.419	0.366	0.275
R3-R4	19.000	7.467	7.419	0.366	0.275
R4-R5	19.000	7.467	7.419	0.366	0.275



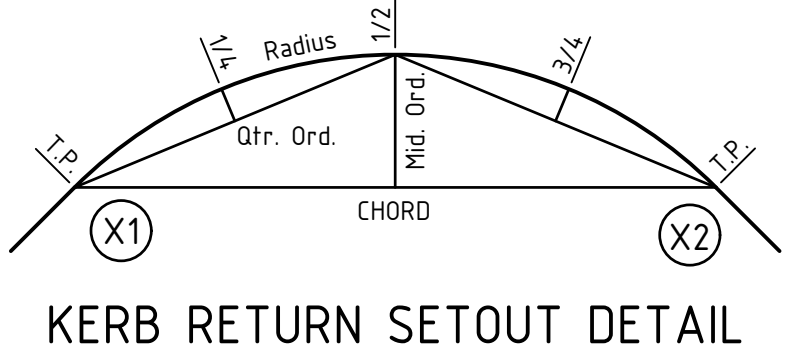
ALIGNMENT N

ALIGNMENT N				
POINT NO	EASTING	NORTHING	RL	CHAINAGE
N1	299261.792	6002938.544	94.570	0.000
1/2	299262.865	6002936.090	94.555	2.689
3/4	299264.461	6002934.237	94.532	5.143
1	299266.515	6002932.908	94.501	7.598
N2	299269.092	6002932.180	94.469	10.287
N3	299273.190	6002931.691	94.464	14.414

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
N1-N2	8.600	10.287	9.685	1.493	1.145

ALIGNMENT V				
POINT NO	EASTING	NORTHING	RL	CHAINAGE
V1	299245.664	6002952.604	94.660	0.000
1/2	299247.071	6002952.382	94.654	1.424
3/4	299248.449	6002952.057	94.649	2.841
1	299249.800	6002951.631	94.642	4.257
V2	299251.122	6002951.102	94.637	5.682
1/2	299252.401	6002950.476	94.631	7.106
3/4	299253.622	6002949.760	94.625	8.523
1	299254.787	6002948.955	94.620	9.939
V3	299255.895	6002948.060	94.614	11.363
1/2	299256.933	6002947.085	94.609	12.788
3/4	299257.889	6002946.040	94.603	14.204
1	299258.766	6002944.928	94.598	15.621
V4	299259.560	6002943.746	94.592	17.045
1/2	299260.265	6002942.508	94.586	18.470
3/4	299260.871	6002941.229	94.580	19.886
1	299261.381	6002939.907	94.575	21.302
V5	299261.792	6002938.544	94.570	22.727

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
V1-V2	19.000	5.682	5.661	0.212	0.159
V2-V3	19.000	5.682	5.661	0.212	0.159
V3-V4	19.000	5.682	5.661	0.212	0.159
V4-V5	19.000	5.682	5.661	0.212	0.159



KERB RETURN SETOUT DETAIL

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023

Scale	AS SHOWN
-------	----------

System Certified

© Spiire Australia Pty Ltd All Rights Reserved

This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

spiire

16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 2024

MAIDENS GREEN
STAGE 5
INTERSECTION DETAILS
ROSALIND DRIVE - OAKES LANE - KINGS CIRCUIT
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No 310338CC270 Rev 2

file name: 310338CC400.dwg, layout name: CC400, plotted by: Daragh Sheehan, file location: \\spire\shared\pfa\data\310338\310338\WV\ALAD, plot date: 12/02/2024, 12:04 PM, Sheet 14 of 21 Sheets

WATER NOTES

GENERAL NOTES:

1.

ONLY PRODUCTS APPROVED AND CATALOGUED BY THE WATER AGENCY SHALL BE USED.
2.

WORKS MUST BE CONSTRUCTED ACCORDING TO WSA 03-2011-3.1 MRWA EDITION & MURRAY RIVER COUNCIL ENGINEERING GUIDELINES. THE CONTRACTOR SHALL ENSURE THAT THEY ARE CONVERSANT WITH ALL CURRENT REVISIONS, AMENDMENTS AND UPDATES THAT THE RELEVANT WATER AGENCY HAS MADE TO THEIR STANDARDS.
3.

DW ASSETS SHALL ONLY BE CONSTRUCTED AFTER DEEPER ASSETS AFFECTING THE WATER MAINS HAVE BEEN CONSTRUCTED (EG: SEWERAGE & DRAINAGE ASSETS). THIS DESIGN IS TO BE READ IN CONJUNCTION WITH ROAD AND DRAINAGE PLANS.
4.

THE CONTRACTOR SHALL OBTAIN A ROAD OPENING PERMIT FOR ANY WORKS WITHIN THE ROAD RESERVE AND COMPLY WITH ALL REQUIREMENTS OF THE ROAD AUTHORITY.
6.

FOR INTERPRETATION OF THE SYMBOLS USED IN THIS DESIGN, REFER TO DRAWING MRWA-W-100.
7.

TRAFFIC MANAGEMENT TO BE IN ACCORDANCE WITH AS1742.3 (TRAFFIC CONTROL DEVICE FOR WORKS IN ROADS)
8.

USE EXTREME CARE WHEN WORKING NEAR EXISTING TREES TO MINIMISE DAMAGE TO ROOT SYSTEM AND CANOPY.
9.

ALL TREES MUST BE PRESERVED AND PROTECTED AT ALL TIMES. TREES MARKED X ON DESIGN PLANS MAY BE REMOVED.
10.

NO BLASTING IS PERMITTED WITHIN 20M OF EXISTING WATER MAINS.

SURVEY, SET OUT AND ASSET RECORDING

11.

TEMPORARY BENCH MARKS (TBM) FOR THE SET OUT OF WORKS TO THE AUSTRALIAN HEIGHT DATUM (AHD) ARE PROVIDED IN THE DESIGN DRAWINGS.
12.

ALL LEVELS ARE IN METRES TO AHD.
13.

ALL CO-ORDINATES ARE IN METRES TO THE MAP GRID OF AUSTRALIA (MGA 55- 2020).
14.

ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
15.

THE CONTRACTOR IS DIRECTLY RESPONSIBLE FOR ENSURING THE PROJECT SET OUT IS CONSISTENT WITH THE DESIGN. SHOULD ACTUAL SITE CONDITIONS CONFLICT IN ANY WAY WITH THAT DOCUMENTED, THE CONTRACTOR SHALL CONTACT THE SUPERINTENDENT FOR CLARIFICATION BEFORE PROCEEDING.
16.

WHERE NOT ALLOWED FOR IN THE CONTRACT, THE CONTRACTOR IS TO ENGAGE A SUITABLY QUALIFIED AND EXPERIENCED SURVEYOR TO UNDERTAKE ASSET RECORDING OF THE WORK. ALL SURVEYOR WORKS AND DATA RECORDING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MRWA SURVEY MANUAL.
17.

ALL SPECIFIC PIPE MATERIALS (EG: PVC-O) SHALL BE INDICATED IN THE AS CONSTRUCTED INFORMATION

PRODUCTS AND MATERIALS

18.

ALL INSERTION/GASKET KITS ARE TO INCLUDE STAINLESS STEEL FASTENERS.
19.

FOR THE PIPE SCHEDULE, REFER TO TABLE 1.
20.

FOR THE PIPE MATERIAL SCHEDULE, REFER TO TABLE 2.
21.

ALL WATER MAINS TO BE RRJ PVC-M SERIES 1 CLASS 12, UNLESS OTHERWISE NOTED.
22.

WHERE PE PIPE CONSTRUCTION IS REQUIRED, REFER TO DRAWING MRWA-W-103 AND WSA 01 (PE PIPELINE CODE). WELDERS SHALL BE ACCREDITED TO PMBWELD302B (ELECTROFUSION). BUTT WELDING IS NOT ACCEPTED BY MURRAY SHIRE COUNCIL.
23.

ALL HANDLING OF PIPES & FITTINGS TO BE CARRIED OUT IN ACCORDANCE WITH GENERAL SPECIFICATION FOR CONSTRUCTION OF PRESSURE PIPES.

APPURTENANCES (FITTINGS)

24.

ALL VALVES AND HYDRANTS SHALL BE MARKED ACCORDING TO DRAWINGS MRWA-W-300 AND MRWA-W-301.
25.

VALVE SURROUNDS, COVERS AND SPINDLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWING MRWA-W-302.
26.

HYDRANT SURFACE ARRANGEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS MRWA-W-303.
27.

FLANGE AND FLANGE BOLTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS MRWA-W-306A AND MRWA-W-306B.
28.

FOR THE HYDRANT AND WASHOUT SCHEDULE, REFER TO TABLE 3.
25.

ALL VALVES SHALL BE LOCATED DIRECTLY OUT FROM THE APEX OF THE SPLAY CORNER (UNLESS OTHERWISE INDICATED).
26.

ALL VALVES ARE TO BE ANTI-CLOCKWISE CLOSING

WATER MAIN ALIGNMENT, TRENCHING & COVER

27.

TRENCH, PIPE PLACEMENT, EMBEDMENT AND BACKFILL DIMENSIONS AS PER STANDARD DRAWING MRWA-W-202.
28.

OFFSETS OF MAINS FROM PROPERTY BOUNDARIES SHALL BE; MIN 600MM (MAINS < DN100) AND MIN 1M (MAINS > DN100), EXCEPT WHERE INDICATED IN THE DRAWINGS.
29.

ALL WATER MAINS SHALL PASS OVER DRAINS AND SEWERS UNLESS SHOWN OTHERWISE IN THE DESIGN DRAWINGS.
30.

MAINS SHALL BE ALIGNED IN ACCORDANCE WITH THE SERVICES ALIGNMENT SCHEDULE, REFER TO TABLE 5.
31.

THE MAXIMUM DEPTH FROM THE SURFACE LEVEL TO TOP OF PIPE MUST NOT EXCEED 1.5M

EMBEDMENT

32.

UNLESS OTHERWISE APPROVED BY THE WATER AGENCY, ALL EMBEDMENT MATERIALS SHALL BE IN ACCORDANCE WITH WSA-PS-361.
31.

EMBEDMENT SHALL BE PLACED AS PER DRAWINGS MRWA-W-201 AND MRWA-W-202.

BACKFILL

34.

BACKFILL IN TRAFFICABLE AND NON-TRAFFICABLE AREAS SHALL BE IN ACCORDANCE WITH MRWA SPECIFICATION NO. 04-03.1 (BACKFILL SPECIFICATION), AND AS DETAILED IN MRWA-W-201. THE CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN CONFIRMATION OF THE ROAD AUTHORITIES ACCEPTANCE OF THE PROPOSED BACKFILL.
35.

COMPACTION TRIALS AND COMPACTION TESTING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MRWA BACKFILL SPECIFICATIONS.
36.

TRENCH SUBSIDENCE OVER WATER MAINS IS NOT ACCEPTABLE.
37.

ALL TRENCHES CROSSING PAVEMENT AREAS OR BENEATH KERB OR FOOTPATH ARE TO BE BACKFILLED WITH CLASS 3 20MM FINE CRUSHED ROCK.
38.

ALL ROAD CROSSINGS FOR PROPERTY SERVICES TO BE BACKFILLED WITH 3% CEMENT STABILISED FCR.

THRUST RESTRAINT

39.

FOR THE THRUST RESTRAINT SCHEDULE, REFER TO TABLE 6.
40.

