

DRAINAGE BASIN A1.2
REFER C360 FOR BASIN DETAILS

DRAINAGE BASIN A1.5
REFER C360 FOR BASIN DETAILS

DRAINAGE BASIN A1.4
REFER C360 FOR BASIN DETAILS

NOTES

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATION
- SETOUT OF ROAD CENTERLINE, FACE OF KERB AND EDGE OF SEAL FOR UN-KERBED ROADS SHALL BE BASED ON SUPPLIED AUTOCAD XBASE_ID5242318.01 DATA. ALL OTHER WORKS SHALL BE SETOUT BASED ON INFORMATION CONTAINED ON THE CONTRACT DRAWINGS AND SPECIFICATION
- THE CONSTRUCTION OF WORKS SHALL BE TO THE APPROVAL OF THE LOCAL AUTHORITY
- ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE
- ALL LEVELS SHALL BE DETERMINED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR
- ALL TRENCHING, PIPE BEDDING AND BACKFILLING SHALL BE IN ACCORDANCE WITH AS3725
- ALL DRAINAGE PITS SHALL BE LOCATED AS SHOWN IRRESPECTIVE OF PIPE LENGTHS SHOWN ON THE DRAWINGS
- AT LOW POINTS THE ENTRY PITS SHALL BE LOCATED AT THE LOW POINT OF THE ROAD PAVEMENT
- THE DRAINAGE PIT LIDS SHALL BE SET TO SUIT THE VERGE SLOPE, NOMINALLY 2% UPWARDS FROM THE TOP OF BACK OF KERB
- WHERE A SEWER LINE INTERSECTS WITH STORMWATER DRAINAGE LINE AND THE SEWER PASSES OVER THE DRAIN THEN THE SEWER SHALL HAVE A TIMBER PILE AND KEEL PROVIDED FOR THE FULL EXTENT NECESSARY TO SUPPORT THE SEWER DURING EXCAVATION FOR THE DRAIN
- THE CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCY OR CLASH WITH OTHER SERVICES TO THE SUPERINTENDENT
- ALL JUNCTION PITS LOCATED IN THE ROAD PAVEMENT SHALL HAVE TRAFFICABLE LIDS
- FOR SERVICE CROSSING LEVELS REFER TO DRAINAGE LONGITUDINAL SECTIONS
- ROAD PAVEMENT TYPES AND BRICK PAVING REMOVED FOR CLARITY - REFER TO PAVEMENT DRAWING FOR DETAILS
- IN CIRCUMSTANCES WHERE MULTIPLE PIPES ENTER A LINER A MINIMUM OF 40% OF THE LINER SHALL REMAIN IN ANY HORIZONTAL PLANE. ALL PITS CLASS 2 RCP UND ALL JP LIDS TO BE RAISED STEEL LIDS CLASS 'D' TO AS3996.
- REFER DRAWING C912 FOR TYPICAL LOT CONNECTION AND LOT CONNECTION PIT DETAIL

LEGEND

- LIMIT OF WORKS
- LOT NUMBER
- PIPE DIA-CLASS GRADE
- PROPOSED DRAINAGE WITH NOTATION
- LENGTH(m)
- CLASS (CLASS IF NOT CLASS 2)
UPSTREAM INVERT LEVEL
PIPE DIA / GRADE
LENGTH
DOWNSTREAM INVERT LEVEL
- PROPOSED DRAINAGE
- EXISTING DRAINAGE
- EXISTING DRAINAGE TO BE REMOVED
- FUTURE DRAINAGE
- EXISTING/ PROPOSED/ FUTURE SUBSOIL DRAINAGE
- PROPOSED/EXISTING/FUTURE SEWER
- PROPOSED JUNCTION PIT
- PROPOSED SIDE ENTRY PIT
- PROPOSED DOUBLE SIDE ENTRY PIT
- PROPOSED COMBINATION SIDE ENTRY/GULLY PIT
- PROPOSED GULLY PIT
- PIT TYPE
PIT NUMBER
CHAINAGE
- JP
JUNCTION PIT
- DGP
DOUBLE GRATED PIT
- GP
GRATED PIT (TRAPPED WHEN IN SWALES)
- SEP
SIDE ENTRY PIT
- CSEP
COMBINATION SIDE ENTRY/GULLY PIT
- LCP
LOT CONNECTION PIT
- BUP
BUBBLE-UP PIT
- GPT
GROSS POLLUTANT TRAP
- PROPOSED BATTER
- PROPOSED KERB OPENING - REFER TO DRAWING C911 FOR DETAILS
- PROPOSED/EXISTING/FUTURE CONTOUR
- 1% AEP TWL

WARNING
BEWARE OF UNDERGROUND SERVICES
The location of underground cables are approximate only and their exact position should be checked on site. No guarantee is given that all existing cables and services are shown. Locate all underground cables and services before commencement of work. Refer to Work Health and Safety (General) Regulations 2022.

SCALE 1:500 @ ORIGINAL SHEET SIZE 'A1'

PLAN
SCALE 1:500

REV	DATE	DRAWN	CHECKED	APPROVED	ISSUE FOR INFORMATION
B	31.03.25	LV	BWW	BJW	INITIAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	

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Certified Quality System to ISO 9001

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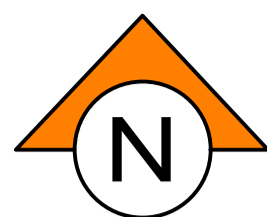
Birdwood
COWARAMUP - MASTERPLANNED COMMUNITY

CLIENT:
**LOT 500 WIRING ROAD
COWARAMUP STAGE 01A**

PROJECT:
**LOT 500 WIRING ROAD
COWARAMUP STAGE 01A**

DRAWING TITLE:
**DRAINAGE PLAN
SHEET 1**

DRAWN	LVU	WAPC No.	200656
DESIGNED	LVU	SCALE	1:500
PROJECT MANAGER	B. WASHFOLD	DATUM	AHD71
JDSi PROJECT No.	JDS242318.01A	CO-ORDS	MRCG94
DRAWING No.	C350	REVISION	B

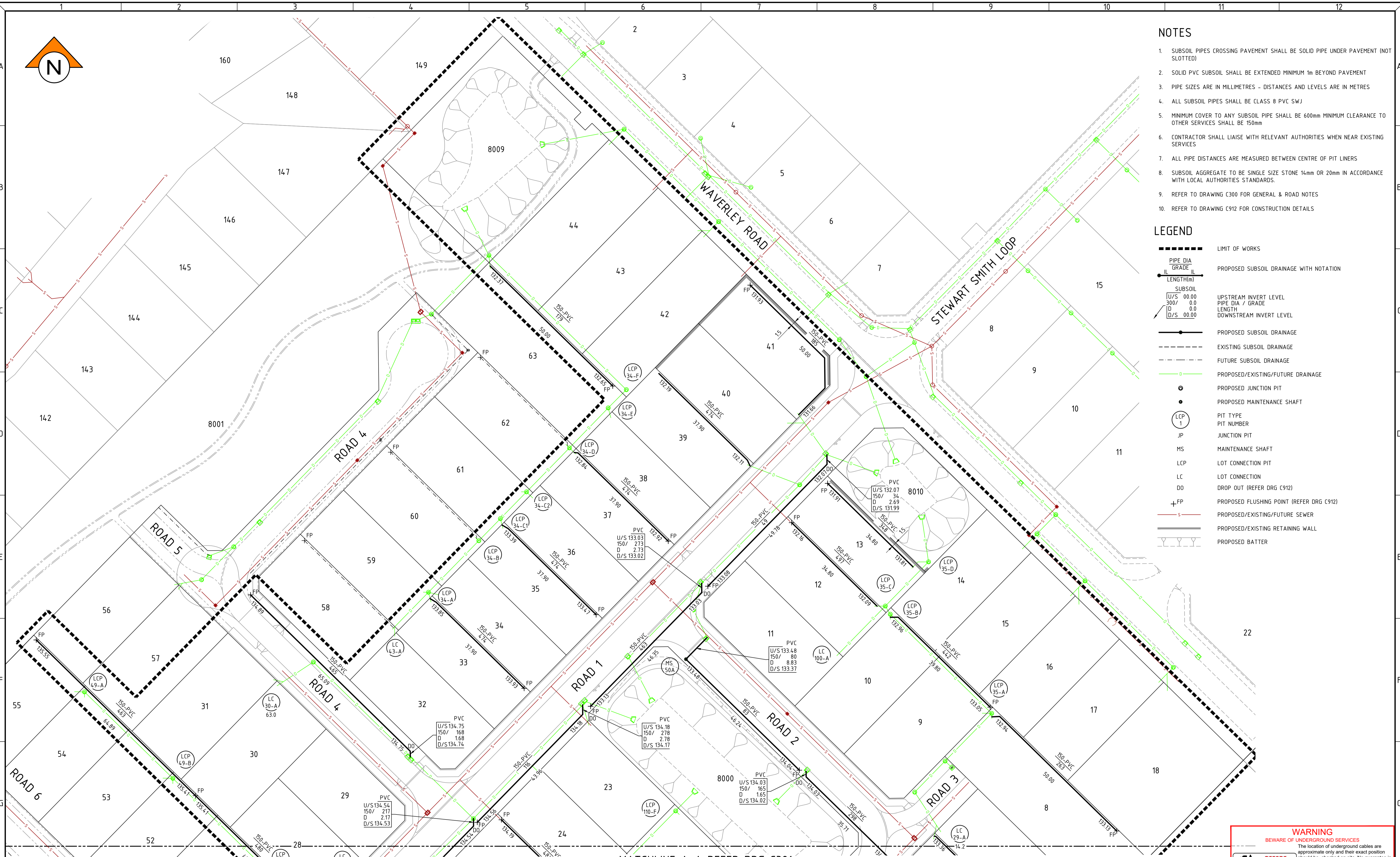


NOTES

- SUBSOIL PIPES CROSSING PAVEMENT SHALL BE SOLID PIPE UNDER PAVEMENT (NOT SLOTTED)
- SOLID PVC SUBSOIL SHALL BE EXTENDED MINIMUM 1m BEYOND PAVEMENT
- PIPE SIZES ARE IN MILLIMETRES - DISTANCES AND LEVELS ARE IN METRES
- ALL SUBSOIL PIPES SHALL BE CLASS 8 PVC SWJ
- MINIMUM COVER TO ANY SUBSOIL PIPE SHALL BE 600mm MINIMUM CLEARANCE TO OTHER SERVICES SHALL BE 150mm
- CONTRACTOR SHALL LIAISE WITH RELEVANT AUTHORITIES WHEN NEAR EXISTING SERVICES
- ALL PIPE DISTANCES ARE MEASURED BETWEEN CENTRE OF PIT LINERS
- SUBSOIL AGGREGATE TO BE SINGLE SIZE STONE 14mm OR 20mm IN ACCORDANCE WITH LOCAL AUTHORITIES STANDARDS.
- REFER TO DRAWING C300 FOR GENERAL & ROAD NOTES
- REFER TO DRAWING C912 FOR CONSTRUCTION DETAILS

