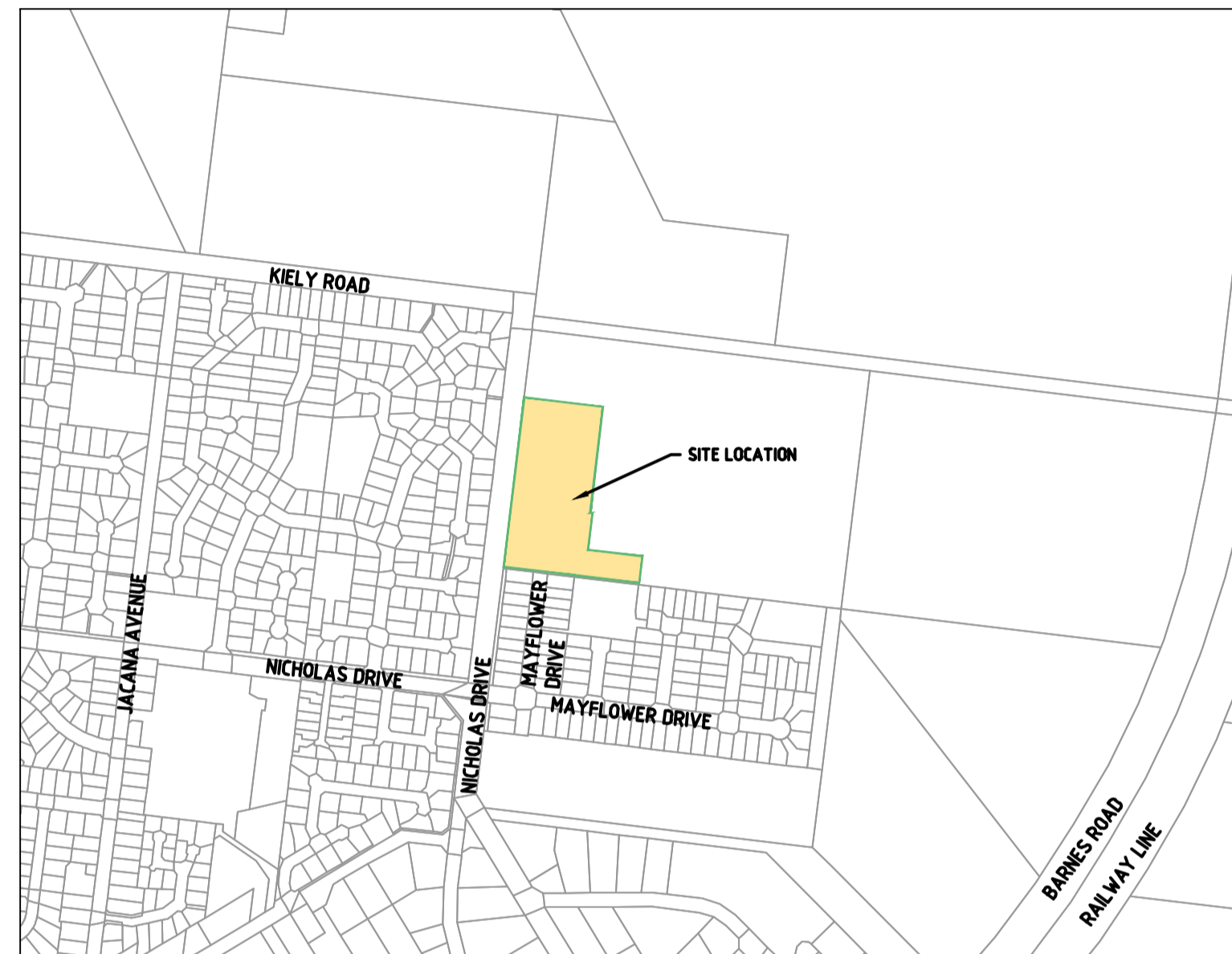


MAIDEN'S GREEN - STAGE 1 MAYFLOWER DRIVE, MOAMA CONSTRUCTION CERTIFICATE KIELY ROAD PROJECTS PTY LTD

GENERAL NOTES

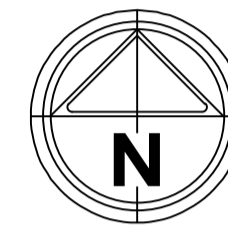
A. GENERAL

- 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 DESLUDGED 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 1.0M. 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 1.5M 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 3. 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'.



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
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	GW	GW
CONCRETE 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)TP CH116.57	CH116.57 (L/R)TP CH116.57
LOT CHAINAGE	CH20.06	CH20.06
SETOUT POINT		A2
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		



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		GAS		NBN (TELECOM)		ELECTRICITY	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	POLE	U/G CABLE
MAYFLOWER DRIVE	W	2.15	W	2.65	W	3.15	E	1.0	E	1.0x E 0.40
EMERALD AVENUE	S	2.12	S	2.55	S	2.95	N	1.0	N	1.0x N 0.40

- 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: 308576CC001.dwg, layout name: CC001, plotted by: Doreen Shueben, file location: G:\301\308576\DWG\CAD\Plot\date: 24/03/2022 2:55 PM Sheet: 1 of 21 Sheets

Rev	Amendments	Approved	Date	Scale
2	AMENDED SEWER PIPE GRADES	JF	24/03/22	
1	SEWER MH'S AMENDED TO EZI PIT OR EQUIVALENT	JF	10/02/22	
0	ISSUED FOR CONSTRUCTION	JF	21/01/22	
F	AMENDED AS PER COUNCIL COMMENTS	JF	14/01/22	
E	MINOR AMENDMENTS	JF	25/11/21	
D	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21	
C	WATER MAIN & SWRM MATERIAL AMENDED	JF	20/10/21	
B	AMENDED AS QA COMMENTS	JF	29/09/21	

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

Designed C MULHOLLAND	Checked B IBBS
Authorised C CLARKE	Date DEC 2021

**MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
COVER SHEET
FACESHEET**

 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION

 Drg No
308576CC001

 Rev
2

DESIGN PAVEMENT PROFILE

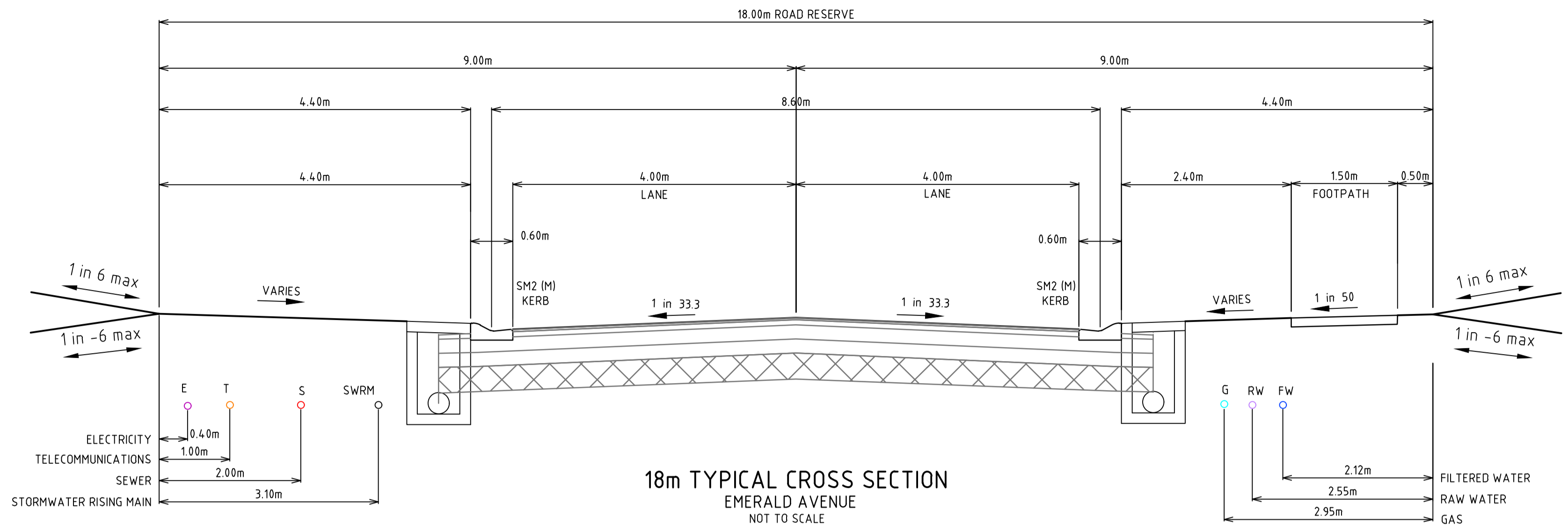
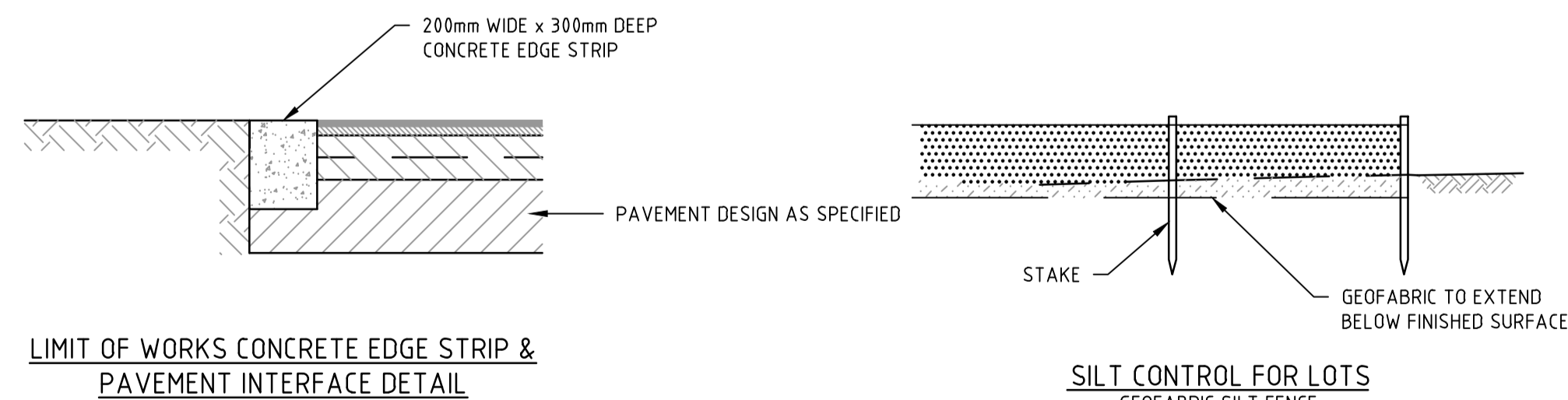
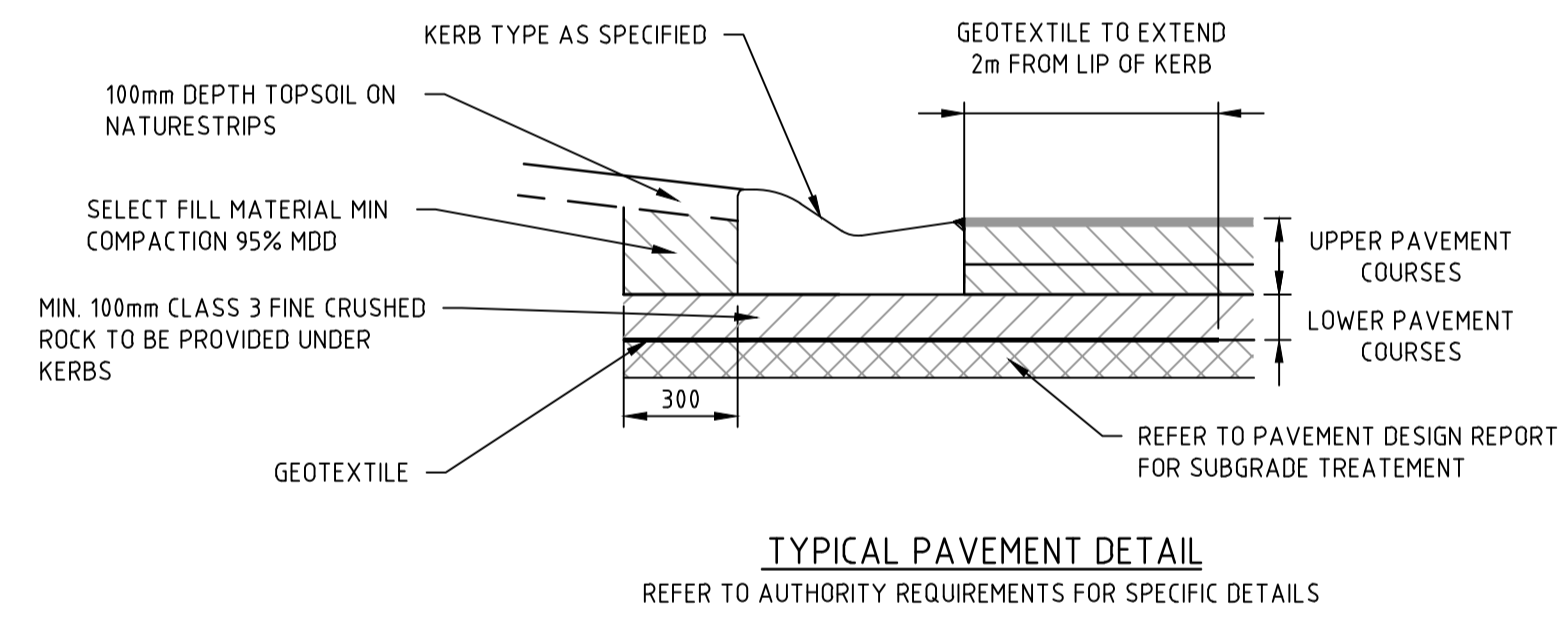
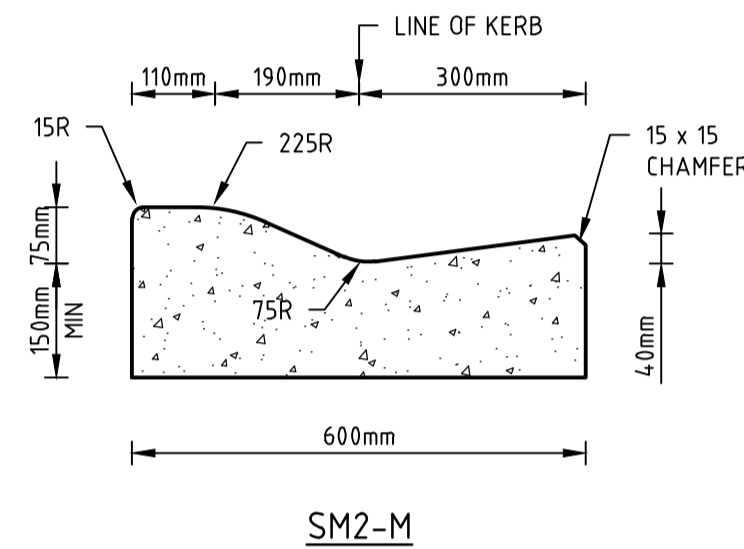
PAVEMENT LAYER	DESCRIPTION	DEPTH (mm)
		TYPE A
WEARING COURSE	SIZE 10 TYPE N ASPHALT, WITH PRIME	40
BASE COURSE	CLASS 1 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MMD)	160
SUBBASE COURSE	CLASS 3 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MMD)	140
GEOFABRIC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

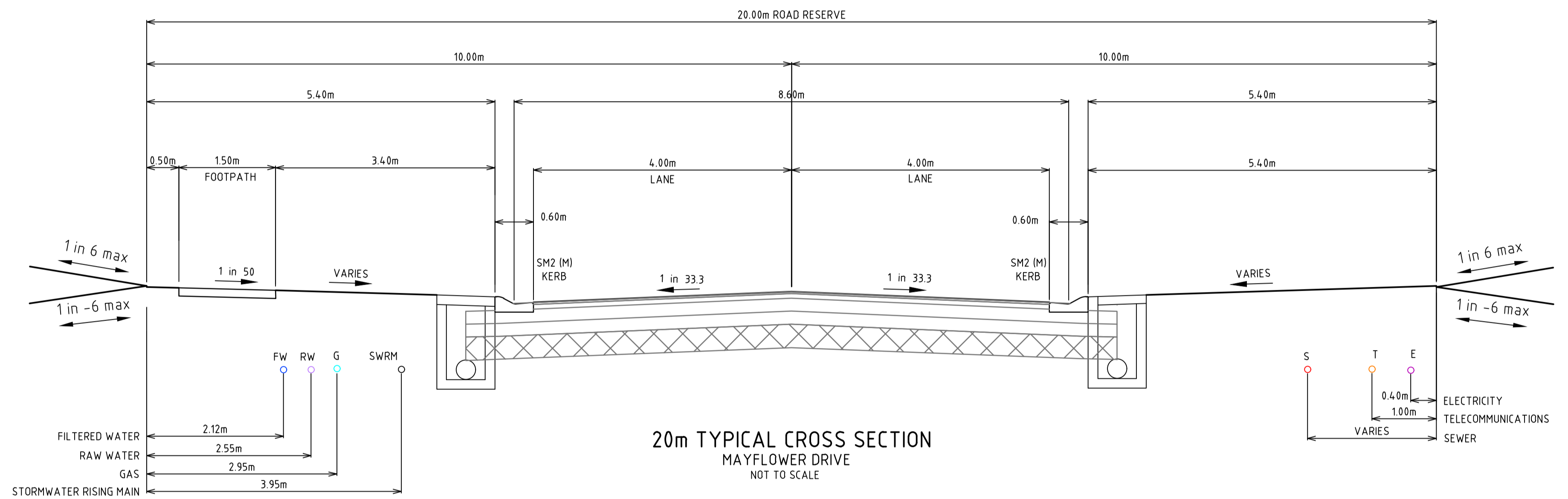
THE PAVEMENT DESIGNS SHOWN HERE HAVE BEEN PROVIDED BY MURRAY RIVER COUNCIL. SPIIRE DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THE GEOTECHNICAL WORK AND PAVEMENT DESIGNS. ANY QUERIES IN RESPECT TO THE PAVEMENT DESIGNS SHOULD BE ADDRESSED TO MURRAY RIVER COUNCIL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

GENERAL NOTES:

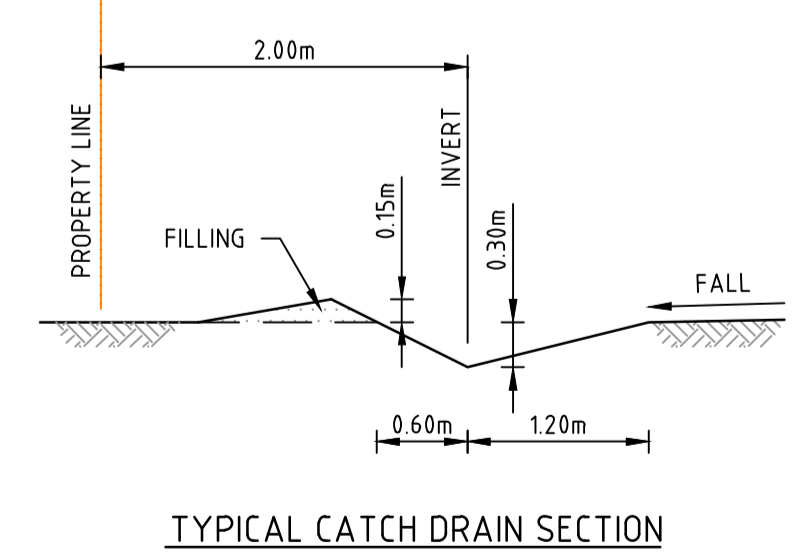
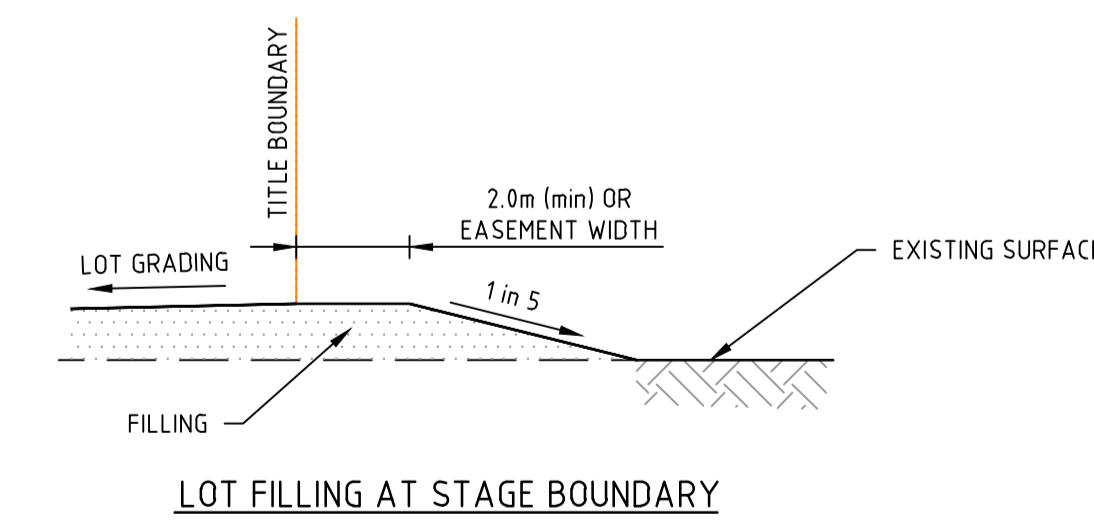
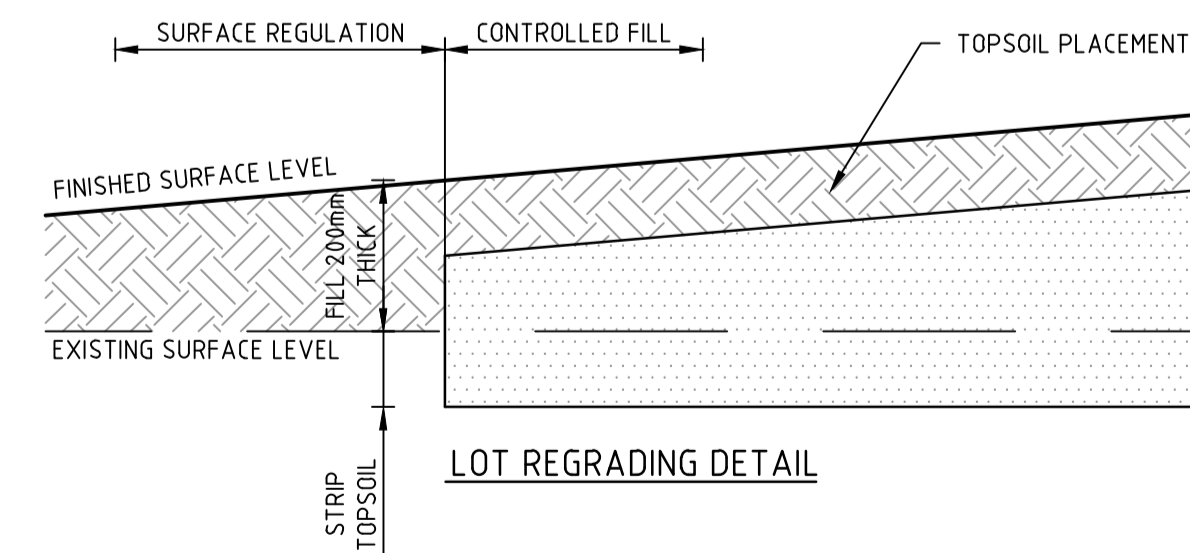
- ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AND CCAA LITERATURE.
- ALL CONCRETE TO BE MINIMUM 25MPa COMPRESSIVE STRENGTH
- CONCRETE TO BE THOROUGHLY COMPACTED USING EITHER SURFACE AND/OR IMMERSION VIBRATORS, PARTICULARLY AROUND REINFORCEMENT AND IN CORNERS OF FORMS.
- PRIOR TO CASTING, THE UNBOUND GRANULAR SUBBASE MUST BE DAMP TO ENSURE NO EARLY "DRYING OUT" OF THE CONCRETE.
- SAW CUTTING OF CONCRETE SHOULD BE COMMENCED AS SOON AS CONCRETE PERMITS BY EXPERIENCED CONTRACTORS, BUT NO LATER THAN 12 HOURS AFTER POUR.
- 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.
- ALL JOINTS TO BE APPROPRIATELY SEALED TO RESIST THE INTRUSION OF SAND AND GRAVEL AND TO MINIMISE THE INGRESS OF WATER.



