

LEGEND:

— — — — — PROPERTY BOUNDARY

BE 585.65 PROPOSED BULK EXCAVATION CONTOURS (1-250)

--- --- --- EXISTING SEWER LINE

BULK EARTHWORKS NOTES:

1. BULK EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS3798 & UNDER SUPERVISION OF A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.
2. SILT FENCE AND/OR HAY BAILS AND PICKETS TO BE ERECTED IMMEDIATELY DOWNSTREAM OF SITE REGRADING AREA.
3. REGRADE AREAS TO BE STRIPPED OF TOPSOIL PRIOR TO COMMENCEMENT OF BULK EARTHWORKS.
4. ALL TOPSOIL TO BE REMOVED BY EITHER EXCAVATOR OR SCRAPER AND MOVED DIRECTLY INTO STOCKPILE LOCATION.
5. STOCKPILE LOCATIONS TO BE DETERMINED ONSITE BY THE SUPERINTENDENT.
6. STOCKPILE AREA TO BE FULLY FENCED WITH SILT PROOF FABRIC AT ALL TIMES.
7. STOCKPILES ARE TO BE REMOVED AS SOON AS PRACTICABLE AND SITES REINSTATED IMMEDIATELY.
8. ALL AREAS DISTURBED DURING CONSTRUCTION ARE TO BE REINSTATED AND SEEDING IMMEDIATELY.
9. SILT FENCES AND HAY BAILING TO BE PLACED WHERE DIRECTED BY THE SUPERINTENDENT AND MAINTAINED AT ALL TIMES.
10. WHERE PRACTICAL CATCH DRAINS OR SMALL LEVIES ARE TO BE CONSTRUCTED TO MINIMISE EXTERNAL RUNOFF ENTERING THE SITE.
11. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL COMPLETE REHABILITATION IS ACHIEVED.
12. CONTROL CLEAN WATER FROM ABOVE THE SITE, THROUGH THE SITE AND AROUND THE SITE.
13. KEEP CLEAN WATER SEPARATE FROM DIRTY WATER.
14. HYDROSEED REGRADED AREAS WITH STRAW MULCH UPON COMPLETION

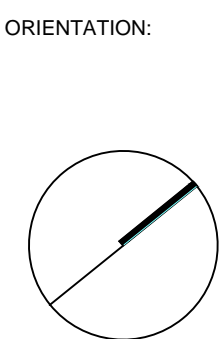
NOTE:

1. SITE HAS BEEN CLEARED AND LEVELLED UNDER CROWN DA 74/2019 AND CROWN CERTIFICATE No. 20000190/1.
2. SURVEY BASED ON SITE PRIOR TO WORKS IN 2020.

REVISION			
REV No.	COMMENTS	DATE	INIT
00	DA ISSUE	29.04.2020	MA

General Notes

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Richmond+Ross
CONSULTING ENGINEERS AND PROJECT LEADERS
ABN. 34 001 485 435

**38 WILLOUGHBY ROAD
CROWS NEST. NSW 2065
TEL 02 9490 9600
FAX 02 9438 1224**

PROJECT:
INVERELL POLICE STATION

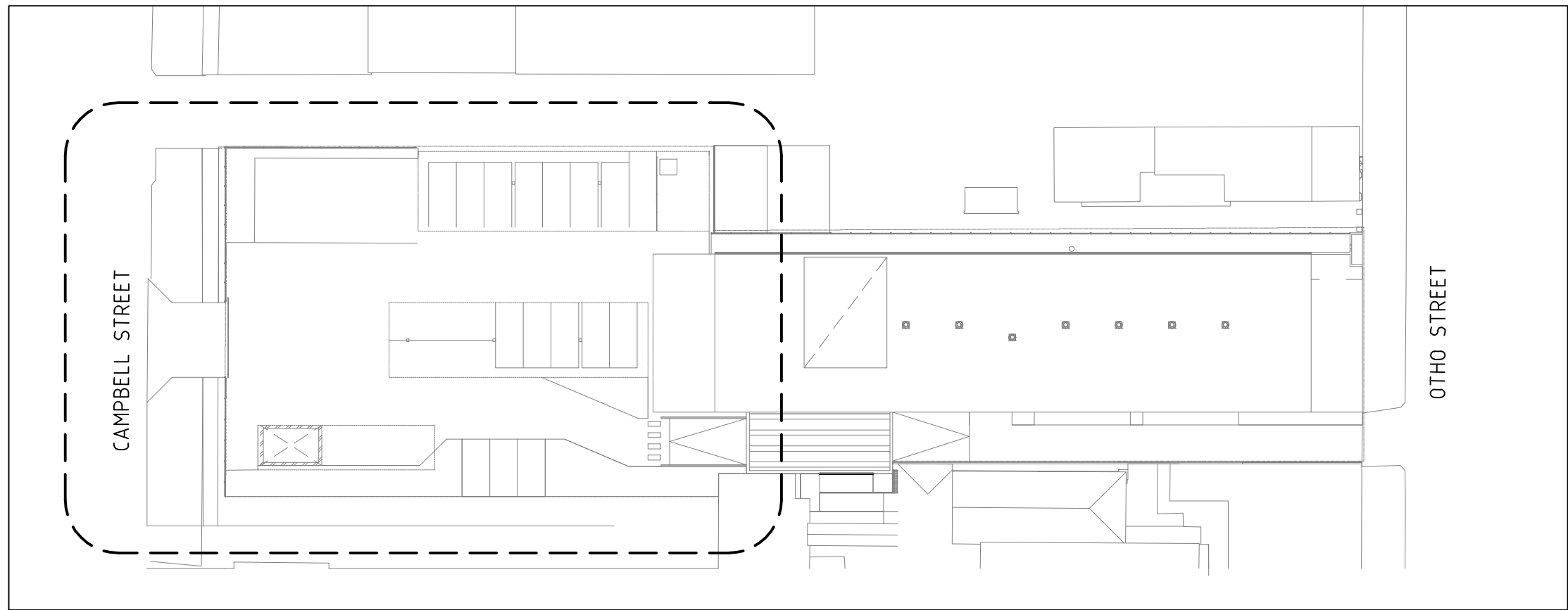
LOCATION:
109 OTHO STREET, INVERELL

**CROWN DA
NOT FOR CONSTRUCTION**

SCALE:
1:200 @A1

DRAWING:
BULK EARTHWORKS PLAN

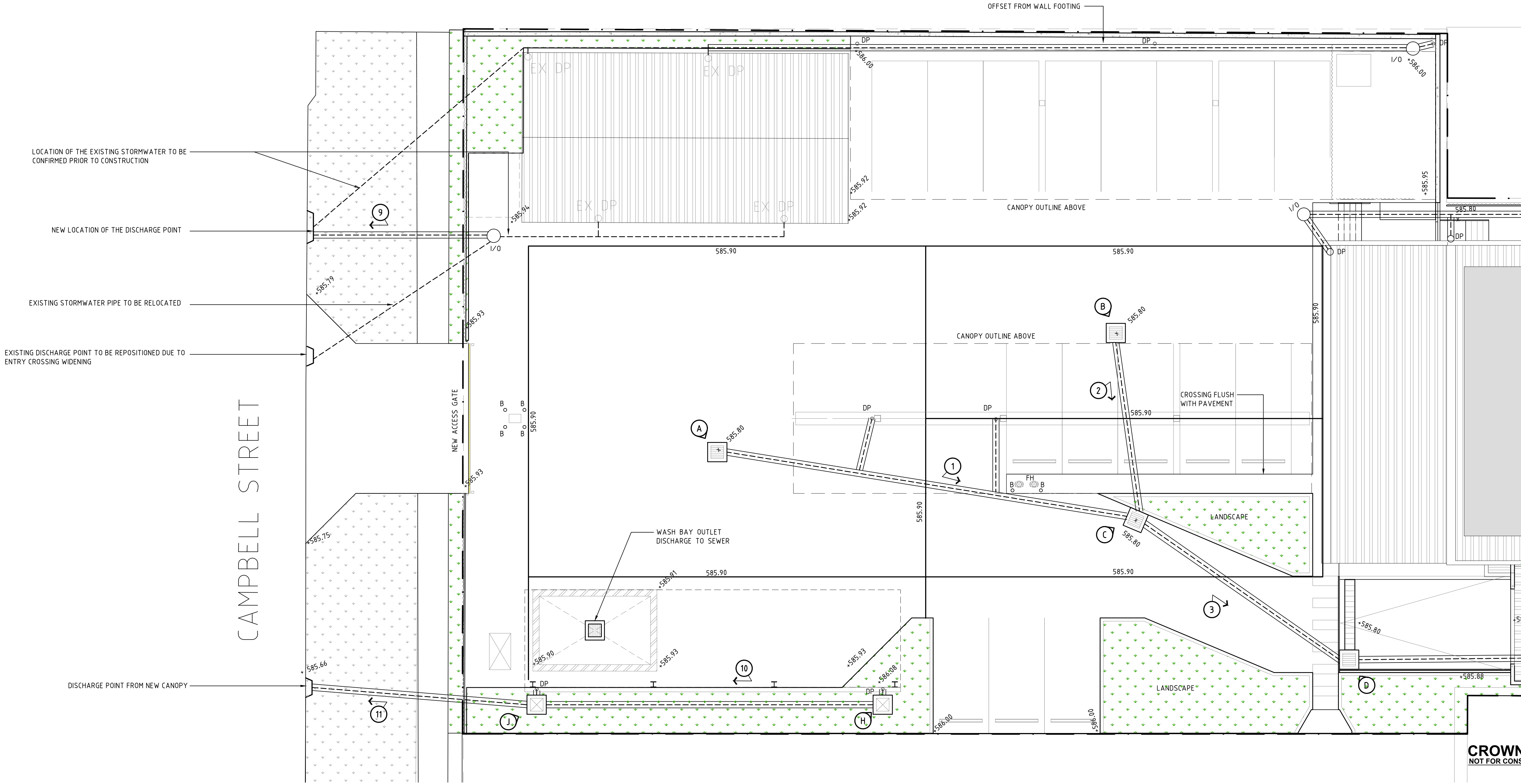
JOB No.: **190077** DRG. No. **C010** REV **00**



