

NOT FOR CONSTRUCTION

NOTES:

- 1. U.N.O REFER TO THE COVERPAGE CP100 SERIES FOR DETAILED NOTES AND CALCULATIONS.
2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

EARTHWORKS NOTES:

- 1. ORIGIN OF LEVELS: REFER TO SURVEYORS DRAWINGS
2. STRIP ALL TOPSOIL / ORGANIC MATERIAL (50mm NOMINAL) FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.
3. EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.
4. WHERE REQUIRED, COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:
LOCATION STANDARD DRY DENSITY (AS 1289 E 5.1.1.)
UNDER BUILDING SLABS ON GROUND 98 - 102%
UNDER ROADS, FOOTWAYS AND CARPARKS 98 - 102%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE 98 - 102%

- 5. BEFORE PLACING FILL, PROOF ROLL NON-EXPOSED SUBGRADE WITH A 12 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
6. FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN: -
(a) 1 TEST PER 200m^2 OF FILL PLACED PER 150mm LAYER OF FILL
OR
(b) 3 TESTS PER LAYER
OR
(c) 1 TEST PER 1,000m^2 OF EXPOSED SUBGRADE

- WHICHEVER REQUIRES THE MOST TESTS. TESTING SHALL BE "LEVEL 1" TESTING IN ACCORDANCE WITH AS 3798-2007 U.N.O BY COUNCIL OR THE GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA).
7. ALL TESTING OF EARTHWORKS SHALL BE DONE AT THE CONTRACTORS EXPENSE U.N.O.
8. SHALL A SUB-GRADE PROOF ROLL INSPECTION FAIL, OR ADDITIONAL INSPECTIONS BE REQUIRED FOR ANY OTHER REASON, THE CONTRACTOR WILL WEAR THE COSTS OF ANY SUBSEQUENT RE-INSPECTIONS U.N.O.
9. FILLING TO BE PLACED AND COMPACTED IN MAXIMUM 200mm LAYERS TO GEOTECHNICAL APPROVAL.
10. AFTER CLEARING, GRUBBING AND STRIPPING, NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED. WEAK SOILS ARE TO BE REMOVED AND REPLACED WITH COMPACTED FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
11. WHERE GROUNDWATER DISCHARGE OCCURS IN BULK EXCAVATIONS OR CUT FACES, SUBSOIL DRAINAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE SITE SUPERINTENDENT / GEOTECHNICAL ENGINEERS INSTRUCTIONS TO DIRECT DISCHARGE WATER TO THE NEAREST STORMWATER / SEDIMENTATION CONTROL DEVICE. THE SUBSOIL DRAINAGE MUST BE INSTALLED AS SOON AS PRACTICALLY POSSIBLE AFTER EXCAVATION. SUBSOIL DRAINAGE SHALL ALSO BE INSTALLED AT LOW POINTS IN THE FINISHED EARTHWORK PROFILE IN ACCORDANCE WITH THE SITE SUPERINTENDENT / GEOTECHNICAL ENGINEERS INSTRUCTIONS.
12. ENSURE TEMPORARY DIVERSION CHANNELS ARE CONSTRUCTED AROUND STOCKPILED MATERIALS AND DISTURBED AREAS GENERALLY AS DETAILED.
13. THE CONTRACTOR SHALL ALLOW FOR AND COORDINATE ALL MONITORING AND MAINTENANCE REQUIREMENTS IN RELATION TO SOIL AND GROUNDWATER CONDITIONS DURING CONSTRUCTION.
14. CIVIL CONTRACTOR IS RESPONSIBLE FOR CALCULATING BULK EARTHWORKS VOLUMES AND MUST CONFIRM QUANTITIES PRIOR TO CONSTRUCTION. BULK EARTHWORKS ARE ESTIMATED & ASSUMED ONLY, NO DETAILED DESIGN HAS BEEN UNDERTAKEN U.N.O.
15. ANY DAMAGE TO EXISTING ROADWAYS OR SERVICES WILL BE RECTIFIED BY THE CONTRACTOR AS HIS EXPENSE.
16. ALL ENVIRONMENTAL MEASURE INCLUDING VEGETATION PROTECTION AND EROSION AND SEDIMENT CONTROL SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY WORK. ALL REMOVAL AND WORKS ASSOCIATED WITH VEGETATION MUST BE IN ACCORDANCE WITH THE COUNCIL APPROVED ARBORISIT REPORT.
17. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE SITE WORKS DO NOT COMPROMISE / UNDERMINE OR PLACE ADDITIONAL SURCHARGE ON AN EXISTING STRUCTURES.
18. BATTER ANGLES MUST COMPLY WITH LOCAL AUTHORITY REQUIREMENTS AND SHALL BE PROTECTED FROM EROSION. FILL BATTERS SHOULD BE OVERFILLED BY NOT LESS THAN 0.5m, THEN CUT BACK TO PROFILE.
19. EARTHWORKS EXTENT SHOWN IS FOR THE PROPOSED DEVELOPMENT AREA ONLY.
20. FOLLOWING THE INSPECTION OF SUBGRADE, THE ENGINEER (OR COUNCIL ENGINEER) MAY REQUIRE THE CONSTRUCTION OF SUB SOIL DRAINS (TO COUNCIL/ENGINEERS SPECIFICATIONS) TO DISCHARGE TO APPROVED OUTLETS AS DETERMINED ONSITE.
21. IMPORTED FILL MUST HAVE A SOAKED CBR NOT LESS THAN 15%, AND A MAXIMUM AGGREGATE SIZE NOT GREATER THAN 50mm, MAXIMUM LIQUID LIMIT = 40; MAXIMUM P.I. = 15; MAXIMUM P.I. x % PASSING 425um = 450.
22. FILL UNDER BUILDING PLATFORMS TO BE CONTROLLED FILL PLACED IN ACCORDANCE WITH AS3798 & AS2870.
23. FILL NOT UNDER BUILDING PLATFORMS OR ROAD PAVEMENTS TO BE COMPACTED IN LAYERS NOT EXCEEDING 300mm & 95% STANDARD MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS1289.
24. FILL BATTERS SHOULD BE OVERFILLED BY NOT LESS THAN 0.5m, THEN CUT BACK TO PROFILE.
25. BACK FILLING FOR SERVICE TRENCHES SHOULD USE GOOD QUALITY MATERIAL FREE OF ORGANIC MATERIAL. THE BACK FILL SHOULD BE PLACED IN UNIFORM LAYERS OVER THE FULL WIDTH OF THE EXCAVATIONS WITH THE LAYERS NOT EXCEEDING 200mm THICKNESS, LOOSELY PLACED. THE BACK-FILL MATERIAL SHOULD BE COMPACTED TO SPECIFICATIONS OUTLINED ABOVE FOR INSITU OR IMPORTED MATERIAL. BENCHING OF BATTERED EXCAVATIONS SHOULD BE UNDERTAKEN WHEN BACKFILLING.
26. BACK FILLING FOR SERVICE TRENCHES UNDER ROADWAYS SHALL BE WITH A QUALITY MATERIAL OF NOT LESS THAN CBR 15% (SOAKED) TO THE UNDERSIDE OF PAVEMENT, COMPACTED AT OPTIMUM MOISTURE CONTENT TO ACHIEVE 98% MODIFIED MAXIMUM DRY DENSITY.
27. DEPRESSIONS FORMED BY REMOVAL OF VEGETATION, UNDERGROUND ELEMENTS ETC. SHOULD HAVE ALL DISTURBED WEAKENED SOIL CLEANED OUT AND BE BACKFILLED WITH COMPACTED SELECT MATERIAL. THIS IS OF PARTICULAR IMPORTANCE FOLLOWING THE REMOVAL OF ANY EXISTING STRUCTURES AND FOUNDATIONS.
28. IF IN DOUBT, ASK!

KERB AND GUTTER NOTES

- 1. CLEAR ORGANIC MATERIAL AND TOPSOIL UNDER PROPOSED PAVEMENT.
2. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa U.N.O IN REINFORCED CONCRETE NOTES.
3. EXPANSION JOINTS (EJ) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. WEAKENED PLANE JOINTS (WPJ) TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
6. IN THE REPLACEMENT OF KERB AND GUTTER :-
(a) EXISTING ROAD PAVEMENT IS TO BE SAWCUT ALONG THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.
(b) EXISTING ALLOTMENT DRAINAGE PIPES TO STORMWATER MANAGEMENT PLAN.
(c) EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED AND A NEW KERB AND GUTTER IS TO BE CONSTRUCTED AS SHOWN.
7. ALL REINFORCEMENT SHALL BE SUPPORTED ON PLASTIC TIPPED WIRE CHAIRS, OR APPROVED PLASTIC CHAINS AT 800mm MAXIMUM CENTRES BOTH WAYS. CHAIRS SHALL HAVE SUITABLE BEARING PLATES ARRANGED AND SECURED TO PREVENT SINKING INTO THE MATERIAL OR MEMBRANE BELOW.

NOTE: THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE FOOTPATH AREA AND RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.

EARTHWORKS TECHNICAL NOTES & SPECIFICATIONS:

BATTER ANGLES FOR EMBANKMENTS: IT IS THE BUILDERS RESPONSIBILITY TO ENSURE THAT THE SITE WORKS DO NOT UNDERMINE OR PLACE ADDITIONAL SURCHARGE ON ANY EXISTING STRUCTURES, ONSITE OR ADJACENT. IF THIS CAN NOT BE ACHIEVED RTS CIVIL CONSULTING ENGINEERS MUST BE CONTACTED PRIOR TO ANY SITE WORKS BEING UNDERTAKEN. BATTER ANGLES MUST COMPLY WITH LOCAL GOVERNMENT REQUIREMENTS AND ARE TO CONFORM AS FOLLOWS (FIGURE 1).

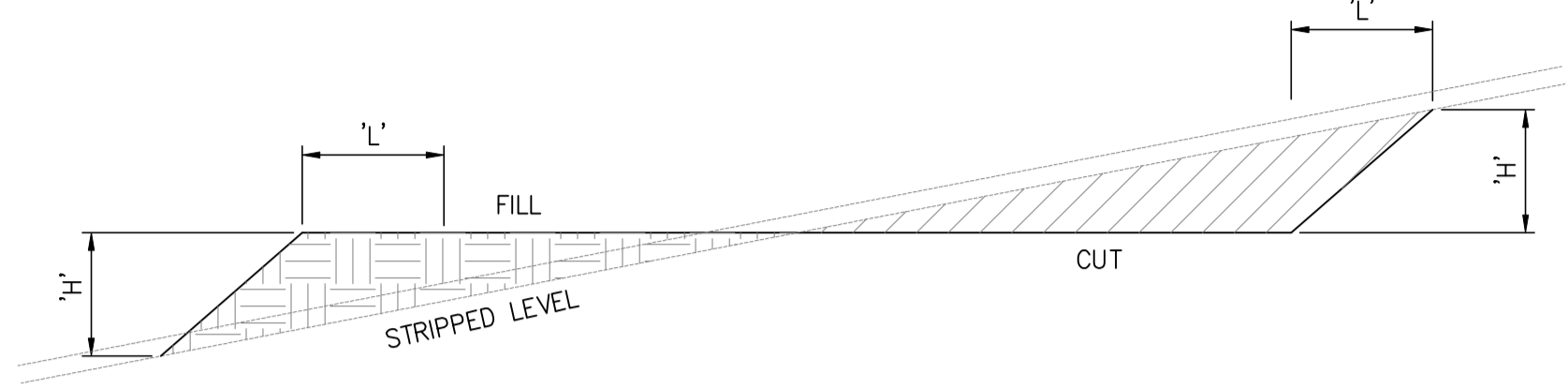


Table with columns for SLOPE = H:L, MATERIAL TYPE, STABLE ROCK, SAND, SILT, CLAY (FIRM CLAY, SOFT CLAY), and SOFT SOILS. Includes rows for EMBANKMENT SLOPES and CUTTING.

NOTE: RETAINING WALLS OR OTHER FORMS OF SOIL RETAINING METHODS MUST BE ADOPTED WHERE THE SLOPE RATIO IS GREATER THAN THAT INDICATED IN THE TABLE ABOVE. REFER TO GEOTECHNICAL REORT FOR TREATMENT OF UNSTABLE MATERIAL. ALL BATTER ANGLES APPROXIMATE ONLY AND ARE TO BE CONFIRMED BY GEOTECHNICAL AND CIVIL ENGINEER.

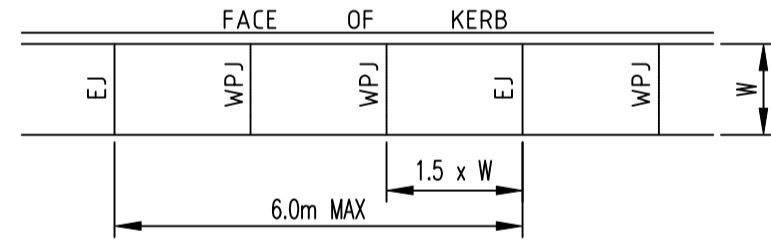
FILL MATERIAL AND COMPACTION: ORGANIC MATERIAL, HIGHLY REACTIVE CLAYS AND LARGE ROCKS ARE NOT SUITABLE FOR USE AS FILL. THE FILL IS TO BE SPREAD IN 150mm LAYERS AND EXTENSIVELY TRACK ROLLED WITH A DROTT. ALL EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE FULL REQUIREMENTS OF AS3798, GUIDELINES FOR EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.

NOTE: IN THE INSTANCES WHERE BY SIGNIFICANT LEVELS OF FILLING ARE OBSERVED, THERE WILL ALWAYS REMAIN THE POSSIBILITY OF TILT AS A RESULT OF DIFFERENTIAL SETTLEMENT IN THE FILL. AUSTRALIAN STANDARD (AS2870-2011) DOES NOT CATER FOR TILTING OF SLABS AS A RESULT OF DIFFERENTIAL SETTLEMENT WITHIN CERTIFIED NOR DOES THE AUSTRALIAN STANDARD ADDRESS THE POSSIBLE OCCURRENCE WHEN SHALLOW FOUNDATIONS ARE ADOPTED.

DRAINAGE: THE EXTERNAL FINISHED SURFACE SURROUNDING THE DWELLINGS MUST BE DRAINED TO MOVE SURFACE WATER AWAY FROM THE BUILDING AND GRADED TO GIVE A SLOPE OF NOT LESS THAN 50 MM OVER THE FIRST 1 M AWAY FROM THE BUILDING.

FOOTPATH AND PAVEMENT NOTES

- 1. ALL PAVEMENTS TO BE IN ACCORDANCE WITH THE CURRENT PAVEMENT REQUIREMENTS FOR COUNCIL CIVIL WORKS SPECIFICATIONS.
2. COMPACTION AND TESTING OF EACH PAVEMENT LAYER TO BE IN ACCORDANCE WITH THE CURRENT PAVEMENT REQUIREMENTS FOR COUNCIL CIVIL WORKS SPECIFICATIONS.
3. GEOTECHNICAL CBR VALUES TO BE OBTAINED ON SITE AND CIVIL ENGINEER TO ADJUST PAVEMENT DESIGN TO SUIT WHERE REQUIRED.
4. UNLESS NOTED OTHERWISE, ALL SUB BASE TO CONTAIN 3% CEMENT BY DRY WEIGHT AND TO BE COMPACTED TO AT LEAST 98% OF MMDM, AT A MOISTURE CONTENT BETWEEN MOMC AND 3% DRY OF MOMC. ALL SUB BASE TO ACHIEVE AN ELASTIC MODULUS OF 3500MPa.
5. ALTERNATIVE PAVEMENT MATERIALS TO BE CONFIRMED BY LOCAL COUNCIL.
6. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS. (U.N.O)
7. EXPANSION JOINTS (EJ) ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES.
8. WEAKENED PLANE JOINTS (WPJ) ARE TO BE LOCATED AT A MAX. SPACING OF 1.5 x WIDTH OF THE PAVEMENT.
9. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
10. PEDESTRIAN PAVEMENT JOINT DETAIL.



EROSION CONTROL NOTES:

- 1. SILT FENCE AND ASSOCIATED WORKS INCLUDING INTERCEPTOR DRAIN IS TO BE INSTALLED BEFORE THE COMMENCEMENT OF ANY EXCAVATION.
2. CUTS TO BE EXECUTED TO THE REQUIRED LEVEL USING CONVENTIONAL EXCAVATION MACHINERY. INITIALLY THE DEPTH OF FILL/CLAY IS TO BE ESTABLISHED TO ENSURE NEIGHBOURING PROPERTIES ARE NOT ADVERSELY AFFECTED. EARTH BATTERS TO BE A MAXIMUM SLOPE OF 1.0 m VERT. TO 1.7 m HORIZ. (AS PER GEOTECHNICAL REPORT). ANY BATTERS GREATER THAN 1.0 m VERT. TO 1.7 m HORIZ. ARE TO BE ADEQUATELY SHORED IN ACCORDANCE WITH THE ENGINEERS DETAILS AND INSTRUCTIONS.
3. ANY PERMANENT RETAINING STRUCTURE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERS DETAILS AND INSTRUCTIONS.
4. ALL PERMANENT RETAINING STRUCTURES ARE TO BE COMPLETED WITH MINIMUM DELAY FOLLOWING EXCAVATION.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER.
6. CONTRACTOR TO MINIMISE DISTURBED AREAS.
7. ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
8. DRAINAGE IS TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS POSSIBLE.
9. ROADS AND FOOTPATH TO BE SWEEP DAILY.

CONCRETE NOTES

- 1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

Table with columns: ELEMENT, AS 3600 F'c MPa AT 28 DAYS, SPECIFIED SLUMP, NOMINAL AGG. SIZE. Rows include VEHICULAR BASE, KERBS, PATHS, AND PITS, RETAINING WALLS.

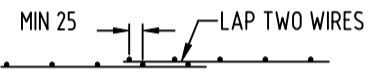
- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY AIKEN DESIGN & CONSULTING.

- 4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R3.
7. REINFORCEMENT SYMBOLS:
N DENOTES GRADE 500 N BARS TO AS 4671 GRADE N.
R DENOTES 250 R HOT ROLLED PLAIN BARS TO AS 4671.
SL DENOTES COLD-DRAWN WIRE REINFORCING FABRIC TO AS 4671.

NUMBER OF BARS IN GROUP [Symbol] BAR GRADE AND TYPE
17N20-250
NOMINAL BAR SIZE IN mm [Symbol] LAP SPACING IN mm

THE FIGURE FOLLOWING THE FABRIC SYMBOL IS THE REFERENCE NUMBER FOR FABRIC TO AS 4671.

- 8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:



INSPECTIONS BY ENGINEER

- 48 HOURS NOTICE IS REQUIRED BEFORE ANY SITE INSPECTION. ANY STRUCTURAL ELEMENT NOT INSPECTED BY RTS CIVIL WILL NOT BE CERTIFIED BY RTS CIVIL CONSULTING ENGINEERS PTY LTD.
1. BEARING STRATA OF ALL FOOTINGS PRIOR TO CONCRETE POUR BY GEOTECHNICAL ENGINEER.
2. ANY REINFORCEMENT PRIOR TO CONCRETE POUR.
3. TIMBER AND STEEL FRAMING PRIOR TO CLADDING OR LINING.
4. STEEL LINTELS AFTER INSTALLATION.
5. CONTACT YOUR PCA (PRINCIPAL CERTIFYING AUTHORITY) AS TO REQUIREMENTS FOR MANDATORY CRITICAL STAGE INSPECTIONS IN ACCORDANCE WITH REVISED EP&A ACT REGULATIONS EFFECTIVE JULY 1, 2004.
6. INSPECTION BY GEOTECHNICAL ENGINEER OVER 1.5m OF VERTICAL CUT THROUGH SANDSTONE BED ROCK TO PERMIT IDENTIFICATION OF DEFECTS AND REMEDIAL MEASURES INITIATED.

- 7. SCHEDULE OF CONSTRUCTION STAGES REQUIRING INSPECTION:
a. FOLLOWING PLACEMENT OF PIPE BEDDING MATERIAL, CONFIRM TRENCH/PIPE LOCATION, ADEQUACY OF DEPTH OF COVER, BEDDING MATERIAL AND DEPTH.
b. FOLLOWING JOINING OF PIPES AND CONNECTION TO COUNCIL'S STORMWATER SYSTEM.
c. FOR ON-SITE DETENTION SYSTEMS:-
(i) FOLLOWING SET OUT OF DETENTION TANK/AREA TO CONFIRM AREA AND VOLUME OF STORAGE.
(ii) FOLLOWING PLACEMENT OF WEEP-HOLES, ORIFICE AND/OR WEIR FLOW CONTROL, OUTLET SCREEN AND OVERFLOW PROVISION.

EXTERNAL NOTES:

- 1. ALL ACTIVITIES AND WORKS EXTERNAL TO THE SITE, OR THAT AFFECT PUBLIC ROADS, ARE TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S CODES AND STANDARDS.
2. PUBLIC FOOTPATHS SHALL BE RECONSTRUCTED TO THE SATISFACTION OF COUNCIL'S DIRECTOR OF ENGINEERING SERVICES. A ROAD OPENING PERMIT SHALL BE OBTAINED FOR ALL WORKS CARRIED OUT IN A PUBLIC OR COUNCIL CONTROLLED LAND.
3. RESTORATION OF LANDSCAPING, ROADS AND PATHS SHALL BE TO COUNCIL'S REQUIREMENTS. ALL OTHER RESTORATION SHALL BE TO THE SATISFACTION OF THE AFFECTED PARTIES.
4. WHERE WORKS ARE UNDERTAKEN ON PUBLIC ROADS, ADEQUATE TRAFFIC CONTROL AND DIRECTIONS TO MOTORISTS SHALL BE PROVIDED BY OTHERS.

Table: MINIMUM INTERNAL DIMENSIONS FOR STORMWATER AND INLET PITS AS3500.3:2018 - TABLE 7.5.2.1. Columns: DEPTH TO INVERT OF OUTLET, MINIMUM INTERNAL DIMENSIONS (mm) - RECTANGULAR (Width, Length), CIRCULAR (Diameter phi).





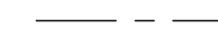






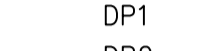

STORMWATER PUMPOUT (WET WELL) CALCULATIONS TO AS3500.3. PROVIDE TWO CENTRIFUGAL DRAINAGE SUMP PUMPS WITH SINGLE-PHASE ELECTRIC MOTOR CAPABLE OF DISCHARGING 10.0 L/S EACH AGAINST A TOTAL HEAD OF (3.0m) WITH 10 STARTS PER HOUR MAXIMUM. CLASS 1 ZONE 2 CERTIFIED PUMPS FOR HAZARDOUS AREAS ARE REQUIRED SWITCHING SHALL PROVIDE FOR ALTERNATIVE OPERATION OF THE PUMPS, HIGH LEVEL SWITCH ON/OFF, 2ND PUMP, AND A RED LIGHT ALARM PLACED PERMANENTLY IN THE BASEMENT AREA ACTIVATED BY HIGH LEVEL SWITCH ON. FINAL PUMP OUT VOLUME AND PUMP DUTY IS SUBJECT TO DETAILED GEOTECHNICAL INFORMATION OBTAINED DURING EARTHWORKS AND EXCAVATION.
REQUIRED VOLUME: AREA DRAINING TO THE PUMPOUT PIT = 100 m^2 (DRIVEWAY & SOME HARDSTAND RUNOFF) ADDITIONAL AREA TO PUMPOUT PIT = 300 m^2 (SUB-SOIL AREA RUNOFF RETAINING WALLS) STORAGE MUST BE PROVIDED FOR THE 2HR DURATION 100 YEAR ARI STORM.
Q = F x C x I x A
= 1/3600 x 0.9 x 44.2 x 155
= 1.11 L/s
VOLUME ACCUMULATED (100 YEAR ARI, 5 HOUR STORM):
V_100/120 = (1.11L/s x 2hrs x 3600s)/1000
= 7.96 m^3
VOLUME PUMPED IN 30 MINS:
PC_30 = (10.0L/s x 0.5hrs x 3600s)/1000
= 18.00 m^3
VOLUME PUMPED IN 5 MINS:
PC_5 = (10.0L/s x 0.083hrs x 3600s)/1000
= 2.99 m^3
VOLUME ESTIMATE FROM SUB-SOIL (1% x AREA IN m^2):
V_sub-soil = (300 m^2 x 1%)
= 3.00 m^3
WET-WELL STORAGE CAPACITY
= V_100/120 - PC_30 = 0.00 m^3
(MIN.) = 3.00 m^3
+
V_sub-soil = 3.00 m^3
= 6.00 m^3
WET-WELL VOLUME AND SPECIFICATIONS TO BE CONFIRMED PRIOR TO CONSTRUCTION IN ACCORDANCE WITH FUTURE GEOTECHNICAL AND STRUCTURAL REQUIREMENTS.



