

RESIDENTIAL DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St, Fairfield NSW 2165

Job No. N0230324

STORMWATER SERVICES

	PROPOSED STORMWATER
	PROPOSED RAINWATER
	EXISTING STORMWATER/RAINWATER
	SUB-SOIL DRAINAGE LINE
	CAST IN SLAB PIPE

STORMWATER LEGEND

	PROPOSED SEALED JUNCTION PIT
	PROPOSED GRATED SURFACE INLET PIT. PIT DIMENSIONS ARE GOVERNED BY DEPTH REFER TO DETAIL.
	EXISTING PIT
	PIT TO BE REMOVED
	PROPOSED KERB INLET PIT
	PROPOSED GRATED DRAIN
	PROPOSED RAINWATER TANK
	DOWNPipe, RISER OR VERTICAL DROP
	RWO - RAINWATER OUTLET FOR BALCONIES, ROOF, CARPARK ETC
	GS1 - DOWNPIPE WITH RAIN HEAD OVERFLOW
	GS2 - DOWNPIPE WITH SUMP SIDE OVERFLOW
	GS3 - DOWNPIPE WITH SUMP HIGH CAPACITY OVERFLOW
	SWALE DRAIN
	OVERLAND FLOW PATH
	ROOF FALL DIRECTION
	PROPOSED PAVEMENT SURFACE LEVEL
	PROPOSED PIT SURFACE LEVEL
	PROPOSED PIT INVERT LEVEL
	PROPOSED FINISHED FLOOR LEVEL
	EXISTING SURFACE LEVEL
	EXISTING SURVEY CONTOUR

GENERAL PIPEWORK LEGEND

	FLOW DIRECTION
	PIPE FROM ABOVE
	PIPE TO BELOW
	FALL DIRECTION
	PIPE TYPE, SIZE AND GRADE
	CONNECTION
	CONTINUATION
	END CAP
	KEYNOTE TAG

PROJECT INFORMATION TABLE

THE TABLES BELOW ARE TO BE READ IN CONJUNCTION WITH THE ADJACENT NOTES

SURVEY INFORMATION

THE SURVEY INFORMATION ON THESE DRAWINGS HAS BEEN PROVIDED BY

COMPANY	DATED
ATIS LAND & ENGINEERING SURVEYORS	12/07/2021

SAFETY IN DESIGN

THERE ARE INHERENT RISKS WITH CONSTRUCTING, MAINTAINING, OPERATING, DEMOLISHING, DISMANTLING AND DISPOSING THIS DESIGN THAT ARE TYPICAL OF SIMILAR DESIGNS, AS FAR AS IS REASONABLY PRACTICABLE RISKS HAVE BEEN ELIMINATED OR MINIMISED THROUGH THE DESIGN PROCESS. HAZARD CONTROLS MUST STILL BE IMPLEMENTED BY THE CONTRACTOR, OWNER OR OPERATOR TO ENSURE THE SAFETY OF WORKERS.

• JN DO NOT CONSIDER THAT THERE ARE ANY UNIQUE RISKS ASSOCIATED WITH THE DESIGN OF THIS PROJECT.

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DRAWING STATUS

PRELIMINARY
PRELIMINARY DRAWINGS ARE NOT TO BE USED FOR TENDER OR CONSTRUCTION PURPOSES.

TENDER

TENDER DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES AND ARE INTENDED FOR AN EXTENT OF WORKS. ALL OTHER CONSULTANT DRAWINGS AND CONTRACT DOCUMENTS SHOULD BE READ IN CONJUNCTION WITH THESE DOCUMENTS TO DETERMINE THE FULL EXTENT OF WORKS.

CONSTRUCTION CERTIFICATE

CONSTRUCTION CERTIFICATE DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION UNLESS APPROVED & STAMPED BY THE PCA.

CONSTRUCTION

CONSTRUCTION DRAWINGS CAN BE USED FOR CONSTRUCTION PURPOSES AND/OR FOR THE CREATION OF FABRICATION DRAWINGS.

GENERAL

- ALL EXISTING LEVELS TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORKS
- ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE NOMINATED OR APPLICABLE COUNCIL SPECIFICATION, WHERE A SPECIFICATION HAS NOT BEEN NOMINATED THEN THE CURRENT NSW DEPARTMENT OF HOUSING CONSTRUCTION SPECIFICATION IS TO BE USED. THE NOMINATED SPECIFICATION SHALL TAKE PRECEDENCE TO THESE NOTES.
- THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT. ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE CONTRACTOR ON SITE. ENGINEERS DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
- ALL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL DRAWINGS & DRAWINGS FROM OTHER CONSULTANTS.
- THE CONTRACTOR SHOULD REPORT ANY DISCREPANCIES ON THE DRAWINGS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN.
- THE CONTRACTOR SHOULD LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND PROTECT AND MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE AND/OR ADJUST IF NECESSARY. INFORMATION GIVEN ON THE DRAWINGS IN RESPECT TO SERVICES IS FOR GUIDANCE ONLY AND IS NOT GUARANTEED COMPLETE NOR CORRECT.
- CONTRACTOR IS NOT TO ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE PERMISSION OF THE OWNER.
- SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED OR REMOVED FROM SITE.
- ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING.
- ALL DRAINAGE LINES THROUGH ADJACENT LOTS SHALL BE CONTAINED WITHIN EASEMENTS CONFORMING TO COUNCIL'S STANDARDS.
- THE CONTRACTOR SHALL CLEAR THE SITE BY REMOVING ALL RUBBISH, FENCES AND DEBRIS ETC. TO THE EXTENT SPECIFIED.
- PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL PROVIDE A TRAFFIC MANAGEMENT PLAN PREPARED BY AN ACCREDITED PERSON IN ACCORDANCE WITH RMS REQUIREMENTS. FOR ANY WORK ON OR ADJACENT TO PUBLIC ROADS, PLAN TO BE SUBMITTED TO COUNCIL & RMS.

SURVEY

- JONES NICHOLSON IS NOT RESPONSIBLE FOR THE ACCURACY OF ANY 3RD PARTY INFORMATION PROVIDED ON THIS DRAWING.
- ALL LEVELS ARE TO A.H.D.
- ALL CHAINAGES AND LEVELS ARE IN METRES, AND DIMENSIONS IN MILLIMETRES.
- SET OUT COORDINATES ARE BASED ON SURVEY DRAWINGS PROVIDED FOR THE PURPOSE OF CARRYING OUT THE ENGINEERING DESIGN.
- CONTRACTOR SHALL VERIFY ALL SET OUT COORDINATES SHOWN ON THE PLANS BY A REGISTERED SURVEYOR
- CONTRACTORS SHALL ARRANGE FOR THE WORKS TO BE SET OUT BY A REGISTERED SURVEYOR.
- ANY DISCREPANCIES SHOULD BE CLARIFIED IN WRITING WITH THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORK FOR CONFIRMATION OF THE SURVEY.

STORMWATER DRAINAGE

- STORMWATER DRAINAGE SHALL BE GENERALLY IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARDS AND COUNCIL'S SPECIFICATION.
- PIPES OF 225mm DIA. AND UNDER SHALL BE UPVC.
- PIPES OF 300mm DIA. AND LARGER SHALL BE FRC OR CONCRETE CLASS 2 RUBBER RING JOINTED UNO.
- ALL FRC OR RCP STORMWATER PIPES WITHIN ROAD RESERVE AREAS TO BE CLASS 3 U.N.O.
- MINIMUM COVER TO PIPES 300mm DIA. AND OVER GENERALLY SHALL BE 600mm IN CARPARK & ROADWAY AREAS UNO.
- PIPES SHALL GENERALLY BE LAID AT THE GRADES INDICATED ON THE DRAWINGS.
- PIPES UP TO 150mm DIA SHALL BE LAID AT 1.0% MIN. GRADE U.N.O.
- PIPES 225mm DIA AND OVER SHALL BE LAID AT 0.5% MIN. GRADE U.N.O.
- BACKFILL TRENCHES WITH APPROVED FILL COMPACTED IN 200mm LAYERS TO 98% OF STANDARD DENSITY.
- ANY PIPES OVER 16% GRADE SHALL HAVE CONCRETE BULKHEADS AT ALL JOINTS.
- PITS SHALL BE AS DETAILED WITH METAL GRATES AT LEVELS INDICATED. ALL PITS DEEPER THAN 1200mm TO HAVE CLIMB IRONS.
- BUILD INTO UPSTREAM FACE OF ALL PITS A 3.0m SUBSOIL LINE FALLING TO PITS TO MATCH PIT INVERTS.
- ALL COURTYARD & LANDSCAPED PITS TO BE 450 SQUARE LOAD CLASS A UNLESS NOTED OTHERWISE.
- ALL DRIVEWAY & OSD PITS TO BE 600 SQUARE LOAD CLASS D UNLESS NOTED OTHERWISE.
- INSTALL TEMPORARY SEDIMENT BARRIERS TO INLET PITS, TO COUNCIL'S STANDARDS UNTIL SURROUNDING AREAS ARE PAVED OR GRASSED.
- PITS & DOWNPIPE LOCATIONS AND LEVELS MAY BE VARIED TO SUIT SITE CONDITIONS AFTER CONSULTING THE ENGINEER.
- DOWNPipes SHOWN ARE INDICATIVE ONLY. ALL ROOF GUTTERING AND DOWNPIPES TO THE CURRENT AUSTRALIAN STANDARDS.
- ALL PLANTER BOXES AND BALCONIES TO BE CONNECTED TO THE PROPOSED STORMWATER DRAINAGE LINE.
- HAND-EXCAVATE STORMWATER PIPES IN VICINITY OF TREE ROOTS.
- FOOTPATH CROSSING LEVELS SHOWN ARE TO BE ADJUSTED TO FINAL COUNCIL'S ISSUED LEVELS.
- GEOTEXTILE FABRIC TO BE PLACED UNDER RIP RAP SCOUR PROTECTION.
- ALL BASES OF PITS TO BE BENCHED TO HALF PIPE DEPTH AND PROVIDE GALVANISED ANGLE SURROUNDINGS TO GRATE.
- SUBSOIL LINE PIPES AND FITTINGS SHALL BE PERFORATED PLASTIC TO CURRENT AUSTRALIAN STANDARDS. LAY PIPES ON FLOOR OF TRENCH GRADED AT 1% MIN. AND OVERLAY WITH FILTER MATERIAL. EXTENDING TO WITHIN 200mm OF SURFACE. PROVIDE FILTER FABRIC OF PERMEABLE POLYPROPYLENE BETWEEN FILTER MATERIAL AND TOPSOIL.
- SHOULD THE CONTRACTOR ELECT TO INSTALL PRECAST STORMWATER PITS AND THEY ARE PERMITTED BY COUNCIL AND THE CLIENT, THE PRECAST PITS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH RMS STANDARDS INCLUDING:
 - SEAL THE SEGMENTS TOGETHER USING A SITE-APPROVED NON-SHRINK GROUT OR MASTIC-TYPE PRODUCT. APPLY THE SEALANT IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S REQUIREMENTS.
 - ENSURE THAT NO GAPS REMAIN AND THAT A SMOOTH FACE EXISTS BETWEEN MULTIPLE UNITS.
 - LEAVE THE SEGMENTS UNDISTURBED UNTIL THE PERIOD OF CURING IS COMPLETED IN ACCORDANCE WITH THE GROUT OR SEALANT PRODUCT MANUFACTURER'S REQUIREMENTS.

