

MAIDENS GREEN STAGE 2 CONSTRUCTION CERTIFICATE KIELY ROAD PROJECTS PTY LTD

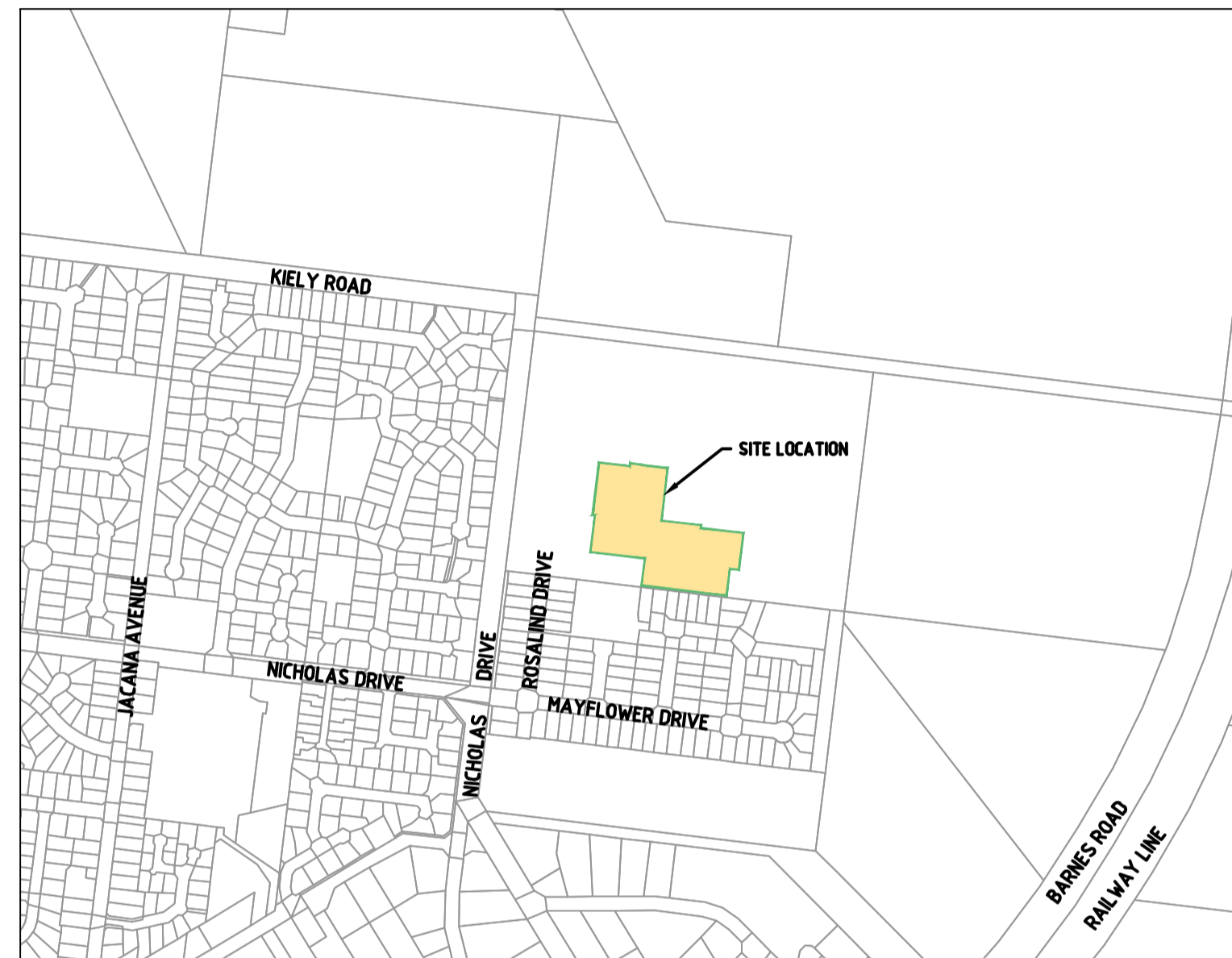
GENERAL NOTES

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 IN 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 1.5 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.

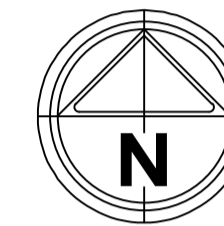
B. ROAD WORKS

- 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. "309095CC030" ARE TO BE CONSTRUCTED BY EACH LANDOWNER AT A LATER DATE.



LOCALITY PLAN

NOT TO SCALE



MGA 2020
ZONE 55

LEGEND

DESCRIPTION	EXISTING	PROPOSED
FILTERED WATER MAIN, VALVE AND HYDRANT	DW	DW
RAW WATER	NDW	NDW
IRRIGATION WATER	W	W
UNDERGROUND ELECTRICITY	E	E
OVERHEAD ELECTRICITY & POLE	OE	OE
TELECOMMUNICATIONS & SERVICE PIT	T	T
GAS MAIN	G	G
SEWER & MANHOLE	S	S
SEWER RISING MAIN	SRM	SRM
COUNCIL STORMWATER DRAIN & PIT		
COUNCIL STORMWATER PITS		
STORMWATER DRAINAGE PIT NUMBER	1	1
GAS & WATER CONDUITS		
VEHICLE CROSSING		
SURFACE CONTOUR MINOR	168.90	168.90
SURFACE CONTOUR MAJOR	169.00	169.00
SURFACE LEVEL	E123.45	F124.68
BATTER LEVEL (TOP / TOE)	T124.80	T124.80
EARTHWORKS GRADE		1 in 150
SIGN AND POST		
LIGHT & POLE (BY OTHERS)		
STREET SIGN		
PERMANENT SURVEY MARK		
TEMPORARY BENCH MARK		
BOLLARD		
ROAD CHAINAGES	CH116.57 (L/R)TIP CH116.57	CH116.57 (L/R)TIP CH116.57
LOT CHAINAGE	CH20.06	CH20.06
SETOUT POINT		A2
LIMIT OF WORKS		
EARTHWORK - FILL GREATER THAN 200mm		
EARTHWORK - CUT 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		



WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES

THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

SERVICE LOCATION TABLE

ROAD NAME	FILTERED WATER		RAW WATER		IRRIGATION WATER		GAS		NBN (TELECOM)		ELECTRICITY			
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	POLE		U/G CABLE	
											SIDE	OFFSET	SIDE	OFFSET
EMERALD AVENUE	S	2.12	S	2.55	-	-	S	2.95	N	1.0	N	1.0x	N	0.4.0
EMERALD AVENUE (LOT 201-204)	S	2.12	S	2.52	S	2.92	S	3.30	N	1.0	N	1.0x	N	0.4.0
PRINCES WAY	W	2.15	W	2.55	-	-	W	2.95	E	1.0	E	1.0x	E	0.4.0
CENTENNIAL STREET	E	2.15	E	2.55	-	-	E	2.95	W	1.0	W	1.0x	W	0.4.0

- 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

file name: 309095CC001.dwg, layout name: EC001, plotted by: Doreen Sheehan, file location: G:\309095\EC001\A3.dwg, plot date: 09/08/2022, 9:41 AM, Sheet 1 of 20 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22



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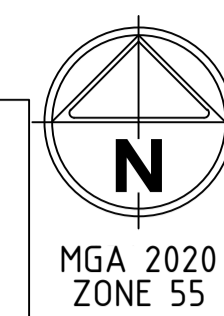
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
spiire.com.au ABN 55 050 029 635

Designed
D.SHEEHAN
Authorised
C.CLARKE

Checked
B.IBBS
Date
MAR 2022

**MAIDENS GREEN
STAGE 2
COVER SHEET
FACESHEET**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No **309095CC001** Rev **0**



DRAWING SCHEDULE

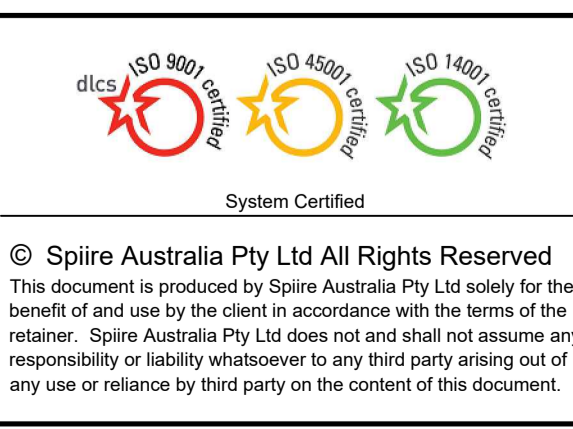
DRAWING	DESCRIPTION	SHEET No.	REVISION
CC001	COVER SHEET - FACESHEET	1	0
CC002	DRAWING SCHEDULE	2	0
CC005	GENERAL ARRANGEMENT PLAN - TYPICAL DETAILS AND SECTIONS	3	0
CC025	STAGING PLAN	4	0
CC030	ROAD LAYOUT PLAN - SHEET 1 OF 2	5	0
CC100	ROAD LONGITUDINAL SECTIONS - SHEET 1 OF 2	6	0
CC101	ROAD LONGITUDINAL SECTIONS - SHEET 2 OF 2	7	0
CC140	ROAD CROSS SECTIONS - SHEET 1 OF 4	8	0
CC141	ROAD CROSS SECTIONS - SHEET 2 OF 4	9	0
CC142	ROAD CROSS SECTIONS - SHEET 3 OF 4	10	0
CC143	ROAD CROSS SECTIONS - SHEET 4 OF 4	11	0
CC270	INTERSECTION DETAILS - EMERALD DRIVE-PRINCES WAY & CENTENNIAL STREET	12	0
CC400	HYDRAULICS - NOTES & LEGEND - DRAINAGE, SEWER & WATER NOTES	13	0
CC430	HYDRAULICS - DRAINAGE PROFILES - DRAINAGE LONGITUDINAL SECTIONS	14	0
CC431	HYDRAULICS - DRAINAGE PROFILES - DRAINAGE LONGITUDINAL SECTIONS	15	0
CC431	HYDRAULICS - DRAINAGE PROFILES - DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE	16	0
CC500	HYDRAULICS - SEWER & WATER - WATER LAYOUT PLAN	17	0
CC501	HYDRAULICS - SEWER & WATER - WATER DETAILS	18	0
CC502	HYDRAULICS - SEWER & WATER - SEWER LAYOUT PLAN	19	0
CC530	HYDRAULICS - SEWER PROFILES	20	0



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A	ISSUED FOR APPROVAL	J.F	09/03/22

Scale



Designed D.SHEEHAN	Checked B.IBBS
Authorised C.CLARKE	Date MAR 2022

**MAIDENS GREEN
 STAGE 2
 DRAWING SCHEDULE**

MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No **309095CC002** Rev **0**

DESIGN PAVEMENT PROFILE

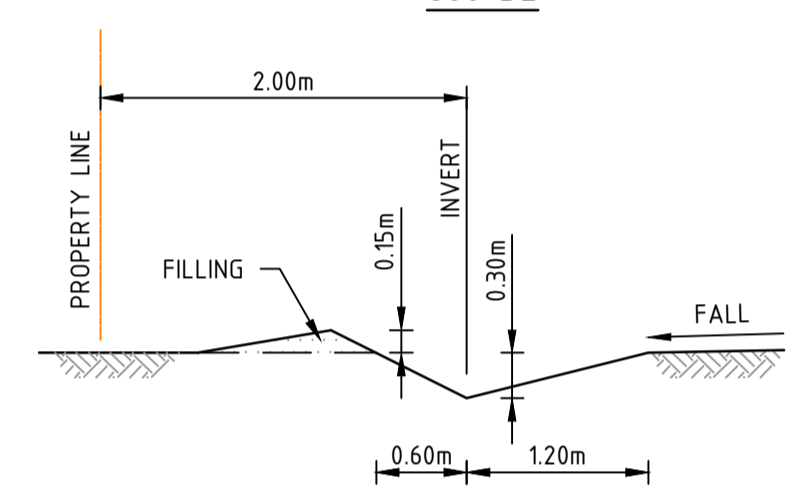
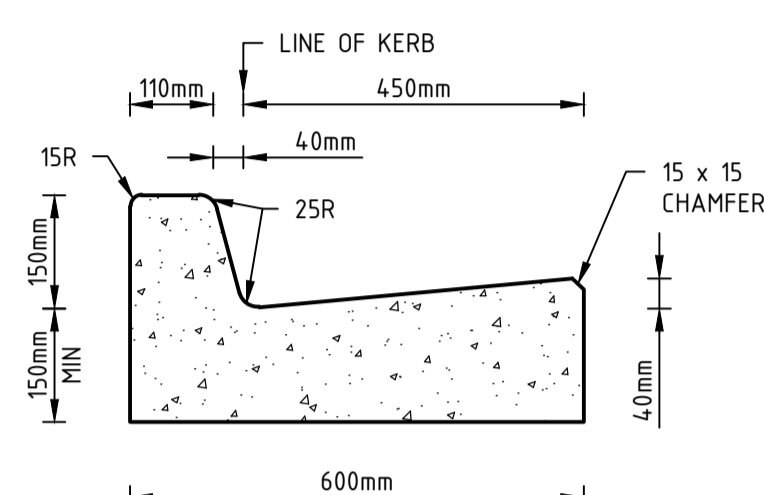
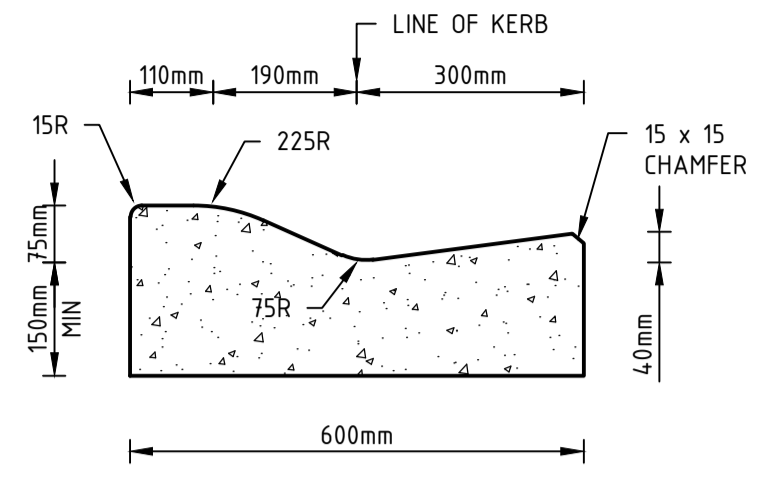
PAVEMENT LAYER	DESCRIPTION	DEPTH (mm)
		TYPE A
WEARING COURSE	SIZE 10 TYPE N ASPHALT, WITH PRIME	40
BASE COURSE	CLASS 1 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MMD)	160
SUBBASE COURSE	CLASS 3 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MMD)	140
GEOFABRIC	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

PAVEMENT DETAILS

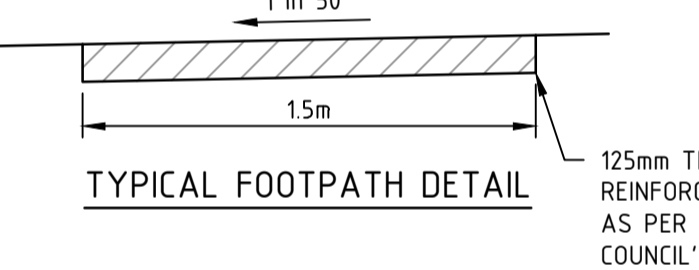
THE PAVEMENT DESIGNS SHOWN HERE HAVE BEEN PROVIDED BY MURRAY RIVER COUNCIL. SPIIRE DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THE GEOTECHNICAL WORK AND PAVEMENT DESIGNS. ANY QUERIES IN RESPECT TO THE PAVEMENT DESIGNS SHOULD BE ADDRESSED TO MURRAY RIVER COUNCIL AND COPIED TO SPIIRE.

GENERAL NOTES:

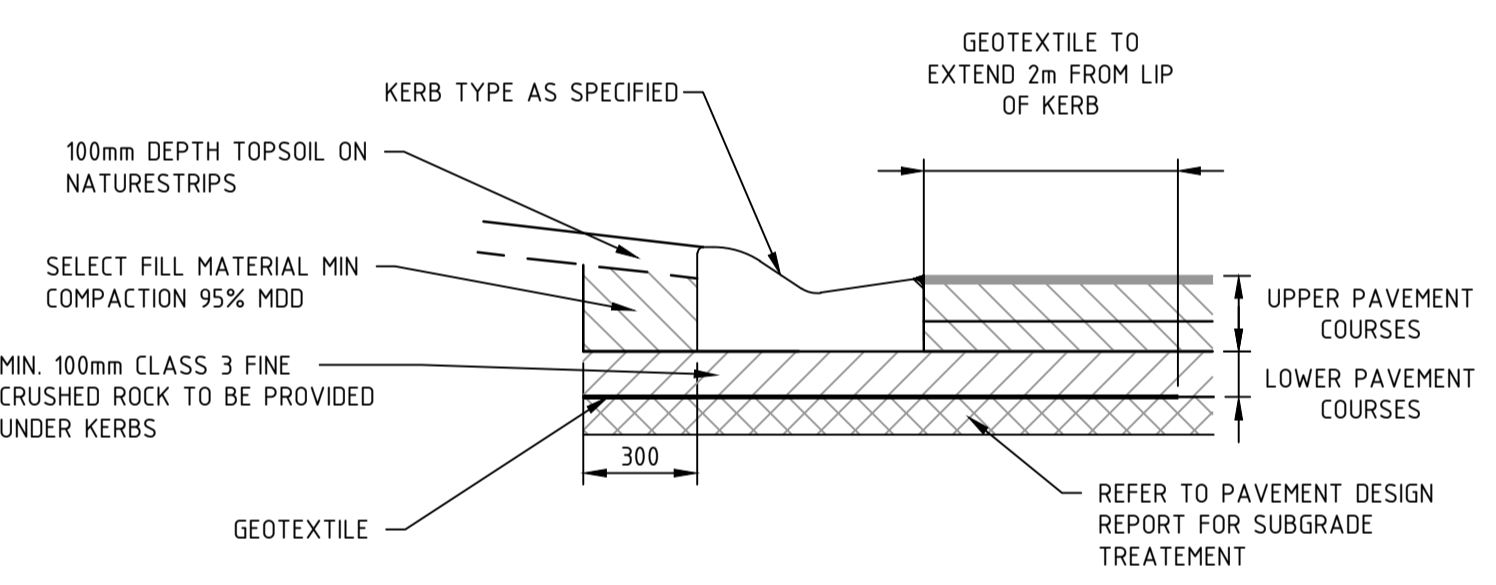
1. ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AND CCAA LITERATURE.
2. ALL CONCRETE TO BE MINIMUM 25MPa COMPRESSIVE STRENGTH
3. CONCRETE TO BE THOROUGHLY COMPACTED USING EITHER SURFACE AND/OR IMMERSION VIBRATORS, PARTICULARLY AROUND REINFORCEMENT AND IN CORNERS OF FORMS.
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.