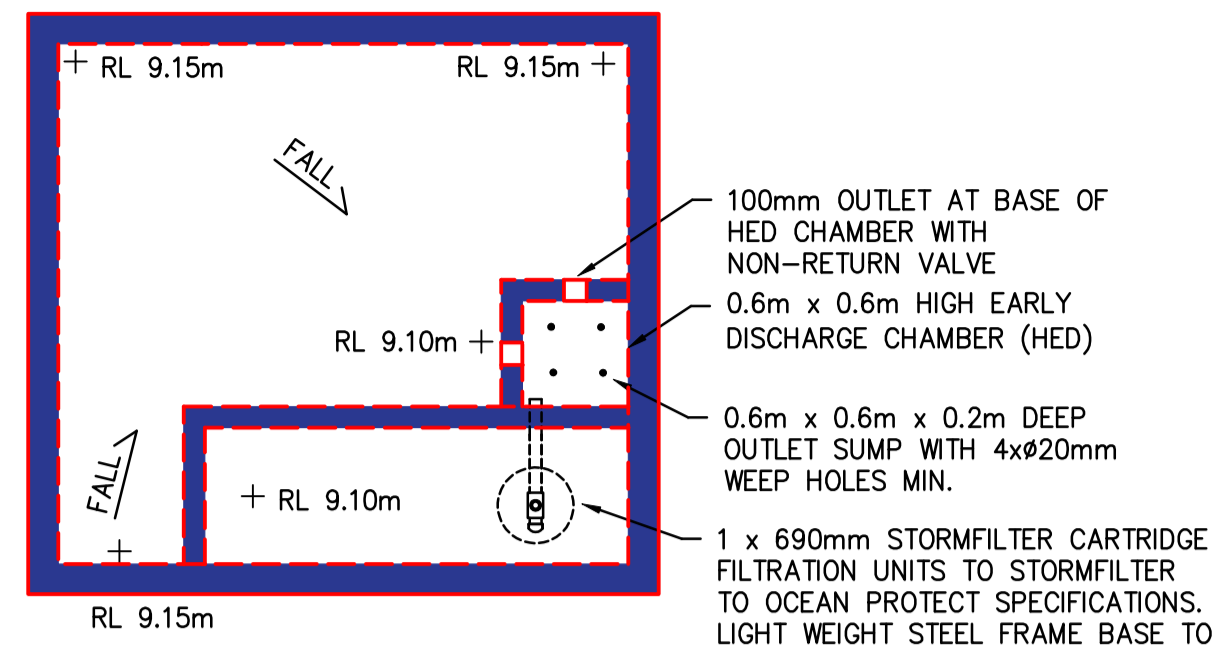
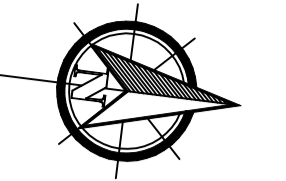
Project summary table including: A1 ORIGINAL, Issued for: DEVELOPMENT APPLICATION, Title: DESIGN, Initial: R.M, Date: 03.09.2021, Architect: WALSH ARCHITECTS, Project and Drawing Title: 18 ALEXANDER STREET, COLLAROY COVERPAGE, NOTES & CALCULATIONS CONT., Local Council: NORTHERN BEACHES COUNCIL, Project Number: 210804, Drawing ID: CP101, Issue: A.

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LEGEND

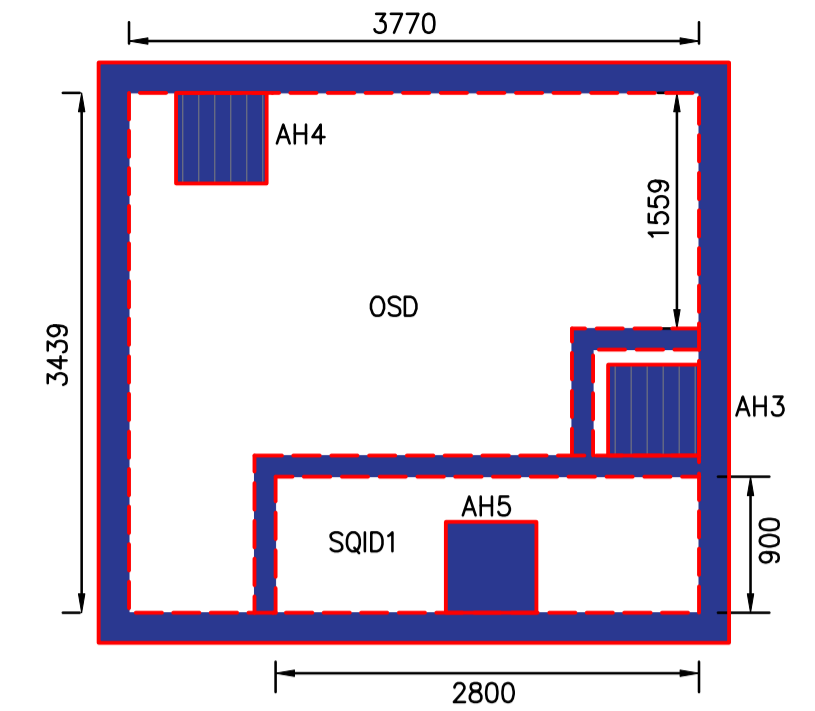
-  STORMWATER PIT
-  NEW STORMWATER PIPE
-  STORMWATER PIPE FLOW DIRECTION
-  EXISTING STORMWATER PIPE
-  FLUSH-OUT LINE
-  BOUNDARY LINE
-  EXISTING SEWER MAIN
-  EXISTING OVERHEAD POWER LINES
-  EXISTING WATER MAINS
-  EXISTING TELECOMMUNICATIONS LINE
-  EXISTING GAS MAINS
-  DENOTES DOWNPIPE
-  DENOTES SIZE OF DOWNPIPE
- DP1 100Ø DOWNPIPE TO RWT
- DP2 100Ø DOWNPIPE TO OSD
- DP3 100Ø DOWNPIPE TO CONNECT TO SITE DRAINAGE
- FD1 200 x 200 BALCONY FLOOR DRAIN TO ARCHITECTS DETAIL
- FD2 200 x 200 PLANTER FLOOR DRAIN TO ARCHITECTS DETAIL
- FD3 200 x 200 PEBBLE PLANTER FLOOR DRAIN TO ARCHITECTS DETAIL
- OSD 11,600L ONSITE DETENTION TANK
- HED 600 x 600 MIN. HIGH EARLY DISCHARGE CHAMBER
- RWT 2 x 5,000L RAINWATER TANKS
- RWO 250Ø RAINWATER OUTLET
- EG1 STANDARD EAVES GUTTER TO ARCHITECTS DETAIL
- GD1 150mm MIN. GRATED STRIP DRAIN TO ARCHITECTS DETAIL
- GD2 100mm MIN. GRATED STRIP DRAIN TO ARCHITECTS DETAIL
- PP 6,000L PUMP OUT PT
- DR1 POSSIBLE PERIMETER BASEMENT DRAIN TO STRUCTURAL DETAILS
- AH1-AH2 600x600mm GRATED LID ACCESS HATCH HEEL GUARD GRATE
- AH3-AH4 600x600mm GRATED LID ACCESS HATCH
- AH5 600x600mm SEALED LID ACCESS HATCH
- SQID STORMWATER QUALITY IMPROVEMENT DEVICE - 2.5m² CHAMBER MIN.
- SQID1 690mm STORMFILTER BY OCEAN PROTECT OR EQUIVALENT WITHIN PP
- SQID2 OCEANGUARD FILTER BY OCEAN PROTECT OR EQUIVALENT WITHIN PP
- SQID3 450x450 PIT WITH OCEANGUARD FILTER BY OCEAN PROTECT OR EQUIVALENT

NOT FOR CONSTRUCTION



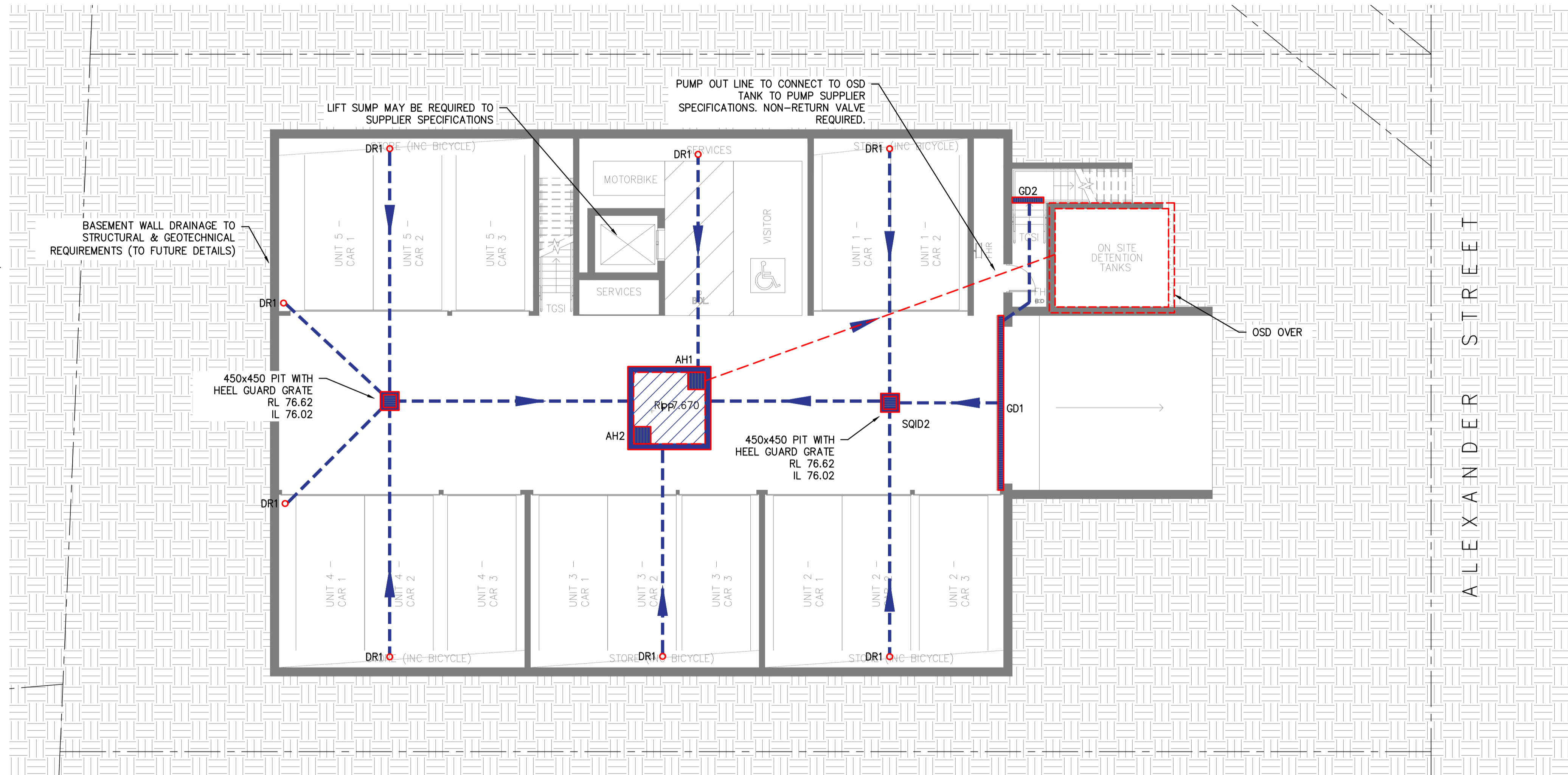
OSD TANK LID PLAN

SCALE = 1 : 50



OSD TANK BASE PLAN

SCALE = 1 : 50



BASEMENT STORMWATER MANAGEMENT PLAN

SCALE = 1 : 100

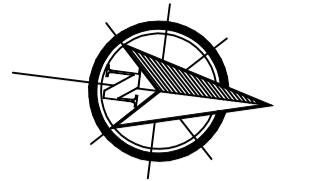
NOTE: PIT, PIPE & DOWNPIPE LOCATIONS ARE INDICATIVE ONLY & MAY VARY DUE TO CONSTRAINTS. IF IN DOUBT, ASK!

WARNING! CARE WHEN DIGGING AROUND TREE ROOTS. HAND DIGGING ONLY! MAY REQUIRE ARBORIST SUPERVISION.

NOTE:
 THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.



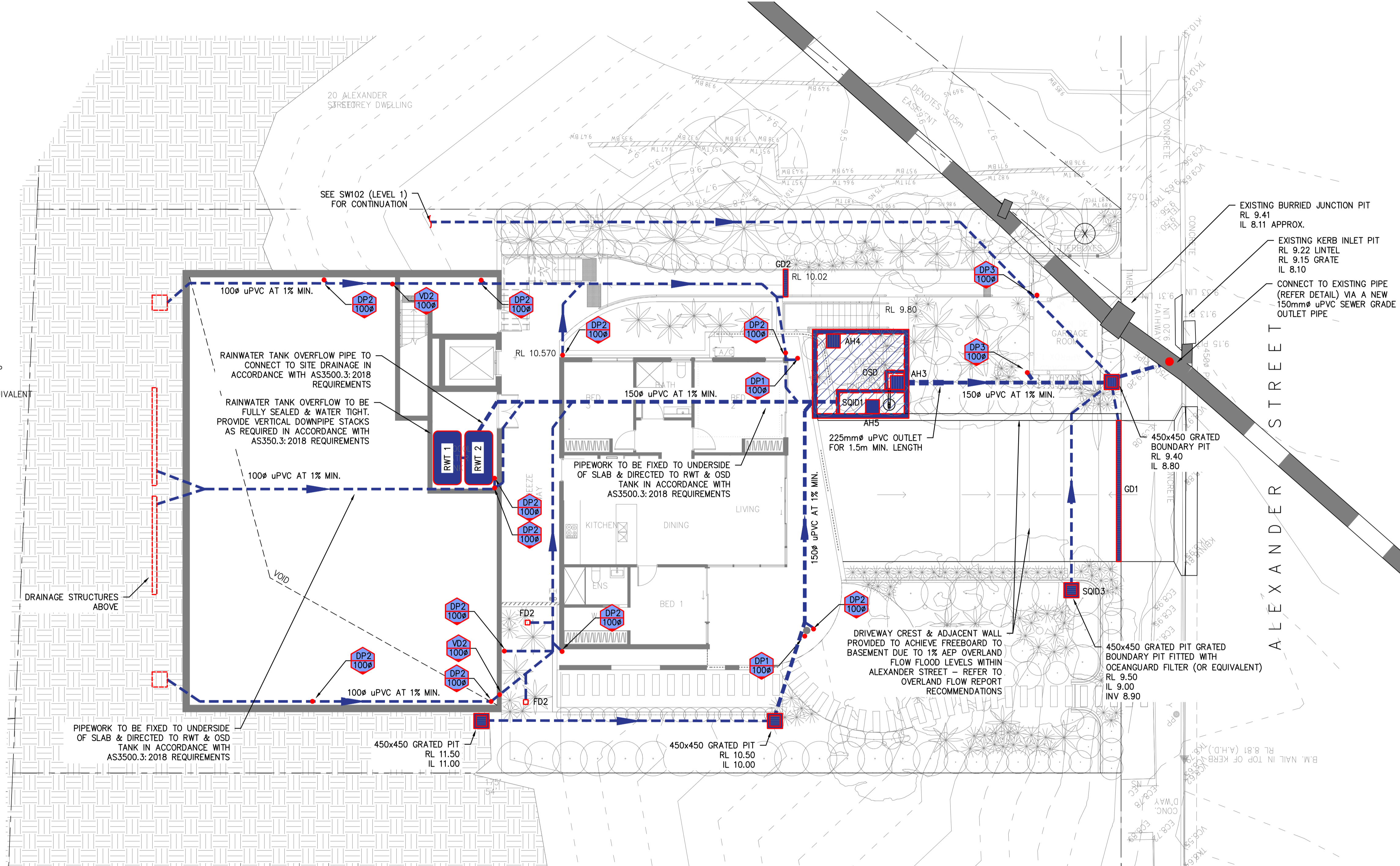
A1 ORIGINAL		Issued for: DEVELOPMENT APPLICATION	Title: DESIGN	Initial: R.M.	Date: 03.09.2021		Architect: WALSH ARCHITECTS	Project and Drawing Title: 18 ALEXANDER STREET, COLLAROY BASEMENT STORMWATER MANAGEMENT PLAN		Local Council: NORTHERN BEACHES COUNCIL	
Rev:	Date:	Description:	Reviewed:	Date: 10.09.21 Rhys Mikhail Director Principal Engineer NER: 2570082 RPEQ: 17490 BEng (Civil) Hons MIEAust. CPEng NER RPEQ APEC InPE(Aus)			Client: LAXLAND GROUP PTY LTD	Project Number: 210804	Drawing ID: SW100	Issue: A	



- NOTES:**
1. U.N.O REFER TO THE COVERPAGE CP100 SERIES FOR DETAILED NOTES AND CALCULATIONS.
 2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

LEGEND

- STORMWATER PIT
 - NEW STORMWATER PIPE
 - STORMWATER PIPE FLOW DIRECTION
 - EXISTING STORMWATER PIPE
 - FLUSH-OUT LINE
 - BOUNDARY LINE
 - EXISTING SEWER MAIN
 - EXISTING OVERHEAD POWER LINES
 - EXISTING WATER MAINS
 - EXISTING TELECOMMUNICATIONS LINE
 - EXISTING GAS MAINS
-
- DENOTES DOWNPIPE
 - DENOTES SIZE OF DOWNPIPE
 - DP1 100 100Ø DOWNPIPE TO RWT
 - DP2 100 100Ø DOWNPIPE TO OSD
 - DP3 100 100Ø DOWNPIPE TO CONNECT TO SITE DRAINAGE
 - FD1 200 200 200 x 200 BALCONY FLOOR DRAIN TO ARCHITECTS DETAIL
 - FD2 200 200 200 x 200 PLANTER FLOOR DRAIN TO ARCHITECTS DETAIL
 - FD3 200 200 200 x 200 PEBBLE PLANTER FLOOR DRAIN TO ARCHITECTS DETAIL
 - OSD 11,600L ONSITE DETENTION TANK
 - HED 600 x 600 MIN. HIGH EARLY DISCHARGE CHAMBER
 - RWT 2 x 5,000L RAINWATER TANKS
 - RWO 250Ø RAINWATER OUTLET
 - EG1 STANDARD EAVES GUTTER TO ARCHITECTS DETAIL
 - GD1 150mm MIN. GRATED STRIP DRAIN TO ARCHITECTS DETAIL
 - GD2 100mm MIN. GRATED STRIP DRAIN TO ARCHITECTS DETAIL
 - PP 6,000L PUMP OUT PT
 - DR1 POSSIBLE PERIMETER BASEMENT DRAIN TO STRUCTURAL DETAILS
 - AH1-AH2 600x600mm GRATED LID ACCESS HATCH HEEL GUARD GRATE
 - AH3-AH4 600x600mm GRATED LID ACCESS HATCH
 - AH5 600x600mm SEALED LID ACCESS HATCH
 - SQID STORMWATER QUALITY IMPROVEMENT DEVICE - 2.5m² CHAMBER MIN.
 - SQID1 690mm STORMFILTER BY OCEAN PROTECT OR EQUIVALENT WITHIN PP
 - SQID2 OCEANGUARD FILTER BY OCEAN PROTECT OR EQUIVALENT WITHIN PP
 - SQID3 450x450 PIT WITH OCEANGUARD FILTER BY OCEAN PROTECT OR EQUIVALENT



NOTE: PIT, PIPE & DOWNPIPE LOCATIONS ARE INDICATIVE ONLY & MAY VARY DUE TO CONSTRAINTS. IF IN DOUBT, ASK!

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UNDERCROFT STORMWATER MANAGEMENT PLAN

SCALE = 1 : 100

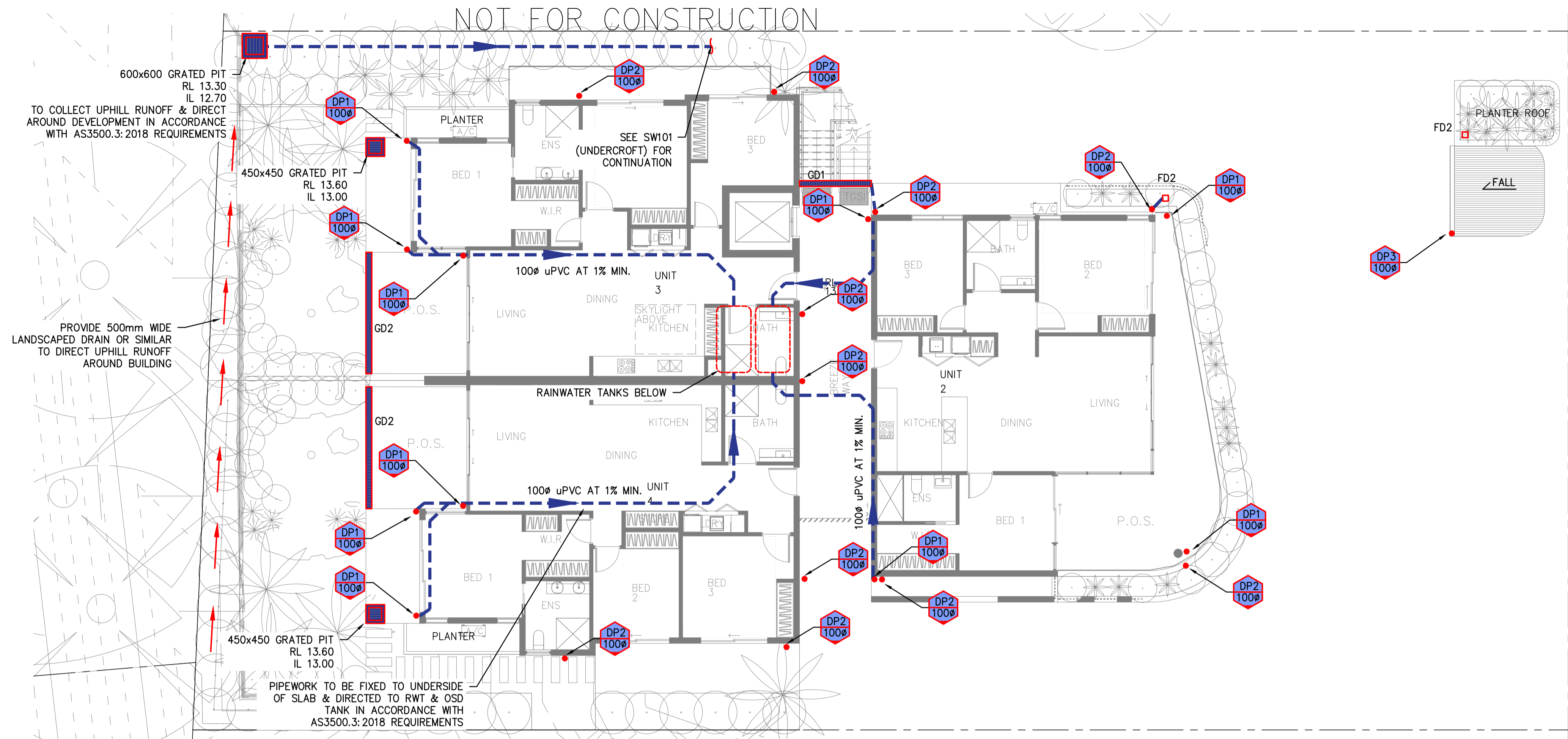


A1 ORIGINAL		Issued for: DEVELOPMENT APPLICATION	Title: DESIGN	Initial: R.M.	Date: 03.09.2021		Architect: WALSH ARCHITECTS	Project and Drawing Title: 18 ALEXANDER STREET, COLLAROY UNDERCROFT STORMWATER MANAGEMENT PLAN	Local Council: NORTHERN BEACHES COUNCIL		
Rev:	Date:	Description:	Reviewed:	Approved by: <i>R. Mikhail</i>	Checked by: R.M.		Date: 08.09.2021		Client: LAXLAND GROUP PTY LTD	Project Number: 210804	Drawing ID: SW101

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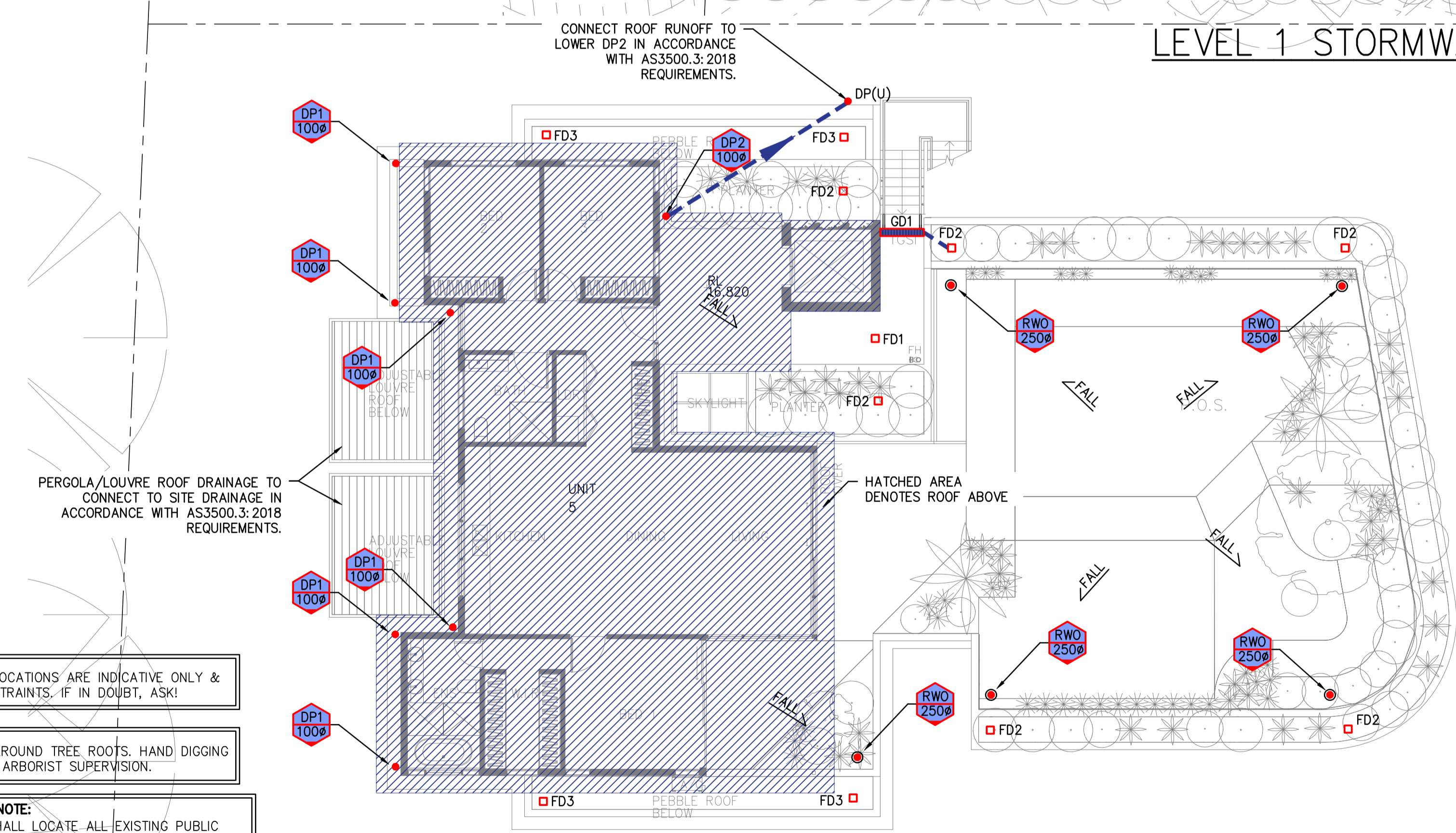
LEGEND