**18m TYPICAL CROSS SECTION
EMERALD AVENUE
NOT TO SCALE**



**20m TYPICAL CROSS SECTION
MAYFLOWER DRIVE
NOT TO SCALE**



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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
C	WATER MAIN & SWRM MATERIAL AMENDED	JF	20/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21

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Designed: C MULHOLLAND

 Authorised: C CLARKE

 Checked: B IBBS

 Date: DEC 2021

MAIDEN'S GREEN - STAGE 1

MAYFLOWER DRIVE, MOAMA

 GENERAL ARRANGEMENT PLAN

 TYPICAL DETAILS AND SECTIONS

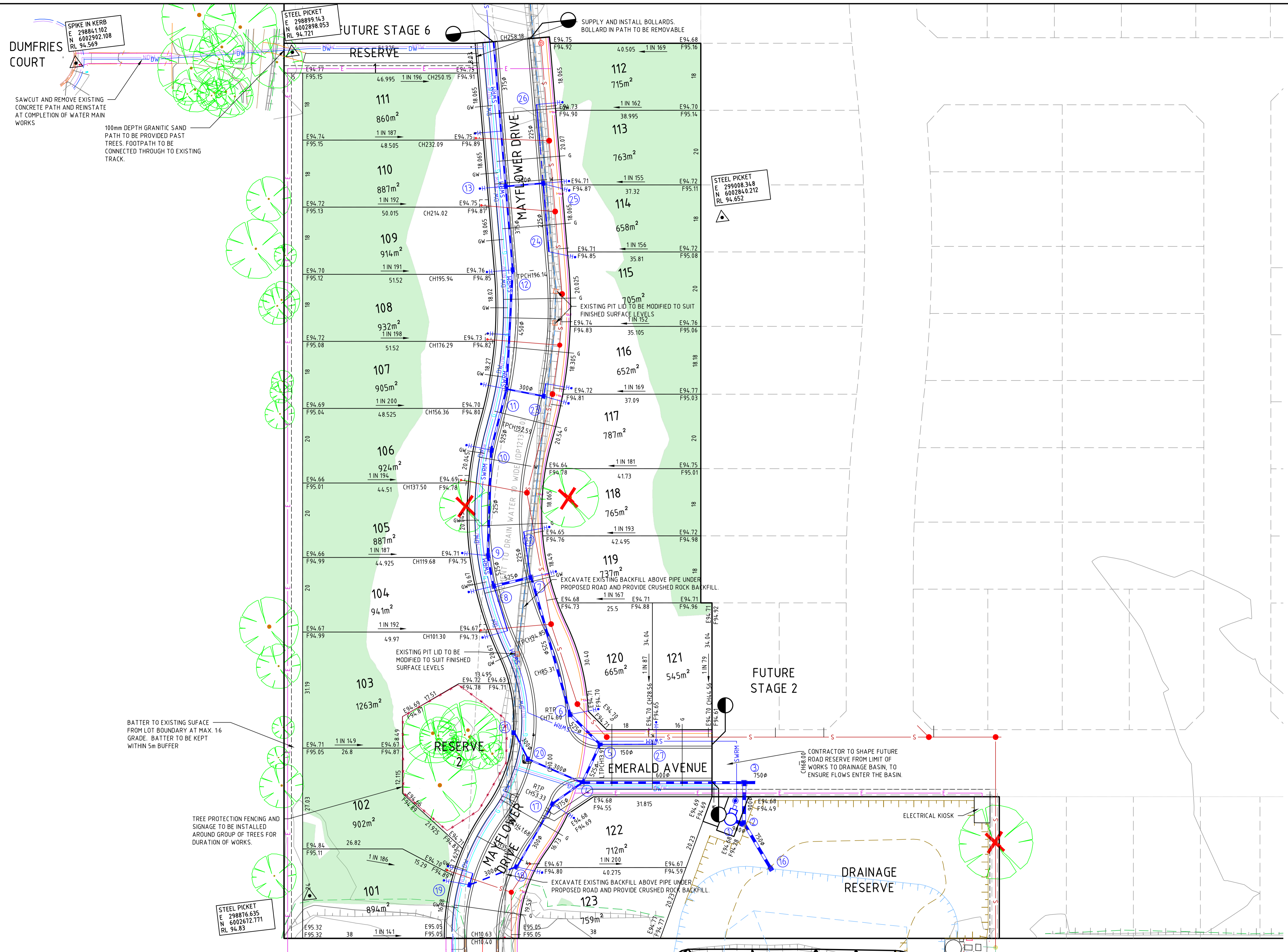
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CONSTRUCTION

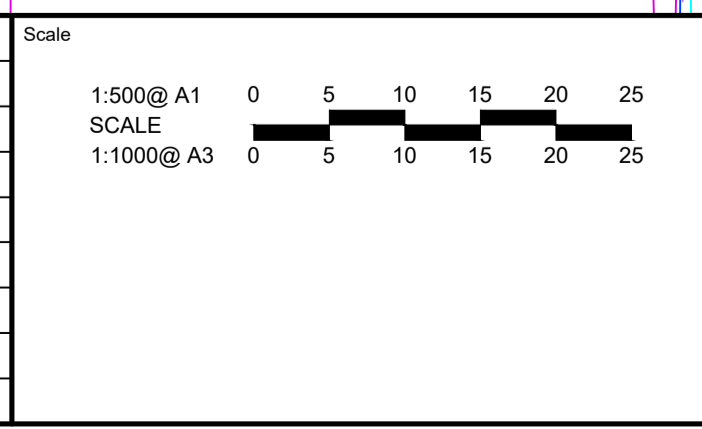
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 Rev: 0



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E	AMENDED AS PER COUNCIL COMMENTS	JF	14/01/22
D	MINOR AMENDMENTS	JF	25/11/21
C	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21



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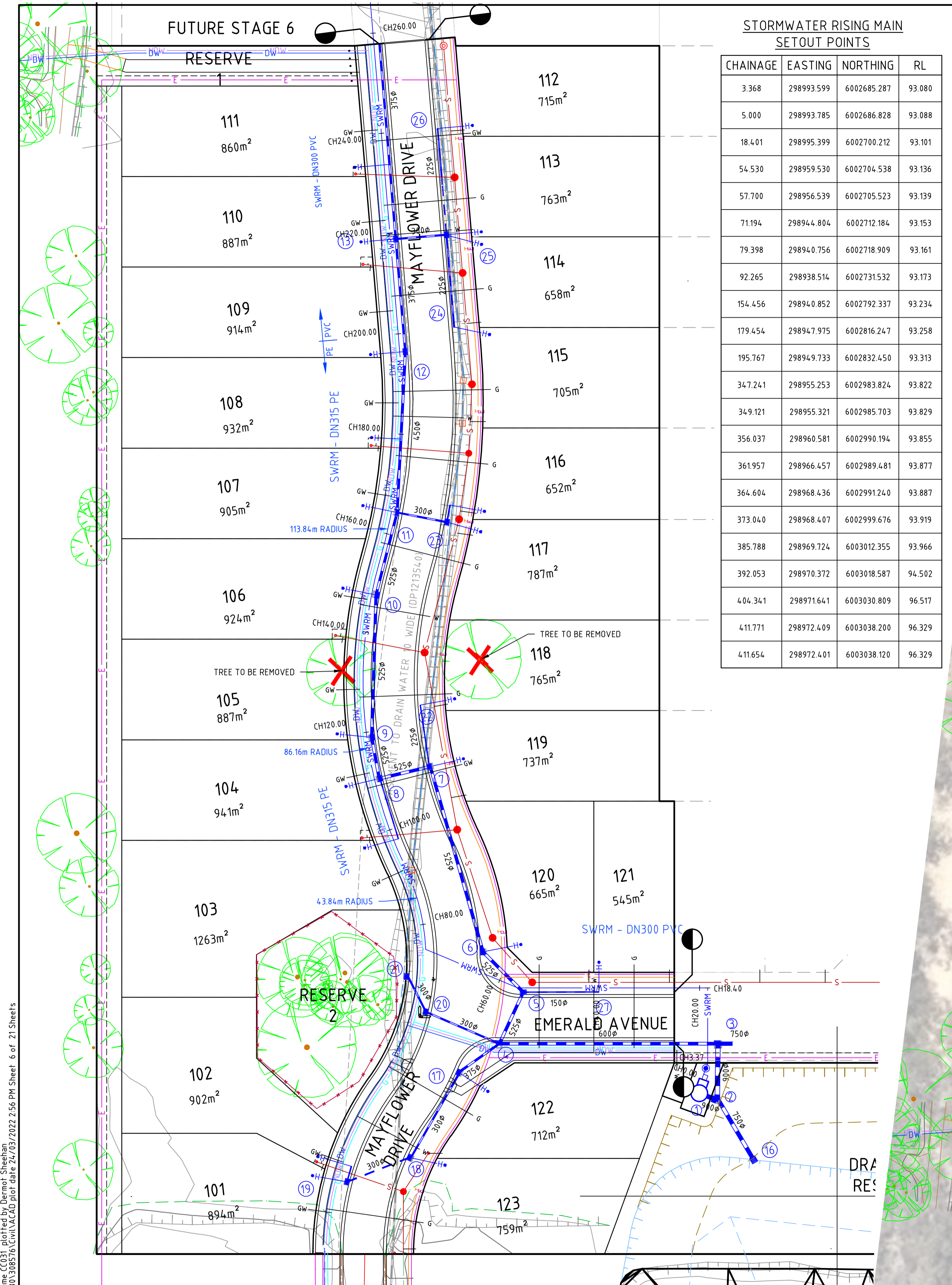
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Authorised C CLARKE	Date DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
ROAD LAYOUT PLAN
SHEET 1 OF 2
MURRAY RIVER COUNCIL
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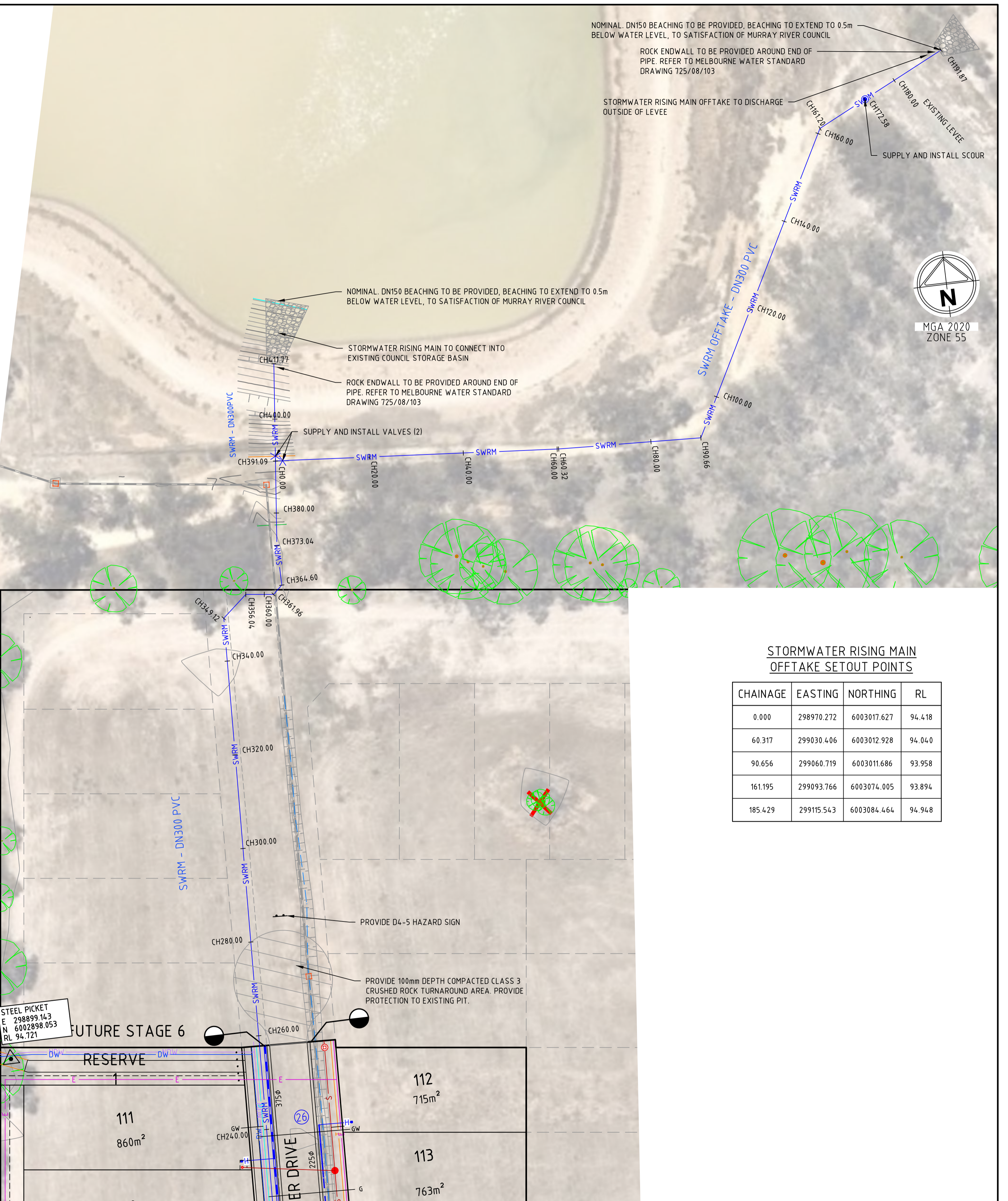
CONSTRUCTION 308576CC030

Rev 0



STORMWATER RISING MAIN SETOUT POINTS

CHAINAGE	EASTING	NORTHING	RL
3.368	298993.599	6002685.287	93.080
5.000	298993.785	6002686.828	93.088
18.401	298995.399	6002700.212	93.101
54.530	298959.530	6002704.538	93.136
57.700	298956.539	6002705.523	93.139
71.194	298944.804	6002712.184	93.153
79.398	298940.756	6002718.909	93.161
92.265	298938.514	6002731.532	93.173
154.456	298940.852	6002792.337	93.234
179.454	298947.975	6002816.247	93.258
195.767	298949.733	6002832.450	93.313
347.241	298955.253	6002983.824	93.822
349.121	298955.321	6002985.703	93.829
356.037	298960.581	6002990.194	93.855
361.957	298966.457	6002989.481	93.877
364.604	298968.436	6002991.240	93.887
373.040	298968.407	6002999.676	93.919
385.788	298969.724	6003012.355	93.966
392.053	298970.372	6003018.587	94.502
404.341	298971.641	6003030.809	96.517
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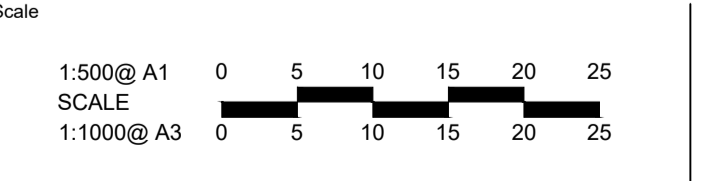


STORMWATER RISING MAIN OFFTAKE SETOUT POINTS

CHAINAGE	EASTING	NORTHING	RL
0.000	298970.272	6003017.627	94.418
60.317	299030.406	6003012.928	94.040
90.656	299060.719	6003011.686	93.958
161.195	299093.766	6003074.005	93.894
185.429	299115.543	6003084.464	94.948

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Rev	Description	Approved	Date
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
E	MINOR AMENDMENTS	JF	25/11/21
D	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
C	WATER MAIN & SWRM MATERIAL AMENDED	JF	20/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21



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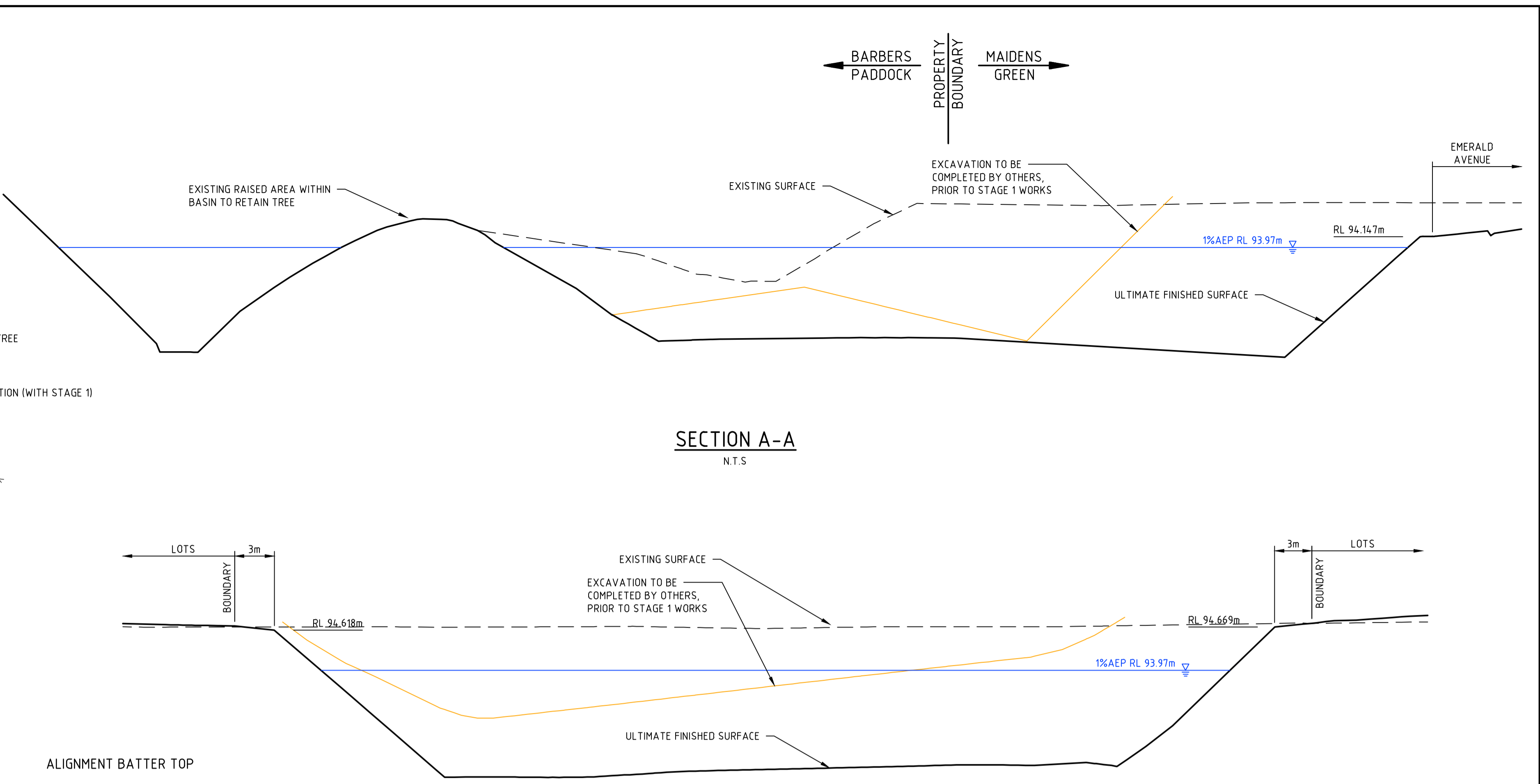
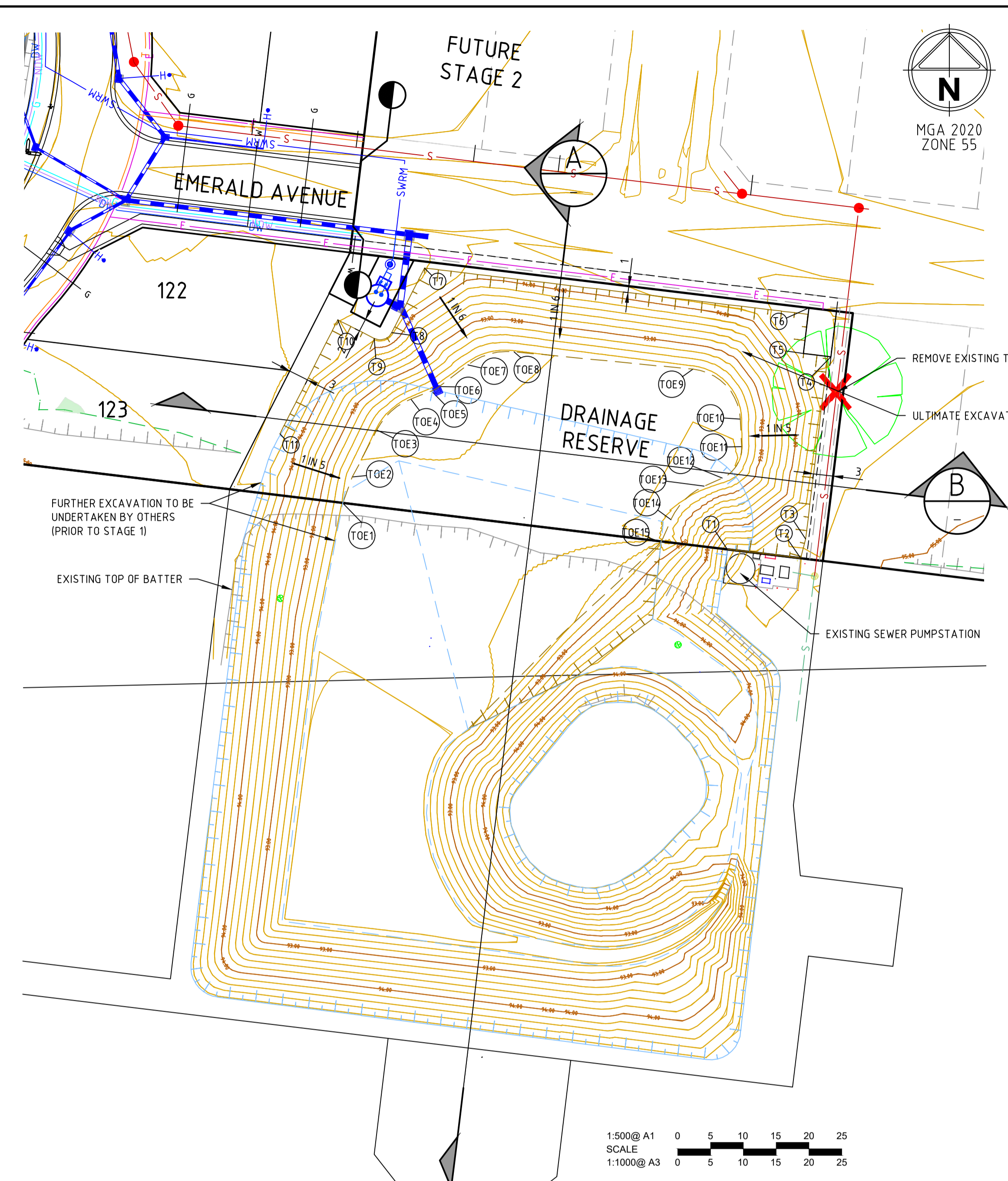
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Date
DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
ROAD LAYOUT PLAN
SHEET 2 OF 2
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

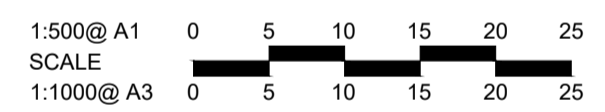
CONSTRUCTION 308576CC031

Rev 0



ALIGNMENT BATTER TOP

POINT NO	EASTING	NORTHING	RL
T1	299044.544	600264.031	94.776
T2	299055.661	600263.659	94.871
T3	299056.431	600264.258	94.737
T4	299059.783	600267.089	94.597
T5	299056.106	600267.836	94.570
T6	299056.829	600267.787	94.568
T7	298998.413	600268.833	94.415
T8	298993.410	600267.001	94.238
T9	298990.720	600267.125	94.238
T10	298985.194	600267.937	94.409
T11	298976.368	600265.591	94.542