STORMWATER DRAINAGE INSTALLATION

- SUPPLY & INSTALLATION OF DRAINAGE WORKS TO BE IN ACCORDANCE WITH THESE DRAWINGS, THE COUNCIL SPECIFICATION AND THE CURRENT APPLICABLE AUSTRALIAN STANDARDS.
- BEDDING OF THE PIPELINES IS TO BE TYPE 'HS2' IN ACCORDANCE WITH THE STANDARDS AND AS FOLLOWS:
 - COMPACTED GRANULAR MATERIAL IS TO COMPLY WITH THE FOLLOWING GRADINGS:

SIEVE SIZE (mm)	19	2.36	0.60	0.30	0.15	0.075
% MASS PASSING	100	50-100	20-90	10-40	0-25	0-10

- AND THE MATERIAL PASSING THE 0.075 SIEVE HAVING LOW PLASTICITY AS DESCRIBED IN APPENDIX D OF AS1726.
 - BEDDING DEPTH UNDER THE PIPE TO BE 100mm.
 - BEDDING MATERIAL TO BE EXTENDED FROM THE TOP OF THE BEDDING ZONE UP TO 0.3 TIMES PIPE OUTSIDE DIAMETER. THIS REPRESENTS THE HAUNCH ZONE.
 - THE BEDDING & HAUNCH ZONE MATERIAL IS TO BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 98% WITHIN ROAD RESERVES AND TRAFFICABLE AREAS AND 95% ELSEWHERE FOR COHESIVE MATERIAL OR A MINIMUM DENSITY INDEX OF 70% IN ACCORDANCE WITH THE STANDARDS FOR COHESIONLESS MATERIAL.
 - COMPACTION TESTING SHALL BE CARRIED OUT BY AN APPROVED ORGANISATION WITH A NATA CERTIFIED LABORATORY FOR ALL DRAINAGE LINES LAID WHOLLY OR IN PART UNDER THE KERB & GLITTER OR PAVEMENT.
- BACKFILL SHALL BE PLACED & COMPACTED IN ACCORDANCE WITH THE SPECIFICATION. A GRANULAR GRAVEL AGGREGATE MATERIAL (<10mm) BACKFILL IS RECOMMENDED FOR THE BEDDING, HAUNCH SUPPORT AND SIDE ZONE DUE TO ITS SELF COMPACTING ABILITY.
 - A MINIMUM OF 150mm CLEARANCE IS TO BE PROVIDED BETWEEN THE OUTSIDE OF THE PIPE BARREL AND THE TRENCH WALL FOR PIPES < 600 DIA. 200mm CLEARANCE FOR PIPES 600 TO 1200 DIA AND D/6 CLEARANCE FOR PIPES > 1200 DIA.

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PROJECT MGR	GC

CIVIL SKETCH

NOTES & LEGEND

RESIDENTIAL
DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165

BLUECHP

N0230324
CSK000 E

ENVIRONMENTAL SITE MANAGEMENT

1. EROSION & SEDIMENT CONTROLS TO BE INSTALLED IN ACCORDANCE WITH COUNCIL'S SPECIFICATION & THE NSW DEPARTMENT OF HOUSING "BLUE BOOK" - SOILS AND CONSTRUCTION - MANAGING URBAN STORMWATER, 2004. REFER TO THE BLUE BOOK FOR STANDARD DRAWINGS "SD".
2. SEDIMENT & EROSION CONTROLS MUST BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS OR DEMOLITION ACTIVITY. THE LOCATION OF SUCH DEVICES IS INDICATIVE ONLY AND FINAL POSITION SHOULD BE DETERMINED ON SITE.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MEASURES ARE TAKEN DURING THE COURSE OF CONSTRUCTION TO PREVENT SEDIMENT EROSION AND POLLUTION OF THE DOWNSTREAM SYSTEM. SUPERVISING ENGINEER SHOULD BE CONTACTED IF IN DOUBT. ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AFTER EACH RAINFALL EVENT FOR STRUCTURAL DAMAGE AND ALL TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED SOIL STOCKPILE SITE.
4. RETAIN ALL EXISTING GRASS COVER WHEREVER POSSIBLE. TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED TO BE STRIPPED AND STOCKPILED AT THE NOMINATED SITE. A SEDIMENT FENCE TO BE PLACED DOWNHILL OF STOCKPILE.
5. AREAS OF SITE REGRADING ARE TO BE COMPLETED PROGRESSIVELY DURING THE WORKS AND STABILISED AS EARLY AS POSSIBLE. THE SUPERVISING ENGINEER MAY DIRECT THE CONTRACTOR TO HAVE AREAS OF DISTURBANCE COMPLETED AND STABILISED DURING THE COURSE OF THE WORKS.
6. ALL DISTURBED AREAS ARE TO BE SEEDED & FERTILISED WITHIN 14 DAYS OF EXPOSURE.
7. ALL EXISTING TREES TO BE RETAINED UNLESS SHOWN OTHERWISE ON APPROVED DRAWINGS. TREES RETAINED ARE TO BE PROTECTED WITH A HIGH VISIBILITY FENCE, PLUS FLAGGING TO INDIVIDUAL TREES AS NECESSARY.
8. INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADEN WATER. UNTIL SURROUNDING AREAS ARE PAVED OR REGRASSED. GRAVEL OR GEOTEXTILE INLET FILTERS TO SD6-11 & SD6-12.
9. ALL SILT FENCES & BARRIERS ARE TO BE MAINTAINED IN GOOD ORDER & REGULARLY DESILTED DURING THE CONSTRUCTION PERIOD. SILT FENCES TO SD6-8 OR SD6-9.
10. STOCKPILES OF LOOSE MATERIALS SUCH AS SAND, SOIL, GRAVEL MUST BE COVERED WITH GEOTEXTILE SILT FENCE MATERIAL. PLASTIC SHEETING OR MEMBRANE MUST NOT BE USED. SAFETY BARRICADING SHOULD BE USED TO ISOLATE STOCKPILES OF SOLID MATERIALS SUCH AS STEEL REINFORCING, FORMWORK AND SCAFFOLDING.
11. WASTE MATERIALS ARE TO BE STOCKPILED OR LOADED INTO SKIP-BINS LOCATED ON SITE AS SHOWN ON PLAN.
12. NO MORE THAN 150m OF TRENCHING TO BE OPEN AT ANY ONE TIME. IMMEDIATELY AFTER TRENCH BACKFILLING, PROVIDE SANDBAGS OR SAUSAGE FILTERS ACROSS EACH TRENCH AT MAXIMUM 20m SPACINGS. FILTERS TO REMAIN IN PLACE UNTIL REVEGETATION HAS OCCURRED.
13. ALL VEHICLES LEAVING THE SITE MUST PASS OVER THE STABILISED SITE ACCESS BALLAST AREA (SIMILAR TO SD6-14) TO SHAKE OFF SITE CLAY AND SOIL. IF NECESSARY WHEELS AND AXLES ARE TO BE HOSED DOWN. BALLAST IS TO BE MAINTAINED & REPLACED AS NECESSARY DURING THE CONSTRUCTION PERIOD.
14. THE HEAD CONTRACTOR IS TO INFORM ALL SITE STAFF AND SUB-CONTRACTORS OF THEIR OBLIGATIONS UNDER THE EROSION AND SEDIMENT CONTROL PLAN.
15. ANY SEDIMENT DEPOSITED ON THE PUBLIC WAY, INCLUDING FOOTPATH RESERVE AND ROAD SURFACE, IS TO BE REMOVED IMMEDIATELY.
16. PROVIDE BARRIERS AROUND ALL CONSTRUCTION WORKS WITHIN THE FOOTPATH AREA TO PROVIDE SAFE ACCESS FOR PEDESTRIANS.
17. CONCRETE PUMPS AND CRANES ARE TO OPERATE FROM WITHIN THE BALLAST ENTRY DRIVEWAY AREA AND ARE NOT TO OPERATE FROM THE PUBLIC ROADWAY UNLESS SPECIFIC COUNCIL PERMISSION IS OBTAINED.
18. TRUCKS REMOVING EXCAVATED / DEMOLISHED MATERIAL SHOULD TRAVEL ON STABILISED CONSTRUCTION PATHS. MATERIAL TO BE TAKEN TO THE TRUCK TO REDUCE TRUCK MOVEMENT ON SITE. TRUCKS TO BE LIMITED TO SINGLE UNIT HEAVY RIGID VEHICLES. (NO SEMITRAILERS)
19. ANY EXCAVATION WORK ADJACENT TO ADJOINING PROPERTIES OR THE PUBLIC ROADWAY IS NOT TO BE COMMENCED UNTIL THE STRUCTURAL ENGINEER IS CONSULTED AND SPECIFIC INSTRUCTIONS RECEIVED FROM THE ENGINEER.
20. TOILET FACILITIES MUST BE EITHER A FLUSHING TYPE OR APPROVED PORTABLE CHEMICAL CLOSET. CHEMICAL CLOSETS ARE TO BE MAINTAINED & SERVICED ON A REGULAR BASIS SO THAT OFFENSIVE ODOUR IS NOT EMITTED.
21. DURING TRENCH EXCAVATION ALL SPOIL SHALL BE MOUNDED ON THE UPHILL SIDE OF TRENCHES AND PLACEMENT IS TO COMPLY WITH THE SUPERINTENDENTS REQUIREMENT.
22. DIVERSION BANKS SHOULD BE CONSTRUCTED BY MOUNDING STRIPPED TOPSOIL (MIN HEIGHT 600mm) WHERE DIRECTED. MATERIAL TO BE RESPREAD ON FOOTWAYS AFTER FINAL TRIMMING.
23. UNDISTURBED BUFFER ZONE AREAS ARE CLOSED TO ALL TRAFFIC MOVEMENTS UNLESS OTHERWISE NOTED BY THE SUPERINTENDENT AND ACCESS TO THE SEWER OR C.D.L. TRENCHING WILL BE AS SHOWN, OR HEAVY PENALTIES MAY BE IMPOSED.
24. TRAFFIC MANAGEMENT MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION. IN ACCORDANCE WITH 'R.T.A. TRAFFIC CONTROL AT WORK SITES - CURRENT EDITION' AND AS 1742 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.'
25. PEDESTRIAN CONTROL MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION. IN ACCORDANCE WITH AS 1742 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.'

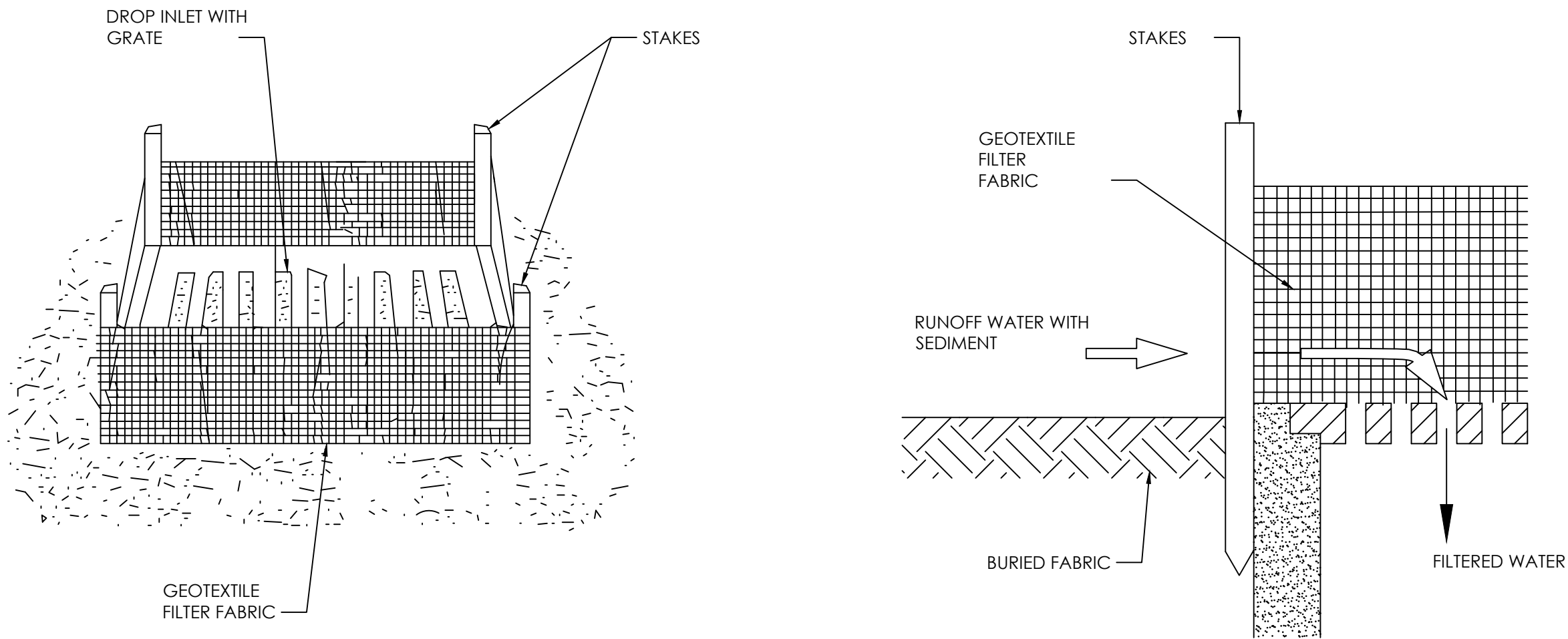
ENVIRONMENTAL SITE MANAGEMENT LEGEND

- PROPOSED BUILDING LINE
- PROPRIETARY SILT FENCE
- PROVIDE TEMPORARY CHAIN WIRE FENCING (HOARDING) ALONG THE SITE BOUNDARY.
- TEMPORARY STABILISED CONSTRUCTION ENTRY/EXIT. (SHAKER PAD)
- TEMPORARY FILTER TUBE WITH SAFETY BARRICADE TO KERB INLET PITS. NOMINATED DISPOSAL ROUTE FOR TRUCK MATERIAL TRANSPORTATION.
- TEMPORARY MASS CONCRETE FOOTPATH CROSSING.
- UNDISTURBED NON-TRAFFICABLE AREA
- DIVERSION BANK
- SURFACE INLET DRAINAGE PIT WITH SURROUNDING FILTER FABRIC INLET SEDIMENT TRAP OR FILTER TUBES (SANDBAGS)
- TEMPORARY GEOTEXTILE WRAPPED HAY BALES/SANDBAGS
- STOCK MATERIALS
- SITE EQUIPMENT LOCATIONS

