

MAIDENS GREEN STAGE 5B SUBDIVISION WORKS 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 COUNCILS 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 TBMS 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.

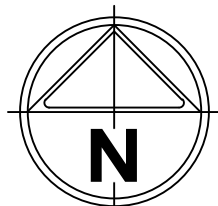
B. ROAD WORKS

- 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'.
- THE PRE-APPROVED PREFERRED DRIVEWAY LOCATIONS SHOWN ON DRG NO. "310338-05BCC030" ARE TO BE CONSTRUCTED BY EACH LANDOWNER AT A LATER DATE.



LOCALITY PLAN

NOT TO SCALE



MGA 2020
ZONE 55



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				SEWER	
	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	SIDE	OFFSET	POLE SIDE	POLE OFFSET	U/G CABLE SIDE	U/G CABLE OFFSET	SIDE	OFFSET
KINGS CIRCUIT (LOT 509 - 513)	S	2.15	S	2.55	S	2.95	S	1.00	N	0.8x	S	0.40	S	3.73
KINGS CIRCUIT (LOT 514 - 523)	W	2.15	W	2.55	W	2.95	W	1.00	E	0.8x	W	0.40	W	3.875

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

LEGEND

DESCRIPTION

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

GAS & WATER CONDUITS

PRE-APPROVED PREFERRED DRIVEWAY LOCATIONS

SURFACE CONTOUR MINOR

SURFACE CONTOUR MAJOR

SURFACE LEVEL

BATTER LEVEL (TOP / TOE)

EARTHWORKS GRADE

SIGN AND POST

LIGHT & POLE (BY OTHERS)

STREET SIGN

PERMANENT SURVEY MARK

TEMPORARY BENCH MARK

BOLLARD

ROAD CHAINAGES

LOT CHAINAGE

SETOUT POINT

LIMIT OF WORKS

EARTHWORK - FILL GREATER THAN 200mm

BATTER

ROCK BEACHING

FENCE - TREE PROTECTION

FENCE - VEHICLE EXCLUSION

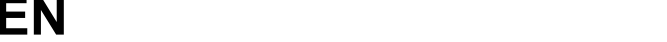
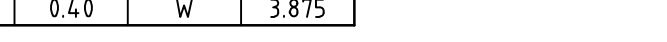
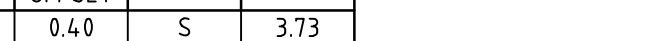
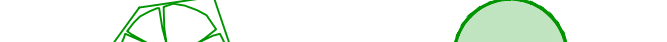
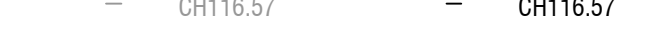
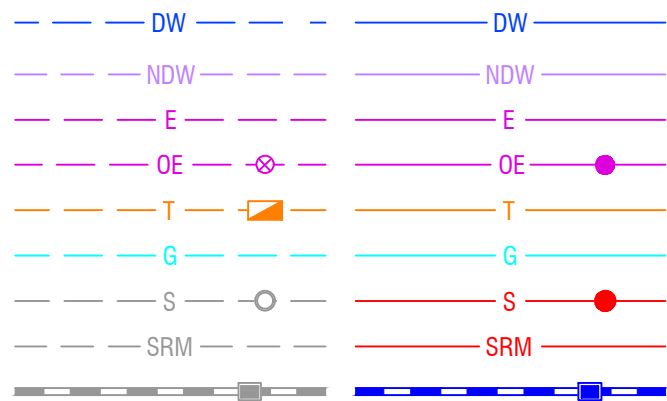
FENCES

TREE (& SURVEYED CANOPY) TO BE RETAINED

TREE TO BE REMOVED

VEGETATION LINE

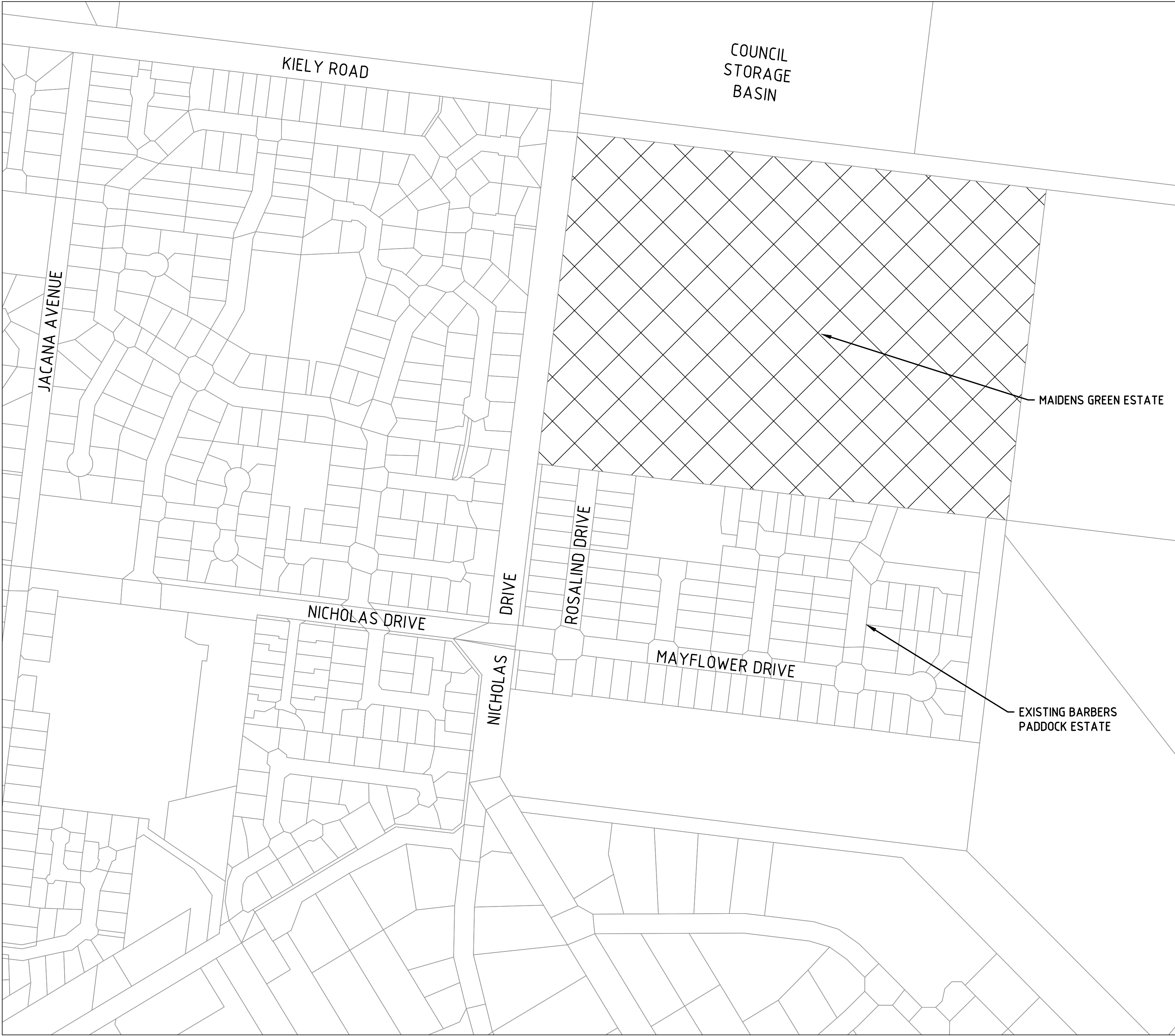
EXISTING



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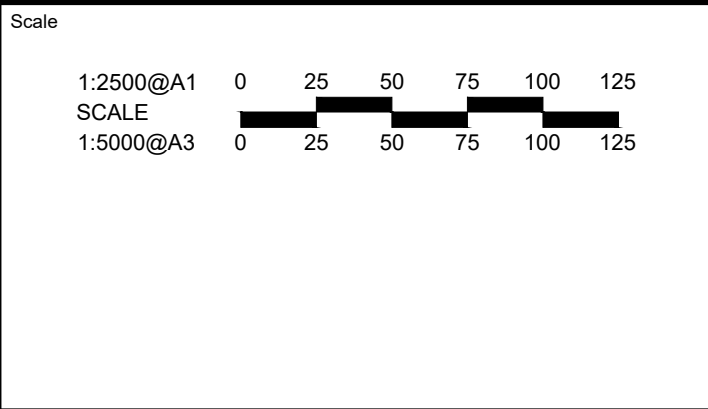
DRAWING SCHEDULE

DRAWING	DESCRIPTION	SHEET No.	REVISION
CC001	COVER SHEET	1	(A)
CC002	DRAWING SCHEDULE	2	(A)
CC005	GENERAL ARRANGEMENT PLAN	3	(A)
CC025	STAGING PLAN	4	(A)
CC030	ROAD LAYOUT PLAN	5	(A)
CC100	ROAD LONGITUDINAL SECTIONS - KINGS CIRCUIT	6	(A)
CC140	ROAD CROSS SECTIONS - KINGS CIRCUIT - SHEET 1 OF 2	7	(A)
CC141	ROAD CROSS SECTIONS - KINGS CIRCUIT - SHEET 2 OF 2	8	(A)
CC270	INTERSECTION DETAILS - KINGS CIRCUIT	9	(A)
CC400	HYDRAULICS - NOTES, LEGEND & DETAILS	10	(A)
CC430	HYDRAULICS - DRAINAGE PROFILES	11	(A)
CC500	HYDRAULICS - SEWER & WATER PLAN - WATER LAYOUT PLAN	12	(A)
CC501	HYDRAULICS - SEWER & WATER PLAN - WATER DETAILS	13	(A)
CC502	HYDRAULICS - SEWER & WATER PLAN - SEWER LAYOUT PLAN	14	(A)
CC530	HYDRAULICS - SEWER PROFILES	15	(A)



DRAFT

Rev	Amendments	Approved	Date
(A)	ISSUED FOR APPROVAL	J.F	04/12/25



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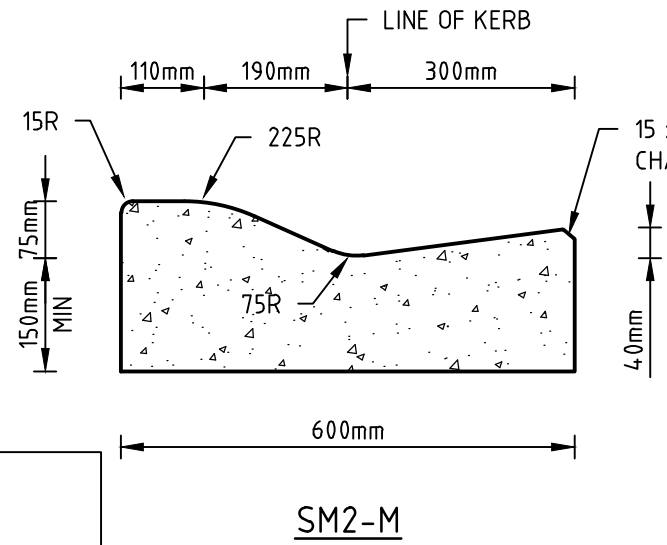
Designed S.MAHER	Checked B.IBBS
Authorised J.FEHRING	Date DEC 2025