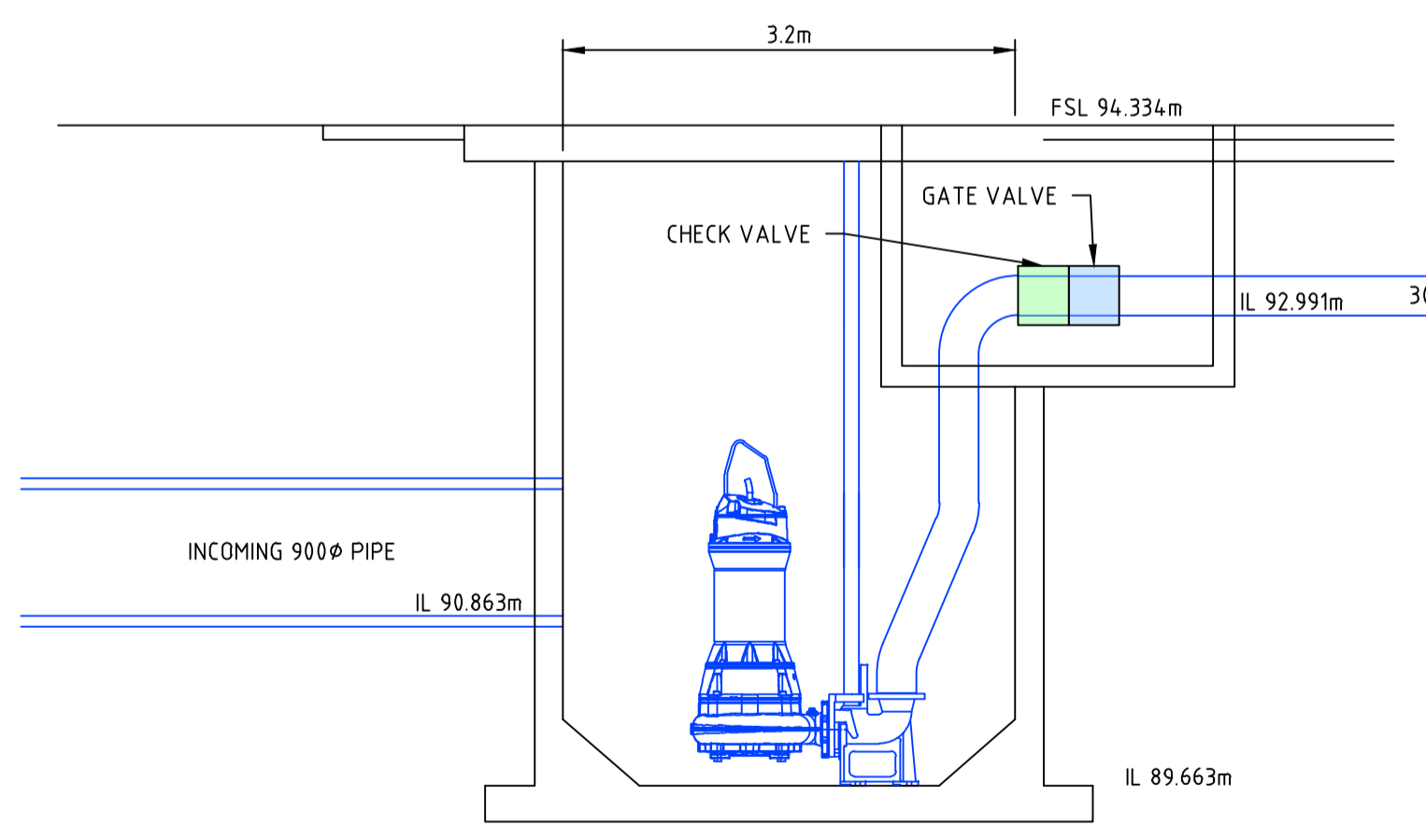
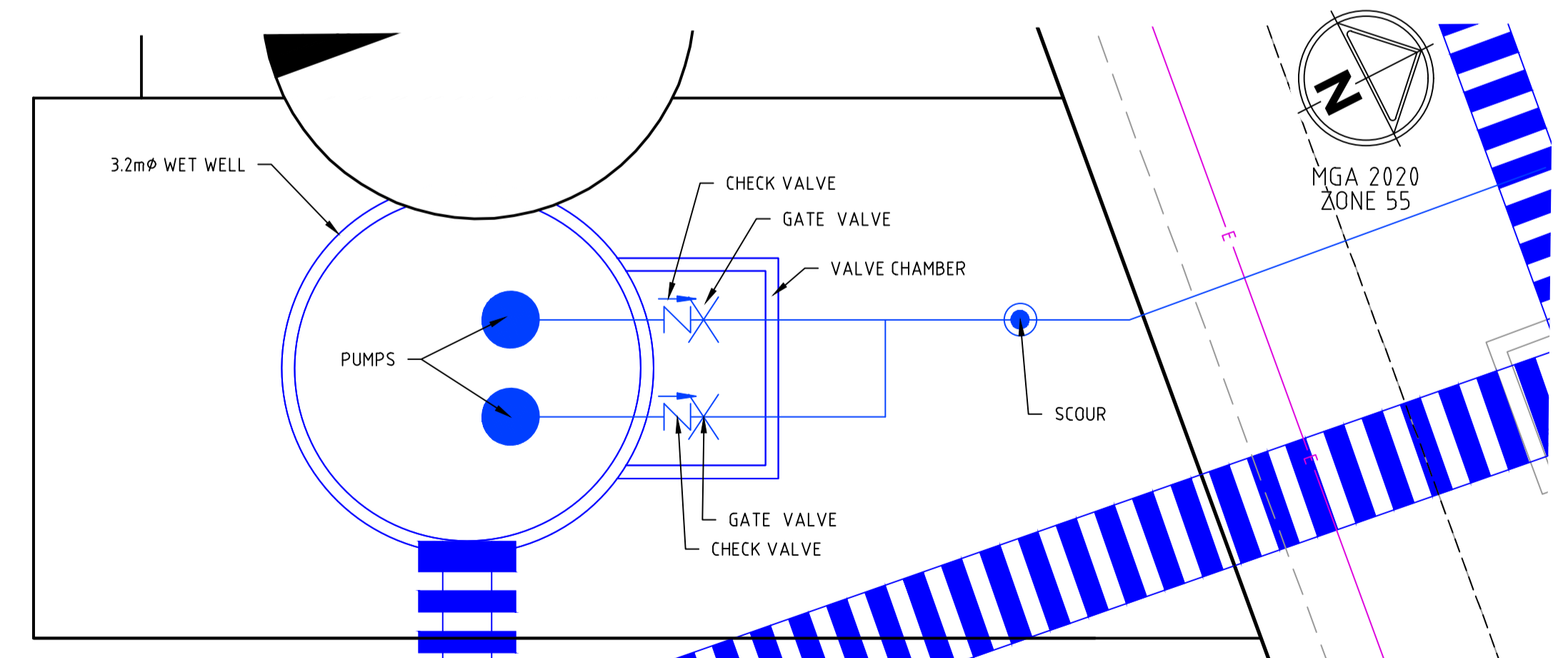


- STORMWATER PUMP STATION NOTES**
- ALL WORKS ARE TO BE COUNCIL STANDARDS AND REQUIREMENTS.
 - CONTRACTOR TO SUPPLY AND INSTALL ALL REQUIRED COMPONENTS OF STORMWATER PUMP STATION, INCLUDING:
 - WET WELL AND VALVE CHAMBER AS REQUIRED
 - TWO PUMPS (DUTY AND STANDBY) - PUMP TO BE SIZED TO SUIT FLOW RATE OF 0.15m³/s
 - LEVEL SENSORS
 - COVER SLAB WITH ACCESS LIDS
 - TWO CHECK VALVES AND TWO GATE VALVES WITHIN VALVE CHAMBER
 - ABOVE GROUND CONTROL PANEL WITH MOTOR CONTROL
 - TELEMETRY
 - EXTERNAL 3 PHASE GPO FOR GENERATOR CONNECTION IN POWER FAILURE
 - NOTE THAT STORMWATER RISING MAIN DIAMETER CAN CHANGE IF REQUIRED TO SUIT PUMPING SETUP. CONTRACTOR TO LIAISE WITH SPIRE IF DIAMETER SIZE IS TO CHANGE.
 - CONTRACTOR TO OBTAIN APPROVAL FROM COUNCIL FOR PUMP STATION DESIGN PRIOR TO COMMENCEMENT OF CONSTRUCTION.

BASIN TOE SETOUT POINTS

POINT NO	EASTING	NORTHING	RL
TOE1	298985.963	600264.8033	92.395
TOE2	298987.412	600265.2024	92.343
TOE3	298991.130	600265.194	92.246
1/4	298992.093	600266.704	92.224
1/2	298993.310	600266.017	92.202
3/4	298994.742	600266.092	92.181
TOE4	298996.342	600266.895	92.159
TOE5	298999.462	600266.124	92.119
1/4	298999.776	600266.261	92.114
1/2	299000.081	600266.418	92.110
3/4	299000.373	600266.597	92.106
TOE6	299000.653	600266.794	92.106
TOE7	299005.004	600266.099	92.133
1/4	299006.587	600267.083	92.142
1/2	299008.325	600267.756	92.152
3/4	299010.158	600267.1095	92.161
TOE8	299012.022	600267.1088	92.170
TOE9	299039.265	600268.433	92.307
1/4	299044.286	600266.661	92.321
1/2	299044.786	600266.984	92.336
3/4	299045.846	600266.613	92.350
TOE10	299046.480	600266.847	92.364
TOE11	299046.677	600266.658	92.385
1/4	299046.525	600266.179	92.393
1/2	299045.945	600265.810	92.400
3/4	299044.988	600265.672	92.419
TOE12	299043.739	600265.866	92.453
TOE13	299040.973	600265.618	92.523
1/4	299039.375	600264.912	92.566
1/2	299037.970	600264.529	92.608
3/4	299036.805	600264.108	92.651
TOE14	299035.920	600264.499	92.694
TOE15	299034.421	600264.2062	92.780

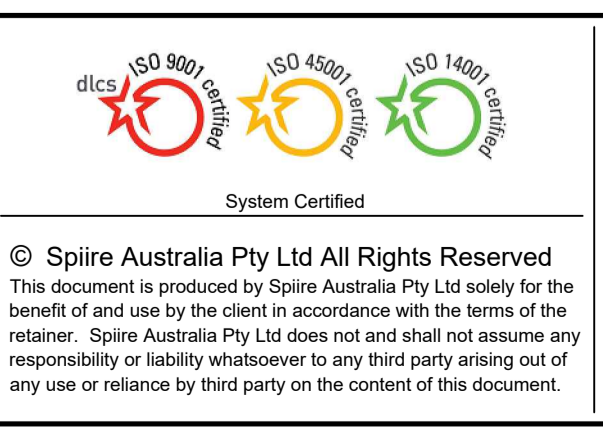
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TOE3-TOE4	10.000	7.172	7.019	0.636	0.160
TOE5-TOE6	5.000	1.372	1.367	0.047	-0.012
TOE7-TOE8	10.000	7.467	7.295	0.689	0.174
TOE9-TOE10	8.000	11.414	10.470	1.951	0.504
TOE11-TOE12	5.000	5.969	5.621	0.865	0.221
TOE13-TOE14	10.000	7.358	7.193	0.669	-0.169



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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
E	MINOR AMENDMENTS	JF	25/11/21
D	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
C	WATER MAIN & SWRM MATERIAL AMENDED	JF	20/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21

Scale: AS SHOWN



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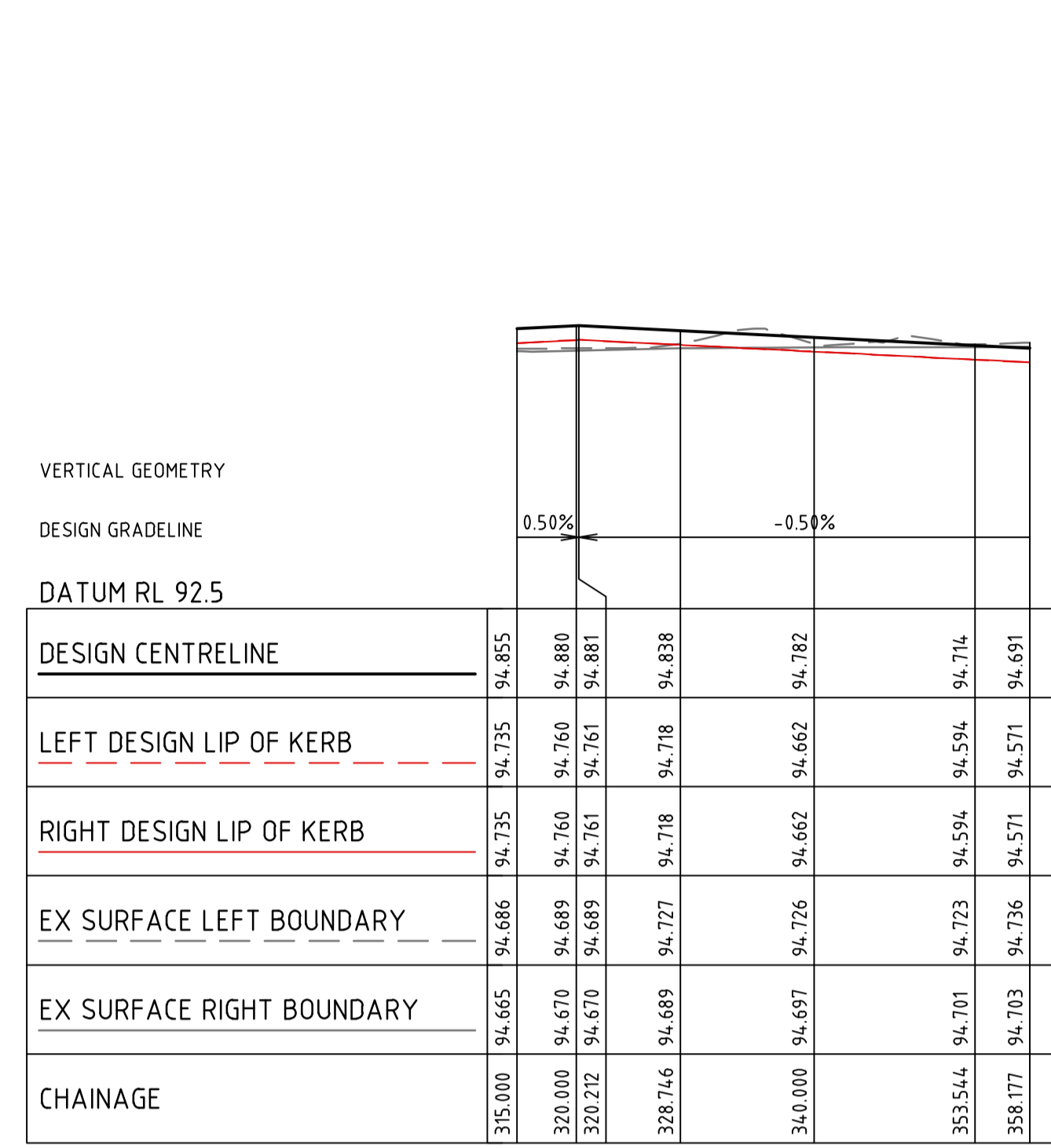
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Authorised C CLARKE	Date DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
 ROAD LAYOUT PLAN
 DRAINAGE BASIN AND PUMPSTATION DETAILS
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

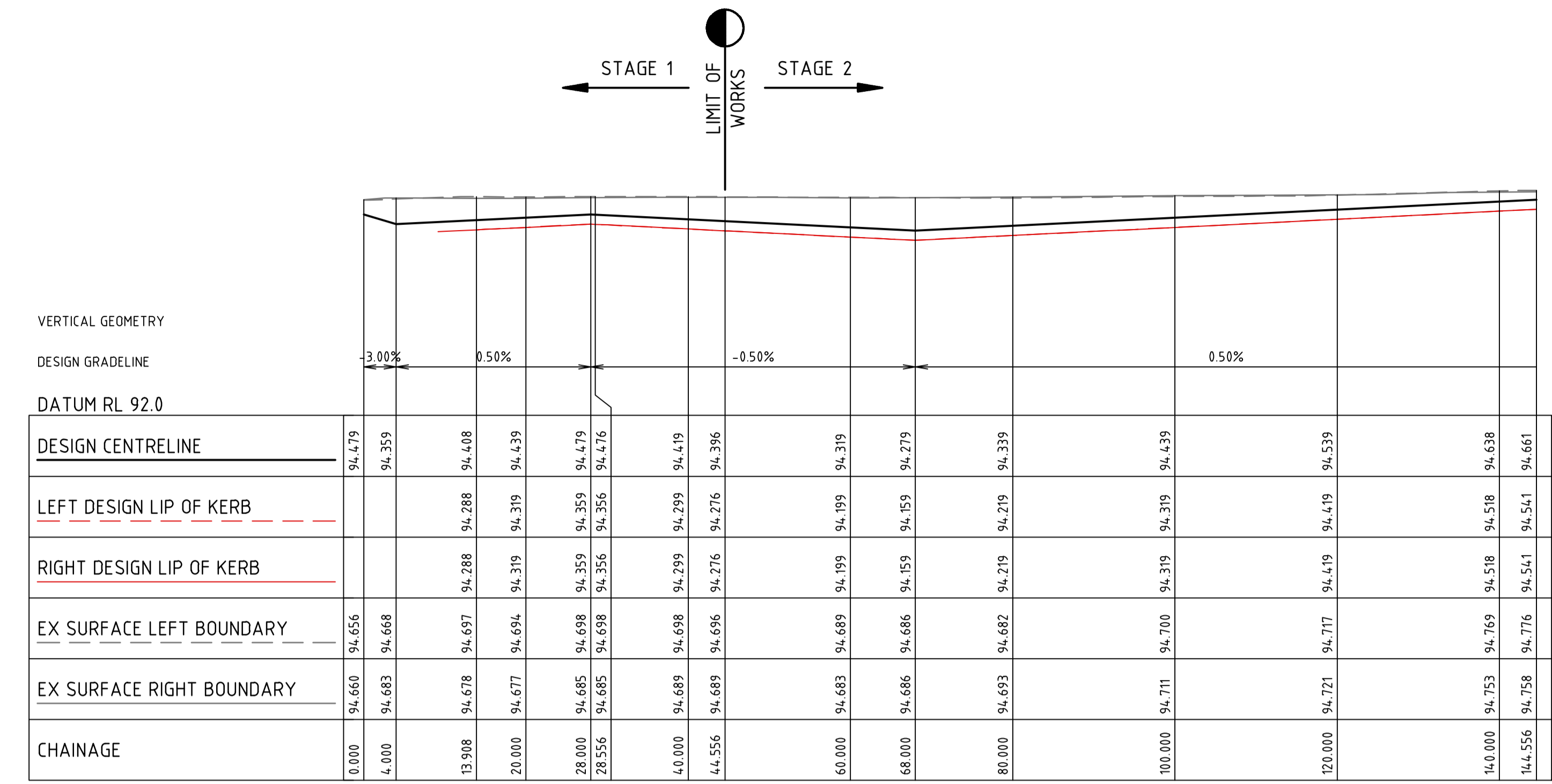
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Rev 0

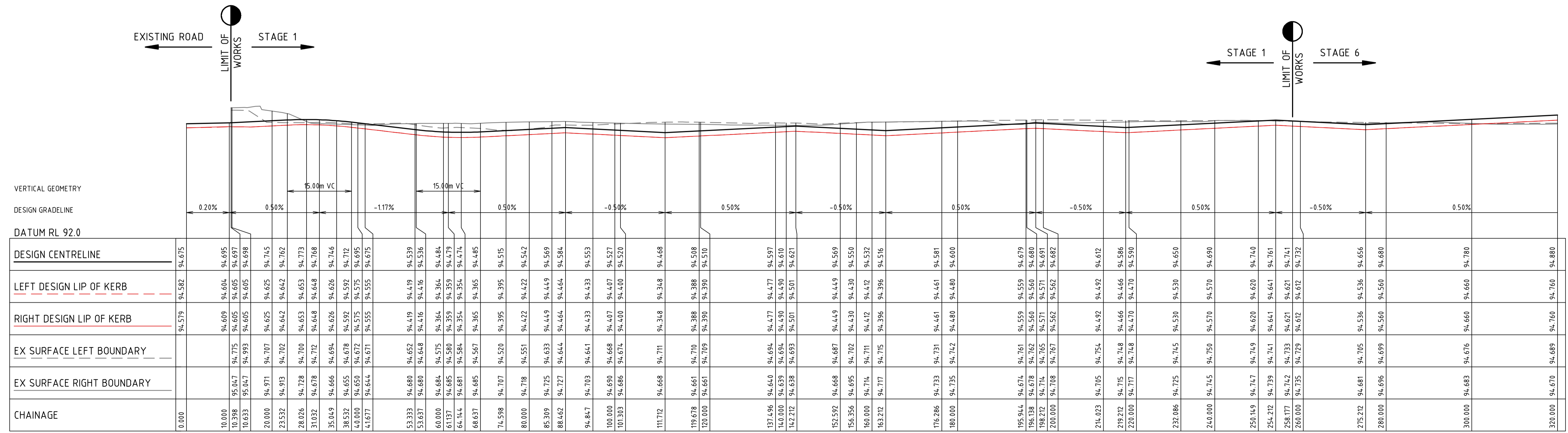
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MAYFLOWER DRIVE

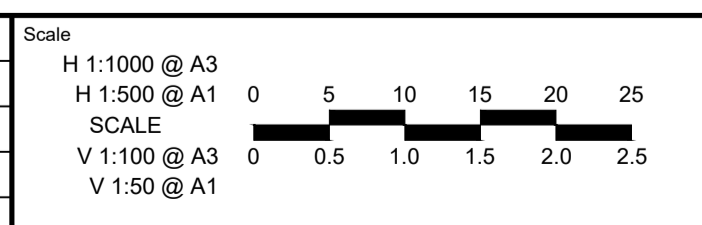


EMERALD AVENUE



MAYFLOWER DRIVE

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21



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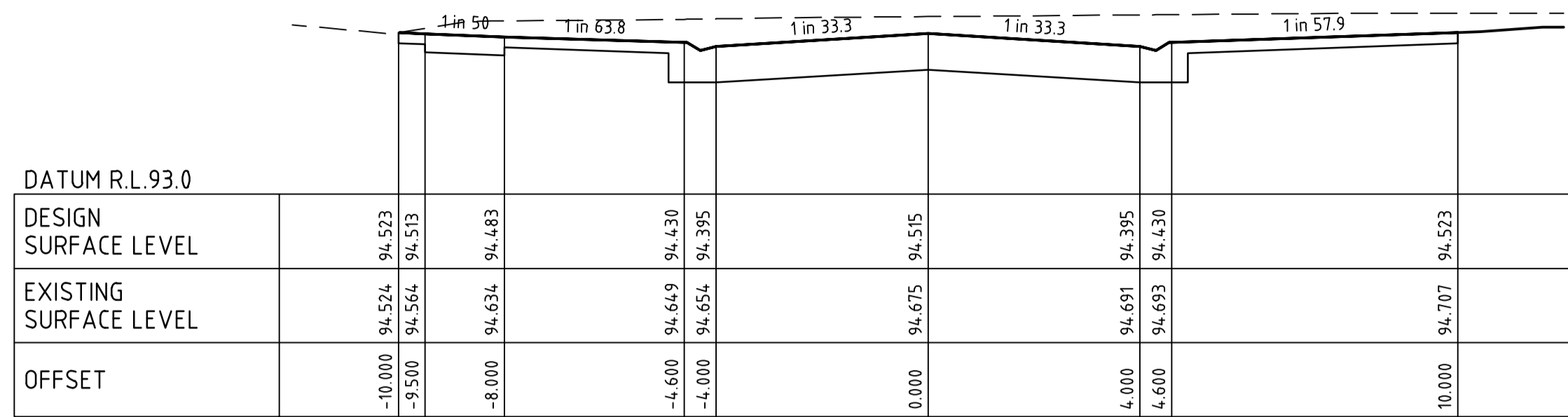
Designed C MULHOLLAND	Checked B IBBS
Authorised C CLARKE	Date DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
ROAD LONGITUDINAL SECTIONS

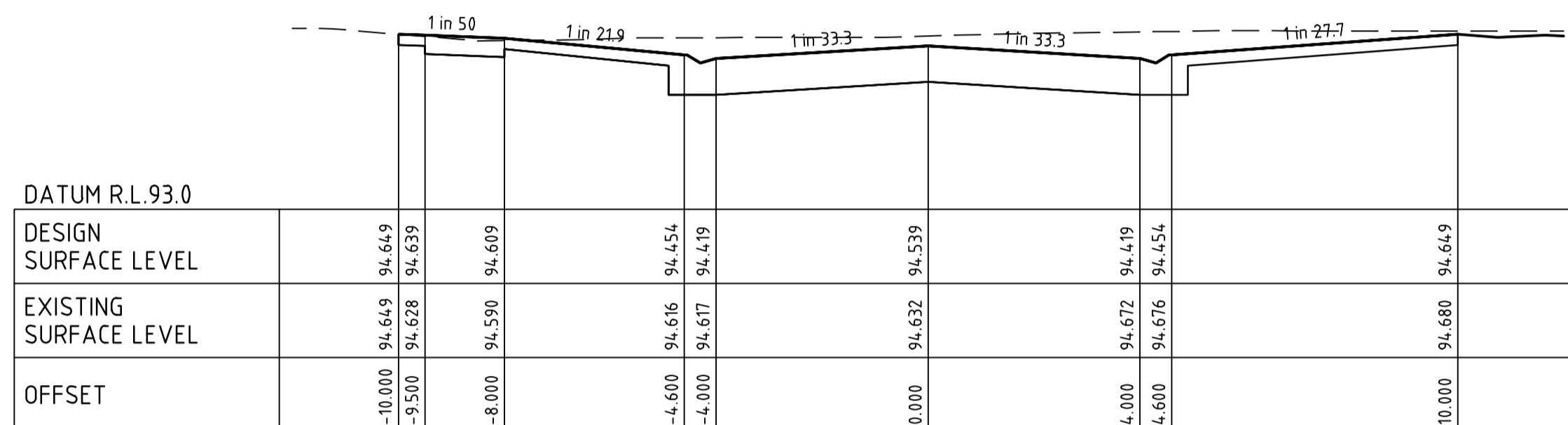
MURRAY RIVER COUNCIL
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CONSTRUCTION 308576CC100