KEY PLAN

LEGEND:

- PROPERTY BOUNDARY
- EXISTING SPOT LEVELS
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED LEVELS
- PROPOSED INSPECTION OPENING
- EXISTING DOWNPIPE
- PROPOSED DOWNPIPE (Ø150)
- PROPOSED SW INLET PIT
- PROPOSED WASH BAY INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED GRATED DRAIN
- EXISTING STORMWATER DRAIN
- PROPOSED STORMWATER DRAIN



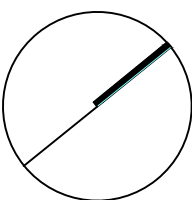
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BGIS

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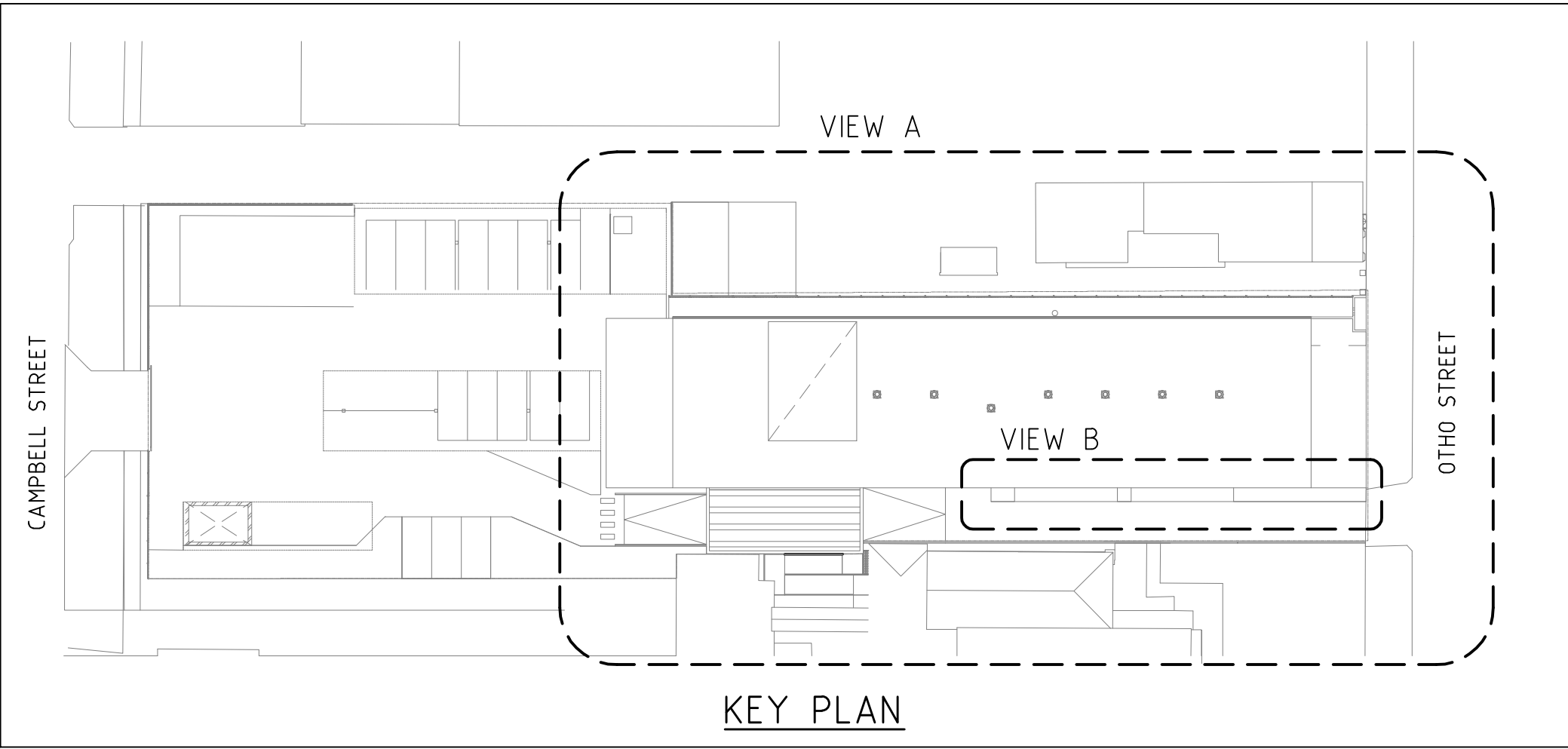
PROJECT:
INVERELL POLICE STATION