**MAIDENS GREEN
STAGE 5B
DRAWING SCHEDULE**
- MURRAY RIVER COUNCIL
SUBDIVISION WORKS CERTIFICATE
FOR TENDER 310338-05BCC002 (A)

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 (MMDD)	160
CONCRETE	32 MPa CONCRETE WITH SL82 MESH CENTRALLY PLACED	-
SUBBASE COURSE	CLASS 3 20mm FCR, COMPACTED TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY (MMDD)	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

ROAD NAME	TYPE
KINGS CIRCUIT	A

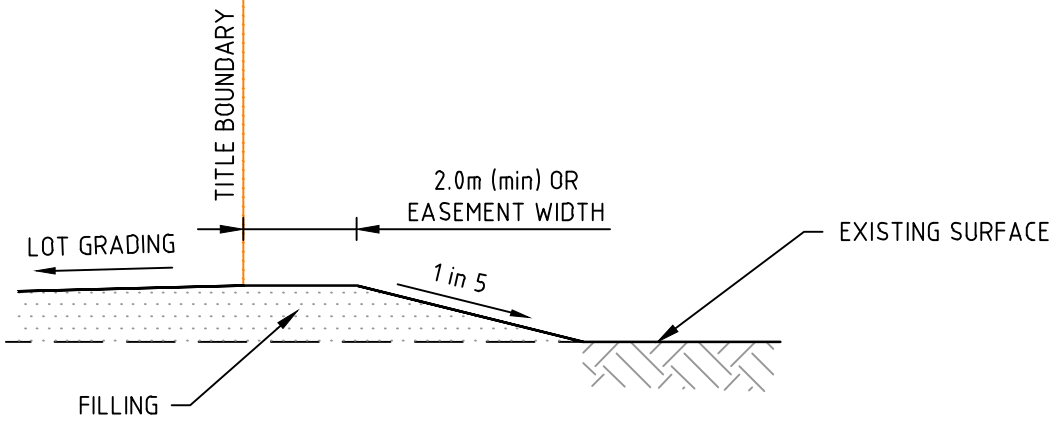
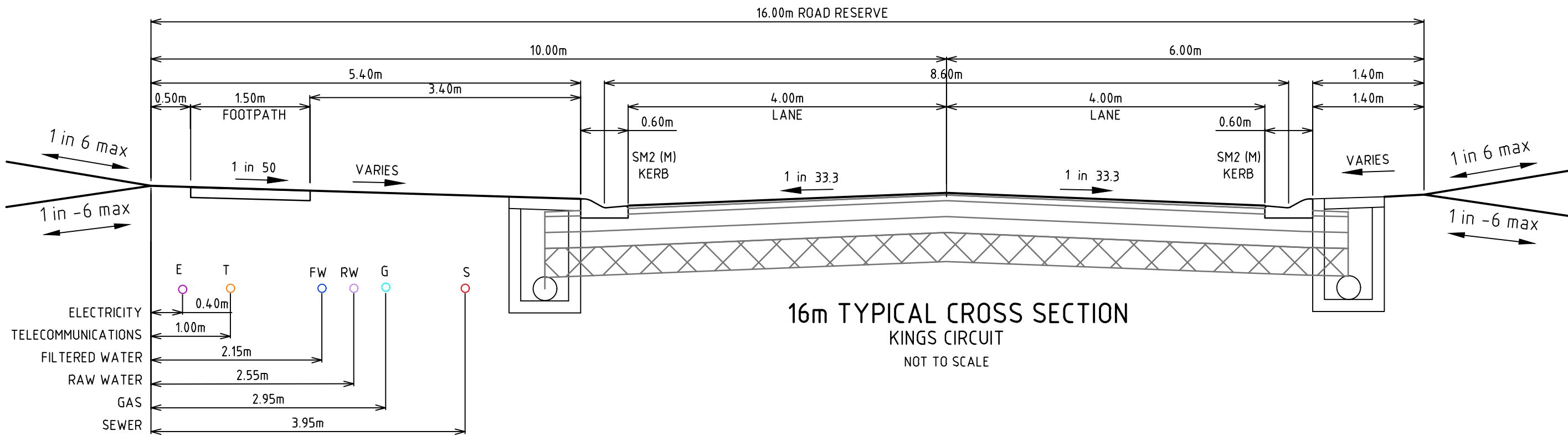


PAVEMENT DETAILS

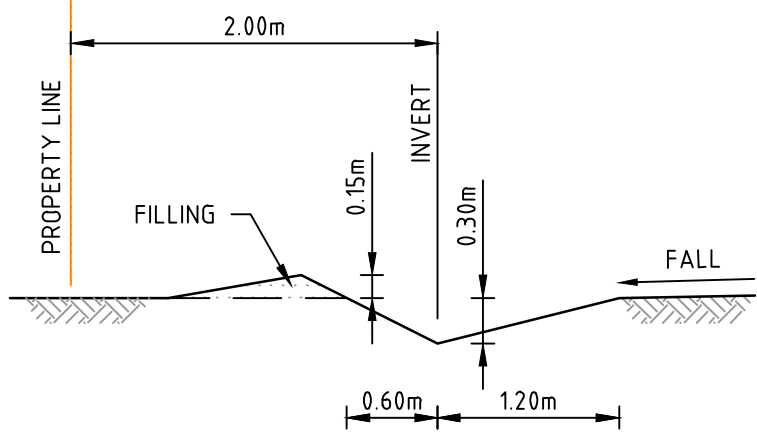
THE PAVEMENT DESIGNS SHOWN HERE HAVE BEEN PROVIDED BY MURRAY RIVER COUNCIL (TYPE A) AND GEOTECHNICAL TESTING SERVICES (GTS) (TYPE B). SPIIRE DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THE GEOTECHNICAL WORK AND PAVEMENT DESIGNS. ANY QUERIES IN RESPECT TO THE PAVEMENT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

GENERAL NOTES:

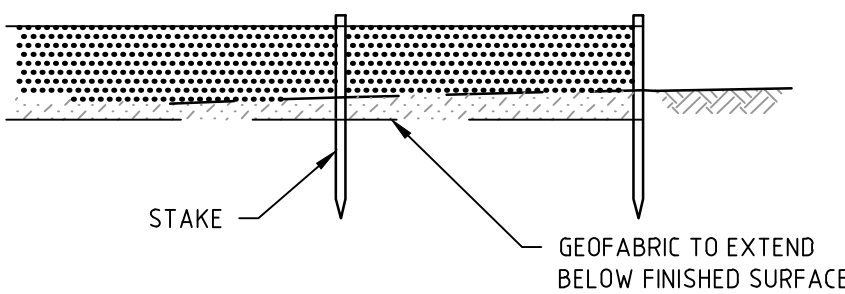
- ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS AND CCAA LITERATURE.
- ALL CONCRETE TO BE MINIMUM 25MPa COMPRESSIVE STRENGTH
- CONCRETE TO BE THOROUGHLY COMPACTED USING EITHER SURFACE AND/OR IMMERSION VIBRATORS, PARTICULARLY AROUND REINFORCEMENT AND IN CORNERS OF FORMS.
-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