- STORMWATER PIT
- NEW STORMWATER PIPE
- STORMWATER PIPE FLOW DIRECTION
- EXISTING STORMWATER PIPE
- FLUSH-OUT LINE
- BOUNDARY LINE
- EXISTING SEWER MAIN
- EXISTING OVERHEAD POWER LINES
- EXISTING WATER MAINS
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING GAS MAINS
- DENOTES DOWNPIPE
- DENOTES SIZE OF DOWNPIPE
- DP1 100ø DOWNPIPE TO RWT
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- FD1 200 x 200 BALCONY FLOOR DRAIN TO ARCHITECTS DETAIL
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- RWT 2 x 5,000L RAINWATER TANKS
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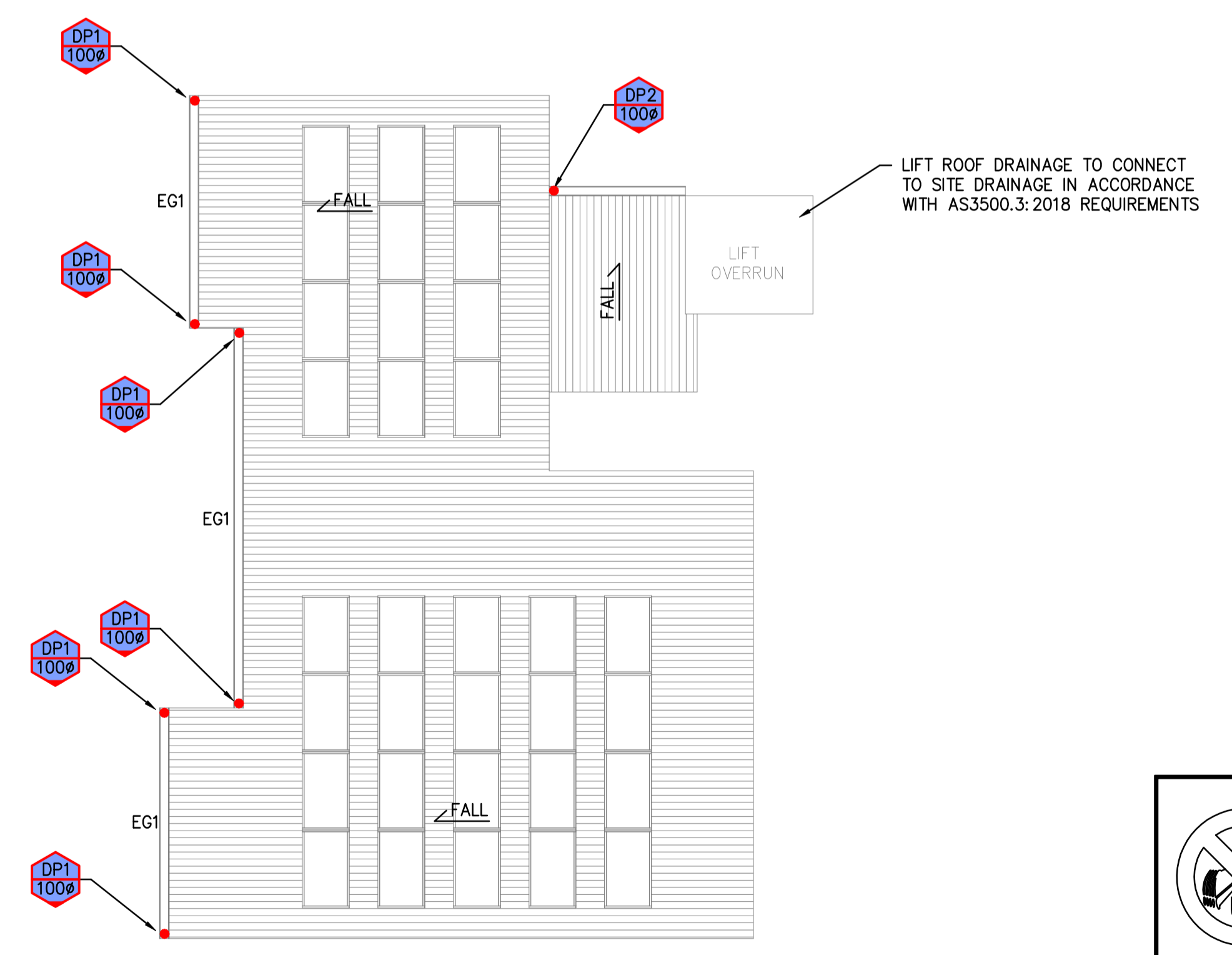
LEVEL 1 STORMWATER MANAGEMENT PLAN

SCALE = 1 : 100



LEVEL 2 STORMWATER MANAGEMENT PLAN

SCALE = 1 : 100



ROOF STORMWATER MANAGEMENT PLAN

SCALE = 1 : 100

NOTE: PIT, PIPE & DOWNPIPE LOCATIONS ARE INDICATIVE ONLY & MAY VARY DUE TO CONSTRAINTS. IF IN DOUBT, ASK!

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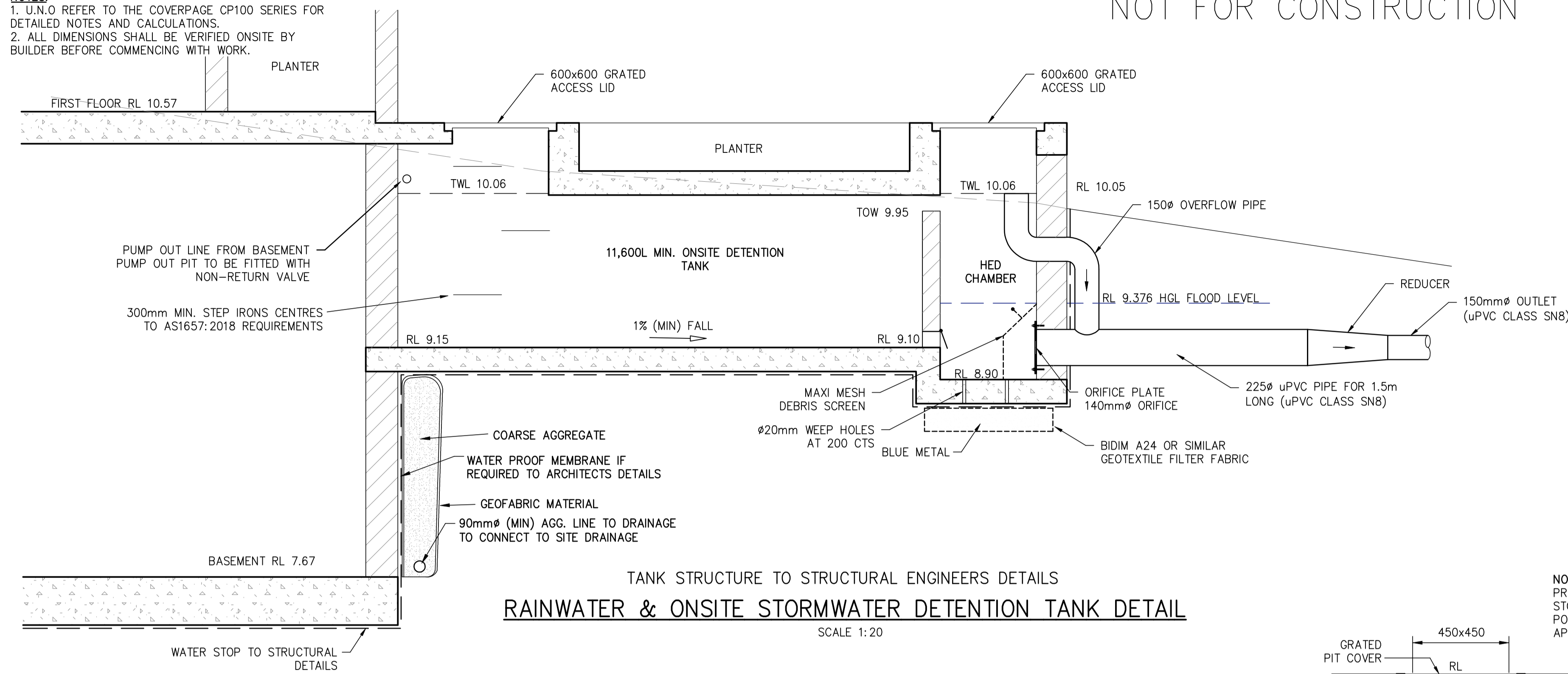
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A1 ORIGINAL		Issued for: DEVELOPMENT APPLICATION	Title: DESIGN	Initial: R.M.	Date: 03.09.2021	<p>STORMWATER • CIVIL • FLOOD MITIGATION</p> <p>ABN: 81 615 065 588 Phone: 0490 507 300 Email: admin@rtscivil.com.au Web: rtscivil.com.au</p>	Architect: WALSH ARCHITECTS	Project and Drawing Title: 18 ALEXANDER STREET, COLLAROY LEVEL 1, LEVEL 2 & ROOF STORMWATER MANAGEMENT PLAN	Local Council: NORTHERN BEACHES COUNCIL		
A		Approved by: Rhys Mikhail	DRAWN	S.M.	03.09.2021		Client: LAXLAND GROUP PTY LTD		Project Number: 210804	Drawing ID: SW102	Issue: A
Rev:	Date:	Description:	Checked:	R.M.	08.09.2021		The document is produced by RTS Civil Consulting Engineers Pty Ltd (RTS) solely for the benefit of and use by the client in accordance with the terms and conditions of RTS. RTS does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.				
			APPROVED	R.M.	08.09.2021						



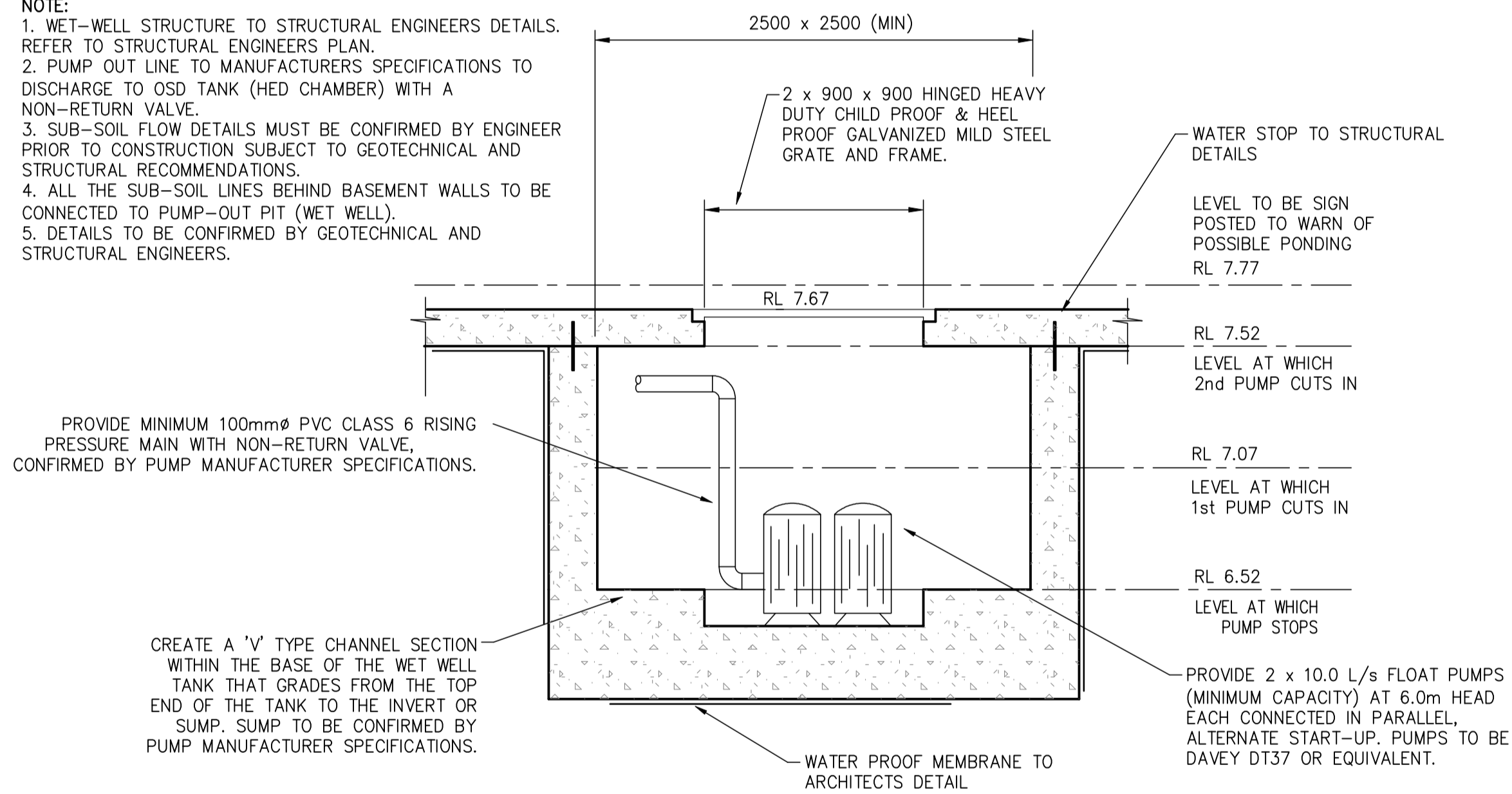
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 2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

NOT FOR CONSTRUCTION



TANK STRUCTURE TO STRUCTURAL ENGINEERS DETAILS
RAINWATER & ONSITE STORMWATER DETENTION TANK DETAIL
 SCALE 1:20

NOTE:
 1. WET-WELL STRUCTURE TO STRUCTURAL ENGINEERS DETAILS. REFER TO STRUCTURAL ENGINEERS PLAN.
 2. PUMP OUT LINE TO MANUFACTURERS SPECIFICATIONS TO DISCHARGE TO OSD TANK (HED CHAMBER) WITH A NON-RETURN VALVE.
 3. SUB-SOIL FLOW DETAILS MUST BE CONFIRMED BY ENGINEER PRIOR TO CONSTRUCTION SUBJECT TO GEOTECHNICAL AND STRUCTURAL RECOMMENDATIONS.
 4. ALL THE SUB-SOIL LINES BEHIND BASEMENT WALLS TO BE CONNECTED TO PUMP-OUT PIT (WET WELL).
 5. DETAILS TO BE CONFIRMED BY GEOTECHNICAL AND STRUCTURAL ENGINEERS.

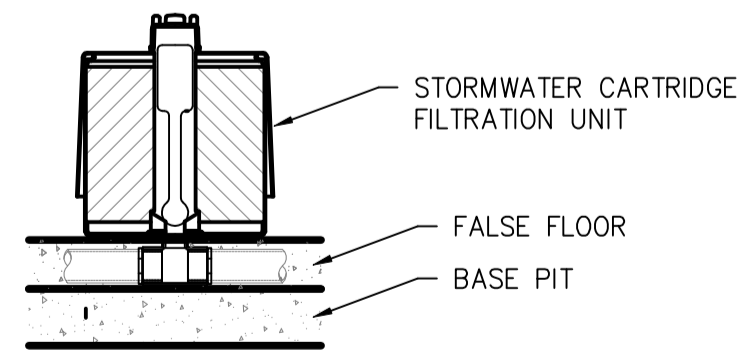


BASEMENT WET WELL (PUMP-OUT TANK) DETAIL
 SCALE = 1 : 20

WARNING
 PUMP OUT SYSTEM FAILURE IN BASEMENT WHEN LIGHT IS FLASHING AND SIREN SOUNDING

DANGER
 CONFINED SPACE NO ENTRY WITHOUT CONFINED SPACE TRAINING

TYPICAL TANK SIGNAGE
 N.T.S.



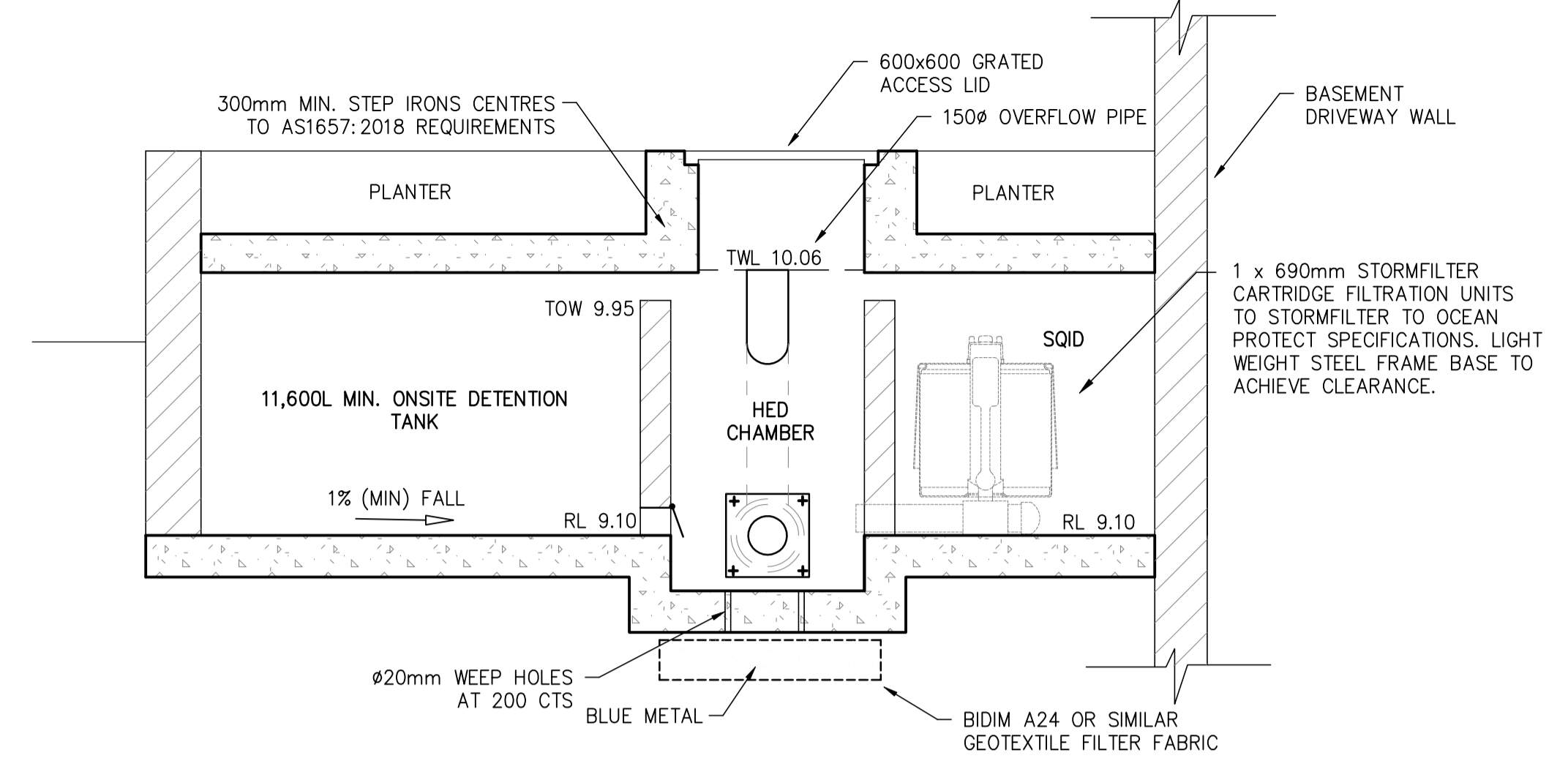
STORMFILTER CARTRIDGE TYP. DETAIL
 SCALE = N.T.S.

GENERAL NOTES

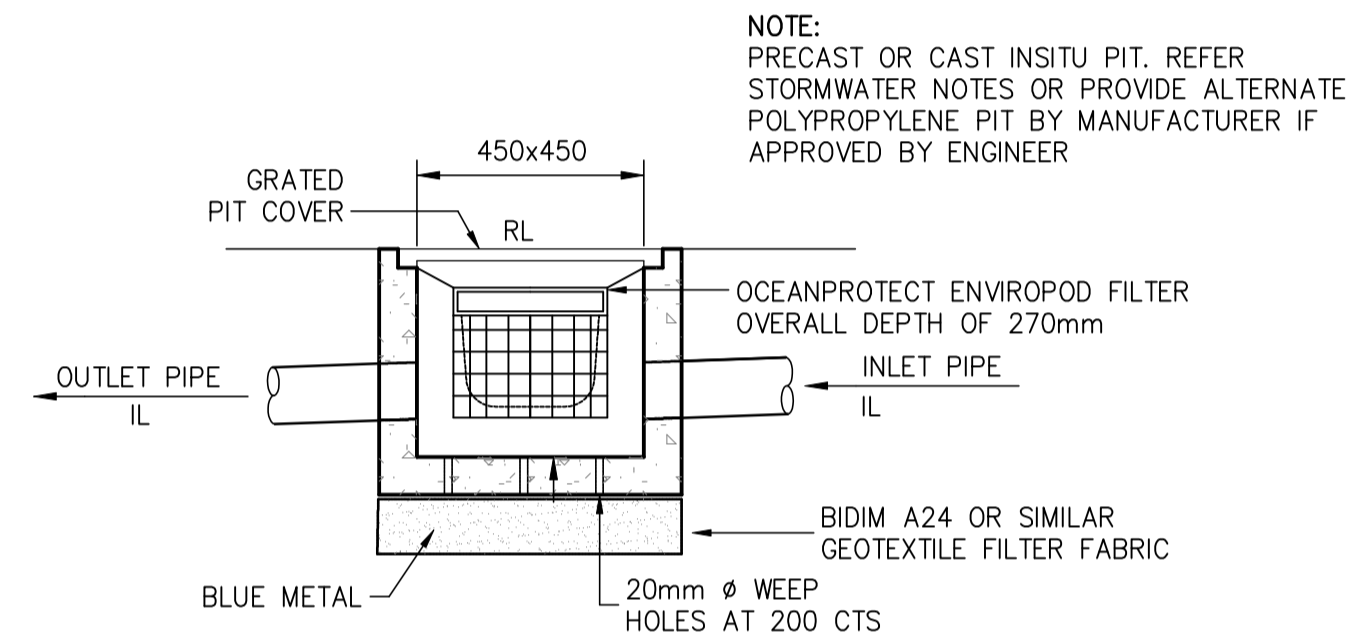
- INLET AND OUTLET PIPES TO BE IN ACCORDANCE WITH APPROVED PLANS.
- A HIGH FLOW BYPASS ARRANGEMENT OR DISSIPATION STRUCTURE MAY BE REQUIRED TO MINIMISE RE-SUSPENSION OF SOLIDS OR ANY SIGNIFICANT INERTIAL FORCES ON THE CARTRIDGES.
- ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
- SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
- THE INVERT LEVEL OF THE INLET PIPE MUST BE GREATER THAN THE RL OF THE FALSE FLOOR WITHIN THE CARTRIDGE CHAMBER.
- CONCRETE STRUCTURE AND ACCESS COVERS DESIGNED AND PROVIDED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900 X 900 ABOVE CARTRIDGES. OH&S REGARDING ACCESS COVERS AND TANK ACCESS TO BE ASSESSED BY OTHERS ON SITE.
- THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES.
- DRAWINGS NOT TO SCALE.

INSTALLATION NOTES

- UNDERDRAIN AND FALSE FLOOR INSTALLED BY OCEAN PROTECT.