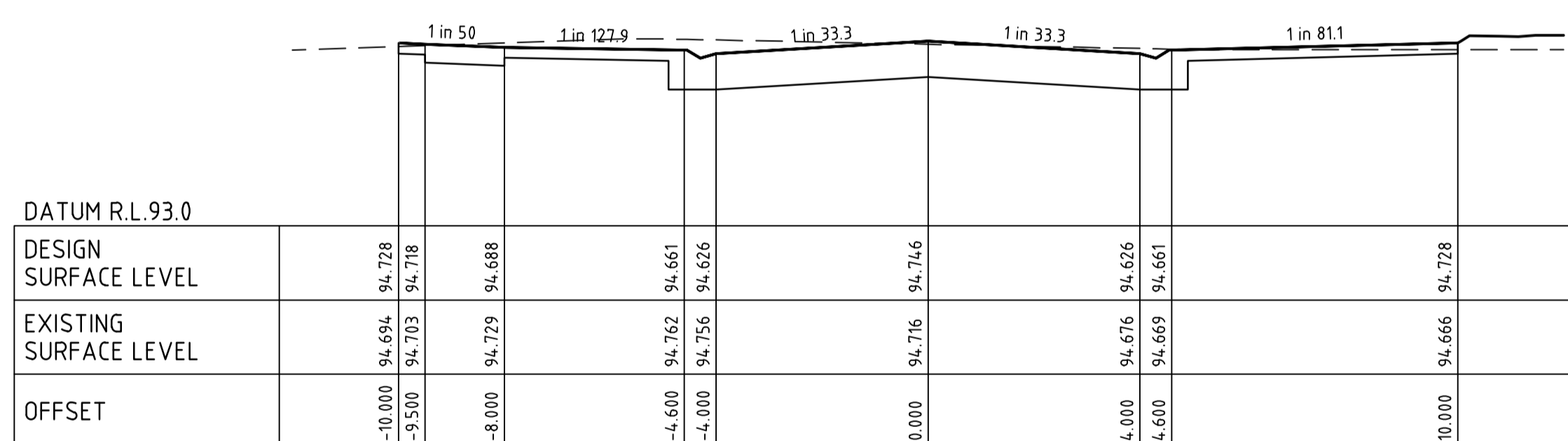
Rev 0



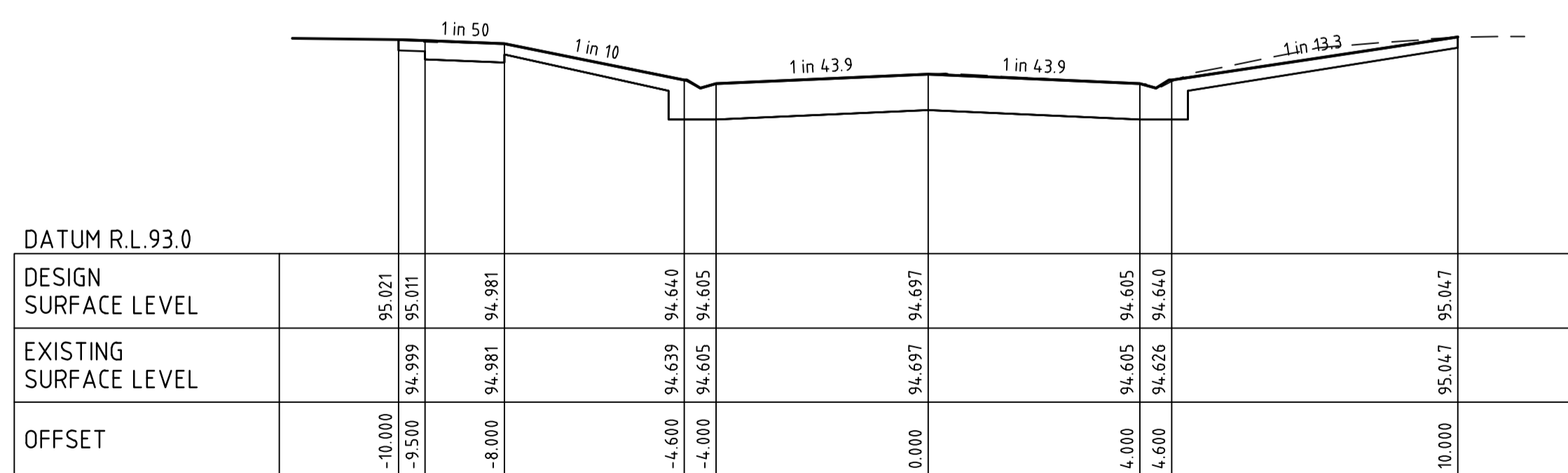
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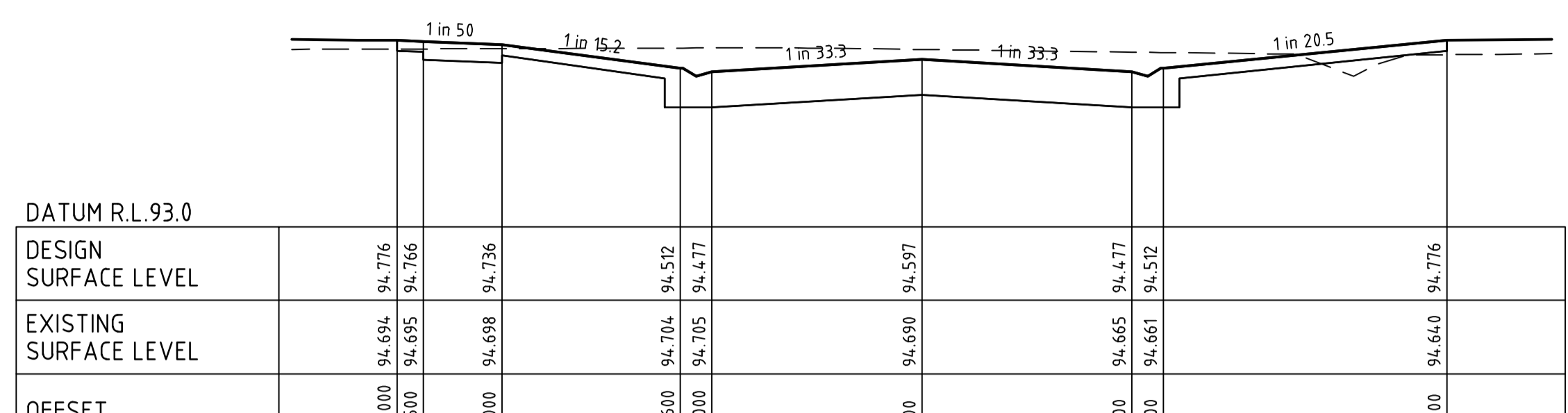
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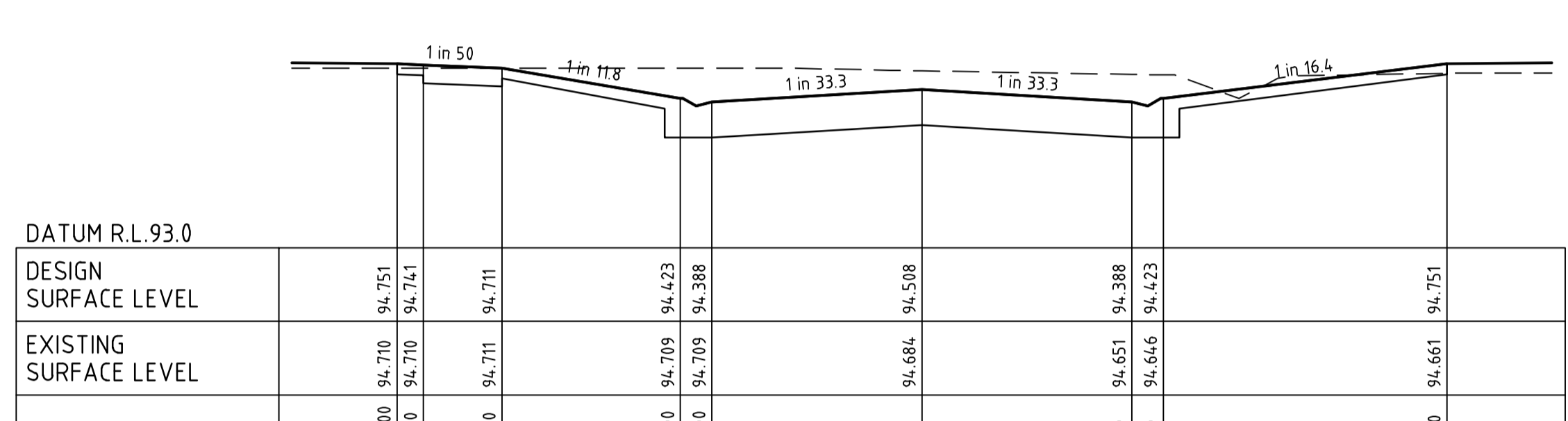
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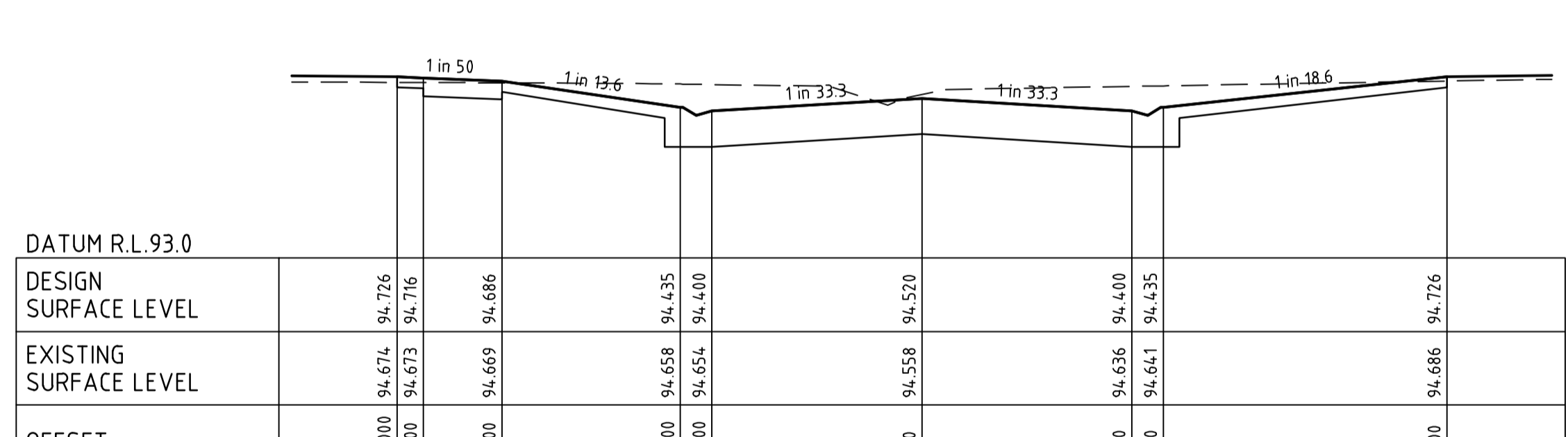
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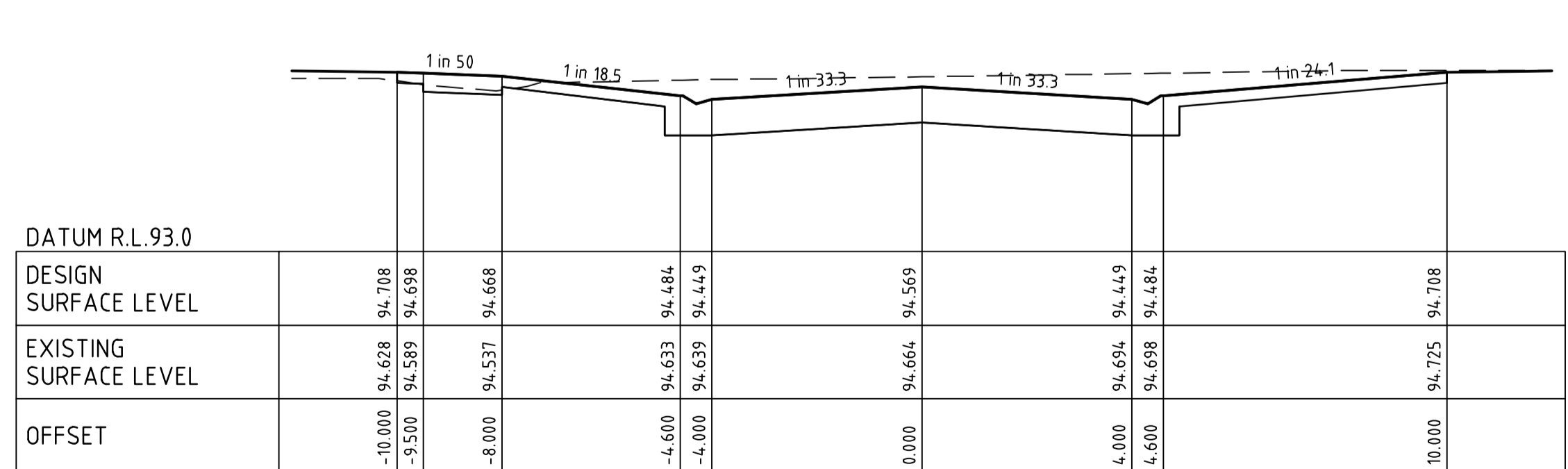
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MAYFLOWER DRIVE CH 119.68



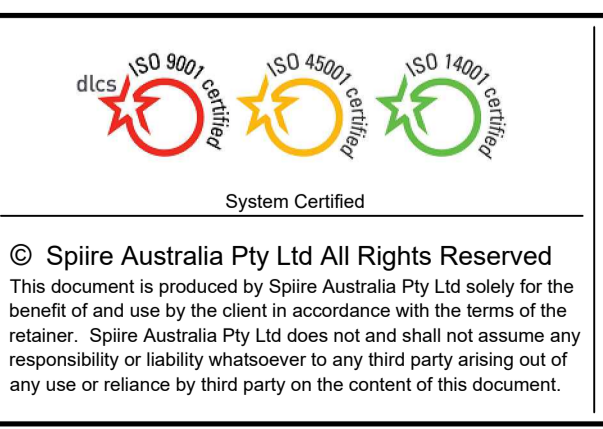
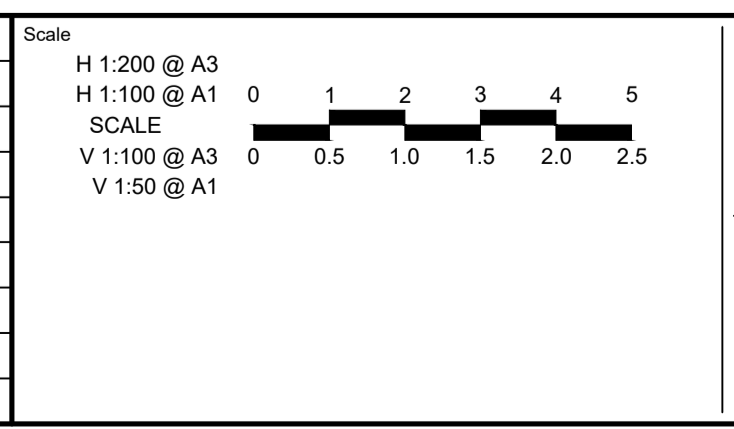
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B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21



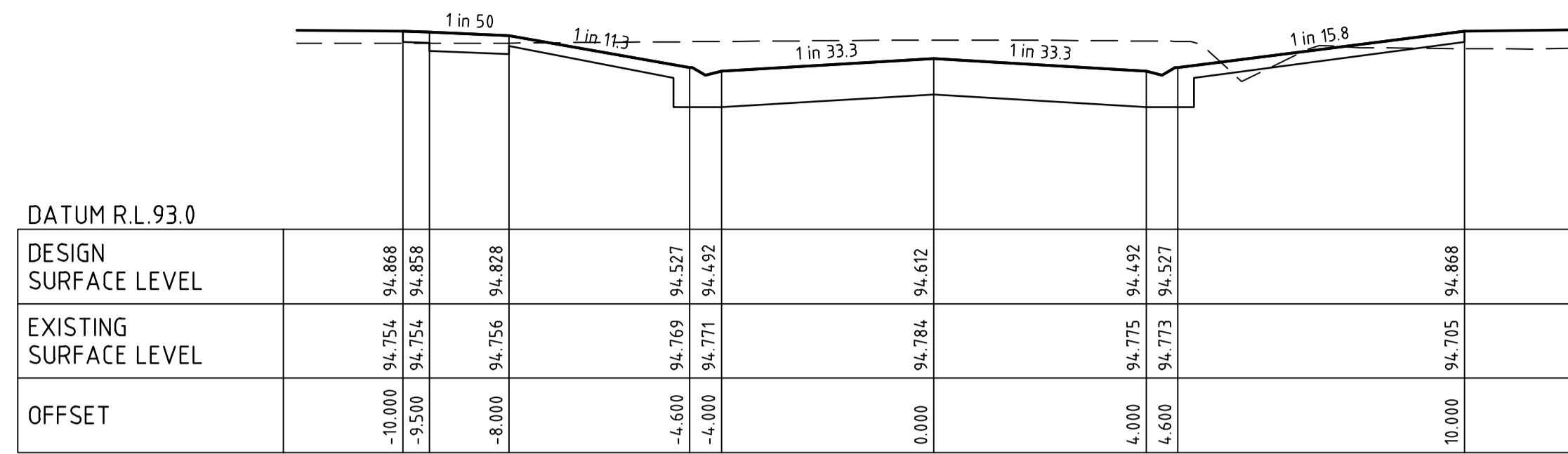
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**MAIDEN'S GREEN - STAGE 1
 MAYFLOWER DRIVE, MOAMA**
 ROAD CROSS SECTIONS
 SHEET 1 OF 3
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

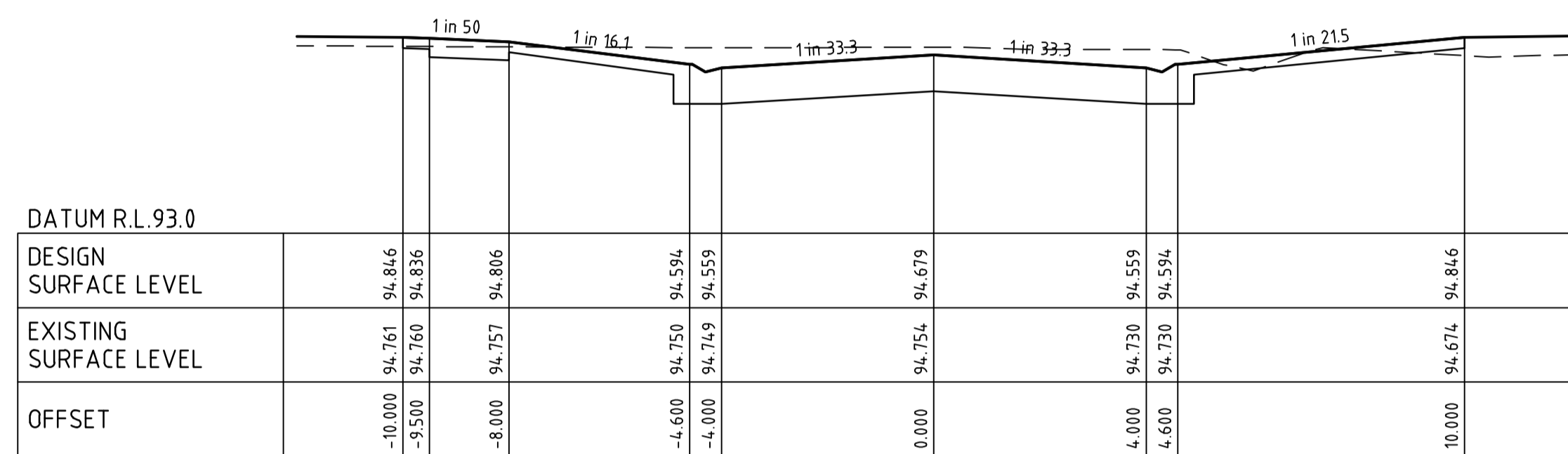
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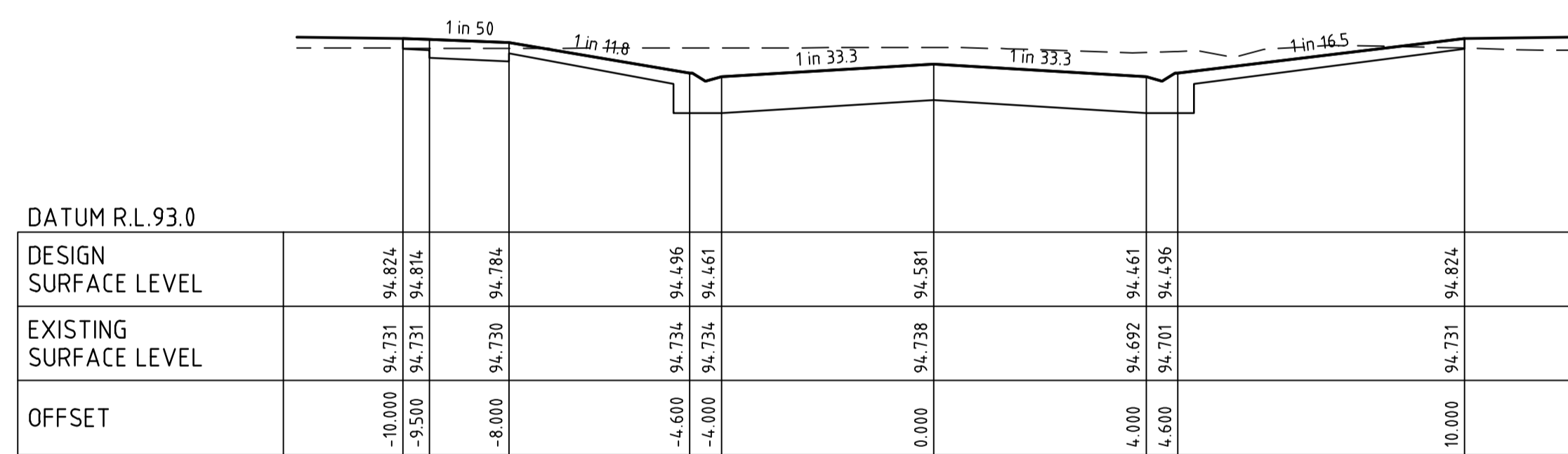
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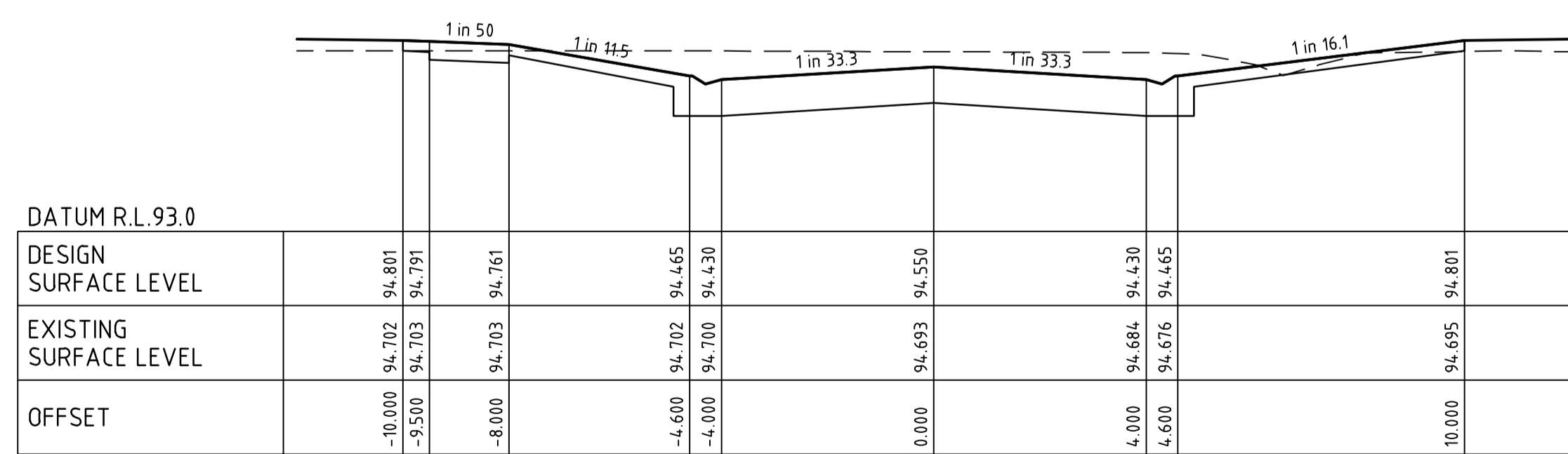
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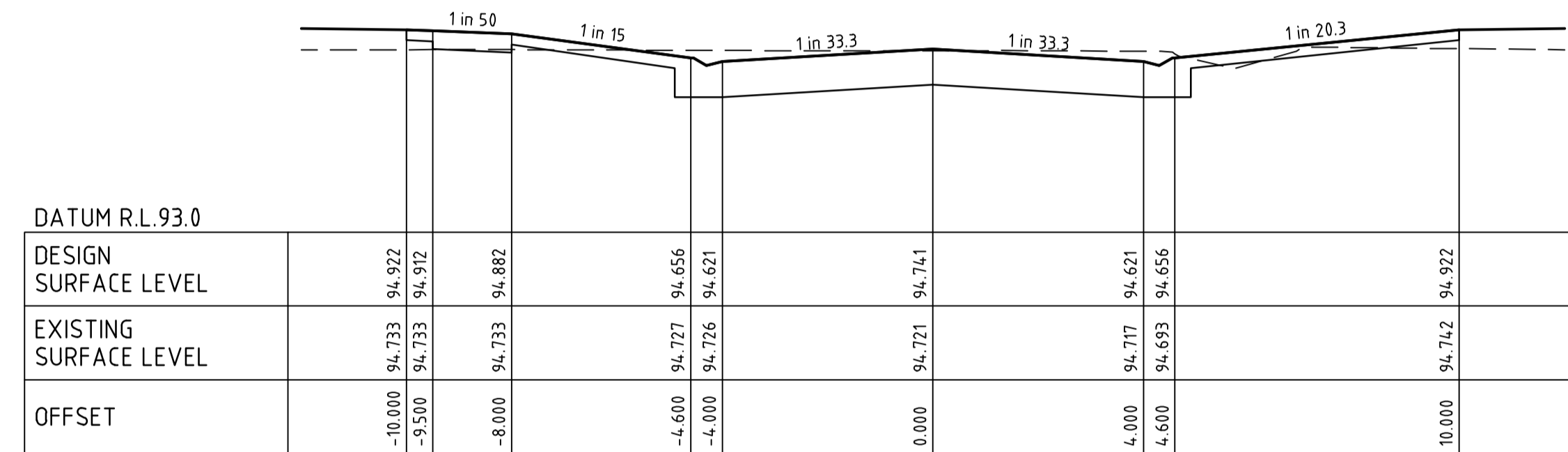
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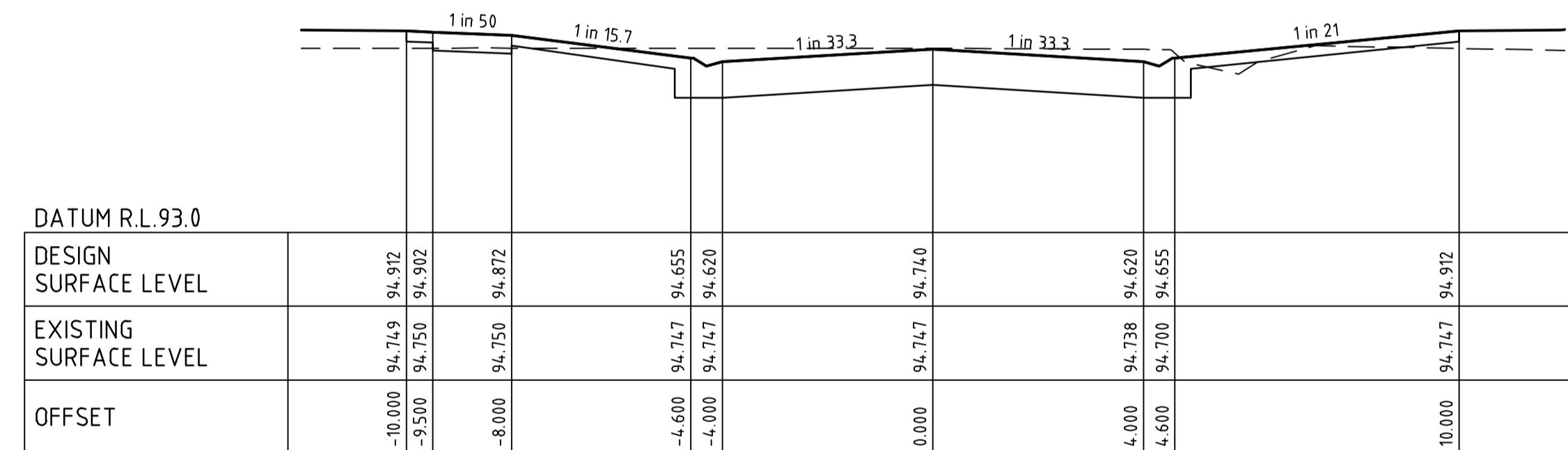
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CH 156.36