CONSTRUCT CONCRETE THRUST RESTRAINTS AS PER DRAWINGS MRWA-W- 204, 205A, 205B & 205C AS APPLICABLE.
41.

THE CONTRACTOR SHALL CONFIRM THE ACTUAL GROUND CONDITIONS (USING STANDARD DRAWING MRWA-W-200 AS A GUIDE) AND DISCUSS WITH THE SUPERINTENDENT ANY GROUND CONDITIONS WHICH ARE FOUND TO BE DIFFERENT TO THAT NOMINATED. THE NOMINAL AHPB OF THE GROUND USED IN CALCULATING EACH THRUST RESTRAINT IS 50KPA.

CONNECTIONS (ALL TYPES)

42.

CONNECTION OF > DN100 OFFTAKES TO EXISTING MAINS SHALL BE AS INDICATED IN THE DESIGN DRAWINGS AND AS PER DRAWING MRWA-W-106.
43.

CONNECTION OF DN40, 50 & 63 PE OFFTAKES SHALL BE AS PER DRAWING MRWA-W-107.
44.

ALL WATER SERVICE ROAD CROSSINGS TO BE 32mm PN8 POLY (IF TWO PROPERTIES BEING CONNECTED) OR 25MM PN8 POLY (IF SINGLE PROPERTY CONNECTED). EACH SERVICE TO BE SLEEVED IN 50MM CLASS 12 UPVC.
45.

WATER TAPPINGS (TREATED AND RAW) INCLUDING TAPPING SADDLES AND 20mm COPPER SERVICE CONNECTIONS, METER STOP TAP (TREATED) AND BALL VALVE QUICK ACTION (RAW) TO BE PROVIDED 1m WITHIN EACH LOT. TAPPING SADDLES ARE TO BE GUNMETAL STYLE ONLY. SEE STANDARD DRAWING (TO BE REQUESTED FROM MURRAY RIVER COUNCIL).

OTHER SERVICES

46.

TO RECEIVE THE MOST UP TO DATE INFORMATION PRIOR TO CONSTRUCTION, " DIAL BEFORE YOU DIG " SHALL BE UNDERTAKEN TO AID IN THE LOCATION OF OTHER SERVICES. OTHER SERVICES SHALL BE CAREFULLY LOCATED PRIOR TO FULL EXCAVATION AT THE CONTRACTOR'S RISK AND COST. ANY CLASHES OF PROPOSED NEW WORKS WITH OTHER ASSETS SHALL BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY FOR CLARIFICATION.
47.

THE LOCATION AND DEPTH OF ANY EXISTING SERVICES SHOULD BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCING ANY EXCAVATION BY CONTACTING ALL LOCAL SERVICE AUTHORITIES.
48.

OFFSETS TO OTHER SERVICES SHALL BE AS PER TABLE 5 OR OTHERWISE AS PER TABLE 5.5 OF WSA03-2011-3.1 MRWA EDITION. THESE CLEARANCES SHALL APPLY TO SURFACE COVERS AS WELL AS UNDERGROUND ASSETS.
49.

VERTICAL CLEARANCES FROM OTHER SERVICES SHALL BE AS PER TABLE 7
50.

LAY MAINS OVER DRAINS UNLESS OTHERWISE SHOWN.
51.

GAS & WATER MAINS TO BE LAID IN A COMMON TRENCH.

ASSET RECORDING

52.

THE CONTRACTOR MUST RECORD ALL CONSTRUCTION DETAILS INCLUDING OFFSETS OF MAINS AND LOCATIONS OF FITTINGS SUCH AS VALVES, TEES, FIRE PLUGS ETC. AND TESTING DETAILS, USING APPROPRIATE "LINE SHEETS".
53.

"LINE SHEETS" ARE TO BE PROVIDED TO THE SUPERVISING ENGINEER AS AS CONSTRUCTED PLANS, WITHIN 1 WEEK OF THE COMPLETE OF THE WORKS.

TESTING, ASSET ACCEPTANCE AND LIVE CONNECTIONS

54.

POST CONSTRUCTION ACTIVITIES SUCH AS SWABBING, WATER QUALITY TESTING, PRESSURE TESTING AND CHLORINATION SHALL BE CARRIED OUT IN ACCORDANCE WITH WSA03-2011-3.1 MRWA EDITION AND THE MRWA WATER QUALITY COMPLIANCE SPECIFICATION & MURRAY RIVER COUNCIL REQUIREMENTS. ALL TEST RESULTS SHALL BE DOCUMENTED AND REPORTED TO THE SUPERINTENDENT.
55.

THE CONTRACTOR SHALL PROVIDE 14 DAYS NOTICE TO THE SUPERINTENDENT PRIOR TO TESTING BEING UNDERTAKEN.
56.

THE CONTRACTOR SHALL PROVIDE AT LEAST 10 DAYS NOTICE TO THE SUPERINTENDENT PRIOR TO CONNECTING NEW WORKS TO THE EXISTING NETWORK. SHUT DOWN WORK SHALL BE SCHEDULED FOR 9AM WEEKDAYS AND BE COMPLETED BETWEEN 9AM - 4PM.
57.

VALVES CONNECTING NEW ASSETS TO MURRAY RIVER COUNCIL'S LIVE SYSTEM SHALL ONLY BE OPERATED BY MURRAY RIVER COUNCIL.
58.

ALL WORKS MUST BE CONSTRUCTED AND FINISHED IN A TRADESMANSHIP LIKE MANNER.

DRAINAGE NOTES

1.

ALL DRAINAGE PIPES & PITS ARE TO BE AT 1m OFFSET TO PROPERTY BOUNDARIES UNLESS SHOWN OTHERWISE
2.

THE CONTRACTOR MUST CONTACT SERVICING AUTHORITIES TO ARRANGE SERVICE LOCATIONS PRIOR TO COMMENCEMENT OF EXCAVATION FOR THIS PROJECT
3.

PITS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE MUNICIPALITY. STEEL GRATES ARE TO BE HOT DIP GALVANISED AFTER MANUFACTURE. THE TOP OF ALL GRATES MUST BE APPROXIMATELY 150mm BELOW THE SURROUNDING SURFACE LEVEL. PROPERTY DRAINAGE CONNECTIONS ARE TO BE PROVIDED AS NECESSARY.
4.

ALL SIDE ENTRY PITS IN ROLLOVER KERB & CHANNEL ARE TO BE CONSTRUCTED USING AN APPROVED ROLLOVER TYPE LINTEL OR A REINFORCED ROLLOVER PROFILE PIT LID. STANDARD SQUARE PROFILE PIT LIDS WITHOUT LINTEL ARE NOT ACCEPTABLE. SIDE ENTRY PIT THROAT CLEARANCE TO BE 100mm MAX.
5.

PIT LIDS TO BE CLASS B IN NON-TRAFFICABLE AREAS AND CLASS D IN TRAFFICABLE AREAS.
6.

TRENCHES WITHIN PAVEMENT AREAS ARE TO BE BACKFILLED WITH CLASS 4 FCR. THE TRENCH IS TO BE BACKFILLED IN 150MM LAYERS AND CONSOLIDATED.
7.

ALL PIPE STUBS ARE TO CONSIST OF ONE FULL PIPE LENGTH UNLESS SHOWN OTHERWISE.
8.

FINISHED LEVELS FOR SIDE ENTRY PITS MUST BE DETERMINED FROM KERB LEVELS AND SHOULD BE SLOPED TO SUIT NATURESTRIPS ETC. THE FSL'S INDICATED IN THE PIT SCHEDULE ARE BACK OF KERB LEVELS.
9.

STEP IRONS ARE NOT REQUIRED IN DRAINAGE PITS.
10.

CONCRETE PIPES ARE TO BE CLASS 2 RRJ RCP AND PVC PIPES ARE TO BE CLASS SN8 UNLESS OTHERWISE NOTED.
11.

ALL EXCAVATIONS FOR DRAINAGE WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEW SOUTH WALES WORK COVER AUTHORITY.
12.

REINFORCEMENT BARS SHALL COMPLY WITH AS4671, GRADE 400Y. LAPS IN REINFORCEMENT BARS SHALL BE 300 MIN. AND CLEAR COVER 50 MIN.
13.

CONCRETE SHALL BE NORMAL CLASS N32 STANDARD STRENGTH GRADE OR HIGHER COMPLYING WITH THE REQUIREMENTS OF AS1379.
14.

ENDWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF AS3600.
15.

DIRECT CONNECTION OF PVC HOUSE DRAIN TO RCP DRAINAGE TO BE CONSTRUCTED WITH "CONCONNECT" OR APPROVED EQUIVALENT FITTING. 150mmØ PVC PIPES ARE NOT TO BE DIRECTLY CONNECTED TO CONCRETE PIPES LESS THAN 450mmØ IN DIAMETER. 100mmØ HOUSE CONNECTION PIPE TO BE USED FOR ALL LOTS IN STAGE.
16.

WHERE PVC HOUSE CONNECTIONS ARE MADE DIRECTLY TO PIPES, THE HOUSE CONNECTION IS TO BE RAISED TO SURFACE LEVEL WITHIN THE PROPERTY AND CAPPED AS PER SD520.
17.

ALL DRAINAGE PIPES ARE TO BE INSPECTED VIA CCTV AFTER INSTALLATION, HARD COPY AND ELECTRONIC COPY OF THE CCTV IS TO BE PROVIDED TO MURRAY RIVER COUNCIL. CCTV MUST INCLUDE GRADES.

SEWER NOTES

1.

ALL LEVELS ARE IN METRES TO AUSTRALIAN HEIGHT DATUM (A.H.D.)
2.

CO-ORDINATES FOR SETTING OUT, WHERE SHOWN, ARE TO M.G.A
3.

WORKS MUST BE TO CONSTRUCTED ACCORDING TO THE WSA SEWERAGE CODE OF AUSTRALIA WSA 02-2014-3.1. THE CONTRACTOR SHALL ENSURE THAT THEY ARE CONVERSANT WITH THE CURRENT REVISIONS, AMENDMENTS, SPECIFICATIONS, STANDARD DRAWINGS AND UPDATES THAT MURRAY RIVER COUNCIL HAVE MADE TO THEIR CONSTRUCTION STANDARD
4.

ALL MATERIALS ARE TO BE IN ACCORDANCE WITH MURRAY RIVER COUNCIL'S PREFERRED EQUIPMENT MANUFACTURERS LIST.
5.

THE CONTRACTOR MUST CLEARLY UNDERSTAND THE REQUIREMENTS OF THE WSA CODE FOR THE CONSTRUCTION OF MH'S AND THEIR BASES. REFER TO THE WSA 300 SERIES DOCUMENTS WITH CLEARLY DETAIL MINIMUM REQUIREMENTS AND DIMENSIONS IN MILLIMETRES ETC. ACCEPTABLE TO MURRAY RIVER COUNCIL.
6.

TRENCH SUBSIDENCE OVER SEWER MAINS IS NOT ACCEPTABLE TO MURRAY RIVER COUNCIL
7.

CHAINAGES WHERE SHOWN ON DETAIL PLANS ARE DISCONTINUOUS AT MAINTENANCE STRUCTURES.
8.

CHAINAGES SHOWN ON LONGITUDINAL PLANS ARE CONTINUOUS.
9.

PIPE MATERIAL, UNLESS SHOWN OTHERWISE.