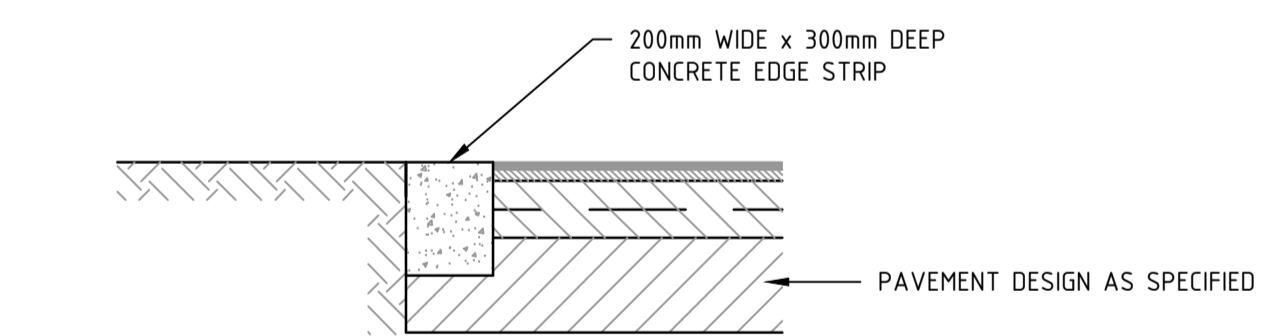
TYPICAL CATCH DRAIN SECTION



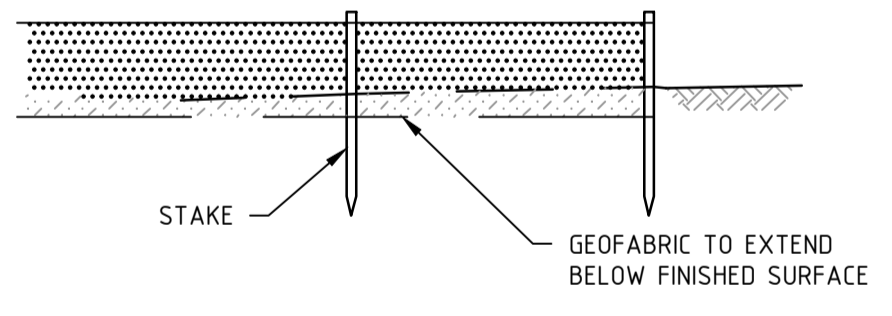
TYPICAL FOOTPATH DETAIL



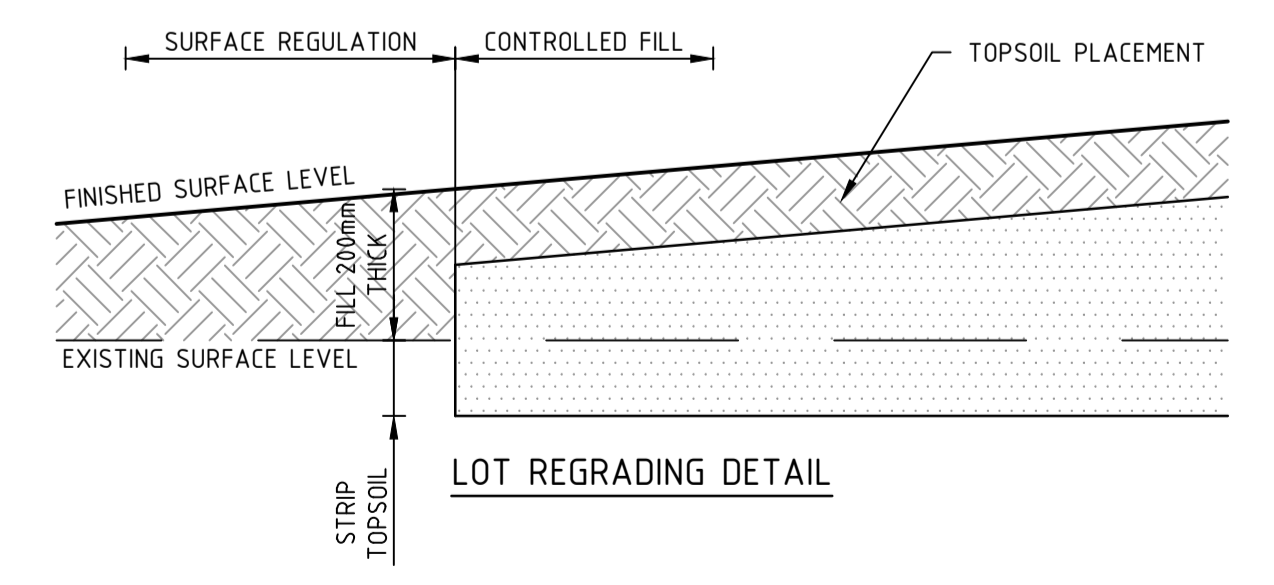
TYPICAL PAVEMENT DETAIL



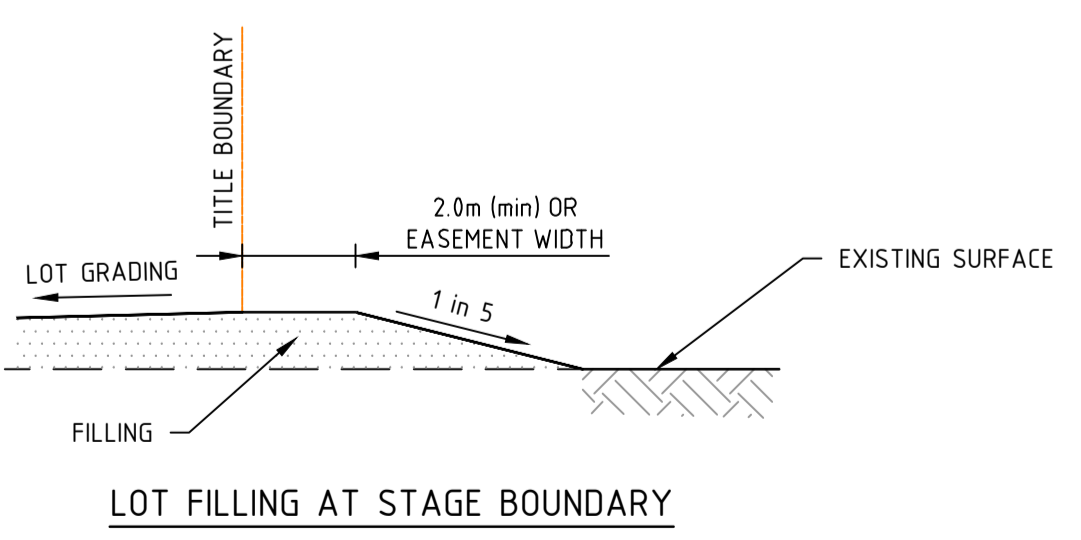
LIMIT OF WORKS CONCRETE EDGE STRIP & PAVEMENT INTERFACE DETAIL



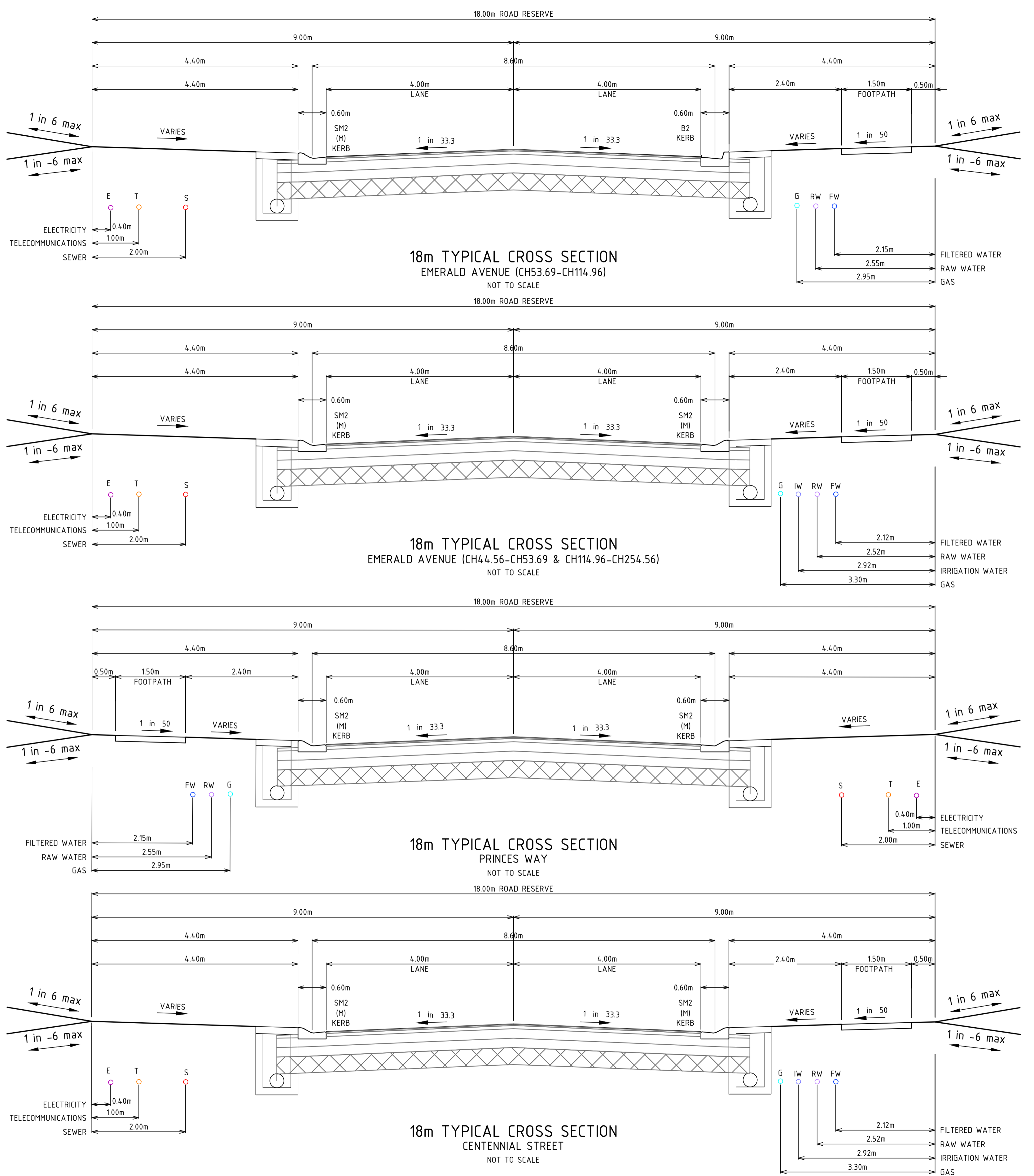
SILT CONTROL FOR LOTS



LOT REGRADING DETAIL



LOT FILLING AT STAGE BOUNDARY



18m TYPICAL CROSS SECTION
EMERALD AVENUE (CH53.69-CH114.96)
NOT TO SCALE

18m TYPICAL CROSS SECTION
EMERALD AVENUE (CH44.56-CH53.69 & CH114.96-CH254.56)
NOT TO SCALE

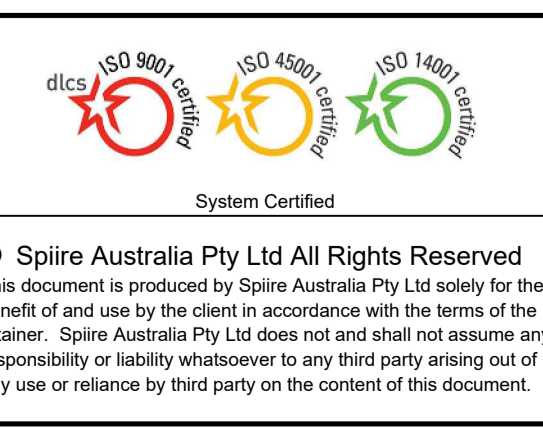
18m TYPICAL CROSS SECTION
PRINCES WAY
NOT TO SCALE

18m TYPICAL CROSS SECTION
CENTENNIAL STREET
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Rev	Amendments	Approved	Date
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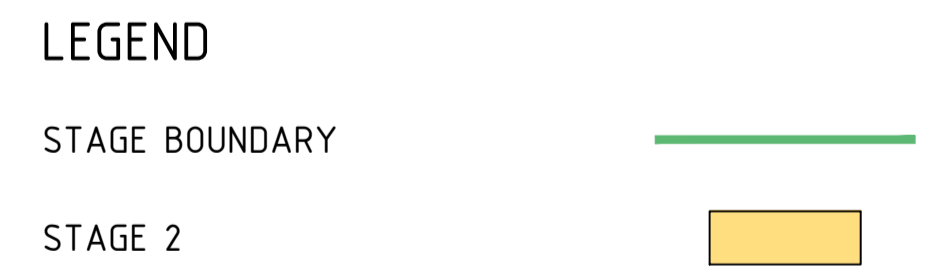


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Authorised C.CLARKE	Date MAR 2022

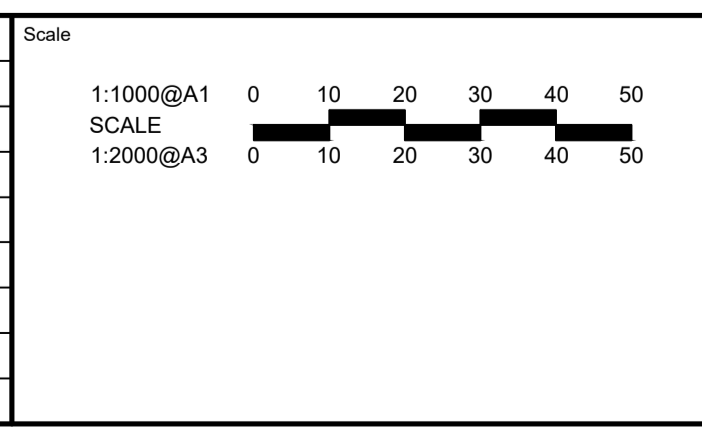
MAIDENS GREEN STAGE 2
GENERAL ARRANGEMENT PLAN
TYPICAL DETAILS AND SECTIONS
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 309095CC005 **0**



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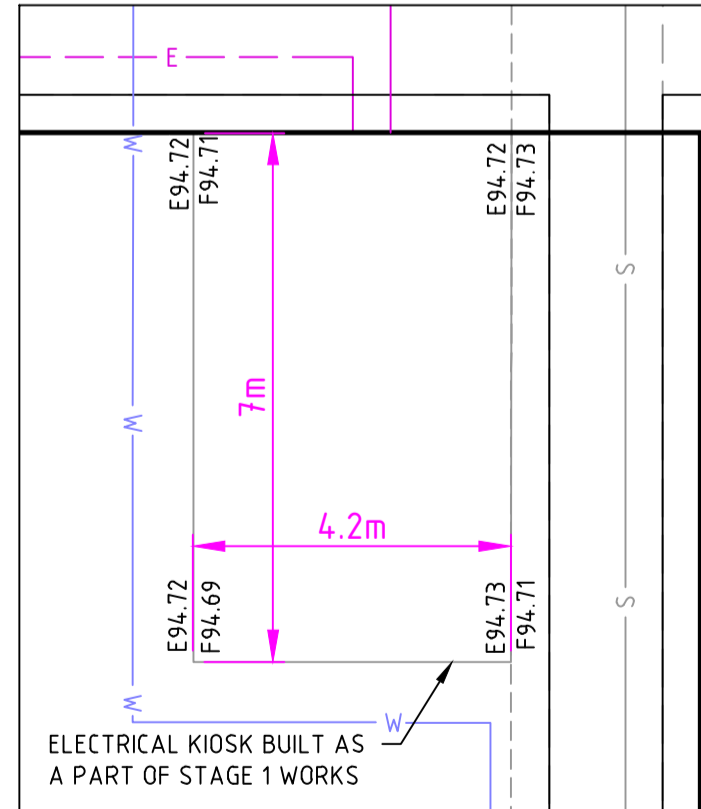
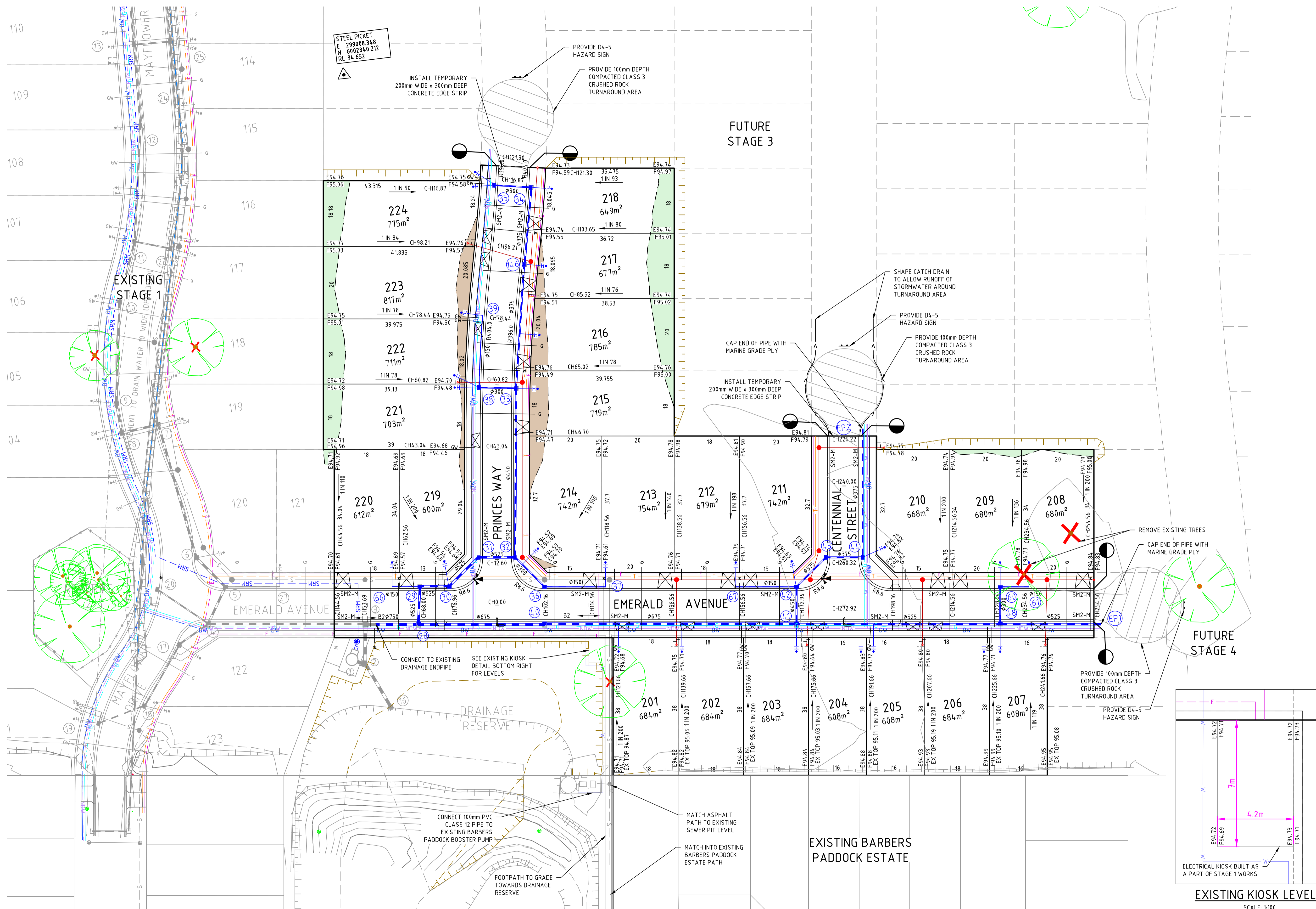
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**MAIDENS GREEN
STAGE 2
STAGING PLAN**

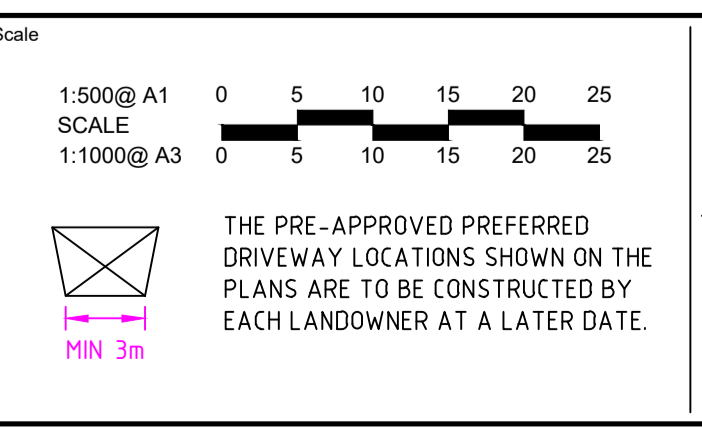
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CONSTRUCTION Dwg No 309095CC025 Rev 0



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Authorised C.CLARKE	Date MAR 2022

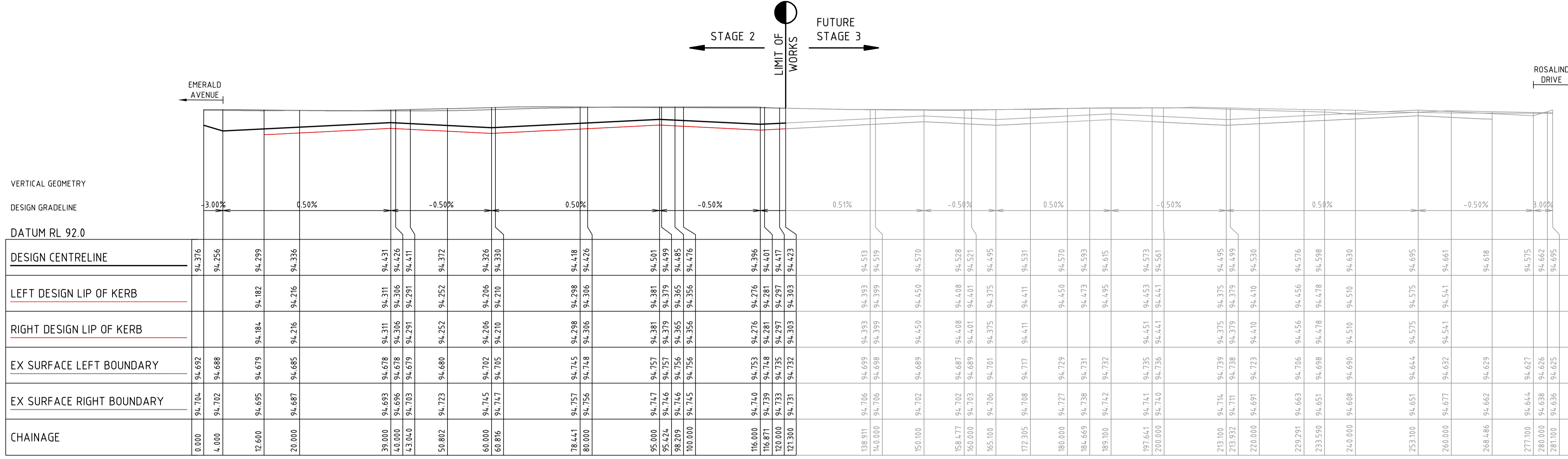
**MAIDENS GREEN
STAGE 2
ROAD LAYOUT PLAN**

MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

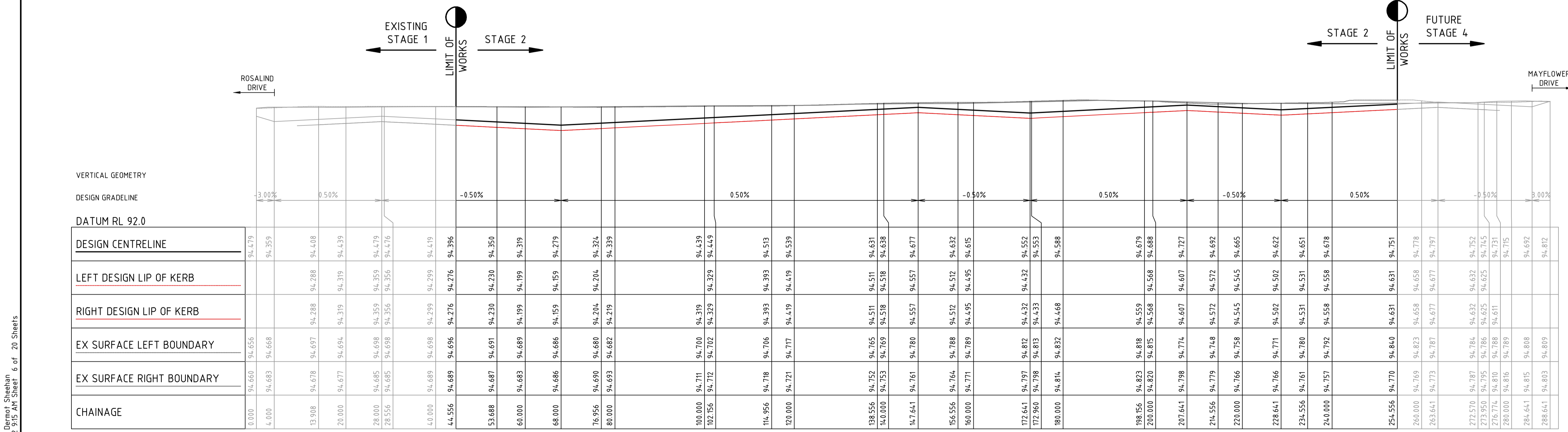
CONSTRUCTION 309095CC030

Rev **0**

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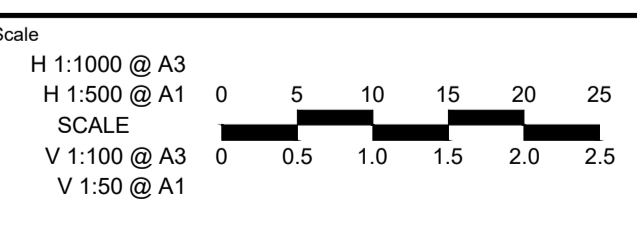


PRINCES WAY



EMERALD AVENUE

0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22
Rev	Amendments	Approved	Date



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

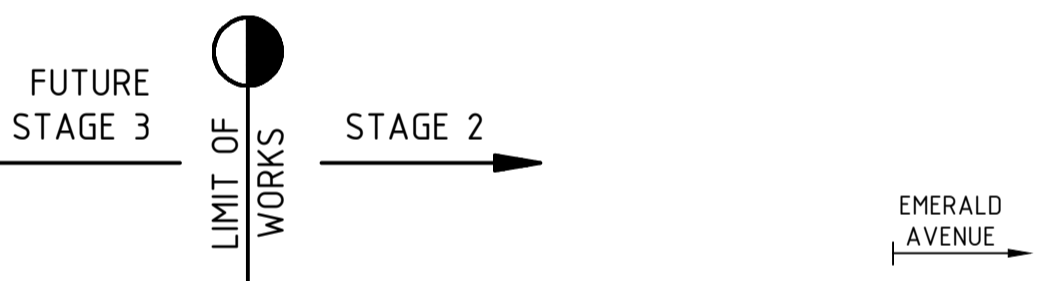
Designed
D.SHEEHAN
Authorised
C.CLARKE
Checked
B.IBBS
Date
MAR 2022

MAIDENS GREEN STAGE 2
ROAD LONGITUDINAL SECTIONS
SHEET 1 OF 2
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD
CONSTRUCTION Drg No 309095CC100 Rev 0

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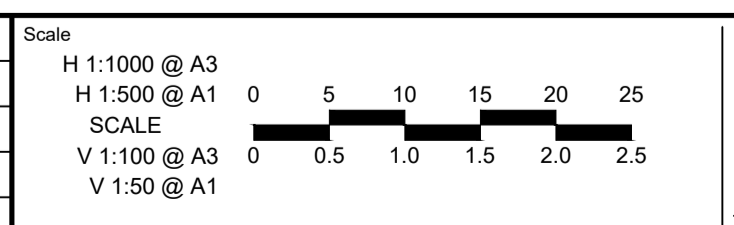
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 DESIGN GRADELINE
 DATUM RL 92.0

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LEFT DESIGN LIP OF KERB																					
RIGHT DESIGN LIP OF KERB																					
EX SURFACE LEFT BOUNDARY																					
EX SURFACE RIGHT BOUNDARY																					
CHAINAGE	126.220	134.220	136.915	140.000	152.220	160.000	170.220	180.000	187.120	188.220	200.000	208.220	212.920	220.000	226.220	233.920	240.000	260.000	260.316	268.920	272.920
		94.431	94.444	94.460	94.521	94.560	94.611	94.660	94.695	94.690	94.631	94.590	94.566	94.602	94.633	94.671	94.641	94.541	94.539	94.496	94.616