LEGEND

- LIMIT OF WORKS
- PIPE DIA GRADE LENGTH(m) SUBSOIL PROPOSED SUBSOIL DRAINAGE WITH NOTATION
- U/S 00.00 300/ 0.0 D/S 00.00 UPSTREAM INVERT LEVEL PIPE DIA / GRADE LENGTH DOWNSTREAM INVERT LEVEL
- PROPOSED SUBSOIL DRAINAGE
- EXISTING SUBSOIL DRAINAGE
- FUTURE SUBSOIL DRAINAGE
- PROPOSED/EXISTING/FUTURE DRAINAGE
- PROPOSED JUNCTION PIT
- PROPOSED MAINTENANCE SHAFT
- LCP 1 PIT TYPE PIT NUMBER
- JP JUNCTION PIT
- MS MAINTENANCE SHAFT
- LCP LOT CONNECTION PIT
- LC LOT CONNECTION
- DO DROP OUT (REFER DRG C912)
- +FP PROPOSED FLUSHING POINT (REFER DRG C912)
- PROPOSED/EXISTING/FUTURE SEWER
- PROPOSED/EXISTING RETAINING WALL
- PROPOSED BATTER



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0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

MATCHLINE A-A REFER DRG C381
PLAN
SCALE 1:500

REV	DATE	DRAWN	CHECKED	APPROVED	ISSUE FOR INFORMATION
B	31.03.25	LV	BWW	BJW	INITIAL SUBMISSION FOR APPROVAL
A	20.12.24	LV	BJW	BJW	
Plotted By: cuong Plot Date: 31/03/25 - 08:58 Cad File: C:\12d\1\data\JDSI-12DSYN\JDS242318_247\JDS242318.01\CIVIL\Drawings\JDS242318.01_C380-C381.dwg					

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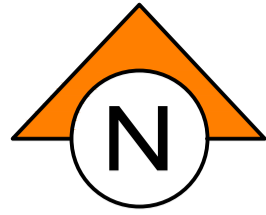
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Certified Quality System to ISO 9001

CLIENT:
Birdwood
COWARAMUP - MASTERPLANNED COMMUNITY

PROJECT:
LOT 500 WIRING ROAD
COWARAMUP STAGE 01A

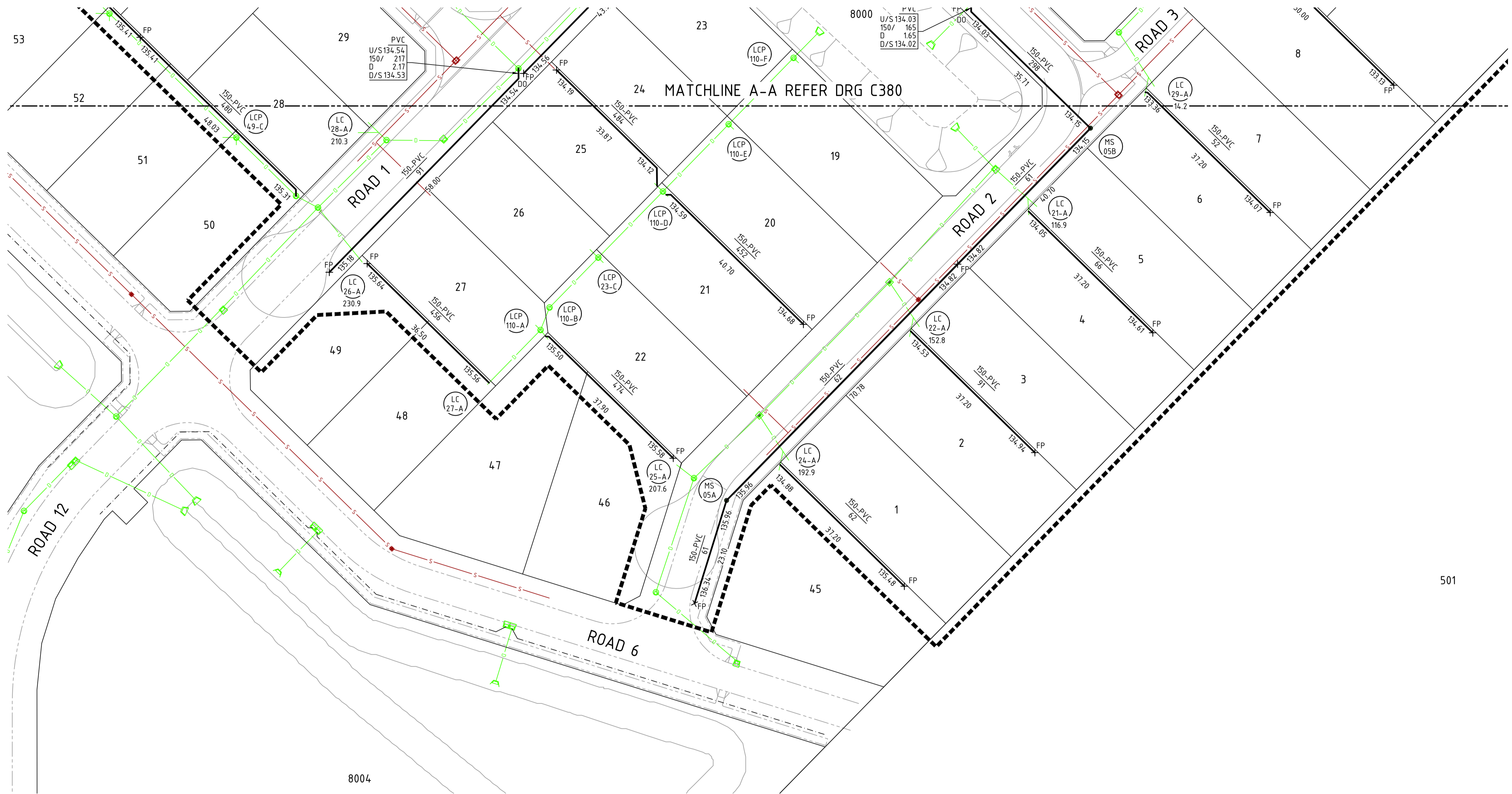
DRAWING TITLE:
SUBSOIL DRAINAGE PLAN
SHEET 1

DRAWN LVU	WAPC No. 200656
DESIGNED LVU	SCALE A1 1:500
PROJECT MANAGER B. WASHFOLD	DATUM AHD71
JDSI PROJECT No. JDS242318.01A	CO-ORDS MRCG94
DRAWING No. C380	REVISION B



NOTES

- 1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS
- 2. REFER TO DRAWING JDS242318.01A_C380 FOR NOTES AND LEGEND



0 5 10 20 30m
SCALE 1:500 @ ORIGINAL SHEET SIZE A1

WARNING
BEWARE OF UNDERGROUND SERVICES

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REV	DATE	DRAWN	CHECKED	APPROVED	
B	31.03.25	LV	BWW	BJW	ISSUE FOR INFORMATION
A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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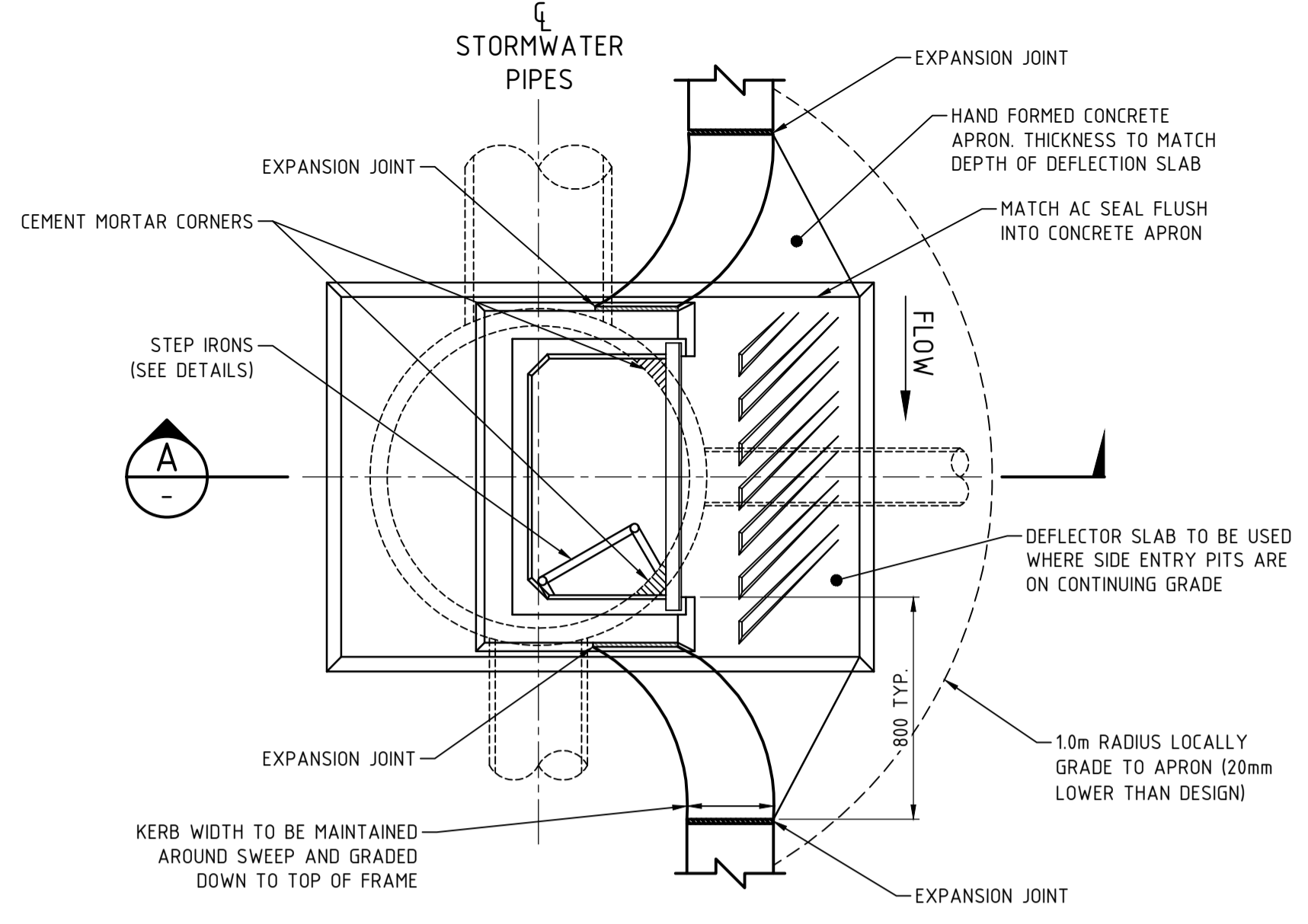
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Birdwood
COWARAMUP - MASTERPLANNED COMMUNITY