PIPELINE MATERIALS

PIPE TYPE	PIPE CLASS	AUS. STANDARD	LOCATION
PVC	SN10	AS/NZS 1260-2009	100Ø PROPERTY BRANCHES
PVC	SN8	AS/NZS 1260-2009	150Ø RETICULATION SEWERS
PVC	SN8	AS/NZS 1260-2009	225Ø RETICULATION SEWERS

NOTE: SEWERPRO PIPE IS NOT ACCEPTABLE.

10.

ACCESS CHAMBERS.
- A.

ACCESS CHAMBER COVERS SHALL BE LEVEL WITH AND SHALL CONFORM TO SLOPE AND CROSSFALL OF THE FINISHED SURFACE. THE FINISHED SURFACE LEVELS SHOWN ARE APPROXIMATE ONLY. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR SETTING THE CONSTRUCTION LEVELS INCLUDING COVER GRADES BASED ON THE ROAD AND DRAINAGE PLANS. ALL SEWER COVERS ARE TO BE CONSTRUCTED TO THESE LEVELS. MAXIMUM SLOPE FOR CLASS C OR D COVERS TO BE 1 IN 10. MAXIMUM SLOPE FOR CLASS A OR B COVERS TO BE 1 IN 4.
- B.

ACCESS CHAMBERS AND INSPECTION SHAFTS IN ROAD RESERVES AND R.O.W.'S CONSTRUCTED PRIOR TO THE CONSTRUCTION OF FOOTPATHS SHALL BE PROVIDED WITH A TEMPORARY COVER. THE PLACING OF THE FINAL COVER SHALL NOT BE CARRIED OUT UNTIL THE CONCRETE FOOTPATH HAS BEEN CONSTRUCTED. ALL MAINTENANCE HOLE COVERS IN ROAD RESERVE MUST BE A CLASS D SOLID DUCTILE IRON LID.
- B.

ALL ACCESS CHAMBERS TO BE 1050MM DIAMETER UNLESS OTHERWISE SHOWN.
11.

EARTHWORKS
- A.

IN AREAS SUBJECT TO EARTHWORKS, THE CONSTRUCTION OF SEWERS MUST NOT COMMENCE UNTIL THE EARTHWORKS HAVE BEEN COMPLETED OR THE SUPERINTENDENT GIVES WRITTEN APPROVAL TO COMMENCE. SUCH APPROVAL WOULD NOT BE GIVEN UNLESS THE CONTRACTOR CAN DEMONSTRATE THAT THE SEWER WOULD BE SATISFACTORILY PROTECTED AGAINST DAMAGE FROM CONSTRUCTION LOADS.
- PVC:

WHERE CLEAR COVER LESS THAN 600MM, TYPE F2C BEDDING AND COVERING SHALL BE PLACED AROUND SEWERS. UNDER ROAD PAVEMENTS WHERE THE CLEARANCE BETWEEN THE TOP AND BOTTOM OF BOXING AND TOP OF SEWER IS LESS THAN 900MM, TYPE F2C BEDDING AND COVERING SHALL BE PLACED AROUND SEWERS.
12.

THE CONTRACT IS IN ACCORDANCE WITH AS2124-1992. IN ACCORDANCE WITH CLAUSE 15 OF AS2124-1992, THE CONTRACTOR MUST ENSURE THE SAFETY OF THE CONTRACTORS EMPLOYEES AND ALL OTHER PEOPLE WHO ARE ON OR ADJACENT THE SITE.
13.

MURRAY RIVER COUNCIL MUST BE NOTIFIED BY THE CONTRACTOR 72 HOURS PRIOR TO COMMENCING WORKS ON EXISTING SEWER.
14.

CONNECTION TO LIVE SEWER:
- A.

CONFINED SPACE ENTRY MUST BE IN ACCORDANCE WITH BOTH MURRAY RIVER COUNCIL AND WH&S REQUIREMENTS. CONTRACTOR MUST NOT ENTER A CONFINED SPACE UNTIL ALL REQUIRED INFORMATION HAS BEEN SUBMITTED TO MURRAY RIVER COUNCIL.
15.

PROPERTY BRANCH FITTINGS MUST BE LOCATED AT LEAST 1m WITHIN PROPERTY BEING SERVICED, AND CLEAR OF ANY OBSTRUCTIONS. PROPERTY CONNECTION POINT JUMP UPS ARE TO BE FINISHED 1m ABOVE FINISHED SURFACE LEVEL AS PER MURRAY RIVER COUNCIL REQUIREMENTS, PROPERTY BRANCH MUST BE A MINIMUM 1m FROM SIDE BOUNDARIES.
16.

7 CLEAR DAYS NOTICE PRIOR TO COMMENCEMENT OF THE WORKS MUST BE GIVEN TO THE SUPERINTENDENT.
17.

WSA CODE REQUIREMENTS FOR MINIMUM VERTICAL, AND HORIZONTAL CLEARANCES FROM THE SEWER ASSETS, TO OTHER SERVICES ARE NOT COMPROMISED.
18.

ALL MH'S PROPOSED TO BE LOCATED WITHIN LOTS, CLOSE TO THE FOOTPATHS/STREET FRONTAGES, WHERE PROPOSED FINISHED SURFACES ARE CONTOURED, OR SLIGHTLY HIGHER THAN A FOOTPATH OR OTHER SURFACES. MURRAY RIVER COUNCIL REQUIRES THE CONCRETE COVERS OF THE MH'S CONSTRUCTED IN THESE LOCATIONS, USING A TAPERED PRECAST CONCRETE MAKE UP RINGS, OR PRECAST SPACER RINGS. REFER TO SEW-1308-V OF THE CODE.
19.

SERVICE CONNECTIONS
- A.

ALL NEW SERVICE CONNECTIONS MUST BE IN ACCORDANCE WITH THE REQUIREMENTS OF MURRAY RIVER COUNCIL SPECIFICATION OF WORKS FOR CONSTRUCTION OF RETICULATION SEWERS, ADDENDUM AND ASSOCIATED STRUCTURES, AS3500 AND THE SEWERAGE STANDARD DRAWINGS.
- B.

THE CONNECTION POINT MUST BE EXTENDED A MINIMUM OF 1.0 METRES INTO THE BOUNDARY OF A LOT. A FURTHER DISTANCE MAY BE REQUIRED TO CLEAR STORM WATER DRAINS. THIS DISTANCE IS 300MM OR THE THE EDGE OF THE EASEMENT.
- C.

PROPERTY CONNECTION SIDE-LINE MUST BE LOCATED A MINIMUM OF 1.0METRES FROM A SIDE BOUNDARY. A SIDE-LINE MUST NOT EXCEED A MAXIMUM LENGTH OF 3.0METRES IN LENGTH UNLESS APPROVED BY MURRAY RIVER COUNCIL.
- C.

THE SIDE-LINE MUST BE CONSTRUCTED TO ACHIEVE A MINIMUM OF 600mm HORIZONTAL CLEARANCE FROM ANY OTHER SERVICES, FOR EXAMPLE 600mm MINIMUM FROM THE NEAREST EDGE OF A STORM WATER DRAIN OR PIT.
20.

BLASTING - NO BLASTING IS PERMITTED.
21.

TESTING
- A.

ALL NEW SEWERS MUST BE PRESSURE TESTED. WHERE THE CONTRACTOR DOES NOT HAVE A QUALITY ASSURANCE SYSTEM IN PLACE, ALL PIPES MUST BE INSPECTED BY THE SUPERVISING ENGINEER.

23.

WI N25 GRADE CONCRETE - GP TYPE CEMENT MUST BE USED IN ALL CONSTRUCTION, UNLESS OTHERWISE NOTED IN MURRAY RIVER COUNCIL'S DESIGN GUIDELINE.
24.

SEWER SETOUTS
- A.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF THE HORIZONTAL ALIGNMENT AND FOR OFFSETTING PEGS DURING CONSTRUCTION.
- B.

SETOUT AND VERIFICATION OF LEVELS SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.
25.

THE CONTRACTOR MUST LOCATE ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORKS.
26.

THE LEVEL OF ALL EXISTING OUTFALL SEWERS MUST BE CONFIRMED BY THE CONTRACTOR PRIOR TO WORKS COMMENCING.
27.

CLASS 3 FCR BACKFILL MUST BE USED WHERE SEWER MAINS CROSS ROAD PAVEMENT, FOOTPATHS OR DEFINED DRIVEWAYS.
28.

PIPES JOINS ARE TO BE CONSTRUCTED STRICTLY TO THE MANUFACTURER'S SPECIFICATIONS - MANUALLY JOINED AND NOT USING MECHANICAL EQUIPMENT SUCH AS AN EXCAVATOR BUCKET ETC.
29.

THE CONTRACTOR MUST ADHERE TO THE CODE OF PRACTICE FOR 'SAFETY PRECAUTIONS IN TRENCHING OPERATIONS" UNDER THE "OCCUPATIONAL HEALTH & SAFETY ACT 2004"
30.

CAST IRON CONCRETE INFILL STYLE COVERS ARE NOT ACCEPTABLE.
31.

THE CONCRETE FINISH OF THE MANHOLE BENCHING AND CHANNELS HAS BEEN FINISHED WITH A METAL FLOAT. A BROOM FINISH IS NOT ACCEPTABLE.
32.

IN ACCORDANCE WITH SECTION 22.7 (WSA 02-2002-2.3, VERSION 1.0) MURRAY RIVER COUNCIL REQUIRES SATISFACTORY EVIDENCE IN THE FORM OF CALIBRATED CCTV RECORDING OF THE ASSETS ACCOMPANIED BY A DETAILED REPORT. A HARD AND ELECTRONIC COPY IS TO BE PROVIDED TO MURRAY RIVER COUNCIL. THE GRADE OF THE PIPE IS ALSO REQUIRED TO BE SHOWN ON CCTV.
33.

IN ACCORDANCE WITH SECTION 8.10(WSA 02-2002-2.3, MELBOURNE RETAIL WATER AGENCIES EDITION, VERSION 1.0) WHERE TRENCH STOPS OR BULKHEADS ARE REQUIRED AS PART OF THE DESIGN FOR A SEWER MAIN EXTENSION THEY MUST BE CLEARLY DETAILED ON THE PRELIMINARY DESIGN PLANS.
34.

PRIOR TO MURRAY RIVER PRACTICAL COMPLETION INSPECTION THE FOLLOWING MUST BE COMPLETED:
- a.

ALL STRUCTURES MUST REACH PRACTICAL COMPLETION PRIOR TO THE CCTV RECORDING
- b.

SILICONE SEALANT OR SIMILAR, IS NOT AN ACCEPTABLE MATERIAL TO BE USED TO FILL THE REBATE IN CAST IRON MH COVERS. FERRO PRE IS ACCEPTABLE.
- c.

CUT PIPES MUST BE CUT AT RIGHT ANGLE TO THE PIPE, BE DE BURRED AND PREPARED PER THE MANUFACTURERS SPECIFICATIONS PRIOR TO ANY PIPE JOINTS BEING CONSTRUCTED
- d.

CLEANING FLUID MUST BE VISIBLE
- e.

EXCESSIVE GLUE IS NOT ACCEPTABLE
- f.

SECTIONS OF PIPE WHICH HAVE BEEN DISTORTED OR DAMAGED IN ANY WAY, MUST NOT BE CONSTRUCTED AS PART OF THE SEWER MAINS
- g.

SEWERS MUST BE LAID STRAIGHT AND WITH A CONSISTENT UNIFORM GRADIENT
- h.

SEWERS AND STRUCTURES (MH'S, MS'S, TMS'S) MUST BE FREE OF ANY DEBRIS
- i.

SURFACE AND/OR TRENCH/GROUND WATER IS NOT PERMITTED TO ENTER SEWERS
- j.