CENTENNIAL STREET

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22



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Designed
 D.SHEEHAN

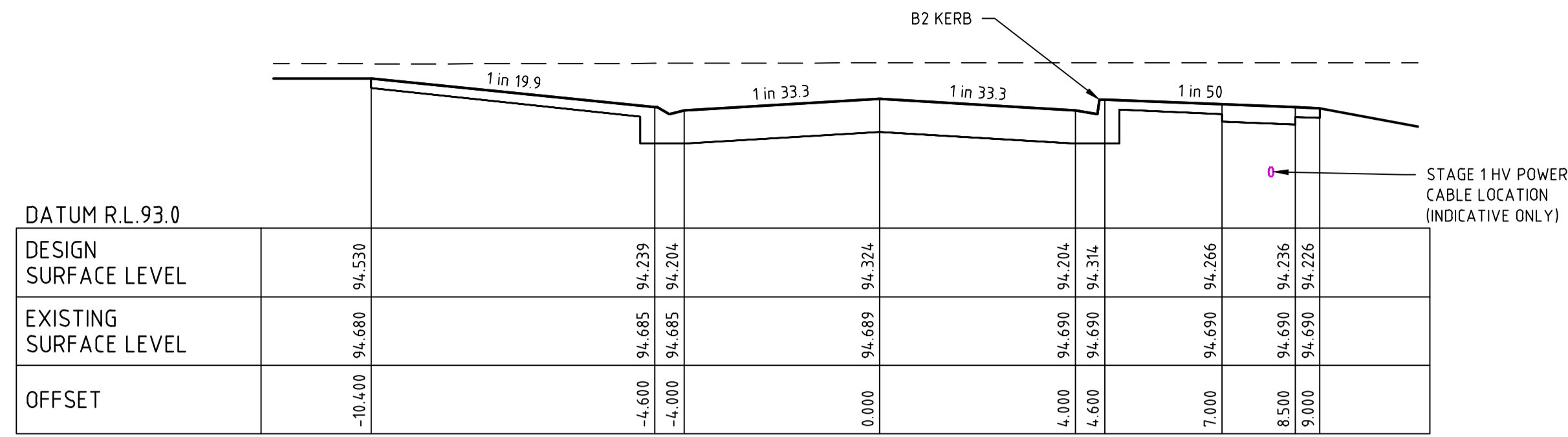
Checked
 B.IBBS

Authorised
 C.CLARKE

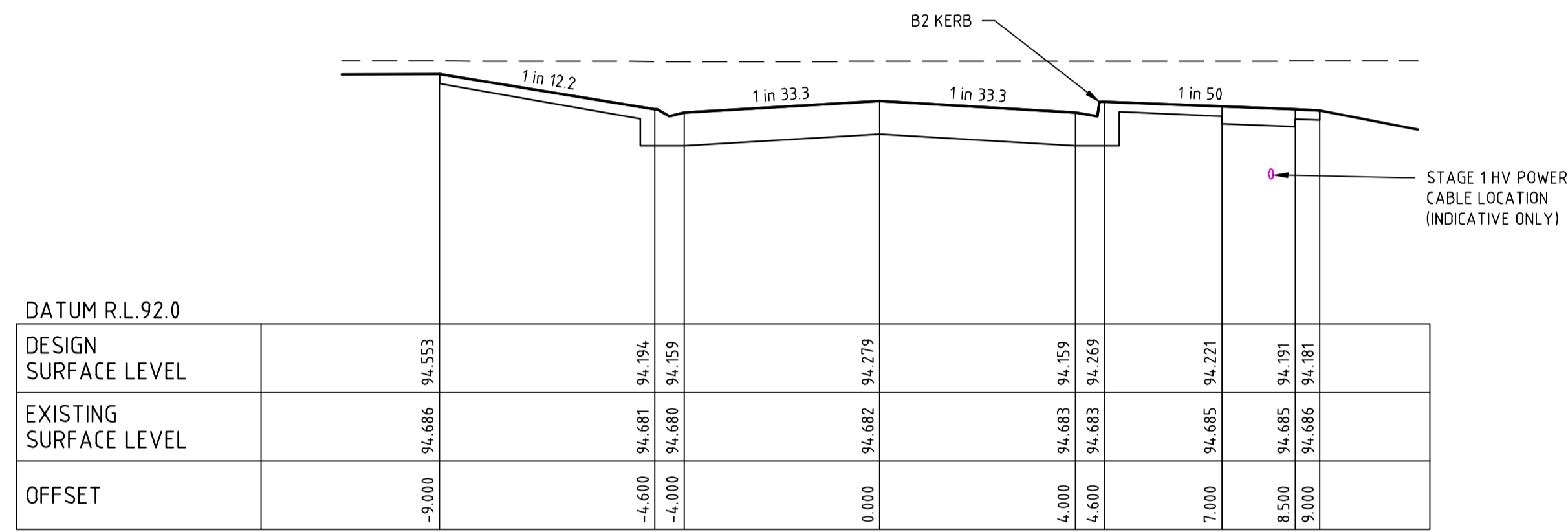
Date
 MAR 2022

MAIDENS GREEN
 STAGE 2
 ROAD LONGITUDINAL SECTIONS
 SHEET 2 OF 2
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

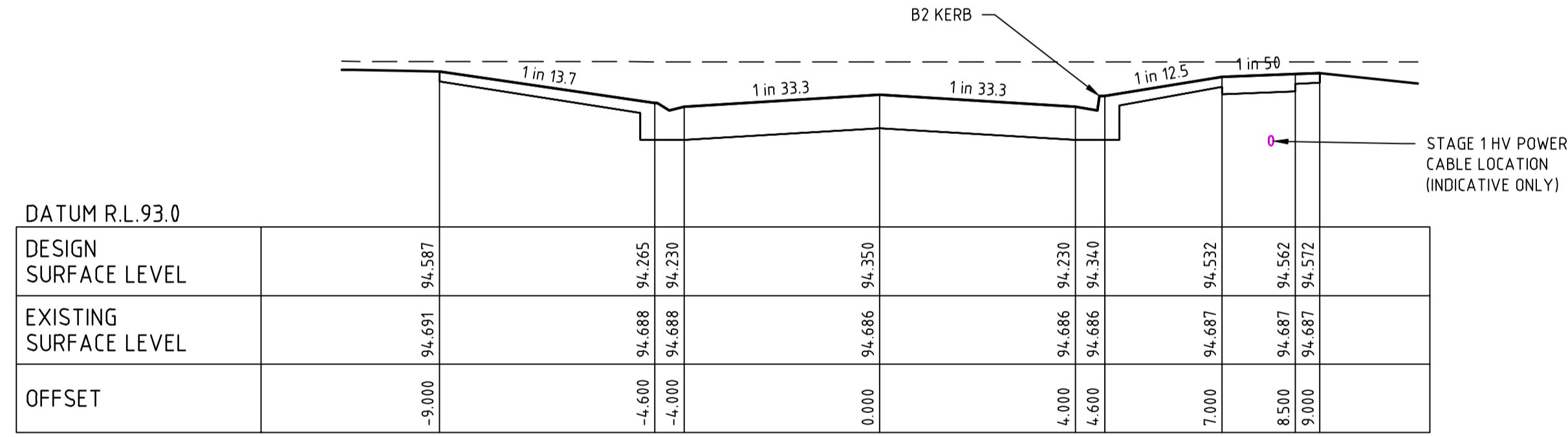
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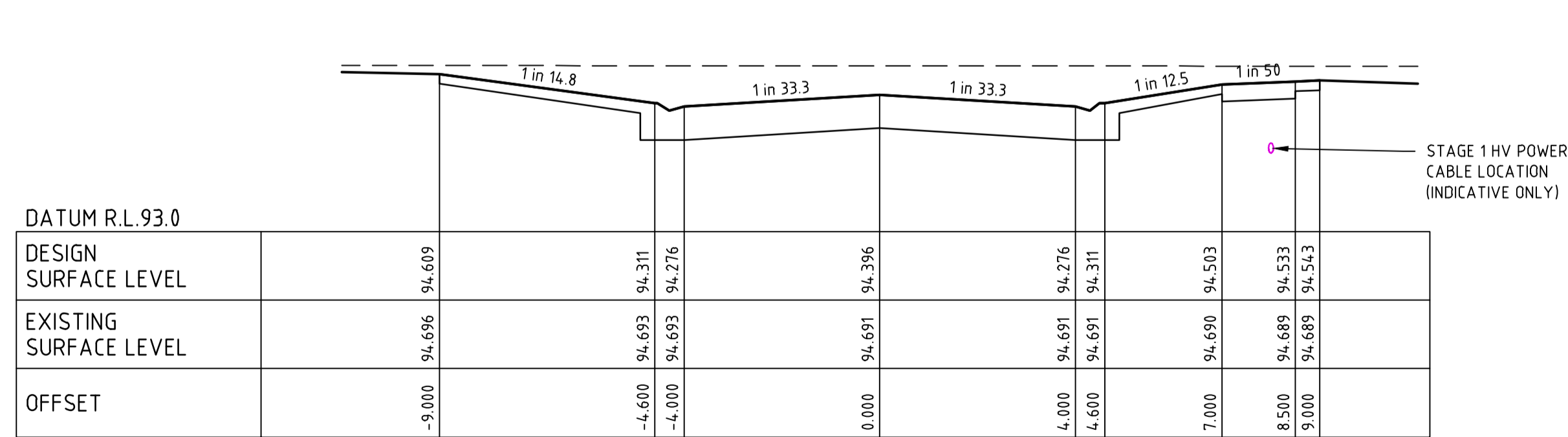
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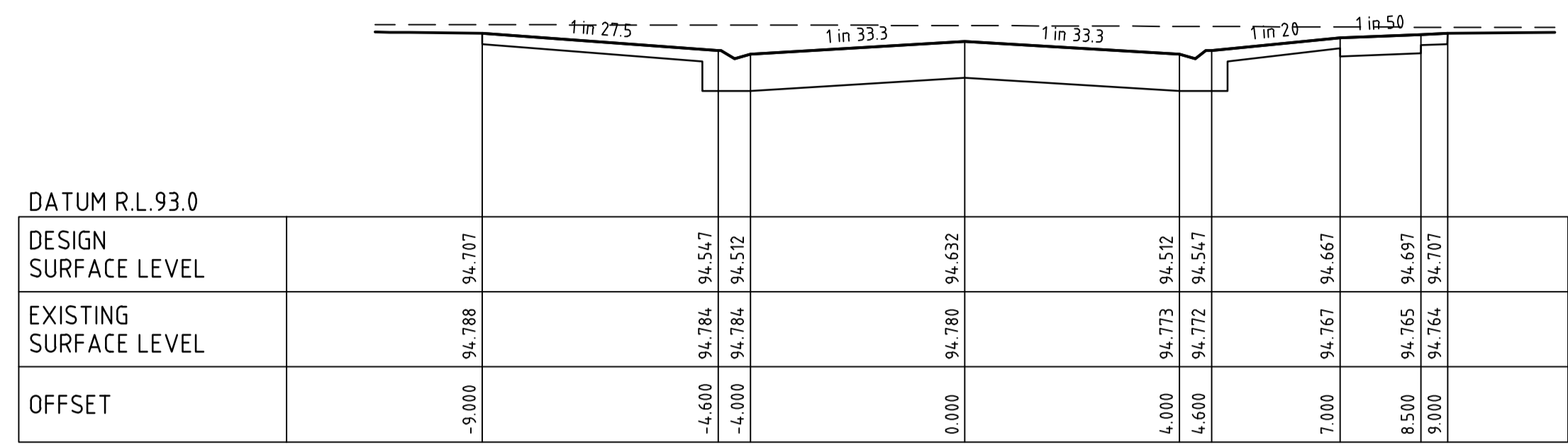
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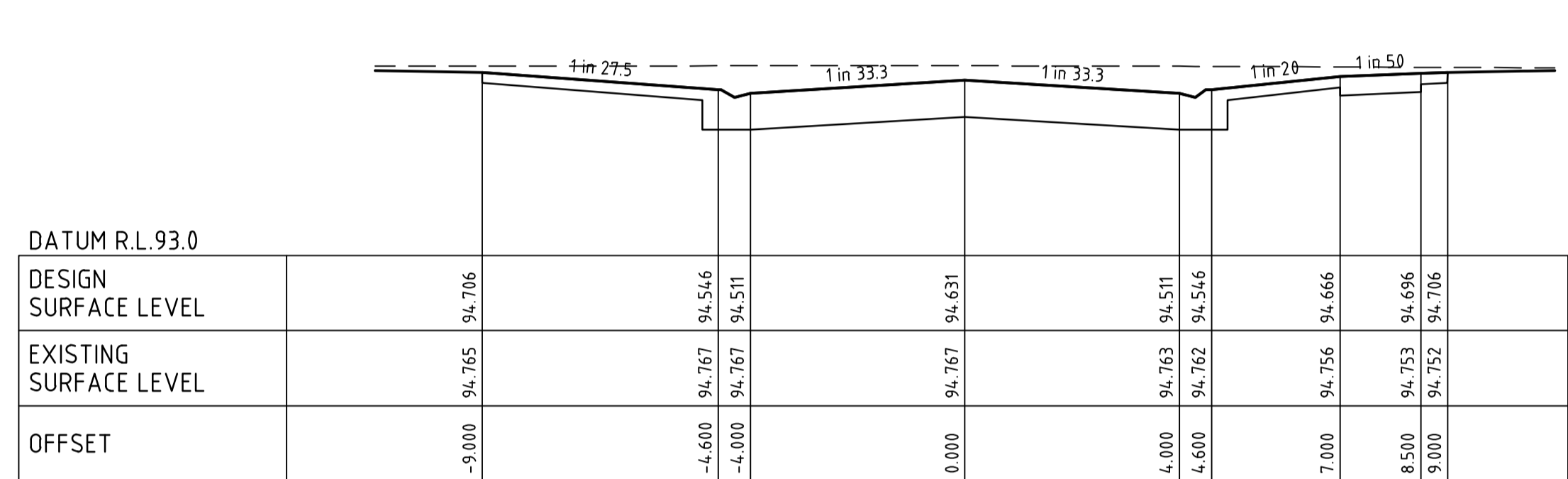
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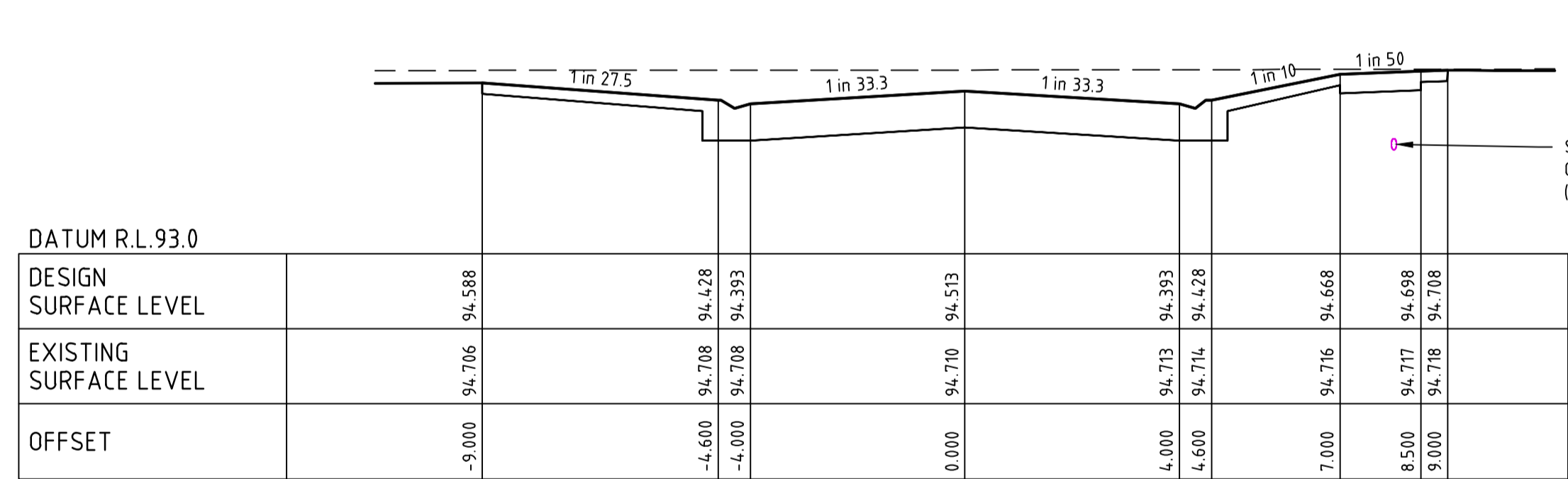
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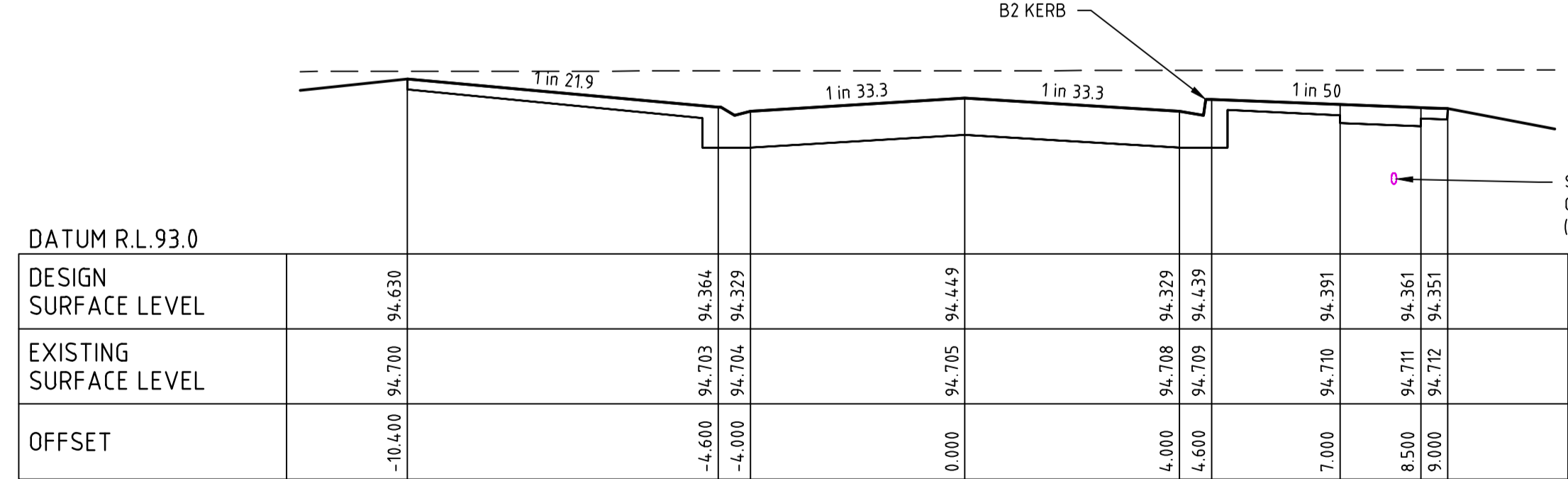
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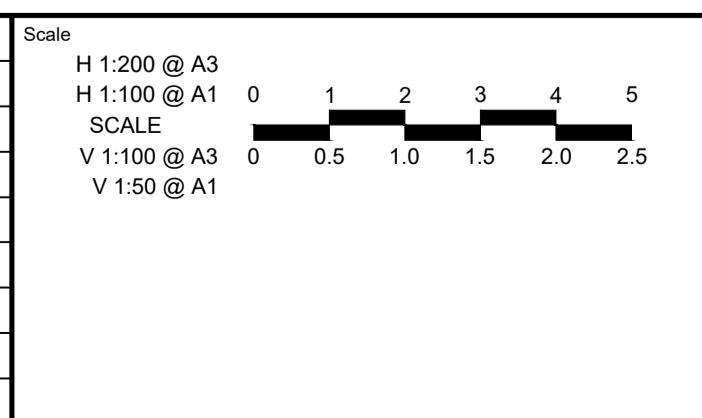
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EMERALD AVENUE CH 102.16

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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
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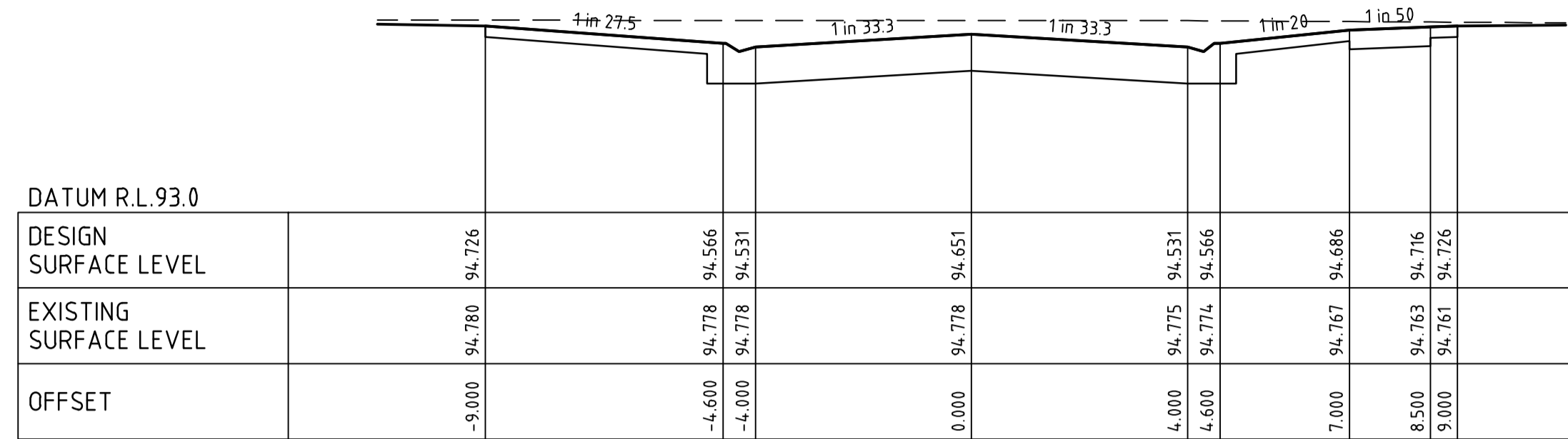
16 BRIDGE STREET BENDIGO
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Designed D.SHEEHAN	Checked B.IBBS
Authorised C.CLARKE	Date MAR 2022

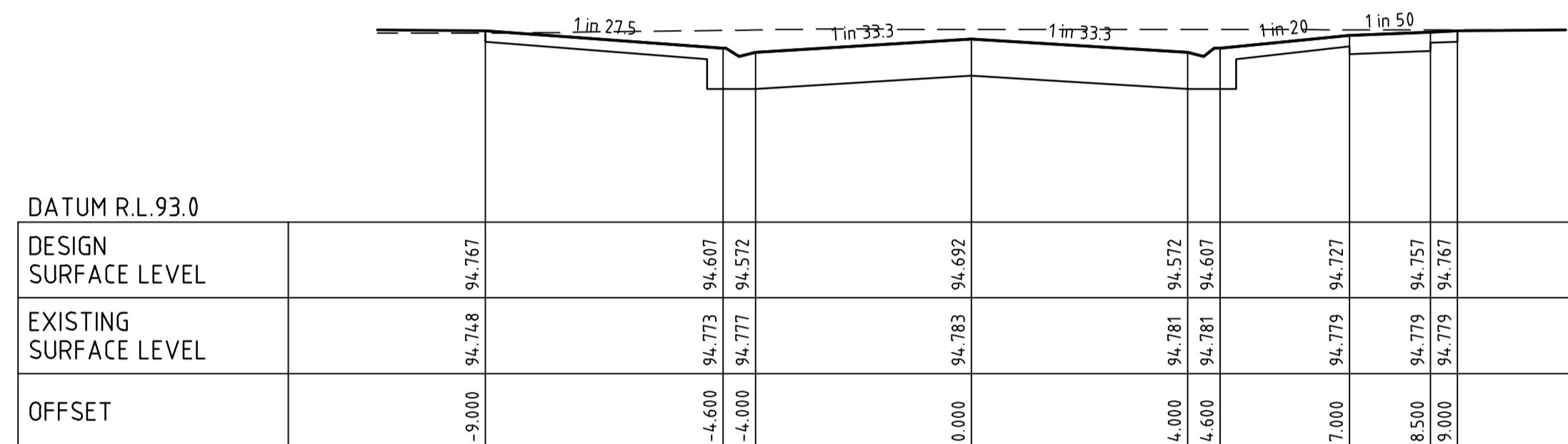
**MAIDENS GREEN
STAGE 2
ROAD CROSS SECTIONS
SHEET 1 OF 4**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No: 309095CC140 Rev: 0