LOCATION:
109 OTHO STREET, INVERELL

SCALE:
1:100 @A1

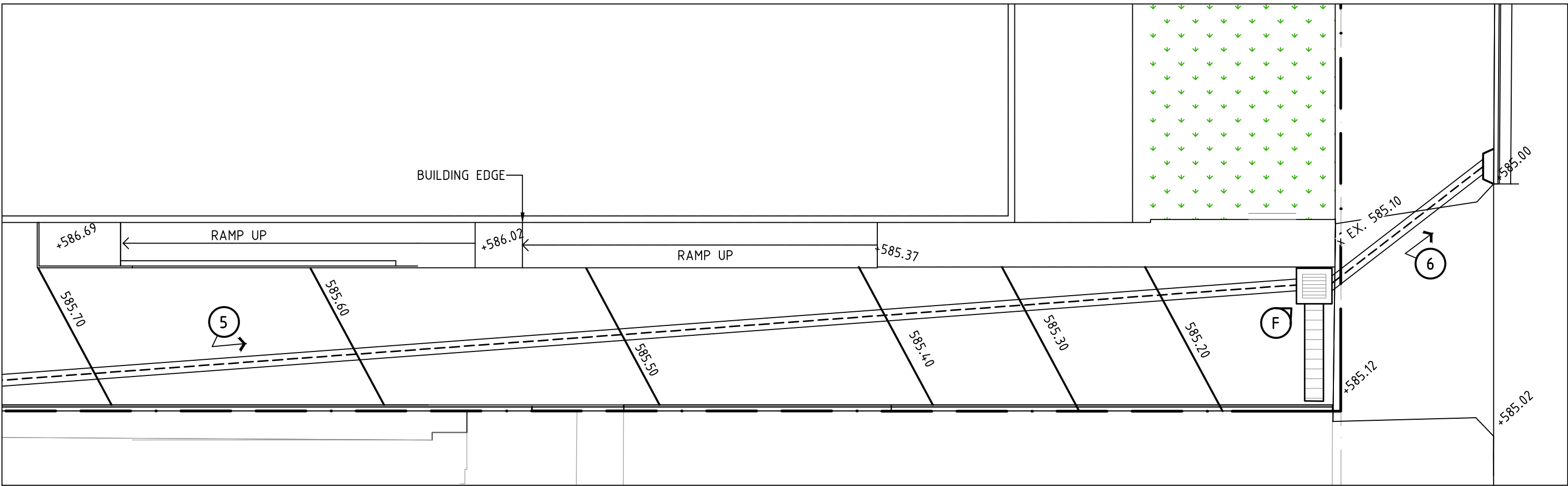
DRAWING:
STORMWATER PLAN SHEET 1 OF 2

JOB No.: **190077** DRG. No. C100 REV 00

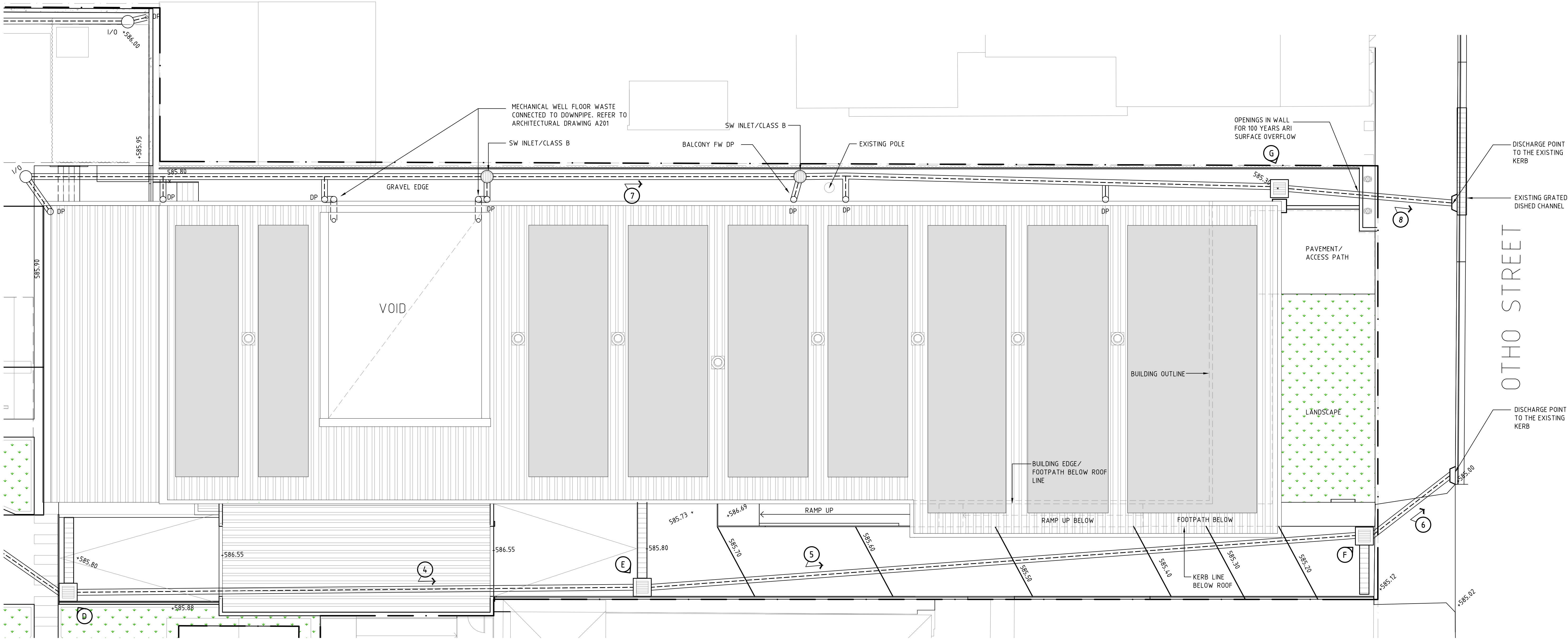


LEGEND:

- PROPERTY BOUNDARY
- EXISTING SPOT LEVELS
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROPOSED LEVELS
- PROPOSED INSPECTION OPENING
- EXISTING DOWNPIPE
- PROPOSED DOWNPIPE (Ø150)
- PROPOSED SW INLET PIT
- PROPOSED WASH BAY INLET PIT
- PROPOSED JUNCTION PIT
- PROPOSED GRATED DRAIN
- EXISTING STORMWATER DRAIN
- PROPOSED STORMWATER DRAIN



VIEW B



VIEW A

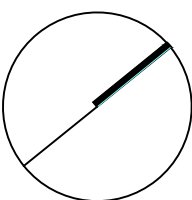
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PROJECT:
INVERELL POLICE STATION

LOCATION:
109 OTHO STREET, INVERELL

SCALE:
1:100 @A1

DRAWING:
STORMWATER PLAN SHEET 2 OF 2

JOB No.: **190077** DRG. No. C101 REV 00

STORMWATER DISPOSAL PHILOSOPHY

- 1. COLLECT ALL SITE RUNOFF FROM SURFACE GRADES, SUMPS AND UNDERGROUND DRAINS PRIOR TO DISCHARGE TO KERB OUTLETS.
- 2. ROOF RUNOFF TO BE DIRECTED INTO SITE STORMWATER SYSTEM.
- 3. ON-SITE UNDERGROUND DRAINAGE HAS BEEN DESIGNED FOR 1 IN 20 YEAR FLOWS, TO CONNECT INTO COUNCIL SYSTEM VIA EXISTING AND NEW OUTFALLS.

GENERAL NOTES

- 1. FIT STEP IRONS TO PITS DEEPER THAN 1000.
- 2. ALL GRATES TO BE WELDED CONSTRUCTION SUPPLIED COMPLETE WITH H.D. BOLTS AND FRAMES. PROVIDE FLATTENED EXPANDED METAL TO ALL GRATES.
- 3. ALL PIT COVERS & GRATES TO BE SECURELY BOLTED DOWN.
- 4. ALL UPVC PIPES TO HAVE SOLVENT WELDED JOINTS.

STORMWATER NOTES

- 1. THIS IS A STORMWATER DRAINAGE PLAN ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SETOUT INFORMATION.
- 2. ALL DRAINAGE LAYOUTS, LEVELS & DETAILS ARE DIAGRAMMATIC AND INDICATIVE ONLY. NOTE ONLY MAJOR LINES ARE SHOWN.
- 3. ALL PIPES TO BE 150 DIA UPVC LAID AT 1.0% MIN GRADE. UPVC PIPES TO BE SOLVENT WELDED JOINTS U.N.O.
- 4. ALL GRATED DRAINS TO HAVE BASE GRADED 1.0% MIN WITH HEEL GUARD TYPE GRATES.
- 5. IT IS THE BUILDERS RESPONSIBILITY TO LAY ALL PIPES IN ACCORDANCE WITH ALL RELEVANT AUTHORITY REQUIREMENTS (EG. COUNCIL, EPA, ETC.).

STORMWATER RUNOFF CALCULATIONS

USING FORMULA $Q = 0.000278 CAI$
WHERE Q = DISCHARGE IN LITRES PER SECOND
 C = A RUNOFF COEFFICIENT
 A = CATCHMENT AREA IN SQ.M.
 I = RAINFALL INTENSITY IN MILLIMETRES PER HOUR
20
15 = 180 MM/HR FOR 20 YEAR RETURN PERIOD

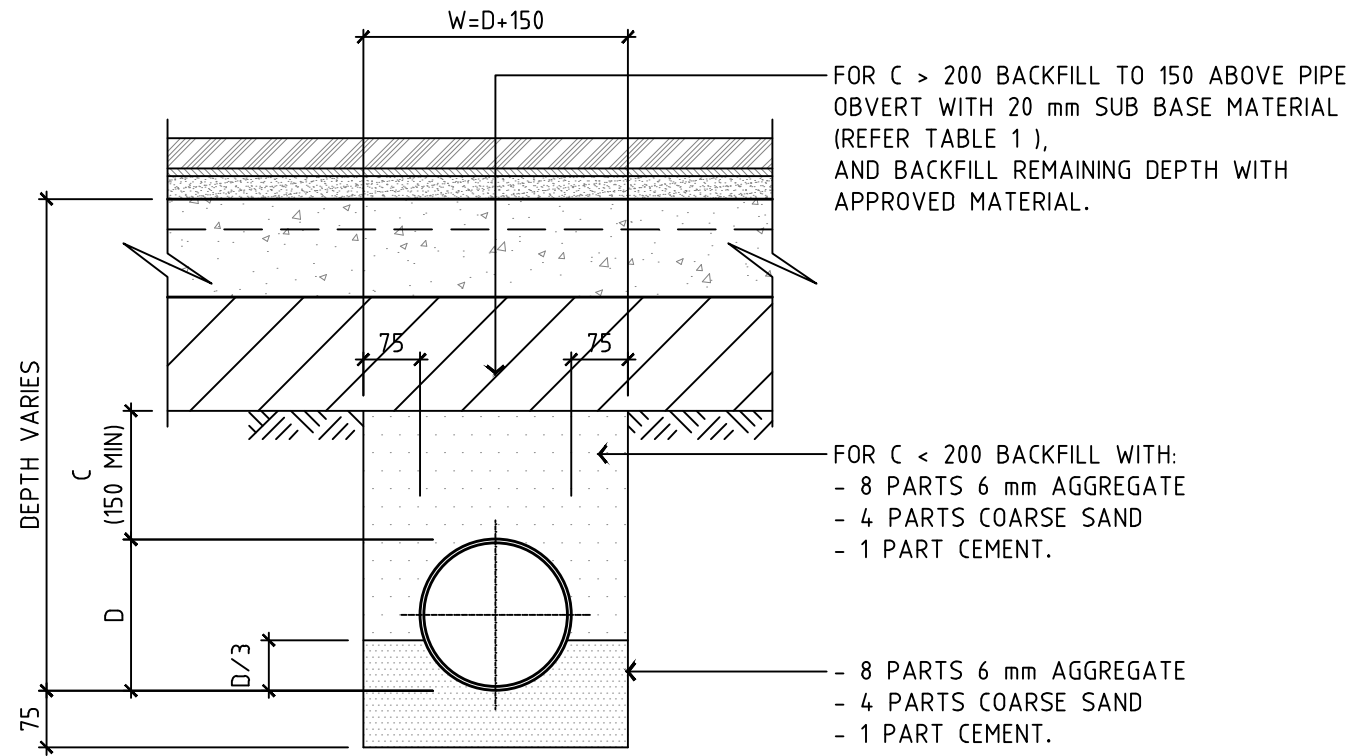
LINE	AREA OF CATCHMENT (SQM)	FLOW FROM AREA (L/s)	TOTAL FLOW IN THE PIPE (L/s)	SIZE MIN. (mm)
1	34.0	16.16	16.16	Ø150@1:180
2	200	9.51	9.51	Ø150@1:180
3	260	12.36	38.03	Ø225@1:200
4	118	5.82	43.85	Ø225@1:200
5	84	4.15	48.00	Ø225@1:200
6	126	5.99	53.99	Ø225@1:140
7	840	42.00	42.00	Ø225@1:200
8	-	-	42.00	Ø225@1:200
9	310	15.51	15.51	Ø150@1:100
10	63	3.30	3.30	Ø150@1:100
11	-	-	3.30	Ø150@1:100