SAFETY IN DESIGN

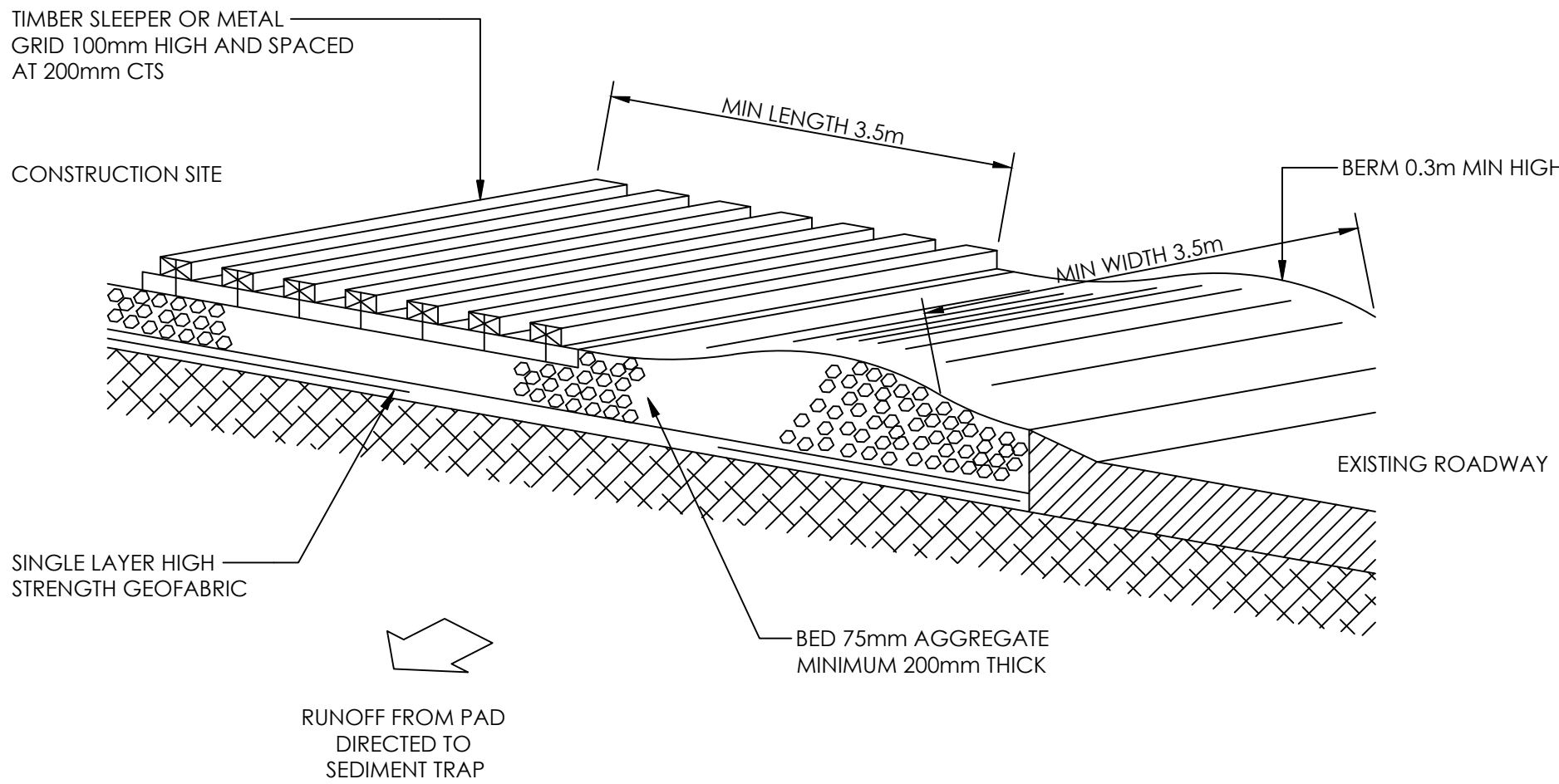
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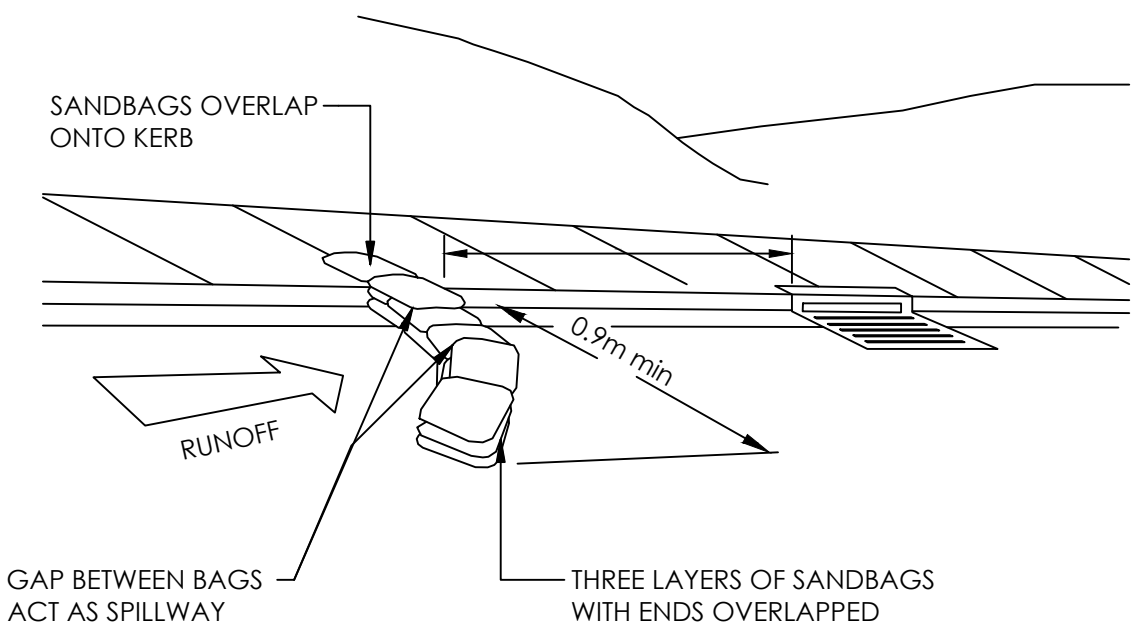


GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP DETAIL

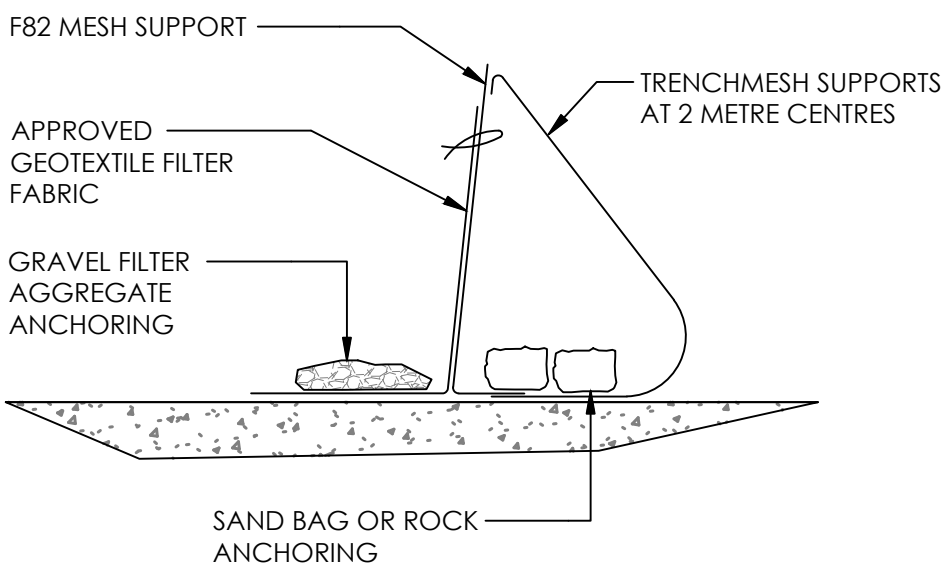
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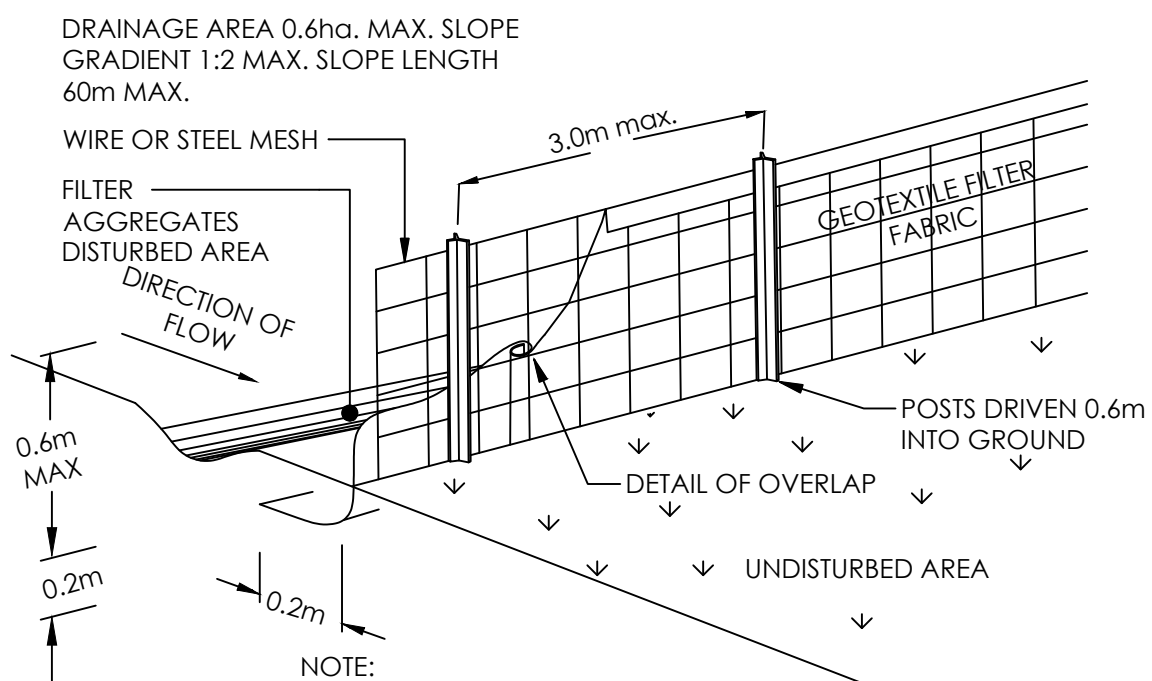
TEMPORARY CONSTRUCTION EXIT DETAIL - SHAKER



SANDBAG SEDIMENT TRAP DETAIL



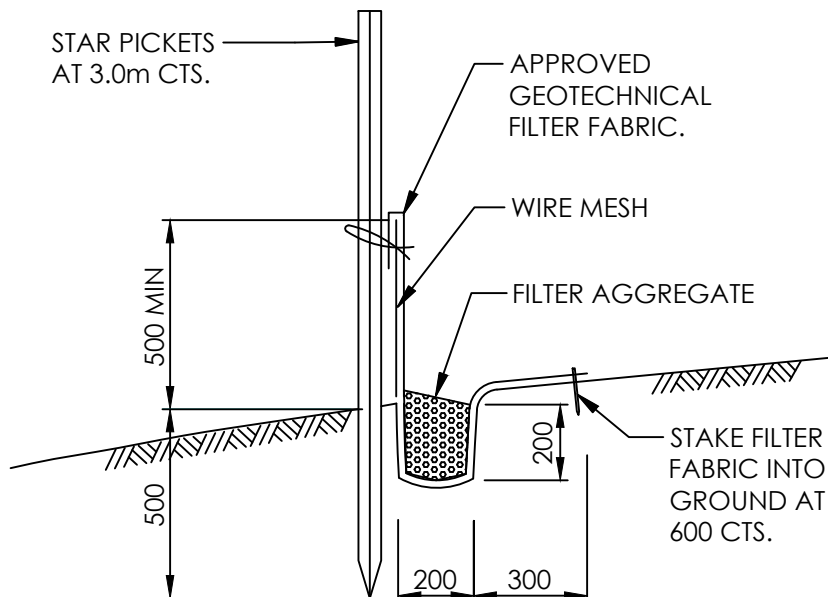
SEDIMENT FENCE - ALTERNATIVE



NOTE: DRAINAGE AREA 0.6HA. MAX. SLOPE GRADIENT 1:2 MAX. SLOPE LENGTH 60M MAX.