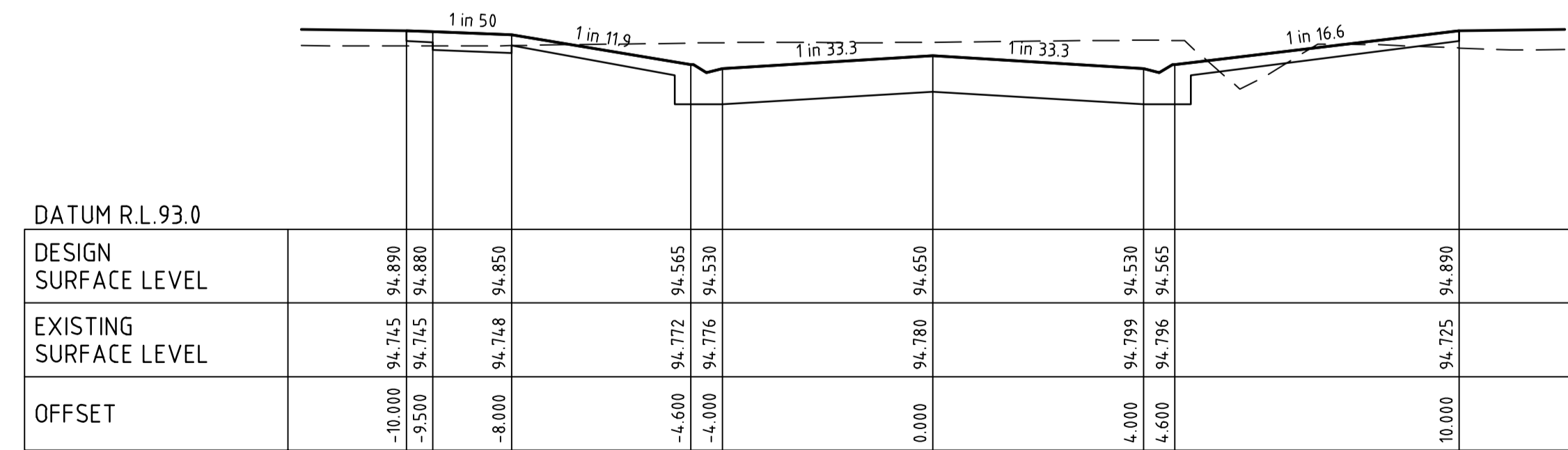
MAYFLOWER DRIVE

CH 258.18



MAYFLOWER DRIVE

CH 250.15

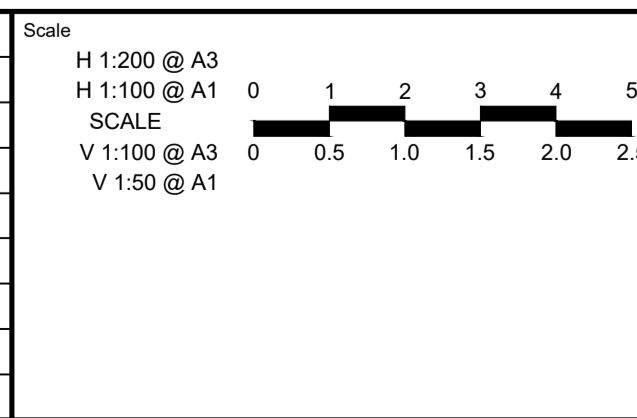


MAYFLOWER DRIVE

CH 232.09

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0	ISSUED FOR CONSTRUCTION	JF	21/01/22
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21
Rev	Amendments	Approved	Date



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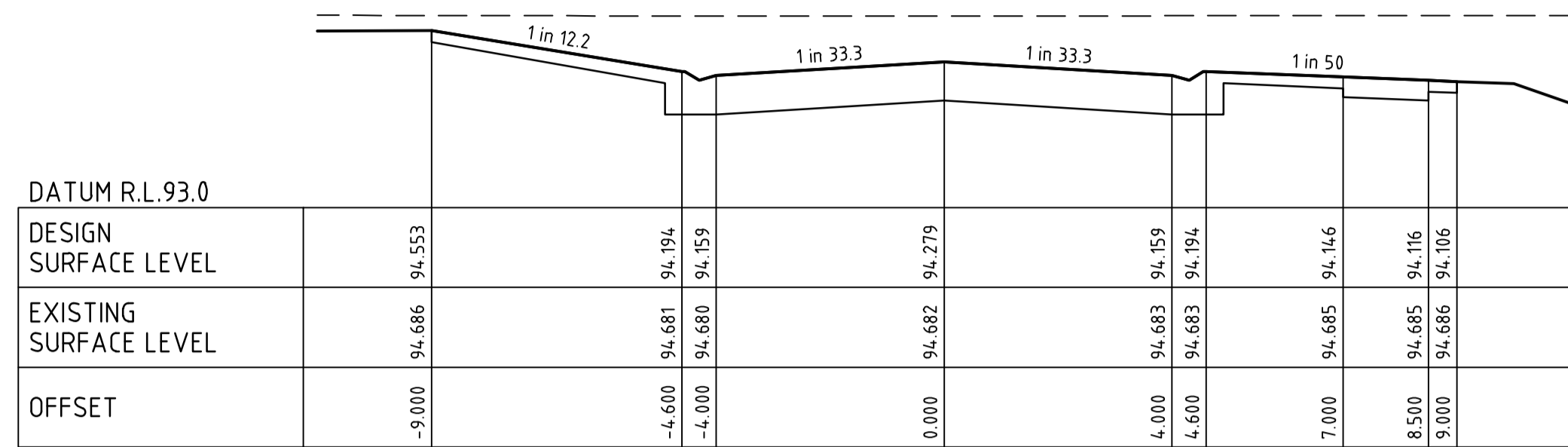
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Designed	C MULHOLLAND	Checked	B IBBS
Authorised	C CLARKE	Date	DEC 2021

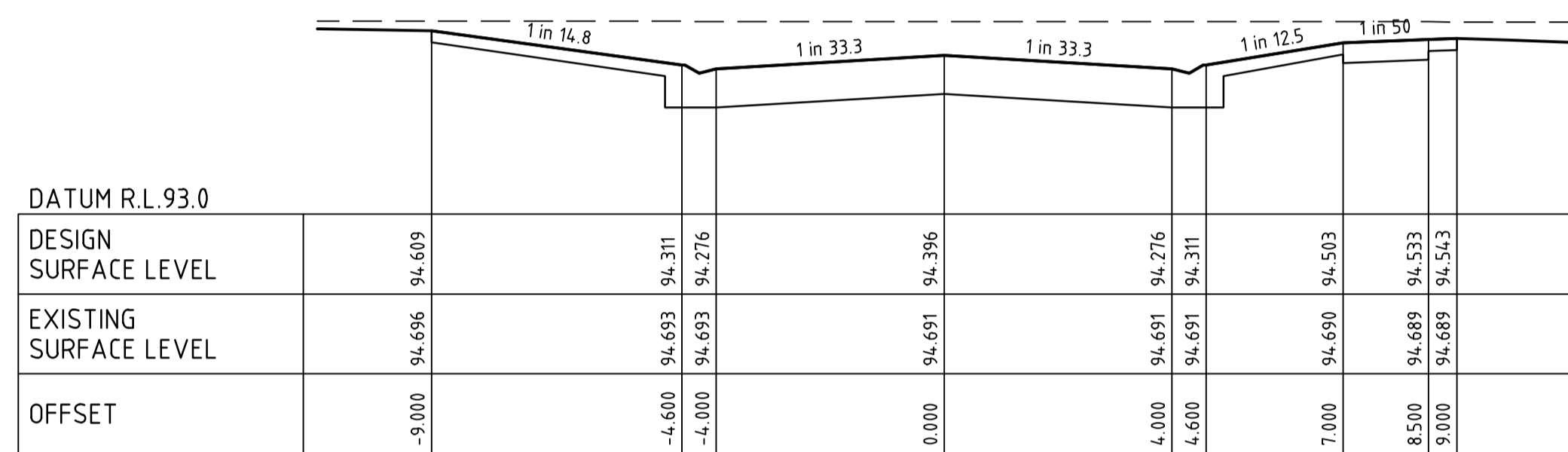
MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
 ROAD CROSS SECTIONS
SHEET 2 OF 3
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

Dwg No **308576CC141** Rev **0**

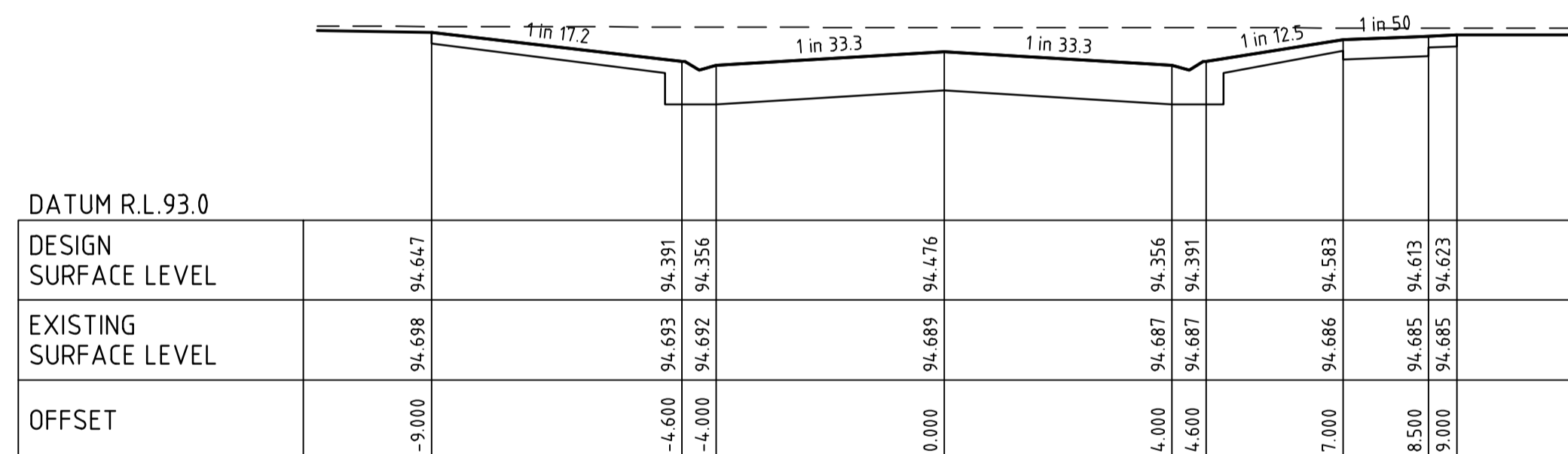
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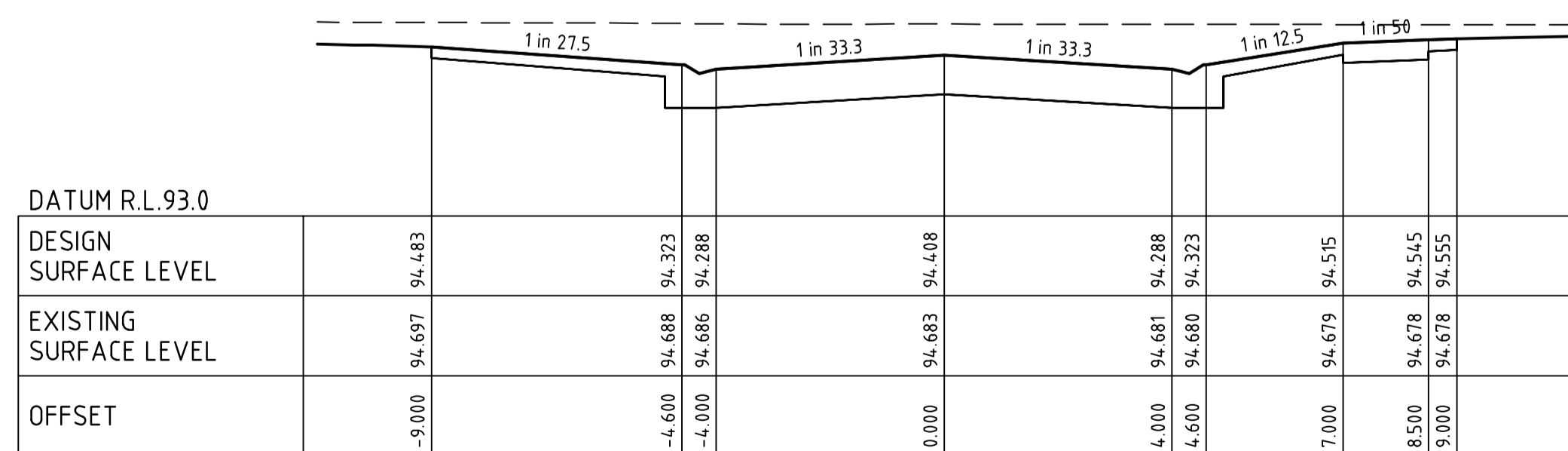
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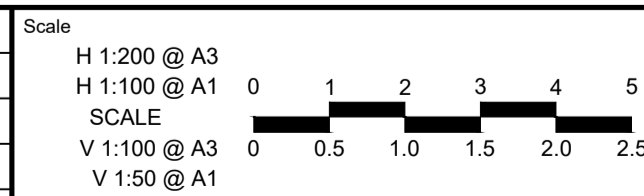
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EMERALD AVENUE CH 28.56



EMERALD AVENUE CH 13.91



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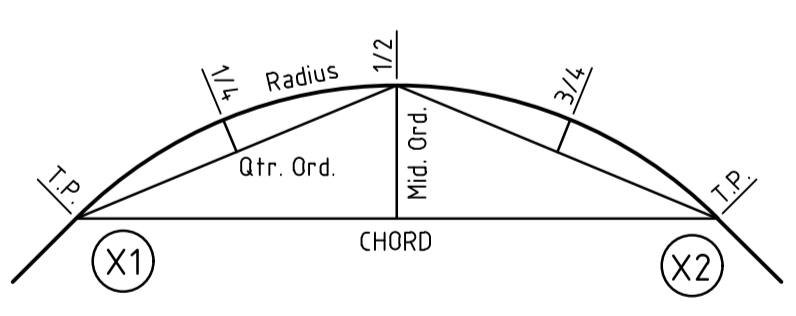
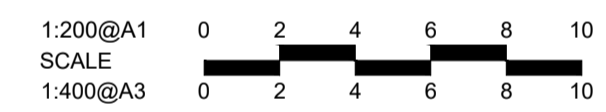
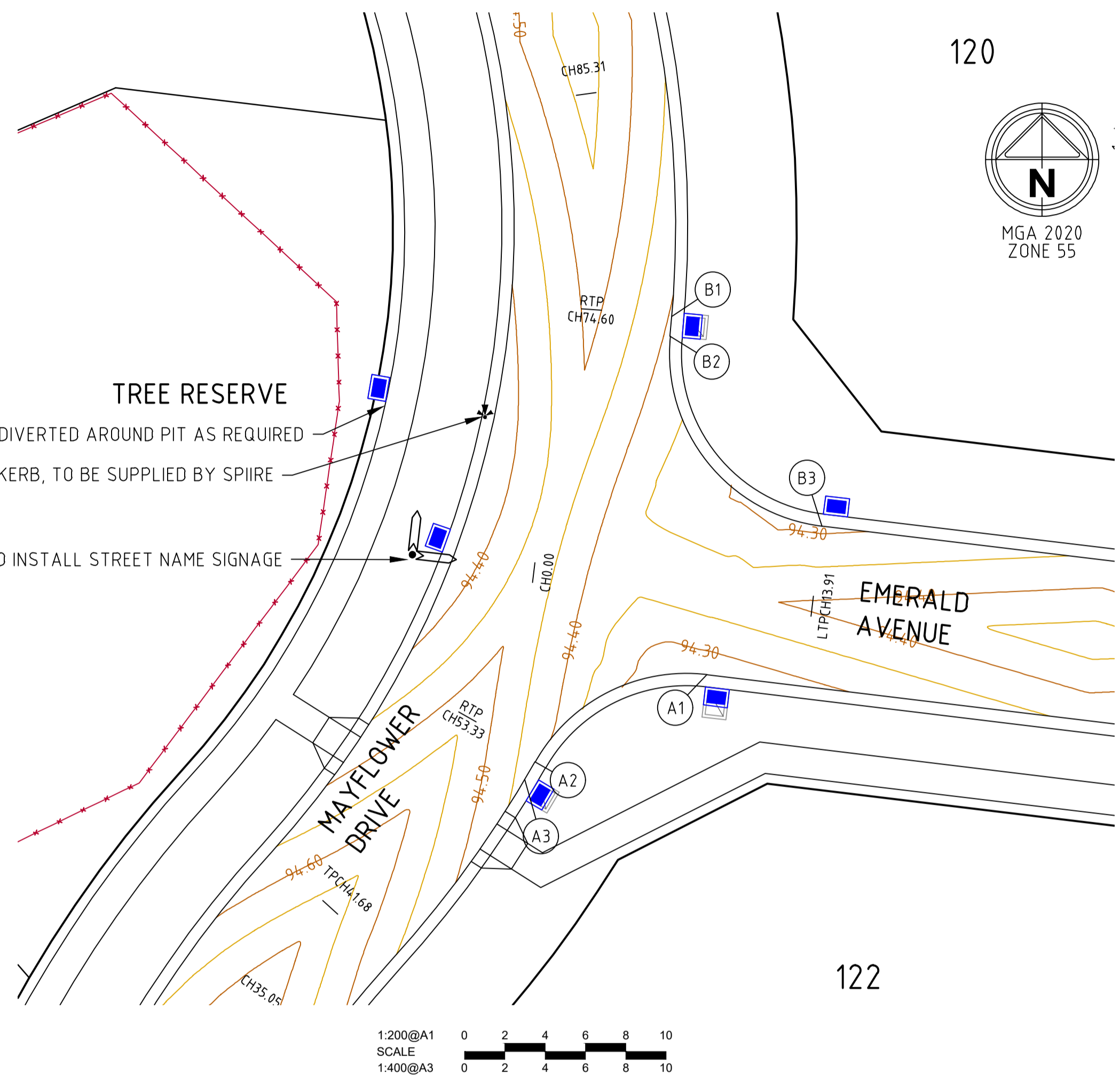
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Authorised
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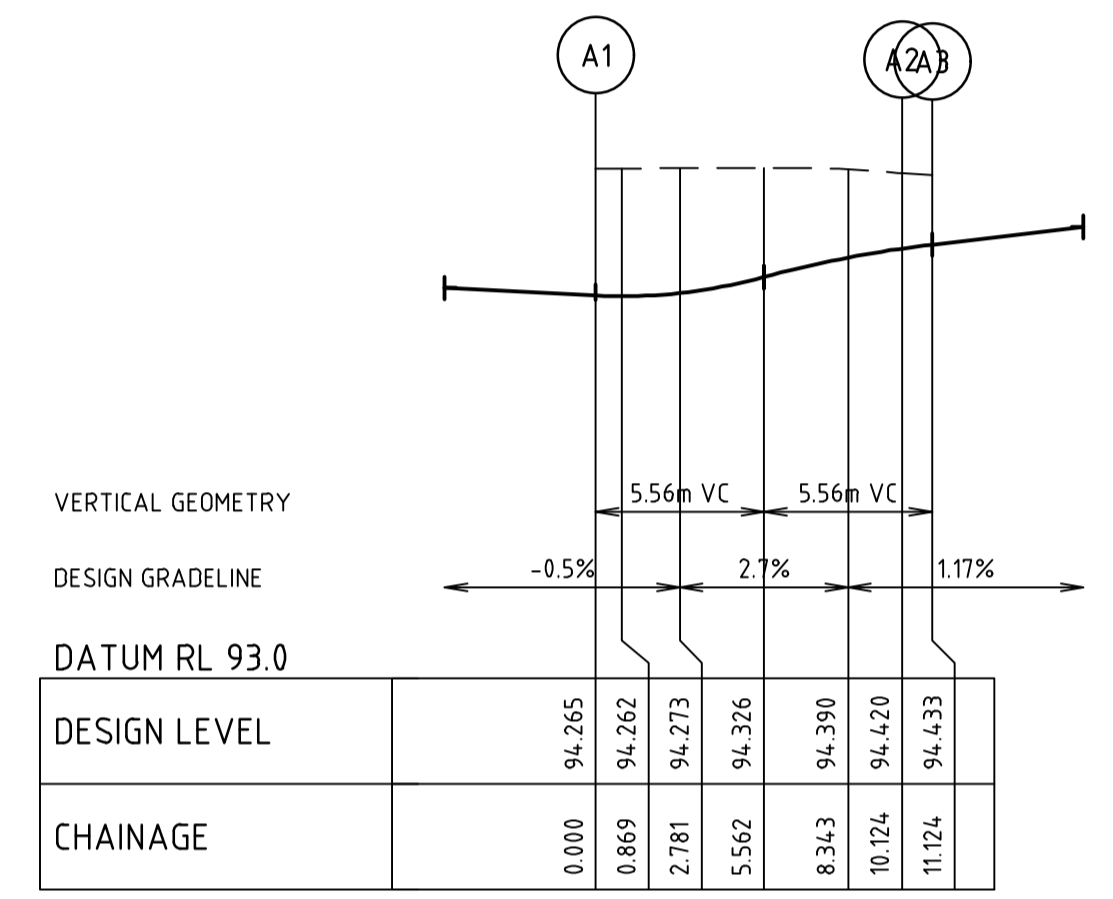
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Date
DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
ROAD CROSS SECTIONS
SHEET 3 OF 3
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION Drg No 308576CC142 Rev 0