LINE SCHEDULE

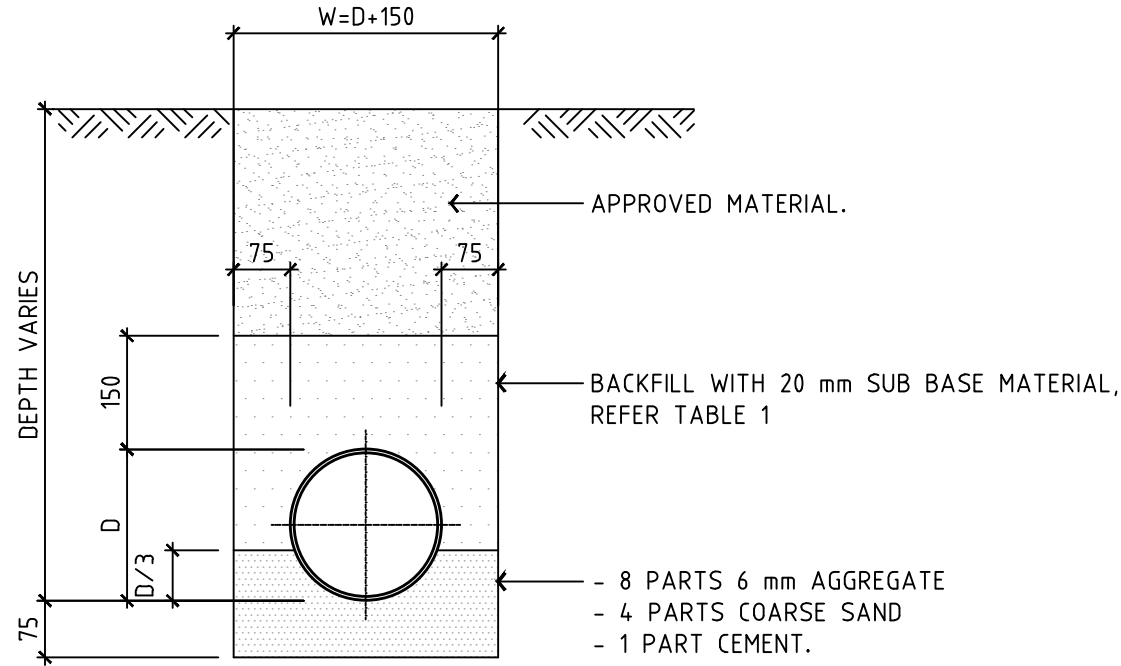
TAG	UPSTREAM INVERT	SIZE	MATERIAL	LENGTH (m)	GRADE	DOWNSTREAM INVERT	NOTES
1	585.35	150	UPVC	18.0	1:180	585.25	
2	585.35	150	UPVC	7.0	1:170	585.25	
3	585.25	225	UPVC	11.0	1:183	585.19	
4	585.19	225	UPVC	28	1:200	585.05	
5	585.05	225	UPVC	32.0	1:213	585.90	
6	585.90	200x100	RHS	9.0	1:180	584.85	2xRHS
7	585.25	225	UPVC	56.5	1:157	584.90	
8	585.90	200x100	RHS	9.0	1:112	584.82	2xRHS
9	TBC	200x100	RHS	8.0	TBC	585.75	1xRHS
10	585.83	125x75	RHS	15.0	1:200	585.76	
11	585.76	125x75	RHS	10.0	1:100	585.66	1xRHS

PIT SCHEDULE

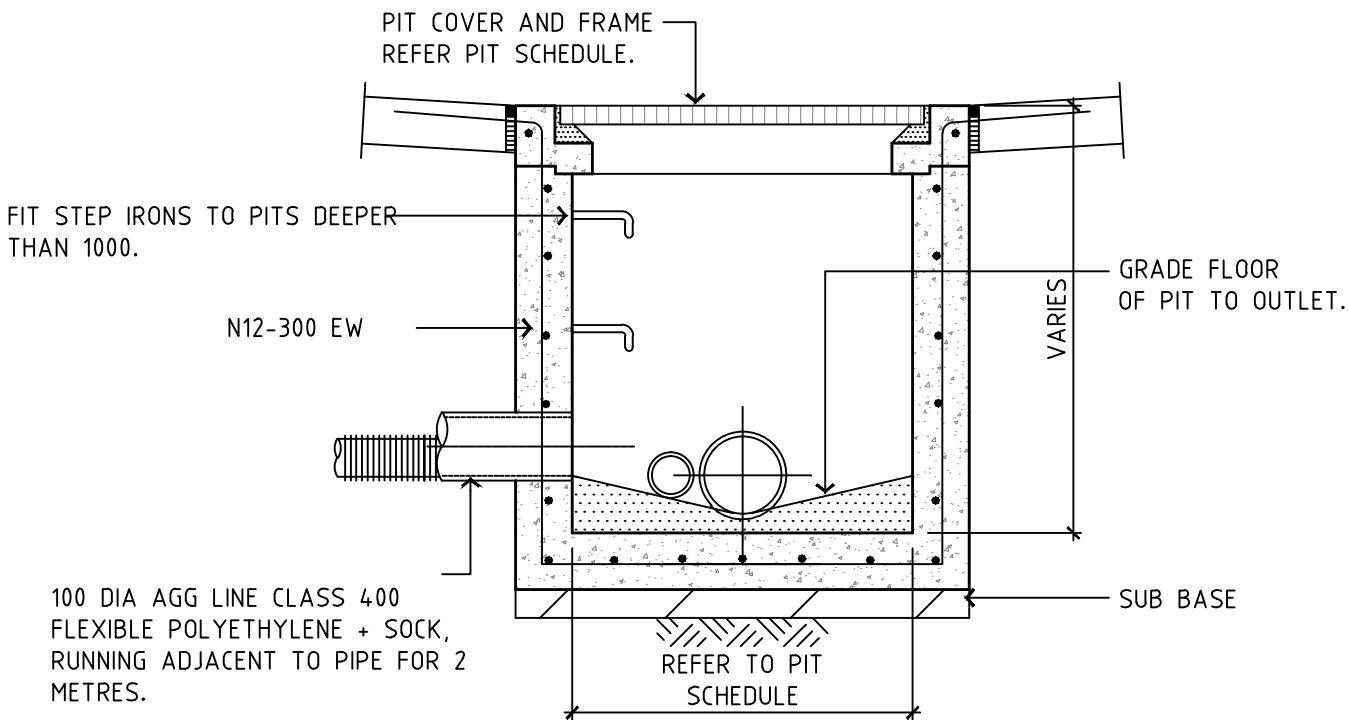
TAG	TYPE	SIZE	RL TOP	IL	COVER	NOTES
A	INLET	450x450	585.80	585.35	CLASS D	
B	INLET	450x450	585.80	585.35	CLASS D	
C	INLET	450x450	585.80	585.25	CLASS D	
D	GRATED TRENCH + INLET	ACO S 100 K + 600x600	585.87	585.19	CLASS D	ACO OR SIMILAR
E	GRATED TRENCH + INLET	ACO S 100 K + 600x600	585.80	585.05	CLASS D	ACO OR SIMILAR
F	GRATED TRENCH + INLET	ACO S 100 K + 450x450	585.25	584.90	CLASS D	ACO OR SIMILAR
G	INLET	450x450	585.30	585.00	CLASS B	
H	JUNCTION	350x350	586.08	585.83	CLASS B	
J	JUNCTION	350x350	586.05	585.76	CLASS B	