ANY SIGNS OF WATER INGRESS DUE TO MATERIAL FAILURE, JOINT CONSTRUCTION FAILURE, POROUS CONCRETE, DAMAGED CONCRETE PRODUCTS OR THE USE OF SECONDS WILL NOT BE ACCEPTABLE. ALL MATERIALS MUST BE OF THE HIGHEST QUALITY AND COMPLIANT WITH THE RELEVANT AUSTRALIAN STANDARDS
- k.

ALL WORKS MUST BE CONSTRUCTED AND FINISHED IN A TRADESMANSHIP LIKE MANNER. SUBSTANDARD WORKS WILL NOT BE ACCEPTABLE.
- l.

TRENCHES MUST BE REINSTATED PER THE MINIMUM REQUIREMENT OF THE WSA CODE. TRENCH SUBSIDENCE IS NOT ACCEPTABLE AT ANY TIME.
- m.

ALL SEWER GRADES ARE DESIGNED TO THE 2014 WSA CODE AND INCLUDES ALL FUTURE LOTS THAT ARE SERVICED WITHIN THIS SEWER NETWORK WHEN DETERMINING THE MINIMUM ACCEPTABLE GRADES.

MAIDENS GREEN
STAGE 5
HYDRAULICS - NOTES & LEGEND
SHEET 1
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No **310338CC400** Rev **2**

Designed
D.SHEEHAN

Authorised
J.FEHRING

Checked
B.IBBS

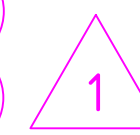
Date
OCT 2024



16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635



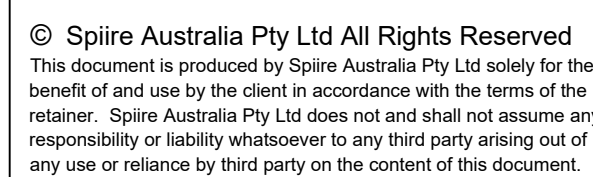
© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Scale

H 1:1000 @ A3
H 1:500 @ A1
SCALE
V 1:100 @ A3
V 1:50 @ A1

0 0.5 1.0 1.5 2.0 2.5

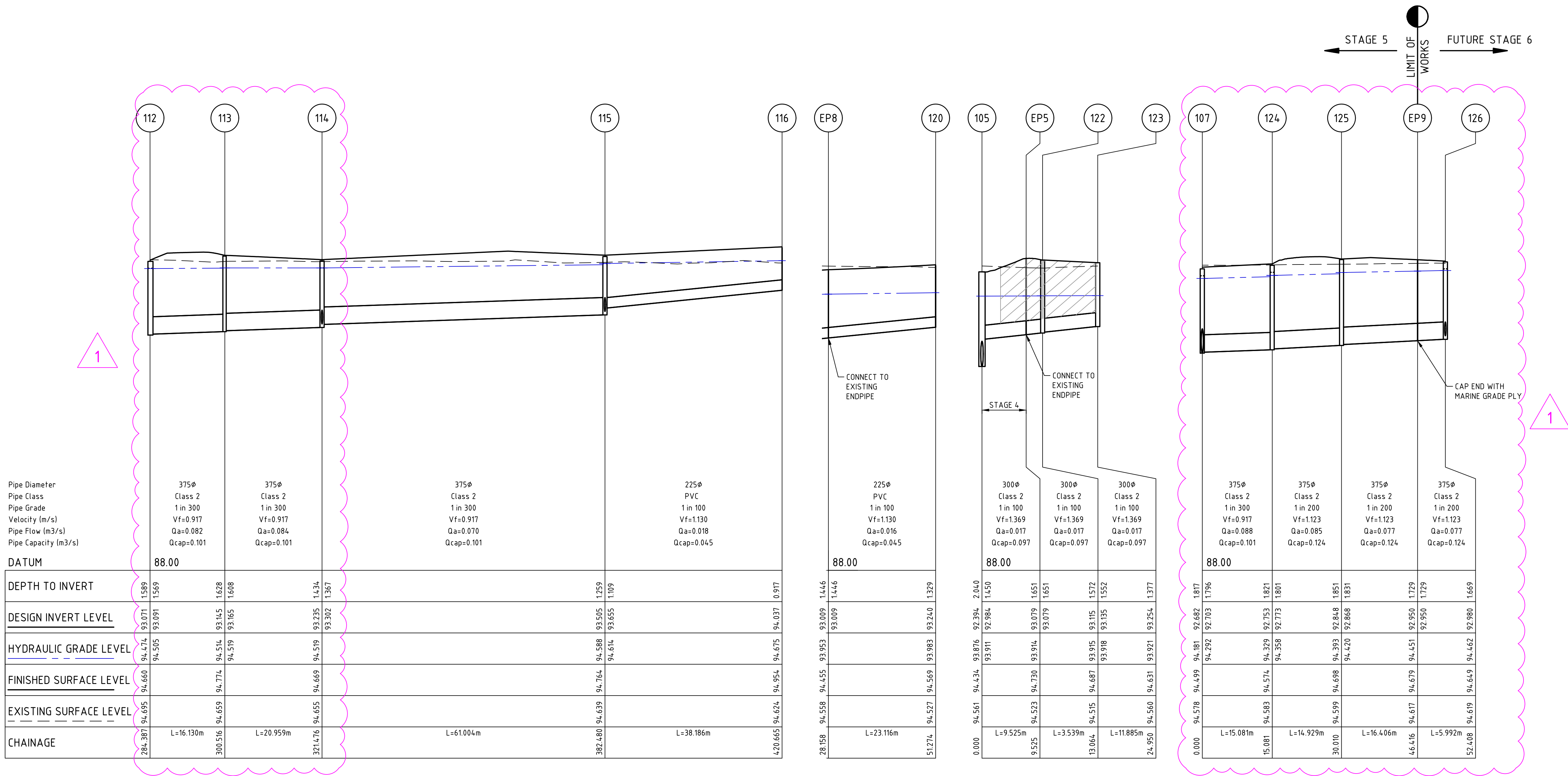


16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Checked
B.IBBS
Date
OCT 2024

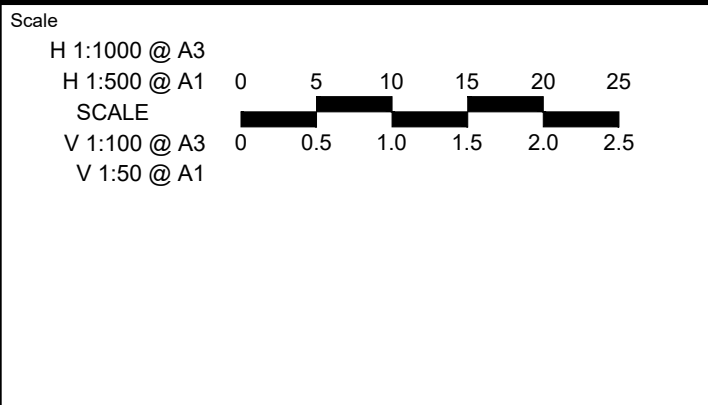
TENDER Drg No 310338CC430

CLASS 4 CRUSHED ROCK BACKFILL



file name: 310338CC430.dwg, layout name: CC431, plotted by: Doreen Sheehan, file location: \\spiire\beanda\data\310338\310338.dwg, plot date: 12/12/2024, 12:04 PM, Sheet 16 of 21 Sheets

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 2024

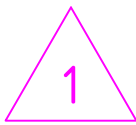
MAIDENS GREEN
STAGE 5
HYDRAULICS - DRAINAGE PROFILES
SHEET 2 OF 3
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No 310338CC431 Rev 2

 CLASS 4 CRUSHED ROCK BACKFILL

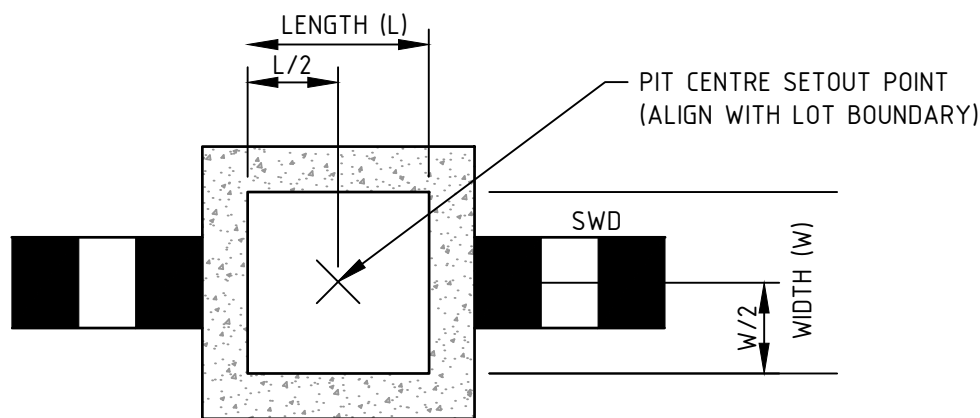
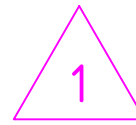
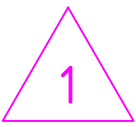
PIT SETOUT CO-ORDINATES

NAME	POINT	EASTING	NORTHING
EP7	END OF PIPE	299325.505	6002713.839
EP3	END OF PIPE	299167.283	6002860.994
EP6	END OF PIPE	299242.764	6002850.575
EP8	END OF PIPE	299252.966	6002849.428
EP5	END OF PIPE	299235.783	6002850.782
EP9	END OF PIPE	299227.694	6002945.554