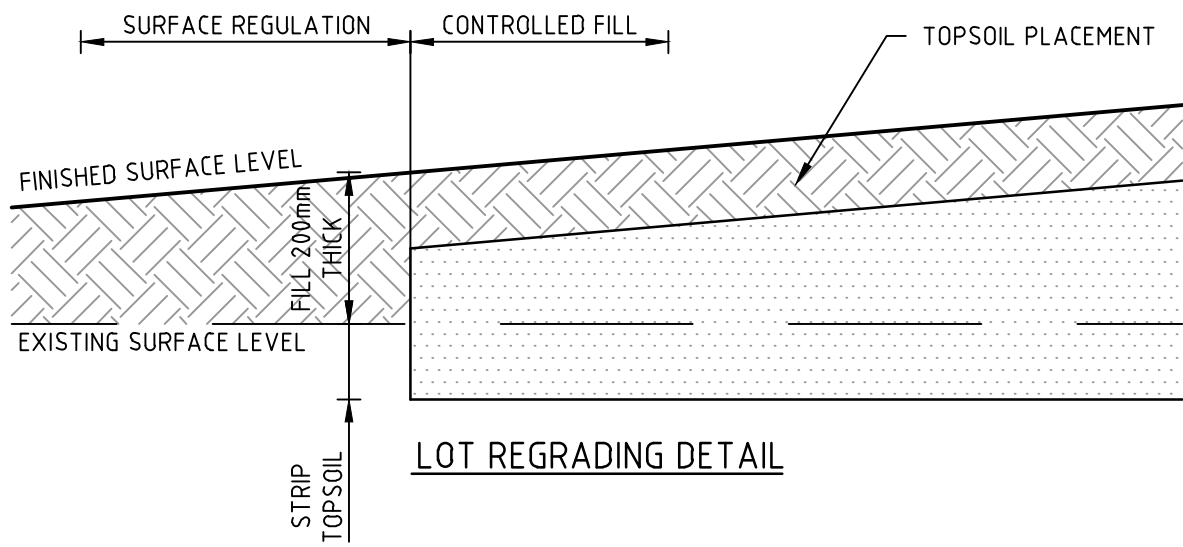
LOT FILLING AT STAGE BOUNDARY



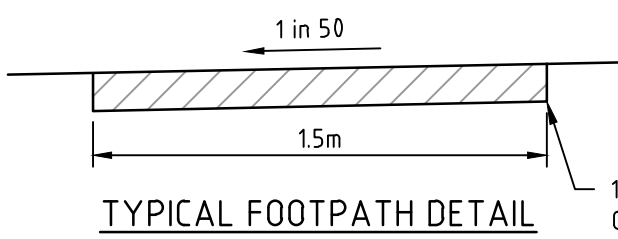
TYPICAL CATCH DRAIN SECTION



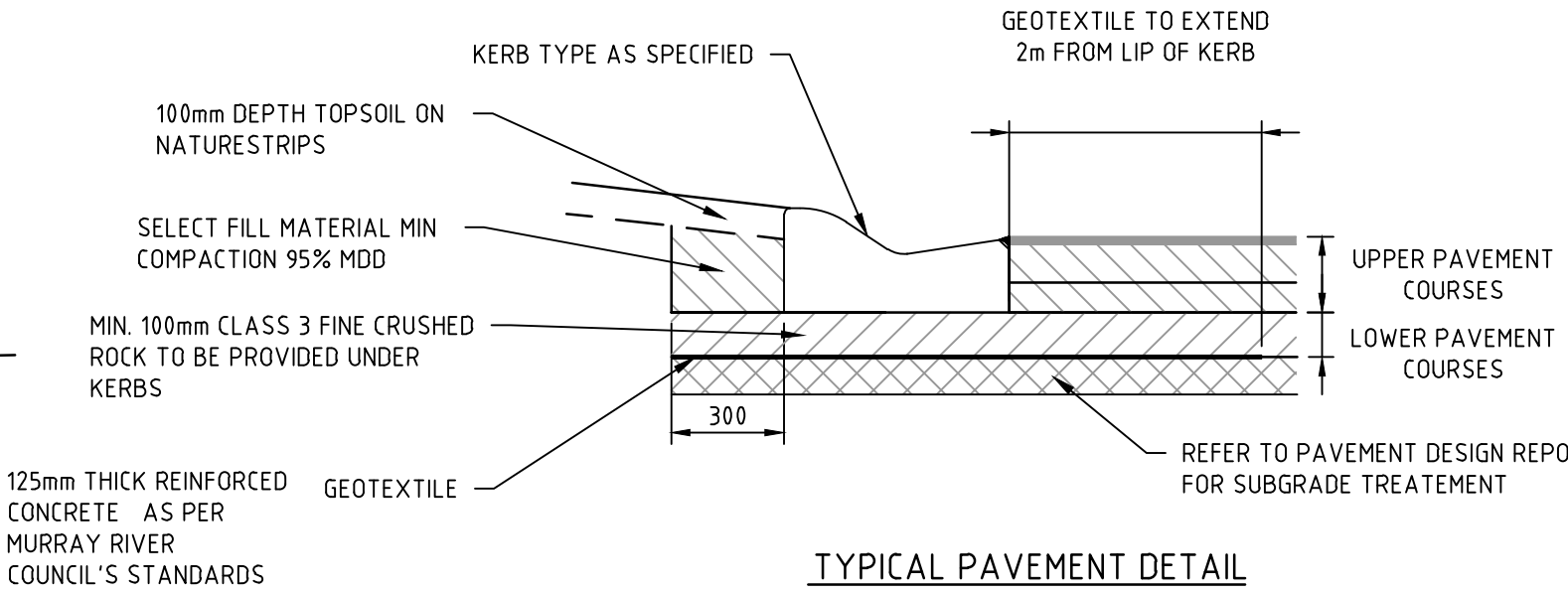
SILT CONTROL FOR LOTS
GEOFABRIC SILT FENCE



LOT REGRADING DETAIL



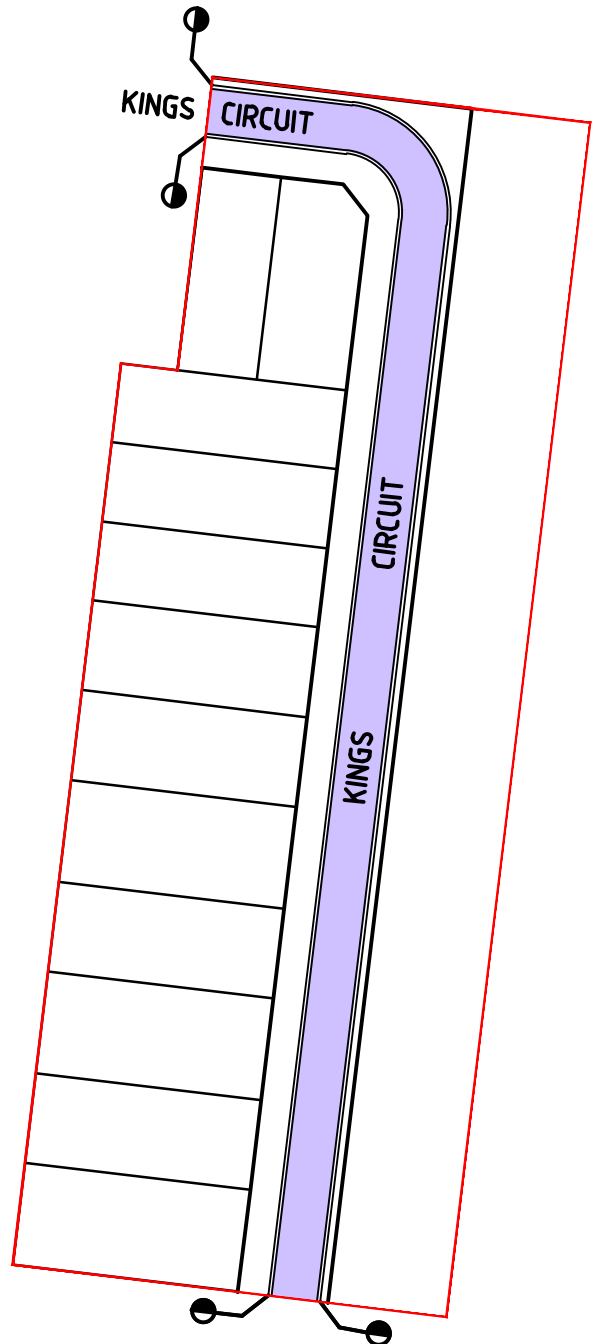
TYPICAL FOOTPATH DETAIL



TYPICAL PAVEMENT DETAIL
REFER TO AUTHORITY REQUIREMENTS FOR SPECIFIC DETAILS

PAVEMENT PLAN

H 1:750
SCALE @ A1



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Scale

AS SHOWN



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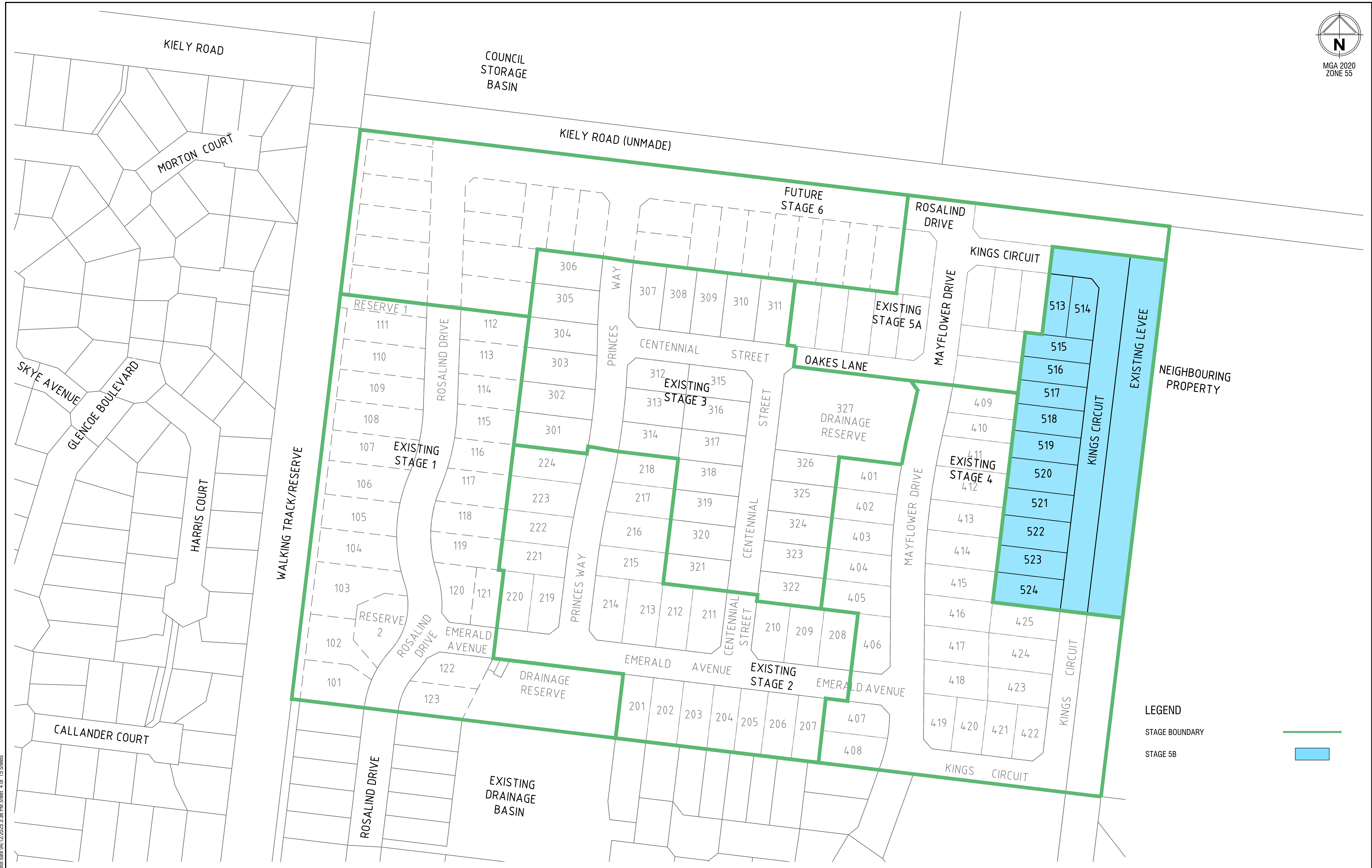
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B.IBBS
Date
DEC 2025

**MAIDENS GREEN
STAGE 5B
GENERAL ARRANGEMENT PLAN**
-
MURRAY RIVER COUNCIL
SUBDIVISION WORKS CERTIFICATE

FOR TENDER

Dwg No
310338-05BCC005(A)

Rev



LEGEND

STAGE BOUNDARY

STAGE 5B



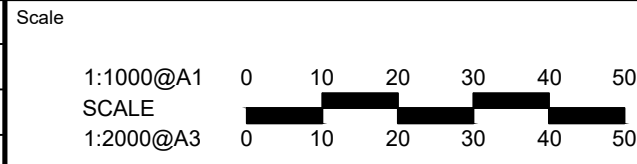
MAIDENS GREEN
STAGE 5B
STAGING PLAN

MURRAY RIVER COUNCIL
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FOR TENDER

310338-05BCC025 (A)