PROJECT:
LOT 500 WIRING ROAD
COWARAMUP STAGE 01A

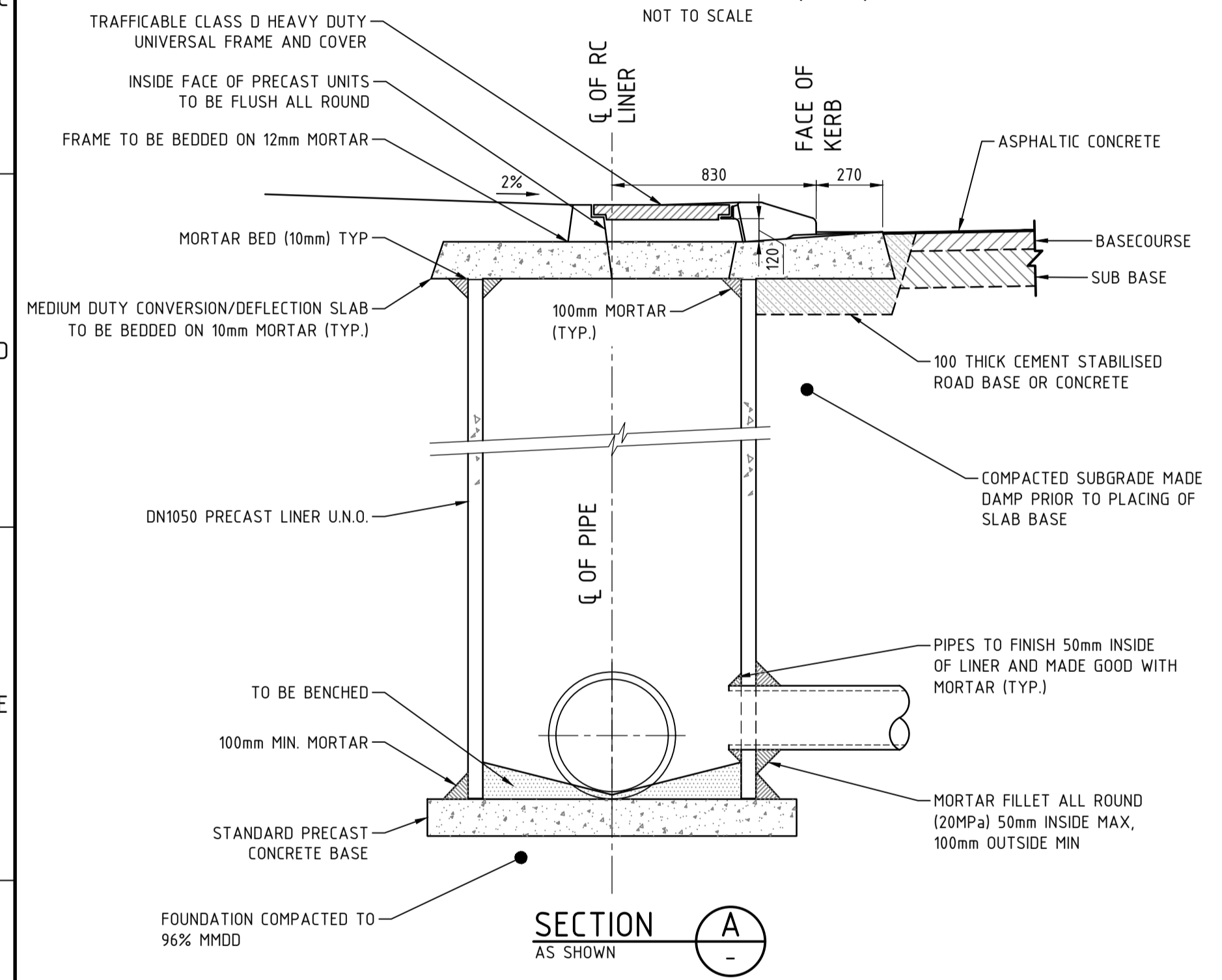
DRAWING TITLE:
SUBSOIL DRAINAGE PLAN
SHEET 2

DRAWN L.VU	WAPC No. 200656
DESIGNED L.VU	SCALE @ A1 1:500
PROJECT MANAGER B.WASHFOLD	DATUM AHD71
JDSi PROJECT No. JDS242318.01A	CO-ORDS MRC694
DRAWING No. C381	REVISION B

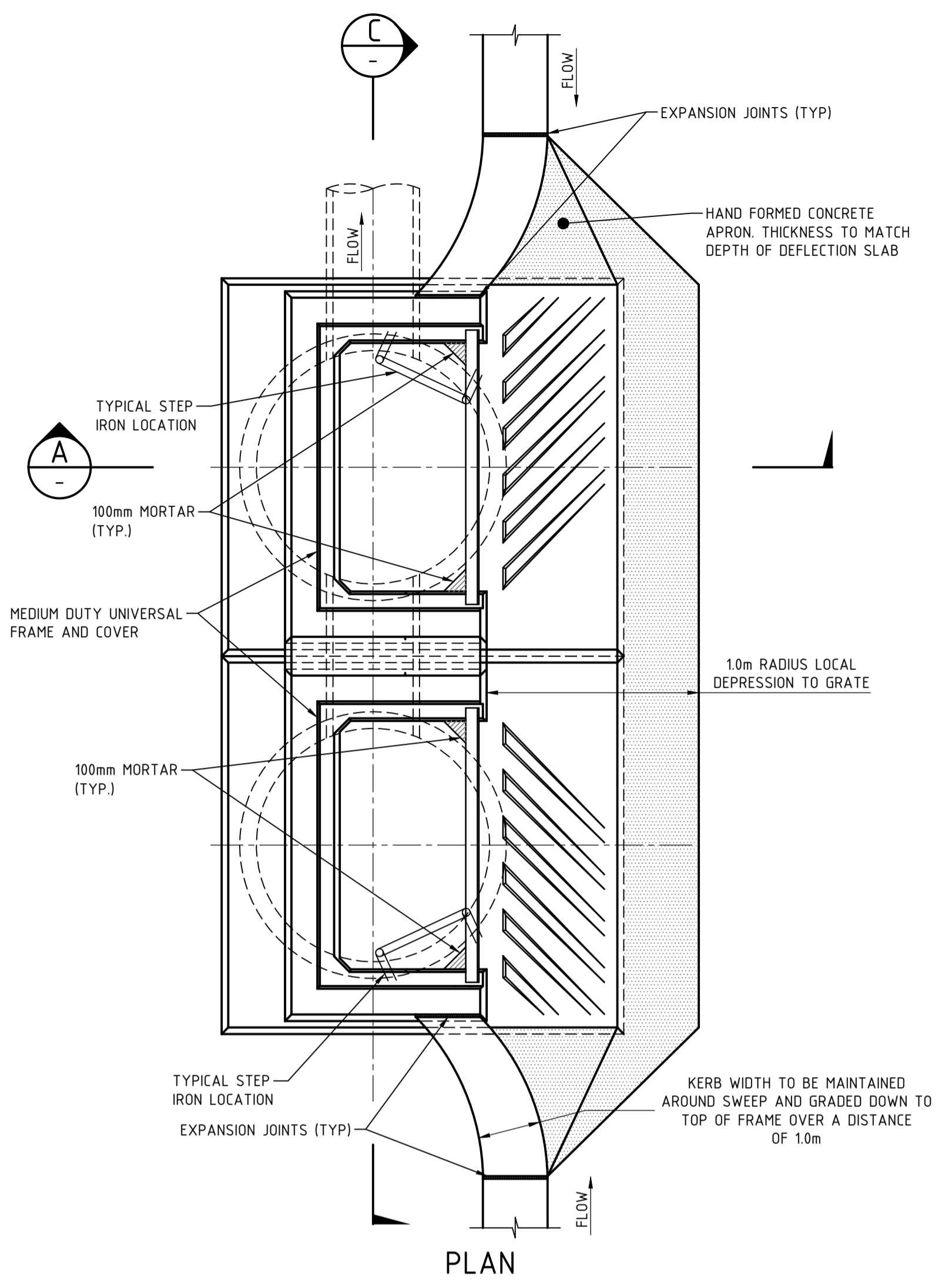
- ### NOTES
- CONCRETE TO BE 20mm NOMINAL AGGREGATE AND HAVE A MINIMUM STRENGTH AT 28 DAYS OF:
 - PRECAST UNIT: 40MPa
 - INSITU BASE: 20MPa
 - PIPE JOINTS WITHIN ONE METRE OF PIT TO BE SEALED.
 - SUBGRADE TO BASE SHALL BE COMPACTED TO 96% MMDD BEFORE PLACING BASE.
 - ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - STEP IRONS NOT REQUIRED IN PITS WITH A LINER OF DEPTH 1200mm OR LESS.
 - HOLES FOR PIPES ENTERING JUNCTION PIT WALLS ARE TO BE MACHINE CUT OR MADE BY DRILLING 10mm HOLES AT 20mm CENTRES AROUND A CIRCLE MARKED ON THE INSIDE WALL AND THEN BREAKING OUT THE CONCRETE.
 - ALL COMPONENTS TO BE DESIGNED TO ACCEPT A14 LOADING N.A.A.S.R.A. STD.
 - MORTAR TO BE 3:1 SAND : CEMENT : MIXTURE.
 - PIT LINER SHALL BE INTERLOCKING JOINT AND SPUN REINFORCED CONCRETE LINER OR EQUIVALENT TO CLASS 2 OR EQUIVALENT TO CLASS 2 PIPE.
 - ALL PIPES TO BE REINFORCED CONCRETE RUBBER RING JOINT UNLESS OTHERWISE NOTED.
 - BENCH BASE TO SUIT.