DRAINAGE PIT SCHEDULE

PIT		INTERNAL		INLET		OUTLET		PIT		REMARKS
NAME	TYPE	WIDTH	LENGTH	DIA	INV LEVEL	DIA	INV LEVEL	FS LEVEL	DEPTH	
EP7	ENDPIPE			375	93.259	375	93.259	94.898	1.639	CONNECT TO EXISTING ENDPIPE
58	SIDE ENTRY PIT	600	900	300	93.325	375	93.305	94.853	1.548	AS PER IDM SD 440, HAUNCHED TO 900X600
				225	93.521					
59	SIDE ENTRY PIT	600	900			300	93.426	94.853	1.427	AS PER IDM SD 440
58A	ENDPIPE					225	93.819	95.002	1.183	INSPECTION OPENING AS PER IDM SD 515
EP3	ENDPIPE			300	93.042	300	93.042	94.592	1.550	CONNECT TO EXISTING ENDPIPE
87	GRATED JUNCTION PIT	600	900			300	93.279	94.497	1.218	AS PER IDM SD 420 WITH HEAVY DUTY TRAFFICABLE GRATED LID
EP6	ENDPIPE			525	92.439	525	92.439	94.452	2.014	CONNECT TO EXISTING ENDPIPE
106	SIDE ENTRY PIT	900	900	525	92.497	525	92.477	94.552	2.074	AS PER IDM SD 440, HAUNCHED TO 900X600
107	SIDE ENTRY PIT	900	900	450	92.712	525	92.682	94.499	1.817	AS PER IDM SD 440, HAUNCHED TO 900X600
				375	92.703					
109	JUNCTION PIT	900	900	450	92.766	450	92.746	94.499	1.753	AS PER IDM SD 410, HAUNCHED TO 900X600
110	SIDE ENTRY PIT	900	900	450	92.824	450	92.804	94.495	1.691	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	92.954					
111	SIDE ENTRY PIT	900	900	375	93.020	450	93.000	94.583	1.583	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.150					
112	SIDE ENTRY PIT	900	900	375	93.091	375	93.071	94.660	1.589	AS PER IDM SD 440, HAUNCHED TO 900X600
113	JUNCTION PIT	900	600	375	93.165	375	93.145	94.774	1.628	AS PER IDM SD 410
114	SIDE ENTRY PIT	900	900	375	93.302	375	93.235	94.669	1.434	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.310					
115	SIDE ENTRY PIT	600	900	225	93.655	375	93.505	94.764	1.259	AS PER IDM SD 440
				300	93.580					
116	ENDPIPE					225	94.037	94.954	0.917	INSPECTION OPENING AS PER IDM SD 515
EP8	ENDPIPE			225	93.009	225	93.009	94.455	1.446	CONNECT TO EXISTING ENDPIPE
120	ENDPIPE			225	93.240	225	93.240	94.569	1.329	INSPECTION OPENING AS PER IDM SD 515
EP5	ENDPIPE			300	93.079	300	93.079	94.730	1.651	CONNECT TO EXISTING ENDPIPE
122	JUNCTION PIT	600	900	300	93.135	300	93.115	94.687	1.572	AS PER IDM SD 410 WITH HEAVY DUTY TRAFFICABLE LID
123	GRATED JUNCTION PIT	600	900	300	93.254	300	93.254	94.631	1.377	AS PER IDM SD 420 WITH HEAVY DUTY TRAFFICABLE GRATED LID
124	SIDE ENTRY PIT	600	900	375	92.773	375	92.753	94.574	1.821	AS PER IDM SD 440
125	JUNCTION PIT	600	900	375	92.868	375	92.848	94.698	1.851	AS PER IDM SD 410
EP9	ENDPIPE			375	92.950	375	92.950	94.679	1.729	CAP END WITH MARINE GRADE PLY
131	SIDE ENTRY PIT	600	900	300	93.055	300	93.055	94.495	1.440	AS PER IDM SD 440
131A	DEPRESSED GRATED PIT	600	900			300	93.308	94.267	0.959	AS PER IDM SD 455
132	SIDE ENTRY PIT	600	900			300	93.251	94.583	1.332	AS PER IDM SD 440
133	SIDE ENTRY PIT	600	900			300	93.411	94.669	1.258	AS PER IDM SD 440
134	SIDE ENTRY PIT	600	900			300	93.681	94.764	1.083	AS PER IDM SD 440



TYPICAL DRAINAGE PIT SETOUT POINT 'C'
JUNCTION PIT/ EASEMENT PIT
NOT TO SCALE

Pipe Diameter
Pipe Class
Pipe Grade
Velocity (m/s)
Pipe Flow (m3/s)
Pipe Capacity (m3/s)

DATUM	88.00
DEPTH TO INVERT	14.09 12.71 1.70
DESIGN INVERT LEVEL	93.229 93.377 93.478
HYDRAULIC GRADE LEVEL	94.488 94.498 94.498
FINISHED SURFACE LEVEL	94.648 94.665 94.682
EXISTING SURFACE LEVEL	94.648 94.665 94.682
CHAINAGE	0.000 L=10.100m 10.100

300Ø
Class 2
1 in 100
Vf=1.369
Qa=0.011
Qcap=0.097

DATUM	88.00
DEPTH TO INVERT	15.41 14.40 1.420
DESIGN INVERT LEVEL	92.954 93.055 93.075
HYDRAULIC GRADE LEVEL	94.345 94.345 94.345
FINISHED SURFACE LEVEL	94.495 94.495 94.495
EXISTING SURFACE LEVEL	94.495 94.495 94.495
CHAINAGE	0.000 L=10.100m 10.100

300Ø
Class 2
1 in 100
Vf=1.369
Qa=0.008
Qcap=0.097

DATUM	88.00
DEPTH TO INVERT	15.83 14.33 1.332
DESIGN INVERT LEVEL	93.000 93.150 93.251
HYDRAULIC GRADE LEVEL	94.411 94.433 94.433
FINISHED SURFACE LEVEL	94.583 94.583 94.583
EXISTING SURFACE LEVEL	94.583 94.583 94.583
CHAINAGE	0.000 L=10.100m 10.100

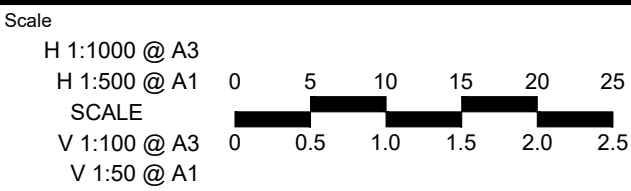
300Ø
Class 2
1 in 100
Vf=1.369
Qa=0.006
Qcap=0.097

DATUM	88.00
DEPTH TO INVERT	15.34 13.59 1.258
DESIGN INVERT LEVEL	93.235 93.310 93.411
HYDRAULIC GRADE LEVEL	94.519 94.519 94.519
FINISHED SURFACE LEVEL	94.669 94.669 94.669
EXISTING SURFACE LEVEL	94.669 94.669 94.669
CHAINAGE	0.000 L=10.100m 10.100

300Ø
Class 2
1 in 100
Vf=1.369
Qa=0.008
Qcap=0.097

DATUM	89.00
DEPTH TO INVERT	12.59 1.84 1.083
DESIGN INVERT LEVEL	93.505 93.580 93.681
HYDRAULIC GRADE LEVEL	94.588 94.614 94.614
FINISHED SURFACE LEVEL	94.764 94.764 94.764
EXISTING SURFACE LEVEL	94.764 94.764 94.764
CHAINAGE	0.000 L=10.100m 10.100

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

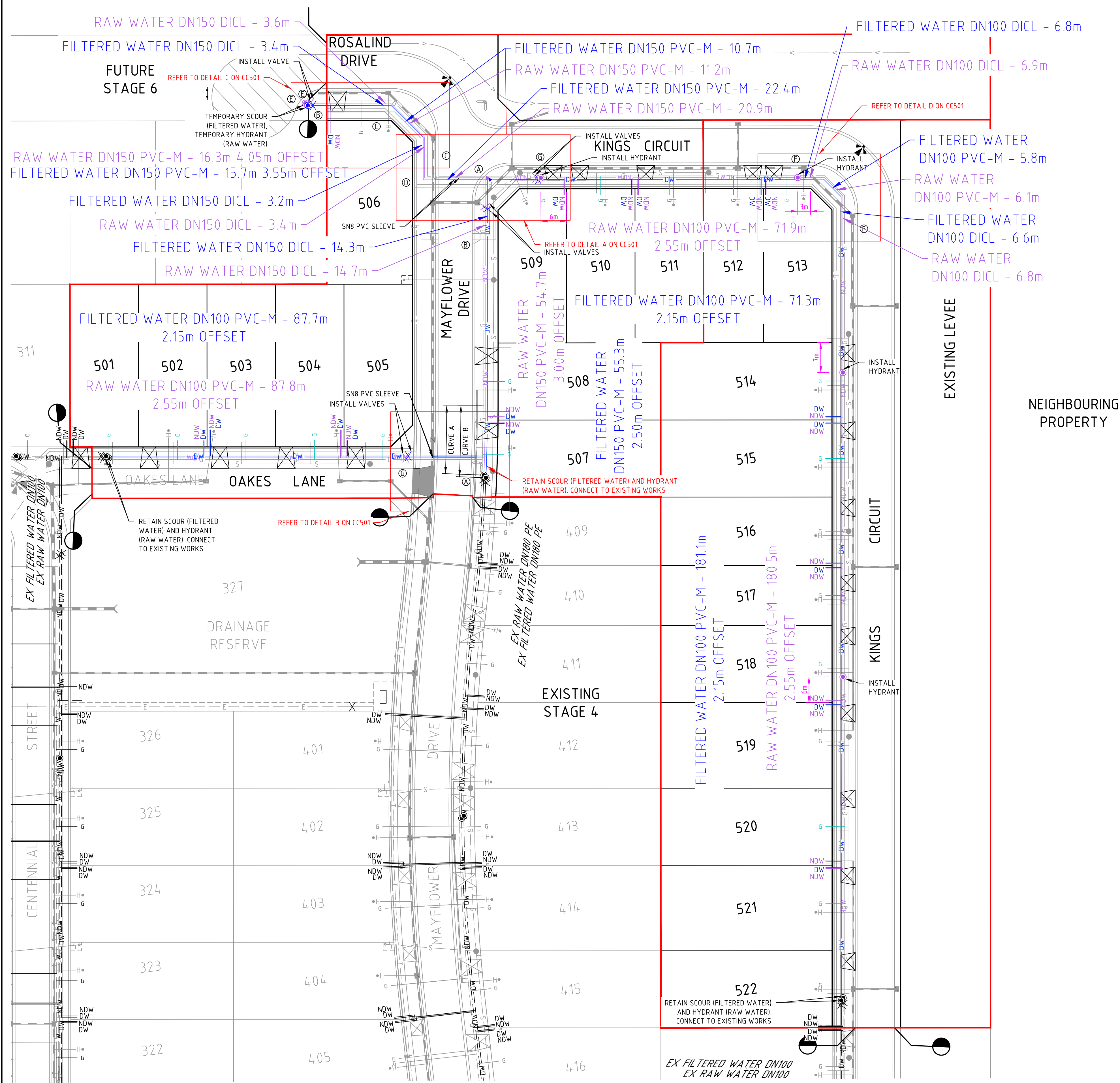
Designed
D.SHEEHAN
Authorised
J.FEHRING

Checked
B.IBBS
Date
OCT 2024

MAIDENS GREEN
STAGE 5
HYDRAULICS - DRAINAGE PROFILES
SHEET 3 OF 3
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No 310338CC432 Rev

file name: 310338CC500.dwg, layout name: CC500, plotted by: Doreen Sheehan, file location: \\spire\bandra\ra\310338\CC500.dwg, plot date: 12/12/2024, 12:34 PM, Sheet 18 of 21 Sheets



	FILTERED WATER	RAW WATER
MAXIMUM DESIGN HEAD(m)	4.6m	4.9m
ZONE	RESIDENTIAL	RESIDENTIAL
TEST PRESSURE (kPa)	1000kPa	1000kPa



TABLE 1: NEW PIPE SCHEDULE

NEW WORK			FILTERED WATER	RAW WATER
SIZE (mm)	TYPE	CLASS	LENGTH (m)	LENGTH (m)
150	PVC-M AS/NZS 4441	SERIES 1 PN12	104.1	103.1
150	DICL AS/NZS 2280	PN35	20.9	21.7
100	PVC-M AS/NZS 4441	SERIES 1 PN12	345.9	346.3
100	DICL AS/NZS 2280	PN35	14.0	13.7

TABLE 2: PIPE MATERIAL SCHEDULE

MATERIAL	REFERENCE
PVC-M	WSA-PS-209
DICL	WSA-PS-202
PE (PROPERTY SERVICE)	WSA-PS-215

TABLE 3: HYDRANT & WASHOUT SCHEDULE

MAIN SIZE	FITTING TYPE	LOCATION	STREET	LOCATION
150	SCOUR - FW	END OF LINE	ROSALIND DRIVE	4.4m W OF WBL LOT 506
150	HYDRANT - RW	END OF LINE	ROSALIND DRIVE	5.0m W OF WBL LOT 506
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	6.0m W OF EBL LOT 509
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	3.0m W OF SPLAY LOT 513
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	7.0m S OF NBL LOT 514
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	6.0m N OF SBL LOT 518