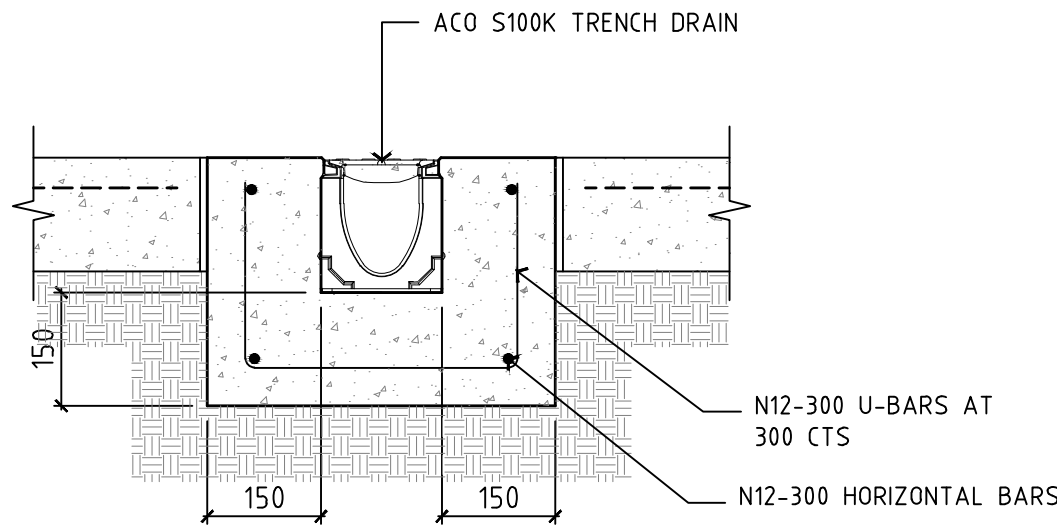
STORMWATER PIPE BEDDING DETAIL (UNDER PAVEMENT)
SCALE 1:10



STORMWATER PIPE BEDDING DETAIL (UNDER GROUND)
SCALE 1:10



INLET PIT (JUNCTION PIT SIMILAR)
SCALE 1:20



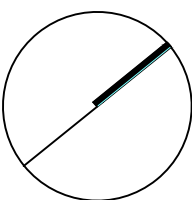
TYPICAL TRENCH GRATE SECTION DETAIL
SCALE 1:10

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PROJECT:

INVERELL POLICE STATION

LOCATION:

109 OTHO STREET, INVERELL

SCALE:

AS SHOWN @A1

DRAWING:

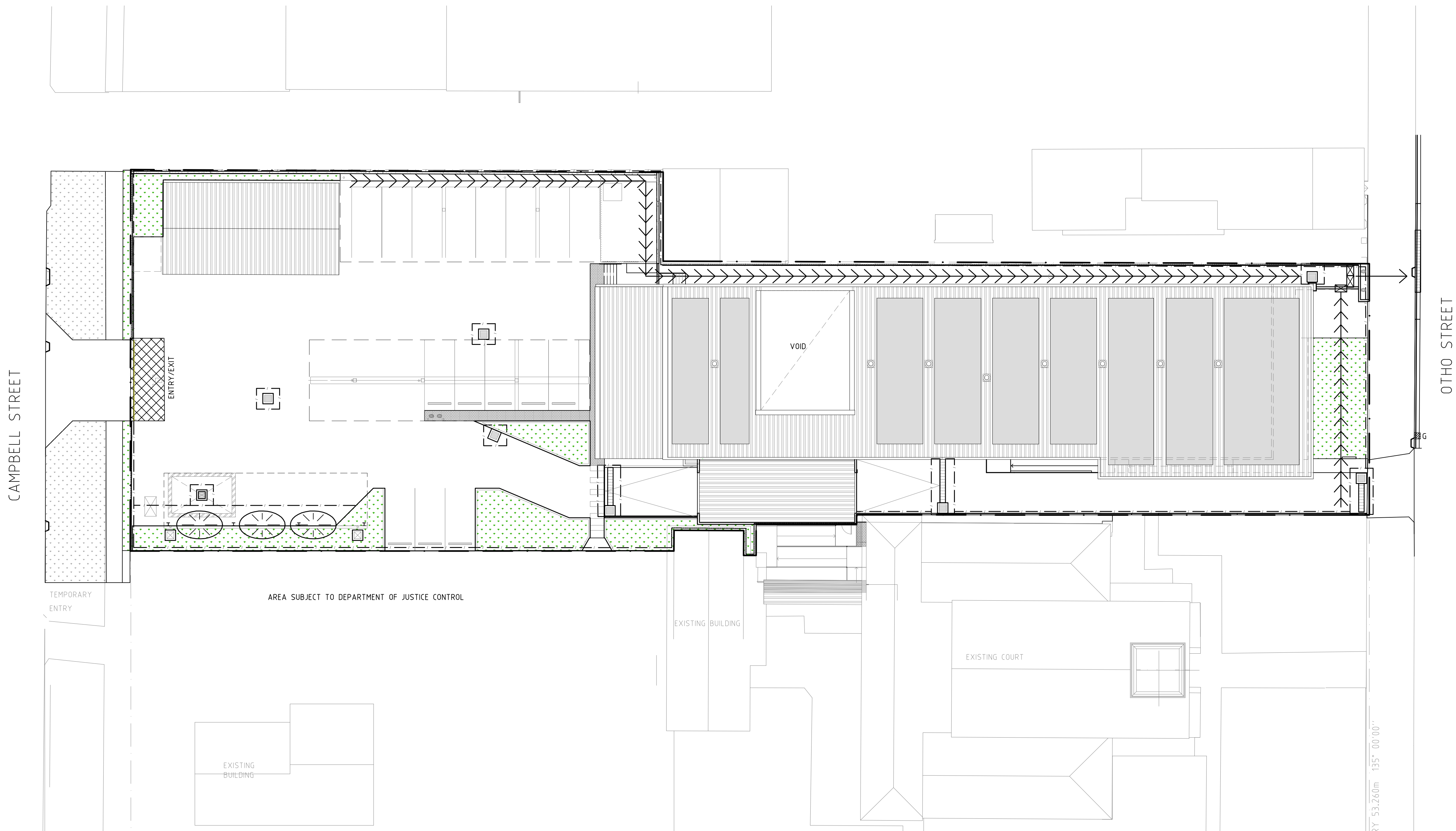
STORMWATER SCHEDULES
AND DETAILS

JOB No.: 190077

DRG. No. C110

REV 00

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LEGEND:

SEDIMENT FENCE

SEDIMENT TRAP

GRAVEL BAG

SWALE

CONSTRUCTION ENTRY/EXIT

HAY BALE FENCE/WALL (TYP. 2 BALES WIDE)

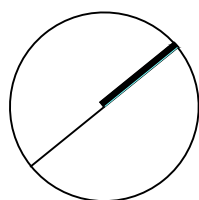
STOCK PILE LOCATION

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PROJECT:
INVERELL POLICE STATION

LOCATION:
109 OTHO STREET, INVERELL

SCALE:
1:200 @A1

DRAWING:
EROSION AND SEDIMENT CONTROL PLAN

JOB No.: **190077** DRG. No. **C120** REV **00**

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1. BUILDER SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE BOUNDARIES. TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (E.G. HUMES PROPEX SILT STOP) STANDING 300 ABOVE GROUND AND EXTENDING 150 BELOW GROUND.