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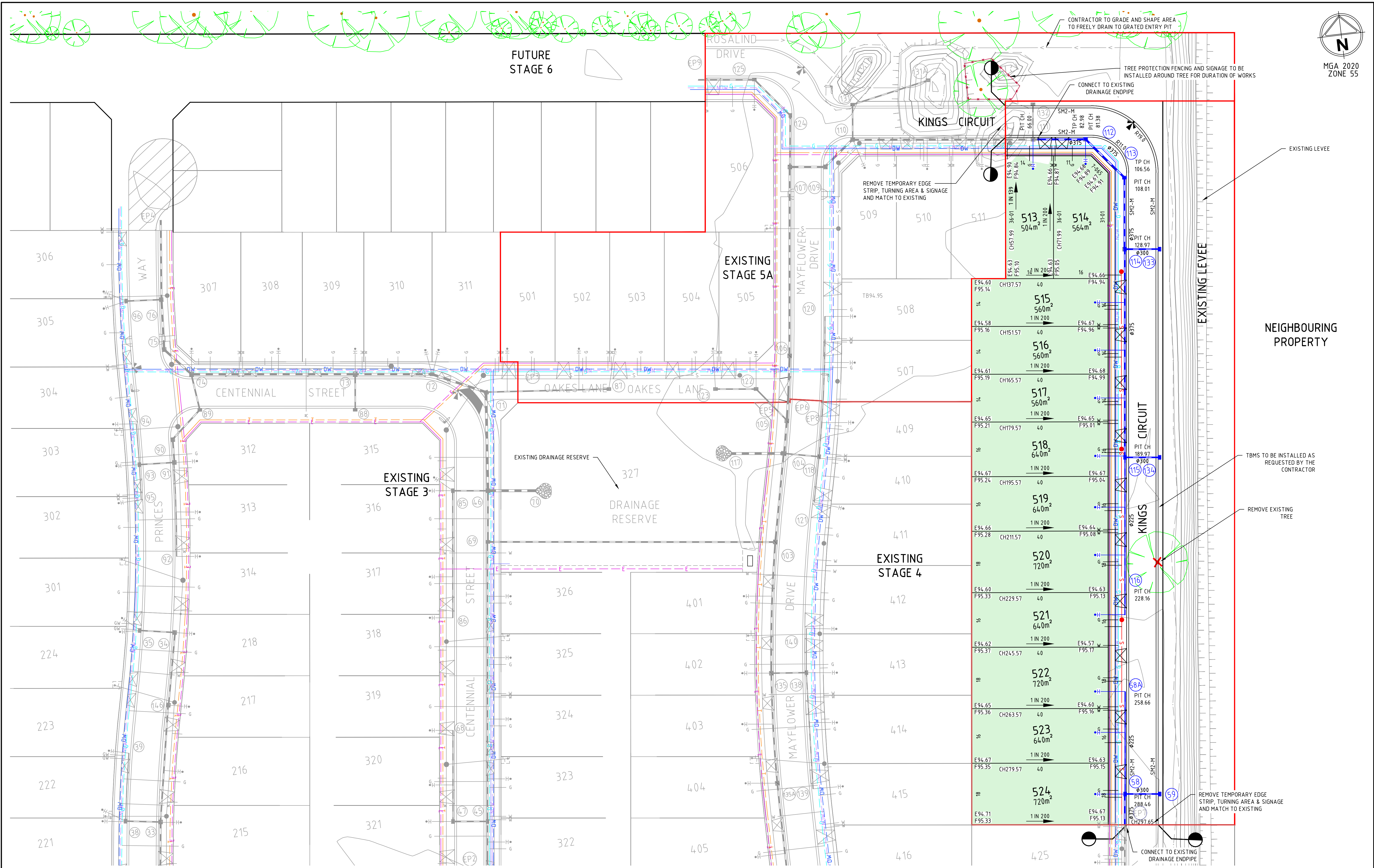
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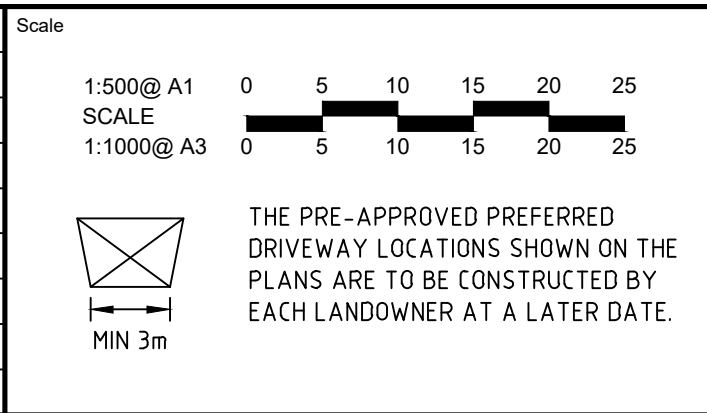
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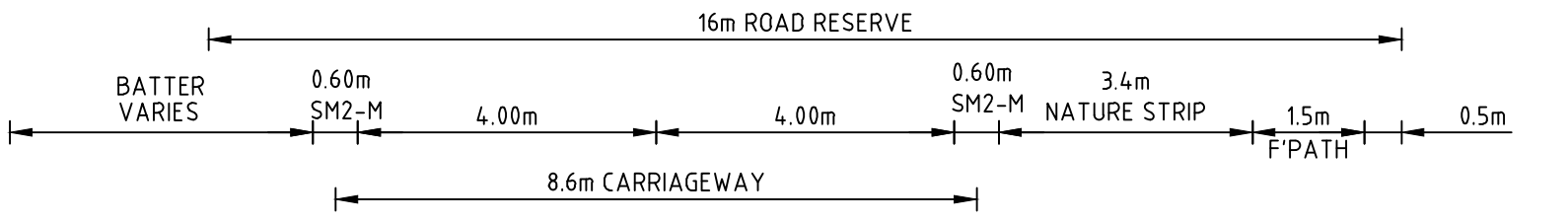
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**MAIDENS GREEN
STAGE 5B
ROAD LAYOUT PLAN**
MURRAY RIVER COUNCIL
SUBDIVISION WORKS CERTIFICATE

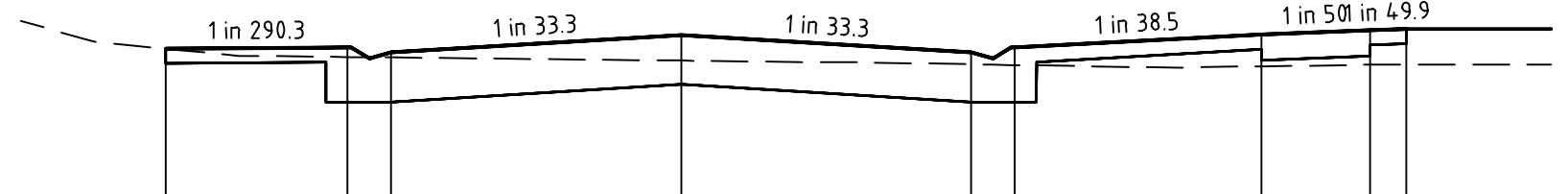
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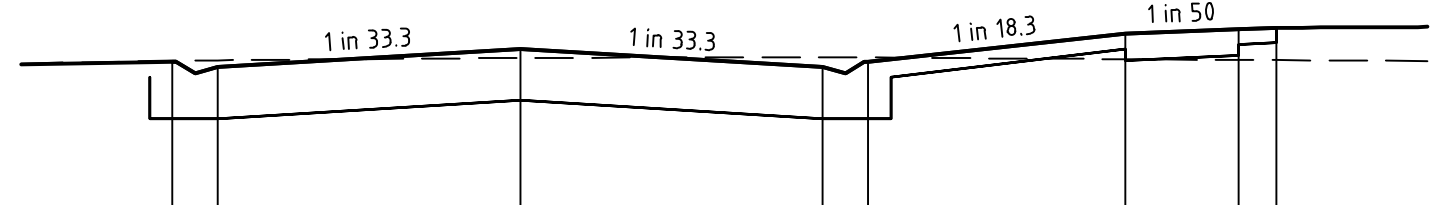
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EXISTING SURFACE LEVEL				
OFFSET				

KINGS CIRCUIT CH 137.57



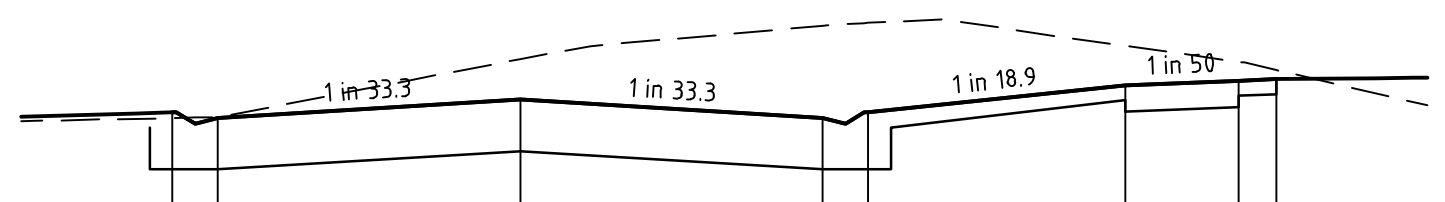
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KINGS CIRCUIT CH 82.98



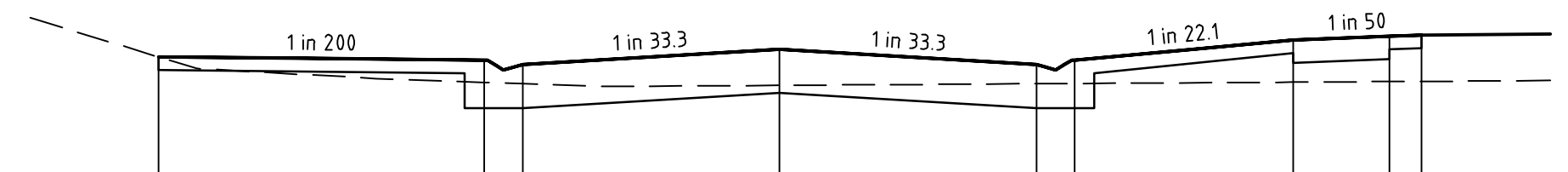
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KINGS CIRCUIT CH 57.99



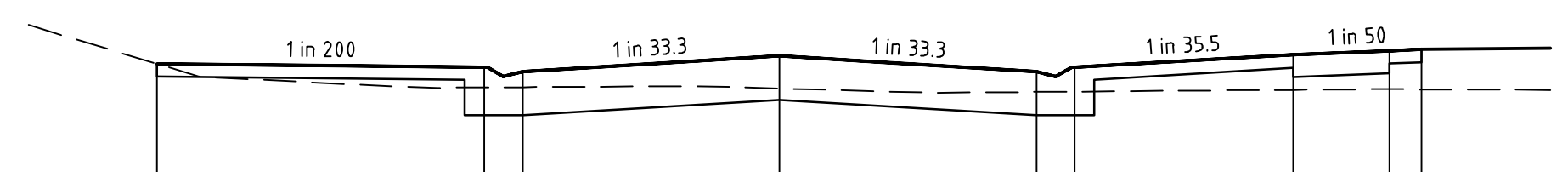
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KINGS CIRCUIT CH 195.57