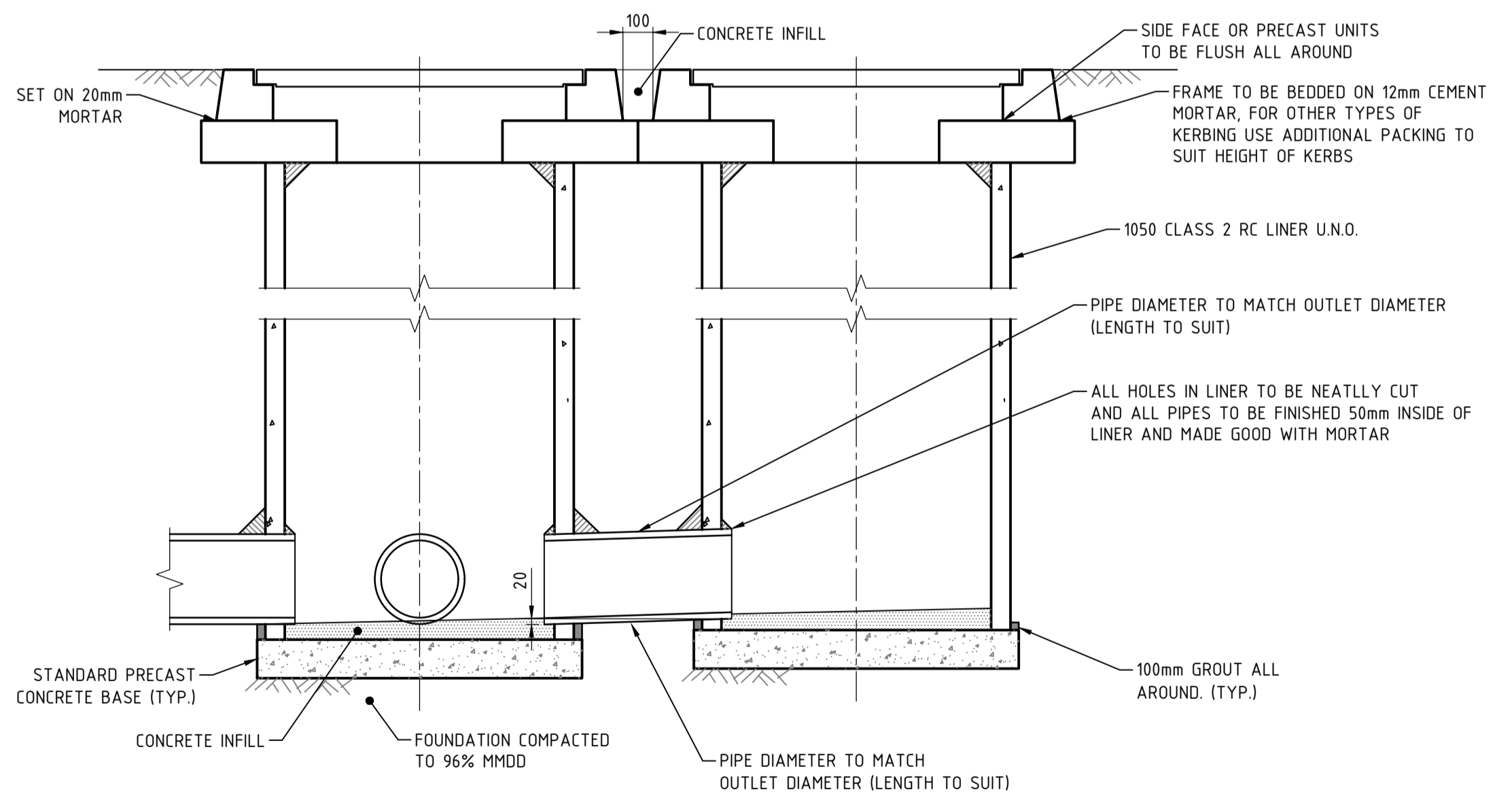
SIDE ENTRY PIT (SEP)
NOT TO SCALE



SECTION A
AS SHOWN

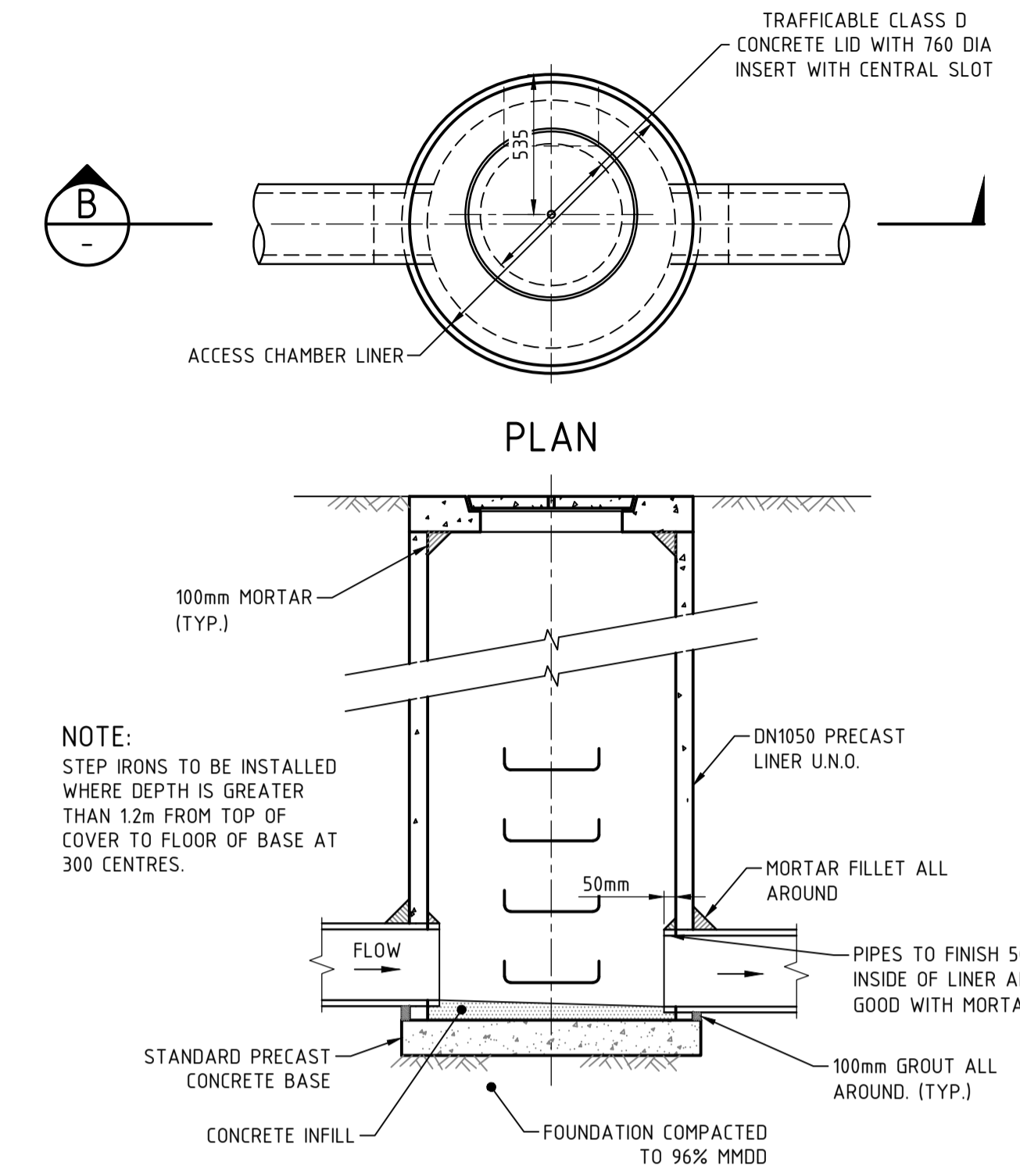


PLAN



SECTION C
NOT TO SCALE

TYPICAL DOUBLE SIDE ENTRY PIT (DSEP)