SEDIMENT FENCE

- GENERAL CONSTRUCTION NOTES
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
 2. DRIVE 1.5m LONG STAR PICKETS IN GROUND 3m APART.
 3. DIG A 200mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE FABRIC TO BE ENTRENCHED.
 4. BACKFILL TRENCH OVER BASE OF FABRIC.
 5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
 6. JOIN SECTIONS OF FABRIC AT A SUPPORT WITH A 150m OVERLAP.



SILT FENCE DETAIL

SEDIMENT SILT FENCE DETAIL

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DESIGN	LM
DATE	06/12/2024
SIZE	A1
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CIVIL SKETCH

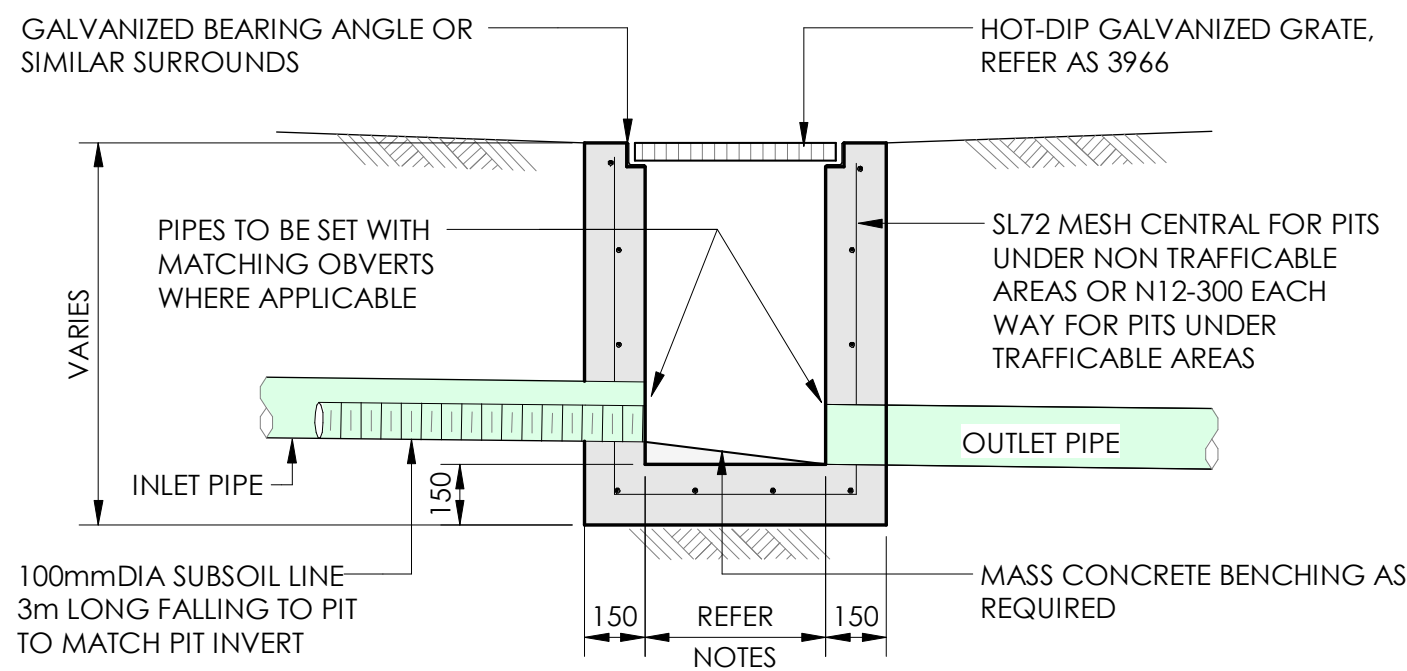
EROSION & SEDIMENT CONTROL DETAILS

RESIDENTIAL DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St, Fairfield NSW 2165

BLUECHP

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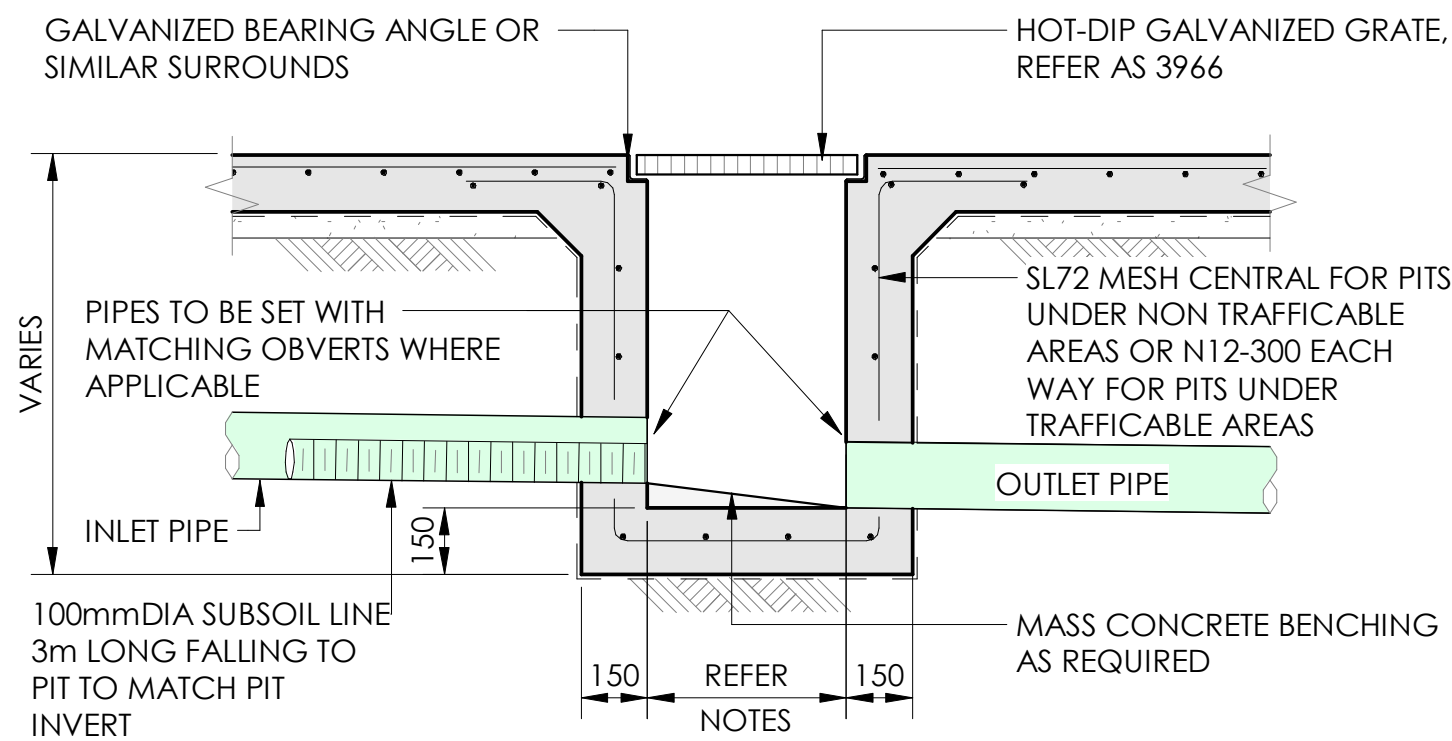


MINIMUM INTERNAL DIMENSIONS FOR STORMWATER PITS			
DEPTH OF INVERT OF OUTLET		DEPTH OF INVERT OF OUTLET	
		WIDTH	LENGTH
< 600		450	450
> 600		600	600
> 900		600	900
> 1200		900	900

*STEP IRONS SHALL BE PROVIDED FOR PITS WITH DEPTHS EXCEEDING 1000mm

- NOTE:
1. CLIMB IRONS SHALL BE PROVIDED UNDER LID AT 300 CTS TO COUNCIL STANDARDS WHERE PIT DEPTH IS DEEPER THAN 1000.
 2. PROVIDE 100Dia x 3000 LONG SUBSOIL DRAINAGE STUB PIPE SURROUNDED WITH 100mm THICKNESS OF NOMINAL 20mm COARSE FILTER MATERIAL WRAPPED IN GEOTEXTILE FILTER FABRIC. (BIDUM A24 OR APPROVED SIMILAR). TO BE PARALLEL TO UPSTREAM SIDE OF EACH INLET PIPE.
 4. ALTERNATIVE PIT CONSTRUCTION MAY BE USED SUBJECT TO THE ENGINEERS APPROVAL.
 5. CONCRETE STRENGTH $F_c = 32 \text{ MPa}$

TYPICAL CONCRETE INLET PIT - NATURAL SURFACE

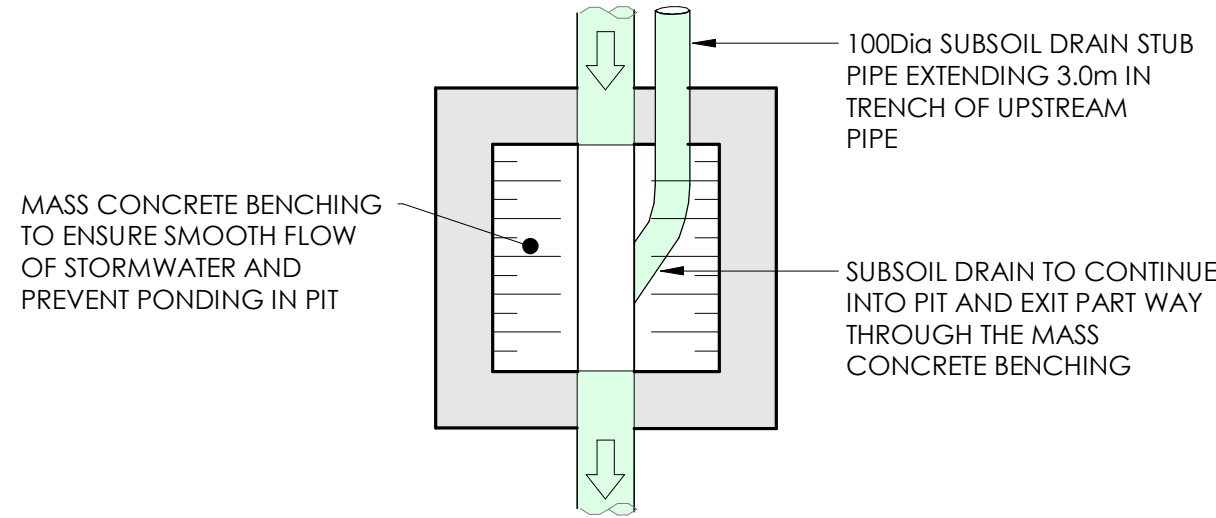


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> 1200		900	900

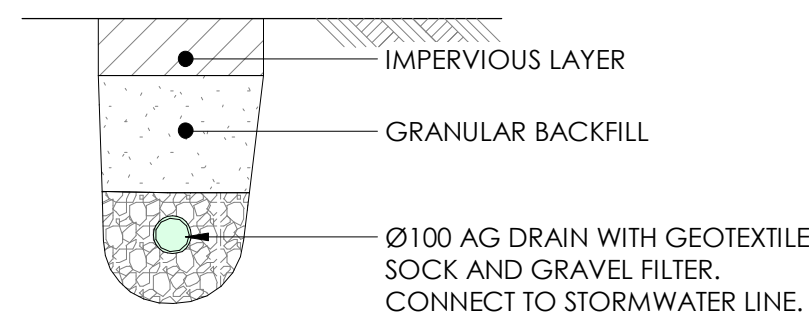
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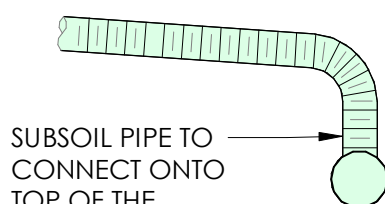
TYPICAL CONCRETE INLET PIT - CONCRETE SURFACE