KERB RETURN SETOUT DETAIL

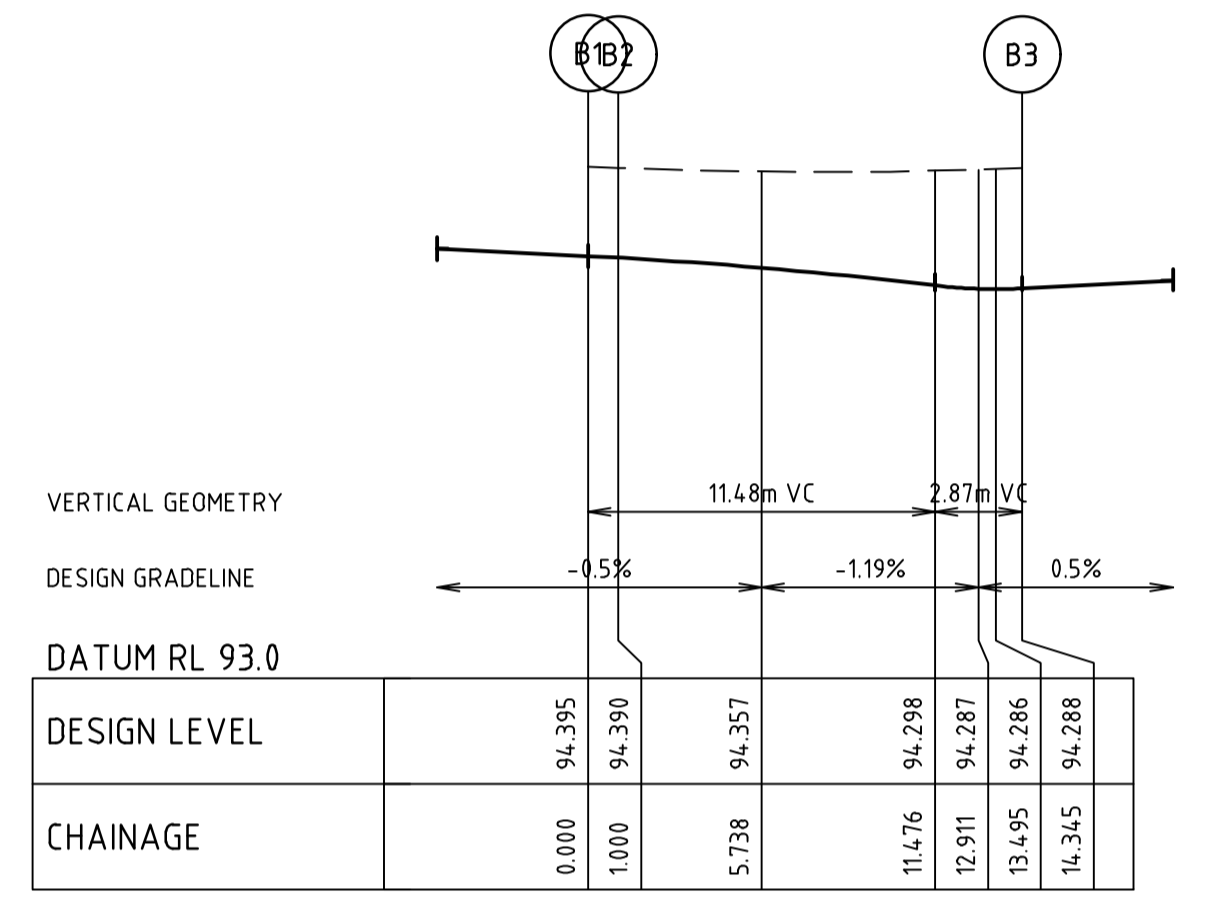
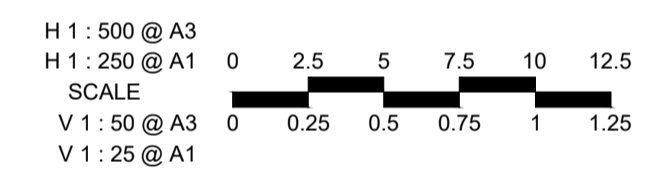


ALIGNMENT A

ALIGNMENT A

POINT NO	EASTING	NORTHING	RL
A1	298952.485	6002695.416	94.265
1/4	298949.854	6002695.328	94.271
1/2	298947.572	6002694.551	94.313
3/4	298945.594	6002693.172	94.372
A2	298943.965	6002691.104	94.420
1/4	298943.842	6002690.886	94.424
1/2	298943.718	6002690.670	94.427
3/4	298943.592	6002690.453	94.430
A3	298943.466	6002690.238	94.433

CURVE	RADIUS	ARC LCHORD	MID ORD	QTR ORD
A1-A2	8.600	10.124	9.549	1.447
A2-A3	54.000	1.000	1.000	0.002



ALIGNMENT B

ALIGNMENT B

POINT NO	EASTING	NORTHING	RL
B1	298950.750	6002713.188	94.395
1/4	298950.729	6002712.939	94.394
1/2	298950.707	6002712.690	94.393
3/4	298950.683	6002712.441	94.391
B2	298950.659	6002712.192	94.390
1/4	298951.044	6002708.643	94.366
1/2	298952.500	6002705.952	94.339
3/4	298954.807	6002703.940	94.307
B3	298958.185	6002702.787	94.288

CURVE	RADIUS	ARC LCHORD	MID ORD	QTR ORD
B1-B2	54.000	1.000	1.000	0.002
B2-B3	8.600	13.345	12.046	2.461

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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21

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Designed C MULHOLLAND	Checked B IBBS
Authorised C CLARKE	Date DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
INTERSECTION DETAILS
MAYFLOWER DRIVE-EMERALD DRIVE
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 308576CC270

Rev 0

WATER NOTES

GENERAL NOTES:

- ONLY PRODUCTS APPROVED AND CATALOGUED BY THE WATER AGENCY SHALL BE USED.
- 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.
- 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.
- THE CONTRACTOR SHALL OBTAIN A ROAD OPENING PERMIT FOR ANY WORKS WITHIN THE ROAD RESERVE AND COMPLY WITH ALL REQUIREMENTS OF THE ROAD AUTHORITY.
- FOR INTERPRETATION OF THE SYMBOLS USED IN THIS DESIGN, REFER TO DRAWING MRWA-W-100.
- TRAFFIC MANAGEMENT TO BE IN ACCORDANCE WITH AS1742.3 (TRAFFIC CONTROL DEVICE FOR WORKS IN ROADS)
- USE EXTREME CARE WHEN WORKING NEAR EXISTING TREES TO MINIMISE DAMAGE TO ROOT SYSTEM AND CANOPY.
- ALL TREES MUST BE PRESERVED AND PROTECTED AT ALL TIMES. TREES MARKED X ON DESIGN PLANS MAY BE REMOVED.
- NO BLASTING IS PERMITTED WITHIN 20M OF EXISTING WATER MAINS.

SURVEY, SET OUT AND ASSET RECORDING

- TEMPORARY BENCH MARKS (TBM) FOR THE SET OUT OF WORKS TO THE AUSTRALIAN HEIGHT DATUM (AHD) ARE PROVIDED IN THE DESIGN DRAWINGS.
- ALL LEVELS ARE IN METRES TO AHD.
- ALL CO-ORDINATES ARE IN METRES TO THE MAP GRID OF AUSTRALIA (MGA 55- 2020).
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- 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.
- 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.
- ALL SPECIFIC PIPE MATERIALS (EG: PVC-O) SHALL BE INDICATED IN THE AS CONSTRUCTED INFORMATION

PRODUCTS AND MATERIALS

- ALL INSERTION/GASKET KITS ARE TO INCLUDE STAINLESS STEEL FASTENERS.
- FOR THE PIPE SCHEDULE, REFER TO TABLE 1.
- FOR THE PIPE MATERIAL SCHEDULE, REFER TO TABLE 2.
- ALL WATER MAINS TO BE RRJ PVC-M SERIES 1 CLASS 12, UNLESS OTHERWISE NOTED.
- 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.
- ALL HANDLING OF PIPES & FITTINGS TO BE CARRIED OUT IN ACCORDANCE WITH GENERAL SPECIFICATION FOR CONSTRUCTION OF PRESSURE PIPES.

APPURTENANCES (FITTINGS)

- ALL VALVES AND HYDRANTS SHALL BE MARKED ACCORDING TO DRAWINGS MRWA-W-300 AND MRWA-W-301.
- VALVE SURROUNDS, COVERS AND SPINDLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWING MRWA-W-302.
- HYDRANT SURFACE ARRANGEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS MRWA-W-303.
- FLANGE AND FLANGE BOLTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS MRWA-W-306A AND MRWA-W-306B.
- FOR THE HYDRANT AND WASHOUT SCHEDULE, REFER TO TABLE 3.
- ALL VALVES SHALL BE LOCATED DIRECTLY OUT FROM THE APEX OF THE SPLAY CORNER (UNLESS OTHERWISE INDICATED).
- ALL VALVES ARE TO BE ANTI-CLOCKWISE CLOSING

WATER MAIN ALIGNMENT, TRENCHING & COVER

- TRENCH, PIPE PLACEMENT, EMBEDMENT AND BACKFILL DIMENSIONS AS PER STANDARD DRAWING MRWA-W-202.
- OFFSETS OF MAINS FROM PROPERTY BOUNDARIES SHALL BE: MIN 600MM (MAINS < DN100) AND MIN 1M (MAINS > DN100), EXCEPT WHERE INDICATED IN THE DRAWINGS.
- ALL WATER MAINS SHALL PASS OVER DRAINS AND SEWERS UNLESS SHOWN OTHERWISE IN THE DESIGN DRAWINGS.
- MAINS SHALL BE ALIGNED IN ACCORDANCE WITH THE SERVICES ALIGNMENT SCHEDULE, REFER TO TABLE 5.
- THE MAXIMUM DEPTH FROM THE SURFACE LEVEL TO TOP OF PIPE MUST NOT EXCEED 15M

EMBEDMENT

- UNLESS OTHERWISE APPROVED BY THE WATER AGENCY, ALL EMBEDMENT MATERIALS SHALL BE IN ACCORDANCE WITH WSA-PS-361.
- EMBEDMENT SHALL BE PLACED AS PER DRAWINGS MRWA-W-201 AND MRWA-W-202.

BACKFILL

- 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.
- COMPACTION TRIALS AND COMPACTION TESTING SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE MRWA BACKFILL SPECIFICATIONS.
- TRENCH SUBSIDENCE OVER WATER MAINS IS NOT ACCEPTABLE.
- ALL TRENCHES CROSSING PAVEMENT AREAS OR BENEATH KERB OR FOOTPATH ARE TO BE BACKFILLED WITH CLASS 3 20MM FINE CRUSHED ROCK.
- ALL ROAD CROSSINGS FOR PROPERTY SERVICES TO BE BACKFILLED WITH 3% CEMENT STABILISED FCR.

THRUST RESTRAINT

- FOR THE THRUST RESTRAINT SCHEDULE, REFER TO TABLE 6.
- CONSTRUCT CONCRETE THRUST RESTRAINTS AS PER DRAWINGS MRWA-W- 204, 205A, 205B & 205C AS APPLICABLE.
- 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)

- CONNECTION OF > DN100 OFFTAKES TO EXISTING MAINS SHALL BE AS INDICATED IN THE DESIGN DRAWINGS AND AS PER DRAWING MRWA-W-106.
- CONNECTION OF DN40, 50 & 63 PE OFFTAKES SHALL BE AS PER DRAWING MRWA-W-107.
- ALL WATER SERVICE ROAD CROSSINGS TO BE 32mm PNB POLY (IF TWO PROPERTIES BEING CONNECTED) OR 25MM PNB POLY (IF SINGLE PROPERTY CONNECTED). EACH SERVICE TO BE SLEEVED IN 50MM CLASS 12 UPVC.
- 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

- 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. 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.
- 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.
- VERTICAL CLEARANCES FROM OTHER SERVICES SHALL BE AS PER TABLE 7
- LAY MAINS OVER DRAINS UNLESS OTHERWISE SHOWN.
- GAS & WATER MAINS TO BE LAID IN A COMMON TRENCH.

ASSET RECORDING

- 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".
- "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

- 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.
- THE CONTRACTOR SHALL PROVIDE 14 DAYS NOTICE TO THE SUPERINTENDENT PRIOR TO TESTING BEING UNDERTAKEN.
- 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.
- VALVES CONNECTING NEW ASSETS TO MURRAY RIVER COUNCIL'S LIVE SYSTEM SHALL ONLY BE OPERATED BY MURRAY RIVER COUNCIL.
- ALL WORKS MUST BE CONSTRUCTED AND FINISHED IN A TRADESMANSHIP LIKE MANNER.

SEWER NOTES

- ALL LEVELS ARE IN METRES TO AUSTRALIAN HEIGHT DATUM (A.H.D.)
- CO-ORDINATES FOR SETTING OUT, WHERE SHOWN, ARE TO M.G.A
- 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
- ALL MATERIALS ARE TO BE IN ACCORDANCE WITH MURRAY RIVER COUNCIL'S PREFERRED EQUIPMENT MANUFACTURERS LIST.
- 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.
- TRENCH SUBSIDENCE OVER SEWER MAINS IS NOT ACCEPTABLE TO MURRAY RIVER COUNCIL
- CHAINAGES WHERE SHOWN ON DETAIL PLANS ARE DISCONTINUOUS AT MAINTENANCE STRUCTURES.
- CHAINAGES SHOWN ON LONGITUDINAL PLANS ARE CONTINUOUS.
- 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 TO COLIBAN WATER.

- ACCESS CHAMBERS
- 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 ACCESS CHAMBERS TO BE 1050MM DIAMETER UNLESS OTHERWISE SHOWN.

- 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.

- 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.
- MURRAY RIVER COUNCIL MUST BE NOTIFIED BY THE CONTRACTOR 72 HOURS PRIOR TO COMMENCING WORKS ON EXISTING SEWER.
- 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.
- 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.
- 7 CLEAR DAYS NOTICE PRIOR TO COMMENCEMENT OF THE WORKS MUST BE GIVEN TO THE SUPERINTENDENT.
- WSA CODE REQUIREMENTS FOR MINIMUM VERTICAL, AND HORIZONTAL CLEARANCES FROM THE SEWER ASSETS, TO OTHER SERVICES ARE NOT COMPROMISED.
- 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.
- 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.
- 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 EDGE OF THE EASEMENT.
- 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.
- 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.
- BLASTING - NO BLASTING IS PERMITTED.
- 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

- ALL DRAINAGE PIPES & PITS ARE TO BE AT 1m OFFSET TO PROPERTY BOUNDARIES UNLESS SHOWN OTHERWISE
- THE CONTRACTOR MUST CONTACT SERVICING AUTHORITIES TO ARRANGE SERVICE LOCATIONS PRIOR TO COMMENCEMENT OF EXCAVATION FOR THIS PROJECT
- 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.
- 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.
- PIT LIDS TO BE CLASS B IN NON-TRAFFICABLE AREAS AND CLASS D IN TRAFFICABLE AREAS.
- TRENCHES WITHIN PAVEMENT AREAS ARE TO BE BACKFILLED WITH CLASS 4 FCR. THE TRENCH IS TO BE BACKFILLED IN 150MM LAYERS AND CONSOLIDATED.
- ALL PIPE STUBS ARE TO CONSIST OF ONE FULL PIPE LENGTH UNLESS SHOWN OTHERWISE.
- 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.
- STEP IRONS ARE NOT REQUIRED IN DRAINAGE PITS.
- CONCRETE PIPES ARE TO BE CLASS 2 RRJ RCP AND PVC PIPES ARE TO BE CLASS SN8 UNLESS OTHERWISE NOTED.
- ALL EXCAVATIONS FOR DRAINAGE WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEW SOUTH WALES WORK COVER AUTHORITY.
- REINFORCEMENT BARS SHALL COMPLY WITH AS4671, GRADE 400Y. LAPS IN REINFORCEMENT BARS SHALL BE 300 MIN. AND CLEAR COVER 50 MIN.
- CONCRETE SHALL BE NORMAL CLASS N32 STANDARD STRENGTH GRADE OR HIGHER. COMPLYING WITH THE REQUIREMENTS OF AS1379.
- ENDWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF AS3600.
- 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.
- 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.
- 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 MUSH INCLUDE GRADES.

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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
E	AMENDED AS PER COUNCIL COMMENTS	JF	14/01/22
D	MINOR AMENDMENTS	JF	25/11/21
C	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21

