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COLIN HENRY

MIXED USE DEVELOPMENT 342-350 HIGH STREET, PENRITH

COVER SHEET, LOCALITY PLAN AND SCHEDULE OF DRAWINGS



PROPOSED AREA
 OF WORKS

SCHEDULE OF DRAWINGS	
DRAWING No.	DESCRIPTION
	GENERAL
80821041-CI-0001	COVER SHEET, LOCALITY PLAN AND SCHEDULE OF DRAWINGS
80821041-CI-0002	CIVIL CONSTRUCTION NOTES
	PLANS AND SCHEDULES
80821041-CI-1101	STORMWATER DRAINAGE PLAN- GROUND FLOOR
80821041-CI-1102	STORMWATER DRAINAGE PLAN- BASEMENT 1
80821041-CI-1201	SEDIMENTATION AND EROSION CONTROL PLAN
	DETAILS
80821041-CI-2101	DRAINAGE STANDARD DETAILS 1
80821041-CI-2103	DRAINAGE STANDARD DETAILS - OSD
80821041-CI-2201	SEDIMENTATION AND EROSION DETAILS

Rev.	Date	Description	Des.	Verif.	Appd.
2	19.10.2021	ISSUE FOR DA APPROVAL	K.P.	C.F.	
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		Drawing Number AHD	Scale Size A1
		Drawing Number 80821041-CI-0001	Revision 2

GENERAL CIVIL NOTES

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS DRAWINGS, SPECIFICATIONS, STANDARDS, LOCAL GOVERNMENT ORDINANCES AND ADDITIONAL WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
- THE INFORMATION CONTAINED ON THESE DRAWINGS IS FOR CIVIL ENGINEERING PURPOSES ONLY.
- ALL DISCREPANCIES THAT COULD RESULT IN CHANGES TO THE CIVIL DETAILS SHALL BE REFERRED TO THE CIVIL ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
IF IN DOUBT ASK
- THE CONTRACTOR SHALL CHECK AND BE RESPONSIBLE FOR THE CORRECTNESS OF ALL DIMENSIONS AND ANY DISCREPANCY SHALL BE REPORTED IMMEDIATELY TO THE SUPERINTENDENT. DIMENSIONS SHALL NOT BE OBTAINED (INCLUSIVE OF ELECTRONIC COPIES) BY SCALING FROM THE DRAWINGS.
- ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES U.N.O.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THE SAFETY AND STABILITY OF NEW AND EXISTING STRUCTURES, TEMPORARY STRUCTURES, EXCAVATIONS, SHORING AND THE LIKE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER FORTY EIGHT (48) HOURS BEFORE ANY SITE INSPECTION IS REQUIRED.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT AUSTRALIAN STANDARDS AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH ALL WORKCOVER REQUIREMENTS AND OCCUPATIONAL HEALTH AND SAFETY ACT REGULATIONS.
- ALL PROPRIETARY PRODUCTS AND APPROVED EQUIVALENTS NOTED ON THE DRAWINGS SHALL BE SUPPLIED AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
- SUBSTITUTIONS OF NOMINATED PRODUCTS AND MATERIALS SHALL ONLY OCCUR IF APPROVED BY CARDNO. NO SUBSTITUTIONS SHALL BE MADE OR SIZES OF STRUCTURAL MEMBERS VARIED WITHOUT OBTAINING THE APPROVAL OF THE ENGINEER. THE APPROVAL OF A SUBSTITUTION FROM THE ENGINEER SHALL NOT BE AN AUTHORISATION FOR AN EXTRA EXPENSE CLAIM. ANY EXTRA COST INVOLVED SHALL BE TAKEN UP WITH THE SUPERINTENDENT BEFORE THE WORK COMMENCES.
- NO CHANGES SHALL BE MADE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
- CONSTRUCTION FROM THESE DRAWINGS AND ASSOCIATED CONSULTANTS' DRAWINGS SHALL NOT COMMENCE UNTIL APPROVED BY THE LOCAL AUTHORITIES AND PRINCIPAL CERTIFYING AUTHORITY.
- CONTRACTOR IS NOT TO ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS OR PROPERTIES WITHOUT THE PERMISSION OF THE OWNERS AND SUPERINTENDENT.
- THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL WHICH COMPLIES WITH AS1742.3 - 2018. A COPY OF THE PLAN SHOWING LAYOUT OF PROPOSED TRAFFIC CONTROL FOR THE COMMENCEMENT OF WORK AND CERTIFIED BY A SUITABLY QUALIFIED PERSON IS TO BE SUBMITTED TO COUNCIL PRIOR TO COMMENCEMENT OF ANY WORK. FURTHER PLANS ARE TO BE SUBMITTED IF WORK SITE ALTERS.
- ANY QUANTITIES GIVEN ARE FOR GUIDANCE ONLY.