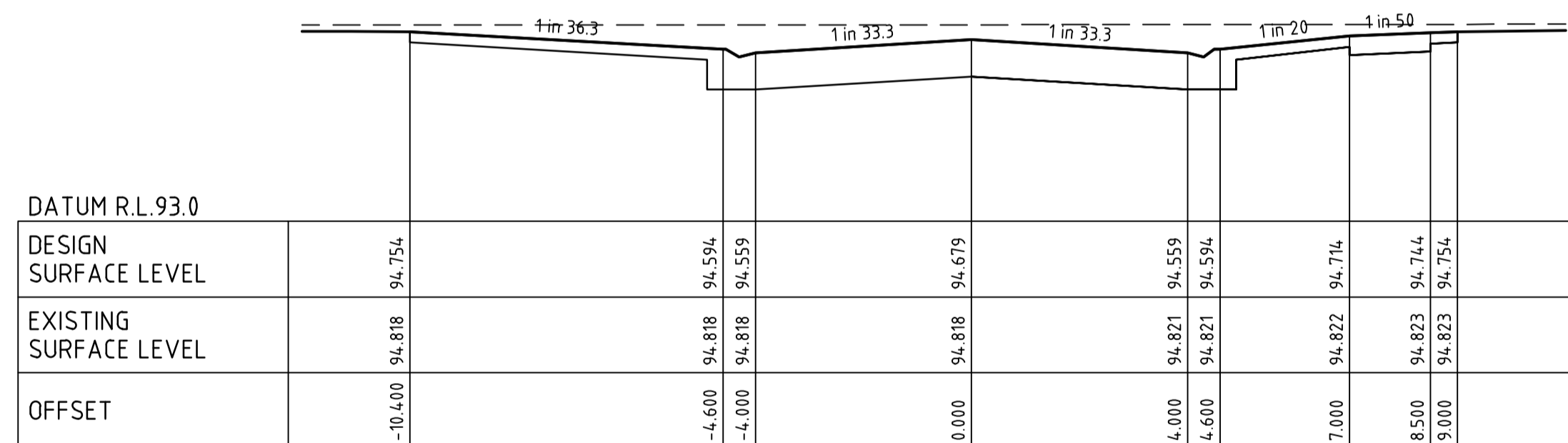
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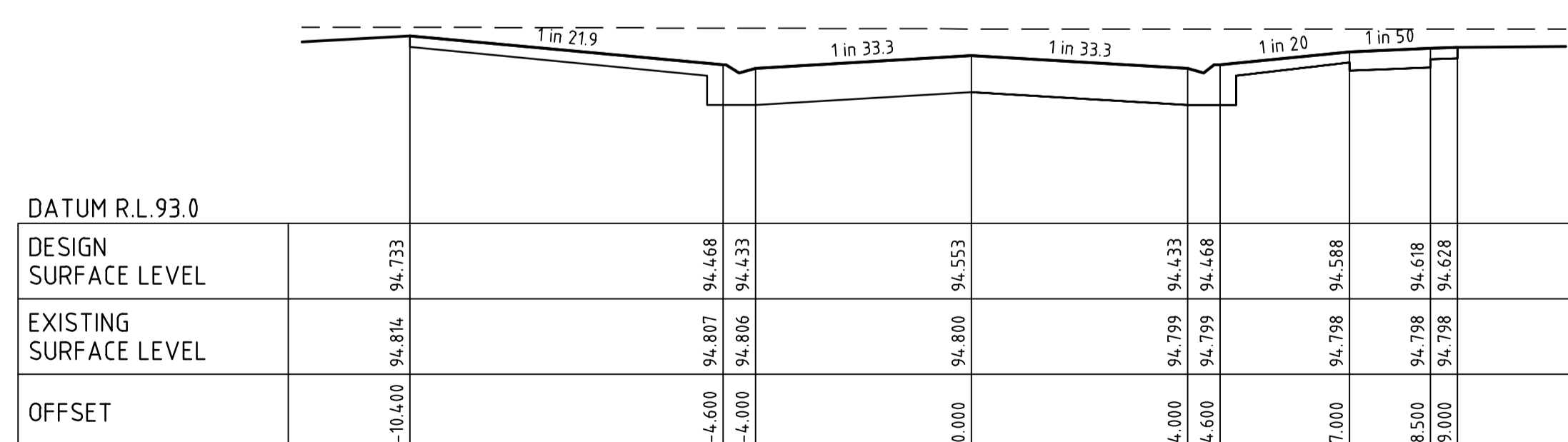
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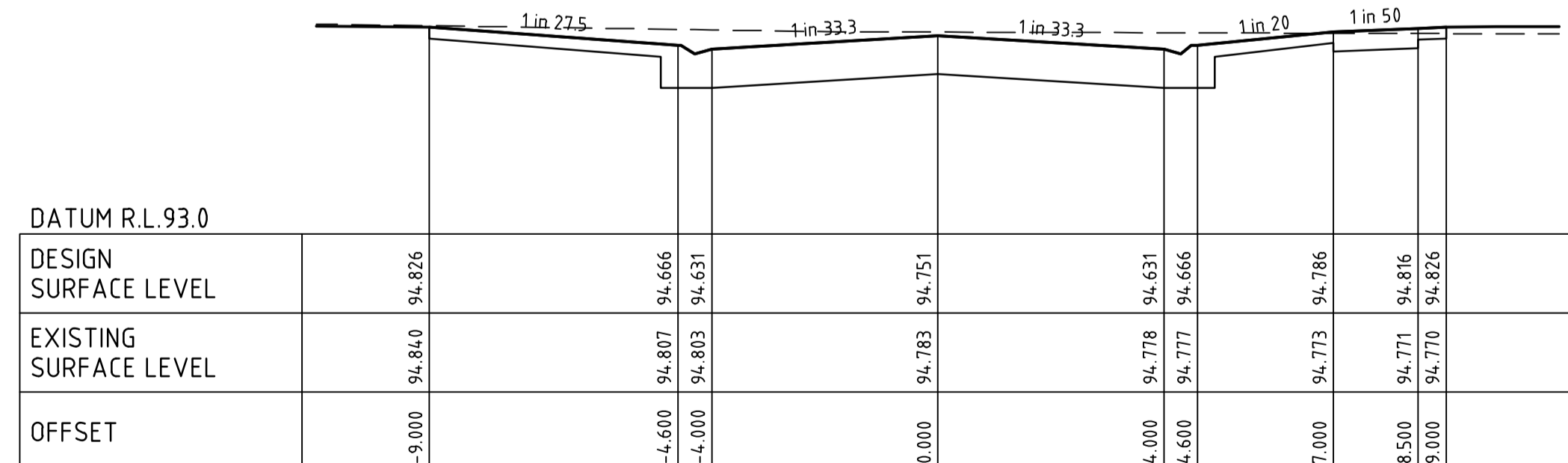
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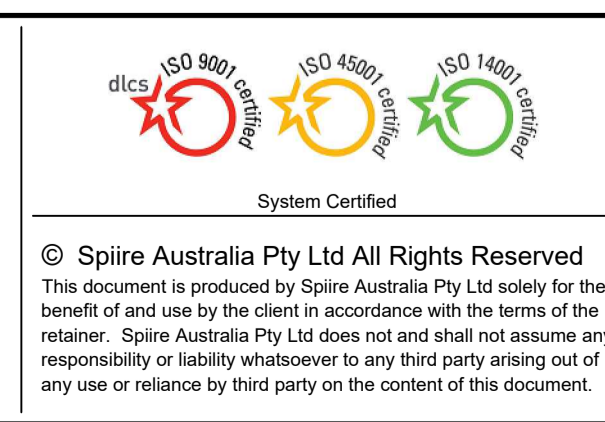
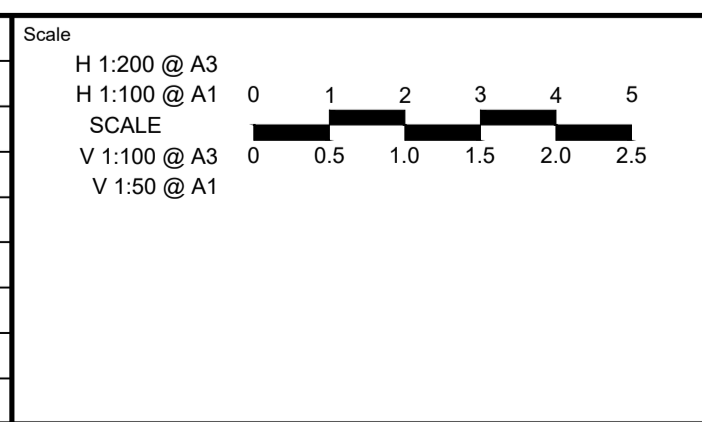


EMERALD AVENUE CH 172.96



EMERALD AVENUE CH 254.56

0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
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A	ISSUED FOR APPROVAL	J.F	09/03/22
Rev	Amendments	Approved	Date

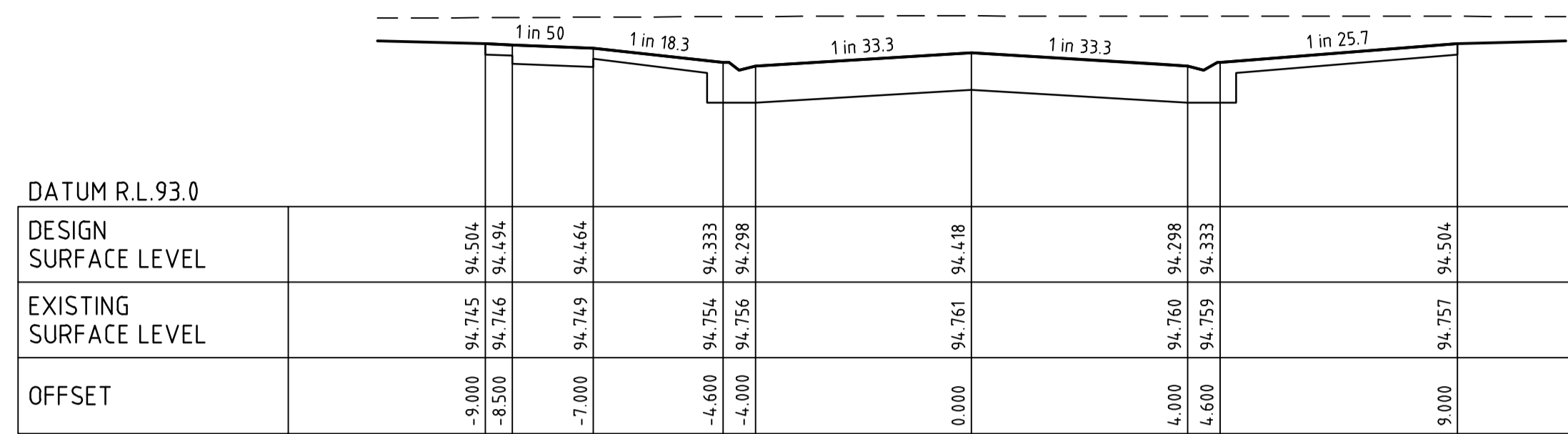


Designed D.SHEEHAN	Checked B.IBBS
Authorised C.CLARKE	Date MAR 2022

**MAIDENS GREEN
STAGE 2
ROAD CROSS SECTIONS
SHEET 2 OF 4**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

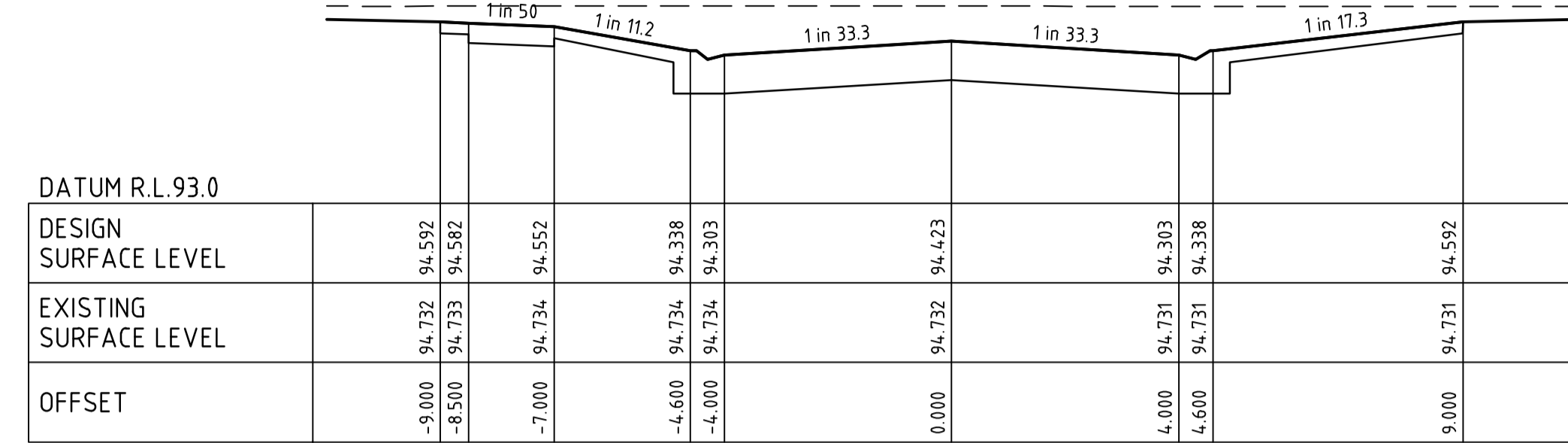
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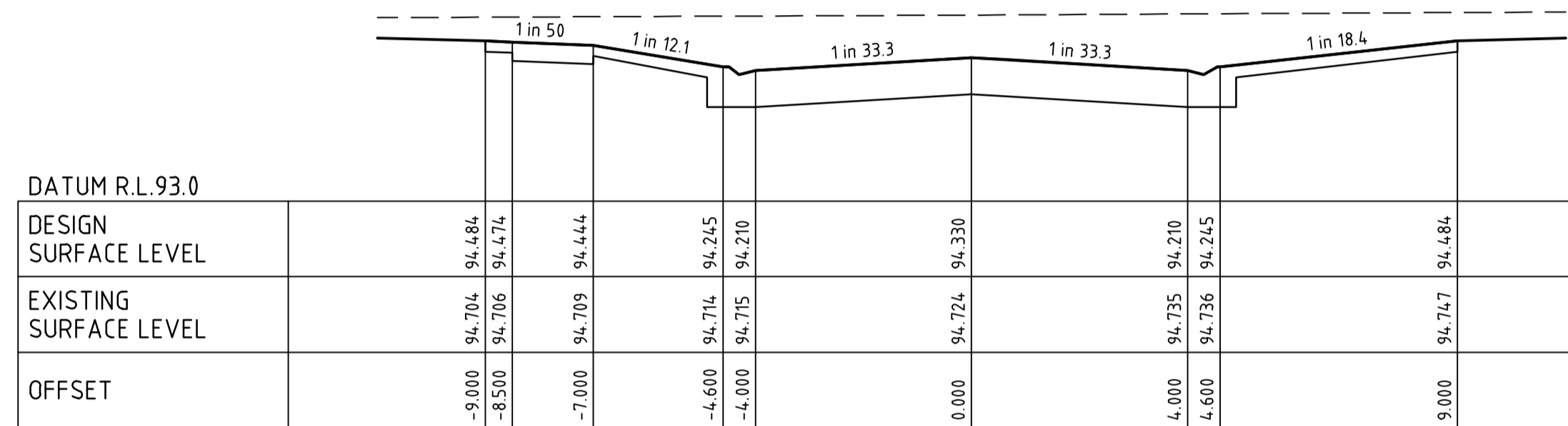
PRINCES WAY

CH 78.44



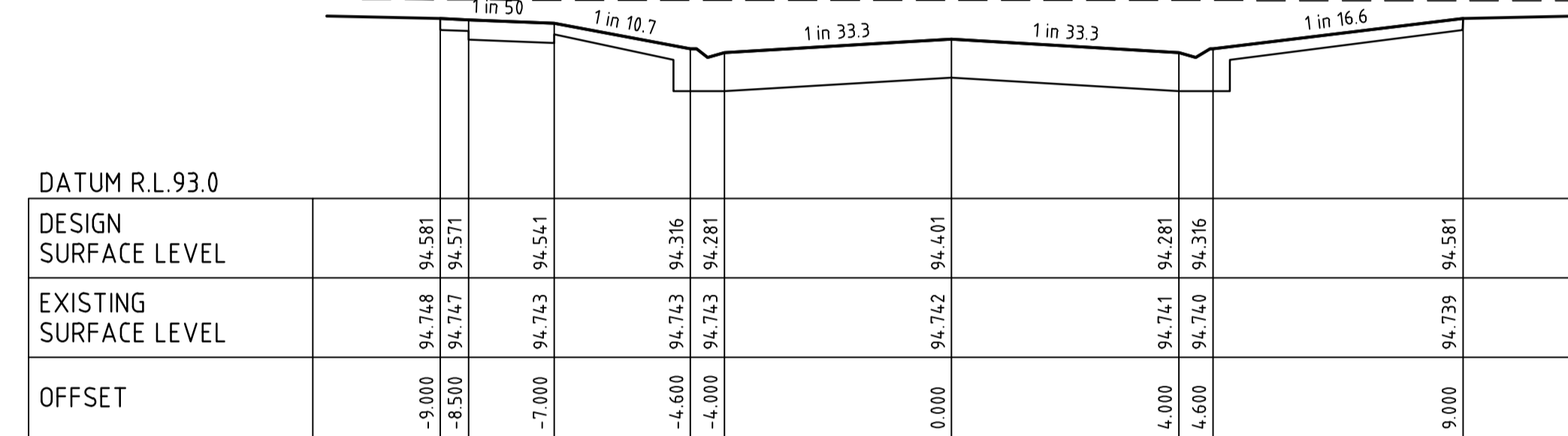
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CH 121.30



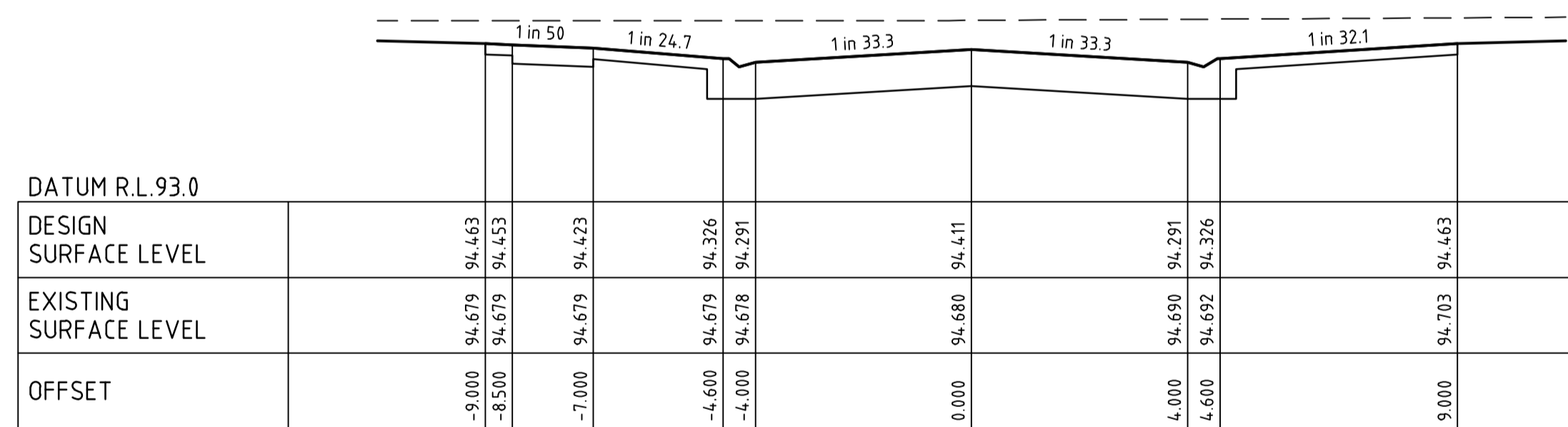
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CH 60.82



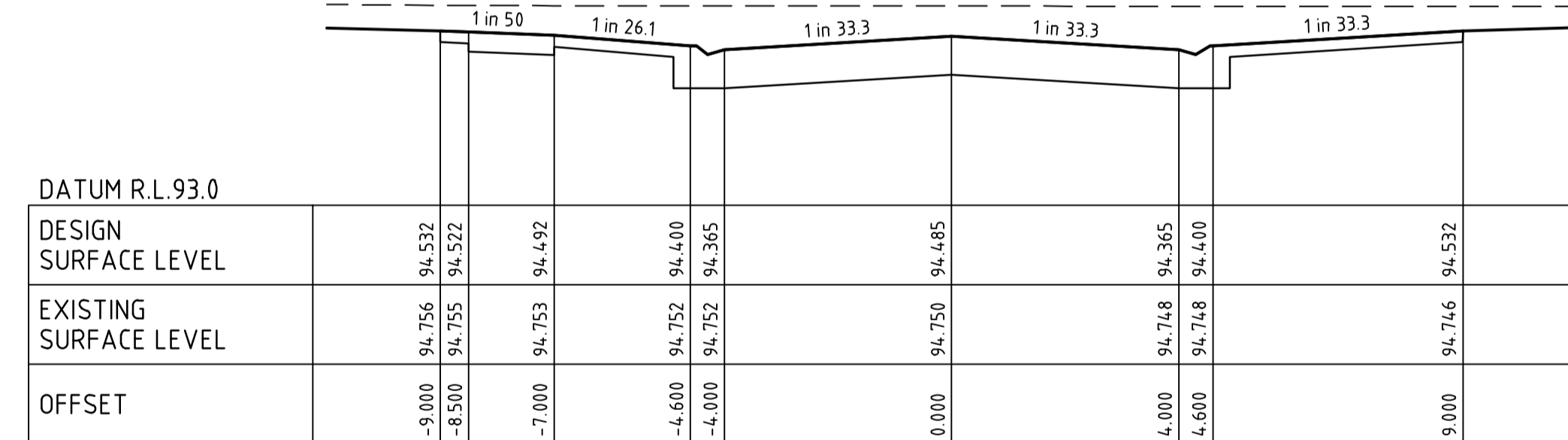
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CH 116.87



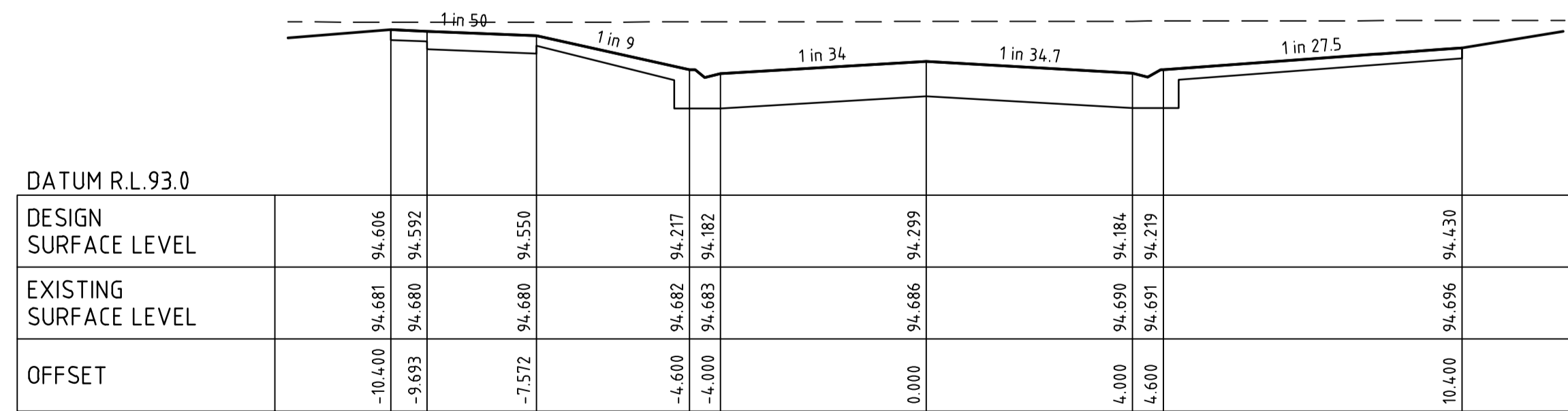
PRINCES WAY

CH 43.04



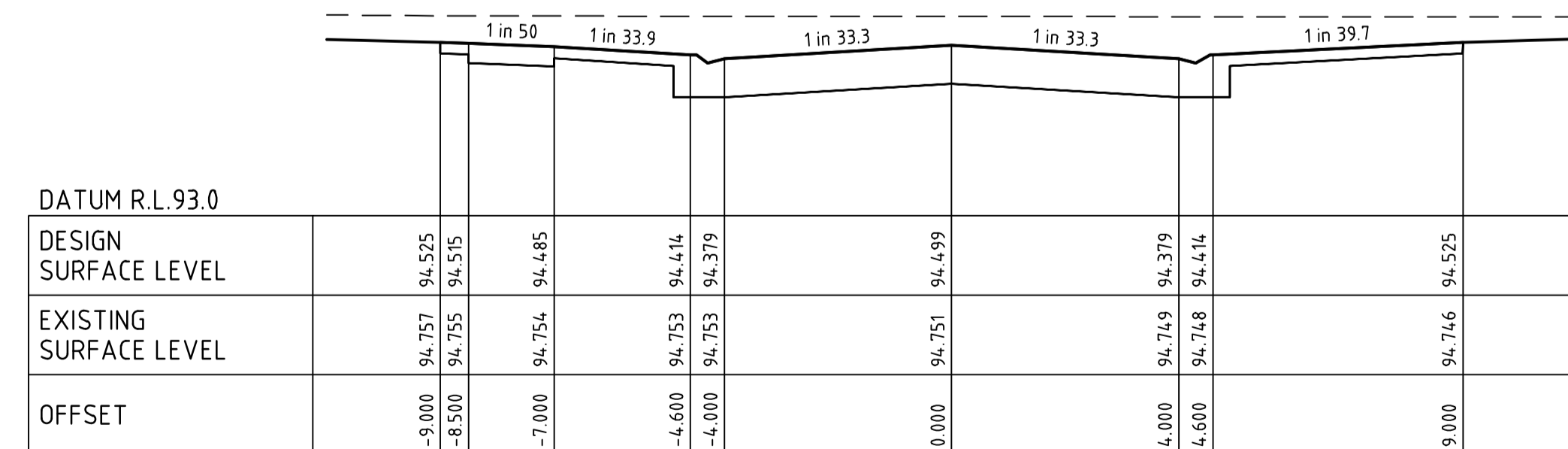
PRINCES WAY

CH 98.21



PRINCES WAY

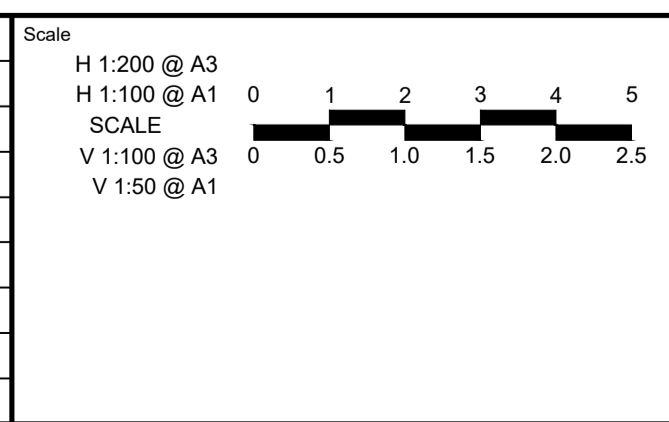
CH 12.60



PRINCES WAY

CH 95.42

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B	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22
Rev	Amendments	Approved	Date