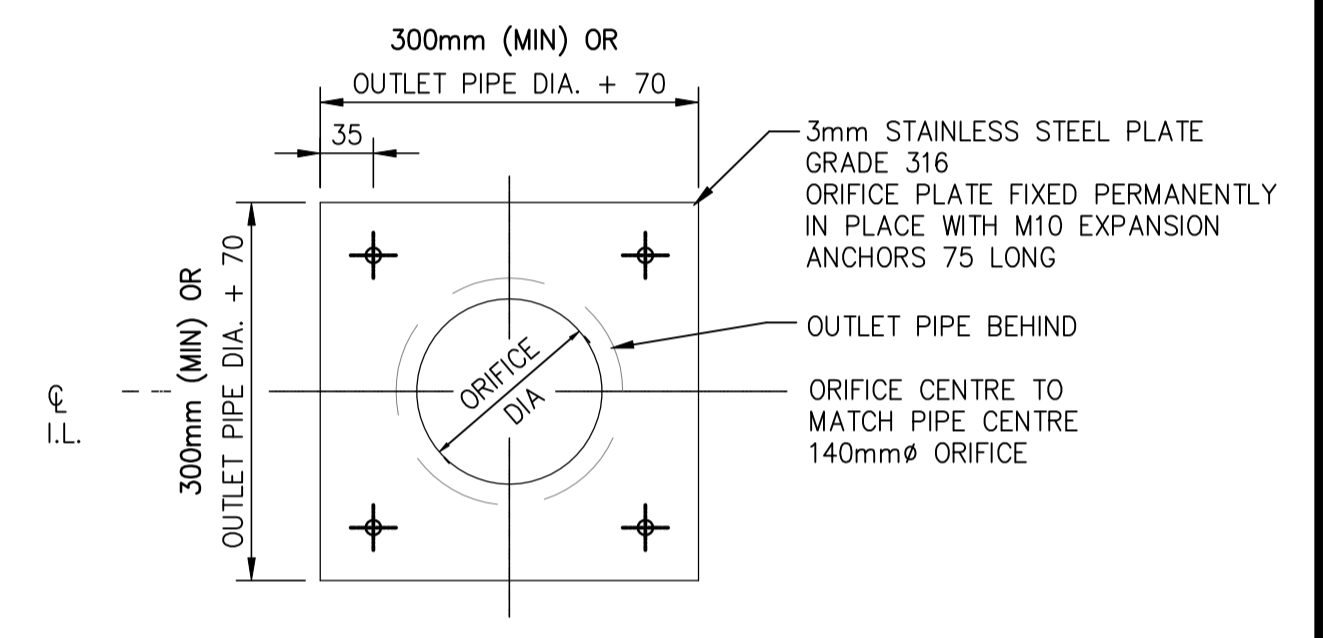


TANK STRUCTURE TO STRUCTURAL ENGINEERS DETAILS
RAINWATER & ONSITE STORMWATER DETENTION TANK DETAIL
 SCALE 1:20

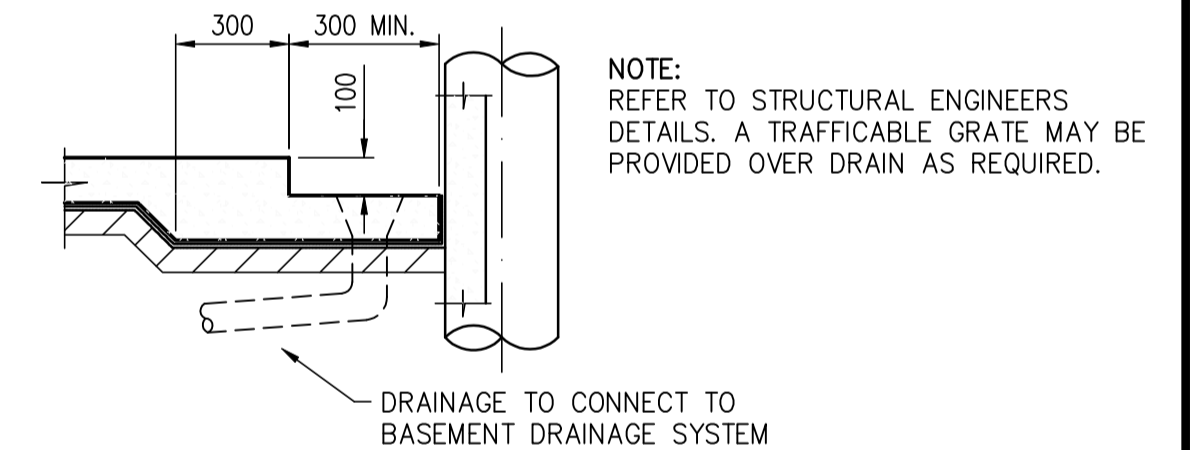


BOUNDARY PIT WITH OCEANPROTECT ENVIROPOD FILTER DETAIL
 SCALE = 1 : 20

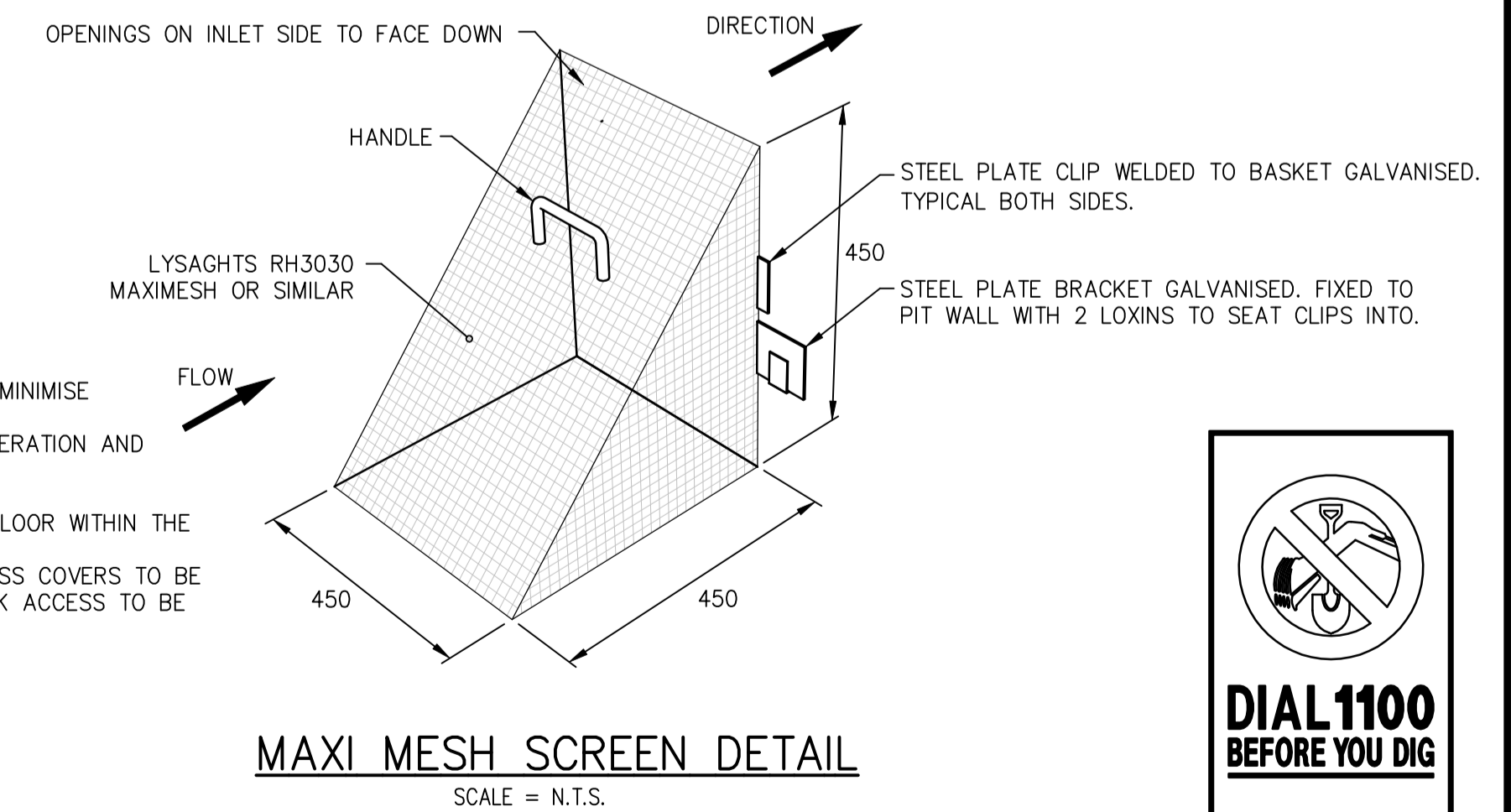
NOTE:
 1. ENVIROPODS CAN BE INSTALLED IN PITS CONSTRUCTED OF PRECAST FIBRO REINFORCED OR CAST IN-SITU CONCRETE, PLASTIC OR BRICK/BLOCKWORK.
 2. ENVIROPOD FILTERS EMPLOY DIRECT SCREENING TECHNOLOGY AND GUARANTEE REMOVAL OF DEBRIS GREATER THAN THE SCREEN OPENINGS. REMOVABLE LINERS USE ONLY MONOFILAMENT WEAVES TO REDUCE BLINDING AND HEAD LOSS AND ULTIMATELY TO PREVENT BYPASSING.
 3. ENVIROPOD FILTERS HAVE REMOVABLE LINERS IN BOTH 200µm & 1600µm SCREEN OPENINGS. THE 200µm SERIES FILTER IS A PRECISION WOVEN NYLON MONOFILAMENT WEAVE. THE 1600µm SERIES IS A MONOFILAMENT WEAVE PVC UV & HEAT STABILISED COATING TO PREVENT BURN HOLES CAUSED BY CIGARETTE BUTTS ETC.
 4. ALL ENVIROPOD FILTERS EMPLOY A RIGID GALVANISED (ALUMINIUM TYPE) MILR STEEL CAGE TO ALLOW FOR DEEPER CAGES REDUCING TURBULANCE AND HENCE PREVENT RE-SUSPENSION OF MATERIAL. THIS ALSO RESULTS IN LARGER STORAGE CAPACITIES AND CONSEQUENTLY REDUCES MAINTENANCE REQUIREMENTS.
 5. BOTH ENVIROPOD REMOVABLE AND FIXED LINERS CAN BE CLEANED USING A VACUUM OR EDUCTIO TRUCK. REMOVABLE LINERS CAN ALSO BE CLEANED BY HAND (MANUAL METHODS). PLEASE CONSULT STORMWATER360'S OPERATIONS AND MAINTENANCE MANUAL FOR FURTHER DETAILS.
 6. ALL STANDARD ENVIROPODS ARE DESIGNED TO FIT ALL PITS RANGING FROM 350 x 350mm AND UP TO 1200 x 1200mm.
 7. FOR SIZES OR OPTIONS OUTSIDE THESE PIT SIZES CONTACT STORMWATER360 FOR FURTHER ADVICE.



ORIFICE PLATE DETAIL
 SCALE = N.T.S.



BASEMENT DRAIN (DR1) DETAIL
 SCALE = 1 : 20



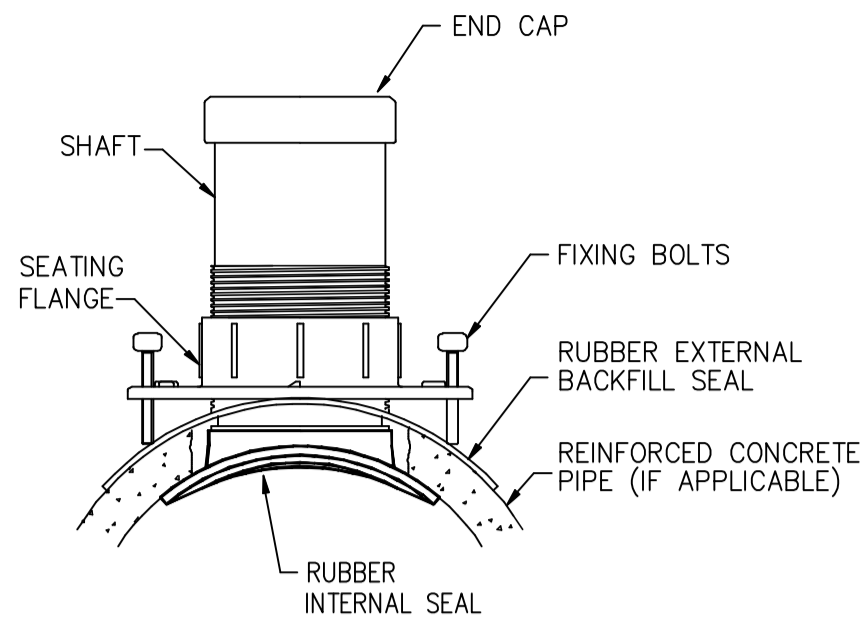
MAXI MESH SCREEN DETAIL
 SCALE = N.T.S.



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A		Approved by: R. Mikhail	DRAWN	S.M.	03.09.2021		Cient: LAXLAND GROUP PTY LTD	STORMWATER DRAINAGE DETAILS	Project Number: 210804	Drawing ID: SW200	Issue: A
Rev:	Date:	Description:	CHECKED	R.M.	08.09.2021		APPROVED	R.M.	08.09.2021		

NOTES:
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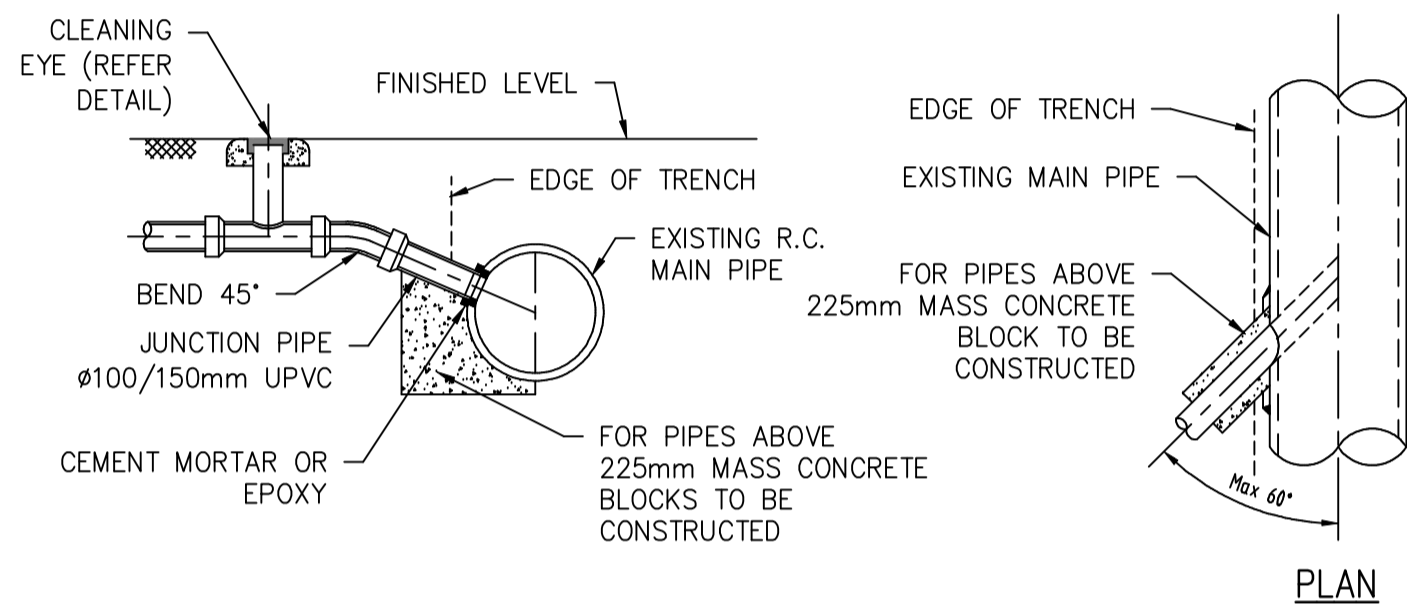


CODE	ITEM	SIZE
1026635	Flowcon PVC Conconnect	100mm
1026636	Flowcon PVC Conconnect	150mm

TO BE INSTALLED AS PER MANUFACTURERS DETAILS

FLOWCON CONCONNECT TYPICAL DETAIL (OPTION)

SCALE = N.T.S.



TYPICAL CONNECTION TO EXISTING R.C. PIPE DETAILS

SCALE = N.T.S.

CONNECTION TO R.C. PIPE

THE R.C. STORMWATER PIPE SHALL BE PIERCED BY A NEAT OPENING AS SHOWN TO ALLOW THE CONNECTION OF A SQUARE, SLOPED JUNCTION OR BEND WHICH SHALL NOT PROTRUDE BEYOND THE INNER SURFACE OF THE R.C. STORMWATER PIPE.

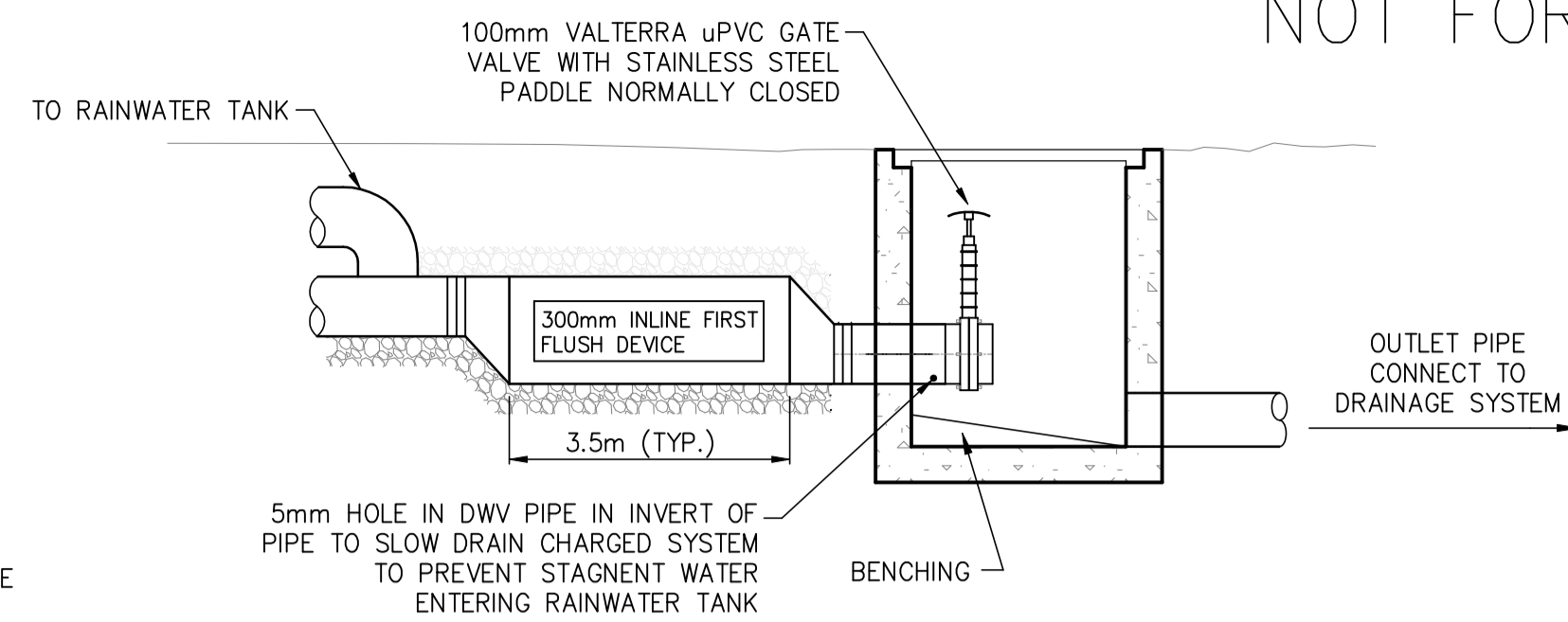
THE INTERNAL JUNCTION SHALL BE SMOOTHLY FINISHED WITH 2:1 CEMENT MOTAR OR EPOXY CEMENT SO AS TO PRESENT NO OBSTRUCTION WITHIN THE INTERNAL SURFACE OF THE R.C. STORMWATER PIPE. THE LINE IS NOT TO EXTEND BEYOND POINT 1 UNTIL APPROVED BY COUNCIL.

THE HOLE IN COUNCILS PIPE IS TO BE FORMED BY CAREFUL DRILLING TO NEATLY ACCEPT THE OUTSIDE DIAMETER OF THE PIPE.

ANY DAMAGE TO THE STRUCTURE OF COUNCIL'S PIPE IS TO BE MADE GOOD TO THE SATISFACTION OF COUNCIL'S ENGINEER, IF NECESSARY BY THE REPLACEMENT OF THE PIPE.

PIPE FITTINGS ARE TO BE VETIFIED CLAY OR SEWER QUALITY UPVC.

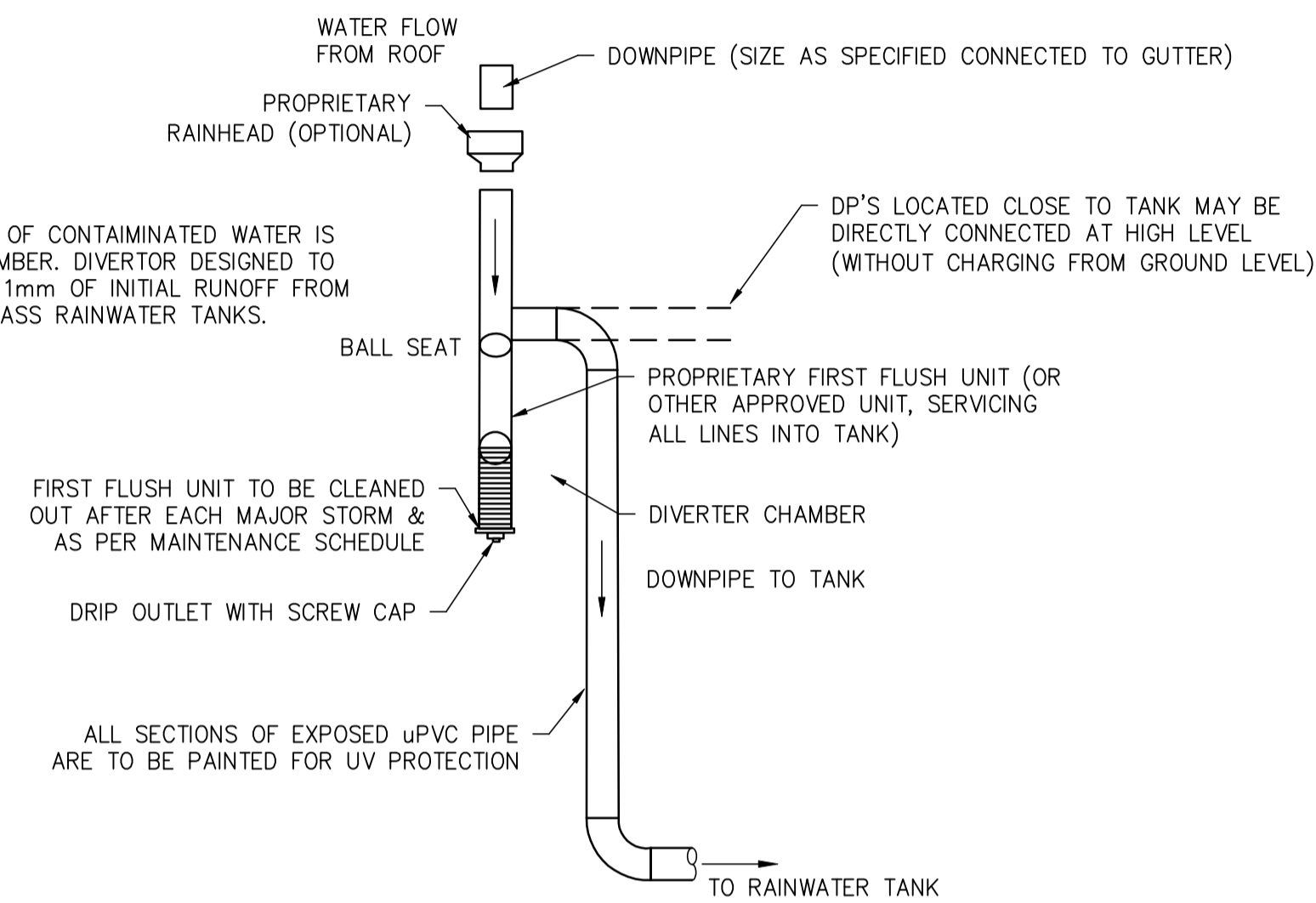
COUNCIL PIPELINE IS TO BE LEFT FREE OF DROPPED CLAY, COUNCRETE, MORTAR, ETC...



FIRST FLUSH DETAIL - INGROUND

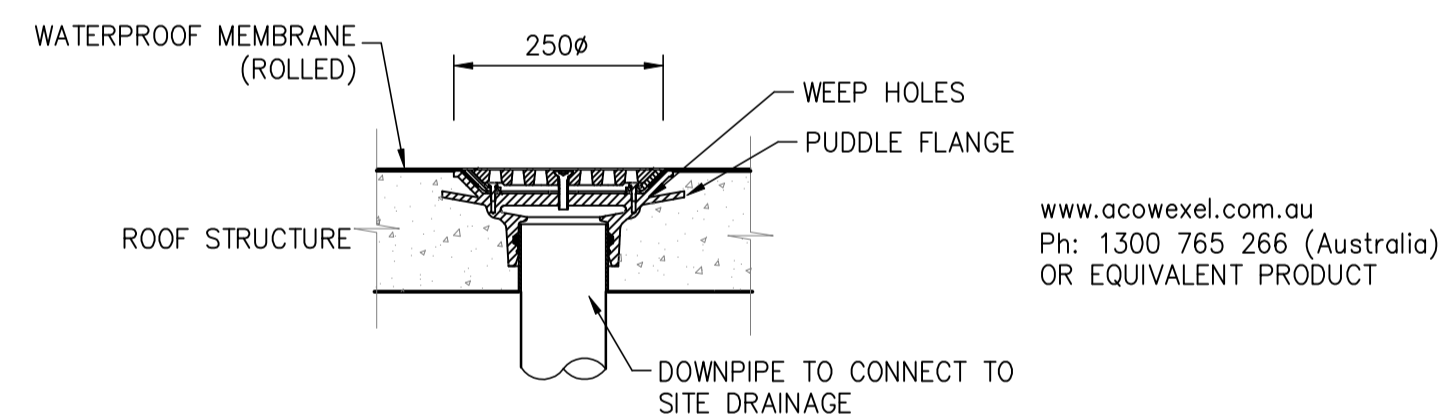
SCALE = 1 : 20

NOTE: FIRST FLUSH OF CONTAMINATED WATER IS DIVERTED INTO CHAMBER. DIVERTOR DESIGNED TO CAUSE MINIMUM OF 1mm OF INITIAL RUNOFF FROM ROOF AREA TO BYPASS RAINWATER TANKS.