TABLE 4: CURVED PIPE AND DEFLECTION SCHEDULE

LOCATION	METHOD	RADIUS (m)	TOTAL PIPE LENGTH
CURVE A	PVC SOC DEFLECTION	407.00	16.2
CURVE B	PVC SOC DEFLECTION	407.50	16.8

TABLE 5: SERVICE ALIGNMENT SCHEDULE (SEE DRG NO. 310338CC001 SERVICE OFFSET TABLE)

TABLE 6: THRUST RESTRAINT SCHEDULE

LOCATION	TYPE	THRUST	AHBP (kPa) USED	THRUST AREA (m ²)	QUANTITY
A	INLINE	2 X DN150 TEE	50	0.96	2
B	INLINE	2 X DN150 VALVE	50	0.96	2
C	INLINE	2 X DN150 45° BEND	50	0.74	2
D	PLAIN	2 X DN150 90° BEND	50	1.36	1
E	PLAIN	DN150 END	50	0.48	2
F	INLINE	2 X DN100 45° BEND	50	0.36	2
G	INLINE	2 X DN100 VALVE	50	0.60	2

TABLE 7: VERTICAL CLEARANCES

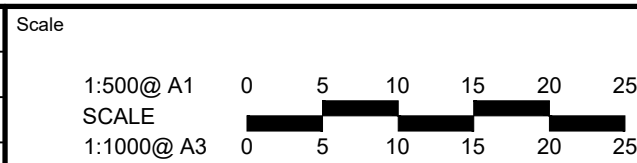
EXISTING OR PROPOSED SERVICE	MINIMUM VERTICAL CLEARANCE (mm)
WATER MAINS ≤ DN375	150
WATER MAINS > DN375	300
GAS MAINS	150
TELECO CONDUITS AND CABLES	150
ELECTRICITY CONDUITS AND CABLES	225
STORMWATER DRAIN & PITS	150
SEWERS - GRAVITY	500
SEWERS - PRESSURE & VACUUM	500

- VERTICAL CLEARANCE BETWEEN WATER MAINS SHALL DEPEND ON THE LARGER MAIN DIAMETER.
- WATER MAINS SHALL CROSS OVER SEWERS AND DRAINS UNLESS SHOWN OTHERWISE.
- MAINTAIN ADDITIONAL CLEARANCE FROM HIGH VOLTAGE ELECTRICAL CABLES TO ALLOW FOR A PROTECTIVE BARRIER AND MARKING.

LEGEND
(A) THRUST RESTRAINT - SEE TABLE 6 FOR DETAILS
G GAS CONDUIT
DW SERVICE CONDUIT
X X X VALVE
● HYDRANT: BELOW GROUND.
T TAPER
⊗ REMOVE FITTING
NDW RAW WATER MAIN
DW FILTERED WATER MAIN
W IRRIGATION WATER MAIN
DW EXISTING WATER MAIN

FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

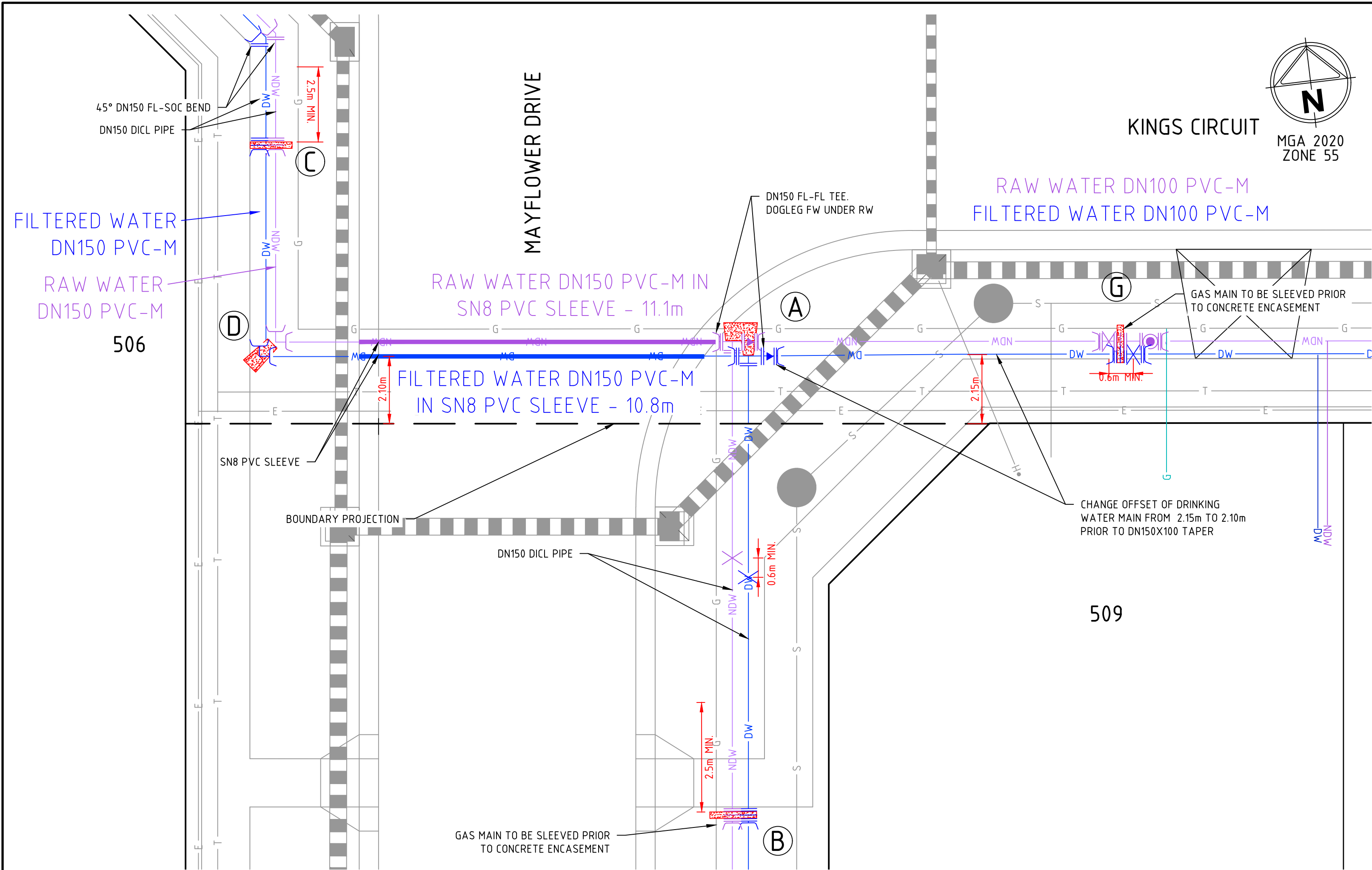
Designed
D.SHEEHAN
Authorised
J.FEHRING

Checked
B.IBBS
Date
OCT 2024

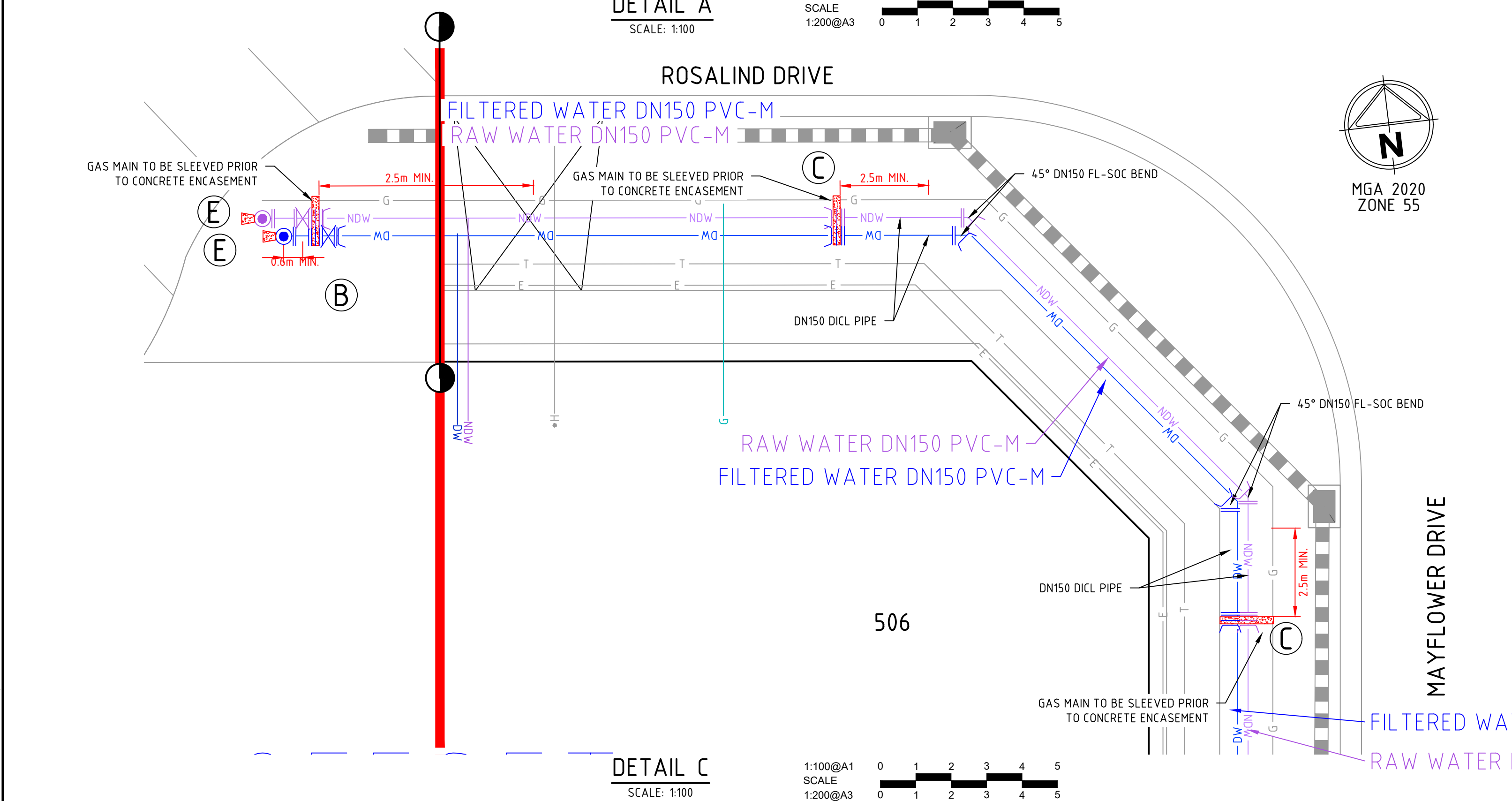
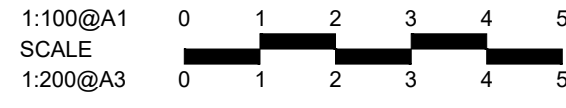
**MAIDENS GREEN
STAGE 5
HYDRAULICS - SEWER & WATER
WATER LAYOUT PLAN**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No **310338CC500** Rev **2**