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16 BRIDGE STREET BENDIGO

 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500

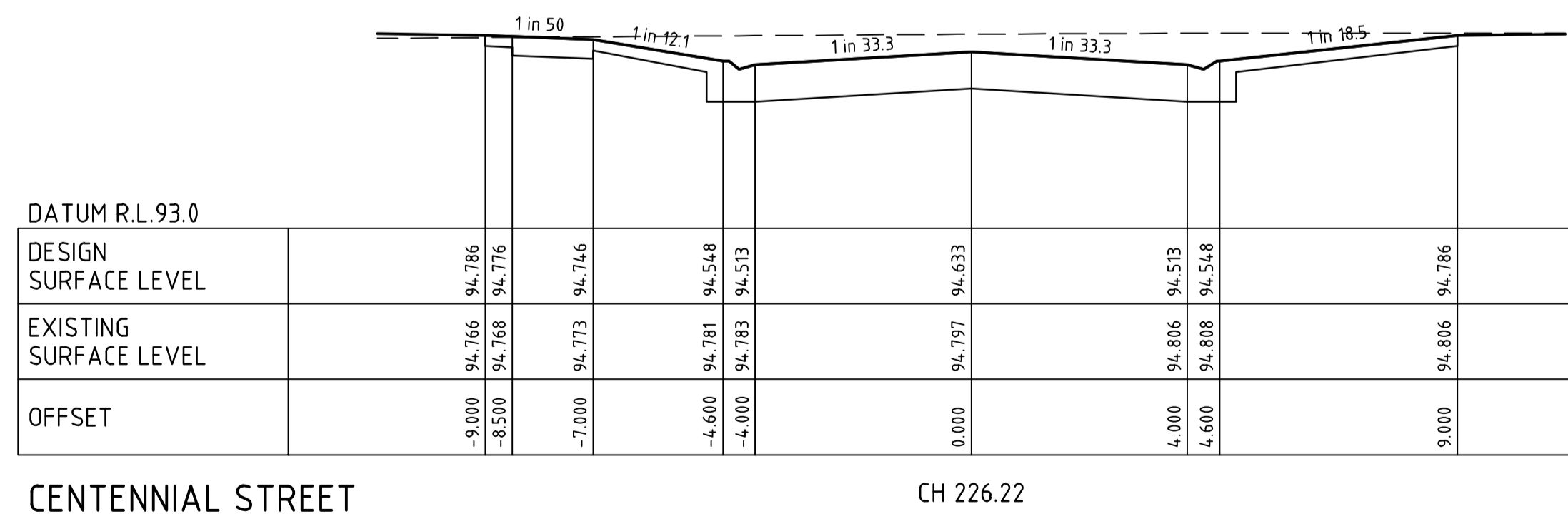
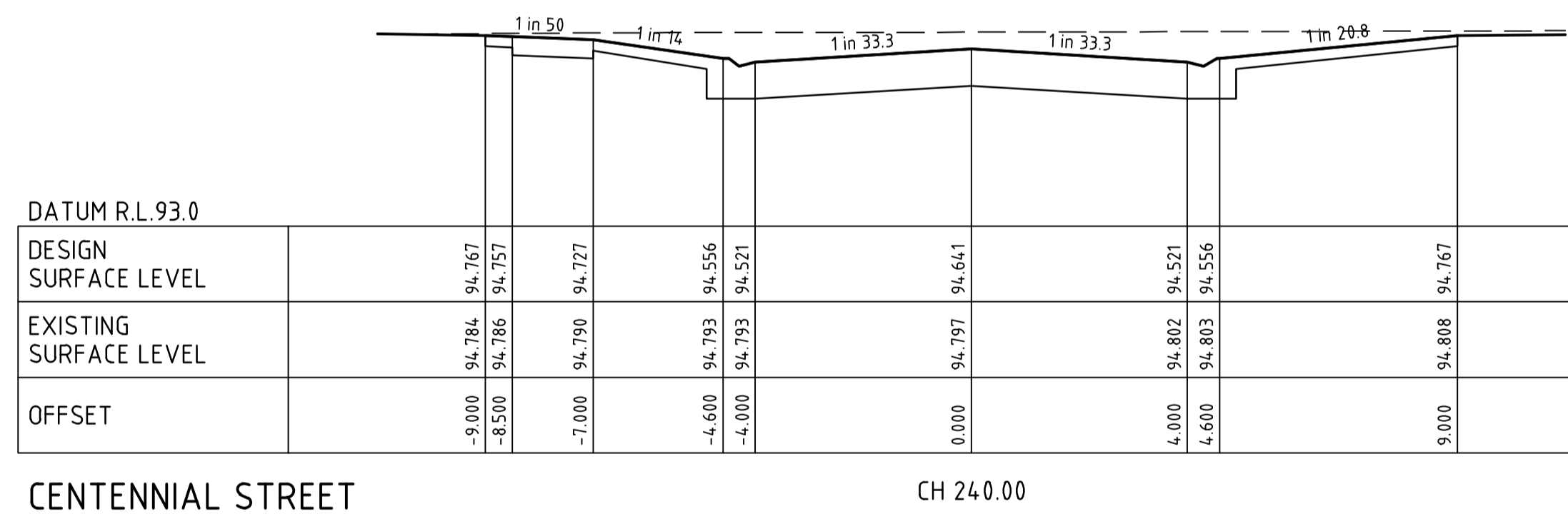
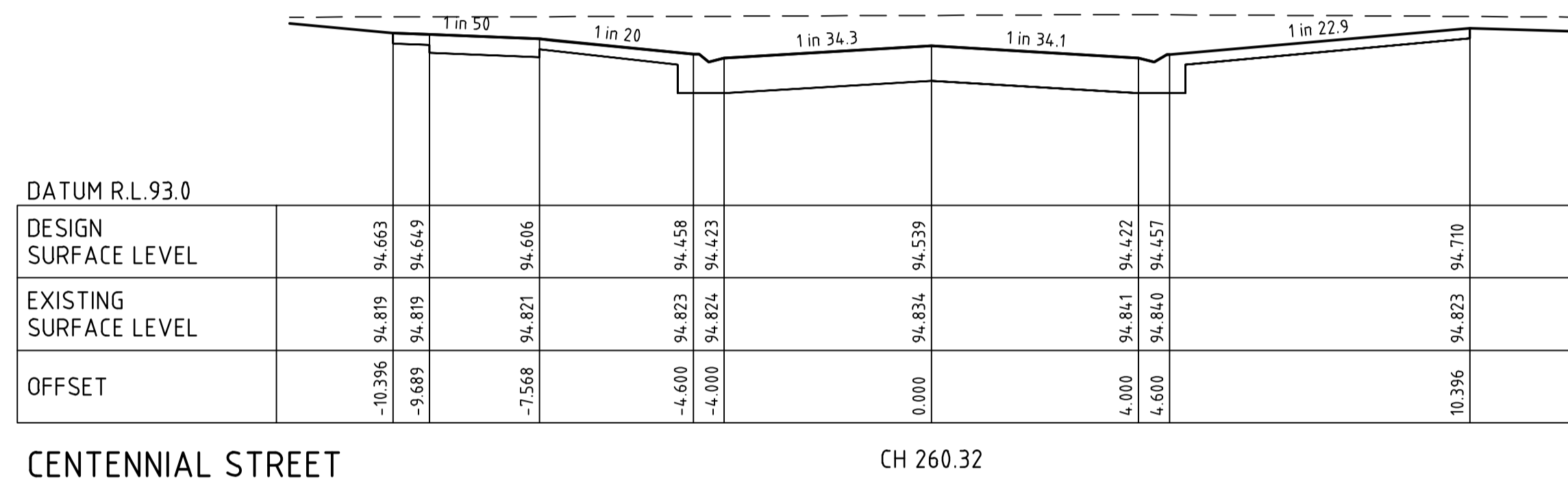
 spiire.com.au ABN 55 050 029 635

Designed	D.SHEEHAN	Checked	B.IBBS
Authorised	C.CLARKE	Date	MAR 2022

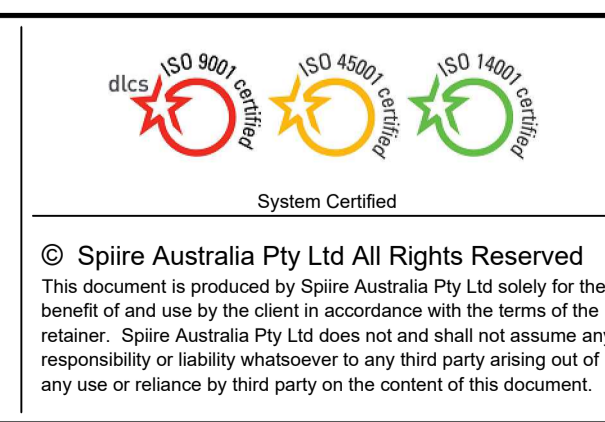
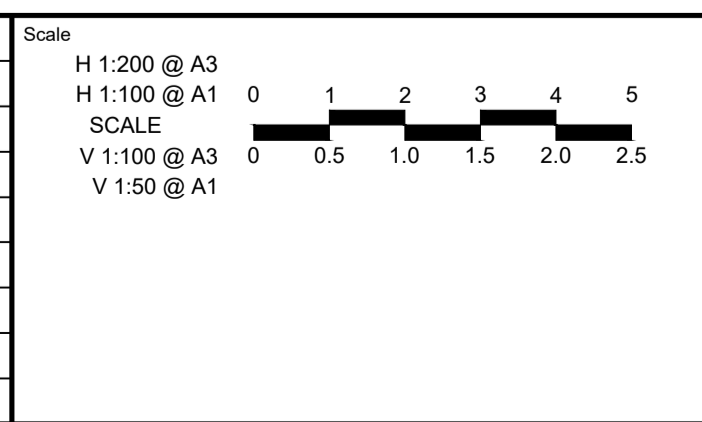
MAIDENS GREEN
STAGE 2
ROAD CROSS SECTIONS
SHEET 3 OF 4
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

Drg No **309095CC142** Rev **0**

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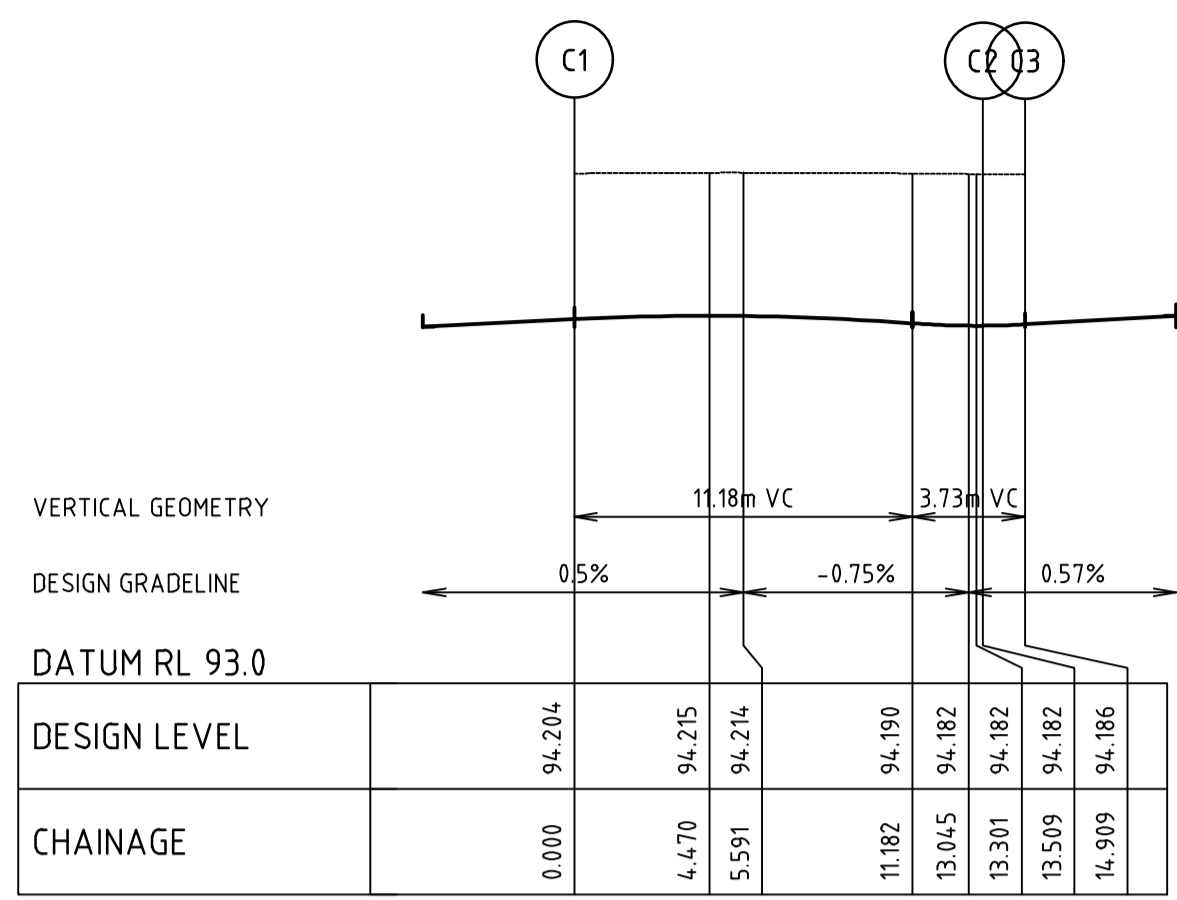
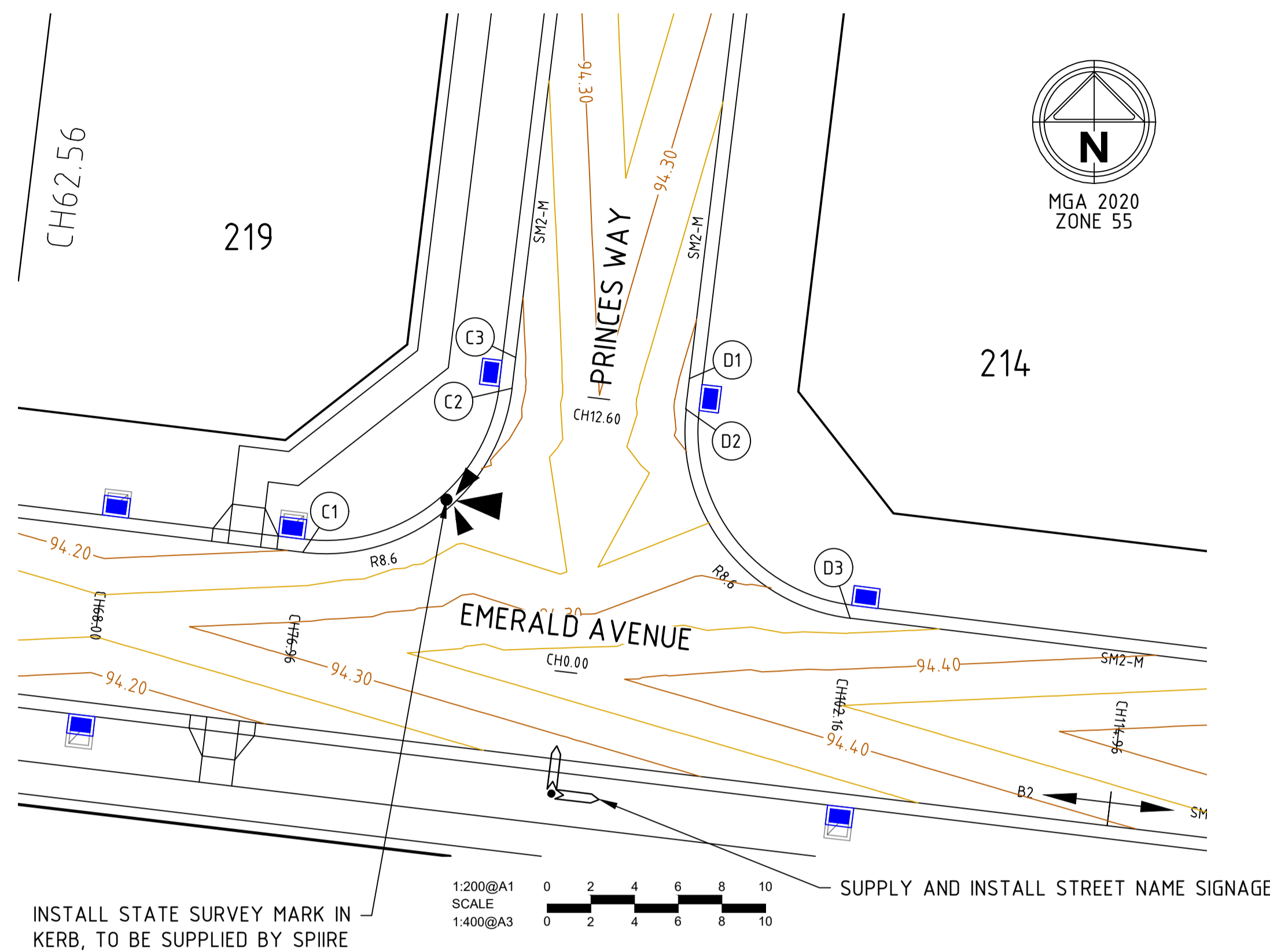
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22
Rev	Amendments	Approved	Date



Designed D.SHEEHAN	Checked B.IBBS
Authorised C.CLARKE	Date MAR 2022

**MAIDENS GREEN
STAGE 2
ROAD CROSS SECTIONS
SHEET 4 OF 4**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No **309095CC143** Rev **0**

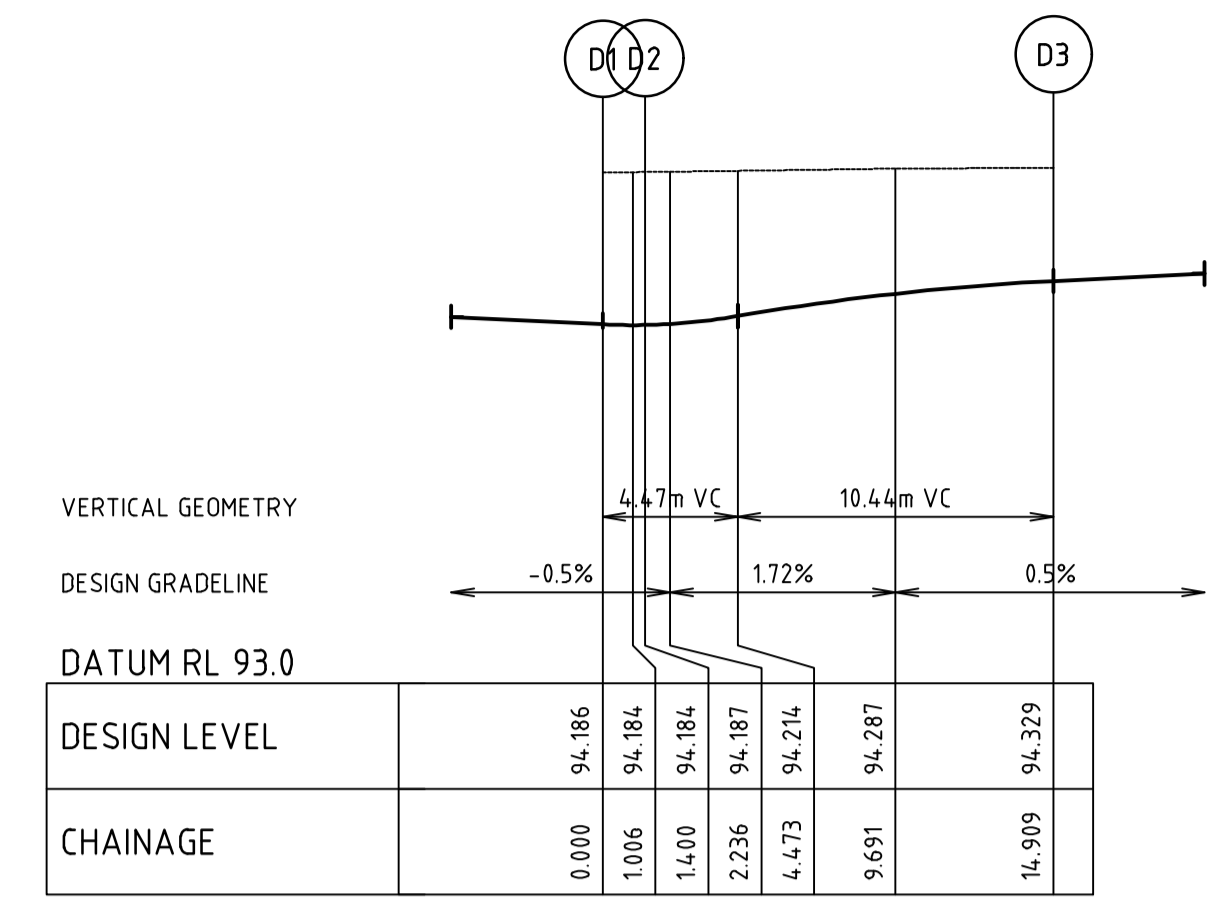


ALIGNMENT C

ALIGNMENT C

POINT NO	EASTING	NORTHING	RL	CHAINAGE
C1	299020.779	6002695.237	94.204	0.000
¼	299024.125	6002695.492	94.214	3.377
½	299027.119	6002697.009	94.212	6.754
¾	299029.303	6002699.556	94.197	10.132
C2	299030.347	6002702.745	94.182	13.509
C3	299030.515	6002704.135	94.186	14.909

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
C1-C2	8.600	13.509	12.162	2.519	0.655

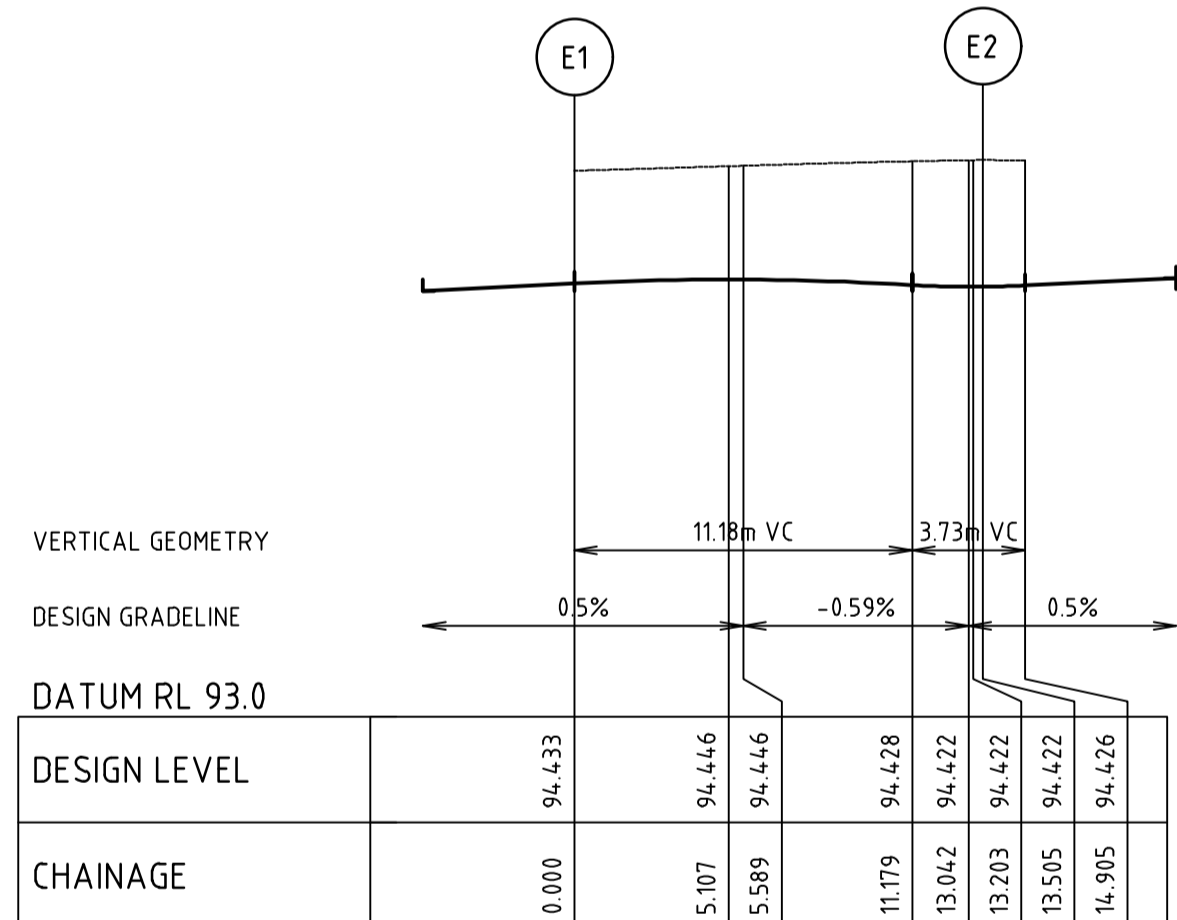
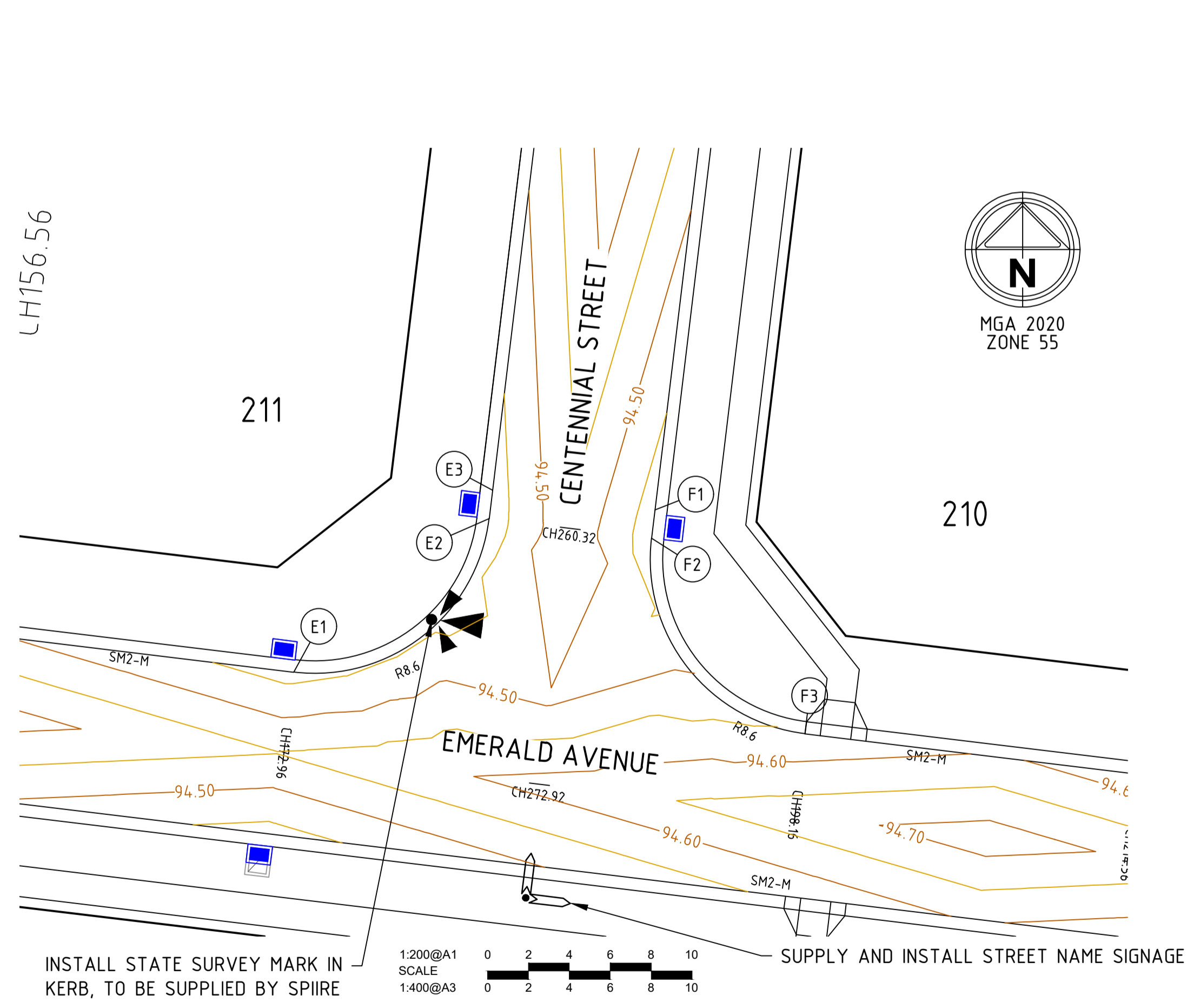