2. EXISTING DRAINS LOCATED WITHIN THE SITE SHALL ALSO BE ISOLATED BY SEDIMENT FENCING MATERIAL.

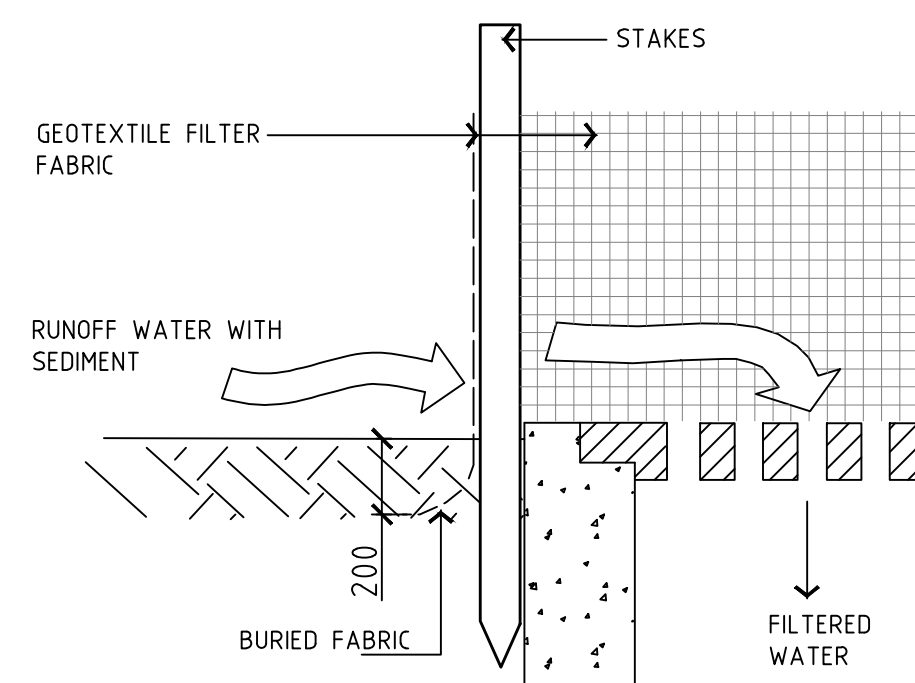
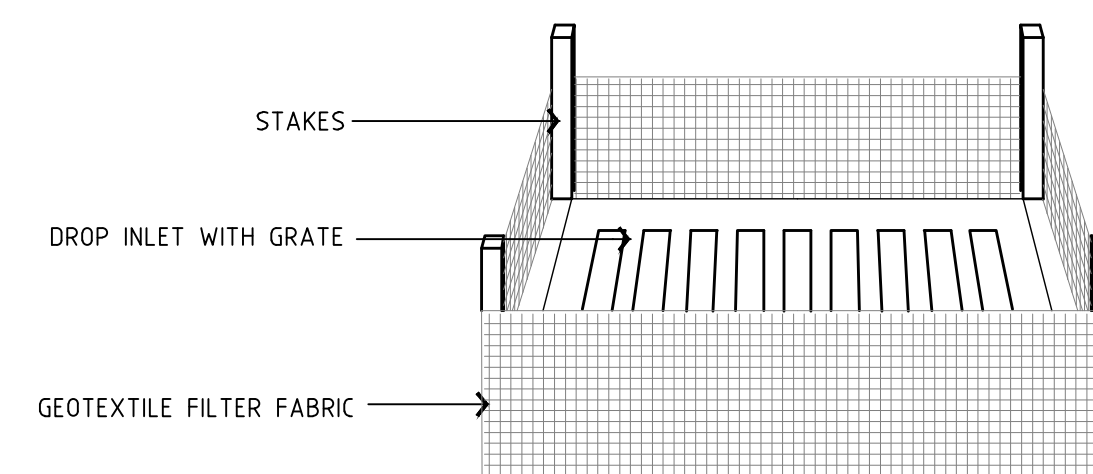
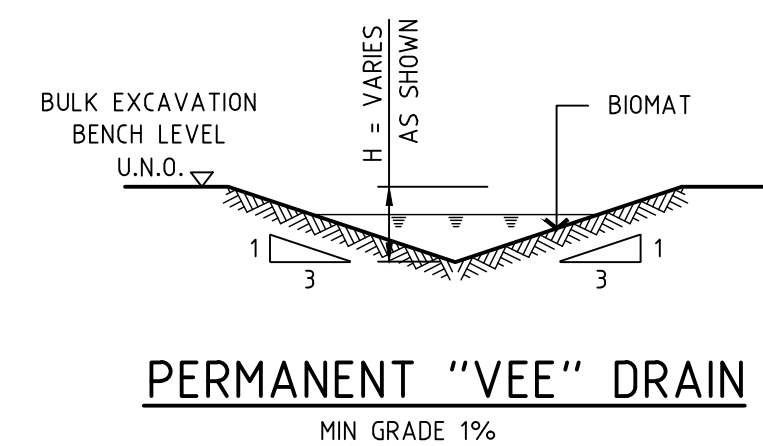
3. NO PARKING OR STOCKPILING OF MATERIALS IS PERMITTED ON THE LOWER SIDE OF THE SEDIMENT FENCE.

4. GRASS VERGES SHALL BE MAINTAINED AS MUCH AS PRACTICAL TO PROVIDE A BUFFER ZONE TO THE CONSTRUCTION SITE.

5. ROOF DRAINAGE, IF APPLICABLE, IS TO BE CONNECTED TO THE STORMWATER SYSTEM AS SOON AS PRACTICAL.

6. BUILDER SHALL CHECK ALL EROSION AND SEDIMENT CONTROL MEASURES EVERYDAY THERE IS ACTIVITY ON SITE AND AFTER EVERY STORM EVENT.

7. EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED BEFORE COMMENCEMENT OF WORKS. DISTURBED SURFACES ARE TO BE TREATED AS DETAILED WITH LINING INSTALLED AS SPECIFIED IN DETAIL



SEDIMENT TRAP TO STORMWATER SUMP

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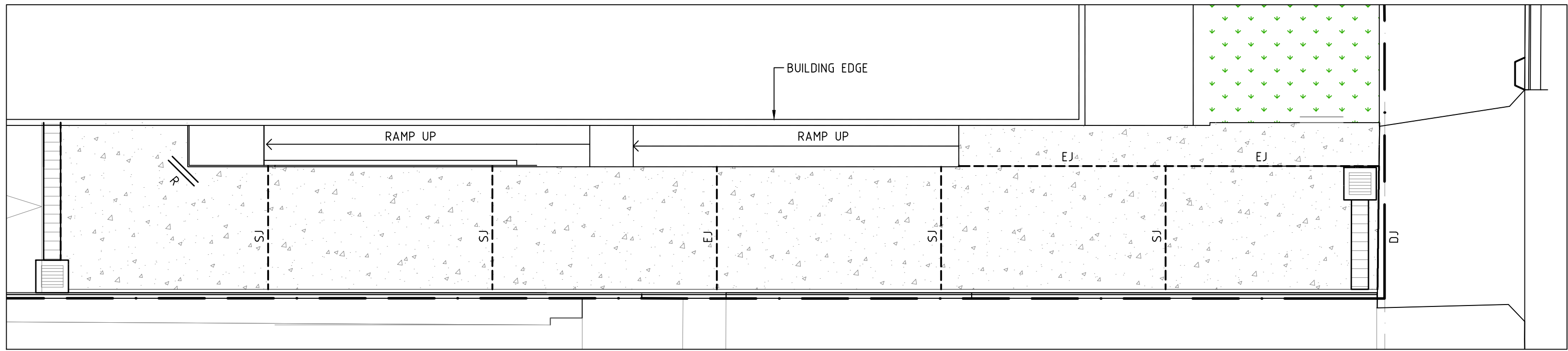
LOCATION:
109 OTHO STREET, INVERELL

1:10 @A1

EROSION AND SEDIMENT CONTROL DETAILS

JOB No.: **190077** DRG. No. **C121** REV **00**

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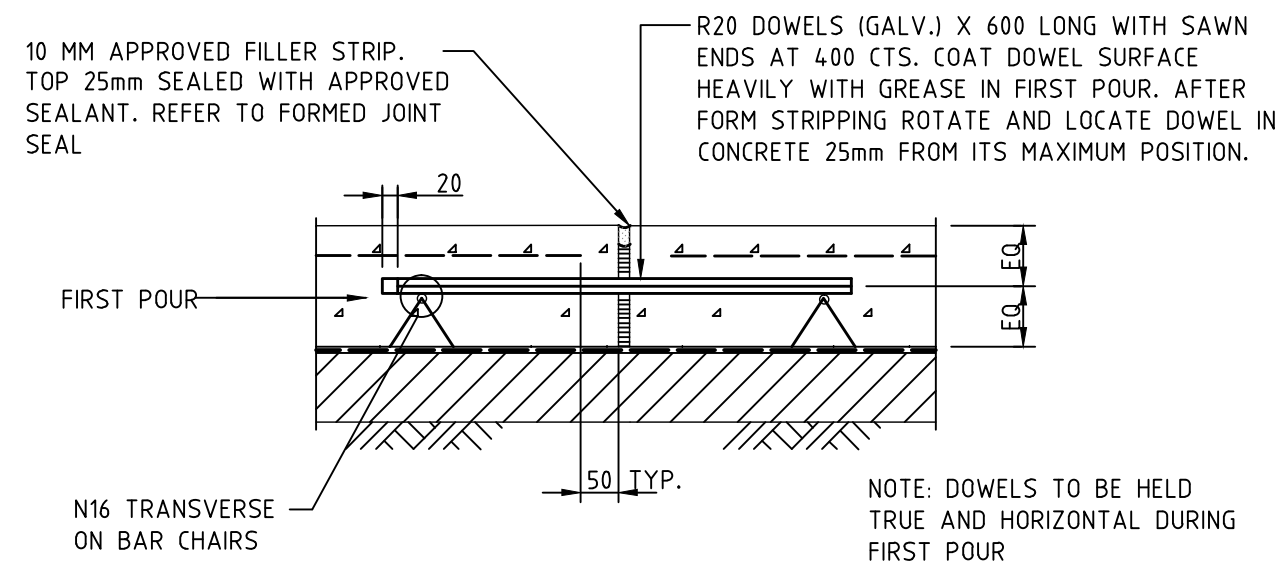
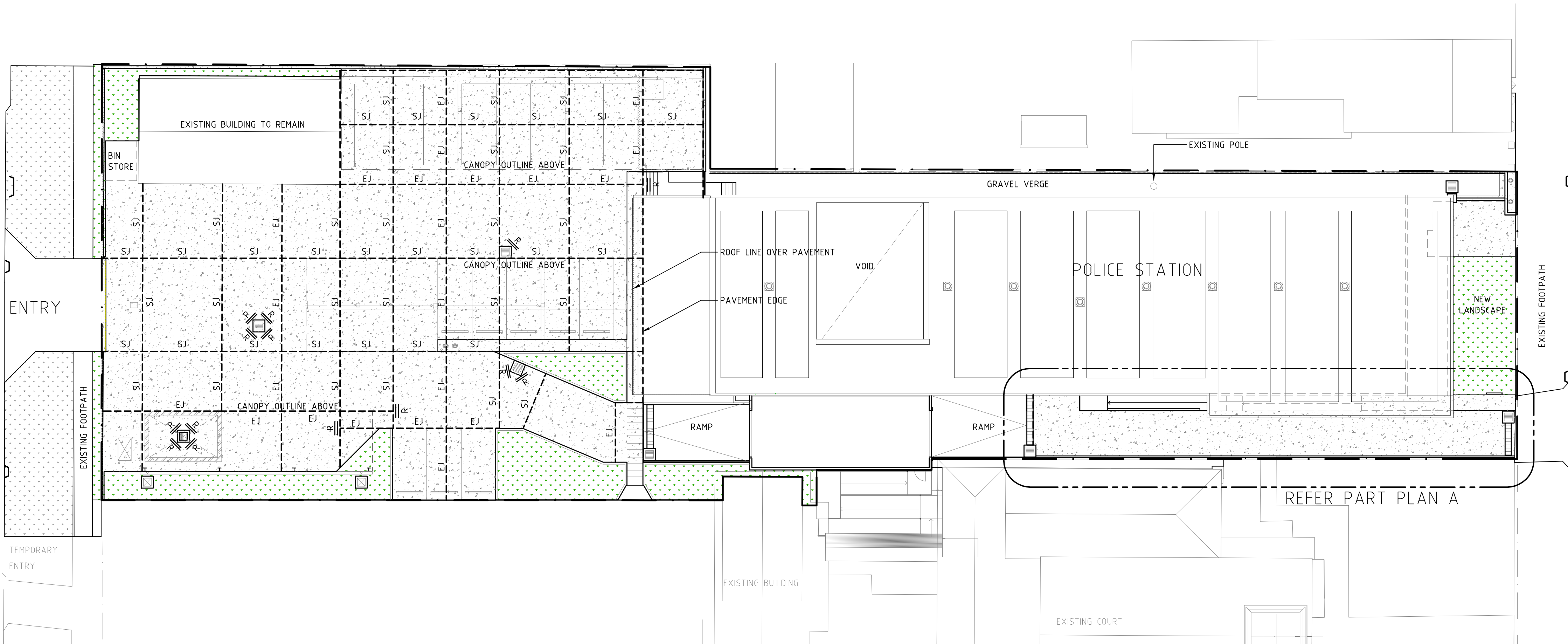
PART PLAN A
SCALE 1:100