TYPICAL WALL MOUNTED FIRST FLUSH DETAIL

NOT TO SCALE

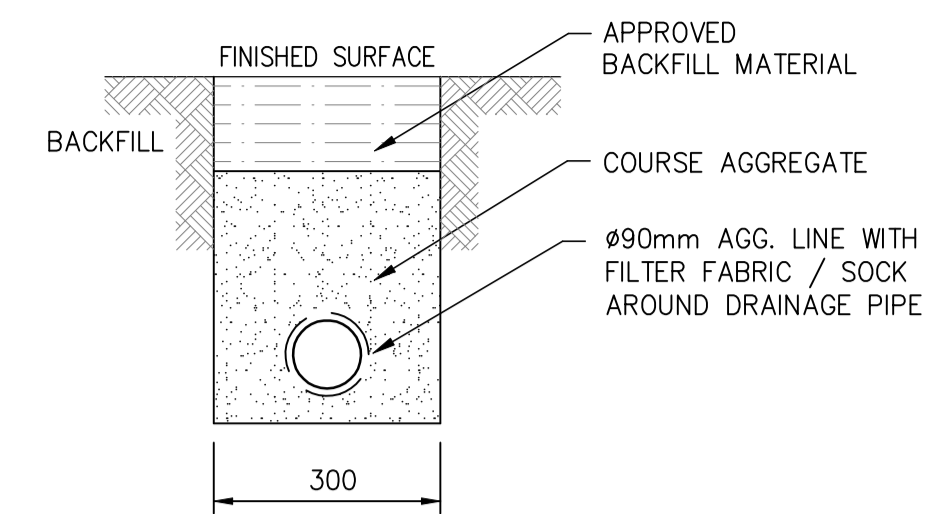


TYPICAL RAINWATER OUTLET (RWO) DETAIL

SCALE = 1 : 20

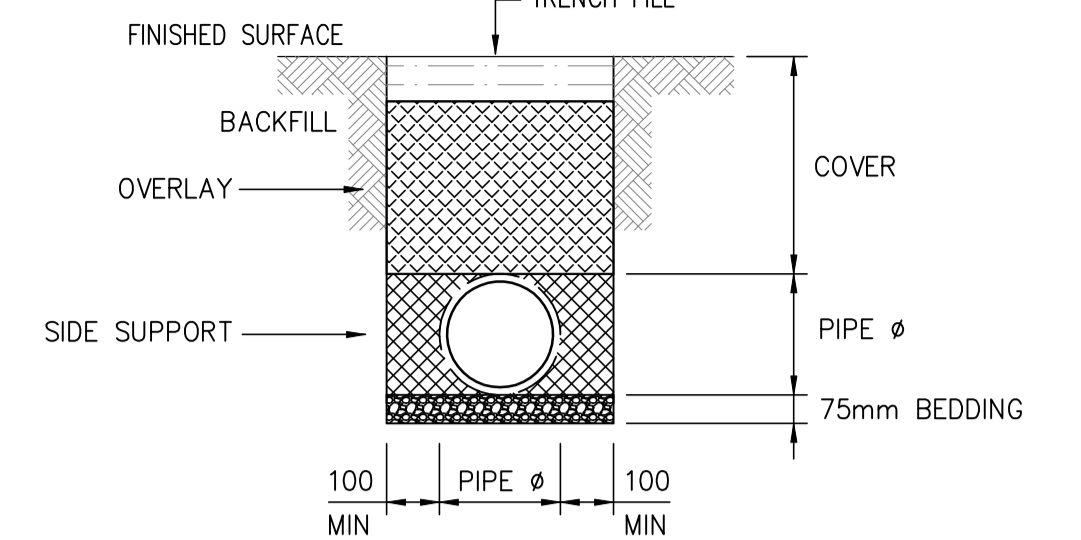
NOT FOR CONSTRUCTION

NOTE: PRECAST OR CAST INSITU PIT. REFER STORMWATER NOTES OR PROVIDE ALTERNATE POLYPROPYLENE PIT BY MANUFACTURER IF APPROVED BY ENGINEER
NOTE: THIS CAN BE ANY TYPICAL PIT PROVIDED OR IF NEEDED TO BE FITTED AT LOW POINT OF SITE AND THERE IS NO ADEQUATE DISCHARGE POINT NEARBY, PROVIDE 300mm SUMP. CONTACT ENGINEER IF IN DOUBT.



TYPICAL SUB-SOIL TRENCH DETAIL

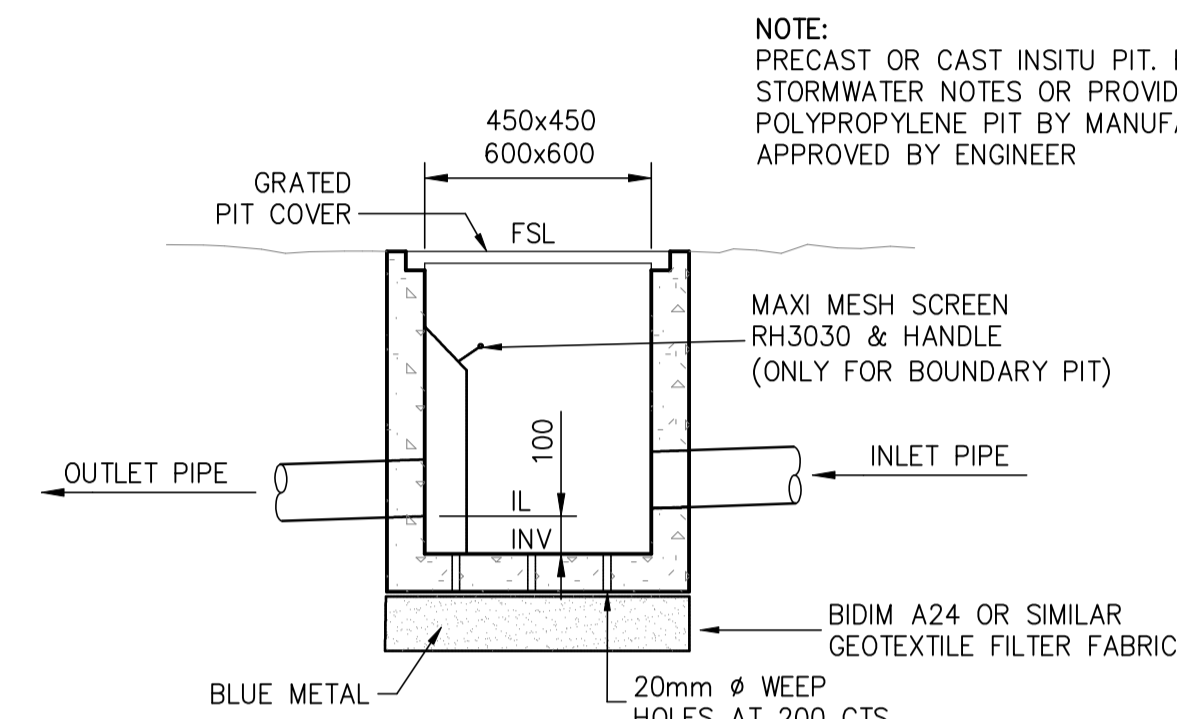
SCALE = N.T.S.



TYPICAL uPVC PIPE TRENCH DETAIL

SCALE = N.T.S.

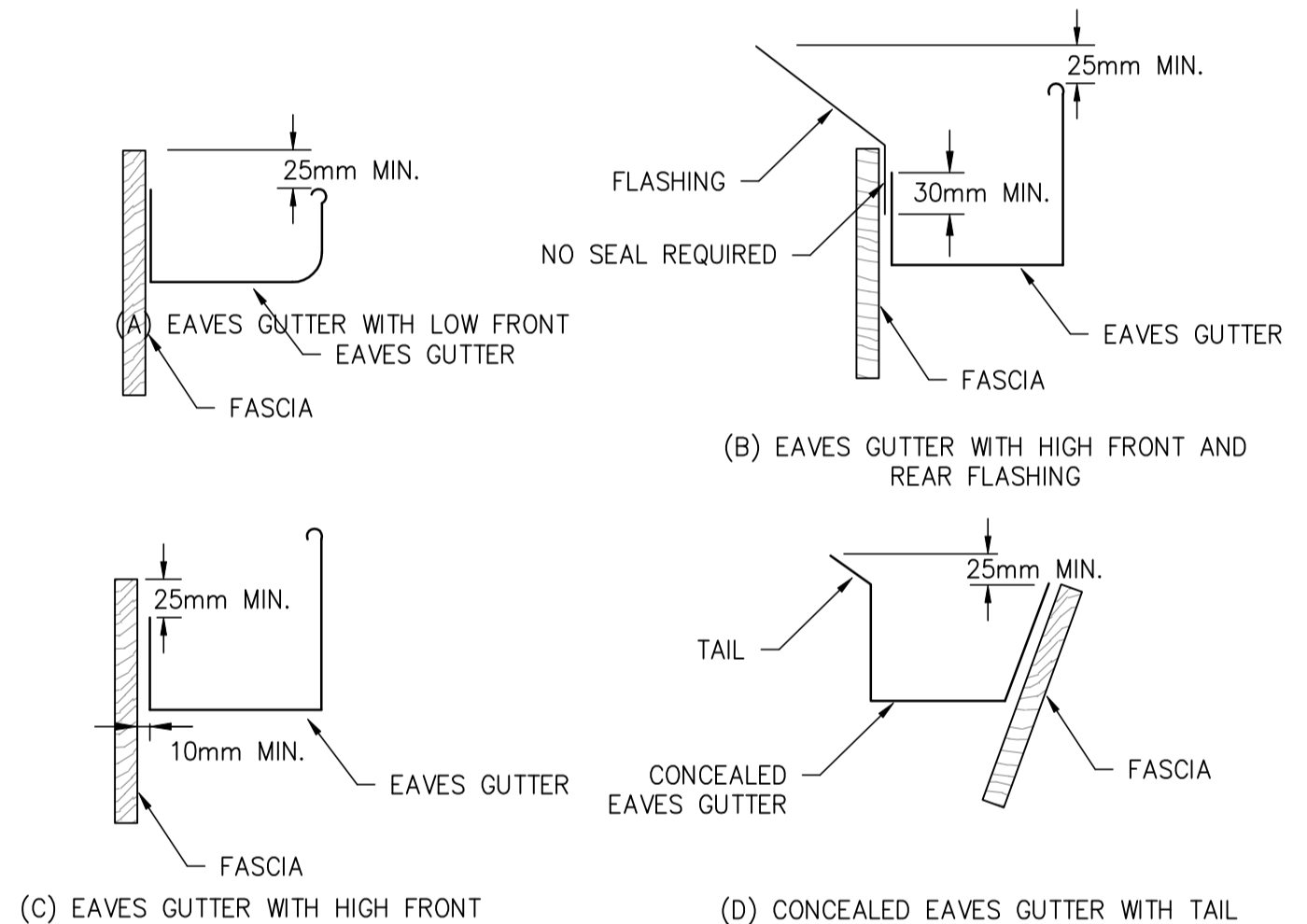
NOTE - STANDARD uPVC PIPE TRENCH:
 SUITABLE BEDDING TO AS2032:
 1. SAND FREE FROM ROCK OR OTHER HARD AND SHARP OBJECTS THAT WOULD BE RETAINED ON 13.2 SIEVE.
 2. CRUSHED ROCK OR GRAVEL OF APPROVED GRADING UP TO MAXIMUM SIZE OF 14mm.
 3. THE EXCAVATED MATERIAL MAY BE USED IF IT IS FREE FROM ROCK OR HARD MATTER AND BROKEN UP SO THAT IT CONTAINS NO SOIL LUMPS HAVING ANY DIMENSIONS GREATER THAN 75mm WHICH WOULD PREVENT ADEQUATE COMPACTION OF THE BEDDING.
 SIDE SUPPORT: MATERIAL FOR PIPE SUPPORT SHOULD BE ADEQUATELY TAMPED IN LAYERS OF NOT MORE THAN 150mm.
 OVERLAY: PIPE OVERLAY MATERIAL SHOULD BE LEVELED AND TAMPED IN LAYERS TO A MINIMUM HEIGHT OF 150mm ABOVE THE CROWN OF PIPE.
 COVER: FOR MIN COVER REFER TO AS3500.3:2018.



TYPICAL PIT DETAIL

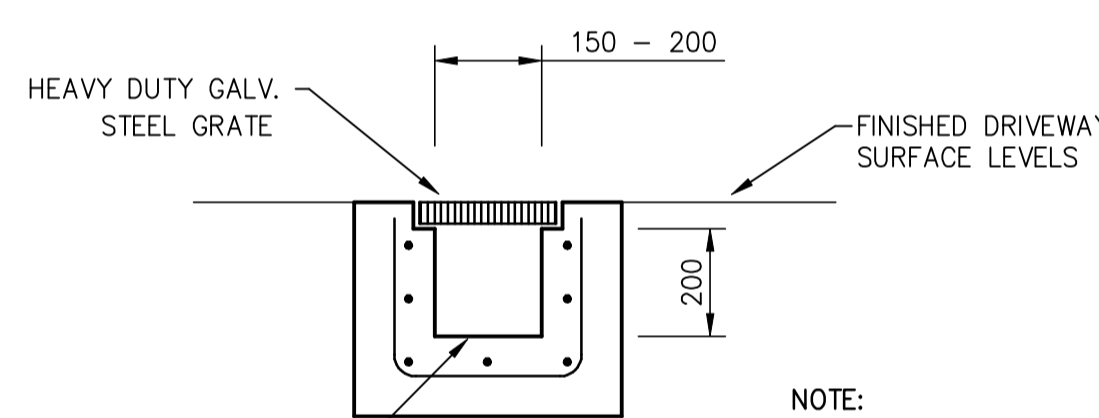
SCALE = 1 : 20

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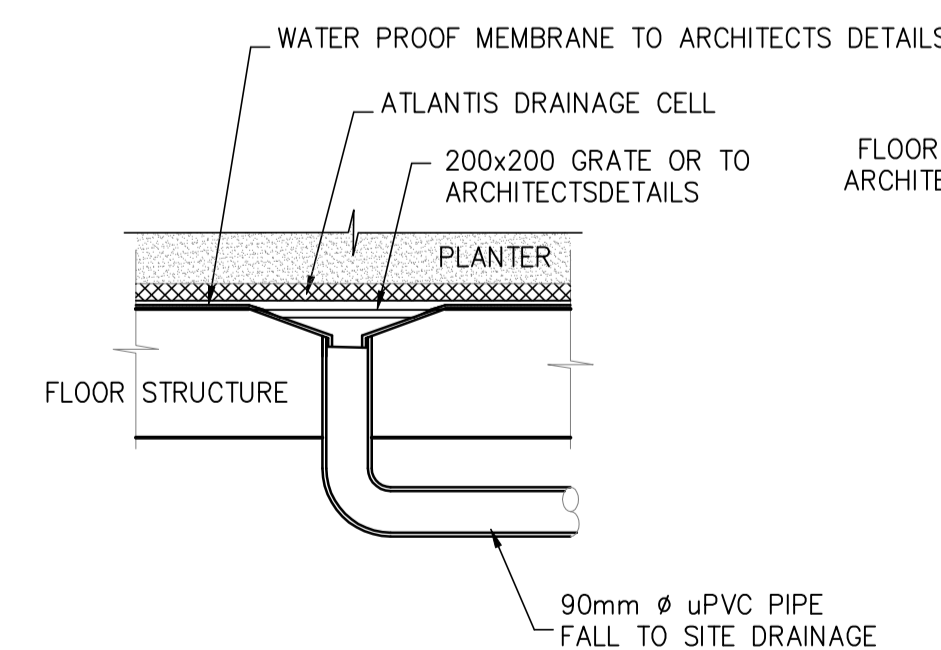
EAVES GUTTER OVERFLOW METHODS

SCALE: 1:20



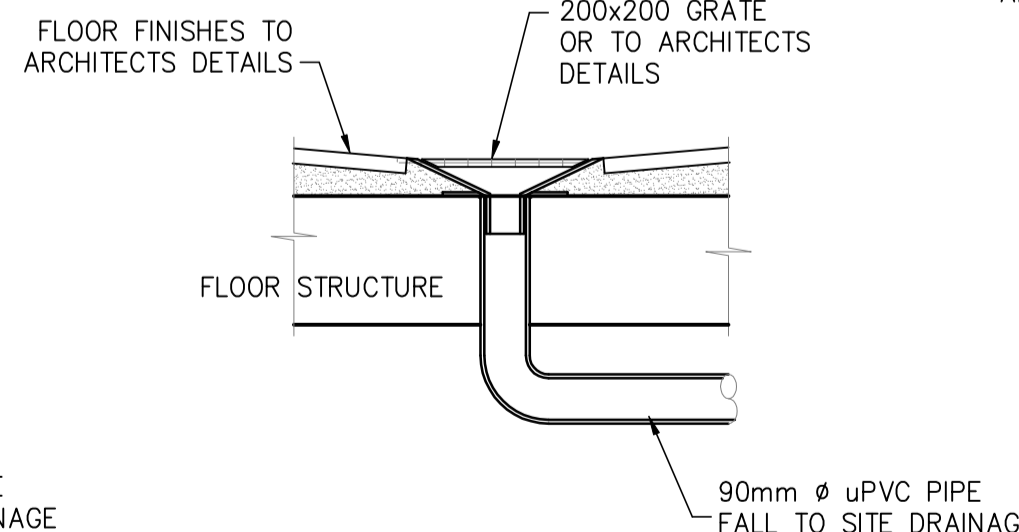
TYPICAL DRIVEWAY GRATED DRAIN (GD)

SCALE = 1 : 20



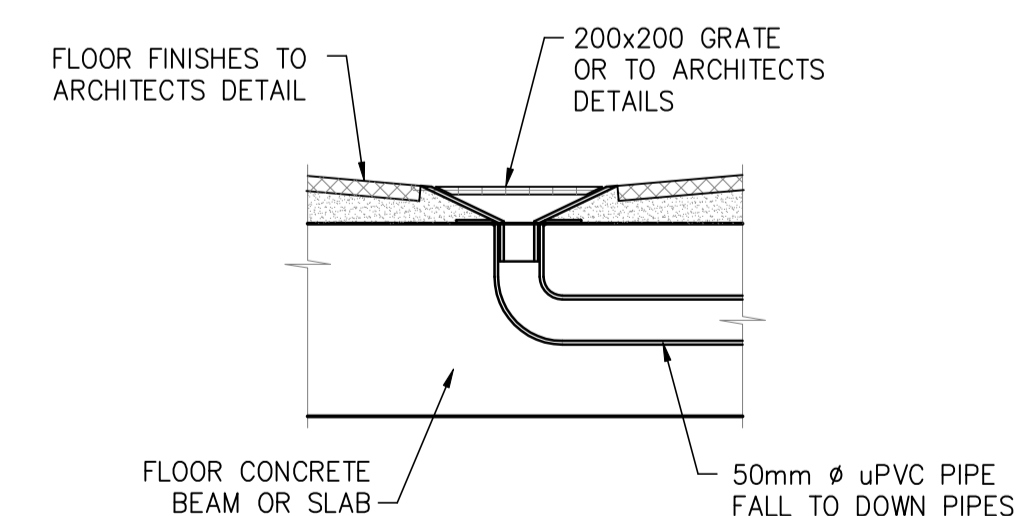
STANDARD FLOOR DRAIN

SCALE = 1 : 20



STANDARD FLOOR PATIO DRAIN

SCALE = 1 : 20



STANDARD FLOOR DRAIN (OPTION FOR BALCONIES ONLY)