ALIGNMENT D

ALIGNMENT D

POINT NO	EASTING	NORTHING	RL	CHAINAGE
D1	299038.458	6002703.177	94.186	0.000
D2	299038.290	6002701.787	94.184	1.400
¼	299038.546	6002698.441	94.219	4.777
½	299040.062	6002695.448	94.269	8.154
¾	299042.609	6002693.263	94.306	11.532
D3	299045.798	6002692.219	94.329	14.909

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
D2-D3	8.600	13.509	12.162	2.519	0.655

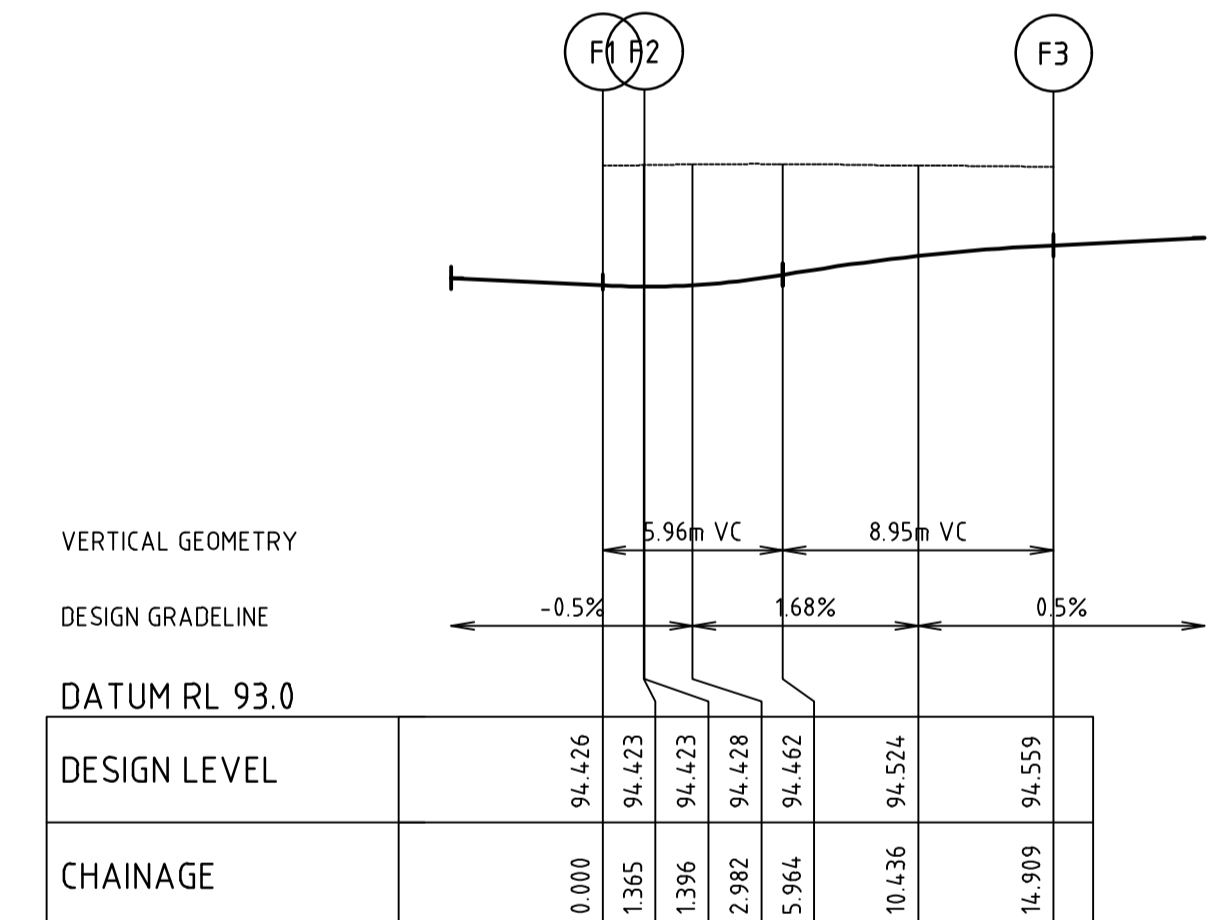


ALIGNMENT E

ALIGNMENT E

POINT NO	EASTING	NORTHING	RL	CHAINAGE
E1	299116.092	6002683.740	94.433	0.000
¼	299119.437	6002683.997	94.445	3.376
½	299122.429	6002685.514	94.445	6.753
¾	299124.613	6002688.060	94.434	10.129
E2	299125.657	6002691.249	94.422	13.505
E3	299125.824	6002692.639	94.426	14.905

CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
E1-E2	8.600	13.505	12.160	2.518	0.654

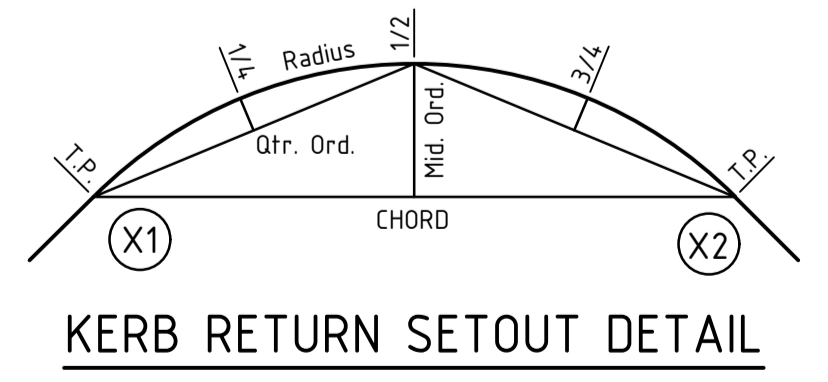


ALIGNMENT F

ALIGNMENT F

POINT NO	EASTING	NORTHING	RL	CHAINAGE
F1	299133.767	6002691.680	94.426	0.000
F2	299133.600	6002690.294	94.423	1.396
¼	299133.854	6002686.947	94.444	4.775
½	299135.371	6002683.953	94.495	8.153
¾	299137.918	6002681.767	94.535	11.531
F3	299141.107	6002680.723	94.559	14.909

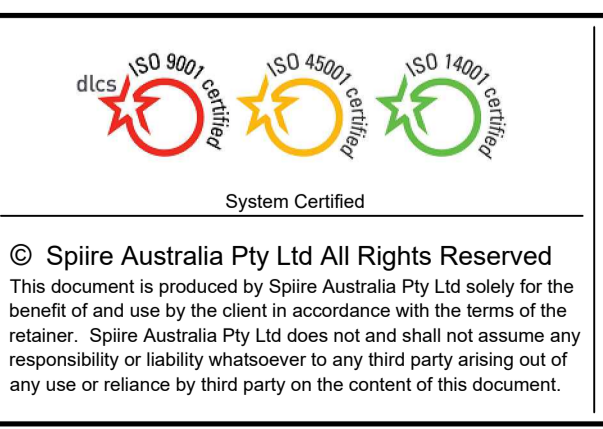
CURVE	RADIUS	ARC L	CHORD	MID ORD	QTR ORD
F2-F3	8.600	13.512	12.165	2.520	0.655



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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22

Scale: AS SHOWN



Designed D.SHEEHAN	Checked B.IBBS
Authorised C.CLARKE	Date MAR 2022

MAIDENS GREEN STAGE 2 INTERSECTION DETAILS
EMERALD AVENUE - PRINCES WAY & CENTENNIAL STREET
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 309095CC270

Rev 0

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 03-2011-31 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 (IE: 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.
5. FOR INTERPRETATION OF THE SYMBOLS USED IN THIS DESIGN, REFER TO DRAWING MRWA-W-100.
6. TRAFFIC MANAGEMENT TO BE IN ACCORDANCE WITH AS1742.3 (TRAFFIC CONTROL DEVICE FOR WORKS IN ROADS)
7. USE EXTREME CARE WHEN WORKING NEAR EXISTING TREES TO MINIMISE DAMAGE TO ROOT SYSTEM AND CANOPY.
8. ALL TREES MUST BE PRESERVED AND PROTECTED AT ALL TIMES. TREES MARKED X ON DESIGN PLANS MAY BE REMOVED.
9. 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-D) 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.
29. ALL VALVES SHALL BE LOCATED DIRECTLY OUT FROM THE APEX OF THE SPLAY CORNER (UNLESS OTHERWISE INDICATED).
30. 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 15M

EMBEDMENT

- 32. UNLESS OTHERWISE APPROVED BY THE WATER AGENCY, ALL EMBEDMENT MATERIALS SHALL BE IN ACCORDANCE WITH WSA-PS-361.
33. 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 AHPD 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 WSA03-2011-31 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 WSA03-2011-31 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.

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 02-2014-31. 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

Table with 4 columns: PIPE TYPE, PIPE CLASS, AUS. STANDARD, LOCATION. Rows include PVC-SN10, PVC-SN8, and PVC-SN8 with their respective standards and applications.

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 40. MAXIMUM SLOPE FOR CLASS A OR B COVERS TO BE 1 IN 4. 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
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: 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
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.
A. 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.
B. 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
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.

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 NATURE STRIPS 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 "CONCONET" 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 S0520.
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.

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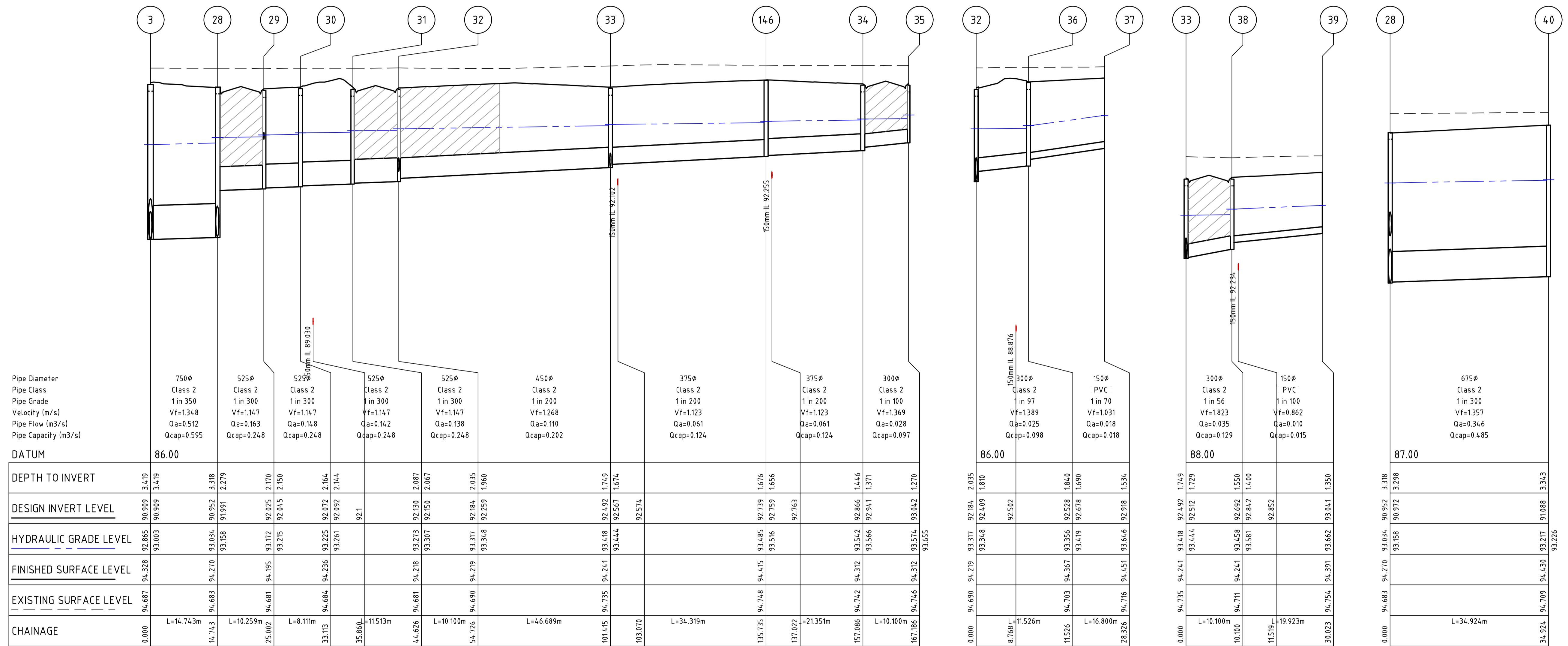
Table with 2 columns: Field (Designed, Authorised, Checked, Date) and Value (D.SHEEHAN, C.CLARKE, B.IBBS, MAR 2022)

MAIDENS GREEN STAGE 2 HYDRAULICS - NOTES & LEGEND DRAINAGE, SEWER & WATER NOTES

CONSTRUCTION 309095CC400

Rev 0

 CLASS 4 CRUSHED ROCK BACKFILL

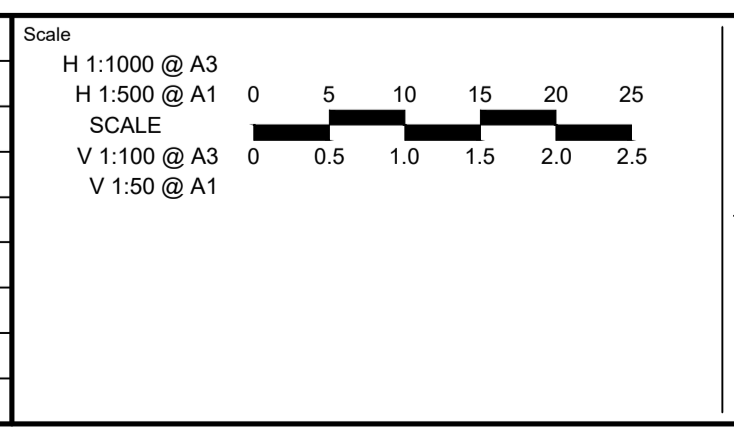



Station	Pipe Diameter	Pipe Class	Pipe Grade	Velocity (m/s)	Pipe Flow (m ³ /s)	Pipe Capacity (m ³ /s)	DATUM
3	750	Class 2	1 in 350	Vf=1.348	Qa=0.512	Qcap=0.595	86.00
28	525	Class 2	1 in 300	Vf=1.147	Qa=0.163	Qcap=0.248	86.00
29	525	Class 2	1 in 300	Vf=1.147	Qa=0.148	Qcap=0.248	86.00
30	525	Class 2	1 in 300	Vf=1.147	Qa=0.142	Qcap=0.248	86.00
31	525	Class 2	1 in 300	Vf=1.147	Qa=0.138	Qcap=0.248	86.00
32	450	Class 2	1 in 200	Vf=1.268	Qa=0.110	Qcap=0.202	86.00
33	375	Class 2	1 in 200	Vf=1.123	Qa=0.061	Qcap=0.124	86.00
34	375	Class 2	1 in 200	Vf=1.123	Qa=0.061	Qcap=0.124	86.00
35	300	Class 2	1 in 100	Vf=1.369	Qa=0.028	Qcap=0.097	86.00
36	300	Class 2	1 in 97	Vf=1.389	Qa=0.025	Qcap=0.098	86.00
37	150	PVC	1 in 70	Vf=1.031	Qa=0.018	Qcap=0.018	86.00
38	300	Class 2	1 in 56	Vf=1.823	Qa=0.035	Qcap=0.129	88.00
39	150	PVC	1 in 100	Vf=0.862	Qa=0.010	Qcap=0.015	88.00
40	675	Class 2	1 in 300	Vf=1.357	Qa=0.346	Qcap=0.485	87.00

Station	DEPTH TO INVERT	DESIGN INVERT LEVEL	HYDRAULIC GRADE LEVEL	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CHAINAGE
0.000	3.418	90.909	93.003	94.328	94.687	0.000
14.743	3.318	90.952	93.158	94.270	94.683	L=14.743m
25.002	2.710	92.025	93.172	94.195	94.681	L=10.259m
33.113	2.164	92.072	93.225	94.236	94.684	L=8.111m
35.860	2.144	92.092	93.261	94.219	94.680	L=11.513m
44.626	2.087	92.130	93.273	94.218	94.681	L=10.100m
54.726	2.095	92.184	93.317	94.219	94.680	L=4.6.689m
101.445	1.749	92.492	93.444	94.241	94.735	L=34.319m
103.070	1.674	92.567	93.485	94.415	94.718	L=21.351m
135.735	1.676	92.739	93.516	94.415	94.703	L=10.100m
137.022	1.656	92.763	93.449	94.419	94.703	L=16.800m
157.086	1.446	92.866	93.566	94.742	94.716	L=10.100m
167.186	1.270	93.042	93.574	94.716	94.716	L=34.924m

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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22




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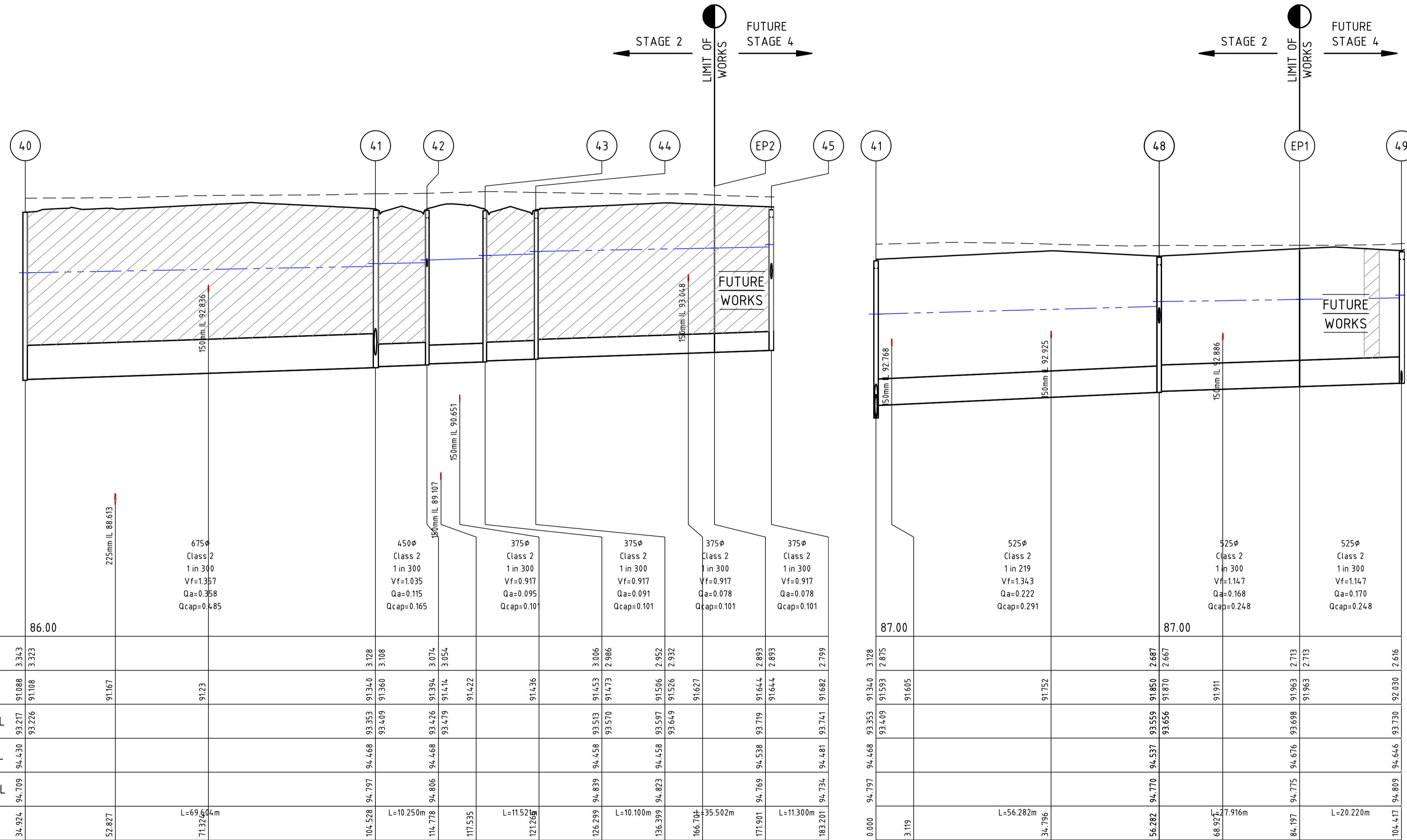

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Designed D.SHEEHAN	Checked B.IBBS
Authorised C.CLARKE	Date MAR 2022

**MAIDENS GREEN
 STAGE 2
 HYDRAULICS - DRAINAGE PROFILES
 DRAINAGE LONGITUDINAL SECTIONS
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD**

CONSTRUCTION Drg No **309095CC430** Rev **0**

 CLASS 4 CRUSHED ROCK BACKFILL



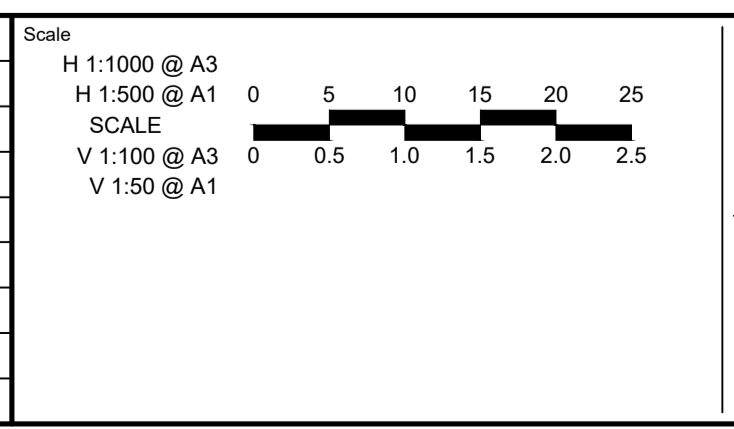
Pipe Diameter	675φ	450φ	375φ	375φ	375φ	375φ	375φ	525φ	525φ
Pipe Class	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
Pipe Grade	1 in 300	1 in 300	1 in 300	1 in 300	1 in 300	1 in 300	1 in 219	1 in 300	1 in 300
Velocity (m/s)	Vf=1.357	Vf=1.035	Vf=0.917	Vf=0.917	Vf=0.917	Vf=0.917	Vf=1.343	Vf=1.147	Vf=1.147
Pipe Flow (m3/s)	Qa=0.358	Qa=0.115	Qa=0.095	Qa=0.091	Qa=0.091	Qa=0.078	Qa=0.222	Qa=0.168	Qa=0.170
Pipe Capacity (m3/s)	Qcap=0.485	Qcap=0.165	Qcap=0.101	Qcap=0.101	Qcap=0.101	Qcap=0.101	Qcap=0.291	Qcap=0.248	Qcap=0.248