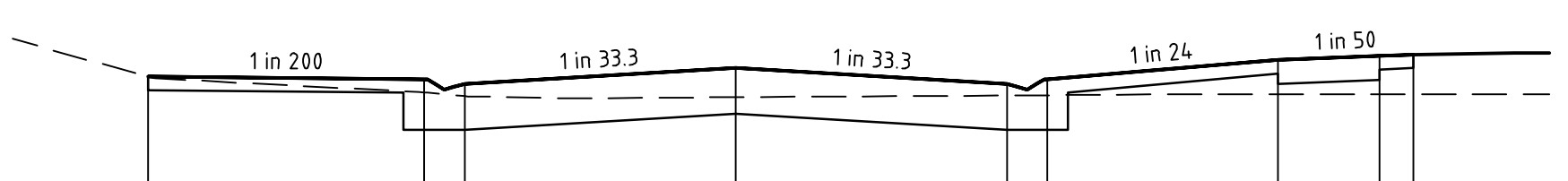
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EXISTING SURFACE LEVEL				
OFFSET				

KINGS CIRCUIT CH 179.57



DATUM R.L.93.0				
DESIGN SURFACE LEVEL				
EXISTING SURFACE LEVEL				
OFFSET				

KINGS CIRCUIT CH 165.57



DATUM R.L.93.0				
DESIGN SURFACE LEVEL				
EXISTING SURFACE LEVEL				
OFFSET				

KINGS CIRCUIT CH 151.57

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(A)	ISSUED FOR APPROVAL	J.F 04/12/25
Rev	Amendments	Approved Date

Scale

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

0 0.5 1 1.5 2 2.5

0 1 2 3 4 5

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ISO 9001

certified

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ISO 45001

certified

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ISO 14001

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System Certified

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

Designed
S.MAHER

Authorised
J.FEHRING

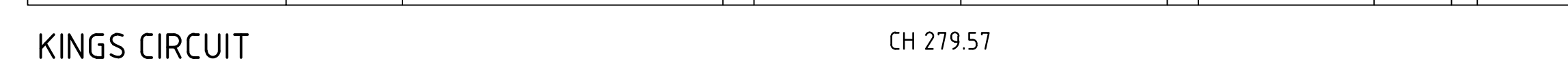
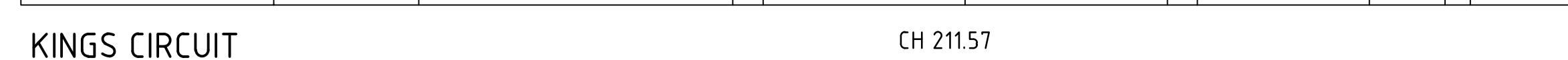
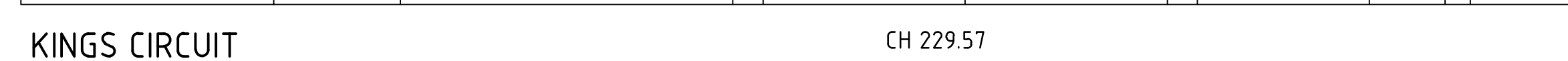
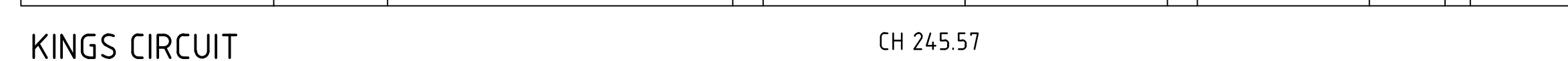
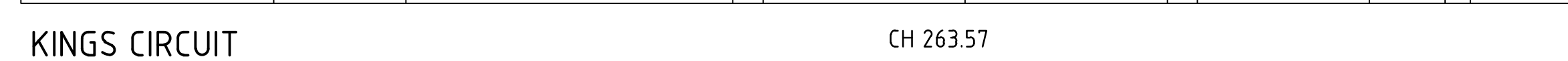
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Date
DEC 2025

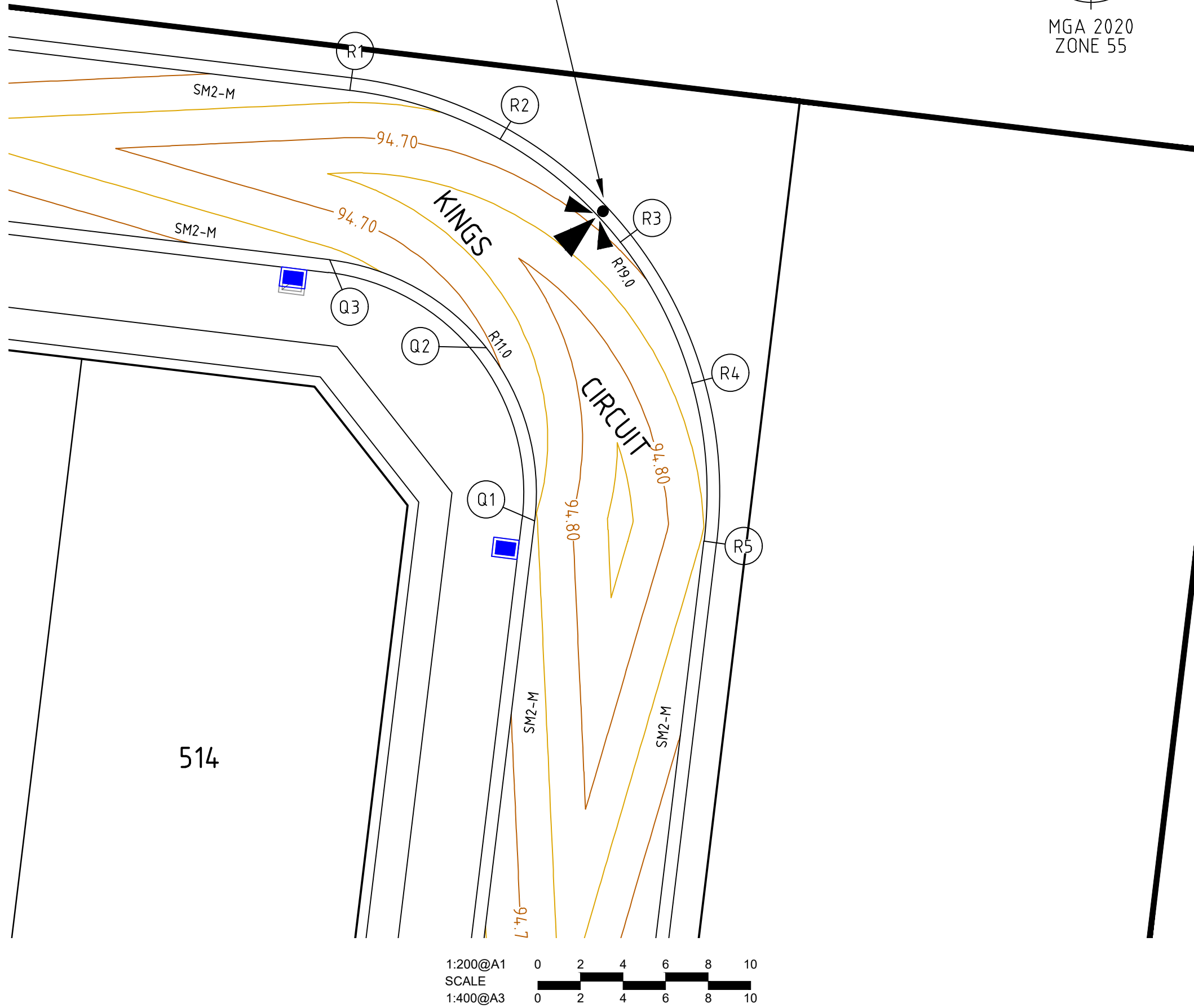
MAIDENS GREEN
STAGE 5B
ROAD CROSS SECTIONS
KINGS CIRCUIT - SHEET 1 OF 2
MURRAY RIVER COUNCIL
SUBDIVISION WORKS CERTIFICATE

FOR TENDER

310338-05BCC140(A)



INSTALL STATE SURVEY MARK IN
KERB, TO BE SUPPLIED BY SPIIRE



ALIGNMENT R

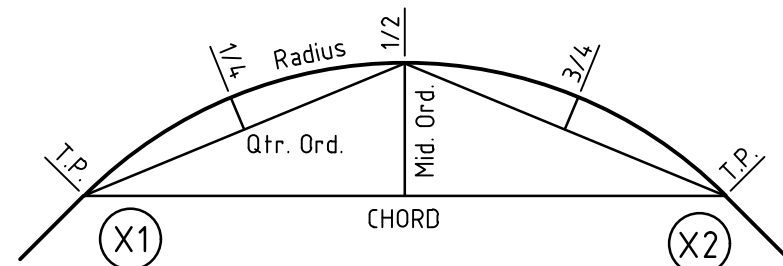
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R1	299340.876	6002923.605	94.633	0.000
1/4	299342.725	6002923.291	94.640	1.876
1/2	299344.516	6002922.802	94.647	3.733
3/4	299346.251	6002922.140	94.655	5.591
R2	299347.929	6002921.304	94.662	7.467
1/4	299349.516	6002920.306	94.669	9.343
1/2	299350.984	6002919.168	94.676	11.200
3/4	299352.333	6002917.892	94.684	13.058
R3	299353.563	6002916.477	94.692	14.934
1/4	299354.647	6002914.947	94.698	16.809
1/2	299355.567	6002913.334	94.705	18.667
3/4	299356.325	6002911.639	94.713	20.525
R4	299356.919	6002909.860	94.720	22.400
1/4	299357.335	6002908.032	94.728	24.276
1/2	299357.567	6002906.190	94.735	26.134
3/4	299357.618	6002904.333	94.741	27.992
R5	299357.486	6002902.463	94.746	29.867

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

ALIGNMENT Q

POINT NO	EASTING	NORTHING	RL	CHAINAGE
Q1	299349.543	6002903.421	94.746	0.000
1/4	299349.587	6002905.621	94.735	2.204
1/2	299349.215	6002907.704	94.721	4.323
3/4	299348.451	6002909.677	94.707	6.442
Q2	299347.272	6002911.535	94.692	8.646
1/4	299345.747	6002913.120	94.677	10.849
1/2	299344.010	6002914.329	94.662	12.969
3/4	299342.074	6002915.183	94.648	15.088
Q3	299339.927	6002915.661	94.633	17.292

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



KERB RETURN SETOUT DETAIL

DRAFT

Scale

AS SHOWN



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Checked
B.IBBS

Date
DEC 2025

MAIDENS GREEN
STAGE 5B
INTERSECTION DETAILS
KINGS CIRCUIT
MURRAY RIVER COUNCIL
SUBDIVISION WORKS CERTIFICATE

FOR TENDER

Dwg No

310338-05BCC270 (A)

Rev

file path: 310338-05BCC400.dwg, layout name: CC400, plotted by: Sam Maher, file location: G:\310338-05B\civil\CAD, print date: 04/22/2025, 3:37 PM, Sheet: 10 of 15 Sheets

WATER NOTES

GENERAL NOTES:

1.