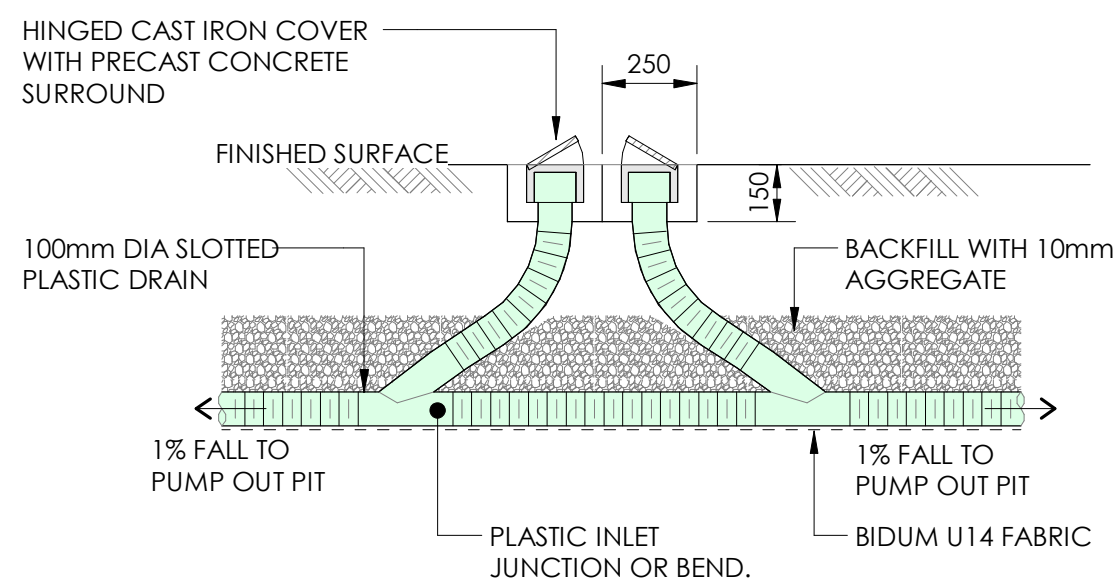
TYPICAL SUBSOIL PIPE/PIT BENCHING



TYPICAL SUBSOIL LINE

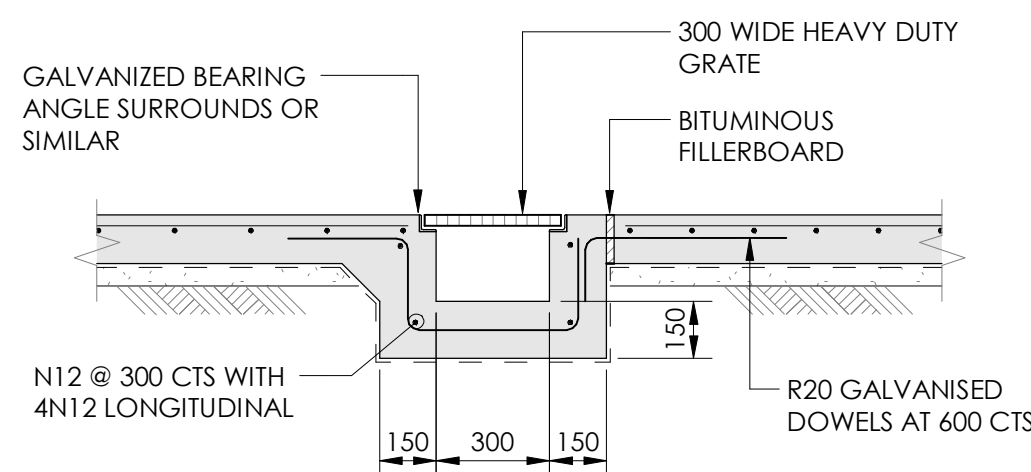


SUBSOIL PIPE CONNECTION

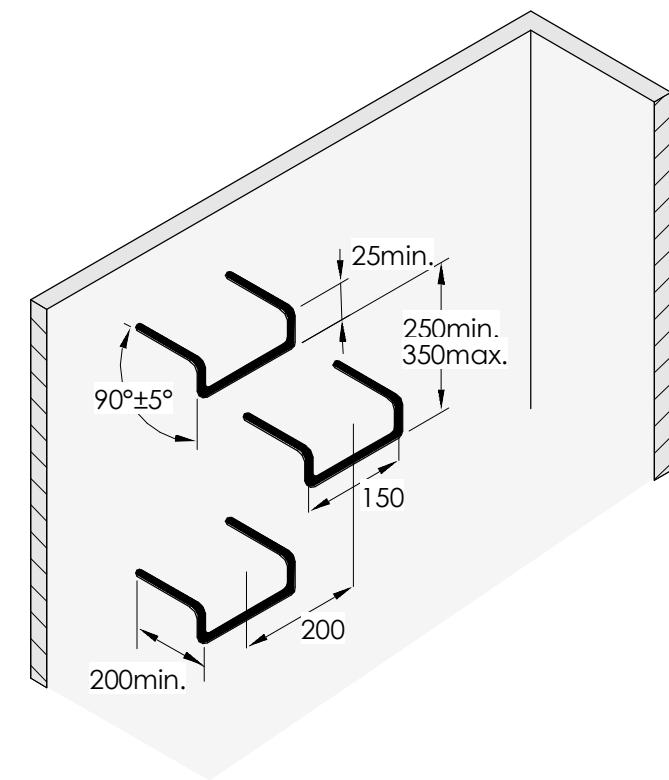


- NOTES:
- MINIMUM GRADE OF SUBSOIL DRAINAGE PIPES IS TO BE 1.0%. JOINTS IN FILTER FABRIC TO BE LAPPED A MINIMUM 300mm.