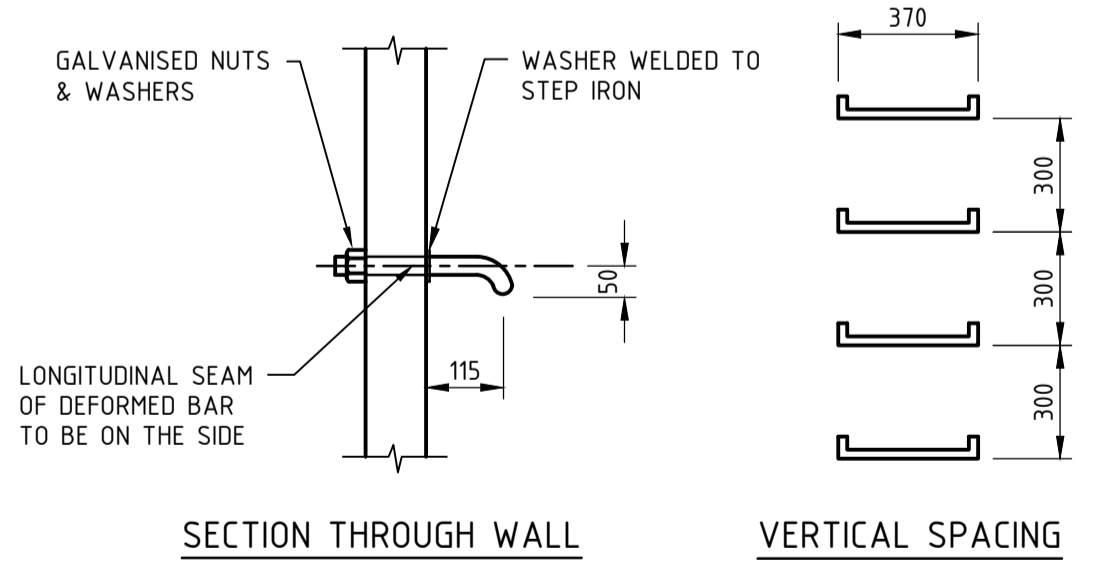
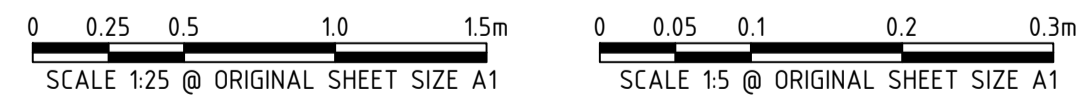
SECTION B
SCALE 1:25

JUNCTION PIT DETAIL (JP)
NOT TO SCALE

PIPE SIZE	LINER SIZE
Ø225-450	1050
Ø525-675	1200
Ø750-900	1500
Ø900-1200	1800

LINER SIZING TABLE

DRAINAGE PIT LINERS SHALL BE SIZED BASED ON THE LARGEST CONNECTED PIPE IN ACCORDANCE WITH THE ABOVE TABLE UNLESS A SPECIFIC LINER SIZE IS NOTED ON THE PLAN



STEP IRON DETAILS FOR SIDE ENTRY PIT
STEP IRONS TO BE 24 DIA HOT DIPPED GALVANISED DEFORMED BARS WITH NUT AND THREADED FIXING SYSTEM

REV	DATE	DRAWN	CHECKED	APPROVED	ISSUE
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A	20.12.24	LV	BJW	BJW	INITIAL SUBMISSION FOR APPROVAL