SCALE = 1 : 20

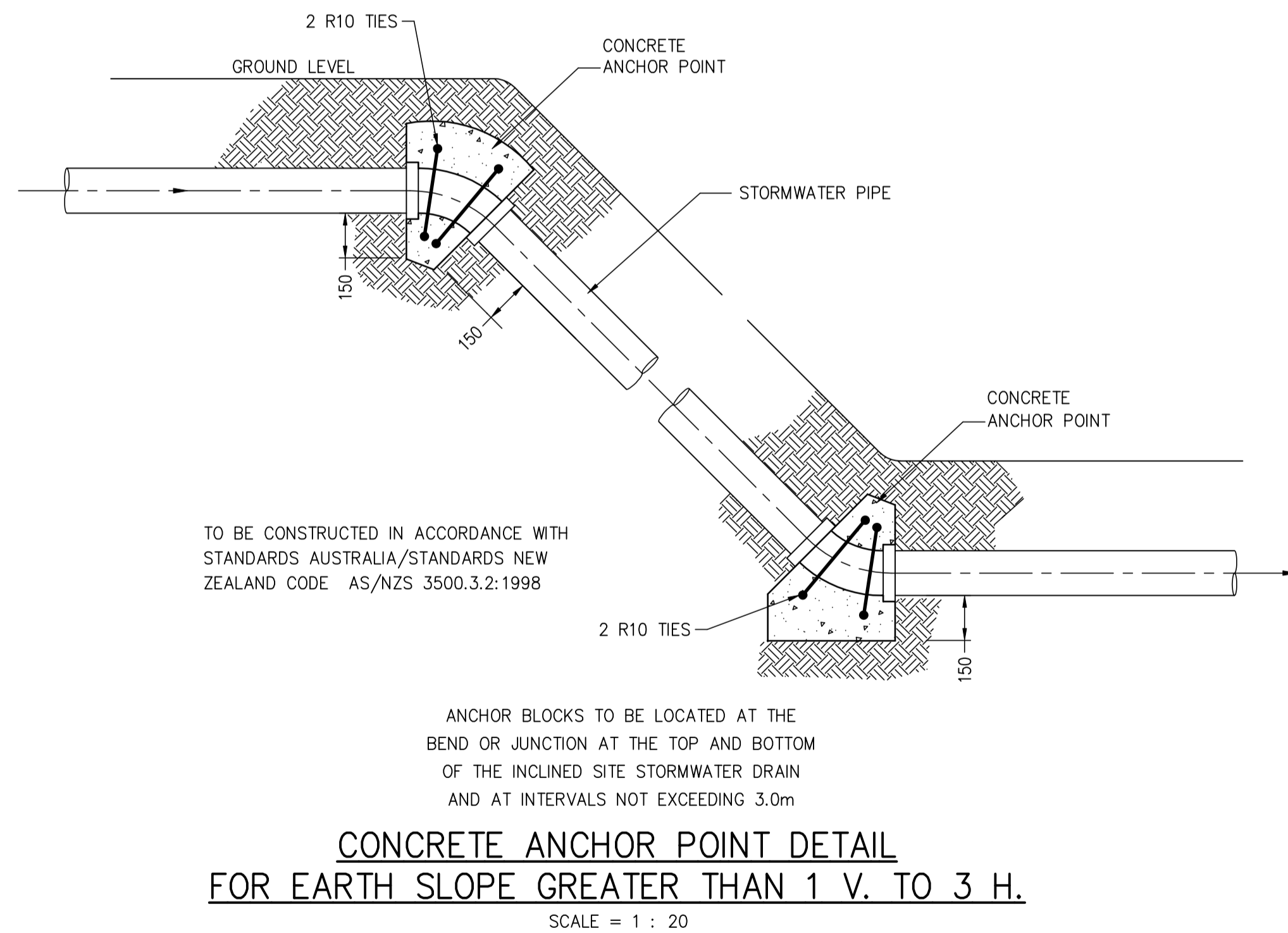
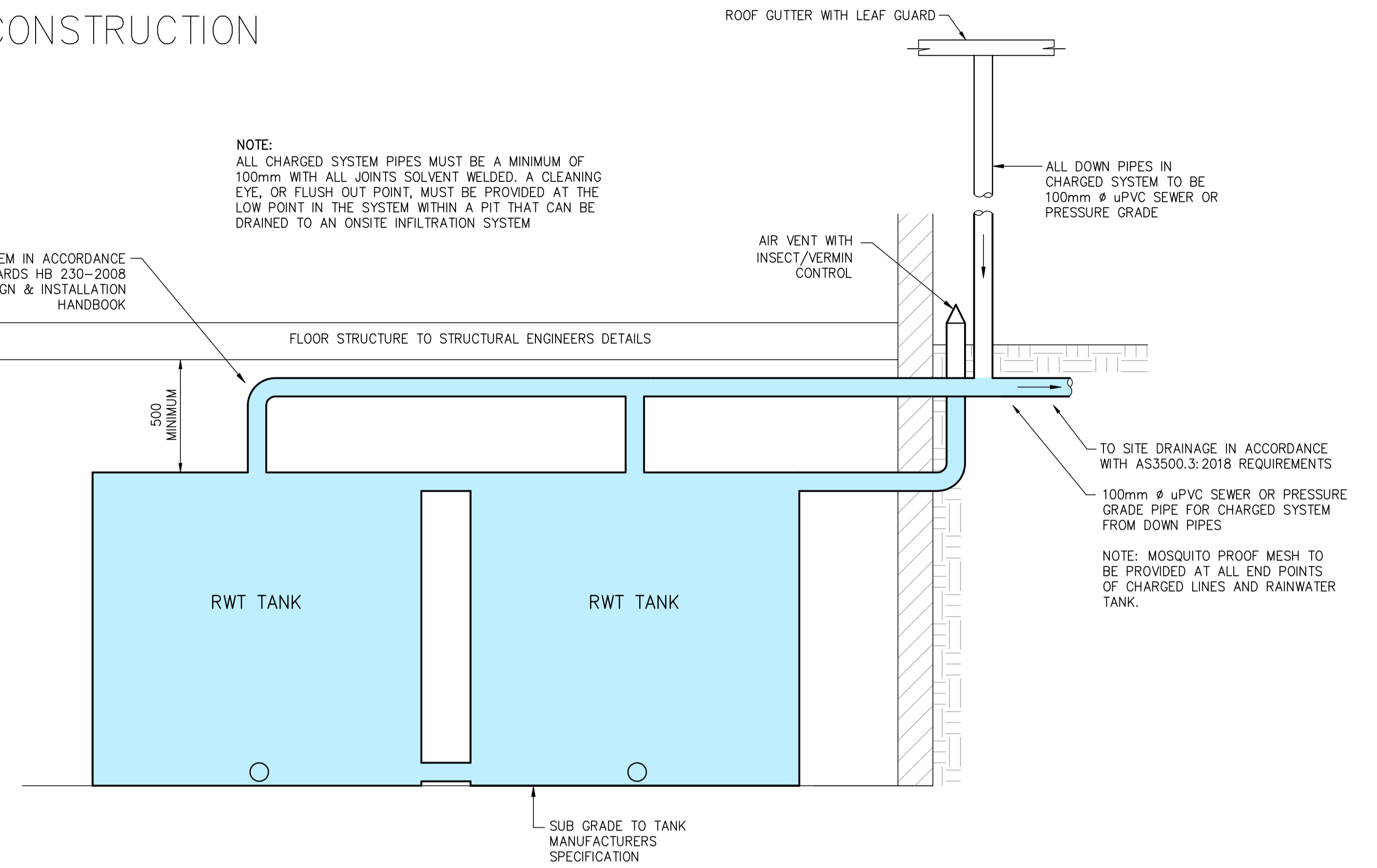
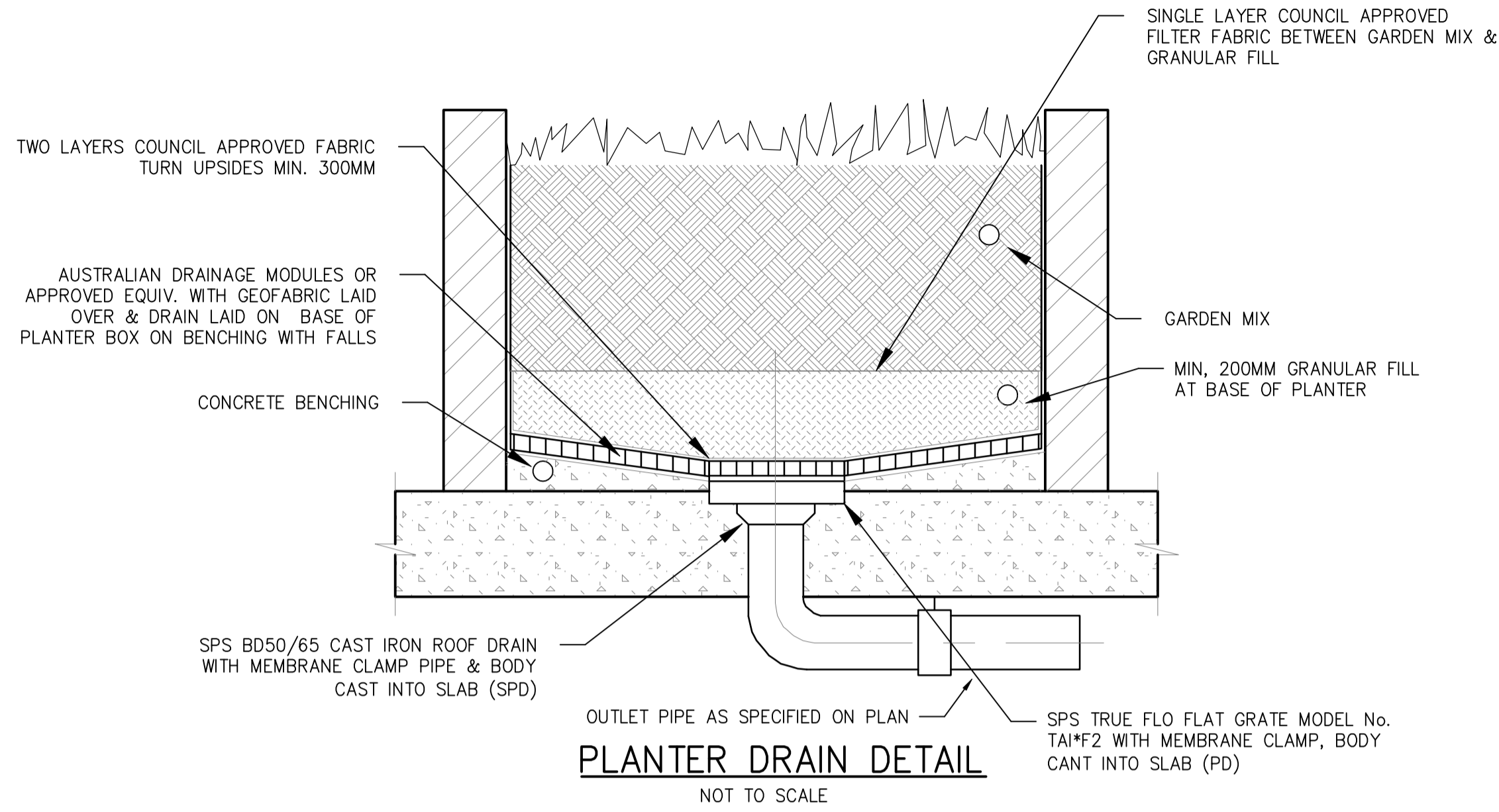
NOTE:
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A1 ORIGINAL		Issued for: DEVELOPMENT APPLICATION	Title:	Initial:	Date:		Architect:	Project and Drawing Title:		Local Council:	
		Approved by:	DESIGN	R.M	03.09.2021		WALSH ARCHITECTS	18 ALEXANDER STREET, COLLAROY		NORTHERN BEACHES COUNCIL	
		Date: 10.09.21	DRAWN	S.M	03.09.2021	STORMWATER • CIVIL • FLOOD MITIGATION		STORMWATER DRAINAGE DETAILS CONT.		Project Number:	Drawing ID:
Rev:	Date:	Description:	CHECKED	R.M	08.09.2021	ABN: 81 615 065 588 Phone: 0490 507 300 Email: admin@rtscivil.com.au Web: rtscivil.com.au	LAXLAND GROUP PTY LTD	210804		SW201	Issue:
			APPROVED	R.M	08.09.2021	The document is produced by RTS Civil Consulting Engineers Pty Ltd (RTS) solely for the benefit of and use by the client in accordance with the terms and conditions of RTS. RTS does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.		210804		SW201	A



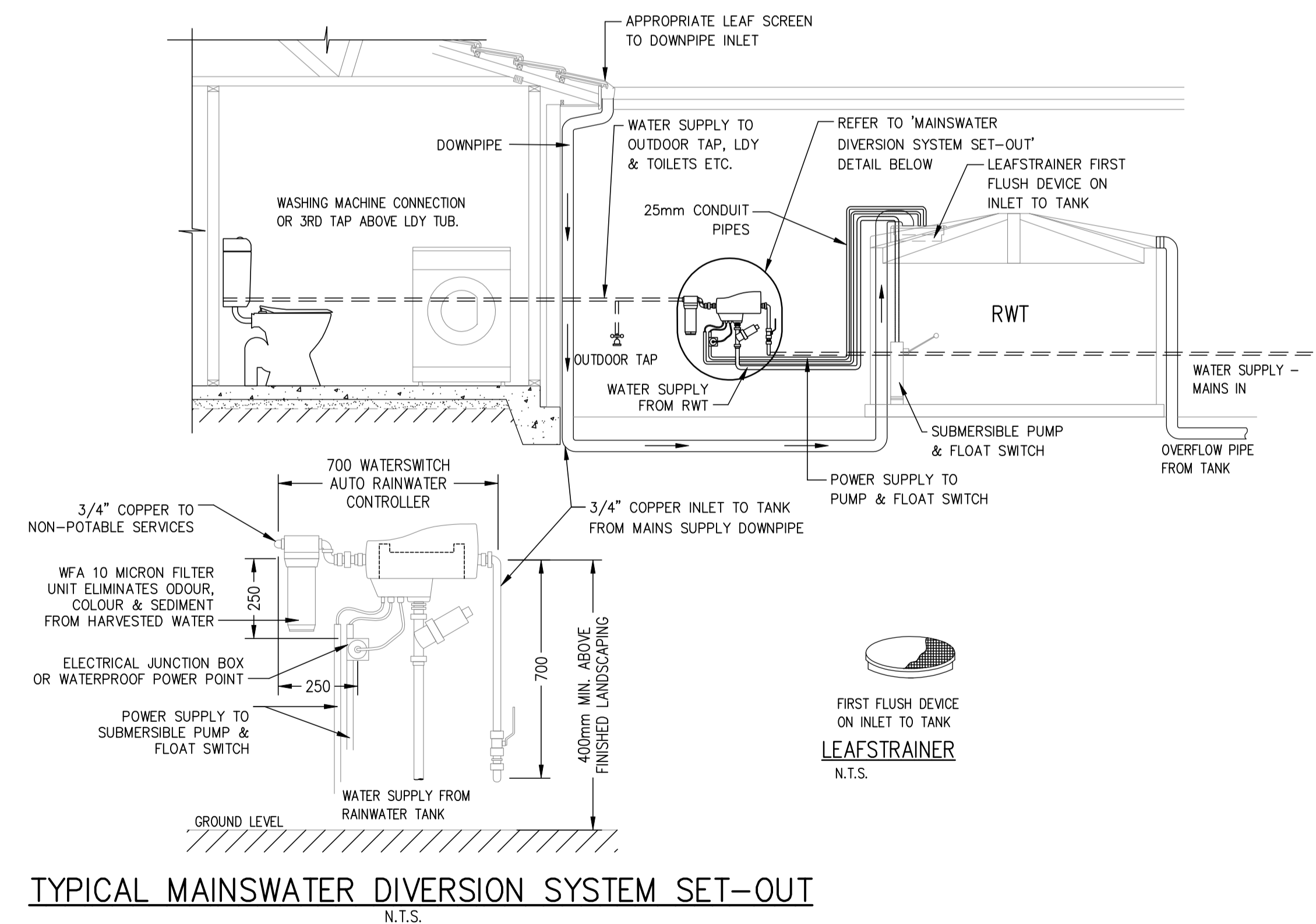
NOTES:
 1. U.N.O REFER TO THE COVERPAGE CP100 SERIES FOR DETAILED NOTES AND CALCULATIONS.
 2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

NOT FOR CONSTRUCTION



FULLY WATERTIGHT RAINWATER TANK DETAIL
NOT TO SCALE

MAINSWATER DIVERSION SYSTEM SET-OUT:
 BUILDERS PLEASE USE THE FOLLOWING GUIDES FOR THE PROVISION OF INTERNAL CONNECTIONS TO THE MAINS WATER DIVERSION SYSTEM MOUNTING ON EXTERNAL WALL. THE POSITIONING OF THE UNIT MUST BE WITHIN 6 METRES OF THE TANK POSITION. COPPER CONNECTIONS MUST BE AT LEAST 60mm PROUD OF BRICKWORK OR RENDERED FINISH. PROVIDE A LOOPED CONNECTION SO THAT THE BUILDER'S PLUMBER CAN PRESSURE TEST LINES PRIOR TO MAINS WATER DIVERTER INSTALLATION.



NOTE:
 THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.

A1 ORIGINAL		Issued for: DEVELOPMENT APPLICATION	Title: DESIGN	Initial: R.M.	Date: 03.09.2021	<p>STORMWATER • CIVIL • FLOOD MITIGATION ABN: 81 615 065 588 Phone: 0490 507 300 Email: admin@rtscivil.com.au Web: rtscivil.com.au</p>	Architect: WALSH ARCHITECTS	Project and Drawing Title: 18 ALEXANDER STREET, COLLAROY	Local Council: NORTHERN BEACHES COUNCIL		
A		10.09.21	STORMWATER & CIVIL ACCESS PLAN FOR DA SUBMISSION	R.M.			Client: LAXLAND GROUP PTY LTD	STORMWATER DRAINAGE DETAILS CONT.	Project Number: 210804	Drawing ID: SW202	Issue: A
Rev:	Date:	Description:	Reviewed:								



- NOTES:**
1. U.N.O REFER TO THE COVERPAGE CP100 SERIES FOR DETAILED NOTES AND CALCULATIONS.
 2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

SEDIMENT AND EROSION CONTROL NOTES:

1. SILT FENCE AND ASSOCIATED WORKS INCLUDING INTERCEPTOR DRAIN IS TO BE INSTALLED BEFORE THE COMMENCEMENT OF ANY EXCAVATION.
2. GEOTECHNICAL ENGINEER IS TO PROVIDE SITE STABILITY REQUIREMENTS. CUTS ARE TO BE EXECUTED TO THE REQUIRED LEVEL USING CONVENTIONAL EXCAVATION MACHINERY. AS A GUIDE, INITIALLY THE DEPTH OF FILL/CLAY IS TO BE ESTABLISHED TO ENSURE NEIGHBOURING PROPERTIES ARE NOT ADVERSELY AFFECTED. EARTH BATTERS TO BE A MAXIMUM SLOPE OF 1.0m VERT. TO 1.7m HORIZ. (AS PER GEOTECHNICAL REPORT). ANY BATTERS GREATER THAN 1.0m VERT. TO 1.7m HORIZ. ARE TO BE ADEQUATELY SHORED IN ACCORDANCE WITH GEOTECHNICAL ENGINEERS DETAILS AND INSTRUCTIONS.
3. ANY PERMANENT RETAINING STRUCTURE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERS DETAILS AND INSTRUCTIONS.
4. ALL PERMANENT RETAINING STRUCTURES ARE TO BE COMPLETED WITH MINIMUM DELAY FOLLOWING EXCAVATION.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER.
6. CONTRACTOR TO MINIMISE DISTURBED AREAS.
7. ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
8. DRAINAGE IS TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS POSSIBLE.
9. ROADS AND FOOTPATH TO BE SWEEP DAILY.
10. CONSTRUCTION VEHICLES ARE TO LEAVE AND ENTER THE SITE OVER ALL WEATHER SURFACE CONSISTING OF COURSE CRUSHED STONE OR BLUE METAL CONSTRUCTED WITHIN THE FRONT SETBACK AREA OPPOSITE THE EXISTING FOOTPATH CROSSING UNLESS NOTED OTHERWISE.
11. EXCAVATION MACHINERY ARE TO BE UNLOADED AND LOADED UPON THIS ALL WEATHER SURFACE. CONCRETE PUMPS AND TRUCKS WILL ALSO UTILISE THE ALL WEATHER SURFACE FOR THEIR OPERATIONS.
12. MATERIALS WILL BE UNLOADED UPON THE ALL WEATHER SURFACE WITHIN THE FRONT SETBACK AREA BY MEANS OF CRANES MOUNTED ON THE BACK OF DELIVERY TRUCKS OR UNLOADED BY HAND. A MOBILE CRANE MAY BE REQUIRED DURING THE CONSTRUCTION PROCESS.
13. SOME STOCKPILING OF TOPSOIL REMOVED FROM THE BUILDING AREA MAY BE STORED ON THE SITE DURING THE CONSTRUCTION WITHIN THE PROPERTY IN AN AREA ENCLOSED WITHIN THE SEDIMENT CONTROL FENCING.
14. ALL EXCAVATED & CONSTRUCTION MATERIALS, SHED, SKIP BINS, TEMPORARY WATER CLOSETS, SPOIL AND EQUIPMENT, ETC SHALL BE KEPT WITHIN THE PROPERTY. NO VEHICLES OR MACHINES SHALL BE KEPT WITHIN THE PROPERTY. NO VEHICLES OR MACHINES SHALL STAND ON COUNCIL FOOTPATHS FOR LARGE LENGTHS OF TIME.
15. ALL RUBBISH & RECYCLABLE MATERIAL SHALL BE STOCKPILED IN WASTE BINS IN THE AREA NOMINATED ON THE SITE PLAN WITHIN THE SITE BOUNDARY. PUBLIC PROPERTY SHALL BE KEPT FREE OF RUBBISH AND RECYCLABLES AT ALL TIMES ANY WASTE MATERIALS SHALL BE REGULARLY COLLECTED FROM THE SITE AND DISPOSED OF IN AN APPROPRIATE FASHION.
16. ANY BUILDING OR DEMOLITION WORKS INVOLVING ASBESTOS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT STANDARDS.
17. VEHICLES LEAVING THE SITE WILL DO SO VIA THE ALL WEATHER BALLAST DRIVEWAY MADE OF COURSE AGGREGATE OR SIMILAR LOCATED WITHIN THE FRONT SETBACK AREA OF THE DEVELOPMENT. ANY DIRT OR MATERIAL DEPOSITED ON THE ROAD RESERVE OR ROADWAY IS TO BE PROMPTLY CLEANED.
18. ANY EXCAVATED AREA REQUIRING SUPPORT WILL BE UNDERTAKEN BY THE OWNER USING STRUCTURALLY APPROVED RETAINING STRUCTURES.
19. ADEQUATE SAFETY SIGNAGE MUST BE ERECTED IN A PROMINENT POSITION ON THE WORK SITE, WARNING OF UNAUTHORISED ENTRY TO WORK SITE AND INTENDING DANGERS.
20. SAFETY FENCES SHALL BE PROVIDED AROUND ALL BOUNDARIES UNLESS A CONTINUOUS STRUCTURALLY ADEQUATE FENCE PRESENTLY EXISTS. THE FENCING SHALL BE ADEQUATE TO RESTRICT PUBLIC ACCESS TO THE SITE WHEN BUILDING WORK IS NOT IN PROGRESS OR THE SITE IS UNOCCUPIED.
21. NOISE LEVELS SHALL NOT EXCEED COUNCIL REGULATION LEVELS. BUILDING AND DEMOLITION WORKS SHALL ONLY BE CARRIED OUT BETWEEN HOURS AND DAYS SPECIFIED BY COUNCIL.
22. GEOTEXTILE FABRIC SHALL BE PLACED ON THE INSIDE OF THE SITE FENCING PRIOR TO SITE DISTURBANCE TO PREVENT SEDIMENT WASHING FROM CLEARED AND DISTURBED AREAS OF THE SITE INTO THE STORMWATER SYSTEM. DURING CONSTRUCTION, UNLESS OTHERWISE NOTED, UNCONTAMINATED RUNOFF FROM CLEARED OR DISTURBED AREAS ARE TO BE DIRECTED TO A TEMPORARY SILT ARRESTOR PIT THAT SHALL BE PROVIDED WITHIN THE SITE AT THE STREET BOUNDARY PROCESSING SITE STORMWATER BEFORE IT IS DISCHARGED TO THE STREET DRAINAGE SYSTEM OR WATERCOURSE.
23. ALL TOP SOIL STRIPPED & STOCKPILED ONSITE IS TO BE PLACED IN NOMINATED AREAS ON PLAN OR TO COUNCIL REQUIREMENTS. ALL DISTURBED AREAS ARE TO BE STABILISED UPON THE COMPLETION OF BUILDING WORKS.
24. ALL SEDIMENT CONTROL STRUCTURES ARE TO BE CONTINUALLY MAINTAINED DURING CONSTRUCTION AND INSPECTED FOR STRUCTURAL DAMAGE AFTER EACH RAINFALL EVENT, WITH TRAPPED SEDIMENT BEING REMOVED TO THE TOPSOIL STOCKPILE.
25. WHERE THERE IS THE POTENTIAL OF SITE EROSION TO PRODUCE EXCESSIVE SEDIMENT RUNOFF, SUITABLE GEOTEXTILE BARRIERS SHALL BE PLACED TO ALLEVIATE THE RISK ACCORDINGLY. BARE SURFACES SHALL BE KEPT MOIST TO REDUCE DUST LEVELS. GEOTEXTILE FABRIC LOCATED ON THE INSIDE OF FENCES SHALL ALSO BE UTILISED FOR DUST CONTROL WHERE NECESSARY.
26. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH:
 - a) LOCAL AUTHORITY REQUIREMENTS
 - b) EPA - POLLUTION CONTROL MANUAL FOR URBAN STORMWATER
 - c) LANDCOM NSW - MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION ("BLUE BOOK")
27. PRIOR TO DISCHARGE OF SITE STORMWATER, GROUNDWATER AND SEEPAGE WATER INTO COUNCIL'S STORMWATER SYSTEM, CONTRACTORS MUST UNDERTAKE WATER QUALITY TESTS IN CONJUNCTION WITH A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT OUTLINED THE FOLLOWING:
 - a) COMPLIANCE WITH THE CRITERIA OF THE AUSTRALIAN AND NEW ZEALAND GUIDELINES FOR FRESH AND MARINE WATER QUALITY (2000)
 - b) IF SUBJECT TO THE ENVIRONMENTAL CONSULTANTS ADVICE, PROVIDE REMEDIAL MEASURES TO IMPROVE THE QUALITY OF WATER THAT IS TO BE DISCHARGED INTO COUNCIL'S STORMWATER DRAINAGE SYSTEM. THIS SHOULD INCLUDE COMMENTS FROM A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT CONFIRMING THE SUITABILITY OF THESE REMEDIAL MEASURES TO MANAGE THE WATER DISCHARGED FROM THE SITE INTO COUNCIL'S STORMWATER DRAINAGE SYSTEM. OUTLINING THE PROPOSED, ONGOING MONITORING, CONTINGENCY PLANS AND VALIDATION PROGRAM THAT WILL BE IN PLACE TO CONTINUALLY MONITOR THE QUALITY OF WATER DISCHARGED FROM THE SITE. THIS SHOULD OUTLINE THE FREQUENCY OF WATER QUALITY TESTING THAT WILL BE UNDERTAKEN BY A SUITABLY QUALIFIED ENVIRONMENTAL CONSULTANT.

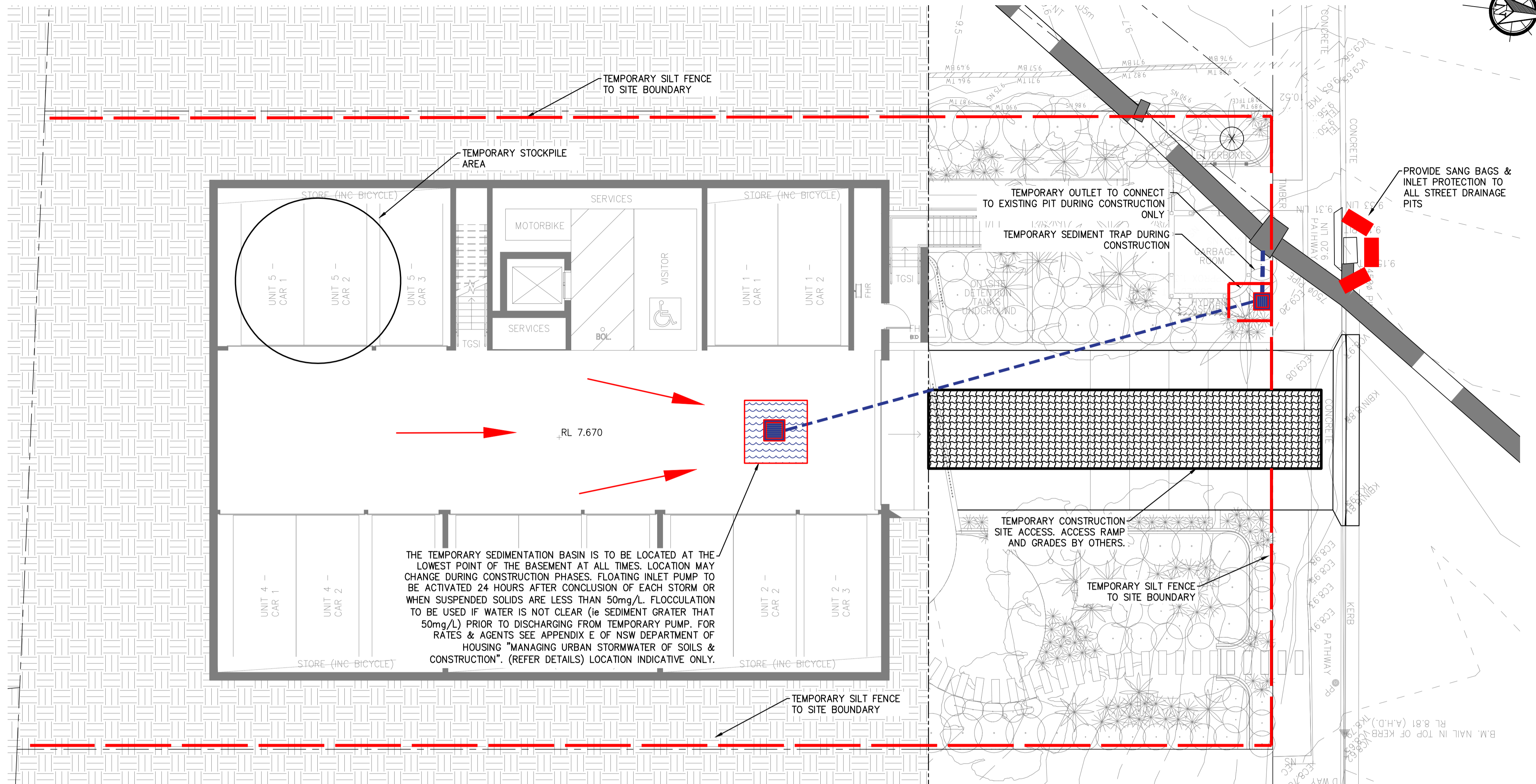
NOTE: PIT, PIPE & DOWNPIPE LOCATIONS ARE INDICATIVE ONLY & MAY VARY DUE TO CONSTRAINTS. IF IN DOUBT, ASK!