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

WORKS MUST BE CONSTRUCTED ACCORDING TO WSA 03-2011-31 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 (EG: SEWERAGE & DRAINAGE ASSETS). THIS DESIGN IS TO BE READ IN CONJUNCTION WITH ROAD AND DRAINAGE PLANS.
4.

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

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

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

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

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

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

SURVEY, SET OUT AND ASSET RECORDING

11.

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

ALL LEVELS ARE IN METRES TO AHD.
13.

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

ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
15.

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

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

ALL SPECIFIC PIPE MATERIALS (EG: PVC-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.
25.

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

ALL VALVES ARE TO BE ANTI-CLOCKWISE CLOSING

WATER MAIN ALIGNMENT, TRENCHING & COVER

27.

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

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

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

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

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

EMBEDMENT

32.

UNLESS OTHERWISE APPROVED BY THE WATER AGENCY, ALL EMBEDMENT MATERIALS SHALL BE IN ACCORDANCE WITH WSA-PS-361.
- 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. 04-031 (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 SUPERNTENDENT ANY GROUND CONDITIONS WHICH ARE FOUND TO BE DIFFERENT TO THAT NOMINATED. THE NOMINAL AHPB OF THE GROUND USED IN CALCULATING EACH THRUST RESTRAINT IS 50KPA.

CONNECTIONS (ALL TYPES)

42.

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

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

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

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

OTHER SERVICES

46.

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

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

OFFSETS TO OTHER SERVICES SHALL BE AS PER TABLE 5 OR OTHERWISE AS PER TABLE 5.5 OF WSA03-2011-31 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.

DRAINAGE NOTES

1.

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

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

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

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

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

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

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

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

STEP IRONS ARE NOT REQUIRED IN DRAINAGE PITS.
10.

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

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

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

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

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

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

WHERE PVC HOUSE CONNECTIONS ARE MADE DIRECTLY TO PIPES, THE HOUSE CONNECTION IS TO BE RAISED TO SURFACE LEVEL WITHIN THE PROPERTY AND CAPPED AS PER S0520.
17.

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

SEWER NOTES

1.

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

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

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

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

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

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

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

CHAINAGES SHOWN ON LONGITUDINAL PLANS ARE CONTINUOUS.
9.

PIPE MATERIAL, UNLESS SHOWN OTHERWISE.

PIPELINE MATERIALS

PIPE TYPE	PIPE CLASS	AUS. STANDARD	LOCATION
PVC	SN10	AS/NZS 1260-2009	1000 PROPERTY BRANCHES
PVC	SN8	AS/NZS 1260-2009	1500 RETICULATION SEWERS
PVC	SN8	AS/NZS 1260-2009	2250 RETICULATION SEWERS

NOTE: SEWERPRO PIPE IS NOT ACCEPTABLE.

10.

ACCESS CHAMBERS.
- A.

ACCESS CHAMBER COVERS SHALL BE LEVEL WITH AND SHALL CONFORM TO SLOPE AND CROSSFALL OF THE FINISHED SURFACE. THE FINISHED SURFACE LEVELS SHOWN ARE APPROXIMATE ONLY. THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR SETTING THE CONSTRUCTION LEVELS INCLUDING COVER GRADES BASED ON THE ROAD AND DRAINAGE PLANS. ALL SEWER COVERS ARE TO BE CONSTRUCTED TO THESE LEVELS. MAXIMUM SLOPE FOR CLASS C OR D COVERS TO BE 1 IN 10. MAXIMUM SLOPE FOR CLASS A OR B COVERS TO BE 1 IN 4.
- 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, AS3900 AND THE SEWERAGE STANDARD DRAWINGS.
- A.

THE CONNECTION POINT MUST BE EXTENDED A MINIMUM OF 10 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.

MAIDENS GREEN
STAGE 5B
HYDRAULICS - NOTES, LEGEND & DETAILS

MURRAY RIVER COUNCIL
SUBDIVISION WORKS CERTIFICATE

FOR TENDER

Drg No
310338-05BCC400 (A)

Rev

Designed
S.MAHER

Checked
B.IBBS

Authorised
J.FEHRING

Date
DEC 2025

spiire

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



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DRAINAGE PIT SCHEDULE

PIT		INTERNAL		INLET		OUTLET		PIT		REMARKS
NAME	TYPE	WIDTH	LENGTH	DIA	INV LEVEL	DIA	INV LEVEL	FS LEVEL	DEPTH	
EP7	ENDPIPE			375	93.259	375	93.259	94.898	1.639	CONNECT TO EXISTING ENDPIPE
58	SIDE ENTRY PIT	600	900	300	93.325	375	93.305	94.853	1.548	AS PER IDM SD 440, HAUNCHED TO 900X600
				225	93.521					
59	SIDE ENTRY PIT	600	900			300	93.426	94.853	1.427	AS PER IDM SD 440
58A	ENDPIPE					225	93.819	95.002	1.183	INSPECTION OPENING AS PER IDM SD 515
111	SIDE ENTRY PIT	900	900	375	93.020	450	93.000	94.583	1.583	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.150					
112	SIDE ENTRY PIT	900	900	375	93.091	375	93.071	94.660	1.589	AS PER IDM SD 440, HAUNCHED TO 900X600
113	JUNCTION PIT	900	600	375	93.165	375	93.145	94.774	1.628	AS PER IDM SD 410
114	SIDE ENTRY PIT	900	900	375	93.302	375	93.235	94.669	1.434	AS PER IDM SD 440, HAUNCHED TO 900X600
				300	93.310					
115	SIDE ENTRY PIT	600	900	225	93.655	375	93.505	94.764	1.259	AS PER IDM SD 440
				300	93.580					
116	ENDPIPE					225	94.037	94.954	0.917	INSPECTION OPENING AS PER IDM SD 515
133	SIDE ENTRY PIT	600	900			300	93.411	94.669	1.258	AS PER IDM SD 440
134	SIDE ENTRY PIT	600	900			300	93.681	94.764	1.083	AS PER IDM SD 440

NAME	POINT	EASTING	NORTHING
EP7	END OF PIPE	299325.505	6002713.839



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



Pipe Diameter	375Ø
Pipe Class	Class 2
Pipe Grade	1 in 200
Velocity (m/s)	Vf=1.122
Pipe Flow (m3/s)	Qa=0.069
Pipe Capacity (m3/s)	Qcap=0.124

DATUM	87.00
DEPTH TO INVERT	16.39
DESIGN INVERT LEVEL	93.259
HYDRAULIC GRADE LEVEL	94.668
FINISHED SURFACE LEVEL	94.898
EXISTING SURFACE LEVEL	94.659
CHAINAGE	L=9.181m

Pipe Diameter	300Ø
Pipe Class	Class 2
Pipe Grade	1 in 100
Velocity (m/s)	Vf=1.369
Pipe Flow (m3/s)	Qa=0.007
Pipe Capacity (m3/s)	Qcap=0.097

DATUM	89.00
DEPTH TO INVERT	15.28
DESIGN INVERT LEVEL	93.325
HYDRAULIC GRADE LEVEL	94.703
FINISHED SURFACE LEVEL	94.853
EXISTING SURFACE LEVEL	94.645
CHAINAGE	L=10.093m

Pipe Diameter	225Ø
Pipe Class	PVC
Pipe Grade	1 in 100
Velocity (m/s)	Vf=1.130
Pipe Flow (m3/s)	Qa=0.016
Pipe Capacity (m3/s)	Qcap=0.045

DATUM	89.00
DEPTH TO INVERT	1.83
DESIGN INVERT LEVEL	93.819
HYDRAULIC GRADE LEVEL	94.742
FINISHED SURFACE LEVEL	95.002
EXISTING SURFACE LEVEL	94.591
CHAINAGE	L=29.817m

Pipe Diameter	375Ø
Pipe Class	Class 2
Pipe Grade	1 in 300
Velocity (m/s)	Vf=0.917
Pipe Flow (m3/s)	Qa=0.092
Pipe Capacity (m3/s)	Qcap=0.101

DATUM	88.00
DEPTH TO INVERT	1.589
DESIGN INVERT LEVEL	93.071
HYDRAULIC GRADE LEVEL	94.507
FINISHED SURFACE LEVEL	94.660
EXISTING SURFACE LEVEL	94.695
CHAINAGE	L=15.386m

Pipe Diameter	375Ø
Pipe Class	Class 2
Pipe Grade	1 in 300
Velocity (m/s)	Vf=0.917
Pipe Flow (m3/s)	Qa=0.084
Pipe Capacity (m3/s)	Qcap=0.101

DATUM	88.00
DEPTH TO INVERT	1.569
DESIGN INVERT LEVEL	93.091
HYDRAULIC GRADE LEVEL	94.507
FINISHED SURFACE LEVEL	94.660
EXISTING SURFACE LEVEL	94.695
CHAINAGE	L=16.130m

Pipe Diameter	375Ø
Pipe Class	Class 2
Pipe Grade	1 in 300
Velocity (m/s)	Vf=0.917
Pipe Flow (m3/s)	Qa=0.085
Pipe Capacity (m3/s)	Qcap=0.101

DATUM	88.00
DEPTH TO INVERT	1.608
DESIGN INVERT LEVEL	93.165
HYDRAULIC GRADE LEVEL	94.519
FINISHED SURFACE LEVEL	94.774
EXISTING SURFACE LEVEL	94.659
CHAINAGE	L=20.959m

Pipe Diameter	375Ø
Pipe Class	Class 2
Pipe Grade	1 in 300
Velocity (m/s)	Vf=0.917
Pipe Flow (m3/s)	Qa=0.072
Pipe Capacity (m3/s)	Qcap=0.101

DATUM	88.00
DEPTH TO INVERT	1.434
DESIGN INVERT LEVEL	93.235
HYDRAULIC GRADE LEVEL	94.519
FINISHED SURFACE LEVEL	94.669
EXISTING SURFACE LEVEL	94.655
CHAINAGE	L=61.004m

Pipe Diameter	225Ø
Pipe Class	PVC
Pipe Grade	1 in 100
Velocity (m/s)	Vf=1.130
Pipe Flow (m3/s)	Qa=0.024
Pipe Capacity (m3/s)	Qcap=0.045

DATUM	88.00
DEPTH TO INVERT	1.109
DESIGN INVERT LEVEL	93.655
HYDRAULIC GRADE LEVEL	94.614
FINISHED SURFACE LEVEL	94.764
EXISTING SURFACE LEVEL	94.624
CHAINAGE	L=38.186m