NOTES

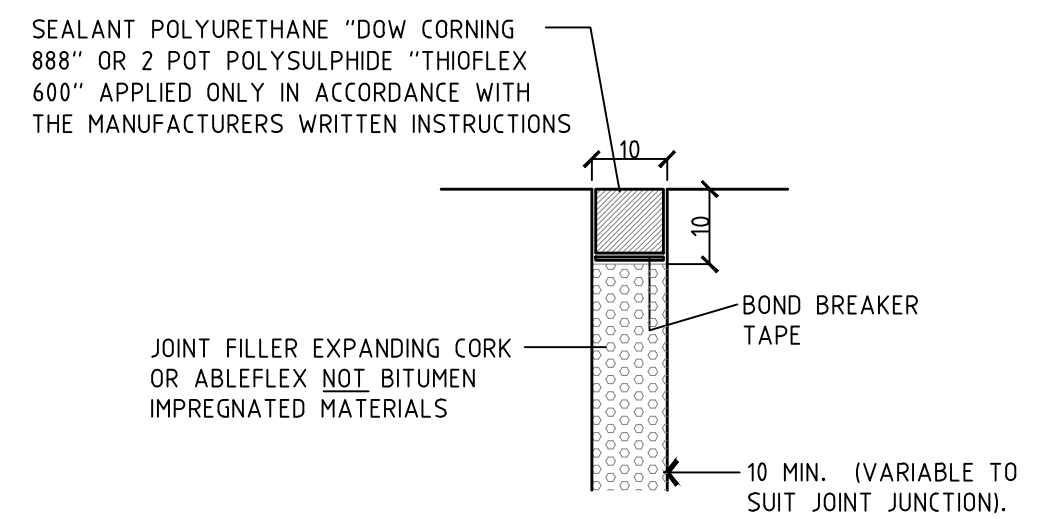
ALL EXTERNAL CONCRETE SLABS TO HAVE:
A MINIMUM COMPRESSIVE STRENGTH OF 32MPA @ 28 DAYS (U.N.O.)
A MINIMUM FLEXURAL STRENGTH OF 4MPA @ 28 DAYS.

LEGEND:

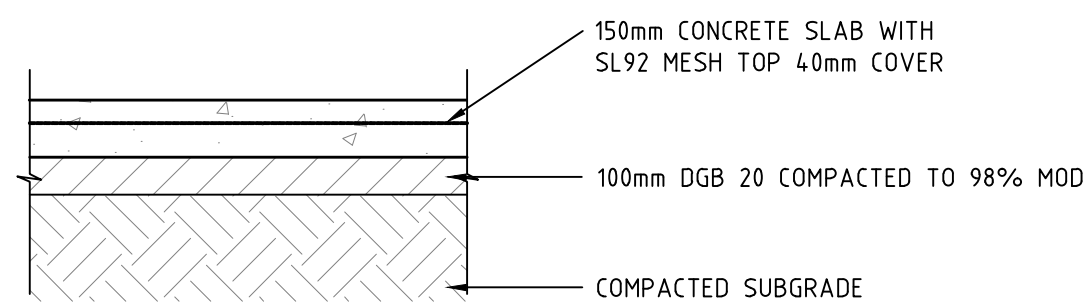
- R20 1000 L TIES TO U/S FABRIC
- EXPANSION JOINT WITH DOWEL
- SAW CUT JOINT
- EXTENT OF LIGHT DUTY PAVEMENT



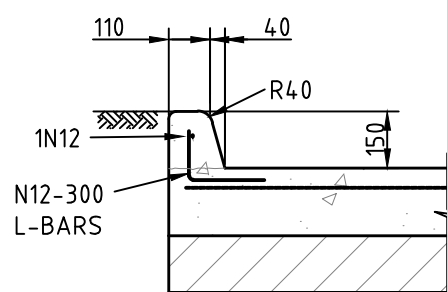
EXPANSION JOINT (EJ)
SCALE 1:10



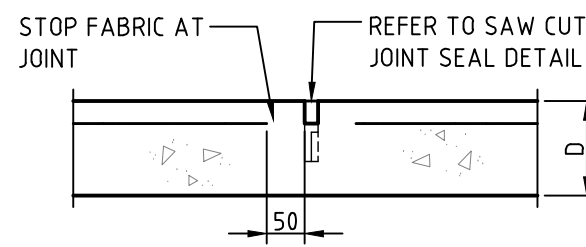
FORMED JOINT SEAL
SCALE 1:1



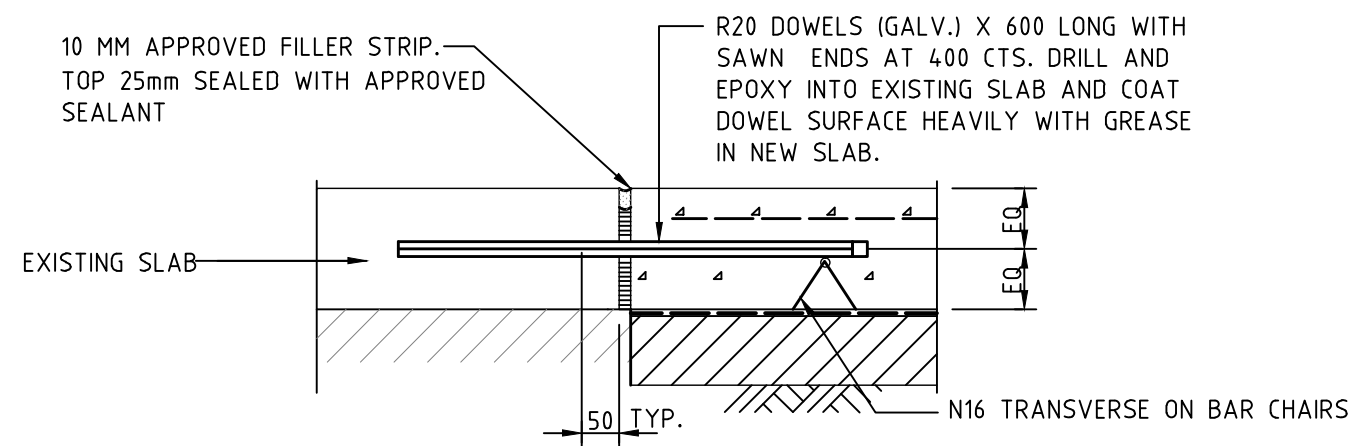
TYPICAL PAVEMENT DETAIL
SCALE 1:20



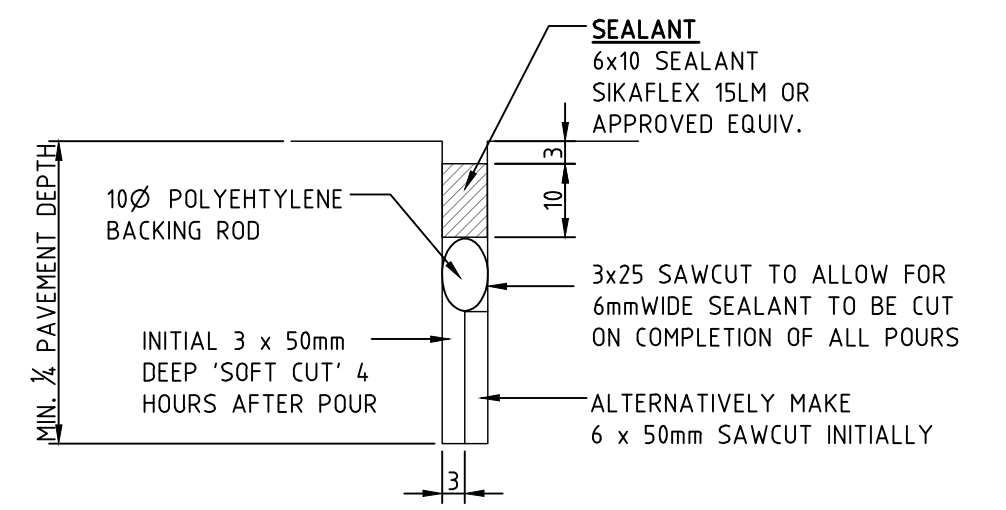
TYPICAL INTEGRAL KERB DETAIL
PROVIDE JOINTS IN KERB TO MATCH JOINTS IN PAVEMENT
SCALE 1:20