Scale	

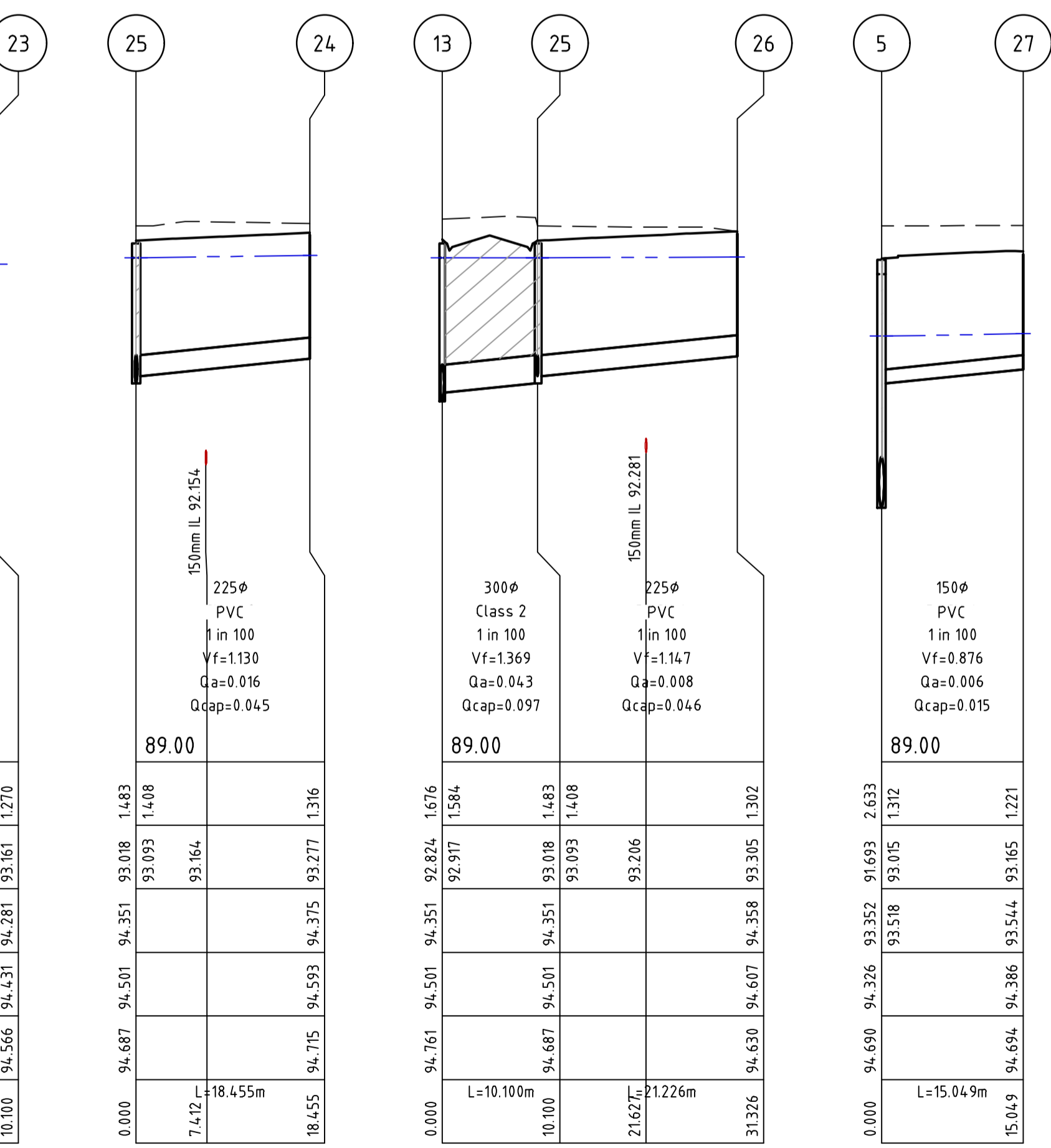
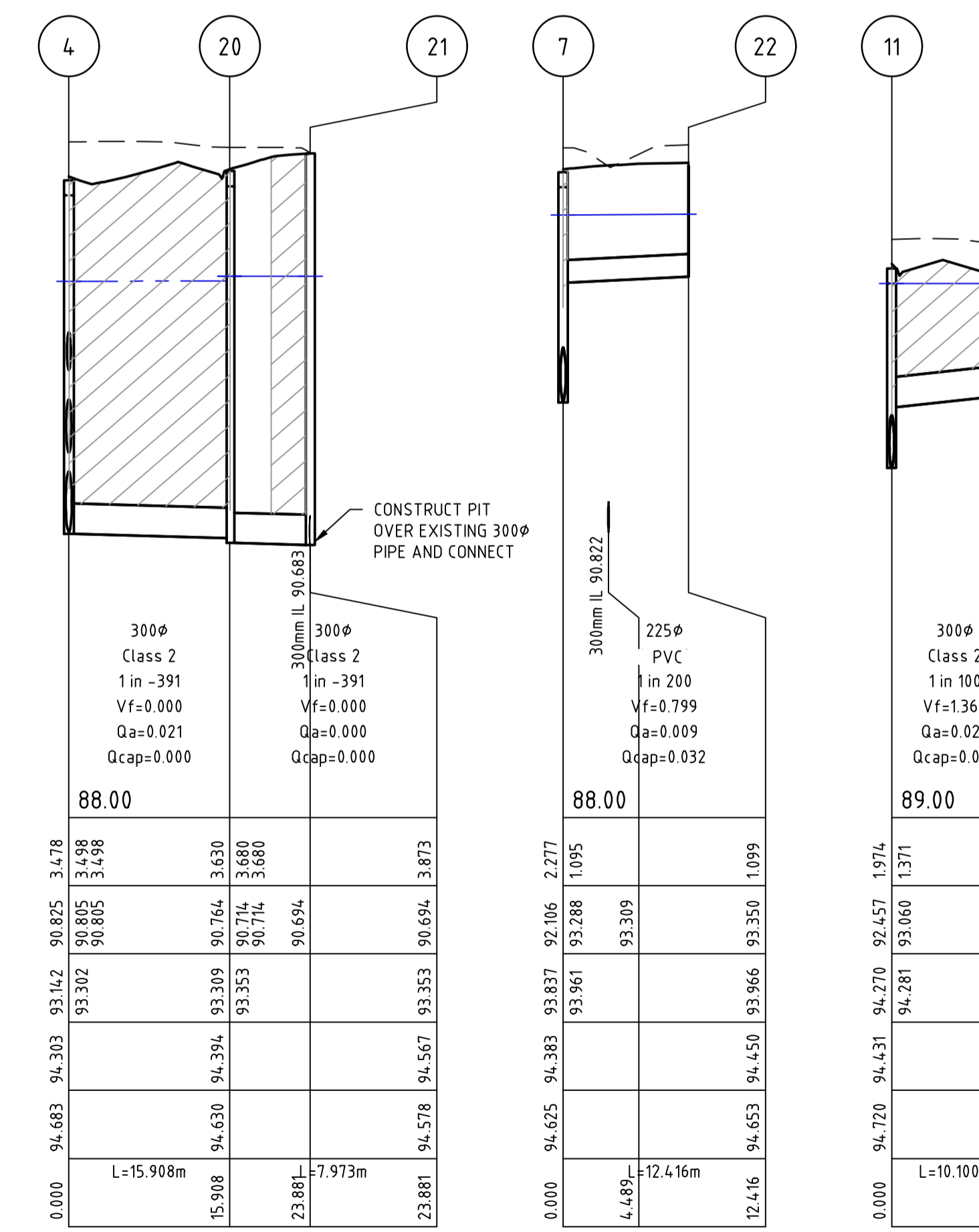
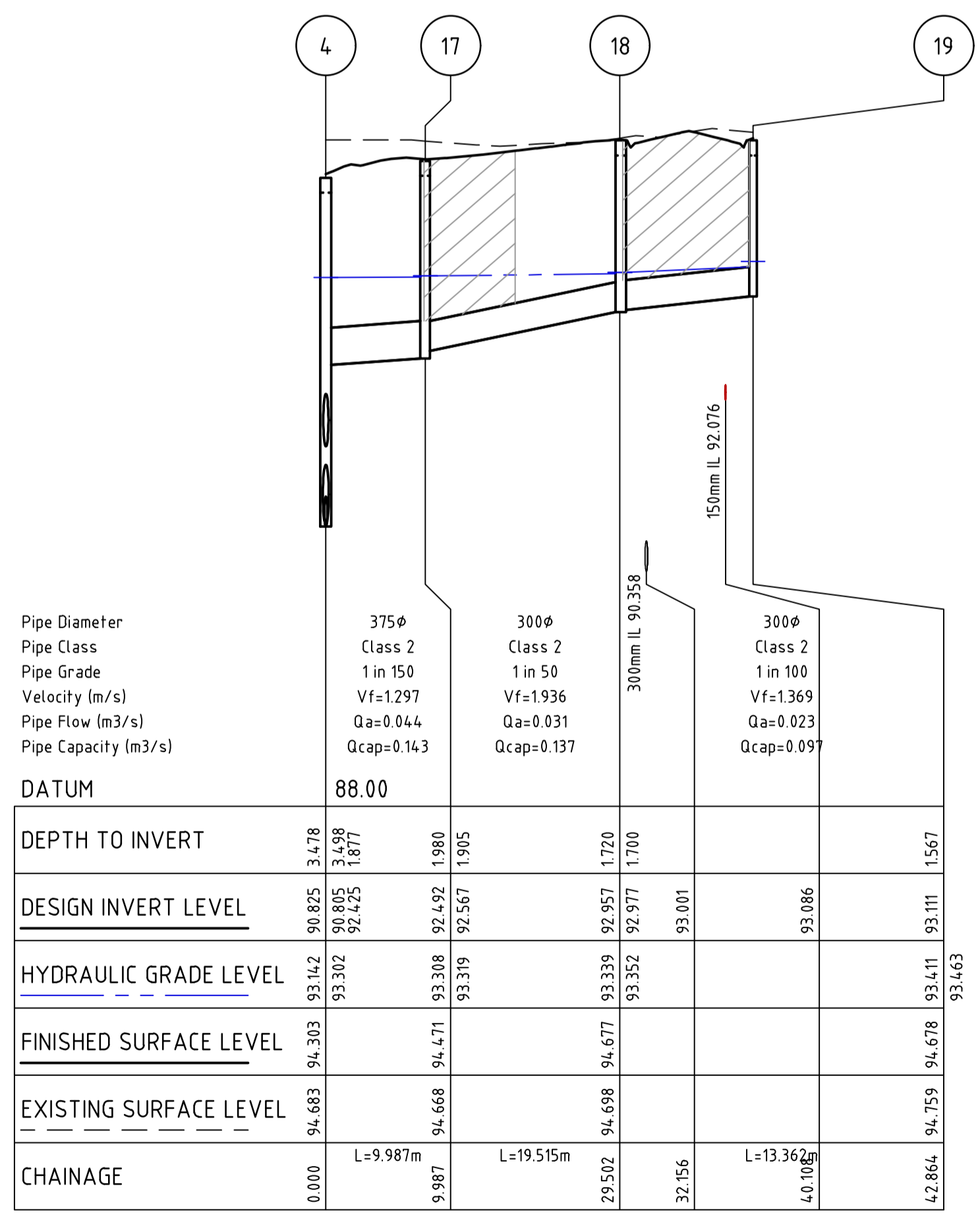
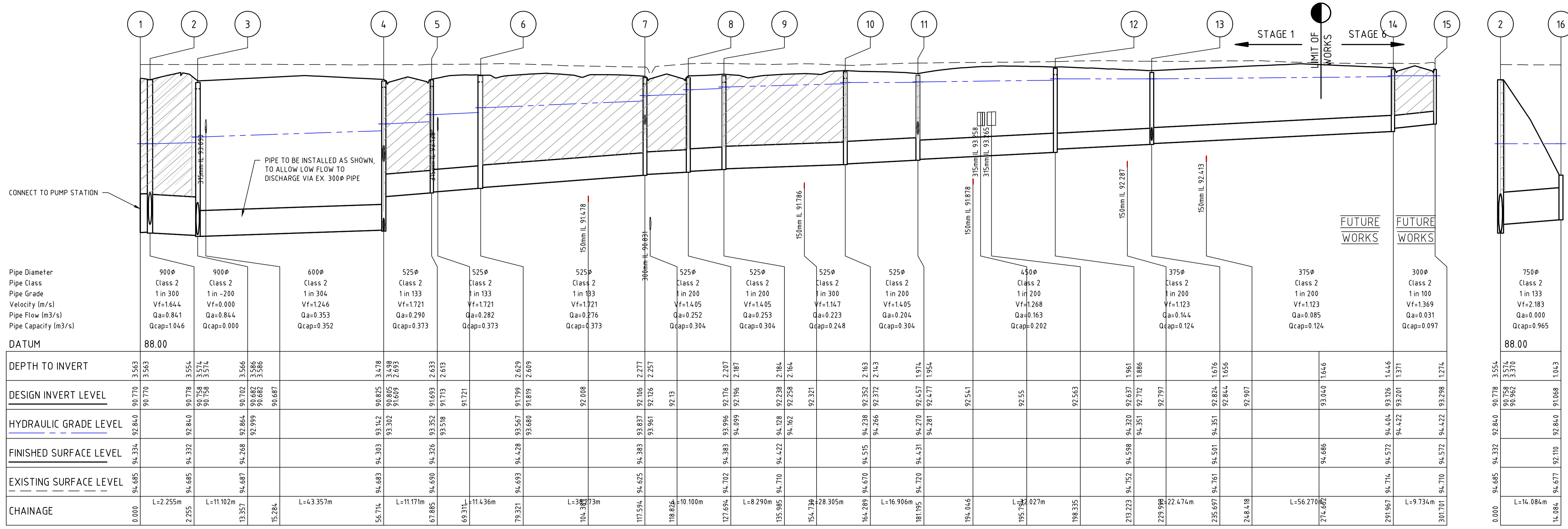
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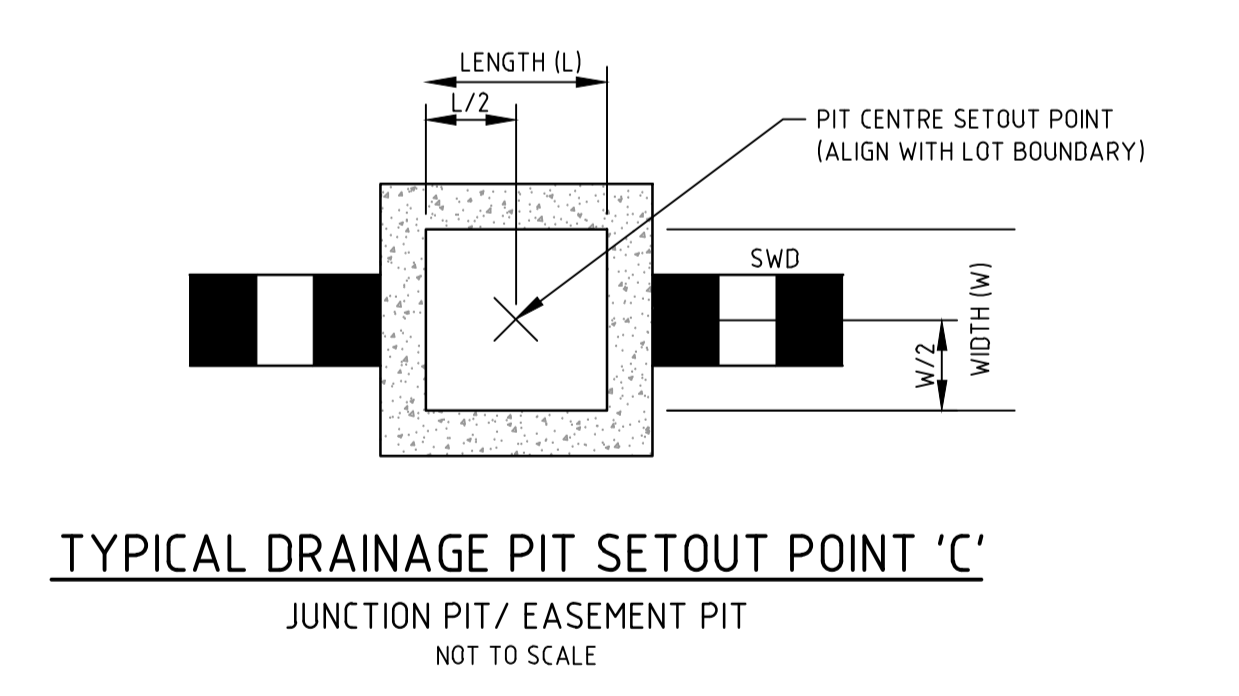
**MAIDEN'S GREEN - STAGE 1
 MAYFLOWER DRIVE, MOAMA
 DRAINAGE, SEWER & WATER NOTES
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD**

CONSTRUCTION Drg No **308576CC400** Rev **0**



PIT SETOUT CO-ORDINATES

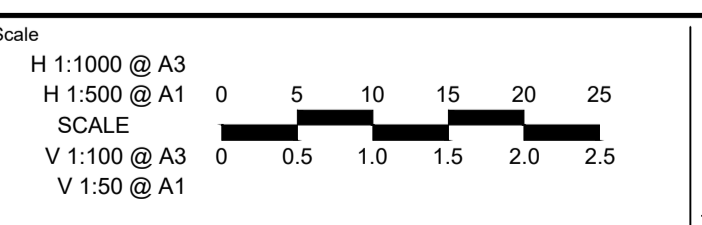
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2	CENTER OF BASE	298994.379	6002678.014
3	CENTER OF BASE	298996.133	6002688.944
16	CENTER OF BASE	299000.404	6002665.180



CLASS 4 CRUSHED ROCK BACKFILL

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E	MINOR AMENDMENTS	JF	25/11/21
D	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
C	WATER MAIN & SWRM MATERIAL AMENDED	JF	20/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21
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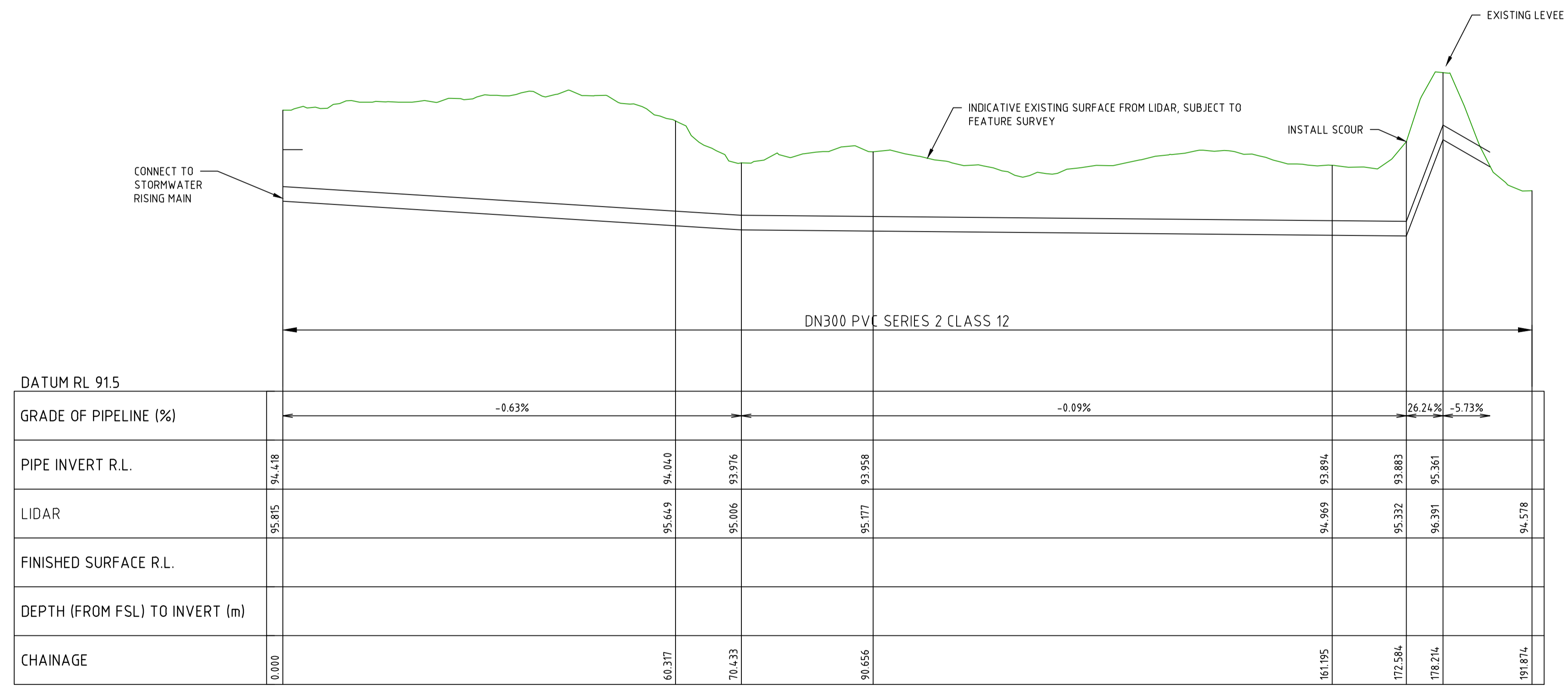
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MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
 HYDRAULICS - DRAINAGE PROFILES
 DRAINAGE LONGITUDINAL SECTIONS
 MURRAY RIVER COUNCIL
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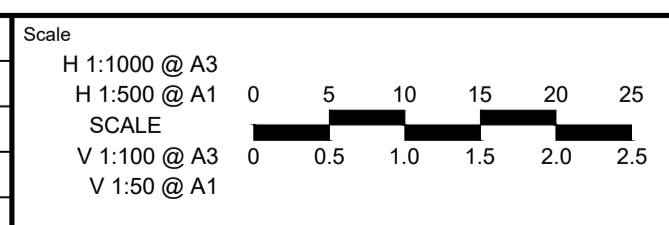
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STORMWATER RISING MAIN OFFTAKE

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0	ISSUED FOR CONSTRUCTION	JF	21/01/22
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B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21

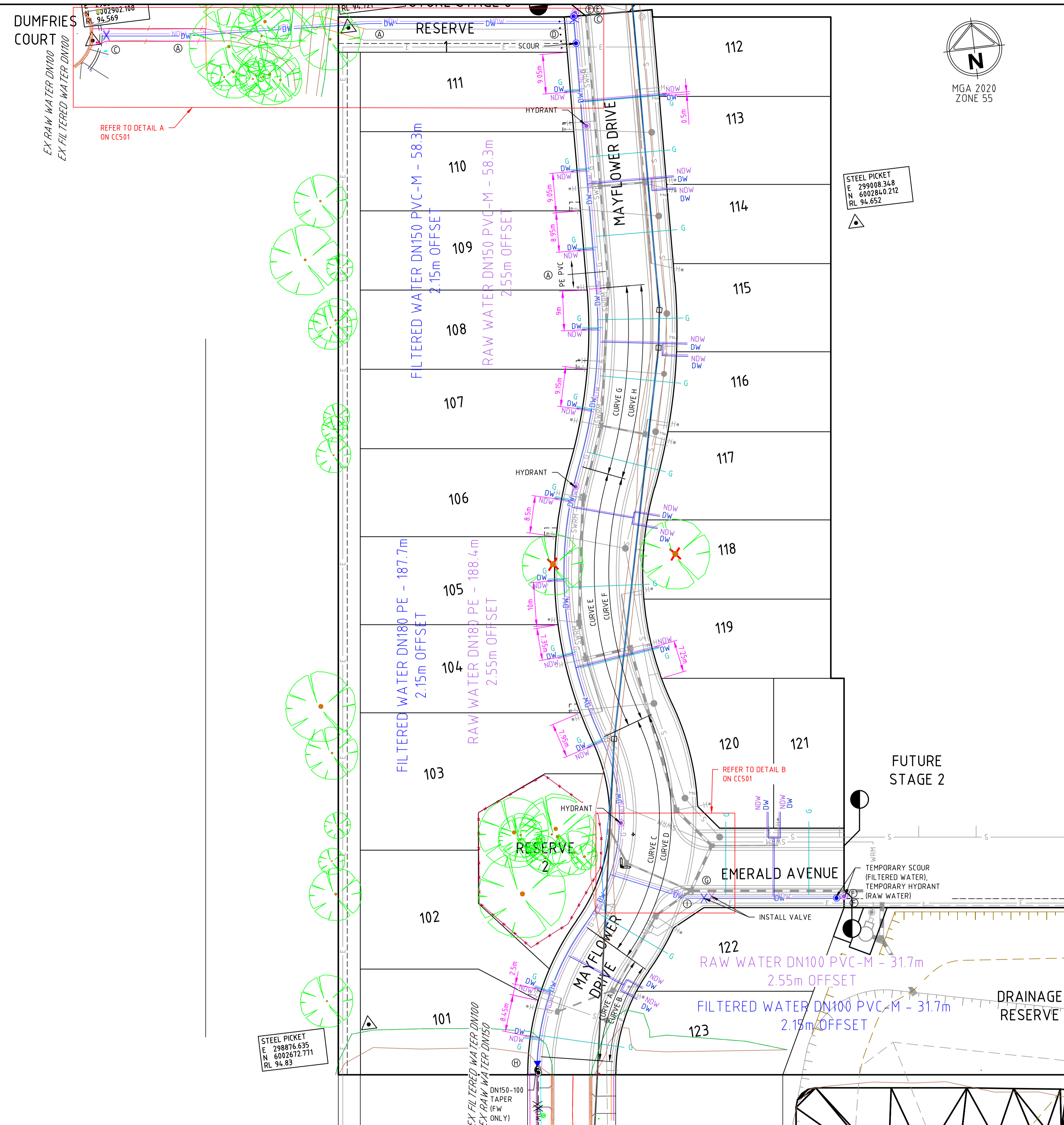


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	FILTERED WATER	RAW WATER
MAXIMUM DESIGN HEAD(m)	46m	49m
ZONE	RESIDENTIAL	RESIDENTIAL
TEST PRESSURE (kPa)	1000kPa	1000kPa

NEW PIPE SCHEDULE

NEW WORK			FILTERED WATER	RAW WATER
SIZE (mm)	TYPE	CLASS	LENGTH (m)	LENGTH (m)
100	PVC-M AS/NZS 4441	SERIES 1 PN12	54.0	53.5
150	PVC-M AS/NZS 4441	SERIES 1 PN12	162.7	163.4
125	PE100 AS/NZS 4130	PN12.5	-	-
180	PE100 AS/NZS 4130	PN12.5	187.7	188.4
150	DICL	CLASS 35	6.6	7.8

PIPE MATERIAL SCHEDULE

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

HYDRANT & WASHOUT SCHEDULE

MAIN SIZE	FITTING TYPE	LOCATION	STREET	LOCATION
150	HYDRANT - RW	IN LINE	MAYFLOWER DRIVE	118m S OF SBL LOT 3
150	HYDRANT - RW	IN LINE	MAYFLOWER DRIVE	8.8m S OF SBL LOT 6
150	HYDRANT - RW	IN LINE	MAYFLOWER DRIVE	1m N OF SBL LOT 11
150	SCOUR - FW	IN LINE	MAYFLOWER DRIVE	1.9m N OF NBL LOT 11
150	SCOUR - FW	END OF LINE	MAYFLOWER DRIVE	AT STAGE BOUNDARY
150	SCOUR - RW	END OF LINE	MAYFLOWER DRIVE	AT STAGE BOUNDARY
100	SCOUR - FW	END OF LINE	EMERALD AVENUE	AT STAGE BOUNDARY
100	SCOUR - RW	END OF LINE	EMERALD AVENUE	AT STAGE BOUNDARY

CURVED PIPE AND DEFLECTION SCHEDULE

LOCATION	METHOD	OFFSET/RA DIUS (m)	TOTAL PIPE LENGTH	PIPE LENGTHS
CURVE A	PE COLD BEND	57.85	32.0	-
CURVE B	PE COLD BEND	57.35	31.7	-
CURVE C	PE COLD BEND	42.15	44.8	-
CURVE D	PE COLD BEND	42.65	45.4	-
CURVE E	PE COLD BEND	87.85	63.4	-
CURVE F	PE COLD BEND	87.35	63.1	-
CURVE G	PE COLD BEND	112.15	49.8	-
CURVE H	PE COLD BEND	112.65	40.9	-

THRUST RESTRAINT SCHEDULE

LOCATION	TYPE	THRUST	AHBP (kPa) USED	THRUST AREA (m ²)	QUANTITY
A	IN LINE	2 X DN180 PE SHRINKAGE	50	1.78	1
C	IN LINE	2 X DN150 VALVE	50	0.96	2
D	IN LINE	2 X DN150-150 TEE	50	0.96	1
E	PLAIN	DN150 END	50	0.48	2
F	PLAIN	DN100 END	50	0.23	2
G	IN LINE	2 X DN100 VALVE	50	0.60	1
H	IN LINE	2 X DN180 PE SHRINKAGE + 1 X DN150-100 TAPER	50	2.08	1
I	PLAIN	2 X DN100 22.5° BEND	50	0.36	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
 - DW EXISTING WATER MAIN
- FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100

- 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.