SITE PREPARATION

ROAD WORKS

- SP1. REMOVE TOP SOIL, ROOT AFFECTED SOIL, FILL AND OTHER DELETERIOUS MATERIAL TO EXPOSE NATURAL SUBGRADE.
- SP2. THE EXPOSED SUBGRADE SHOULD THEN BE PROOF ROLLED WITH AT LEAST EIGHT (8) PASSES OF A 10 TONNE MIN. DEAD WEIGHT ROLLER. ANY SOFT OR HEAVING AREAS SHOULD BE REMOVED TO A MAXIMUM DEPTH OF 300mm AND REPLACED WITH CLEAN WELL GRADED MATERIAL SUCH AS RIPPED OR CRUSHED SANDSTONE COMPACTED TO AT LEAST 100% OF STANDARD MAXIMUM DRY DENSITY (SMDD) AT ±2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AS1289.
- SP3. COMPACTED FILL SHOULD BE PLACED IN LAYERS NOT EXCEEDING 150mm THICK AND COMPACTED TO AT LEAST 100% SMDD. FILL SHALL CONSIST OF CLEAN WELL GRADED MATERIAL SUCH AS RIPPED OR CRUSHED SANDSTONE WITH A MIN. CBR OF 15%.
- SP4. DENSITY TESTING SHALL BE CARRIED OUT TO LEVEL 2 CERTIFICATION IN ACCORDANCE WITH AS3798.
- SP5. SUB-BASE COURSE - TO BE DGS20 OR DGS40 OR RIPPED OR CRUSHED SANDSTONE WITH A CBR GREATER THAN 40%, MAXIMUM PARTICLE SIZE OF 60mm, WELL GRADED WITH A PLASTIC INDEX LESS THAN 10. COMPACT TO AN AVERAGE OF NOT LESS THAN 100% SMDD WITH A MINIMUM VALUE OF 98% SMDD.
- SP6. ALL KERBS TO BE FORMED BY KERB MACHINE AND NOT BY HAND.
- EXTERNAL FOOTPATHS/PAVEMENTS
- SP7. REMOVE TOP SOIL, ROOT AFFECTED SOIL, FILL AND OTHER DELETERIOUS MATERIAL TO EXPOSE NATURAL SUBGRADE.
- SP8. THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED. ANY SOFT OR HEAVING AREAS SHOULD BE REPLACED WITH CLEAN WELL GRADED MATERIAL. FILL IF REQUIRED, SHOULD BE CLEAN AND WELL GRADED. COMPACT TO 100% SMDD.