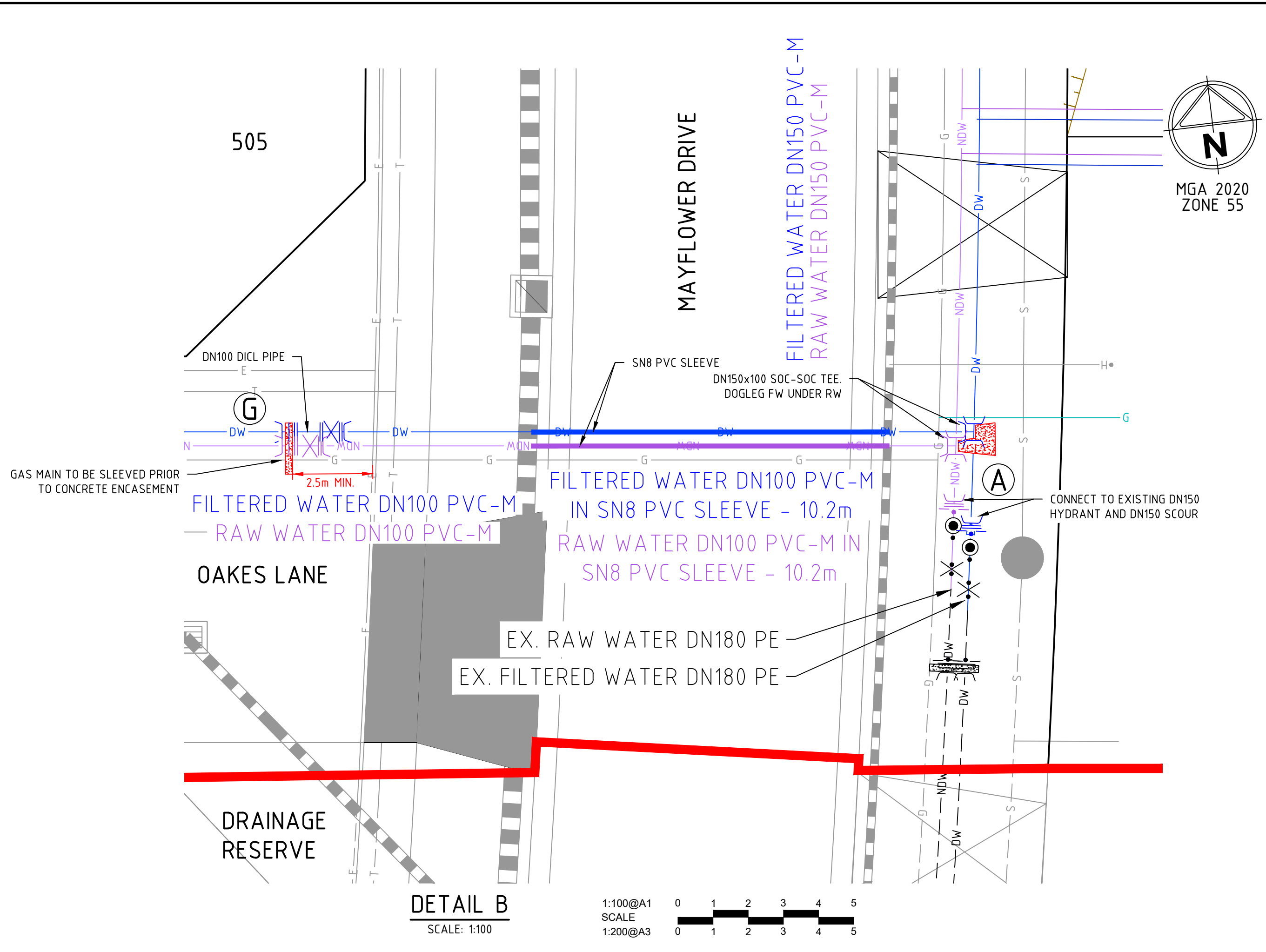
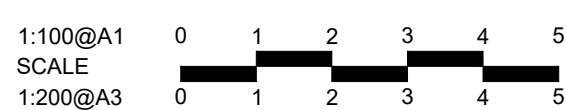
file name: 310338CC500.dwg, layout name: C5001, plotted by: Darrin Stephen, file location: \\spire\bandara\Data\310338\WV\ACAD\plot date: 12/02/2024, 12:04 PM, Sheet 19 of 21, Sheets



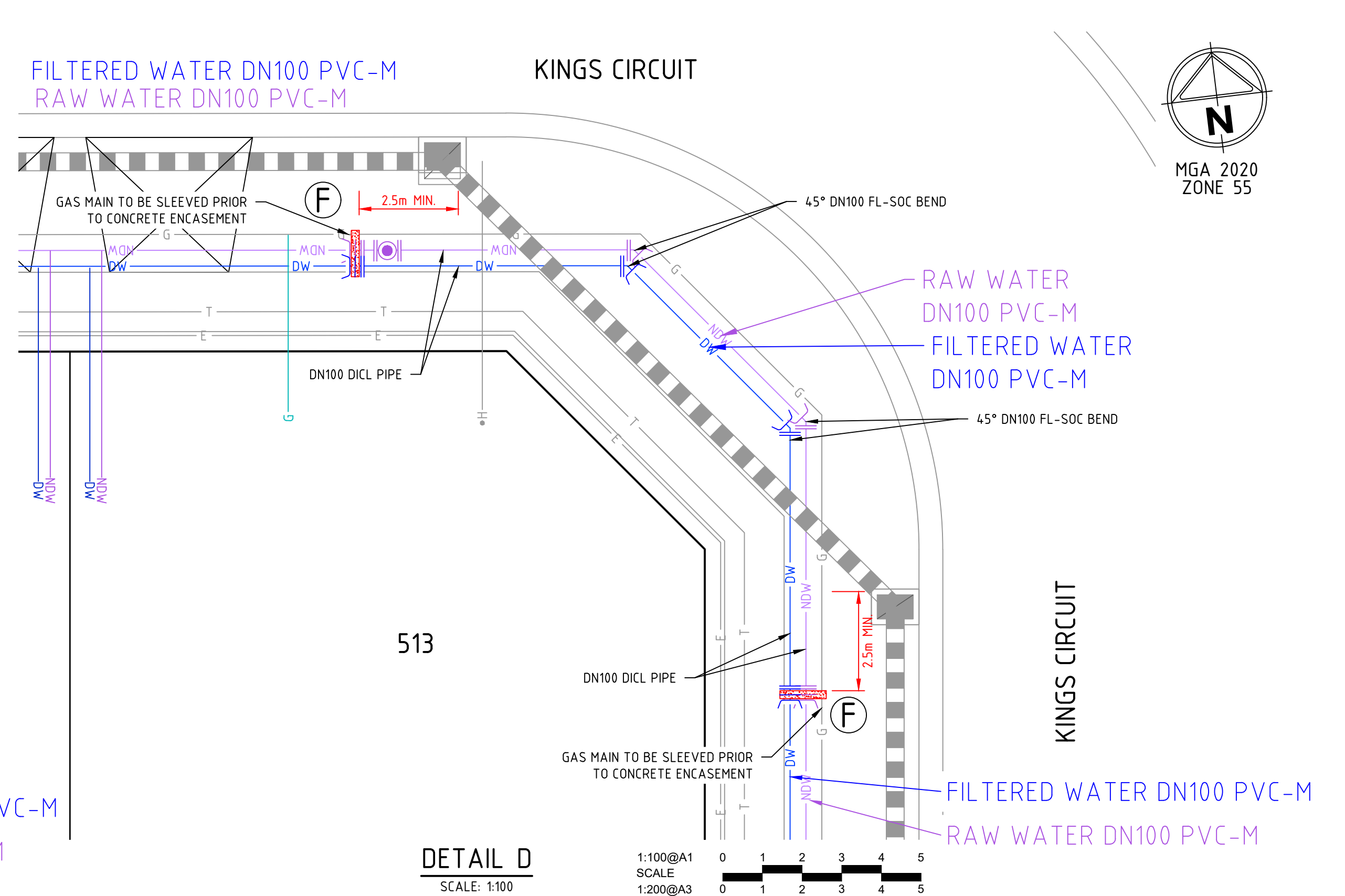
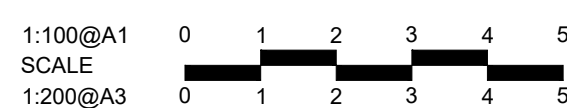
DETAIL A
SCALE: 1:100



DETAIL C
SCALE: 1:100



DETAIL B
SCALE: 1:100



DETAIL D
SCALE: 1:100



Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023

Scale	AS SHOWN
Scale	1:100@A1 SCALE 1:200@A3

System Certified

© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

spiire

16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed
D.SHEEHAN

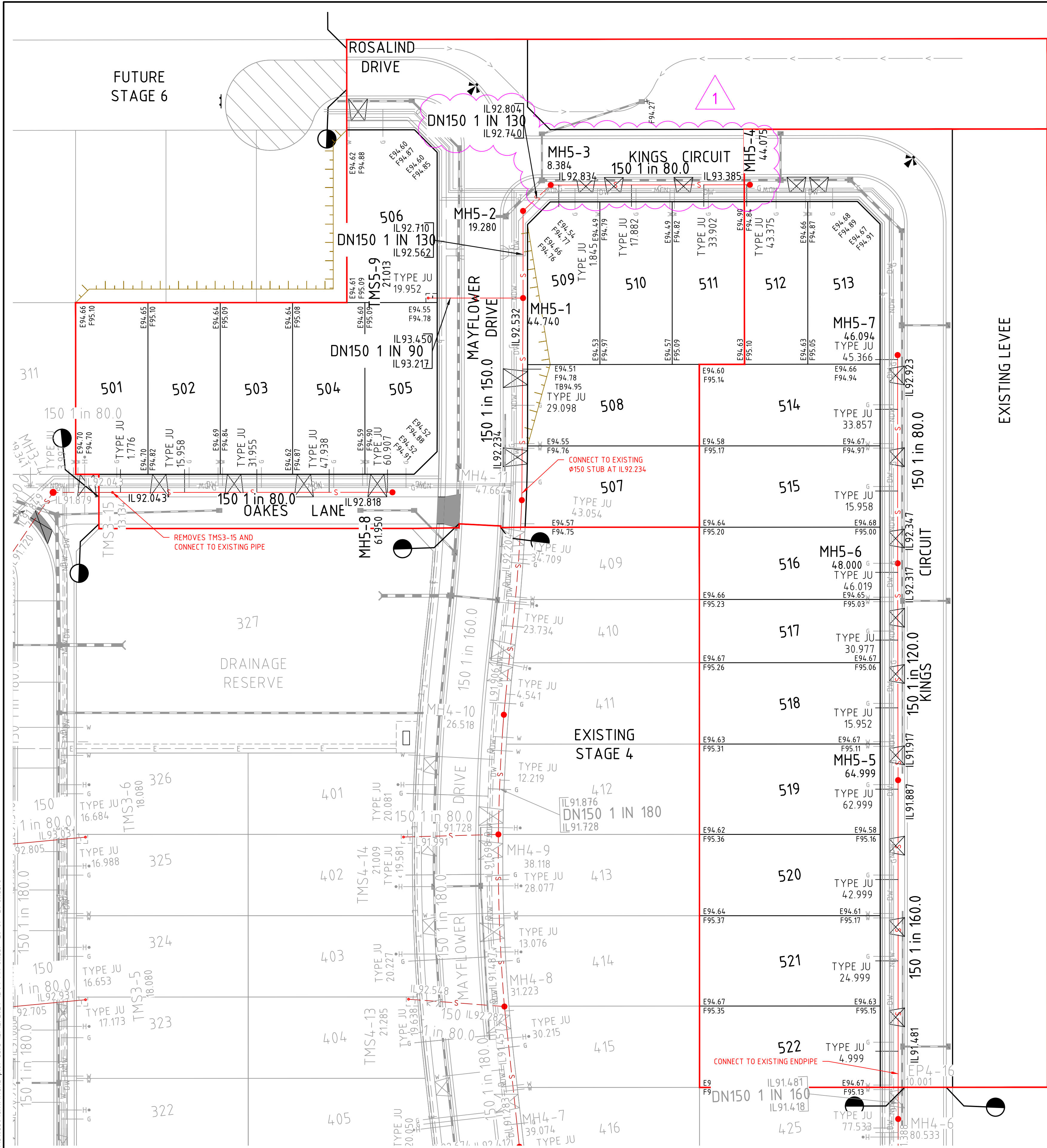
Authorised
J.FEHRING

Checked
B.IBBS

Date
OCT 2024

**MAIDENS GREEN
STAGE 5
HYDRAULICS - SEWER & WATER
WATER DETAILS**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No **310338CC501** Rev **2**