Pipe Diameter	300Ø
Pipe Class	Class 2
Pipe Grade	1 in 100
Velocity (m/s)	Vf=1.369
Pipe Flow (m3/s)	Qa=0.006
Pipe Capacity (m3/s)	Qcap=0.097

DATUM	88.00
DEPTH TO INVERT	1.258
DESIGN INVERT LEVEL	93.411
HYDRAULIC GRADE LEVEL	94.519
FINISHED SURFACE LEVEL	94.669
EXISTING SURFACE LEVEL	94.714
CHAINAGE	L=10.100m

Pipe Diameter	300Ø
Pipe Class	Class 2
Pipe Grade	1 in 100
Velocity (m/s)	Vf=1.369
Pipe Flow (m3/s)	Qa=0.008
Pipe Capacity (m3/s)	Qcap=0.097

DATUM	89.00
DEPTH TO INVERT	1.083
DESIGN INVERT LEVEL	93.681
HYDRAULIC GRADE LEVEL	94.614
FINISHED SURFACE LEVEL	94.764
EXISTING SURFACE LEVEL	94.670
CHAINAGE	L=10.100m

MAIDENS GREEN
STAGE 5B
HYDRAULICS - DRAINAGE PROFILES

MURRAY RIVER COUNCIL
SUBDIVISION WORKS CERTIFICATE

FOR TENDER

310338-05BCC430 (A)

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H 1:500 @ A1
SCALE
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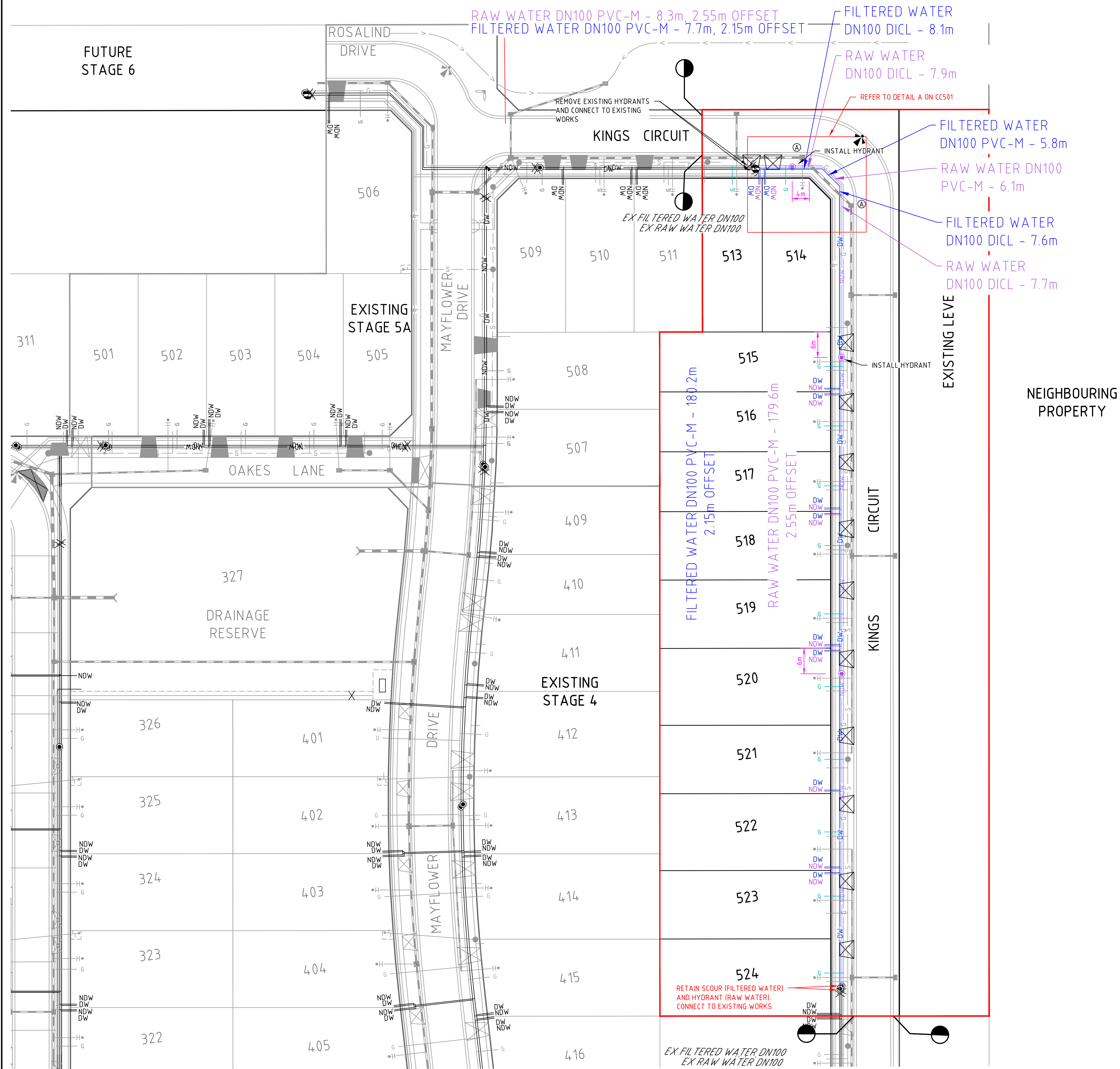
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VICTORIA 3550 AUSTRALIA T 61 3 5448 2500
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Designed
S.MAHER
Authorised
J.FEHRING

Checked
B.IBBS
Date
DEC 2025

file name: 310338-05BCC500.dwg, layout name: CC010, plotted by: Sam Maher, file location: G:\310338-05BCC500\dwg\CC010, plot date: 04/12/2025, 3:37 PM, Sheet: 12 of 15 Sheets



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

TABLE 1: NEW PIPE SCHEDULE

NEW WORK			FILTERED WATER	RAW WATER
SIZE (mm)	TYPE	CLASS	LENGTH (m)	LENGTH (m)
100	PVC-M AS/NZS 4441	SERIES 1 PN12	193.7	194.0
100	DICL AS/NZS 2280	PN35	15.7	15.6

TABLE 2: PIPE MATERIAL SCHEDULE

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

TABLE 3: HYDRANT & WASHOUT SCHEDULE

MAIN SIZE	FITTING TYPE	LOCATION	STREET	LOCATION
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	3.00m W OF SPLAY LOT 513
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	6.00m S OF NBL LOT 514
100	HYDRANT - RW	IN LINE	KINGS CIRCUIT	6.00m S OF NBL LOT 519

TABLE 4: CURVED PIPE AND DEFLECTION SCHEDULE

LOCATION	METHOD	RADIUS (m)	TOTAL PIPE LENGTH
-	-	-	-

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

TABLE 6: THRUST RESTRAINT SCHEDULE

LOCATION	TYPE	THRUST	AHBP (kPa) USED	THRUST AREA (m²)	QUANTITY
A	INLINE	2 X DN100 45° BEND	50	0.36	2

TABLE 7: VERTICAL CLEARANCES

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

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

LEGEND
Ⓐ THRUST RESTRAINT - SEE TABLE 6 FOR DETAILS
G GAS CONDUIT
DW NDW SERVICE CONDUIT
X X X VALVE
● ● ● HYDRANT, BELOW GROUND.
● SCOUR
▶ TAPER
⊗ REMOVE FITTING
NDW RAW WATER MAIN
DW FILTERED WATER MAIN
W IRRIGATION WATER MAIN
DW EXISTING WATER MAIN
NDW EXISTING RAW WATER MAIN
FOR ADDITIONAL SYMBOLS NOT INCLUDED HERE REFER TO MRWA-W-100



DRAFT

Scale

1:500@ A1
SCALE
1:1000@ A3



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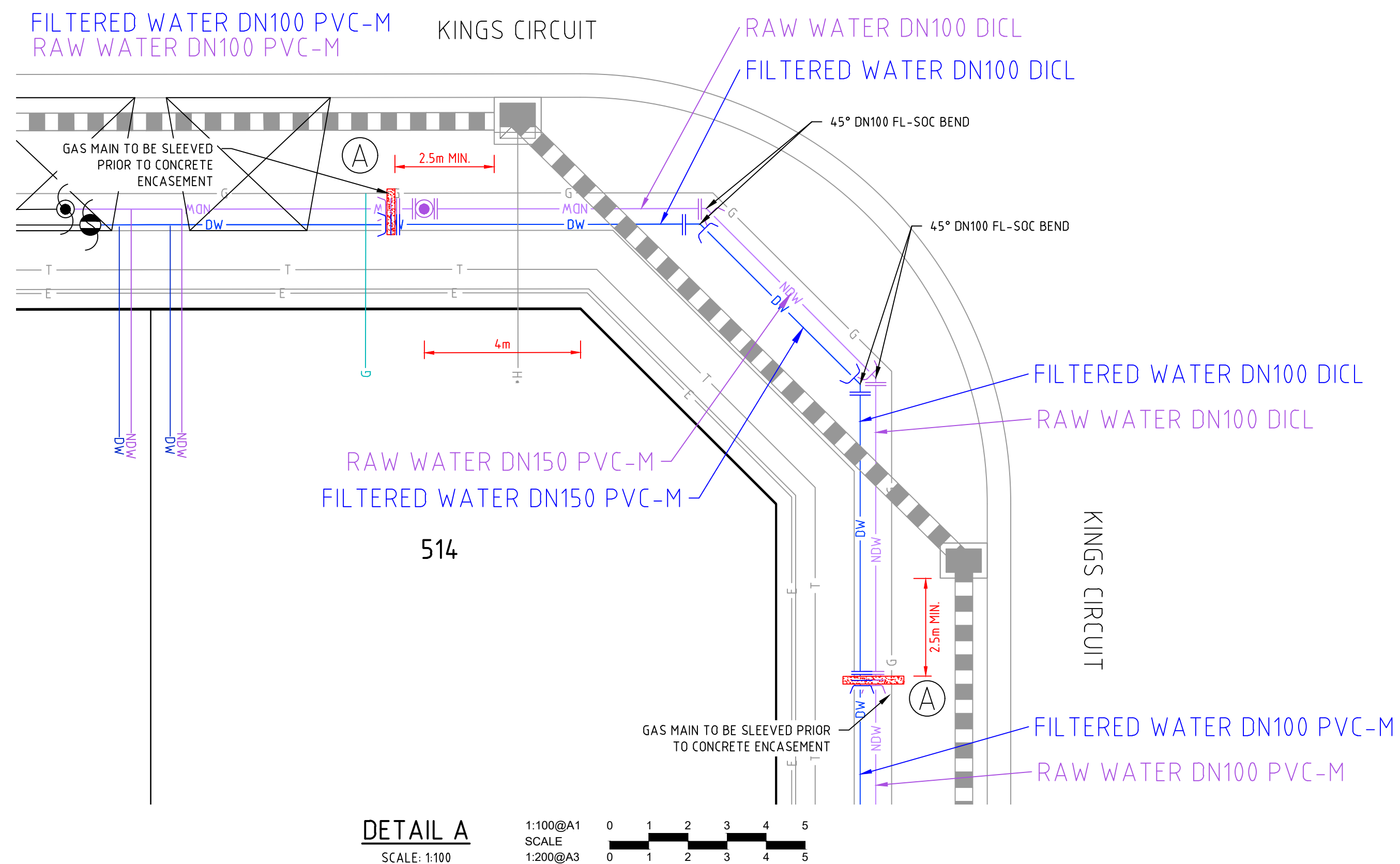
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DEC 2025