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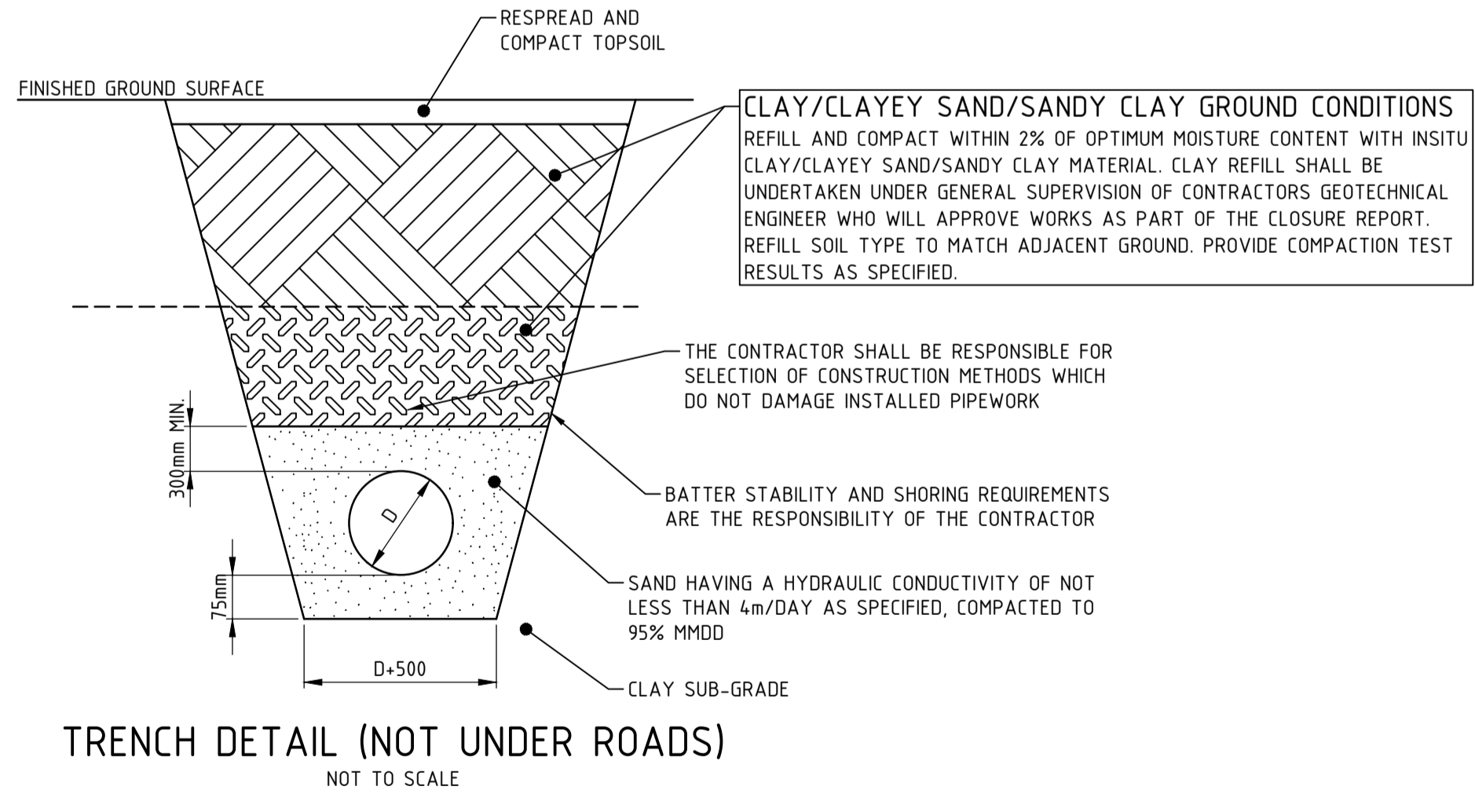
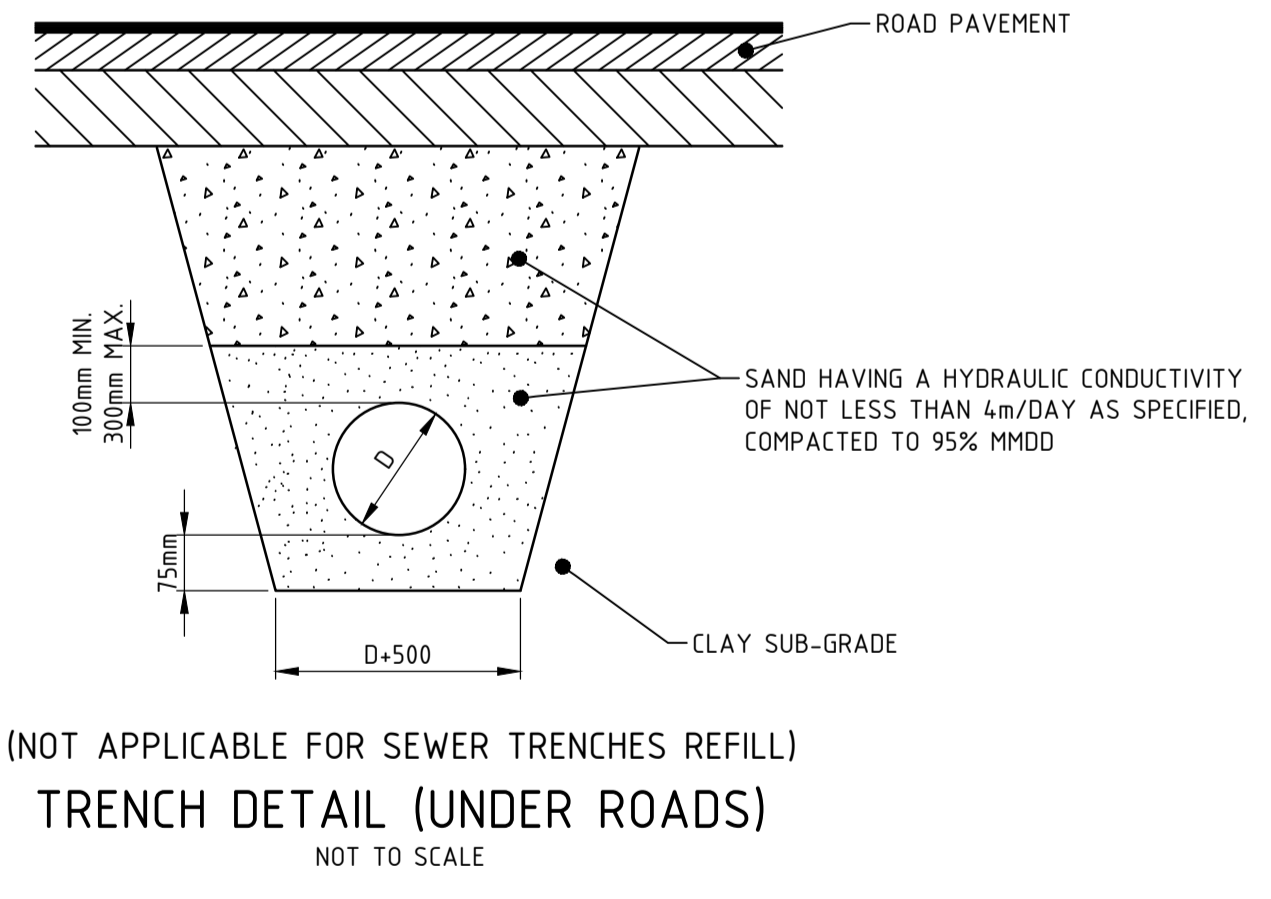
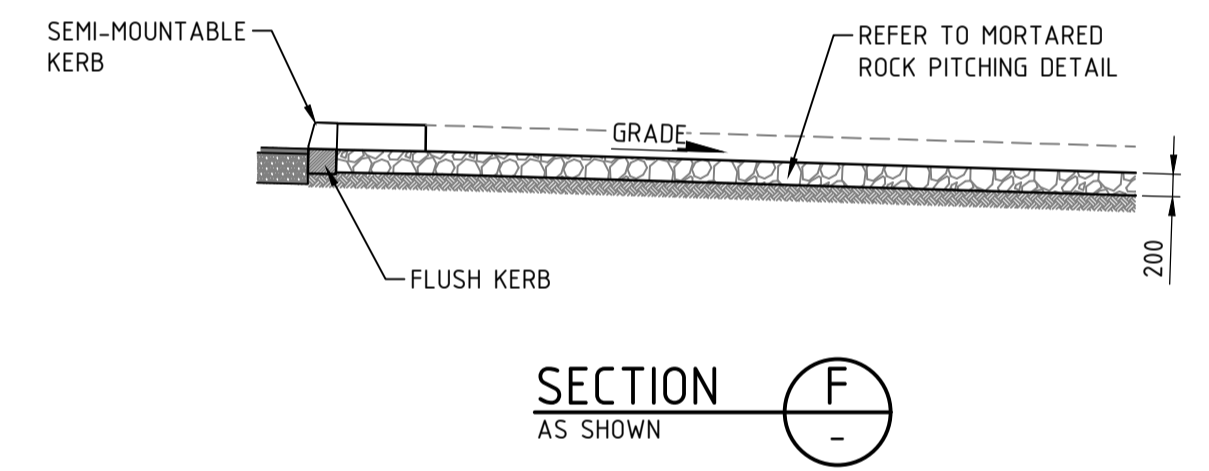
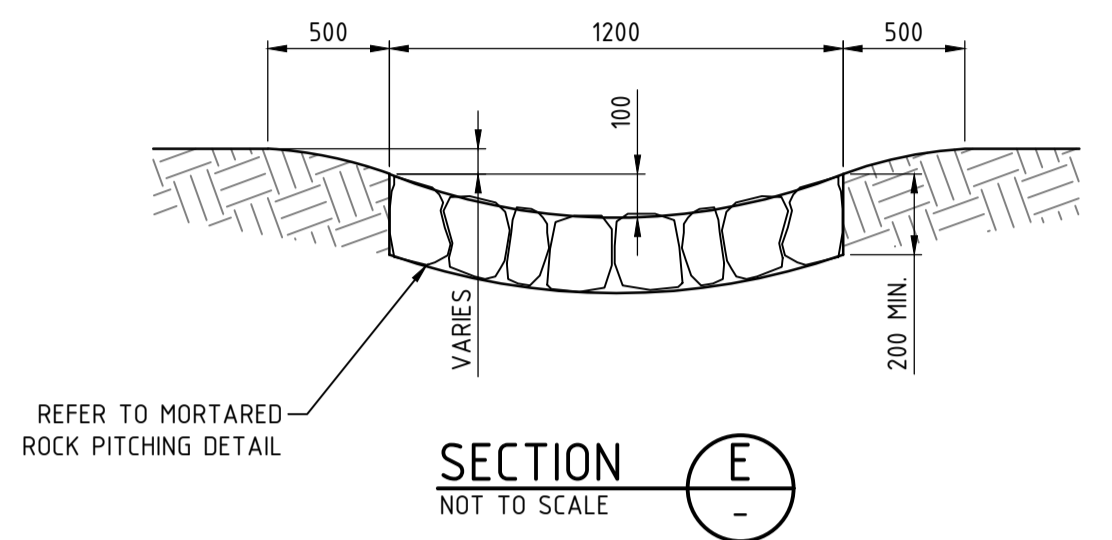
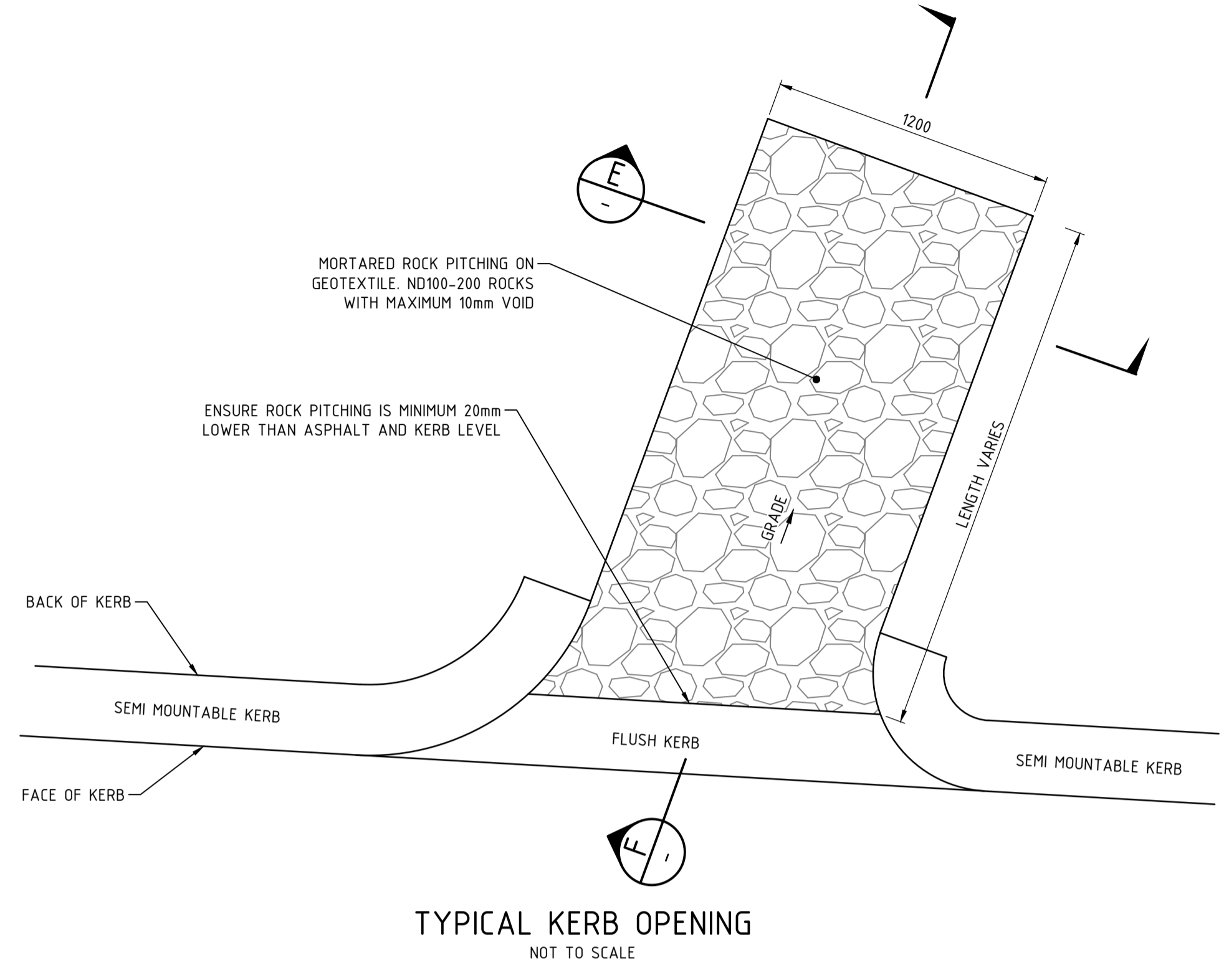
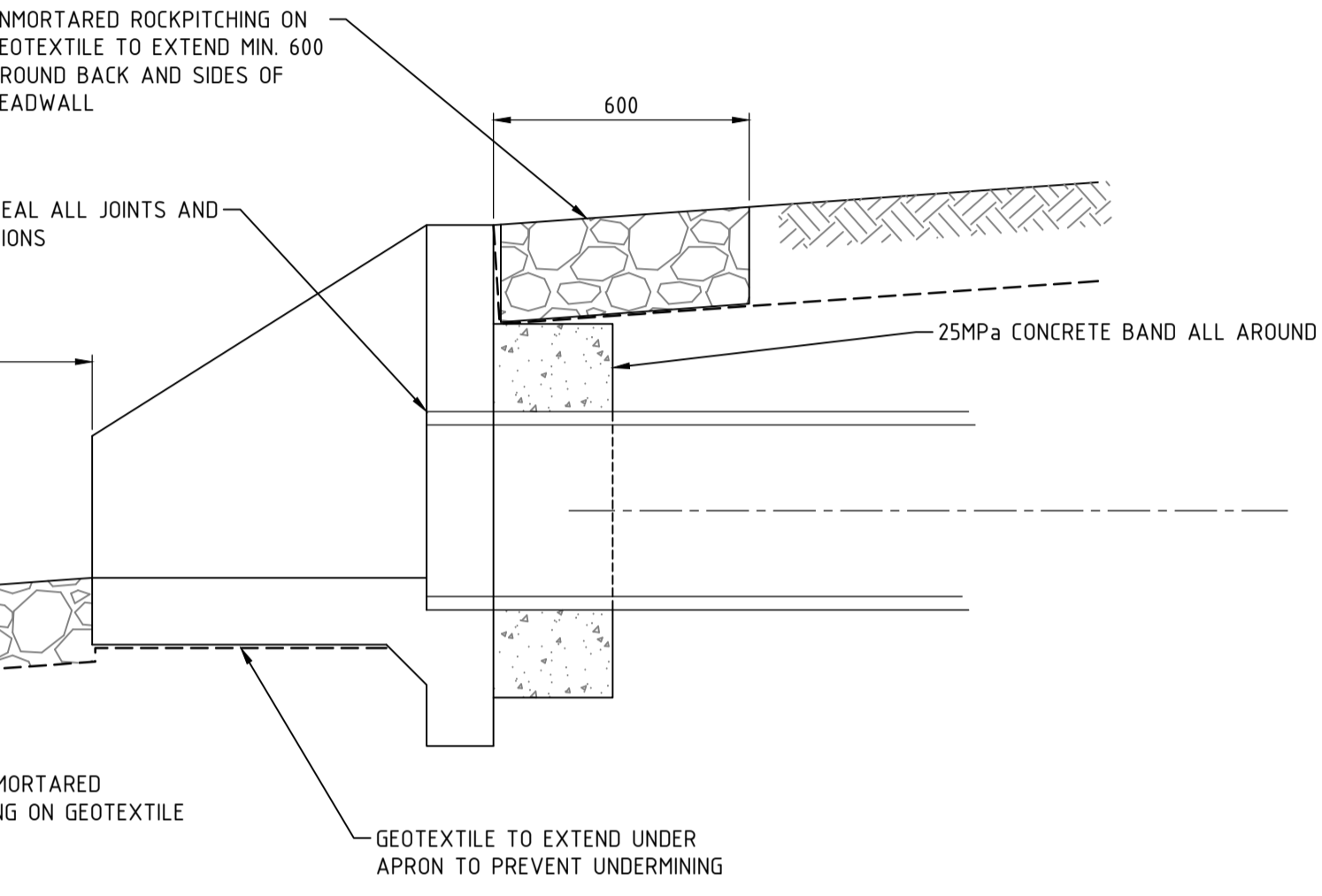
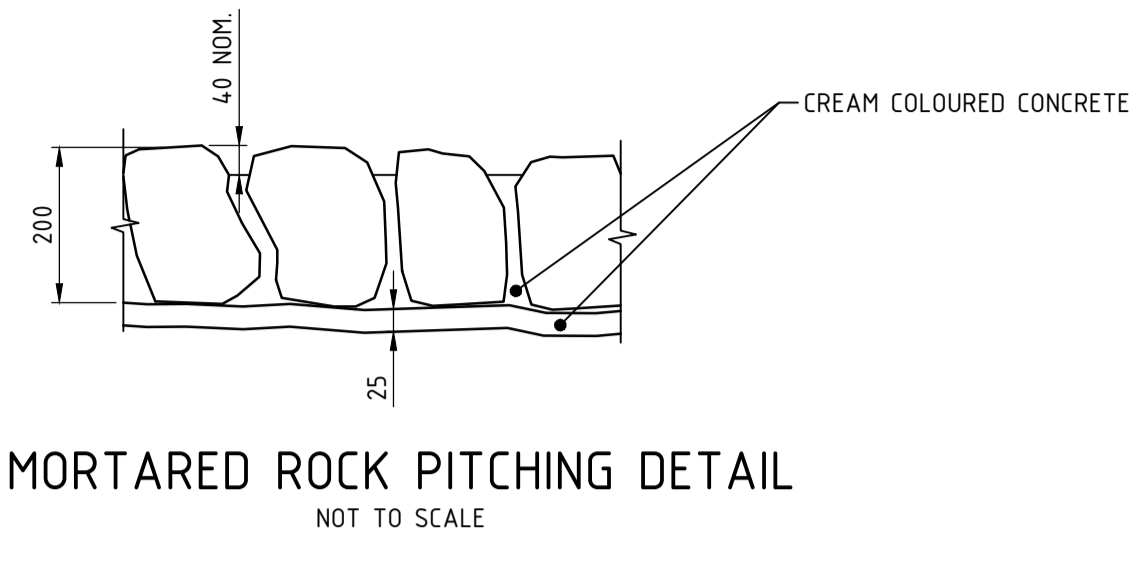
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CONSULTING ENGINEERS