WARNING! CARE WHEN DIGGING AROUND TREE ROOTS. HAND DIGGING ONLY! MAY REQUIRE ARBORIST SUPERVISION.

NOTE:
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A1 ORIGINAL			
Issued for:	DEVELOPMENT APPLICATION	Title:	DESIGN
Approved by:	<i>R. Mikhail</i>	Initial:	R.M.
Date:	10.09.21	Date:	03.09.2021
Reviewed:	R.M.	Checked:	S.M.
Date:	10.09.21	Date:	03.09.2021
Description:	STORMWATER & CIVIL ACCESS PLAN FOR DA SUBMISSION	Checked:	R.M.
Reviewed:	R.M.	Date:	08.09.2021
Date:	10.09.21	Date:	08.09.2021
Description:	STORMWATER & CIVIL ACCESS PLAN FOR DA SUBMISSION	Approved:	R.M.
Reviewed:	R.M.	Date:	08.09.2021

NOT FOR CONSTRUCTION



SITE SEDIMENT & EROSION CONTROL PLAN

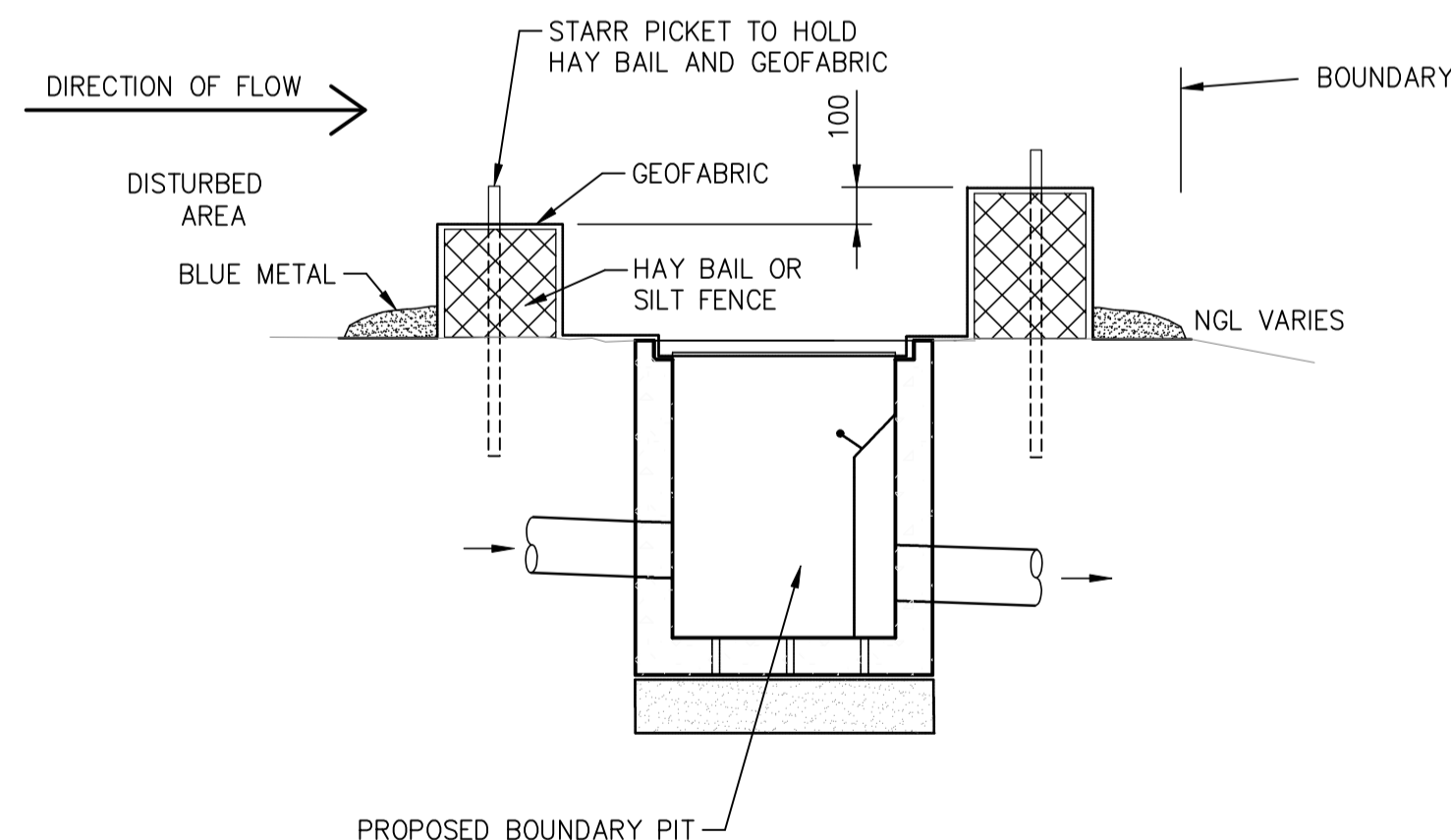
SCALE = 1 : 100

EROSION CONTROL NOTES:

1. SILT FENCE AND ASSOCIATED WORKS INCLUDING INTERCEPTOR DRAIN IS TO BE INSTALLED BEFORE THE COMMENCEMENT OF ANY EXCAVATION.
2. CUTS TO BE EXECUTED TO THE REQUIRED LEVEL USING CONVENTIONAL EXCAVATION MACHINERY. INITIALLY THE DEPTH OF FILL/CLAY IS TO BE ESTABLISHED TO ENSURE NEIGHBOURING PROPERTIES ARE NOT ADVERSELY AFFECTED. EARTH BATTERS TO BE A MAXIMUM SLOPE OF 1.0 m VERT. TO 1.7 m HORIZ. (AS PER GEOTECHNICAL REPORT). ANY BATTERS GREATER THAN 1.0 m VERT. TO 1.7 m HORIZ. ARE TO BE ADEQUATELY SHORED IN ACCORDANCE WITH THE ENGINEERS DETAILS AND INSTRUCTIONS.
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5. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER.
6. CONTRACTOR TO MINIMISE DISTURBED AREAS.
7. ALL STOCKPILES TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
8. DRAINAGE IS TO BE CONNECTED TO STORMWATER SYSTEM AS SOON AS POSSIBLE.
9. ROADS AND FOOTPATH TO BE SWEEP DAILY.

SCHEDULE OF WORKS:

1. SILT FENCE AND ASSOCIATED WORKS INCLUDING INTERCEPTOR DRAIN IS TO BE INSTALLED BEFORE THE COMMENCEMENT OF ANY EXCAVATION.
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SEDIMENT TRAP CONSTRUCTION SPECIFICATION:

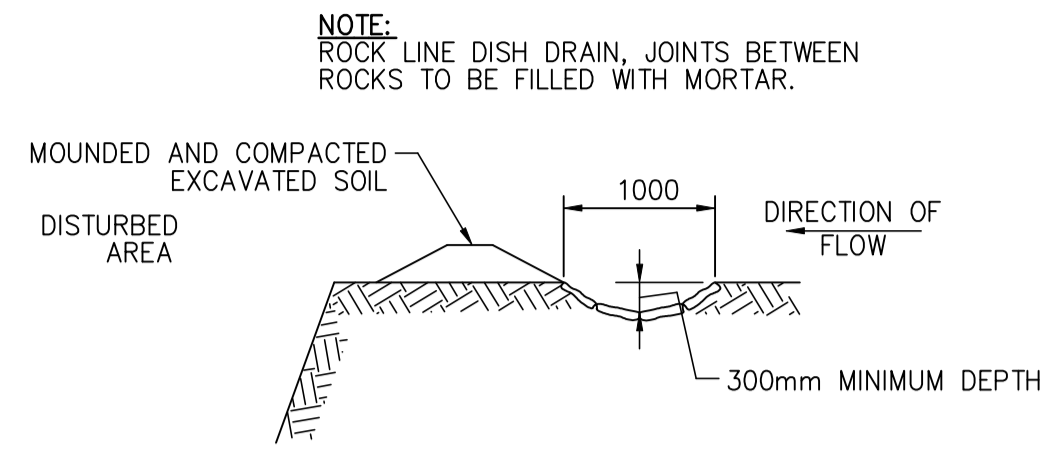
- 1 - SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- 2 - THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRED AS NEEDED.
- 3 - CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN A MANNER, THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
- 4 - THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTED DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



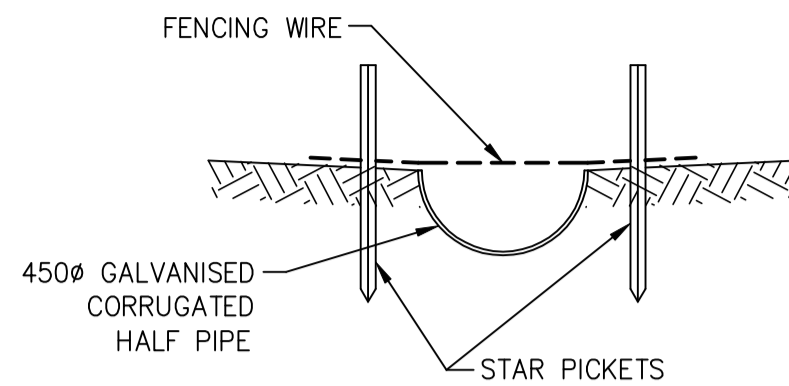
Architect:	WALSH ARCHITECTS	Project and Drawing Title:	18 ALEXANDER STREET, COLLAROY SEDIMENT & EROSION CONTROL PLAN	Local Council:	NORTHERN BEACHES COUNCIL
Client:	LAXLAND GROUP PTY LTD	Project Number:	210804	Drawing ID:	SE100
Issue:		Issue:	A		

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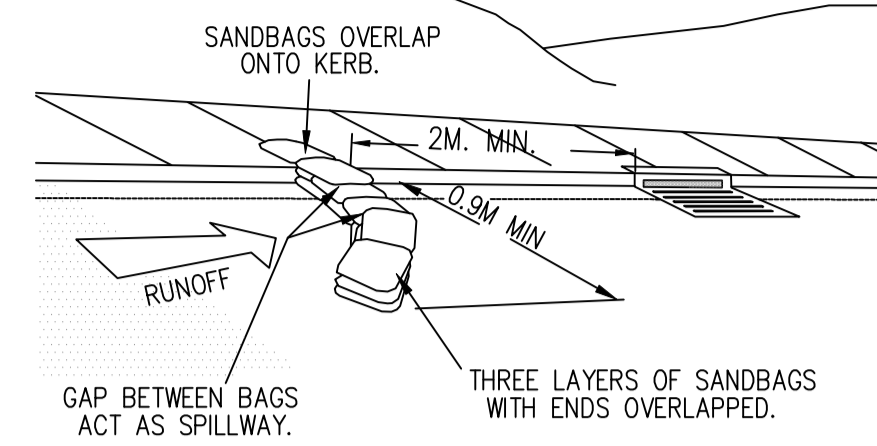
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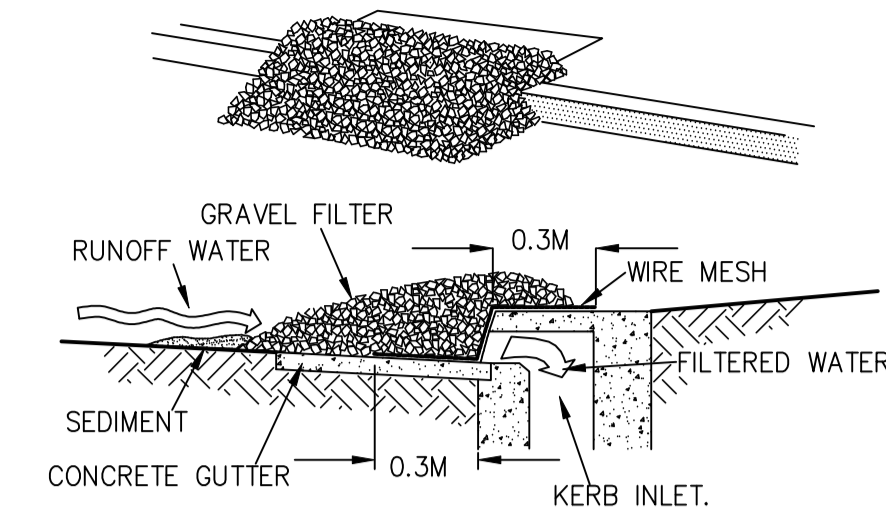
CATCH DRAIN – ROCK LINED
 SCALE = N.T.S.



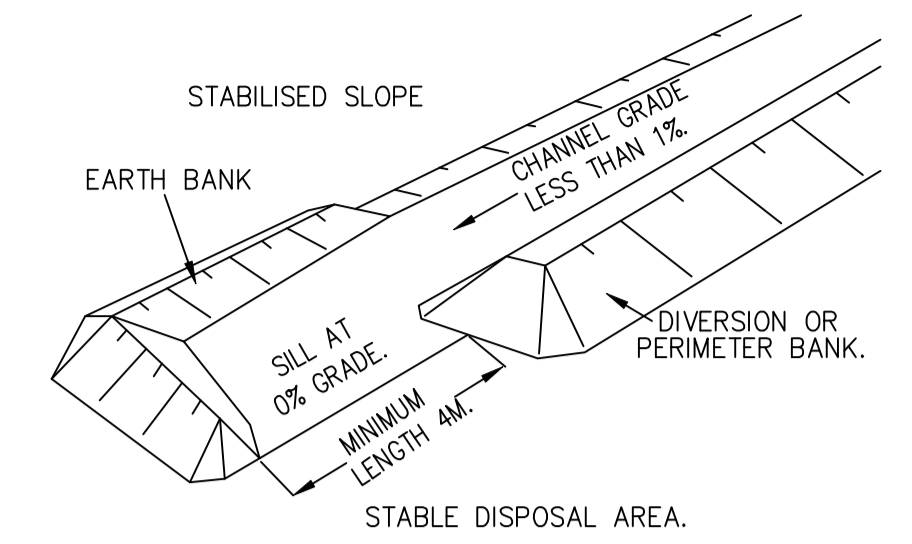
TEMPORARY DISH DRAIN
 SCALE = N.T.S.



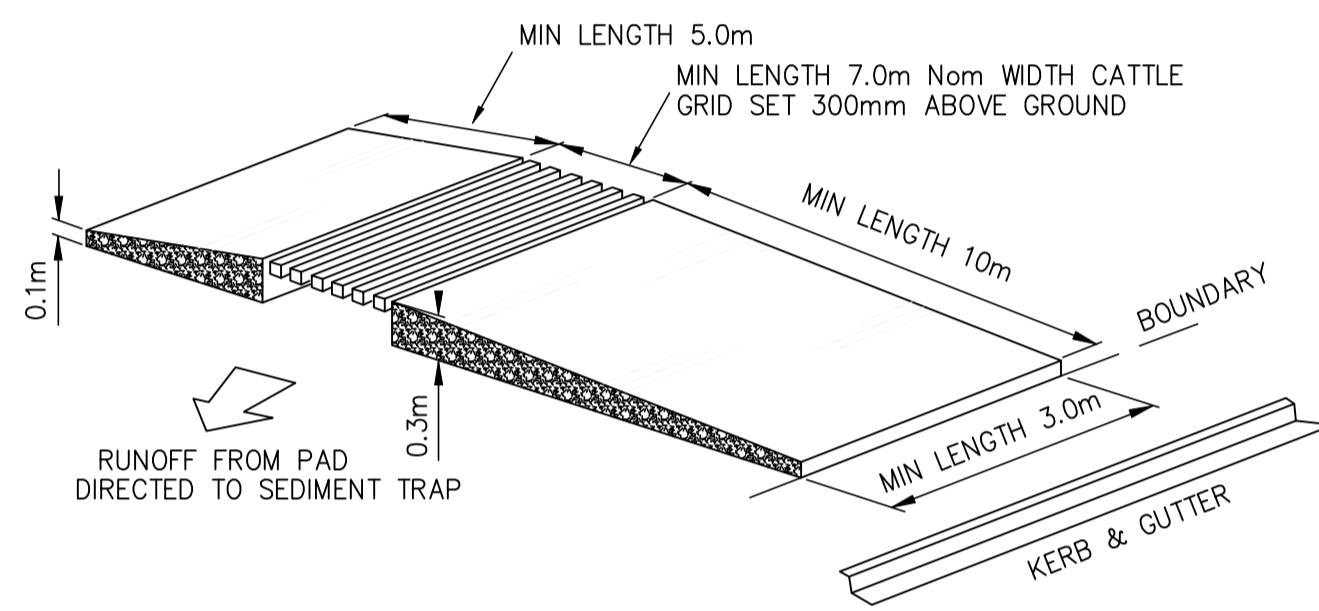
SEDIMENT TRAP SANDBAGS AT KERB INLETS
 SCALE = N.T.S.



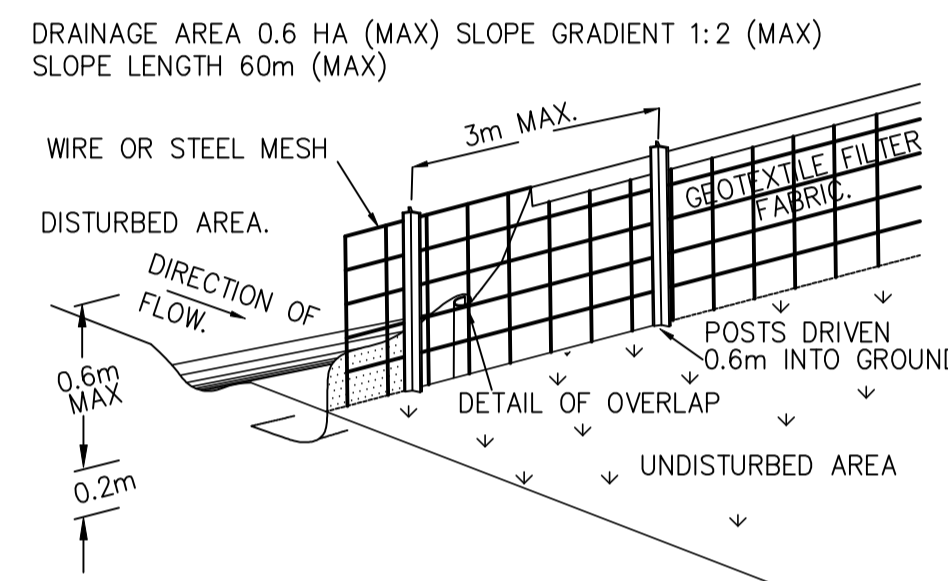
GRAVEL KERB INLET SEDIMENT TRAP
 SCALE = N.T.S.



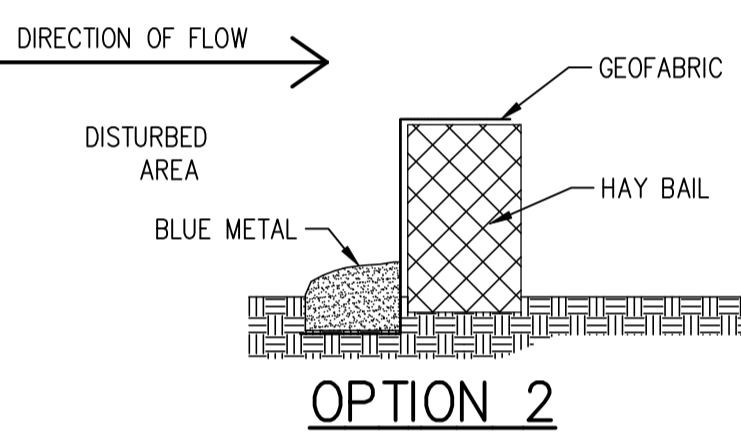
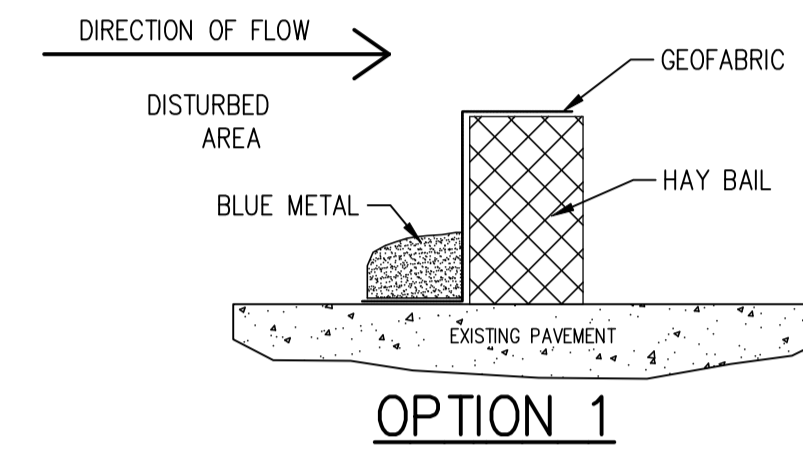
TYPICAL SPREADER DETAIL
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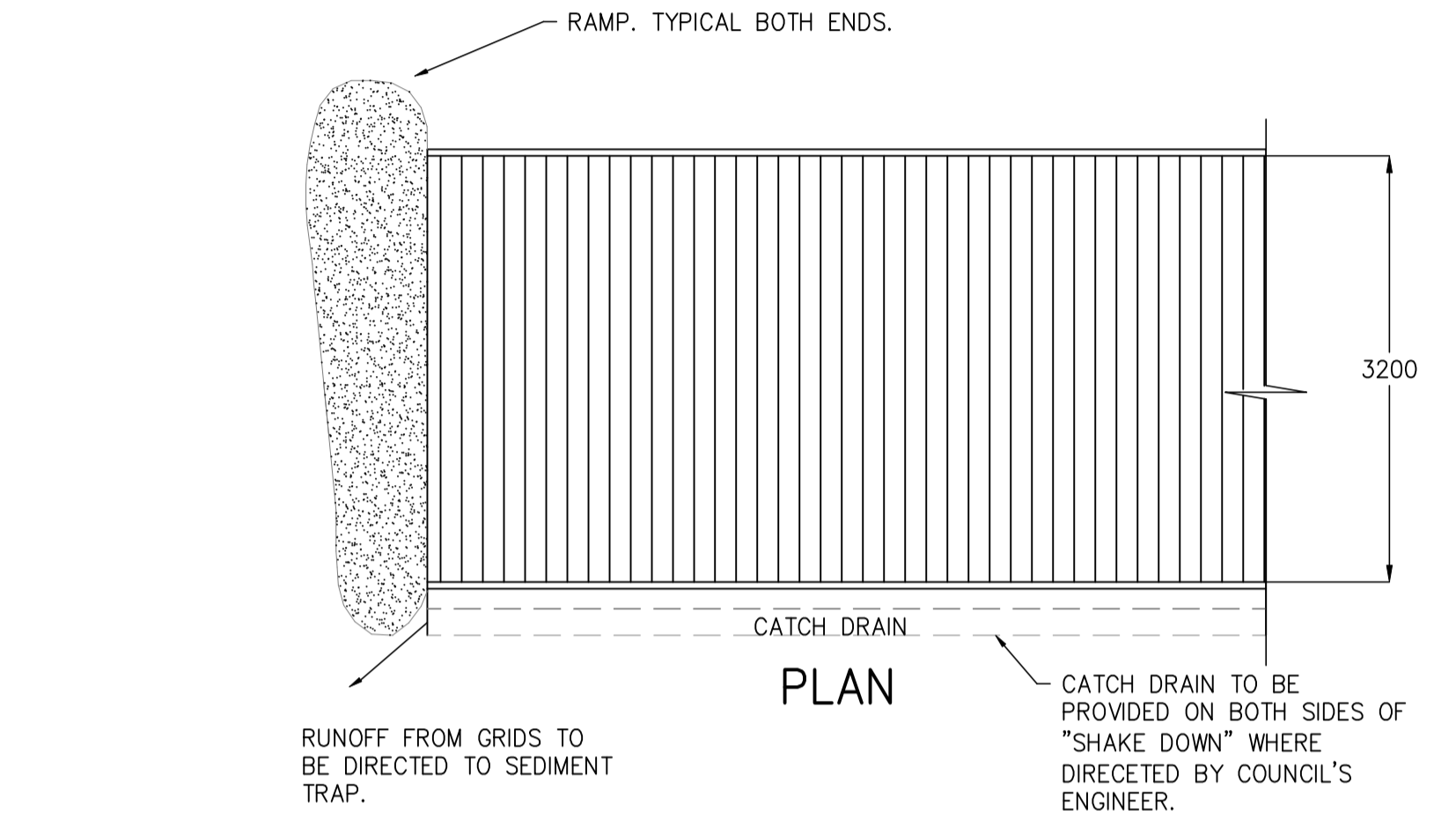
TYPICAL TEMPORARY CONSTRUCTION ENTRY & EXIT DETAIL (TYPE 2)
 NOTE: WHEEL WASH OR SPRAY MAY BE REQUIRED DURING WET WEATHER



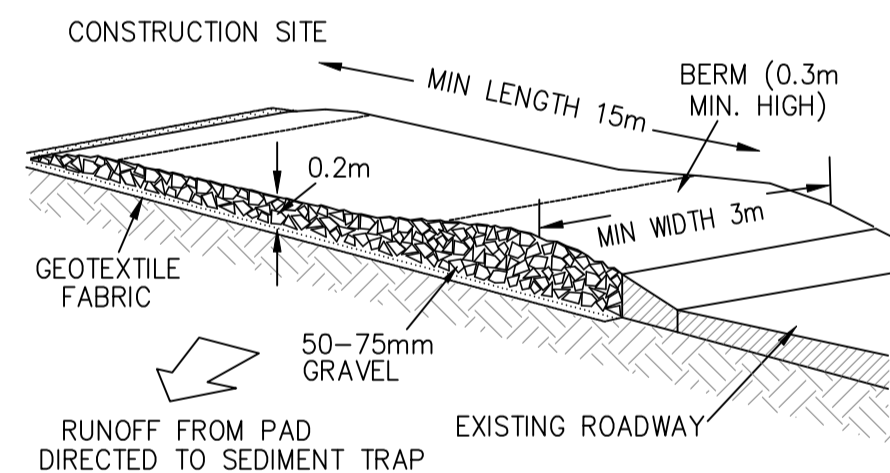
TYPICAL TEMPORARY SEDIMENT (SILT) FENCE
 NOTE:
 1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
 2. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND, 3 METRES APART.
 3. DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO 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 POST WITH A 150mm OVERLAP.