DATUM	86.00										
DEPTH TO INVERT	3.343	3.323	3.128	3.108	3.074	3.054	2.986	2.952	2.893	2.893	2.799
DESIGN INVERT LEVEL	91.088	91.106	91.340	91.360	91.394	91.414	91.473	91.526	91.644	91.644	91.682
HYDRAULIC GRADE LEVEL	93.217	93.226	93.353	93.409	93.426	93.479	93.570	93.649	93.719	93.656	93.730
FINISHED SURFACE LEVEL	94.430	94.430	94.468	94.468	94.468	94.458	94.458	94.458	94.538	94.538	94.481
EXISTING SURFACE LEVEL	94.709	94.709	94.797	94.797	94.806	94.839	94.839	94.823	94.769	94.769	94.734
CHAINAGE	34.924	52.827	104.528	114.778	117.535	127.269	126.299	136.399	166.704	171.901	183.201

DATUM	87.00										
DEPTH TO INVERT	3.119	2.815	2.713	2.713	2.616	2.616	2.616	2.616	2.616	2.616	2.616
DESIGN INVERT LEVEL	91.605	91.752	91.911	91.911	92.030	92.030	92.030	92.030	92.030	92.030	92.030
HYDRAULIC GRADE LEVEL	93.409	93.559	93.656	93.656	93.730	93.730	93.730	93.730	93.730	93.730	93.730
FINISHED SURFACE LEVEL	94.468	94.468	94.468	94.468	94.468	94.468	94.468	94.468	94.468	94.468	94.468
EXISTING SURFACE LEVEL	94.797	94.797	94.797	94.797	94.797	94.797	94.797	94.797	94.797	94.797	94.797
CHAINAGE	0.000	3.119	68.924	84.197	104.411	104.411	104.411	104.411	104.411	104.411	104.411

file name: 309095CC431.dwg; layout name: CC431; plotted by: Diarmuid Sheehan; file location: \\spire\bandra\data\309095\UK\WACAD; plot date: 09/08/2022; 9:16 AM; Sheet 15 of 20 Sheets

Scale	H 1:1000 @ A3	0	5	10	15	20	25
	H 1:500 @ A1	0	0.5	1.0	1.5	2.0	2.5
SCALE	V 1:100 @ A3						
	V 1:50 @ A1						
Rev	0	ISSUED FOR CONSTRUCTION	J.F	09/08/22			
	C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22			
	B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22			
	A	ISSUED FOR APPROVAL	J.F	09/03/22			
Rev	Amendments	Approved	Date				





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 16 BRIDGE STREET BENDIGO

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Designed	D.SHEEHAN	Checked	B.IBBS
Authorised	C.CLARKE	Date	MAR 2022

MAIDENS GREEN


STAGE 2

 HYDRAULICS - DRAINAGE PROFILES

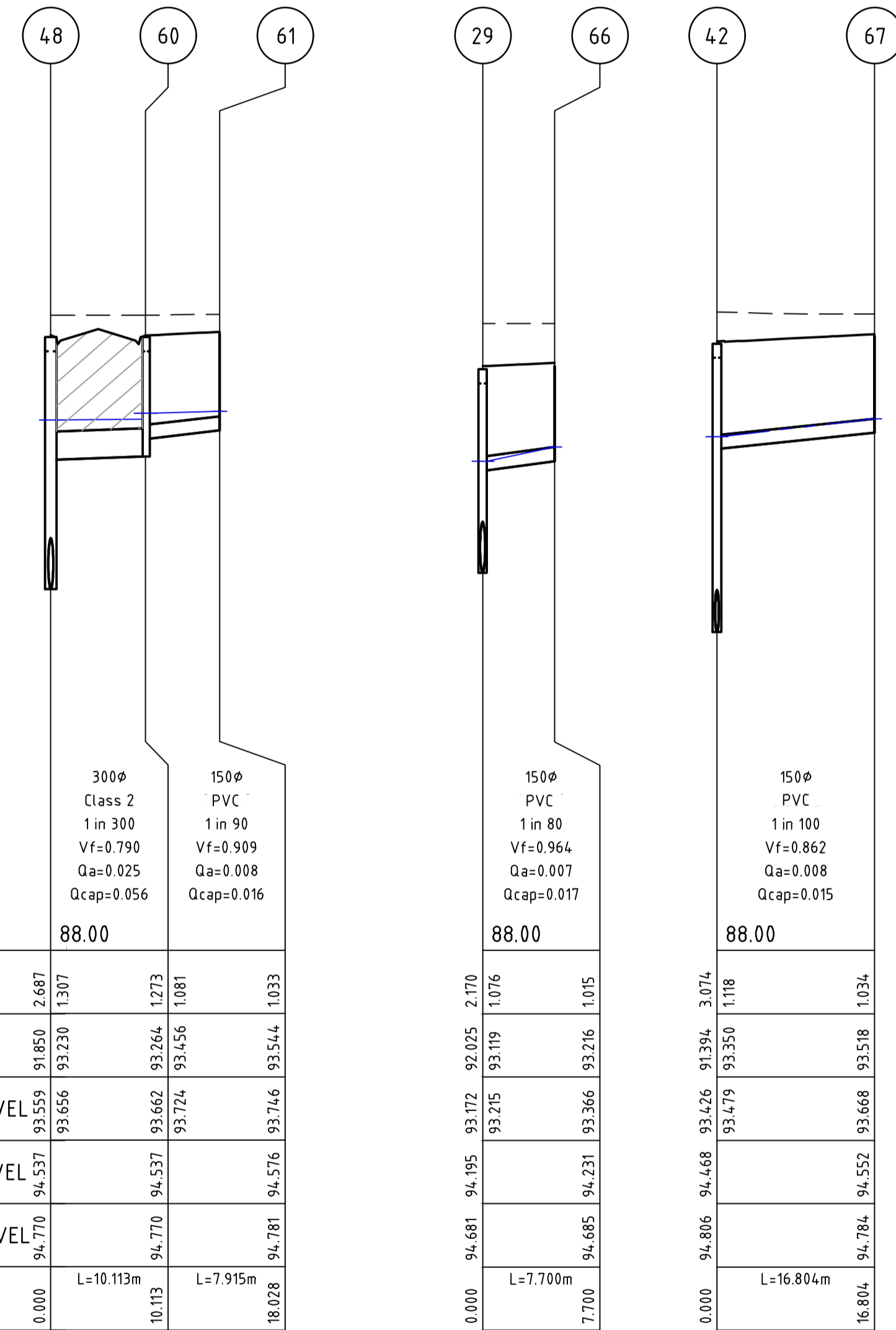
 DRAINAGE LONGITUDINAL SECTIONS

 MURRAY RIVER COUNCIL

 KIELY ROAD PROJECTS PTY LTD


 Drg No: 309095CC431 Rev: 0

 CLASS 4 CRUSHED ROCK BACKFILL



Pipe Diameter 300Ø
 Pipe Class Class 2
 Pipe Grade 1 in 300
 Velocity (m/s) Vf=0.790
 Pipe Flow (m3/s) Qa=0.025
 Pipe Capacity (m3/s) Qcap=0.056

DATUM	88.00		
DEPTH TO INVERT	2.687	1.307	1.033
DESIGN INVERT LEVEL	91.650	93.230	93.544
HYDRAULIC GRADE LEVEL	93.656	93.662	93.724
FINISHED SURFACE LEVEL	94.537	94.537	94.576
EXISTING SURFACE LEVEL	94.770	94.770	94.781
CHAINAGE	0.000	L=10.113m	L=7.915m

Pipe Diameter 150Ø
 Pipe Class PVC
 Pipe Grade 1 in 80
 Velocity (m/s) Vf=0.964
 Pipe Flow (m3/s) Qa=0.007
 Pipe Capacity (m3/s) Qcap=0.017

DATUM	88.00		
DEPTH TO INVERT	2.170	1.076	1.015
DESIGN INVERT LEVEL	92.025	93.119	93.216
HYDRAULIC GRADE LEVEL	93.172	93.215	93.366
FINISHED SURFACE LEVEL	94.195	94.231	94.231
EXISTING SURFACE LEVEL	94.681	94.685	94.685
CHAINAGE	0.000	L=7.700m	

Pipe Diameter 150Ø
 Pipe Class PVC
 Pipe Grade 1 in 100
 Velocity (m/s) Vf=0.862
 Pipe Flow (m3/s) Qa=0.008
 Pipe Capacity (m3/s) Qcap=0.015

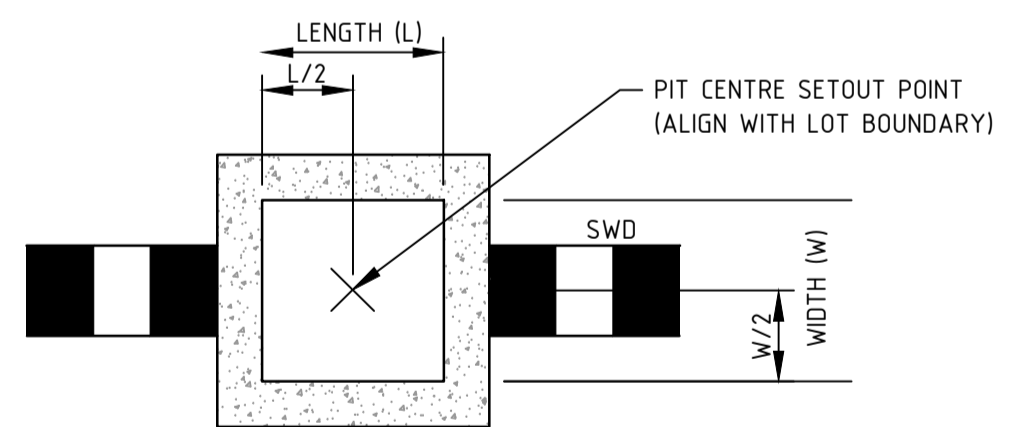
DATUM	88.00		
DEPTH TO INVERT	3.074	1.118	1.034
DESIGN INVERT LEVEL	91.394	93.350	93.518
HYDRAULIC GRADE LEVEL	93.426	93.479	93.668
FINISHED SURFACE LEVEL	94.468	94.552	94.552
EXISTING SURFACE LEVEL	94.806	94.784	94.784
CHAINAGE	0.000	L=16.804m	

DRAINAGE PIT SCHEDULE

PIT NAME	TYPE	INTERNAL WIDTH	INTERNAL LENGTH	INLET DIA	INLET INV LEVEL	OUTLET DIA	OUTLET INV LEVEL	PIT FS LEVEL	PIT DEPTH	REMARKS
3	SIDE ENTRY PIT	900	1200	600	90.929	900	90.909	94.328	3.419	AS PER IDM SD 440, HAUNCHED TO 900X600. CONNECT TO EXISTING PIT.
28	SIDE ENTRY PIT	1200	900	525	91.991	750	90.952	94.270	3.318	AS PER IDM SD 440, HAUNCHED TO 900X600
29	SIDE ENTRY PIT	600	900	525	92.045	525	92.025	94.195	2.170	AS PER IDM SD 440
30	SIDE ENTRY PIT	600	900	525	92.092	525	92.072	94.236	2.164	AS PER IDM SD 420
31	SIDE ENTRY PIT	600	900	525	92.150	525	92.130	94.218	2.087	AS PER IDM SD 440
32	SIDE ENTRY PIT	600	900	450	92.259	525	92.184	94.219	2.035	AS PER IDM SD 440
33	SIDE ENTRY PIT	900	900	375	92.567	450	92.492	94.241	1.749	AS PER IDM SD 440, HAUNCHED TO 900X600
146	JUNCTION PIT	900	900	375	92.759	375	92.739	94.415	1.676	AS PER IDM SD 410, HAUNCHED TO 900X600
34	SIDE ENTRY PIT	900	900	300	92.941	375	92.866	94.312	1.446	AS PER IDM SD 440, HAUNCHED TO 900X600
35	SIDE ENTRY PIT	600	900			300	93.042	94.312	1.270	AS PER IDM SD 440
36	SIDE ENTRY PIT	600	900	150	92.678	300	92.528	94.367	1.840	AS PER IDM SD 440
37	ENDPIPE					150	92.918	94.451	1.534	INSPECTION OPENING AS PER IDM SD 515
38	SIDE ENTRY PIT	600	900	150	92.842	300	92.692	94.241	1.550	AS PER IDM SD 440
39	ENDPIPE					150	93.041	94.391	1.350	INSPECTION OPENING AS PER IDM SD 515
40	JUNCTION PIT	1200	900	675	91.108	675	91.088	94.430	3.343	AS PER IDM SD 410, HAUNCHED TO 900X600
41	SIDE ENTRY PIT	900	1200	450	91.360	675	91.340	94.468	3.128	AS PER IDM SD 440, HAUNCHED TO 900X600
42	SIDE ENTRY PIT	600	900	375	91.414	450	91.394	94.468	3.074	AS PER IDM SD 440
43	SIDE ENTRY PIT	600	900	375	91.473	375	91.453	94.458	3.006	AS PER IDM SD 440
44	SIDE ENTRY PIT	600	900	375	91.526	375	91.506	94.458	2.952	AS PER IDM SD 440
EP2	ENDPIPE					375	91.644	94.538	2.893	CAP END WITH MARINE GRADE PLY
48	SIDE ENTRY PIT	1200	900	525	91.870	525	91.850	94.537	2.687	AS PER IDM SD 440, HAUNCHED TO 900X600
EP1	ENDPIPE					300	93.230			CAP END WITH MARINE GRADE PLY
49	SIDE ENTRY PIT	900	900	525	92.050	525	92.030	94.646	2.616	AS PER IDM SD 440, HAUNCHED TO 900X600
60	SIDE ENTRY PIT	600	900	150	93.455	300	93.263	94.537	1.273	AS PER IDM SD 440
61	ENDPIPE					150	93.543	94.576	1.034	INSPECTION OPENING AS PER IDM SD 515
66	ENDPIPE					150	93.216	94.231	1.015	INSPECTION OPENING AS PER IDM SD 515
67	ENDPIPE					150	93.518	94.552	1.034	INSPECTION OPENING AS PER IDM SD 515

PIT SETOUT CO-ORDINATES

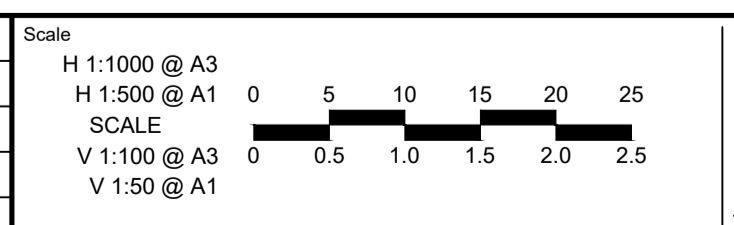
NAME	POINT	EASTING	NORTHING
29	CENTER OF BASE	299012.286	6002697.470
30	CENTER OF BASE	299020.328	6002696.500
31	CENTER OF BASE	299029.377	6002703.466
32	CENTER OF BASE	299039.553	6002702.239
33	CENTER OF BASE	299045.247	6002748.576
146	CENTER OF BASE	299051.609	6002782.287
34	CENTER OF BASE	299055.989	6002803.192
35	CENTER OF BASE	299045.902	6002805.012
36	CENTER OF BASE	299046.520	6002693.189
37	CENTER OF BASE	299063.199	6002691.180
38	CENTER OF BASE	299035.102	6002750.037
39	CENTER OF BASE	299038.428	6002769.699
40	CENTER OF BASE	299045.274	6002682.864
41	CENTER OF BASE	299114.377	6002674.529
42	CENTER OF BASE	299115.623	6002684.854
43	CENTER OF BASE	299124.686	6002691.968
44	CENTER OF BASE	299134.713	6002690.758
EP2	END OF PIPE	299138.963	6002726.005
EP1	END OF PIPE	299197.977	6002664.526
61	CENTER OF BASE	299179.357	6002677.170



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

file name: 309095CC432.dwg; layout name: CCL32; plotted by: Darrah Sheehan; file location: \\spire\bandra\data\309095\civil\ALCAD; plot date: 09/08/2022; 9:16 AM; Sheet 16 of 20 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22



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Designed
D.SHEEHAN
 Authorised
C.CLARKE

Checked
B.IBBS
 Date
MAR 2022

**MAIDENS GREEN
 STAGE 2
 HYDRAULICS - DRAINAGE PROFILES
 DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE**
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 309095CC432

Rev **0**



	FILTERED WATER	RAW WATER
MAXIMUM DESIGN HEAD(m)	46m	49m
ZONE	RESIDENTIAL	RESIDENTIAL
TEST PRESSURE (kPa)	1000kPa	1000kPa

TABLE 1: NEW PIPE SCHEDULE

NEW WORK			FILTERED WATER	RAW WATER	IRRIGATION WATER
SIZE (mm)	TYPE	CLASS	LENGTH (m)	LENGTH (m)	LENGTH (m)
100	PVC-M AS/NZS 4441	SERIES 1 PN12	400.9	401.6	109.9

TABLE 2: PIPE MATERIAL SCHEDULE

MATERIAL	REFERENCE
PVC-M	WSA-PS-209
PE (RETIC & SUBMAIN)	WSA-PS-207
PE (PROPERTY SERVICE)	WSA-PS-215

TABLE 3: HYDRANT & WASHOUT SCHEDULE

MAIN SIZE	FITTING TYPE	LOCATION	STREET	LOCATION
100	HYDRANT - RW	IN LINE	EMERALD AVENUE	15.0m E OF W STAGE BOUNDARY
100	SCOUR - FW	IN LINE	EMERALD AVENUE	14.4m E OF W STAGE BOUNDARY
100	HYDRANT - RW	IN LINE	EMERALD AVENUE	7.0m W OF EBL LOT 201
100	HYDRANT - RW	IN LINE	EMERALD AVENUE	9.0m E OF WBL LOT 206
100	SCOUR - FW	END OF LINE	EMERALD AVENUE	10m E OF E STAGE BOUNDARY
100	HYDRANT - RW	END OF LINE	EMERALD AVENUE	16m E OF E STAGE BOUNDARY
100	HYDRANT - RW	IN LINE	PRINCES WAY	7.0m N OF SBL LOT 221
100	SCOUR - FW	END OF LINE	PRINCES WAY	8.2m N OF N STAGE BOUNDARY
100	HYDRANT - RW	END OF LINE	PRINCES WAY	8.8m N OF N STAGE BOUNDARY
100	SCOUR - FW	END OF LINE	CENTENNIAL STREET	6.4m N OF N STAGE BOUNDARY
100	HYDRANT - RW	END OF LINE	CENTENNIAL STREET	7.0m N OF N STAGE BOUNDARY

TABLE 5: SERVICE ALIGNMENT SCHEDULE (SEE DRG NO: 309095CC001 SERVICE OFFSET TABLE)

TABLE 4: CURVED PIPE AND DEFLECTION SCHEDULE

LOCATION	METHOD	RADIUS (m)	TOTAL PIPE LENGTH	PIPE LENGTHS
CURVE A	PVC SOC DEFLECTION	406.85	45.4	8 x 6m lengths
CURVE B	PVC SOC DEFLECTION	406.45	45.3	8 x 6m lengths
CURVE C	PVC SOC DEFLECTION	393.15	29.3	5 x 6m lengths
CURVE D	PVC SOC DEFLECTION	393.55	29.9	5 x 6m lengths

TABLE 6: THRUST RESTRAINT SCHEDULE

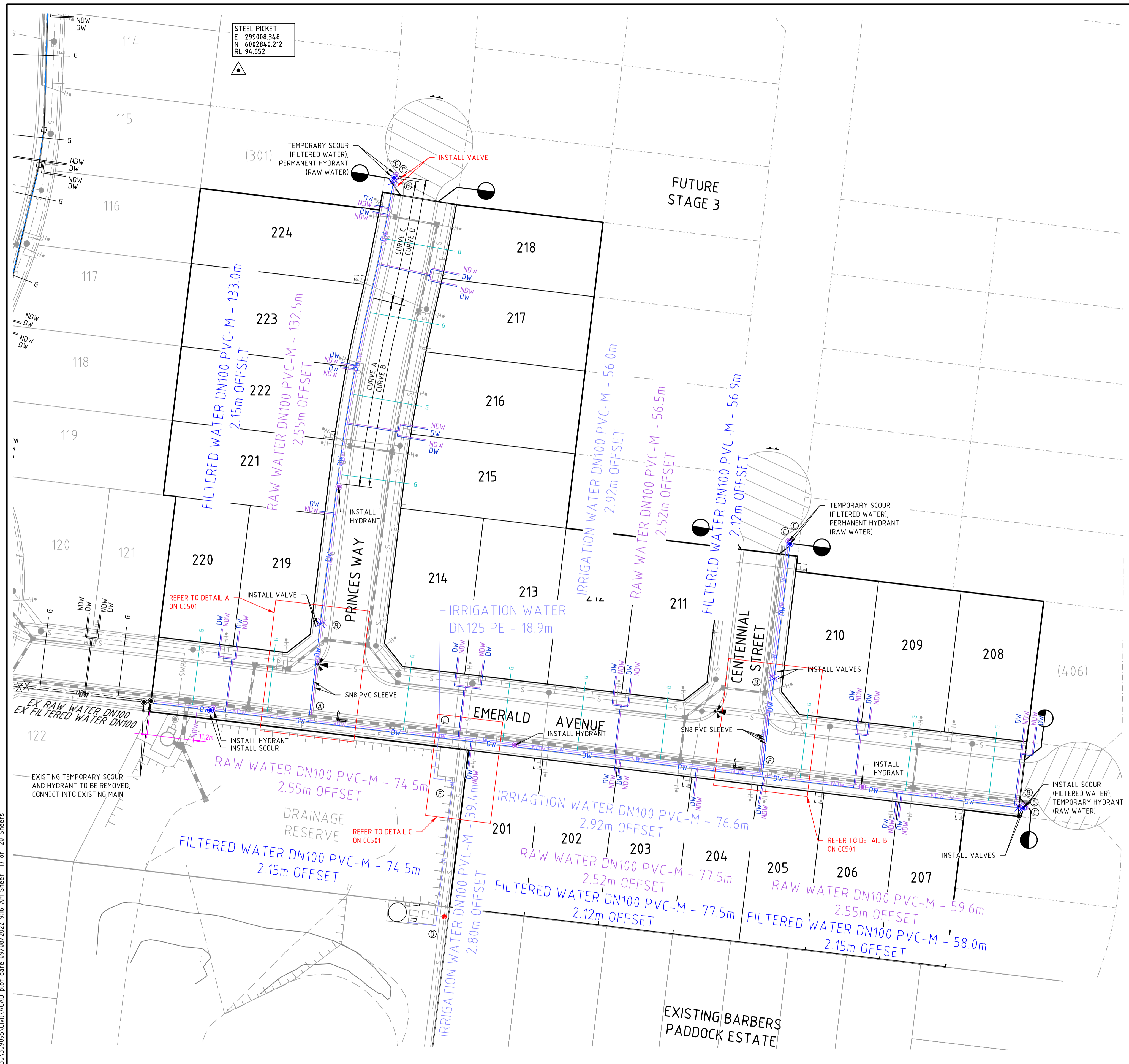
LOCATION	TYPE	THRUST	AHBP (kPa) USED	THRUST AREA (m ²)	QUANTITY
A	IN LINE	2 X DN100 TEE	50	0.46	2
B	IN LINE	2 X DN100 VALVE	50	0.60	4
C	PLAIN	DN100 END	50	0.23	6
D	PLAIN	DN100 90° BEND	50	0.32	1
E	IN LINE	DN125 PE SHRINKAGE	50	0.43	2
F	IN LINE	3 X DN100 TEE	50	0.69	1

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

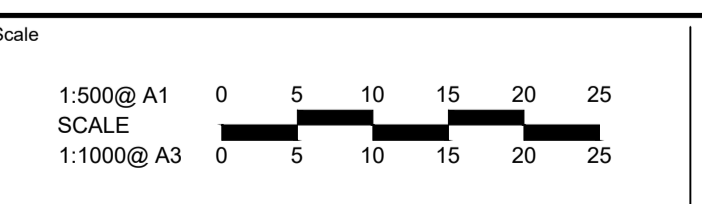
- LEGEND**
- (A) THRUST RESTRAINT - SEE TABLE 6 FOR DETAILS
 - G GAS CONDUIT
 - DW SERVICE CONDUIT
 - X X VALVE
 - ● HYDRANT - BELOW GROUND.
 - ▲ TAPER
 - ⊙ REMOVE FITTING
 - NDW RAW WATER MAIN
 - DW FILTERED WATER MAIN
 - W IRRIGATION WATER MAIN
 - DW EXISTING WATER MAIN

- 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.



file name: 309095CC500.dwg; layout name: CCS00; plotted by: Diarmuid Sheehan; file location: \\spire\beanda\p\p\309095\CC500\309095CC500.dwg; plot date: 09/08/2022; 9:16 AM; Sheet 17 of 20 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
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A	ISSUED FOR APPROVAL	J.F	09/03/22