CLIENT:
Birdwood
COWARAMUP - MASTERPLANNED COMMUNITY

PROJECT:
LOT 500 WIRING ROAD
COWARAMUP

DRAWING TITLE:
STANDARD DRAINAGE DETAILS SHEET 1

DRAWN LVU	WAPC No. 200656
DESIGNED LVU	SCALE AS SHOWN
PROJECT MANAGER B.WASHFOLD	DATUM N/A
JDSI PROJECT No. JDS242318.0	CO-ORDS N/A
DRAWING No. C910	REVISION B



0 0.05 0.1 0.2 0.3m
SCALE 1:5 @ ORIGINAL SHEET SIZE A1

WARNING
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BEFORE YOU DIG
www.byda.com.au

REV	DATE	DRAWN	CHECKED	APPROVED	INITIAL SUBMISSION FOR APPROVAL
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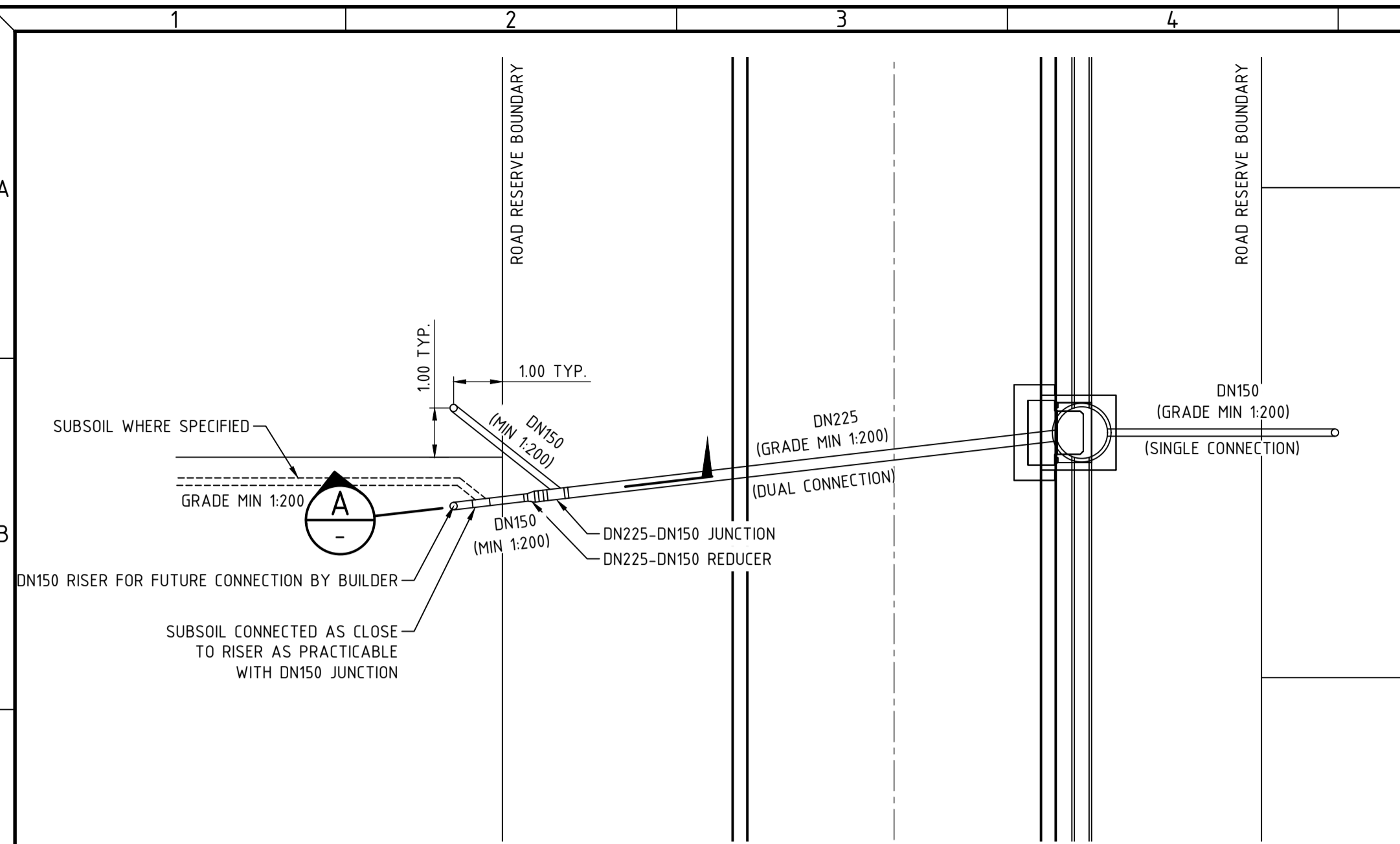
JDSi
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Birdwood
COWARAMUP • MASTERPLANNED COMMUNITY