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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
E	MINOR AMENDMENTS	JF	25/11/21
D	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
C	WATER MAIN & SWRM MATERIAL AMENDED	JF	20/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21

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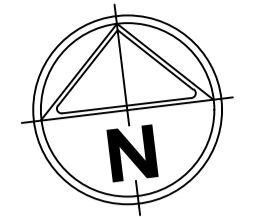
16 BRIDGE STREET BENDIGO
 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
 spiire.com.au ABN 55 050 029 635

Designed: C MULHOLLAND
 Authorised: C CLARKE
 Checked: B IBBS
 Date: DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
 HYDRAULICS - SEWER & WATER
 WATER LAYOUT PLAN
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

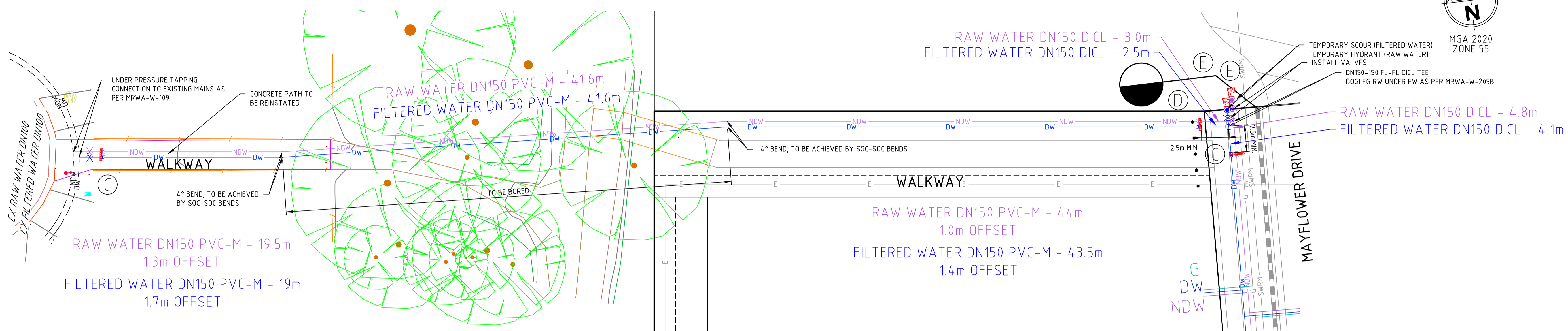
CONSTRUCTION 308576CC500

Rev 0

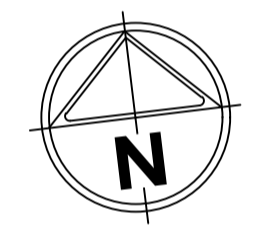
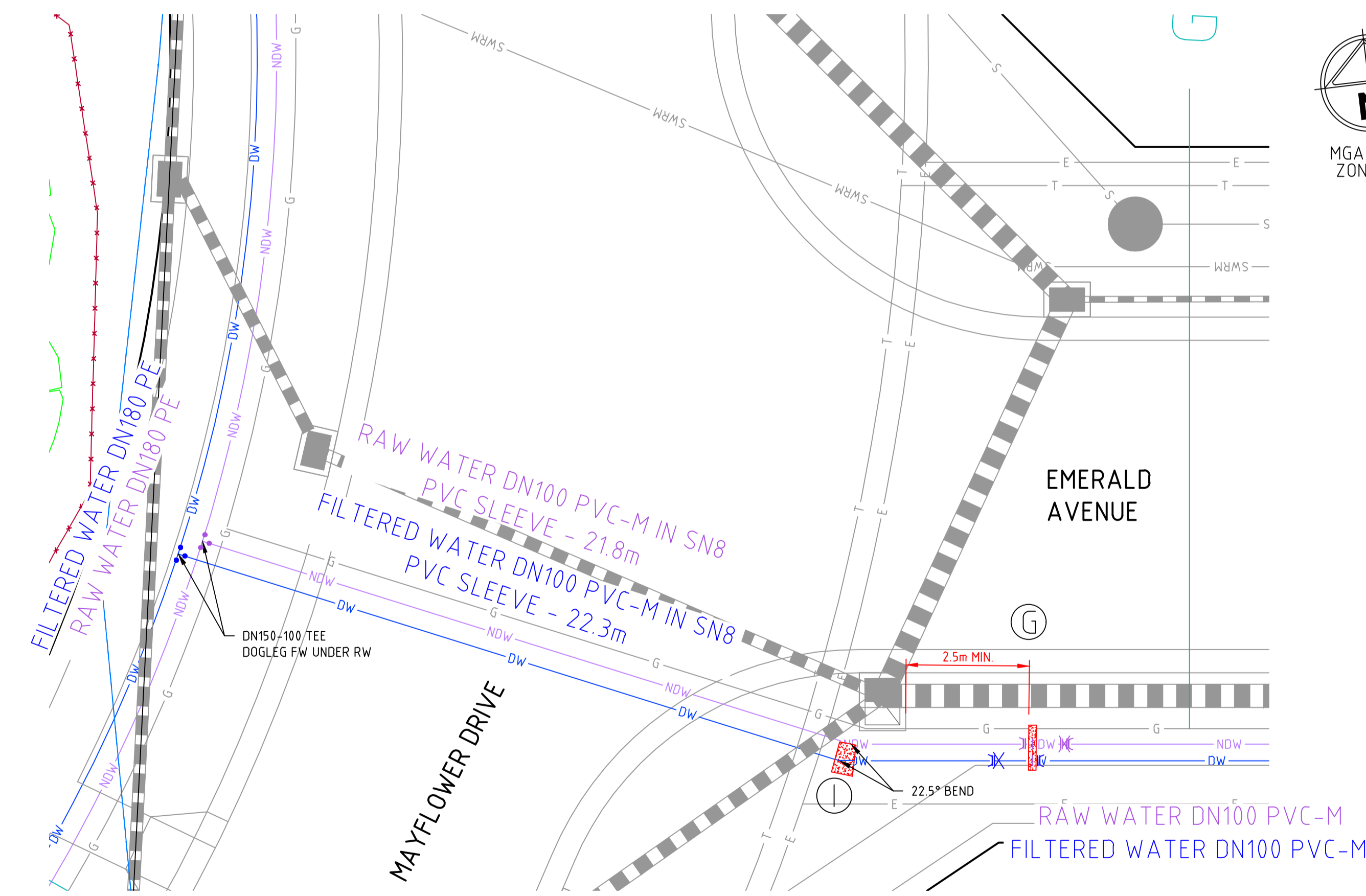
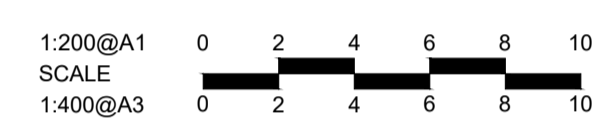


MGA 2020
ZONE 55

DUMFRIES COURT

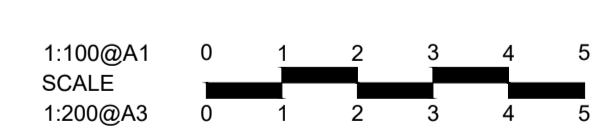


DETAIL A
SCALE: 1:200



MGA 2020
ZONE 55

DETAIL B
SCALE: 1:100



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Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
E	MINOR AMENDMENTS	JF	25/11/21
D	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
C	WATER MAIN & SWRM MATERIAL AMENDED	JF	20/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21

Scale
AS SHOWN

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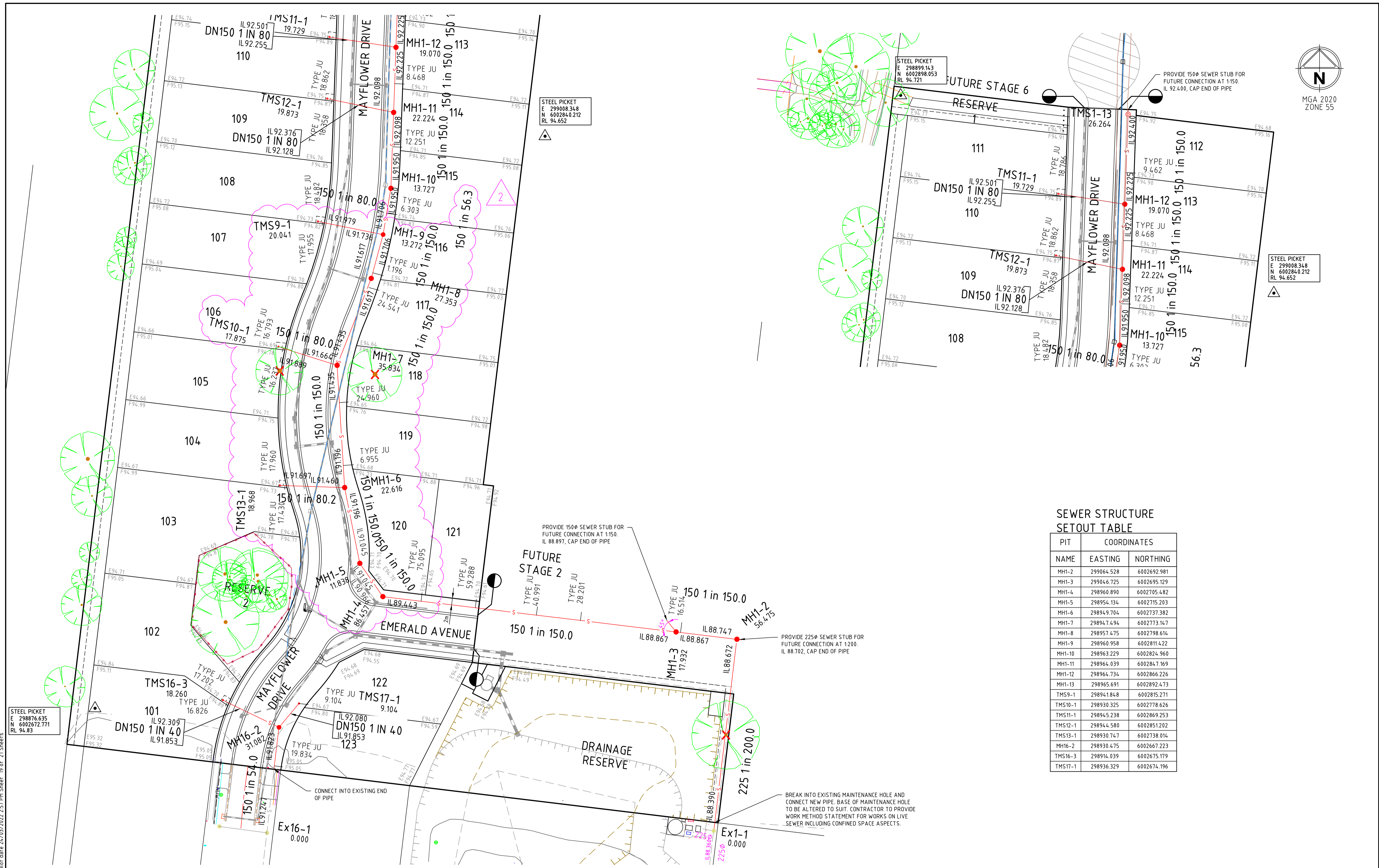
16 BRIDGE STREET BENDIGO
VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
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Designed C MULHOLLAND	Checked B IBBS
Authorised C CLARKE	Date DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
HYDRAULICS - SEWER & WATER
WATER DETAILS
MURRAY RIVER COUNCIL
KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 308576CC501

Rev 0

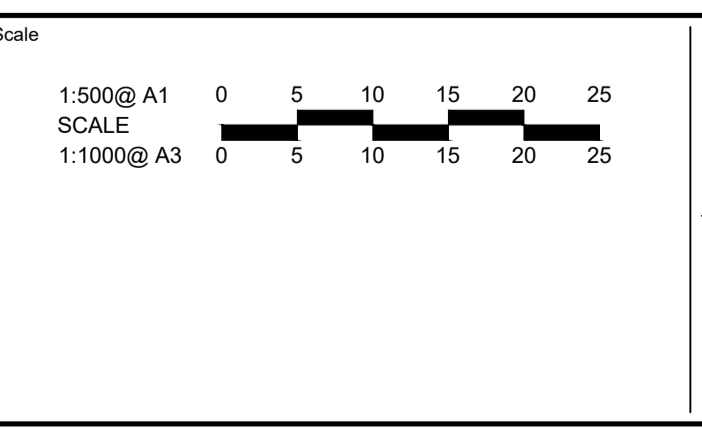


SEWER STRUCTURE SETOUT TABLE

PIT NAME	COORDINATES	
	EASTING	NORTHING
MH1-2	299064.528	6002692.981
MH1-3	299046.725	6002695.129
MH1-4	298960.890	6002705.482
MH1-5	298954.134	6002715.203
MH1-6	298949.704	6002737.382
MH1-7	298947.494	6002773.147
MH1-8	298957.475	6002798.614
MH1-9	298960.958	6002811.422
MH1-10	298963.229	6002824.960
MH1-11	298964.039	6002847.169
MH1-12	298964.734	6002866.226
MH1-13	298965.691	6002892.473
TMS9-1	298941.848	6002815.271
TMS10-1	298930.325	6002778.626
TMS11-1	298945.238	6002869.253
TMS12-1	298944.580	6002851.202
TMS13-1	298930.747	6002738.014
MH16-2	298930.475	6002667.223
TMS16-3	298914.039	6002675.179
TMS17-1	298936.329	6002674.196

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Rev	Amendments	Approved	Date
2	AMENDED SEWER PIPE GRADES	JF	24/03/22
1	SEWER MHS AMENDED TO EZI PIT OR EQUIVALENT	JF	10/02/22
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
E	AMENDED AS PER COUNCIL COMMENTS	JF	14/01/22
D	MINOR AMENDMENTS	JF	25/11/21
C	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21



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 VICTORIA 3550 AUSTRALIA T 61 3 5448 2500

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Designed	C MULHOLLAND	Checked	B IBBS
Authorised	C CLARKE	Date	DEC 2021

MAIDEN'S GREEN - STAGE 1

MAYFLOWER DRIVE, MOAMA

 HYDRAULICS - SEWER & WATER

 SEWER LAYOUT PLAN

 MURRAY RIVER COUNCIL

 KIELY ROAD PROJECTS PTY LTD

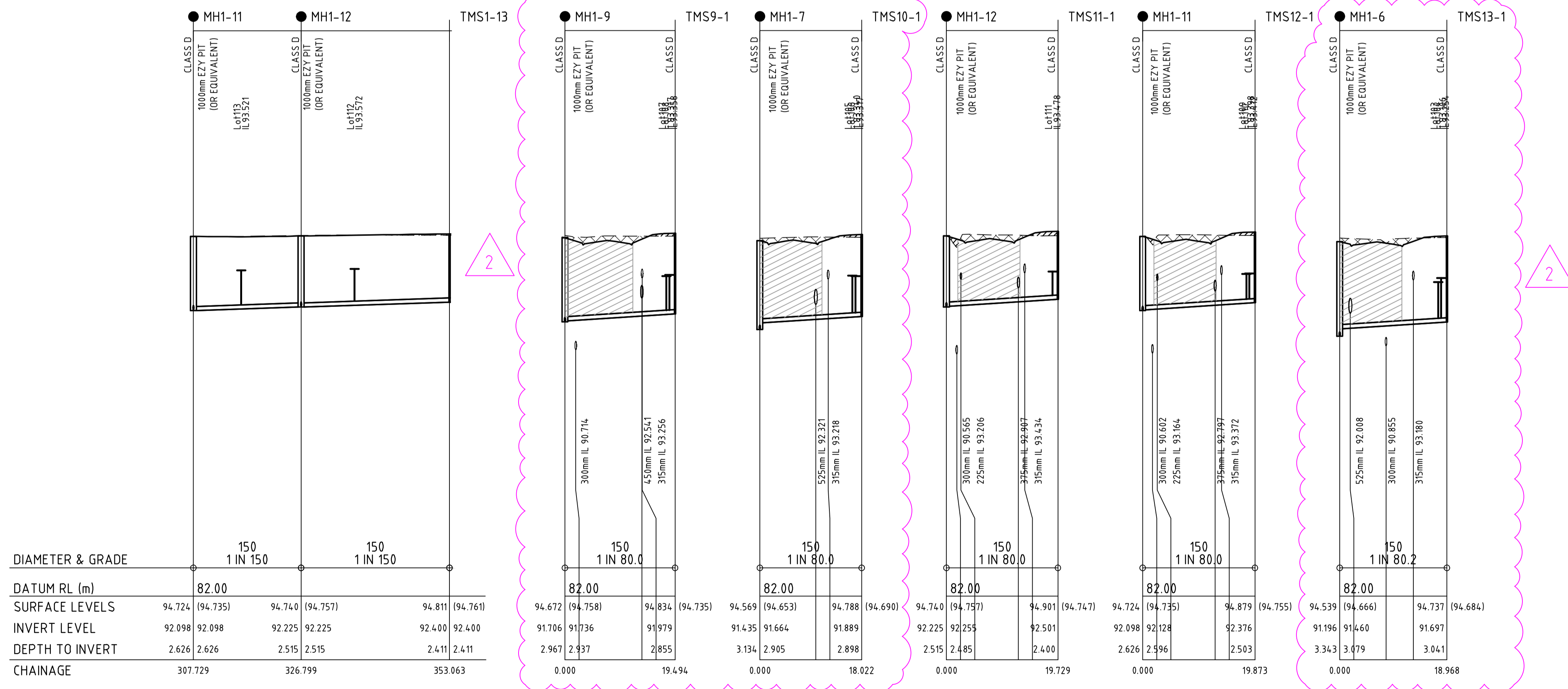
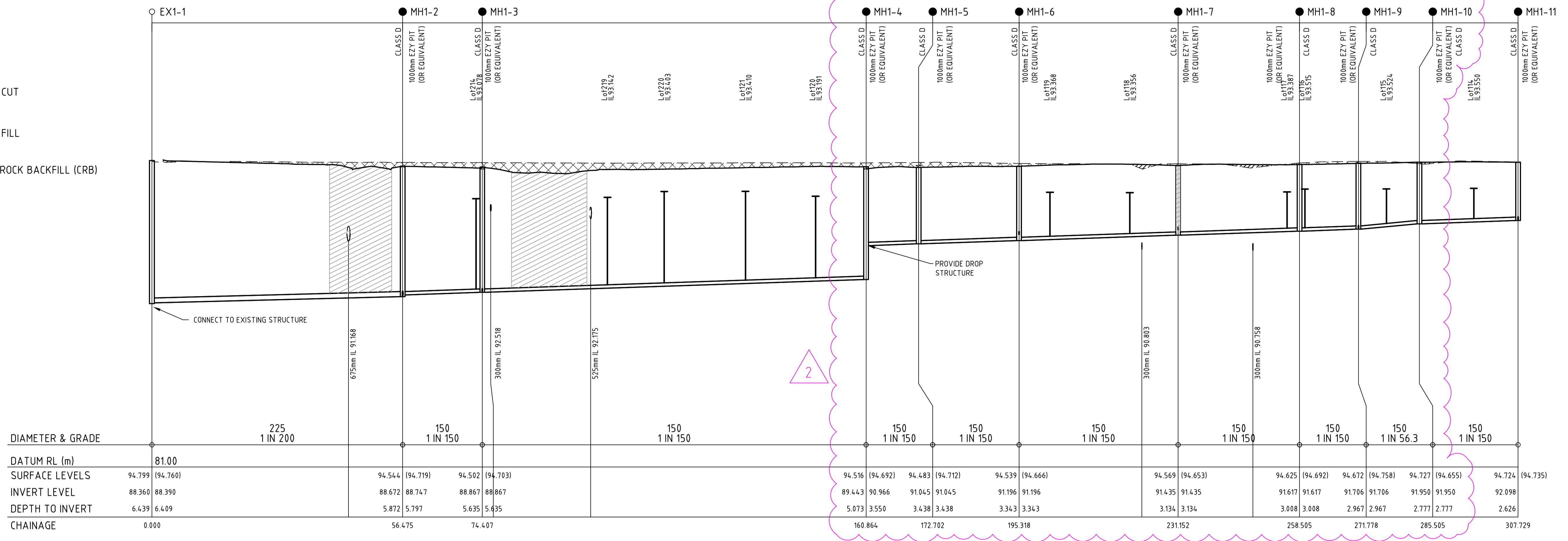
CONSTRUCTION

Rev No 308576CC502 Rev 2

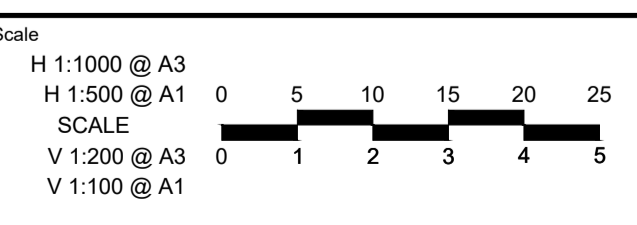
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LEGEND

	PROPOSED CUT
	PROPOSED FILL
	CRUSHED ROCK BACKFILL (CRB)



Rev	Description	Author	Date
2	AMENDED SEWER PIPE GRADES	JF	24/03/22
1	SEWER MH'S AMENDED TO EZI PIT OR EQUIVALENT	JF	10/02/22
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
D	AMENDED AS PER COUNCIL COMMENTS	JF	14/01/22
C	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21
Rev	Amendments	Approved	Date



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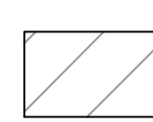
Designed C MULHOLLAND	Checked B IBBS
Authorised C CLARKE	Date DEC 2021

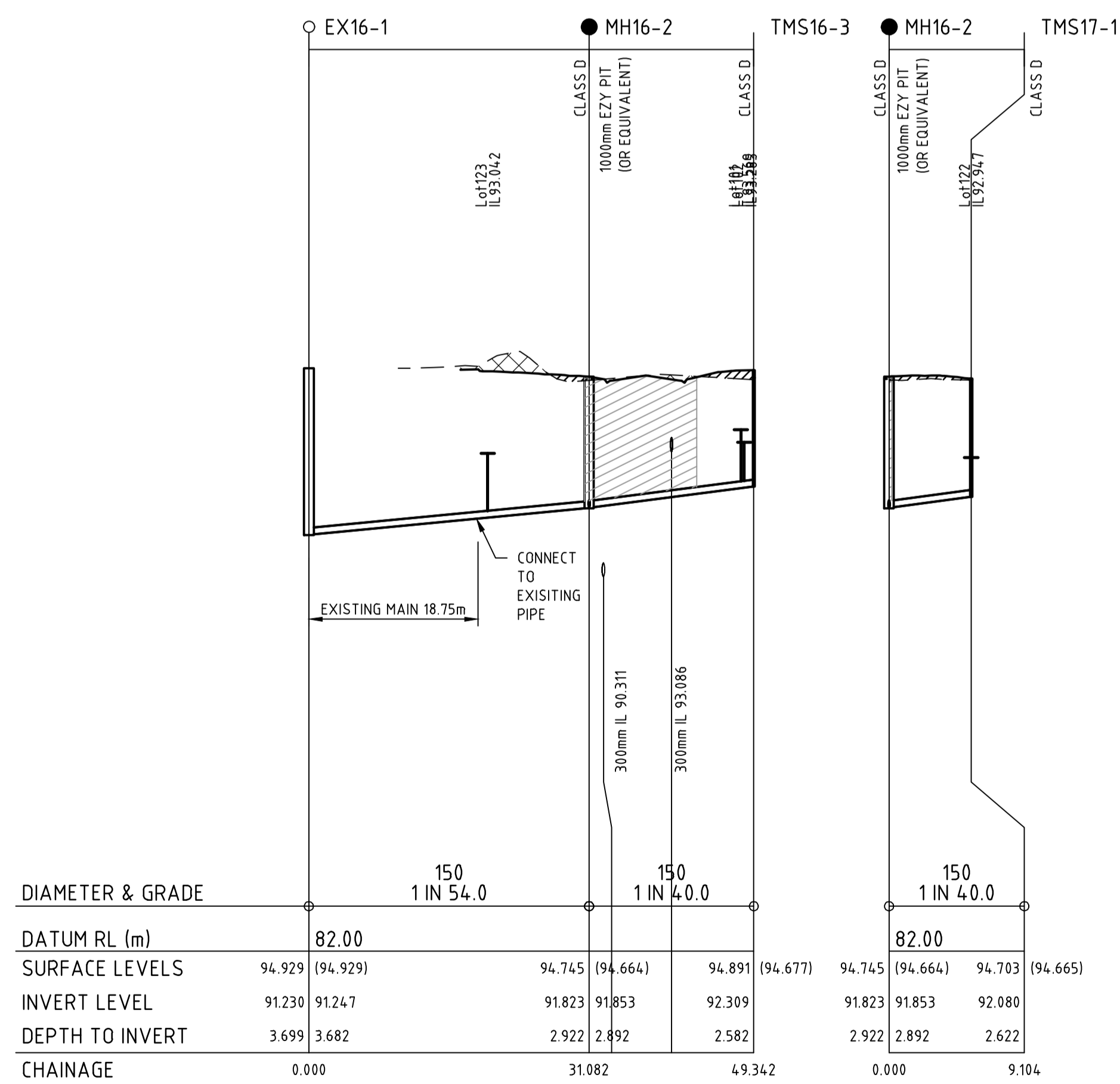
MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
 HYDRAULICS - SEWER PROFILES
 SHEET 1 OF 2
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION 308576CC530

Rev 2

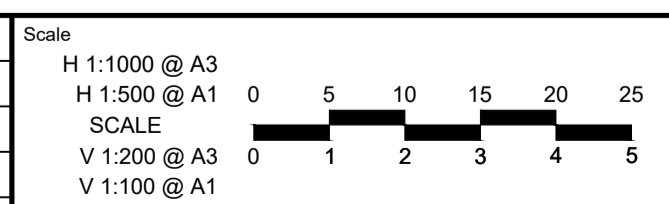
LEGEND

-  PROPOSED CUT
-  PROPOSED FILL
-  CRUSHED ROCK BACKFILL (CRB)



file name: 308576CC531.dwg, layout name: CCE31, plotted by: Darrin Chapman
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Rev	Amendments	Approved	Date
1	SEWER MH'S AMENDED TO EZI PIT OR EQUIVALENT	JF	10/02/22
0	ISSUED FOR CONSTRUCTION	JF	21/01/22
C	AMENDED AS PER AUTHORITY COMMENTS	JF	29/10/21
B	AMENDED AS QA COMMENTS	JF	29/09/21
A	ISSUED FOR APPROVAL	JF	05/08/21





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Designed C MULHOLLAND	Checked B IBBS
Authorised C CLARKE	Date DEC 2021

MAIDEN'S GREEN - STAGE 1
MAYFLOWER DRIVE, MOAMA
 HYDRAULICS - SEWER PROFILES
 SHEET 2 OF 2
 MURRAY RIVER COUNCIL
 KIELY ROAD PROJECTS PTY LTD

CONSTRUCTION

 Dwg No
308576CC531

 Rev
1