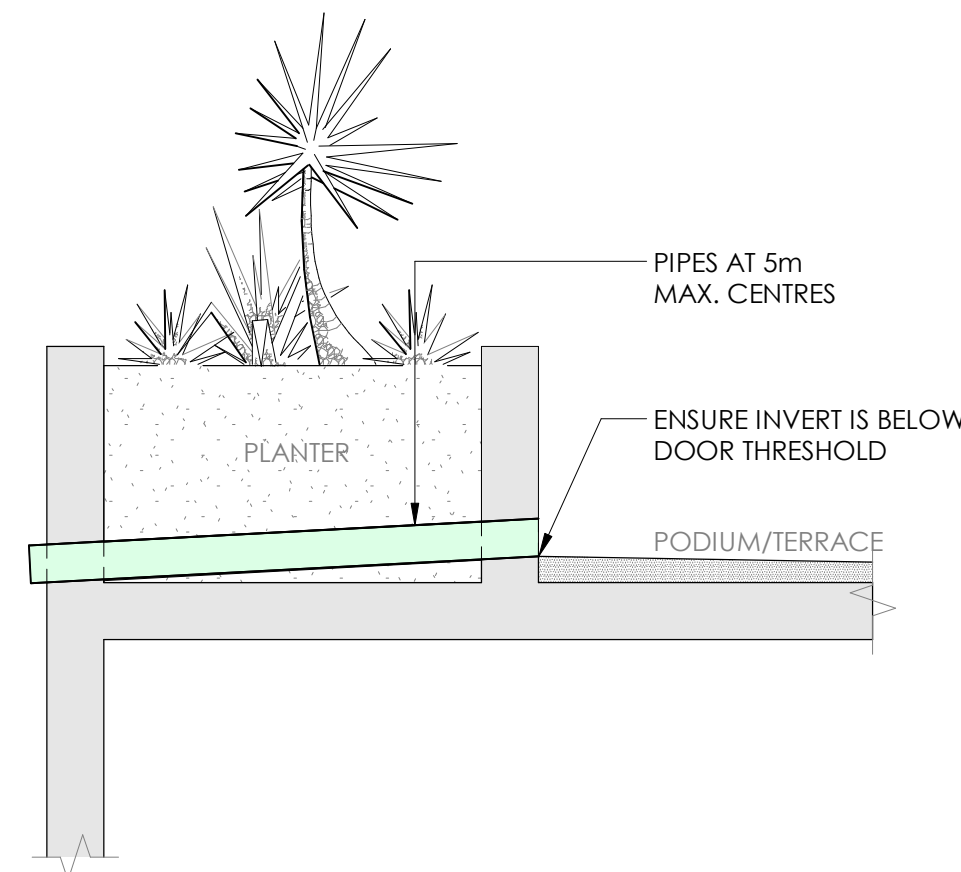
SUBSOIL PIPE FLUSHING POINT



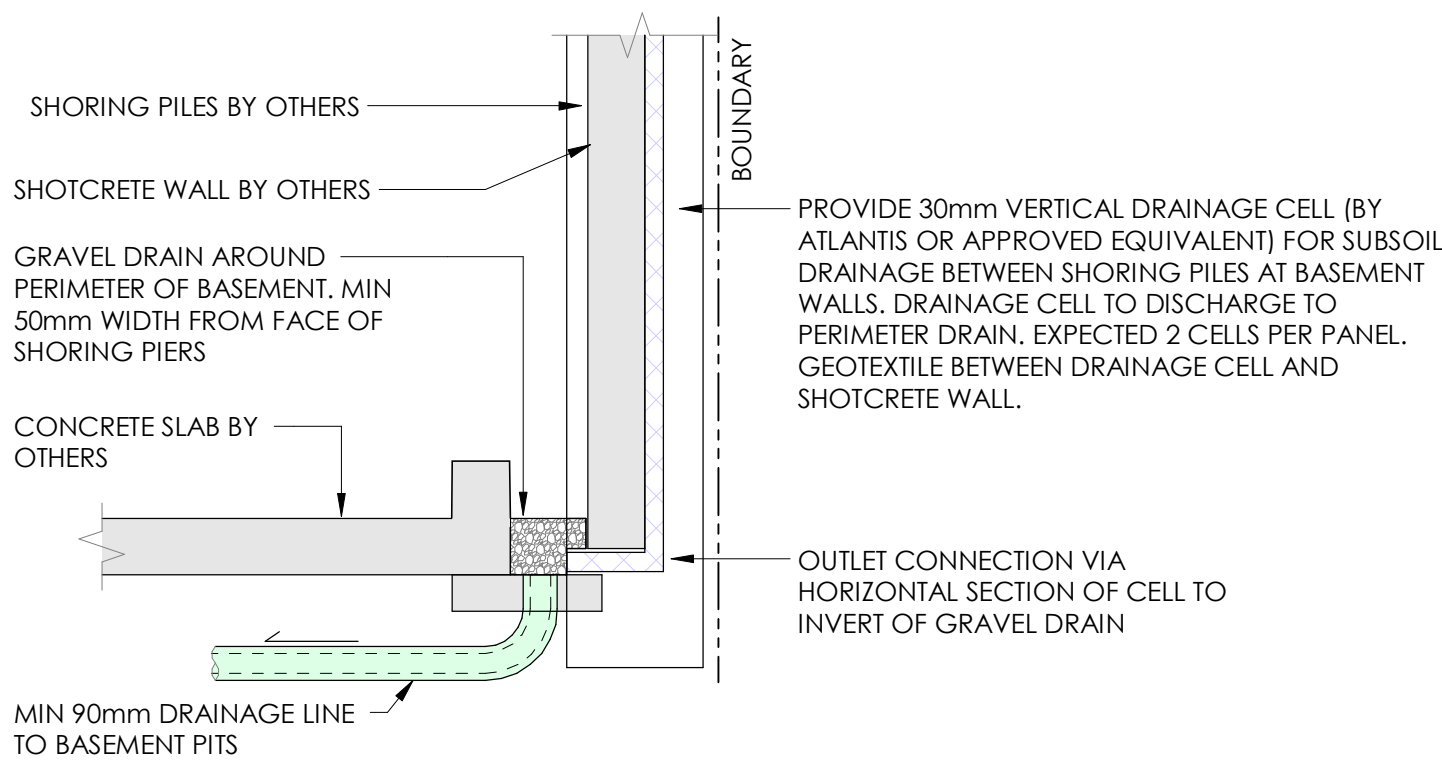
TYPICAL 300mm GRATED DRAIN DETAIL



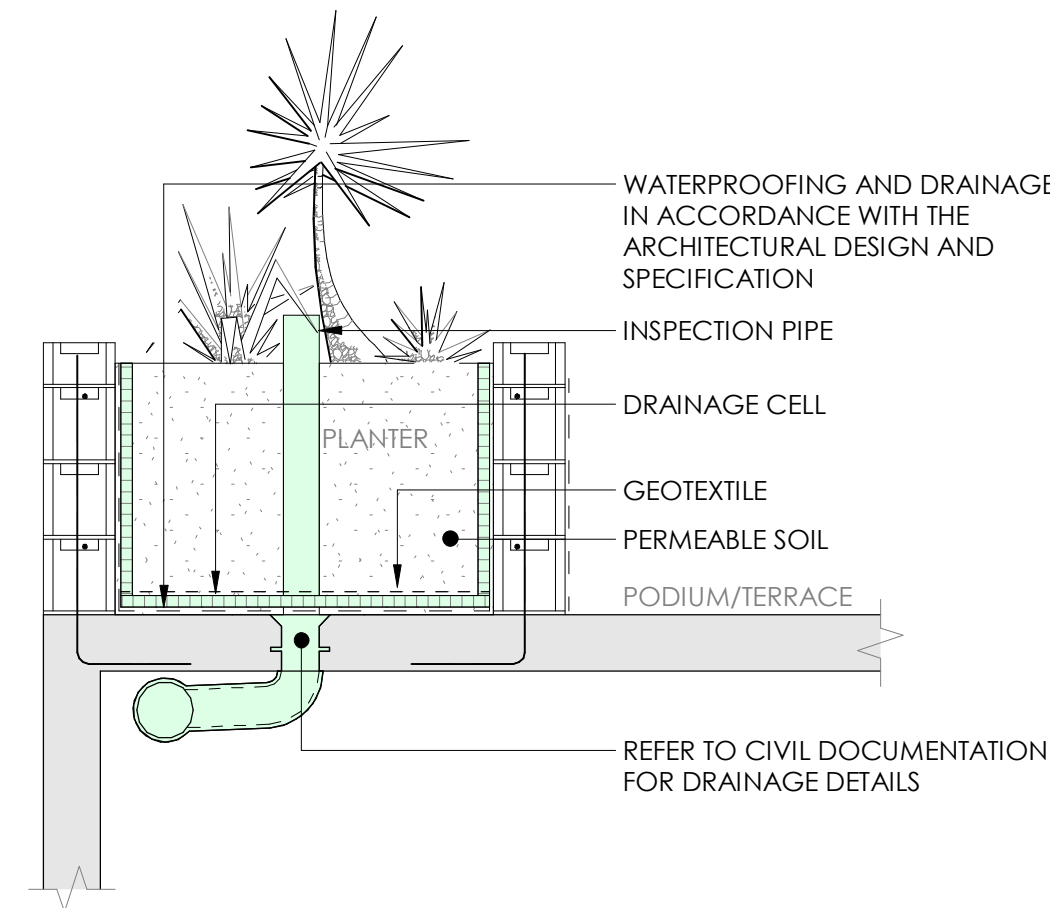
STEP IRON DETAIL



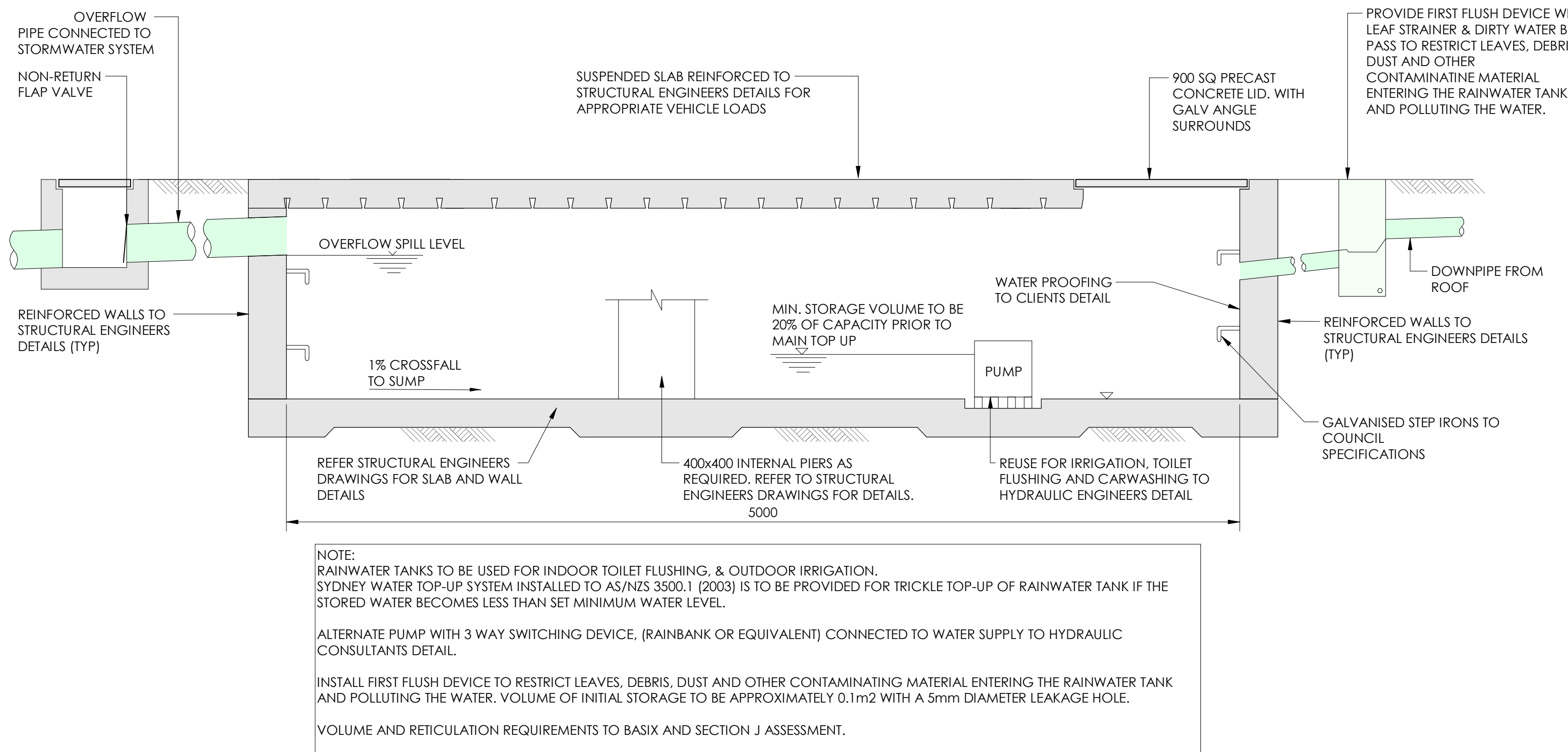
TYPICAL PLANTER OVERFLOW DETAIL



TYPICAL PERIMETER DRAIN DETAIL



TYPICAL PLANTER DRAINAGE DETAIL



RAINWATER TANK (RWT) - UNDERGROUND BLOCKWORK

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CIVIL SKETCH

STORMWATER DETAILS
SHEET 1

RESIDENTIAL
DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165

BLUECHP

N0230324
CSK051 E

4.4. CONTROLS

The following permissible site discharge (PSD) and site storage requirements (SSR) need to be satisfied by the OSD system.

4.4.1. URBAN ZONE

- Maximum PSD of 140 l/sec/ha for the 9 hour 100 year ARI for the total site AND
- Maximum PSD of pre-developed site discharge for the 5, 15, 30, 60, 90, 120 and 540-minute duration storms for the 5 and 100 year ARIs for the total site

SITE AREA = 0.141 HA

MAXIMUM PSD = 0.141 HA x 140 L/S/HA = 19.8 L/S FOR 9 HOUR 100 YEAR ARI

SEE DRAINS MODEL EXCERPTS AND STORMWATER NOTES FOR SUMMARY OF CALCULATIONS

4.5. DESIGN CONSIDERATIONS

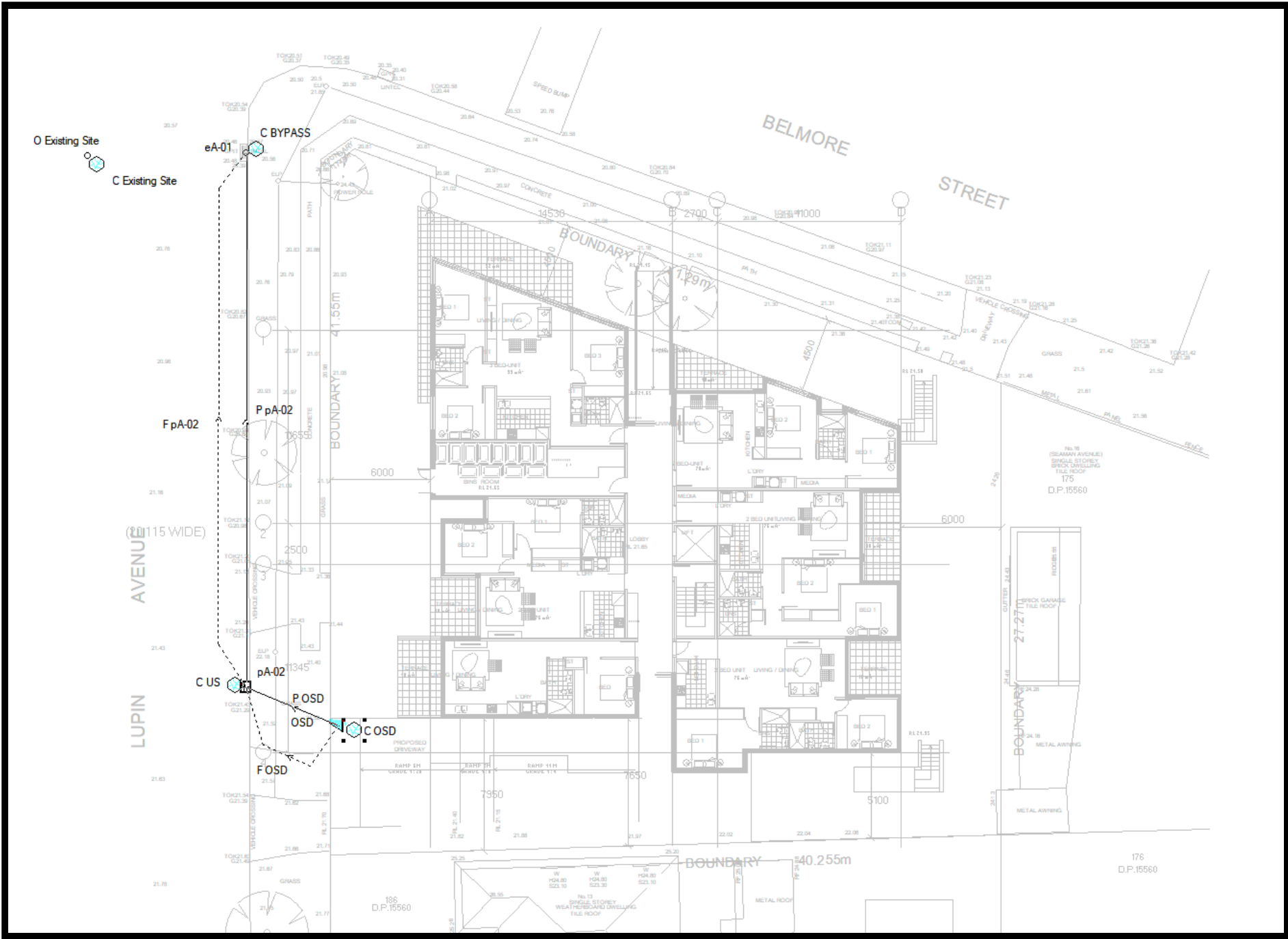
The following general requirements also apply in the design of OSD systems;

- OSD needs to be considered and incorporated into a development as early as possible to ensure a holistic and economical design. The entire site drainage system needs to be considered during the design of a development to ensure that all runoff from impervious surfaces (roofs, gutters, paved yard areas and driveways, etc) is designed to flow into the OSD facility. In addition, a deliberate overland flow path must be created to convey these flows to the facility in the event of blockage or overload, free of obstructions such as fences, buildings, etc.
- The OSD design shall be completed by a professional engineer registered, or eligible for registration, with the National Engineering Register in Civil or Environmental Engineering, specialised in stormwater design.
- The OSD system should be located prior to the point of discharge, generally in the lowest point of the site and located in a common area to facilitate access. This can possibly include a car park, open space area or even roof top areas where no underground storage is possible.
- The OSD storage shall be designed such that run-off in small frequent storms is stored where minimal inconvenience results. In larger storm events, the additional run-off may be stored aboveground in landscaped areas, car parks or driveways where it will cause some inconvenience.