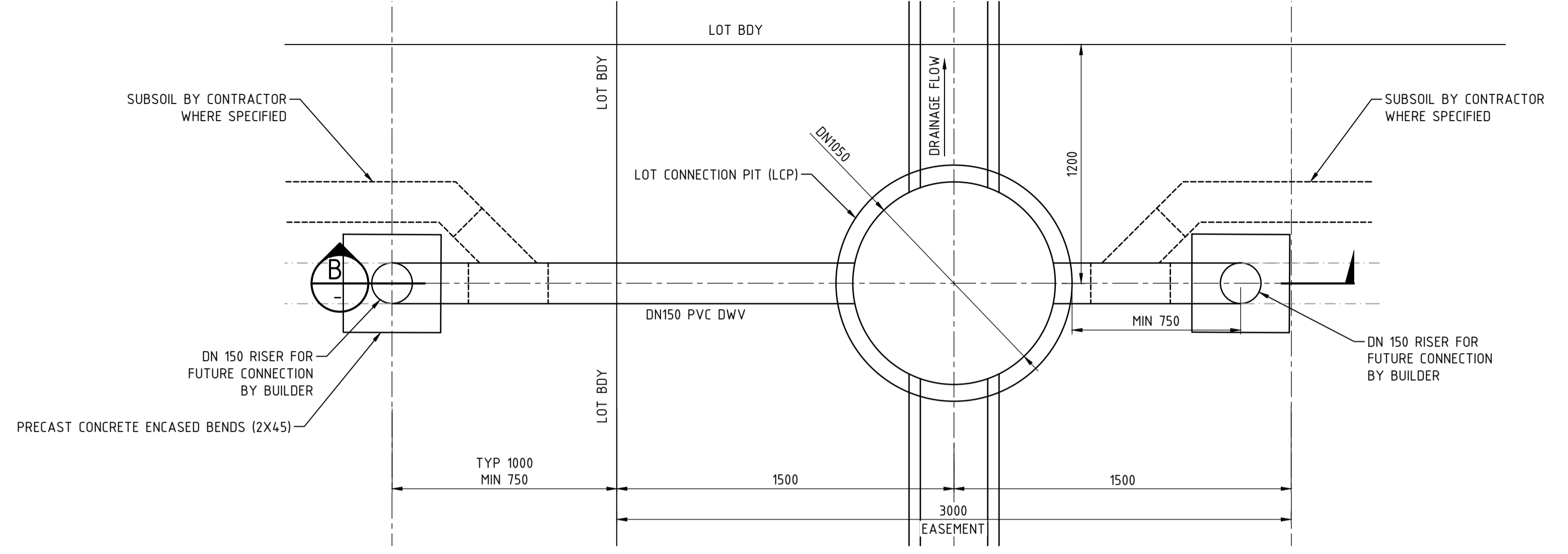
CLIENT:
LOT 500 WIRING ROAD COWARAMUP

PROJECT:
STANDARD DRAINAGE DETAILS SHEET 2

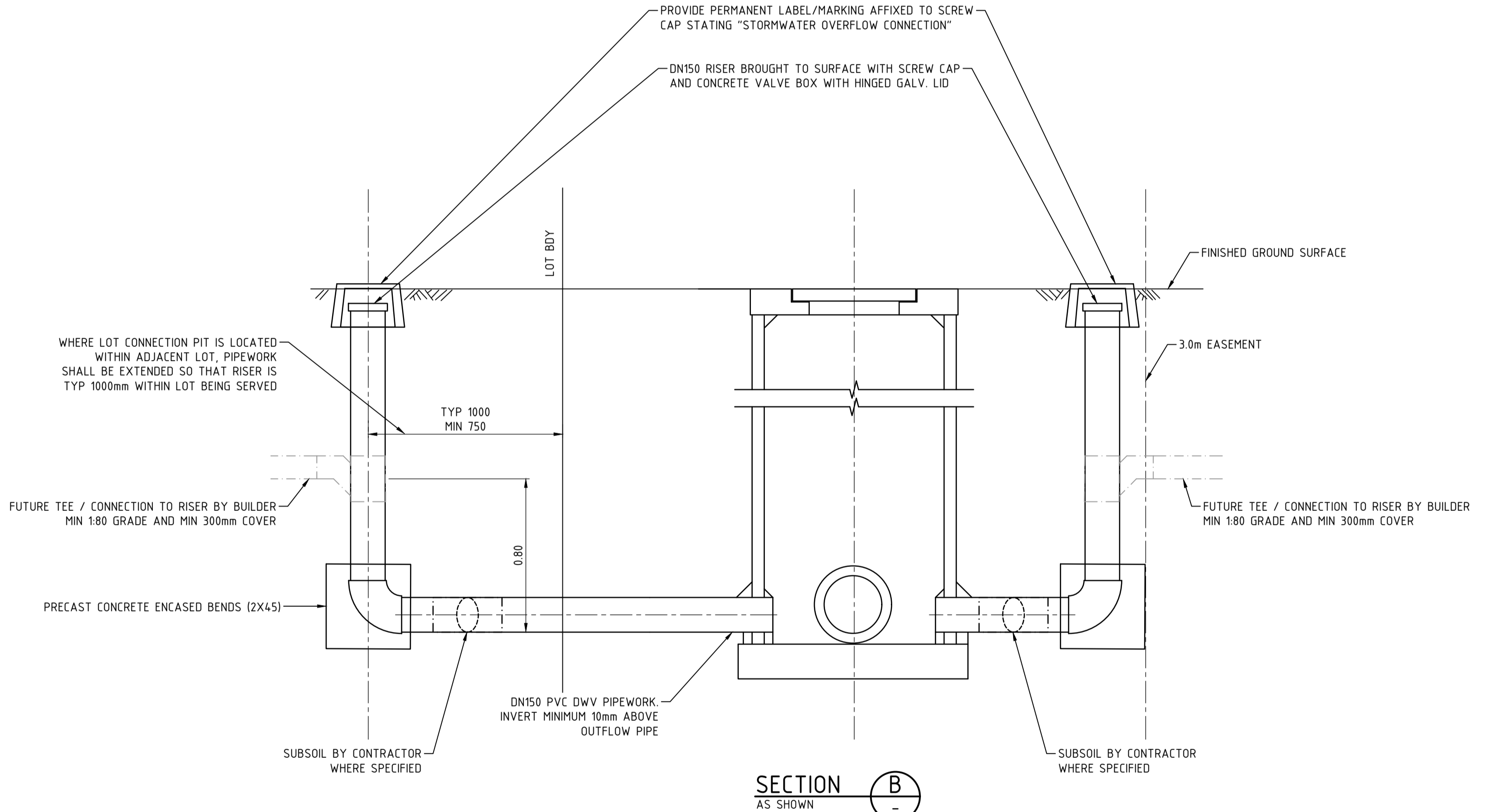
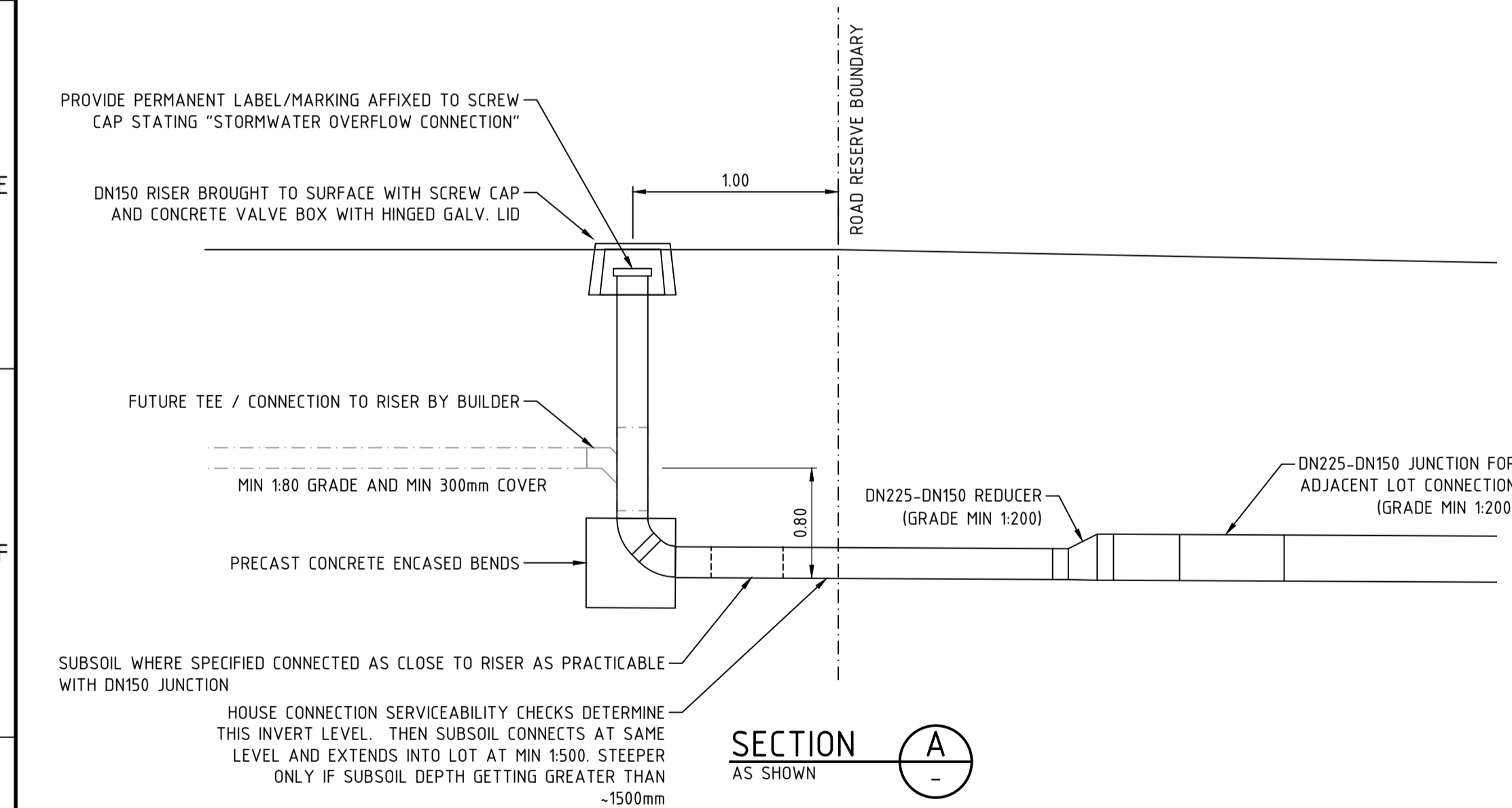
DRAWN LVU	WAPC No. 200656
DESIGNED LVU	SCALE AS SHOWN
PROJECT MANAGER B. WASHFOLD	DATUM N/A
JDSi PROJECT No. JDS242318.0	CO-ORDS N/A
DRAWING No. C911	REVISION A



TYPICAL LOT CONNECTION - ROAD RESERVE
NOT TO SCALE



TYPICAL LOT CONNECTION - REAR OF LOT - DUAL CONNECTIONS SHOWN
NOT TO SCALE



REV	DATE	DRAWN	CHECKED	APPROVED	DESCRIPTION
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CONSULTING ENGINEERS

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Birdwood
COWARAMUP - MASTERPLANNED COMMUNITY

PROJECT:
LOT 500 WIRING ROAD
COWARAMUP

DRAWING TITLE:
STANDARD DRAINAGE DETAILS
SHEET 3

DRAWN L.V.U.	WAPC No. 200656
DESIGNED L.V.U.	SCALE AS SHOWN
PROJECT MANAGER B. WASHFOLD	DATUM N/A
JDSi PROJECT No. JDS242318.0	CO-ORDS N/A
DRAWING No. C912	REVISION B