**MAIDENS GREEN
STAGE 5B
HYDRAULICS - SEWER & WATER PLAN
WATER LAYOUT PLAN
MURRAY RIVER COUNCIL
SUBDIVISION WORKS CERTIFICATE**

FOR TENDER

Drig No
310338-05BCC500 (A)

file name: 310338-05BCC501.dwg, layout name: CC411, plotted by: Sam Maher, file location: \\spire\shared\data\310338\05BCC501.dwg, plot date: 14/12/2025, 3:37 PM, Sheet 13 of 15 Sheets



DETAIL A
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DRAFT

Rev	Amendments	Approved	Date
(A)	ISSUED FOR APPROVAL	J.F	04/12/25

AS SHOWN



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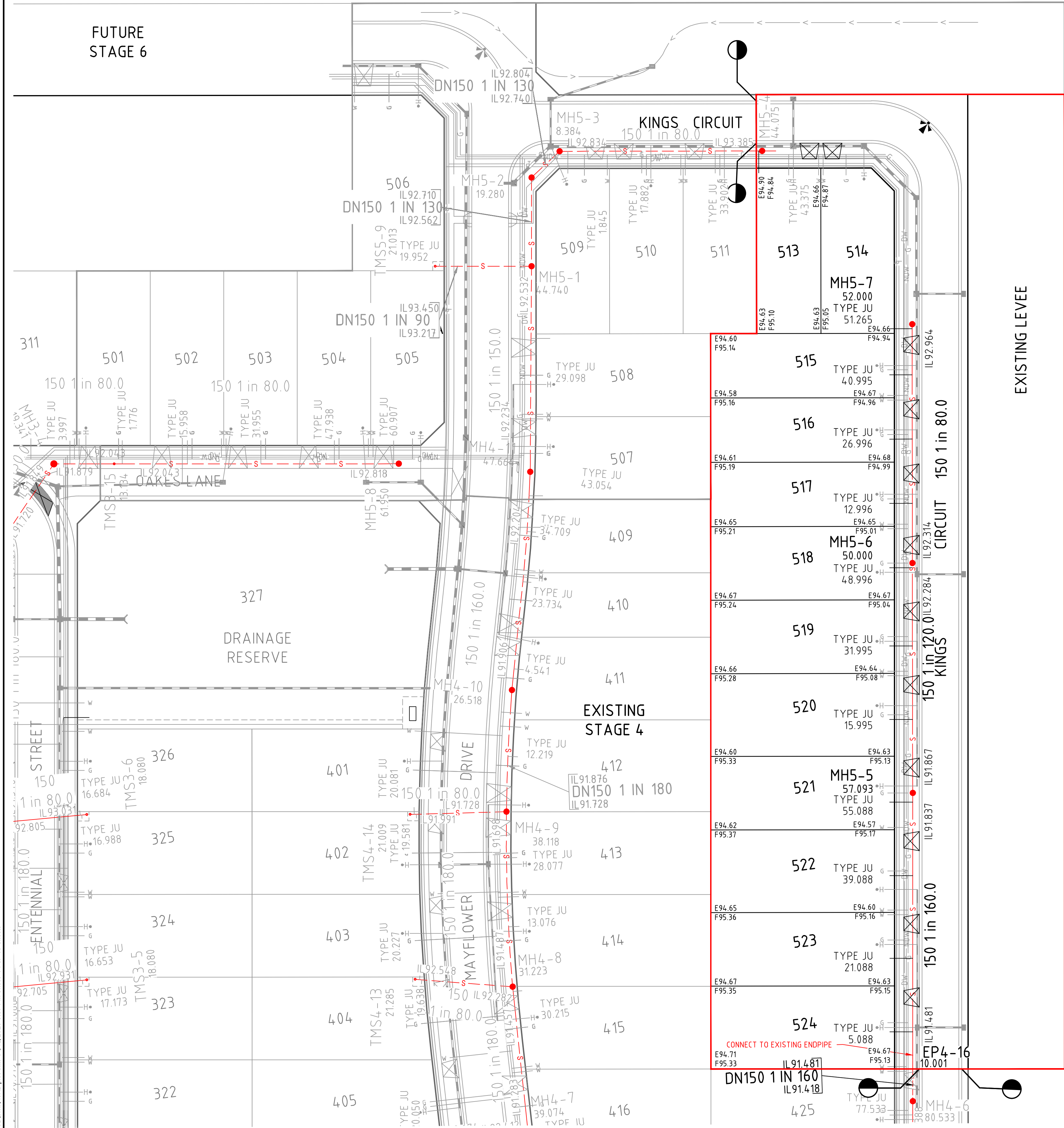
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Date
DEC 2025

**MAIDENS GREEN
STAGE 5B
HYDRAULICS - SEWER & WATER PLAN
WATER DETAILS**
MURRAY RIVER COUNCIL
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FOR TENDER

Dwg No
310338-05BCC501 (A)
Rev



EXISTING LEVEE

NEIGHBOURING
PROPERTY

SEWER STRUCTURE
SETOUT TABLE

PIT		COORDINATES	
NAME	EASTING	NORTHING	
EP4-16	299324.978	6002716.924	
MH5-5	299331.817	6002773.606	
MH5-6	299337.742	6002823.254	
MH5-7	299343.959	6002874.881	

DRAFT

Scale

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SCALE
1:1000@A3



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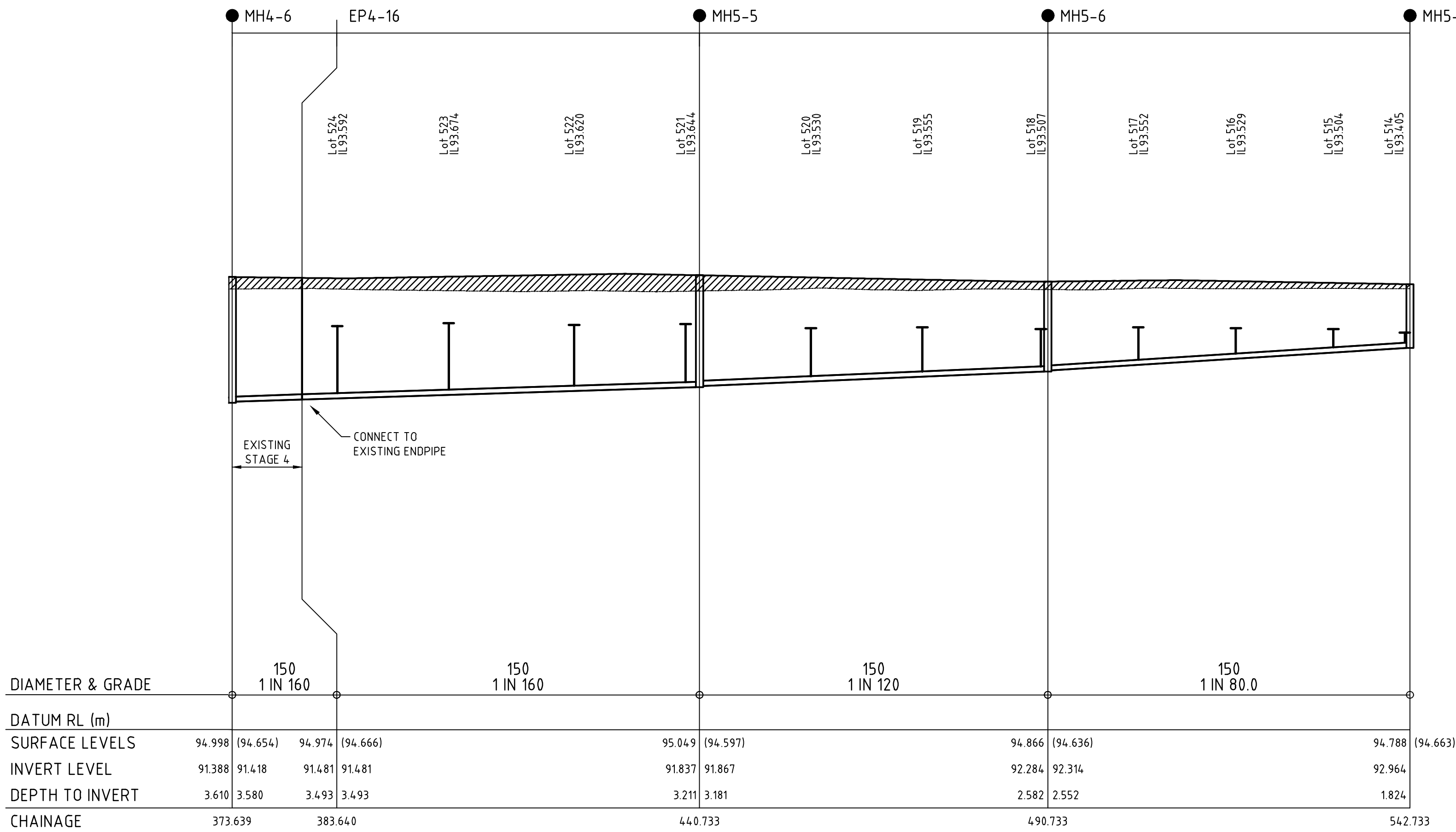
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MAIDENS GREEN
STAGE 5B
HYDRAULICS - SEWER & WATER PLAN
SEWER LAYOUT PLAN
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Dwg No
310338-05BCC502 (A)

file name: 310338-05BCC530.dwg, layout name: CCLD, plotted by: Sam Maher, file location: G:\310338\310338\05BCC530.dwg, plot date: 06/12/2025 3:37 PM, Sheet: 15 of 15 Sheets



LEGEND

PROPOSED CUT

PROPOSED FILL

CRUSHED ROCK BACKFILL (CRB)

DRAFT

Rev	Amendments	Approved	Date
(A)	ISSUED FOR APPROVAL	J.F	04/12/25

Scale

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SCALE
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**MAIDENS GREEN
STAGE 5B
HYDRAULICS - SEWER PROFILES**

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