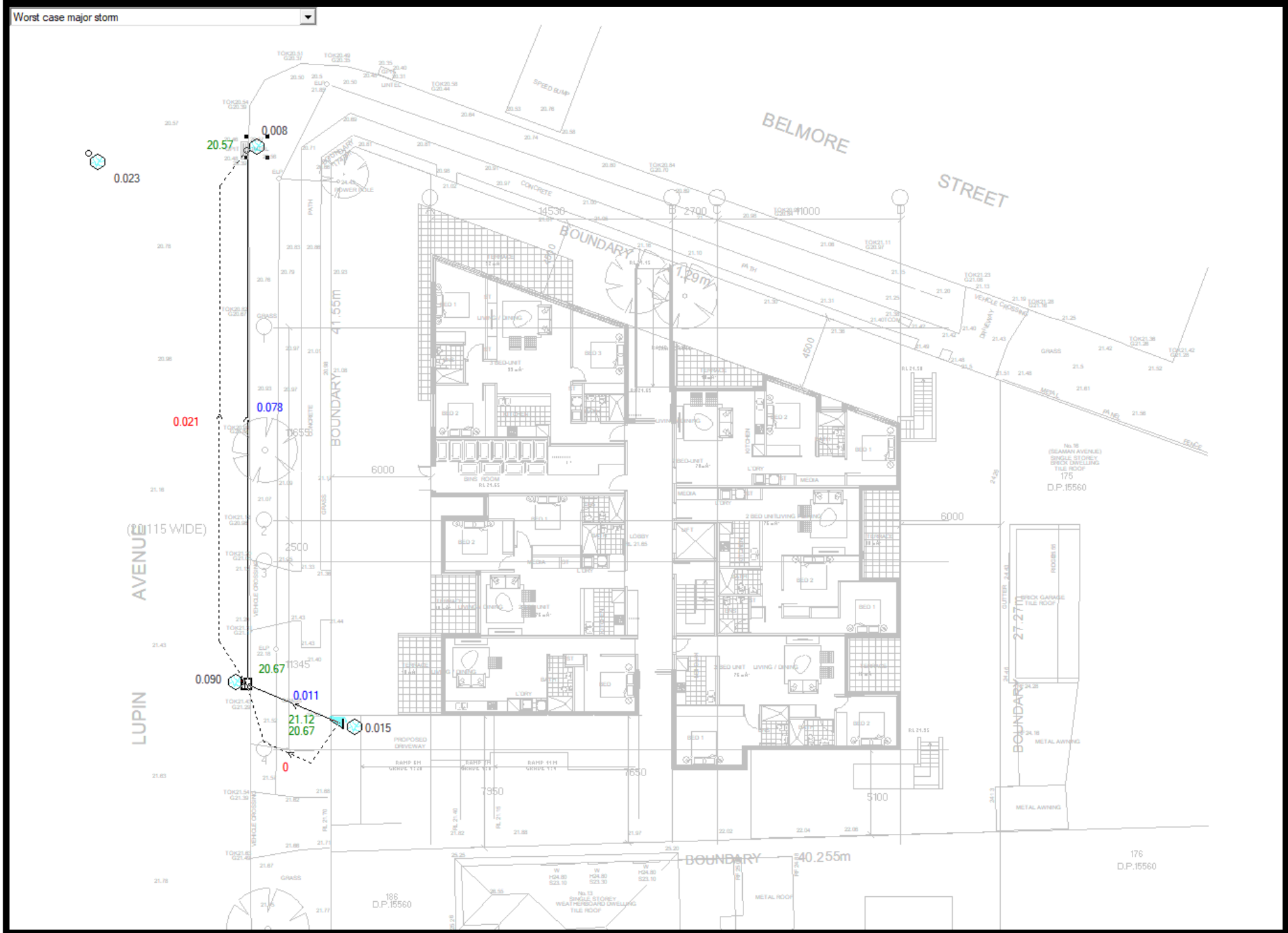
OSD IS PROPOSED IN THE TOP OF THE COMMUNAL DRIVEWAY. THE TOPOGRAPHICALLY LOWER CORNER OF THE SITE (RL ~20.80) IS MARGINALLY ABOVE THE ADOPTED TAILWATER LEVEL OF TOP OF KERB AT THE DISCHARGE PIT (RL 20.57), SUBSEQUENTLY IT IS IMPRACTICAL TO PROVIDE INGROUND OSD VOLUME AT THESE LEVELS.

WSUD
EXEMPT AS SITE IS WITHING 'URBAN ZONE' AS PER FIGURE 8 OF FAIRFIELD CITY COUNCIL STORMWATER MANAGEMENT POLICY (SEPTEMBER 2017)

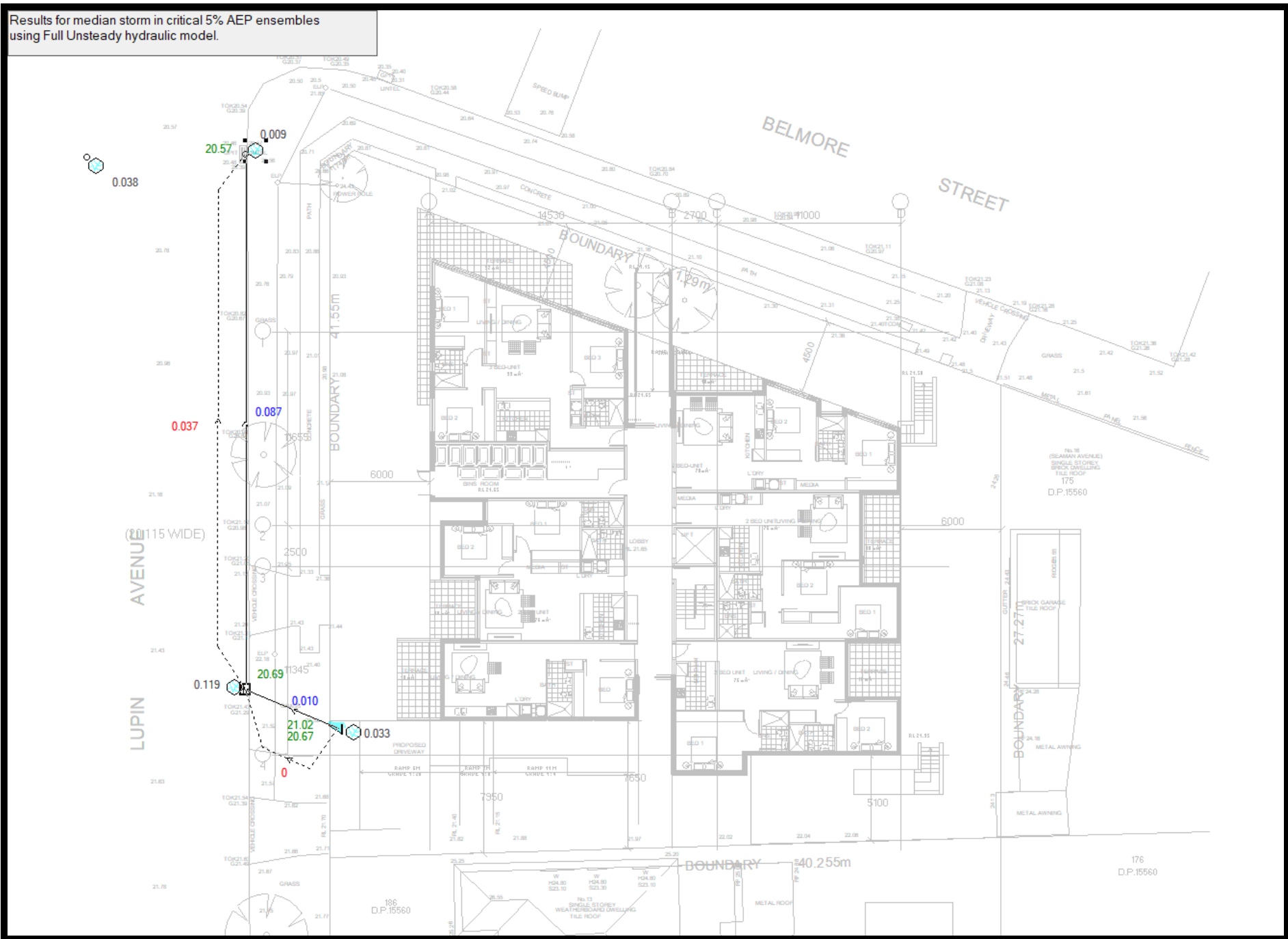
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DRAINS MODEL SETUP

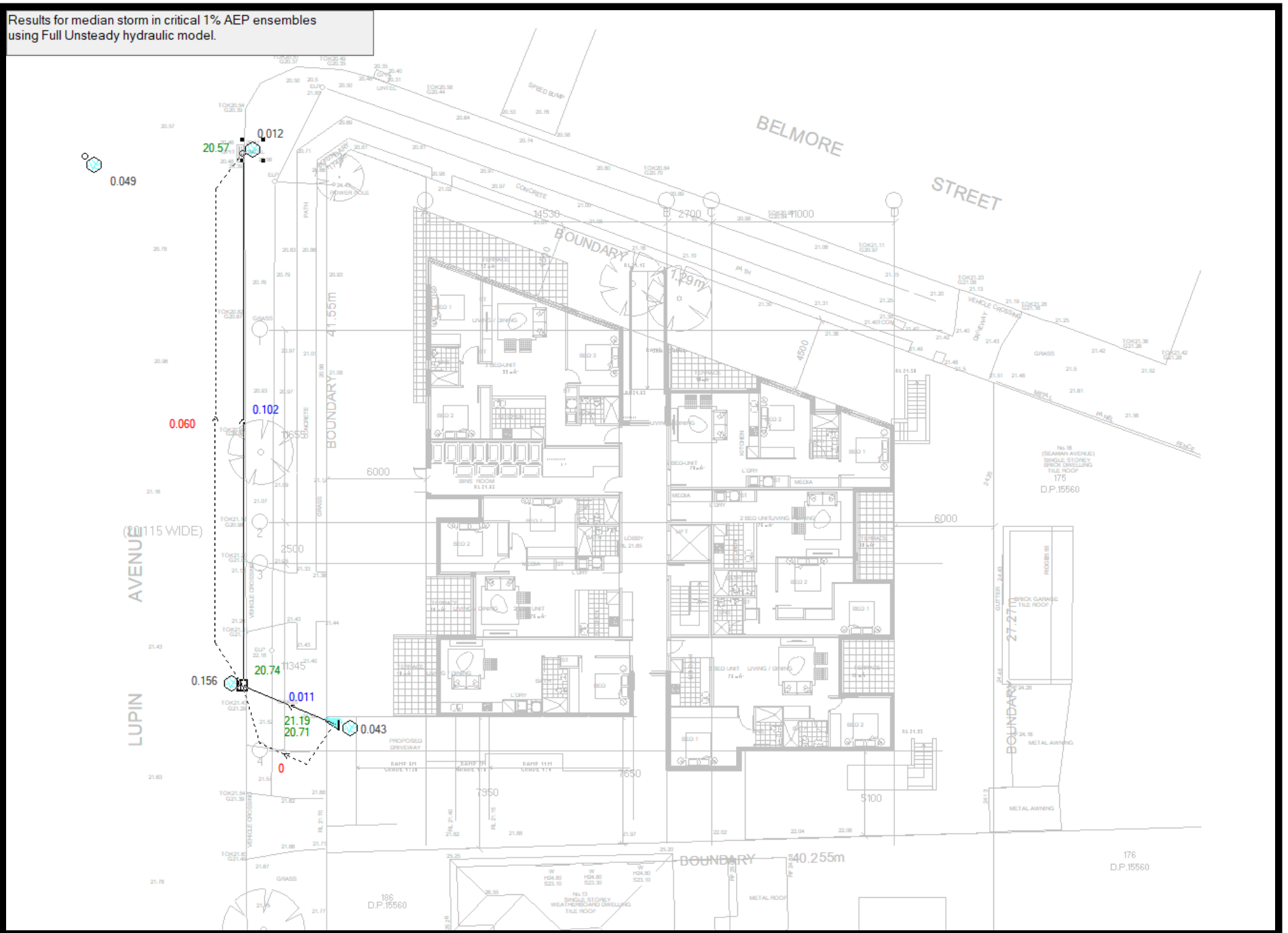


DRAINS RESULTS - WORST CASE 9 HOUR 1% AEP
OSD DISCHARGE + BYPASS = 11 + 8 = 19 L/S



DRAINS RESULTS - WORST CASE 5, 15, 30, 60, 90, 120, 540 MINUTE 5% AEP
EXISTING CATCHMENT DISCHARGE = 38 L/S

OSD DISCHARGE + BYPASS = 10 + 9 = 19 L/S



DRAINS RESULTS - WORST CASE 5, 15, 30, 60, 90, 120, 540 MINUTE 1% AEP
EXISTING CATCHMENT DISCHARGE = 49 L/S

OSD DISCHARGE + BYPASS = 11 + 12 = 23 L/S

STORMWATER NOTES
TAILWATER LEVEL (TWL) FOR ALL STORMS
ADOPTED AS TOP OF KERB AT DISCHARGE PIT
I.E. RL 20.57

ANNUAL EXCEEDANCE PROBABILITY (AEP)
ADOPTED IN LIEU OF AVERAGE RECURRENCE
INTERVAL (ARI) AS PER CURRENT GUIDELINES,
AUSTRALIAN RAINFALL AND RUNOFF 2019
(ARR2019)