REMOVABLE HAY BAIL DETAIL
 SCALE = N.T.S.

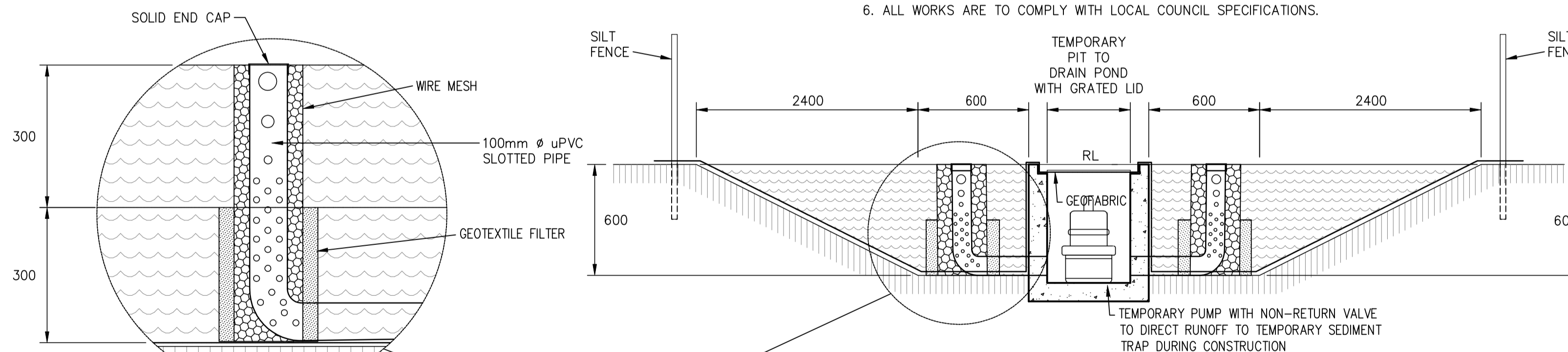


CATTLE GRID ENTRY & EXIT ALTERNATIVE
 SCALE = 1:20



TYPICAL TEMPORARY CONSTRUCTION ENTRY & EXIT DETAIL (TYPE 1)
 NOTE: WHEEL WASH OR SPRAY MAY BE REQUIRED DURING WET WEATHER. GRAVEL SHALL BE CLEANED/REMOVED WHEN THE EXPOSED HEIGHT OF THE GRAVEL IS LESS THAN 30mm.

- NOTE:**
 1. STRIP TOPSOIL AND LEVEL SITE.
 2. COMPACT SUBGRADE AS REQUIRED.
 3. COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
 4. CONSTRUCT 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3m.
 5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR OTHER SEDIMENT TRAP.
 6. OR CONSTRUCT A CATTLE GRID LOCATED AT ANY POINT WHERE TRAFFIC ENTERS OR LEAVES THE SITE.



TEMPORARY SEDIMENT BASIN (SETTLING POND) TYPICAL DETAILS
 SCALE = 1:20

- NOTE:**
 1. ALL EROSION AND SEDIMENT CONTROL ARE MEASURES TO BE INSPECTED AND MAINTAINED DAILY BY SITE MANAGER.
 2. CONTRACTOR TO MINIMISE DISTURBED AREAS WHERE POSSIBLE.
 3. ALL STOCKPILES ARE TO BE CLEAR FROM DRAINS, GUTTERS AND FOOTPATHS.
 4. DRAINAGE IS TO BE CONNECTED TO SITE STORMWATER DRAINAGE SYSTEM AS SOON AS POSSIBLE.
 5. ROADS AND FOOTPATH AREA TO BE SWEEPED DAILY.
 6. ALL WORKS ARE TO COMPLY WITH LOCAL COUNCIL SPECIFICATIONS.

- NOTES:**
 1. EXCAVATE AREA APPROX. 3.3m WIDE BY 2.2m LENGTH. THE FLOOR OF THE EXCAVATION MUST BE FLAT, WITHOUT HIGH POINTS. AN EXCAVATED DEPTH OF 100mm ACCOMMODATES A BEDDING LAYER 50mm THICK AND GRID SET DOWN OF 50mm. THE LATTER MINIMISES SILT UP OF GRID AND SLOWS DOWN TRAFFIC.
 2. BEDDING MATERIAL SHALL BE SAND OR OTHER SUITABLE APPROVED MATERIAL. BEDDING MATERIAL SHALL BE EVENLY RAKED OVER FLOOR OR EXCAVATION TO A DEPTH SLIGHTLY MORE THAN 50mm. ENSURE BEDDING IS LEVEL IN BOTH DIRECTIONS.
 3. LOWER CATTLE GRID ONTO THE PREPARED BASE. ENSURE THAT NO PART OF THE UNIT IS SITTING ON ANY HIGH POINTS.
 4. BACKFILL AND COMPACT AROUND GRID. GRADE EXCAVATED ROAD MATERIAL UP TO GRID EACH SIDE TO FORM A RAMP. IF DEPRESSIONS OCCUR ON THESE RAMPS WITH USE, ADD ADDITIONAL MATERIAL.

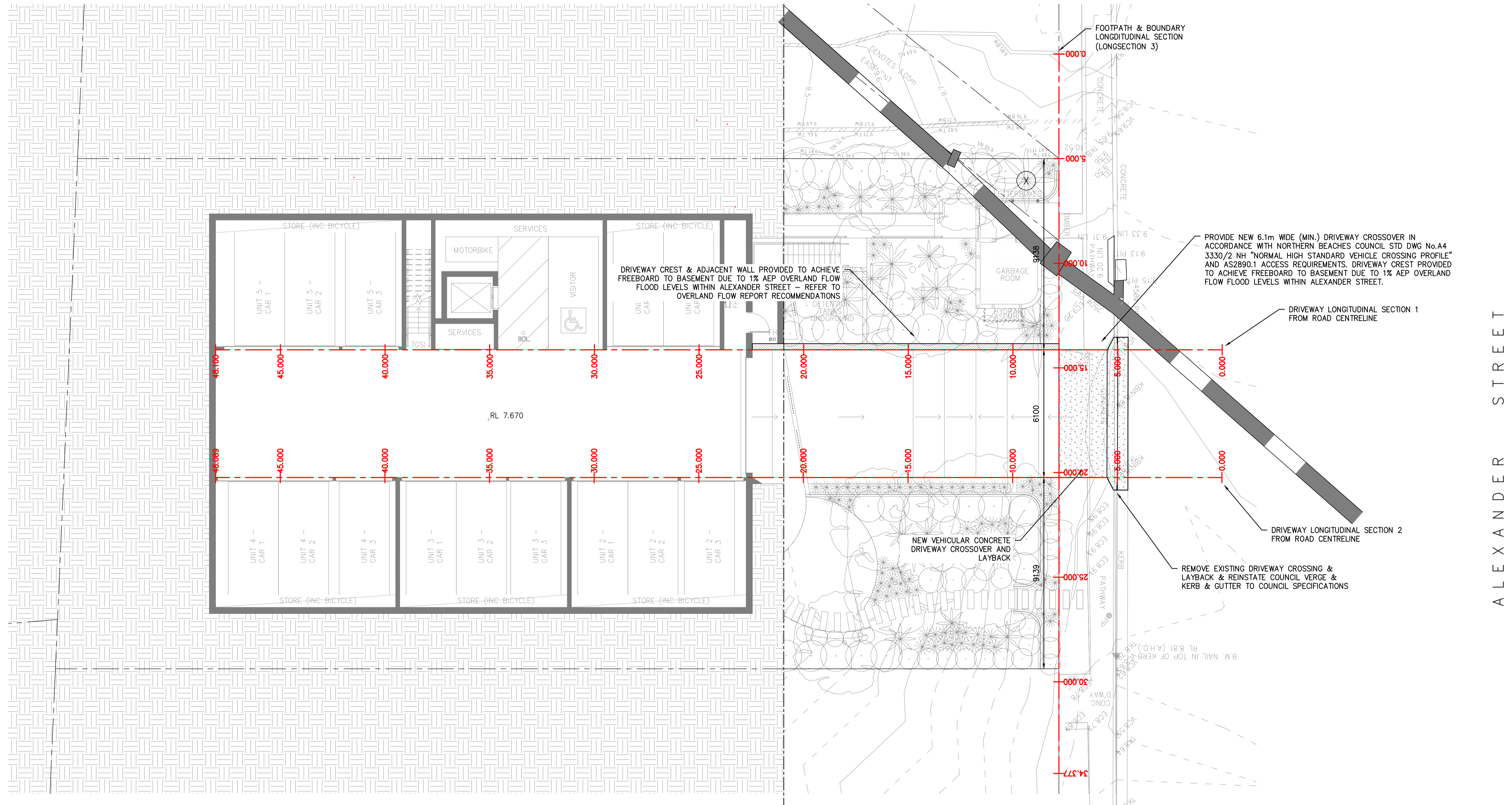
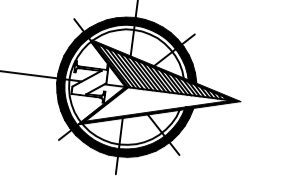
NOTE:
 THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.



A1 ORIGINAL		Issued for: DEVELOPMENT APPLICATION	Title: DESIGN	Initial: R.M.	Date: 03.09.2021		Architect: WALSH ARCHITECTS	Project and Drawing Title: 18 ALEXANDER STREET, COLLAROY SEDIMENT & EROSION CONTROL PLAN DETAILS	Local Council: NORTHERN BEACHES COUNCIL		
Rev:	Date:	Description:	Reviewed:	Date: 10.09.21	By: Rhys Mikhail		ABN: 81 615 065 588 Phone: 0490 507 300 Email: admin@rtscivil.com.au Web: rtscivil.com.au The document is produced by RTS Civil Consulting Engineers Pty Ltd (RTS) solely for the benefit of and use by the client in accordance with the terms and conditions of RTS. RTS does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.		Client: LAXLAND GROUP PTY LTD	Project Number: 210804	Drawing ID: SE200

NOTES:
 1. U.N.O REFER TO THE COVERPAGE CP100 SERIES FOR DETAILED NOTES AND CALCULATIONS.
 2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

NOT FOR CONSTRUCTION



CIVIL DRIVEWAY ACCESS PLAN

SCALE = 1 : 100

ALEXANDER STREET

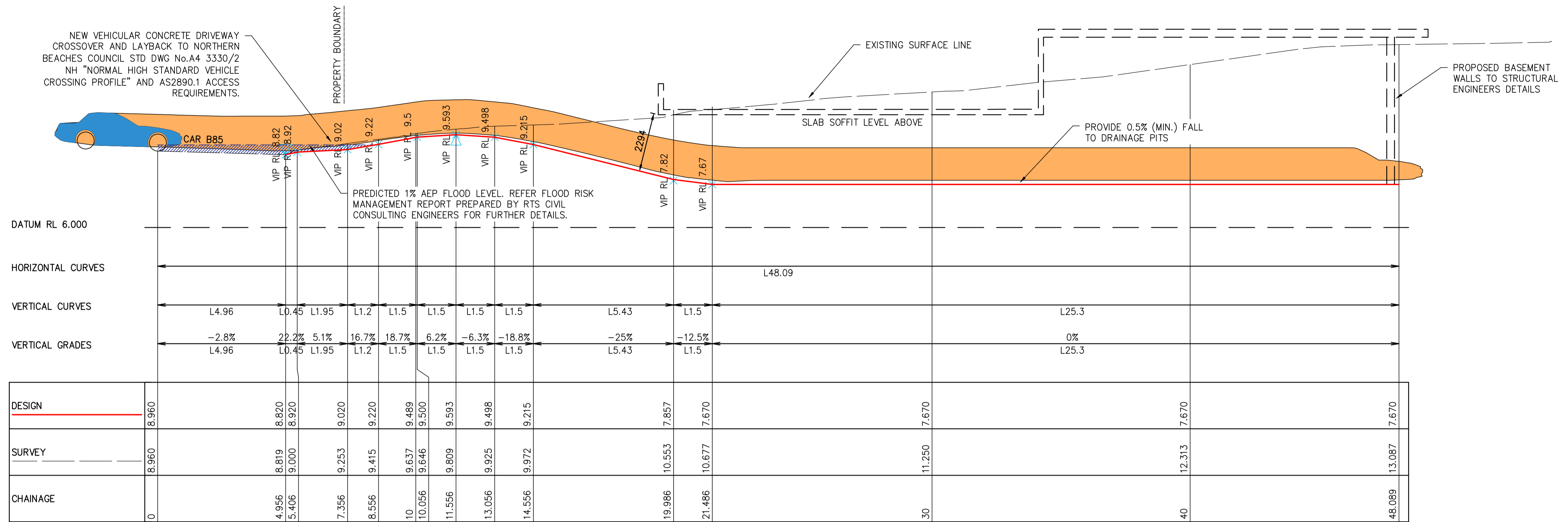
NOTE:
 THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.



A1 ORIGINAL		Issued for: DEVELOPMENT APPLICATION	Title: DESIGN	Initial: R.M.	Date: 03.09.2021	 STORMWATER • CIVIL • FLOOD MITIGATION ABN: 81 615 065 588 Phone: 0490 507 300 Email: admin@rtscivil.com.au Web: rtscivil.com.au	Architect: WALSH ARCHITECTS	Project and Drawing Title: 18 ALEXANDER STREET, COLLAROY CIVIL DRIVEWAY ACCESS PLAN	Local Council: NORTHERN BEACHES COUNCIL	
Rev:	Date:	Description:	Reviewed:	Checked:	Approved:		Date : 10.09.21 Rhys Mikhail Director Principal Engineer NER: 2570082 RPEQ: 17490 BEng (Civil) Hons MIEAust. CPEng NER RPEQ APEC InPE(Aus)	Client: LAXLAND GROUP PTY LTD	Project Number: 210804	Drawing ID: CW100

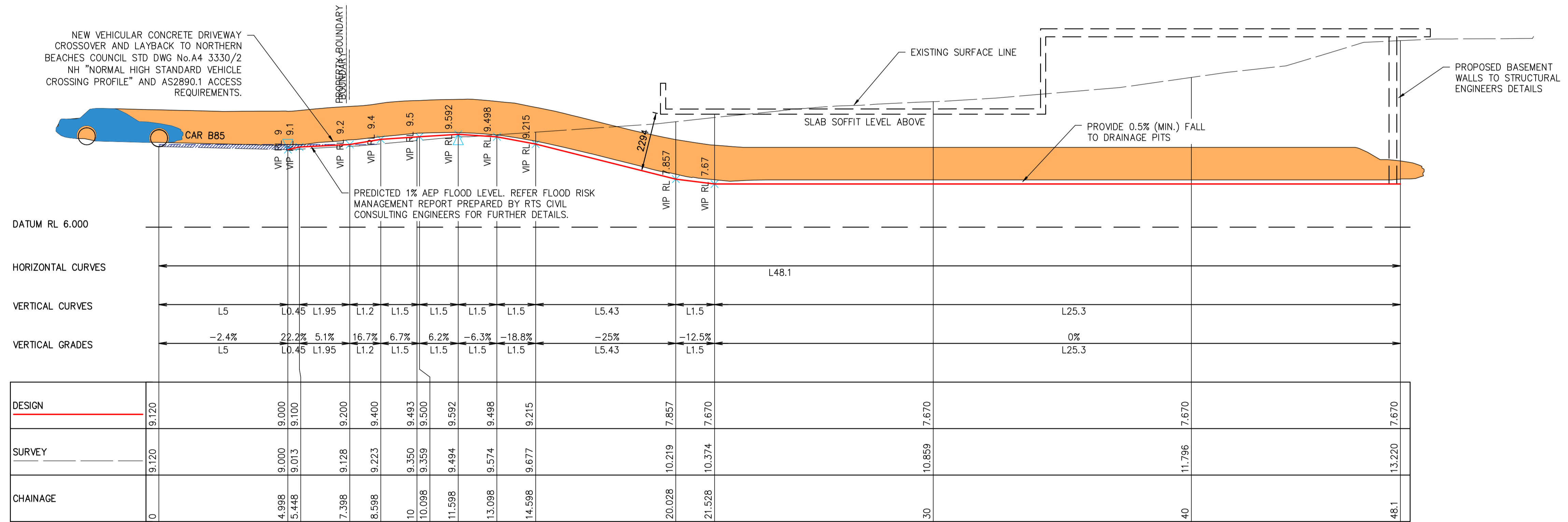
NOTES:
 1. U.N.O REFER TO THE COVERPAGE CP100 SERIES FOR DETAILED NOTES AND CALCULATIONS.
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NOT FOR CONSTRUCTION



DRIVEWAY LONGITUDINAL SECTION 1

SCALE = 1 : 100



DRIVEWAY LONGITUDINAL SECTION 2

SCALE = 1 : 100

NOTE:
 THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.

NOTE:
 ALL FILLING ONSITE TO BE LEVEL 1 COMPACTED FILL AS PER AS1289 UNLESS NOTED OTHERWISE (NOTE TYPE 2 TESTING MAY ONLY BE USED FOR INDIVIDUAL RESIDENTIAL LOTS ONLY).

NOTE:
 ANY DAMAGE TO EXISTING ROADWAYS WILL BE RECTIFIED BY THE CONTRACTOR AT HIS EXPENSE. EXACT 'AS CONSTRUCTED' LOCATION OF SERVICES ARE TO BE LOCATED PRIOR TO CONSTRUCTION.

NOTE:
 RETAINING WALLS TO BE WHOLLY CONTAINED WITHIN PROPERTY BOUNDARY INCLUDING SUBSOIL DRAINAGE AS REQUIRED.

NOTE:
 CONTRACTOR TO CONFIRM SOIL TYPE AND ACCEPTABLE TEMPORARY BATTER ANGLE WITH GEOTECHNICAL ENGINEER PRIOR TO UNDERTAKING EARTHWORKS.

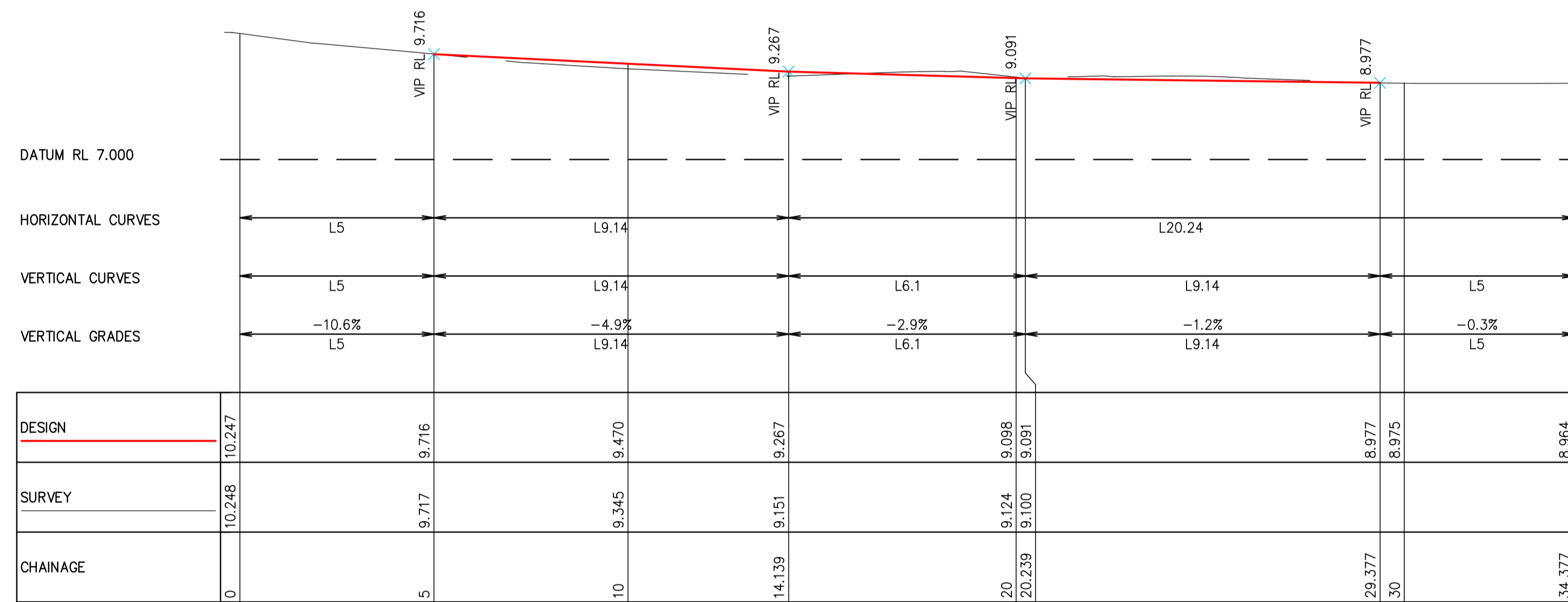
NOTE:
 CONTRACTOR MUST PROTECT ALL SERVICES TRAVERSING OR ADJACENT TO THE DEVELOPMENT SITE AT ALL TIMES.



A1 ORIGINAL		Issued for: DEVELOPMENT APPLICATION	Title: DESIGN	Initial: R.M.	Date: 03.09.2021	<p>STORMWATER • CIVIL • FLOOD MITIGATION</p> <p>ABN: 81 615 065 588 Phone: 0490 507 300 Email: admin@rtscivil.com.au Web: rtscivil.com.au</p> <p>The document is produced by RTS Civil Consulting Engineers Pty Ltd (RTS) solely for the benefit of and use by the client in accordance with the terms and conditions of RTS. RTS does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.</p>	Architect: WALSH ARCHITECTS	Project and Drawing Title: 18 ALEXANDER STREET, COLLAROY DRIVEWAY LONGITUDINAL SECTIONS	Local Council: NORTHERN BEACHES COUNCIL		
Rev:	Date:	Description:	Reviewed:	Approved by: <i>R. Mikhail</i>	Date: 10.09.21		Checked: R.M.	Client: LAXLAND GROUP PTY LTD	Project Number: 210804	Drawing ID: CW200	Issue: A
A	10.09.21	STORMWATER & CIVIL ACCESS PLAN FOR DA SUBMISSION	R.M.	Rhys Mikhail	Director Principal Engineer NER: 2570082 RPEQ: 17490		APPROVED				

NOTES:
 1. U.N.O REFER TO THE COVERPAGE CP100 SERIES FOR DETAILED NOTES AND CALCULATIONS.
 2. ALL DIMENSIONS SHALL BE VERIFIED ONSITE BY BUILDER BEFORE COMMENCING WITH WORK.

NOT FOR CONSTRUCTION



FOOTPATH & BOUNDARY LONGITUDINAL SECTION

SCALE = 1 : 50

NOTE:
 ALL FILLING ONSITE TO BE LEVEL 1 COMPACTED FILL AS PER AS1289 UNLESS NOTED OTHERWISE (NOTE TYPE 2 TESTING MAY ONLY BE USED FOR INDIVIDUAL RESIDENTIAL LOTS ONLY).

NOTE:
 ANY DAMAGE TO EXISTING ROADWAYS WILL BE RECTIFIED BY THE CONTRACTOR AT HIS EXPENSE. EXACT 'AS CONSTRUCTED' LOCATION OF SERVICES ARE TO BE LOCATED PRIOR TO CONSTRUCTION.

NOTE:
 RETAINING WALLS TO BE WHOLLY CONTAINED WITHIN PROPERTY BOUNDARY INCLUDING SUBSOIL DRAINAGE AS REQUIRED.

NOTE:
 CONTRACTOR TO CONFIRM SOIL TYPE AND ACCEPTABLE TEMPORARY BATTER ANGLE WITH GEOTECHNICAL ENGINEER PRIOR TO UNDERTAKING EARTHWORKS.

NOTE:
 CONTRACTOR MUST PROTECT ALL SERVICES TRAVERSING OR ADJACENT TO THE DEVELOPMENT SITE AT ALL TIMES.

NOTE:
 THE BUILDER/CONTRACTOR SHALL LOCATE ALL EXISTING PUBLIC UTILITY SERVICES WITHIN THE SITE, FOOTPATH AREA AND ROAD RESERVE PRIOR TO THE COMMENCEMENT OF ANY WORKS. ALL LOCATIONS AND LEVELS OF SERVICES SHALL BE REPORTED TO THE STORMWATER ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORKS TO ENSURE THAT THERE ARE NO OBSTRUCTIONS IN THE LINE OF THE DRAINAGE DISCHARGE PIPES.



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		Approved by: <i>R. Mikhail</i>	DESIGN	R.M	03.09.2021		WALSH ARCHITECTS	18 ALEXANDER STREET, COLLAROY		NORTHERN BEACHES COUNCIL		
		Date : 10.09.21	DRAWN	S.M	03.09.2021		Client:	FOOTPATH & BOUNDARY LONGITUDINAL SECTION		Project Number:	Drawing ID:	Issue:
Rev:	Date:	Description:	CHECKED	R.M	08.09.2021		LAXLAND GROUP PTY LTD			210804	CW201	A
			APPROVED	R.M	08.09.2021							