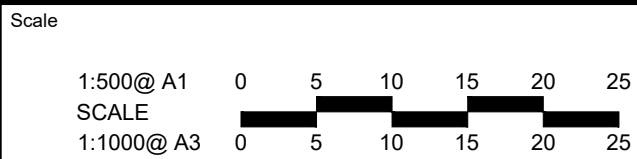
NEIGHBOURING
PROPERTY

SEWER STRUCTURE
SETOUT TABLE

PIT	COORDINATES	
	EASTING	NORTHING
EP4-16	299324.978	6002716.924
MH5-5	299332.764	6002781.455
MH5-6	299338.438	6002829.118
MH5-7	299343.959	6002874.881
TMS3-15	299167.833	6002865.552
MH5-8	299229.338	6002858.139
MH4-11	299257.552	6002852.978
MH5-1	299263.196	6002897.361
MH5-2	299265.505	6002916.502
MH5-3	299272.267	6002921.458
MH5-4	299316.032	6002916.230
TMS5-9	299242.347	6002899.880

file name: 310338CC502.dwg, layout name: C502, plotted by: Donnet, Stephen, file location: \\spire\bandra\data\310338\dwg\CAD, plot date: 12/02/2024, 12:04 PM, Sheet 20 of 21 Sheets

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



© Spiire Australia Pty Ltd All Rights Reserved
This document is produced by Spiire Australia Pty Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Spiire Australia Pty Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed
D.SHEEHAN
Authorised
J.FEHRING

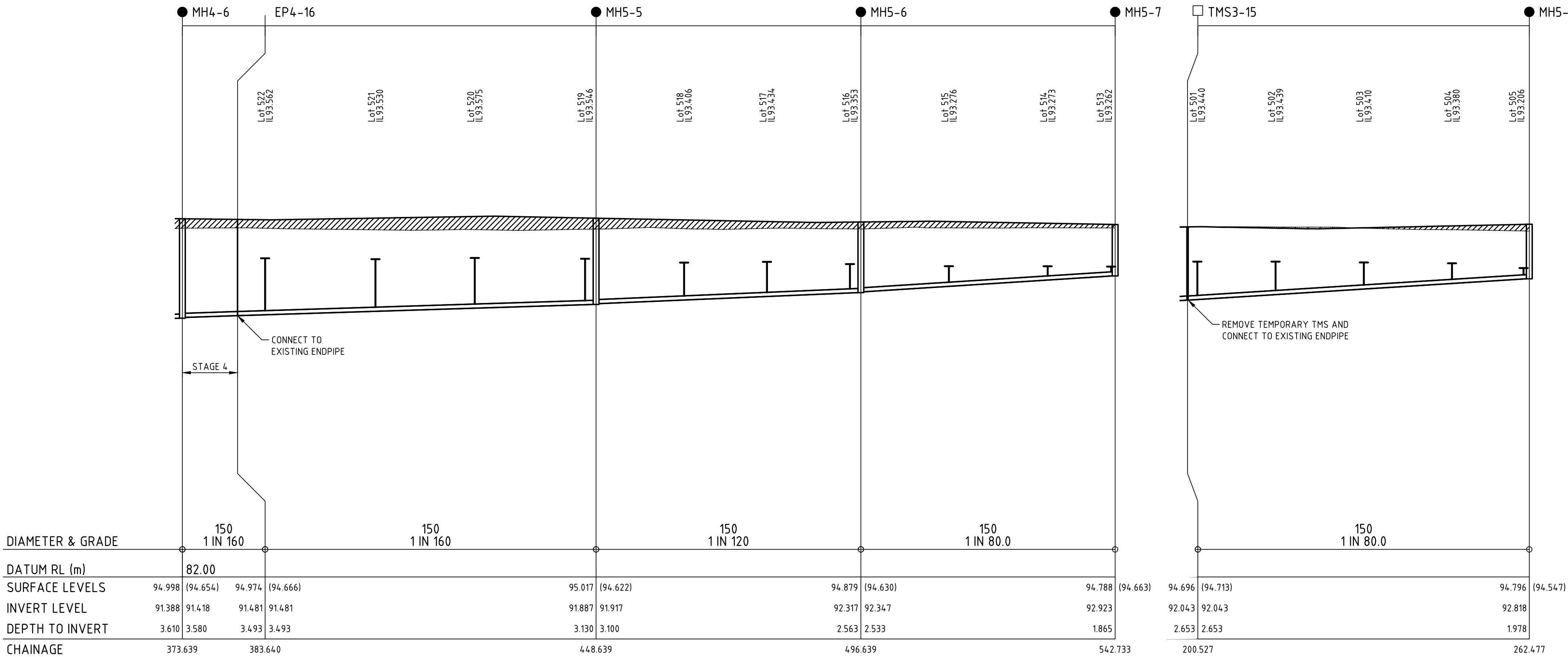
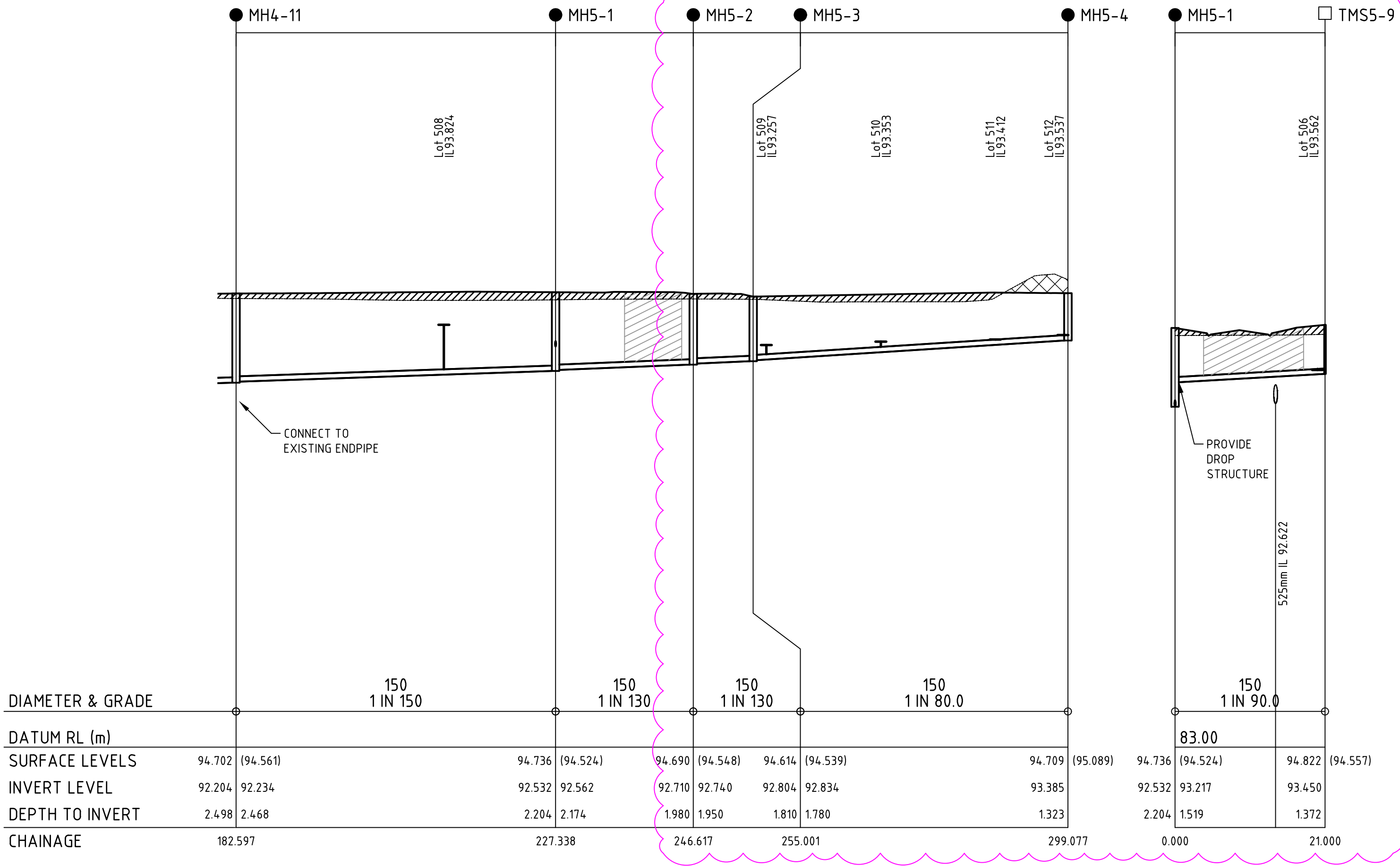
Checked
B.IBBS
Date
OCT 2024

MAIDENS GREEN
STAGE 5
HYDRAULICS - SEWER & WATER
SEWER LAYOUT PLAN
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No 310338CC502

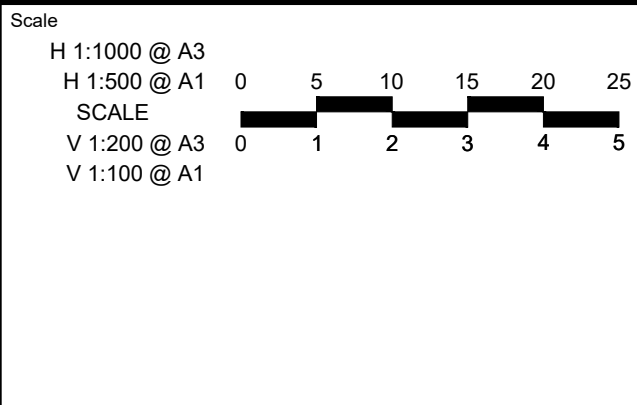
Rev 2

file name: 310338CC530.dwg, layout name: CC530, plotted by: Doreen Sheehan, file location: \\spire\bandra\data\310338\murray\A3.dwg, plot date: 12/02/2024, 12:05 PM, Sheet 21 of 21, Sheets



LEGEND	
	PROPOSED CUT
	PROPOSED FILL
	CRUSHED ROCK BACKFILL (CRB)

Rev	Amendments	Approved	Date
2	ISSUED FOR TENDER	J.F	12/12/24
1	AMENDED ROAD RESERVE BOUNDARIES & DRAINAGE PIT LOCATIONS	J.F	10/10/24
B	ISSUED FOR TENDER	J.F	11/06/24
A	ISSUED FOR APPROVAL	J.F	JUL 2023



Designed D.SHEEHAN	Checked B.IBBS
Authorised J.FEHRING	Date OCT 2024

MAIDENS GREEN
STAGE 5
HYDRAULICS - SEWER PROFILES
SHEET 1
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

TENDER Drg No **310338CC530** Rev **2**