OSD NOTES
OSD IL 19.551
ORIFICE (Ø85) CENTRE RL 19.593
OSD SOFFIT RL ~21.270
OSD VOLUME TO SOFFIT 65.8 M3
OSD GL 21.54

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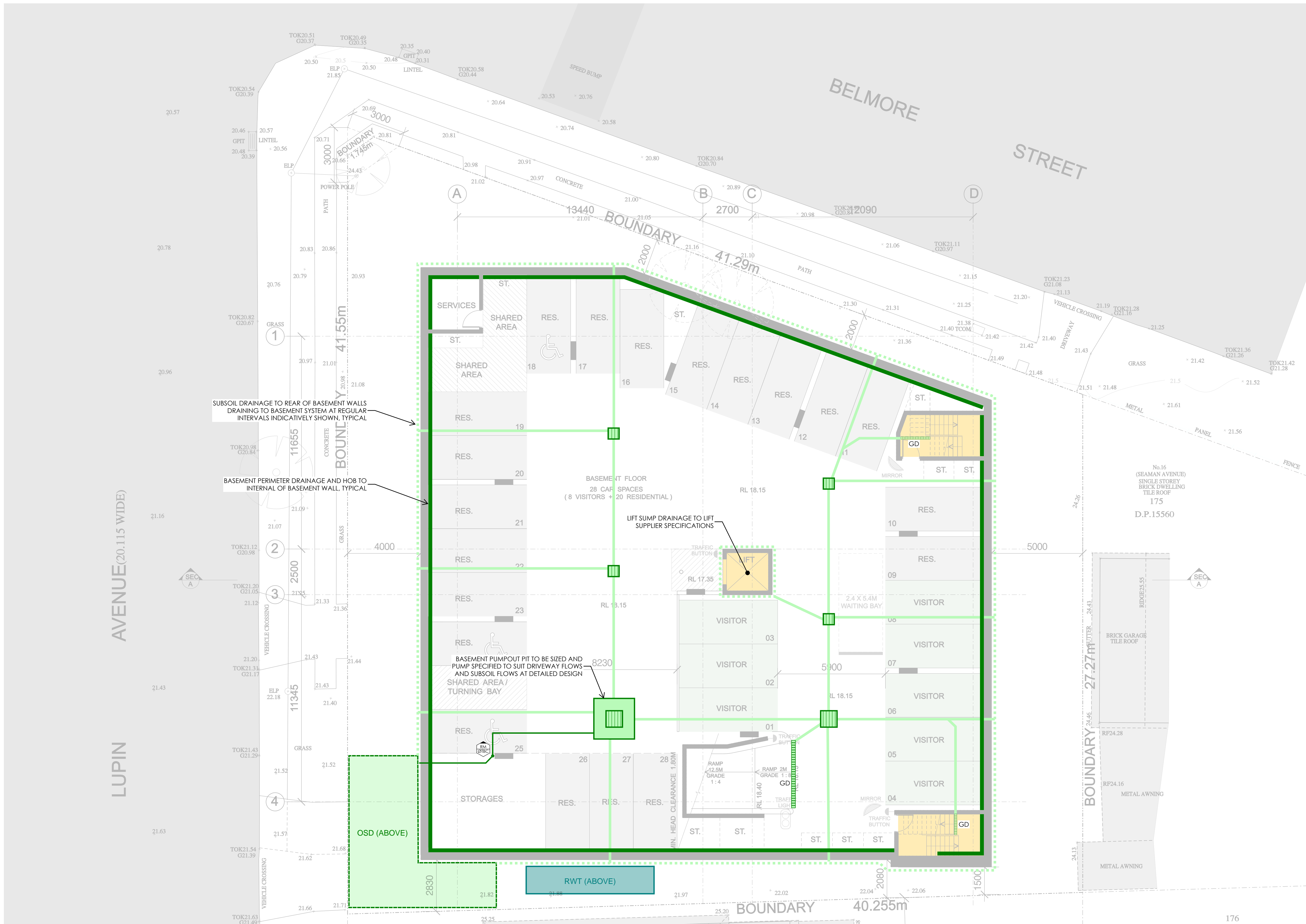
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CIVIL SKETCH
STORMWATER
BASEMENT PLAN

**RESIDENTIAL
DEVELOPMENT**
15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165
BLUECHP

**N0230324
CSK100 E**



NOTES:
PLANTER OUTLETS, OVERFLOWS AND SUBSOIL NOT SHOWN, TO BE COORDINATED AT DETAILED DESIGN
LANDSCAPE AREA TO BE PROVIDED WITH SUBSOIL DRAINAGE DIRECTED TO LOCAL DOWNSTREAM PITS
HARDSCAPE GENERALLY TO FALL AWAY FROM INTERNALS AT MIN. 1:80
SOFTSCAPE TO GENERALLY FALL AWAY FROM INTERNALS AT MIN. 1:50

EXISTING PIT
GL 20.42 (SURVEY)
IL 19.15 (MEASURED DEPTH)
TOP OF KERB 20.57
(ADOPTED TAILWATER LEVEL)

NOTABLE EXISTING SEWER FROM DBYD TO BE COORDINATED WITH HYDRAULIC CONSULTANT TO CONFIRM ASSUMED REROUTING TO SUIT ADDITION OF BASEMENT (APPROX. LOCATION INDICATIVELY MARKED)

EXISTING VERGE TREE

GL 21.27 (SURVEY)
IL 19.493 (LOWEST ACHIEVABLE AT 1% FROM DS)

UPVC Ø225
@ 0.5% MIN.

OSD
GL 21.540
IL 19.551
TWL 21.120

GRATES TO HAVE RISER TO GRADE
OUT SWALE TO BOUNDARY

RWT
GL 21.950
SOFFIT 21.350
IL 19.500
OVERFLOW AT IL 21.000

MAIN ROOFWATER TO CONNECT TO RWT
FOR IRRIGATION RE-USE AS PER BASIX

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CIVIL SKETCH
STORMWATER
GROUND FLOOR PLAN

RESIDENTIAL
DEVELOPMENT
15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165
BLUECHP

N0230324
CSK101 E

NOTES:
HARDSCAPE GENERALLY TO FALL AWAY FROM
INTERALS AT MIN. 1:80



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CIVIL SKETCH

STORMWATER
LEVEL 1 PLAN

**RESIDENTIAL
DEVELOPMENT**
15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165
BLUECHP

N0230324
CSK102 E

NOTES:
HARDSCAPE GENERALLY TO FALL AWAY FROM
INTERALS AT MIN. 1:80



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Responsive Engineering

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CIVIL SKETCH

STORMWATER
LEVEL 2 PLAN

RESIDENTIAL
DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165

BLUECHP

N0230324

CSK103 E

NOTES:
HARDSCAPE GENERALLY TO FALL AWAY FROM
INTERALS AT MIN. 1:80



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CIVIL SKETCH

STORMWATER
LEVEL 3 PLAN

RESIDENTIAL
DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165

BLUECHP

N0230324
CSK104 E

NOTES:
HARDSCAPE GENERALLY TO FALL AWAY FROM
INTERALS AT MIN. 1:80



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CIVIL SKETCH

STORMWATER
LEVEL 4 PLAN

RESIDENTIAL
DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165

BLUECHP

N0230324
CSK105 E

NOTES:
HARDSCAPE GENERALLY TO FALL AWAY FROM
INTERALS AT MIN. 1:80



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CIVIL SKETCH

STORMWATER
LEVEL 5 PLAN

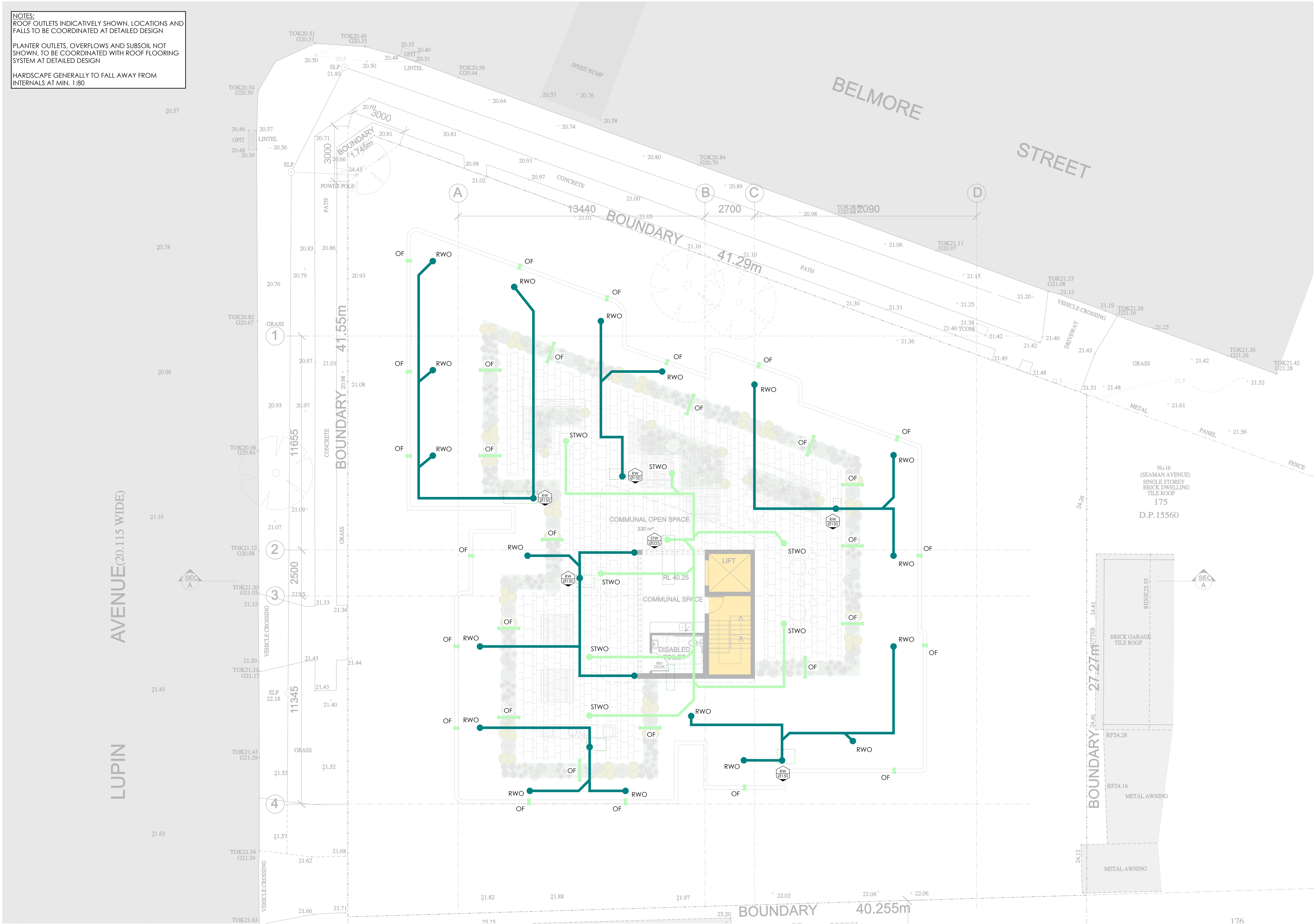
RESIDENTIAL
DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165

BLUECHP

N0230324
CSK106 E

NOTES:
ROOF OUTLETS INDICATIVELY SHOWN. LOCATIONS AND FALLS TO BE COORDINATED AT DETAILED DESIGN
PLANTER OUTLETS, OVERFLOWS AND SUBSOIL NOT SHOWN, TO BE COORDINATED WITH ROOF FLOORING SYSTEM AT DETAILED DESIGN
HARDSCAPE GENERALLY TO FALL AWAY FROM INTERALS AT MIN. 1:80



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CIVIL SKETCH

STORMWATER
ROOF PLAN

RESIDENTIAL
DEVELOPMENT

15-17 Lupin Ave & 82 Belmore St,
Fairfield NSW 2165

BLUECHP

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CSK107 E