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MAIDENS GREEN
STAGE 2
HYDRAULICS - SEWER & WATER
WATER LAYOUT PLAN
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION

 Drg No
309095CC500

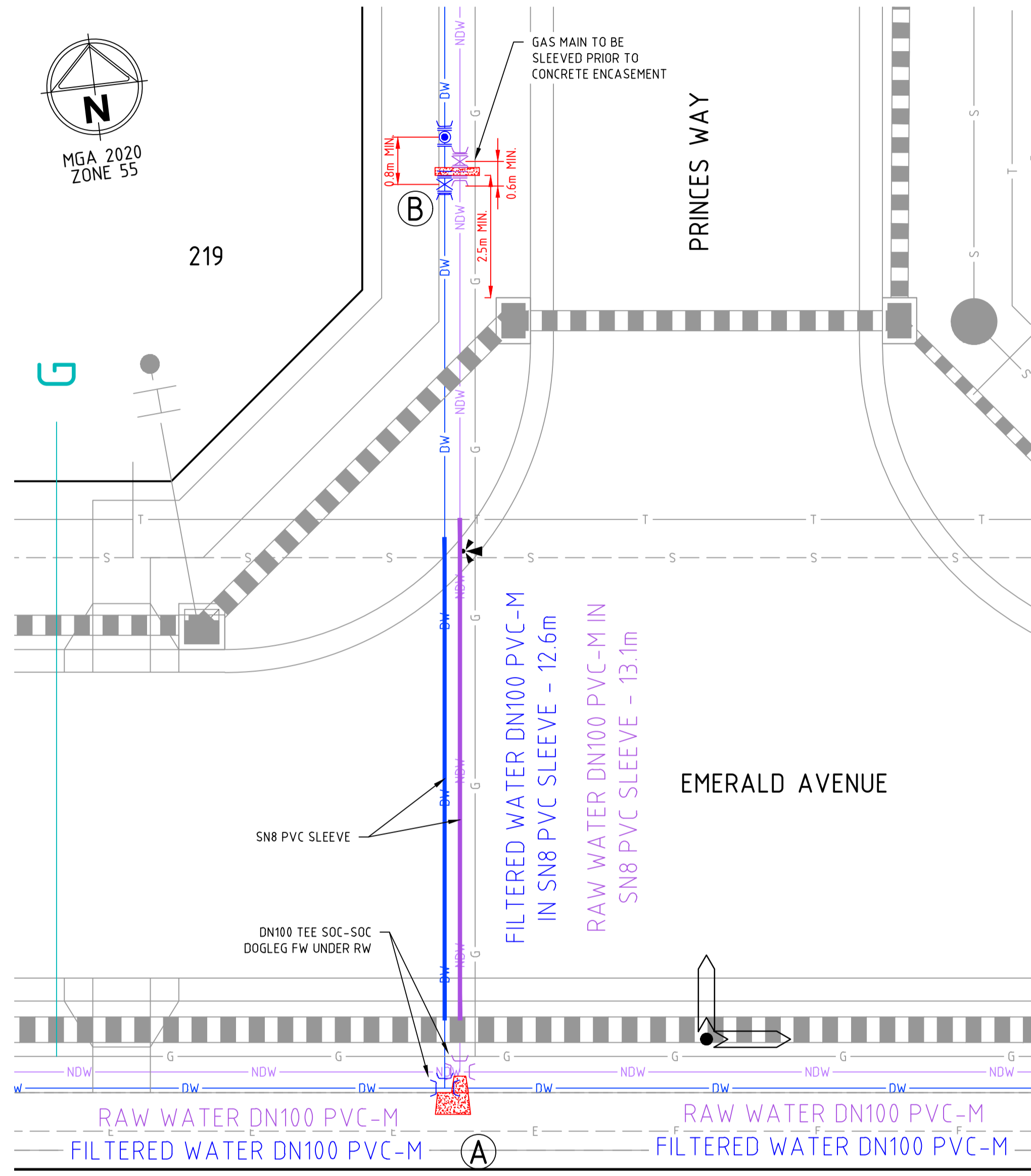
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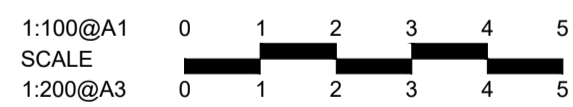
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PRINCES WAY

EMERALD AVENUE



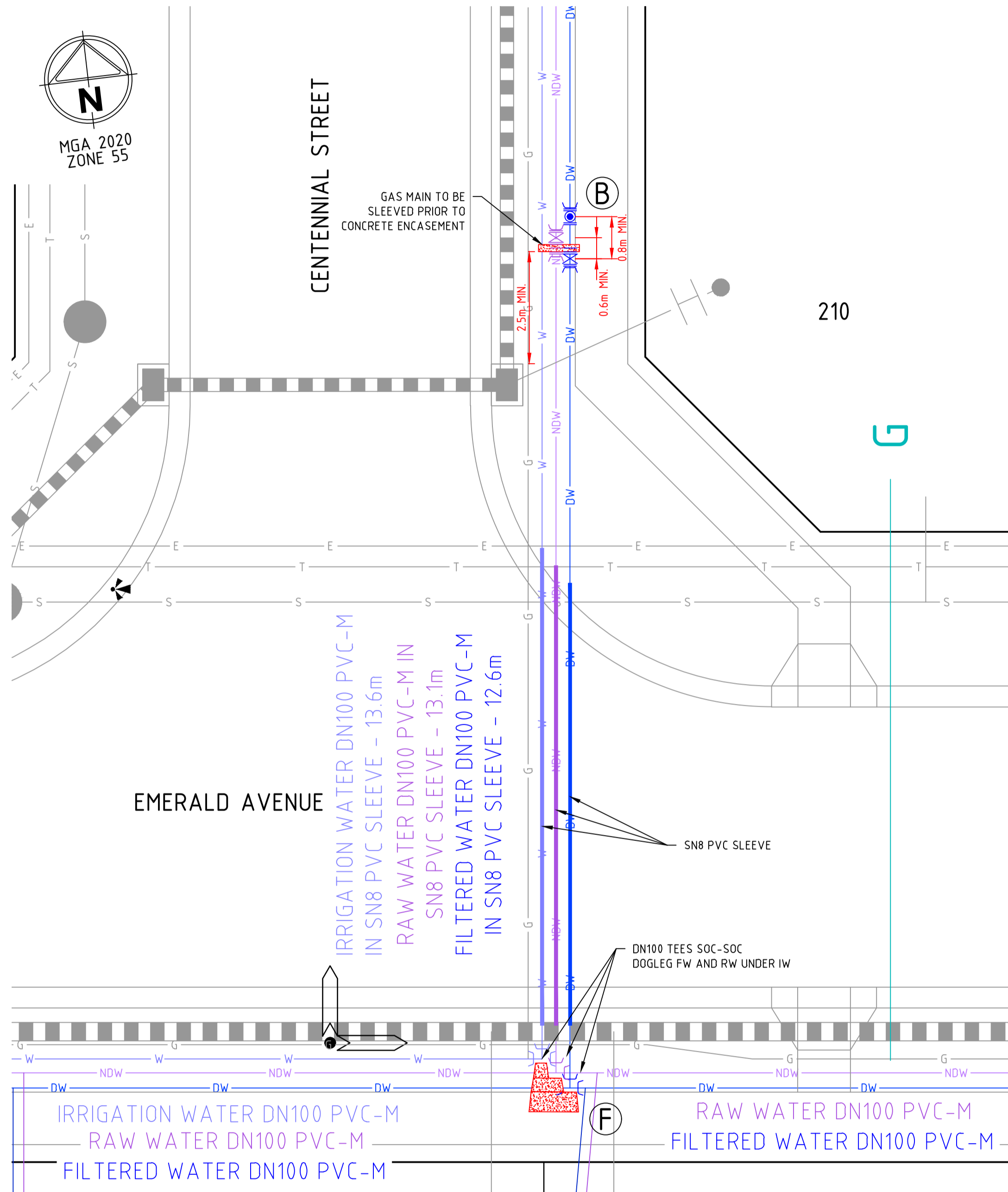
DETAIL A
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CENTENNIAL STREET

210

EMERALD AVENUE

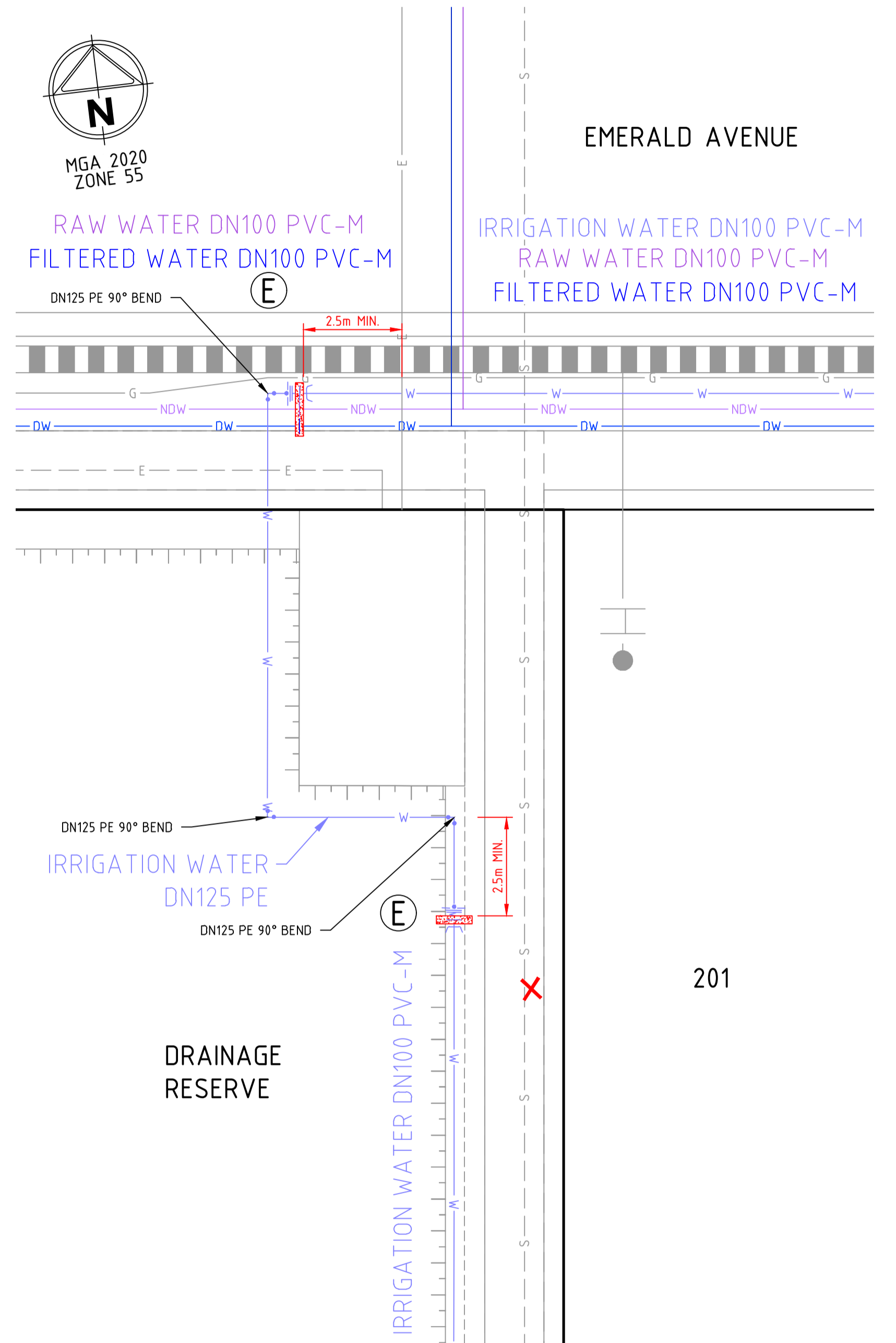


DETAIL B
SCALE: 1:100

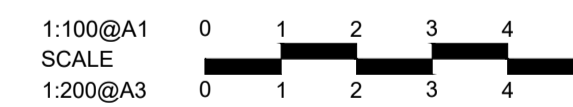


EMERALD AVENUE

201



DETAIL C
SCALE: 1:100



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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.F	09/08/22
C	AMENDED AS PER COUNCIL COMMENTS	J.F	21/07/22
B	AMENDED AS PER COUNCIL COMMENTS	J.F	17/06/22
A	ISSUED FOR APPROVAL	J.F	09/03/22

AS SHOWN

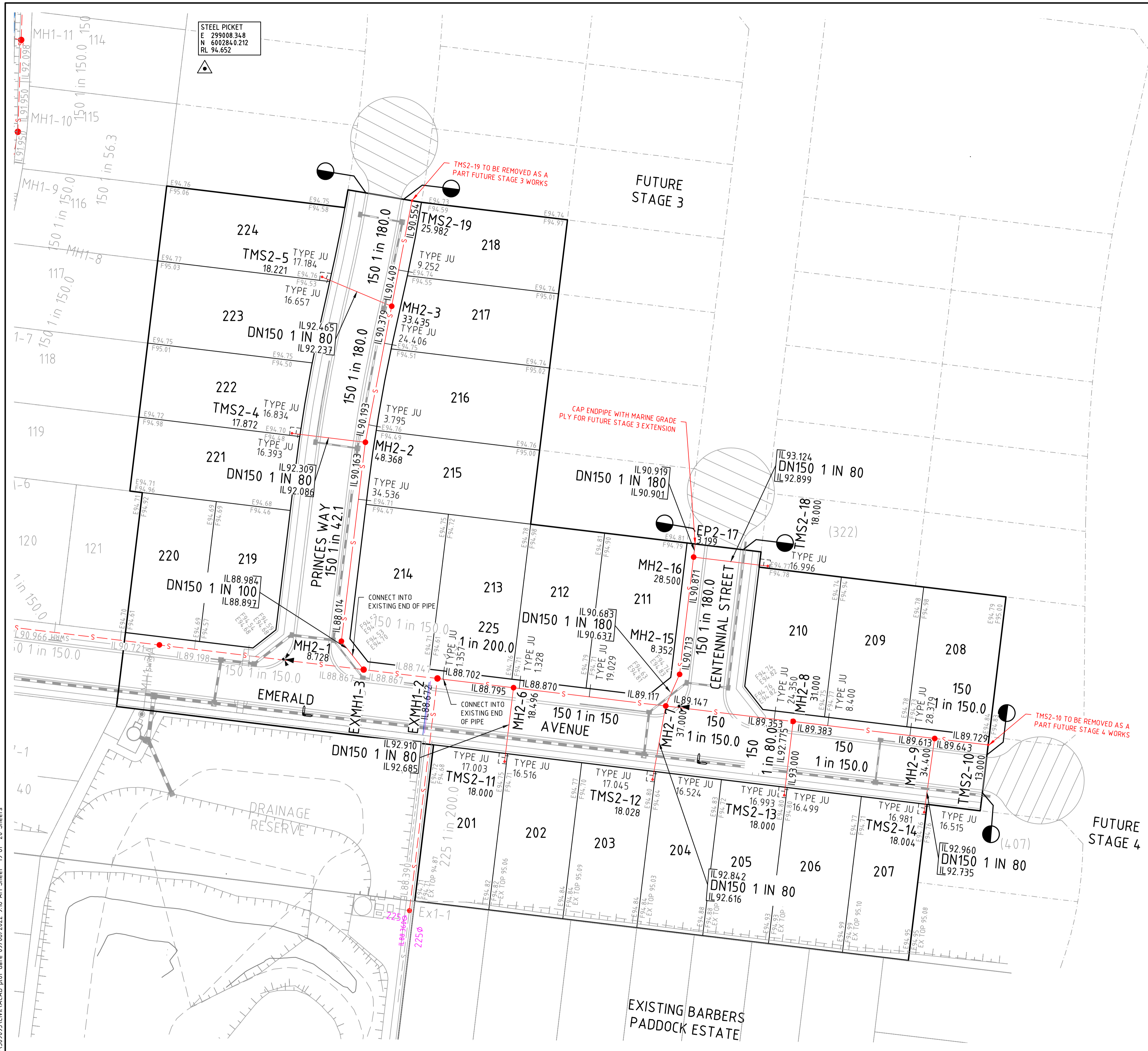
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**MAIDENS GREEN
STAGE 2
HYDRAULICS - SEWER & WATER
WATER DETAILS**
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No **309095CC501** Rev **0**

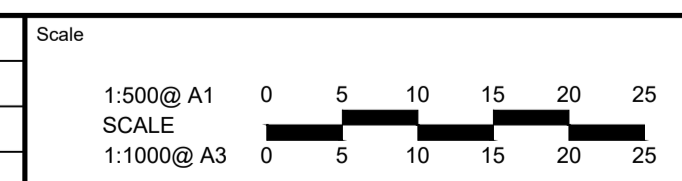


SEWER STRUCTURE
SETOUT TABLE

PIT	COORDINATES	
NAME	EASTING	NORTHING
EXMH1-2	299064.528	6002692.981
EXMH1-3	299046.725	6002695.129
MH2-1	299041.337	6002701.995
MH2-2	299047.129	6002750.015
MH2-3	299053.482	6002782.841
TMS2-19	299058.378	6002808.358
TMS2-18	299144.249	6002720.130
TMS2-4	299029.386	6002752.156
TMS2-5	299036.695	6002789.926
MH2-6	299082.891	6002690.766
MH2-7	299119.625	6002686.336
MH2-8	299150.402	6002682.623
MH2-9	299184.554	6002678.504
TMS2-10	299197.461	6002676.947
TMS2-11	299080.736	6002672.896
TMS2-12	299116.477	6002668.585
TMS2-13	299148.246	6002664.753
TMS2-14	299182.002	6002660.681
MH2-15	299122.966	6002693.991
MH2-16	299126.379	6002722.286
EP2-17	299126.763	6002725.462

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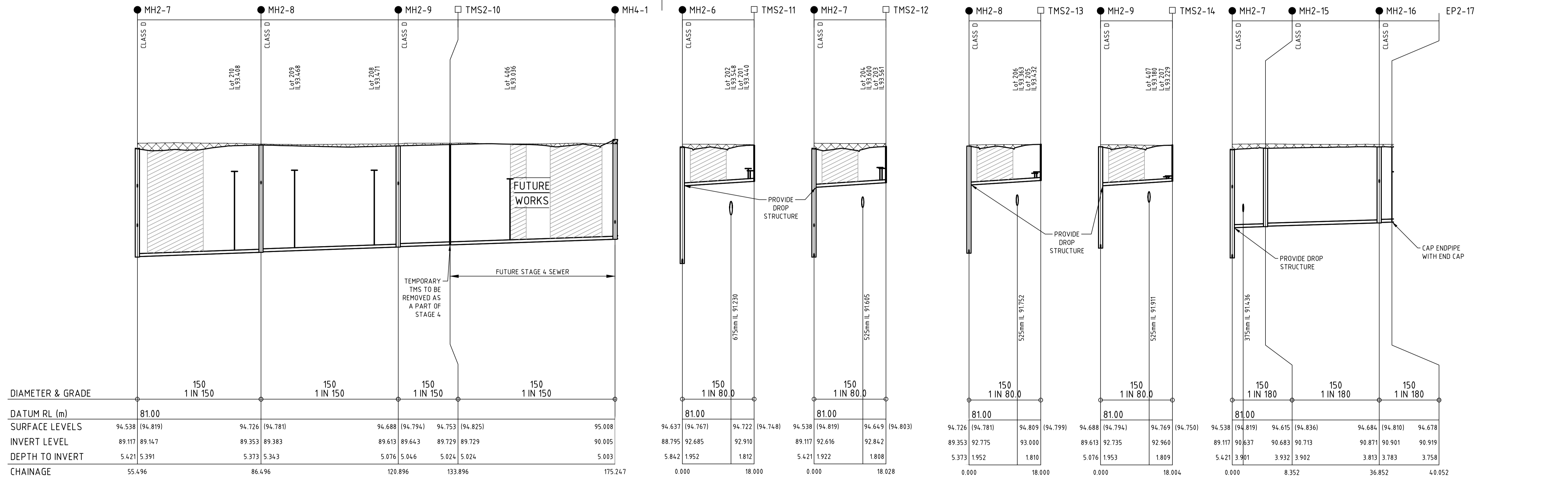
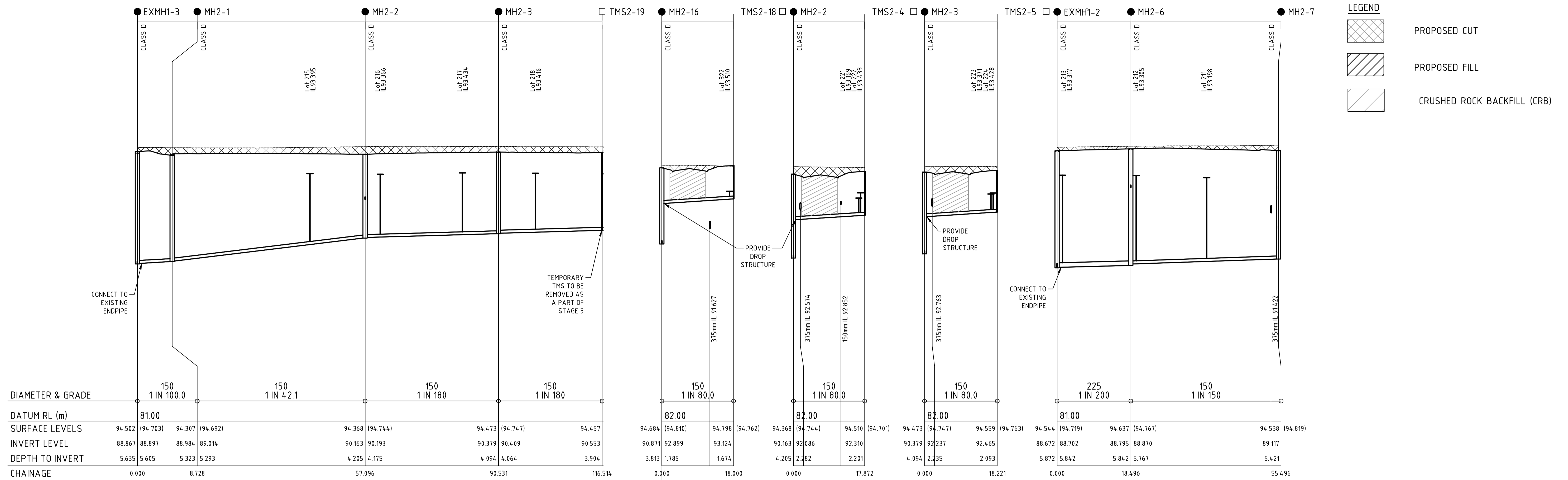
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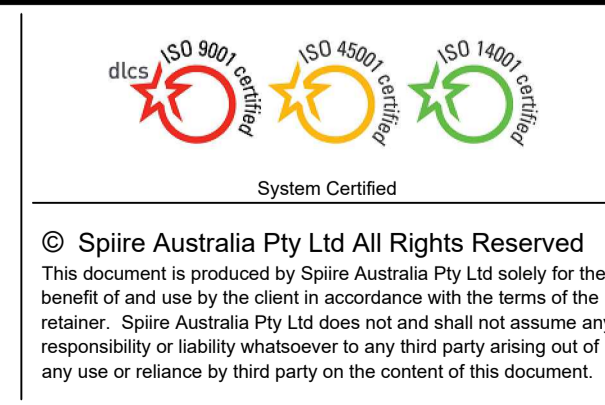
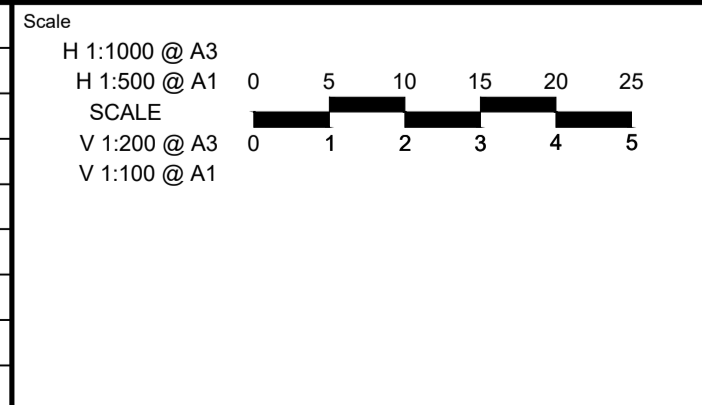
**MAIDENS GREEN
 STAGE 2
 HYDRAULICS - SEWER & WATER
 SEWER LAYOUT PLAN**
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No: 309095CC502 Rev: 0



file name: 309095CC530.dwg; layout name: C530; plotted by: Diarmuid Sheehan; file location: \\spire\beamdata\data\309095\KIV\A3.dwg; plot date: 09/08/2022, 9:17 AM; Sheet: 20 of 20 Sheets

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**MAIDENS GREEN
 STAGE 2
 HYDRAULICS - SEWER PROFILES**

MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 309095CC530

Rev **0**