SAW CUT JOINT (SJ)
SCALE 1:10



DOWEL JOINT (DJ)
SCALE 1:10



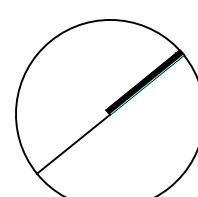
SAW CUT JOINT SEAL
SCALE: NTS

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PROJECT:
INVERELL POLICE STATION

LOCATION:
109 OTHO STREET, INVERELL

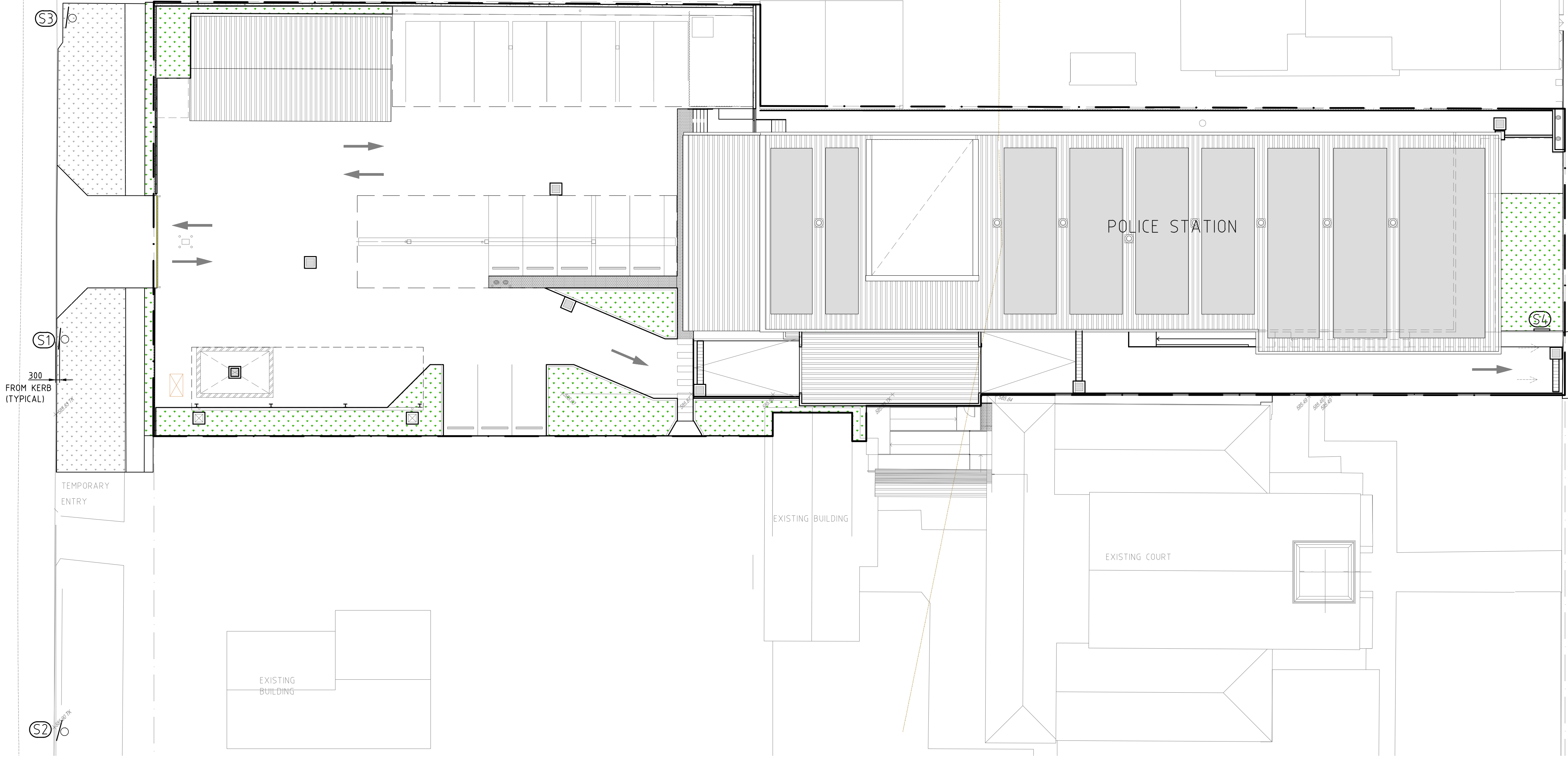
SCALE:
1:200 @A1

DRAWING:
PAVEMENT PLAN AND DETAILS

JOB No.: **190077** DRG. No. **C130** REV **00**

CAMPBELL STREET

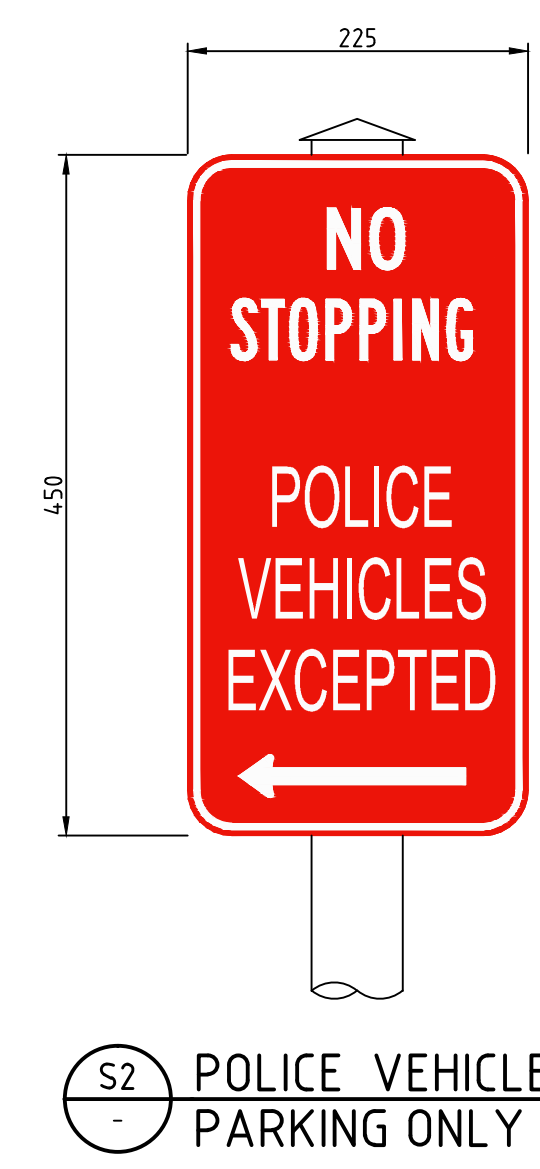
OTHO STREET



REMOVE EXISTING SIGN. PUT NEW SIGN ON EXISTING STEM.



S1 POLICE VEHICLE PARKING ONLY



S2 POLICE VEHICLE PARKING ONLY



S3 POLICE VEHICLE PARKING ONLY

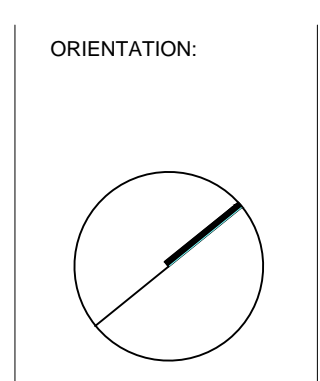


S4 POLICE STATION SIGN

NOTE:
1. REFER TO RMS STANDARD "INSTALLATION AND MANAGEMENT OF SIGNS" FOR INSTALLATION GUIDELINES.
2. EDGE OF SIGN TO BE 300mm FROM FRONT OF KERB.

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Richmond+Ross
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PROJECT:
INVERELL POLICE STATION

LOCATION:
109 OTHO STREET, INVERELL

CROWN DA
NOT FOR CONSTRUCTION

SCALE:
1:200 @A1

DRAWING:
LINE MARKINGS AND SIGNAGE PLAN

JOB No.: **190077** DRG. No. C140 REV 00