STORMWATER DRAINAGE NOTES

- STORMWATER DRAINAGE SHALL BE GENERALLY IN ACCORDANCE WITH AS3500.3-2018.
- PIPES Ø675mm AND LARGER SHALL BE CLASS 3 APPROVED SPIGOT AND SOCKET REINFORCED CONCRETE PIPES WITH RUBBER RING JOINTS U.N.O. IN ACCORDANCE WITH ASINZS3725-2007.
- PIPES Ø375mm TO Ø600mm SHALL BE CLASS 2 APPROVED SPIGOT AND SOCKET REINFORCED CONCRETE PIPES WITH RUBBER RING JOINTS U.N.O. IN ACCORDANCE WITH ASINZS3725-2007.
- PIPES UP TO AND INCLUDING Ø300mm SHALL BE uPVC DWV (GRADE CLASS SN8) U.N.O. IN ACCORDANCE WITH ASINZS1260-2017. ENLARGERS, CONNECTIONS, TAPERS, JUNCTIONS ETC TO BE PREFABRICATED PURPOSE MADE FITTINGS WITH SOLVENT WELDED JOINTS.
- SUBSOIL PIPES AND FITTINGS TO BE PERFORATED PLASTIC IN ACCORDANCE WITH AS2439.1-2007. LAY PIPES ON FLOOR OF TRENCH WITH MINIMUM 1% GRADE AND OVERLAY WITH FILTER MATERIAL EXTENDING TO WITHIN 200mm OF SURFACE. PROVIDE FILTER FABRIC OF PERMEABLE POLYPROPYLENE BETWEEN FILTER MATERIAL AND TOPSOIL.
- HEAVY DUTY uPVC PIPES TO BE IN ACCORDANCE WITH ASINZS1254-2010 MAY BE USED WITHIN ALLOTMENTS.
- EQUIVALENT STRENGTH FIBROUS REINFORCED CONCRETE (F.R.C.) AND/OR HIGH DENSITY POLYETHYLENE (H.D.P.E.) MAY BE USED SUBJECT TO APPROVAL BY THE SUPERINTENDENT.
- CONTRACTOR TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
- ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH WITH NO PROTRUSIONS.
- BEDDING MATERIAL SHALL BE TYPE H2 U.N.O. FOR PIPES NOT UNDER PAVEMENTS, AND TYPE HS2 FOR PIPES UNDER PAVEMENTS IN ACCORDANCE WITH ASINZS3725-2007.
- ALL PIPES ARE TO BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE BARREL BY SUITABLE FILL MATERIAL. PIPES WITH SOCKETS SHALL BE LAID WITH RECESSES IN BEDDING MATERIAL TO ENSURE PIPES DO NOT BEAR ON THEIR SOCKETS.
- MINIMUM GRADE TO STORMWATER LINES TO BE 1% U.N.O.
- ANY PIPES OVER 16% GRADE SHALL HAVE CONCRETE BULKHEADS AT ALL JOINTS.
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- PROVIDE 3m LENGTH OF Ø100mm SUBSOIL DRAINAGE LINE OR 200mm 'NYLEX' STRIP DRAIN SURROUNDED WITH 150mm OF 20mm BLUE METAL OR GRAVEL, AND WRAPPED IN 'BIDUM' A24 GEOTEXTILE FILTER FABRIC OR APPROVED EQUIVALENT, AT INVERT OF EACH INCOMING UPSTREAM PIPE TRENCH ON EACH PIT.
- ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
- WHERE SUBSOIL DRAINAGE LINES PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC DWV (GRADE CLASS SN8) PIPE SHALL BE USED.
- UNLESS NOTED OTHERWISE ON THE PLANS, PROVIDE THE FOLLOWING MINIMUM COVER TO ALL STORMWATER PIPES:
UNDER LANDSCAPE & PAVEMENT - 300mm
UNDER ROAD (TRAFFIC) - 600mm
- REFER TO ASINZS3725-2007 TABLE B1 FOR REQUIRED FILL DEPTHS ABOVE PIPE BARREL PRIOR TO USE OF COMPACTION MACHINERY OR TRAVERSING OF PIPES BY GENERAL SITE EQUIPMENT. THE CONTRACTOR IS TO ENSURE COMPACTION EQUIPMENT IS APPROPRIATE FOR THE PIPE CLASS USED. WHERE WORKING METHODS REQUIRE HIGHER CLASS PIPE, THE CONTRACTOR SHALL REFER TO AS3725-2007 TO DETERMINE THE APPROPRIATE PIPE CLASS. PROPOSED CHANGES TO PIPE CLASS SHALL BE REVIEWED BY CARDNO PRIOR TO INSTALLATION.
- BACKFILL PIPE TRENCHES WITH SANDY LOAM OR APPROVED GRANULAR BACKFILL TO MINIMUM COVER ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO PAVEMENT SUBGRADE WITH SAND OR APPROVED GRAVEL SUB-BASE COMPACTED IN 150mm LAYERS TO 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).
- FOR ALL IN-SITU CONCRETE ELEMENTS REFER TO CIVIL CONCRETE NOTES FOR CONCRETE STRENGTH AND COVER.
- PRECAST CONCRETE PITS MAY BE INSTALLED IN LIEU OF CAST IN-SITU PITS, WHEN PIPE JUNCTIONS ARE ACCOMMODATED WITHIN THE OVERALL DIMENSIONS OF THE PIT, AND APPROVED BY CARDNO.
- PITS DEEPER THAN 1200mm, MEASURED FROM TOP OF GRATE TO INVERT OF PIT, SHALL HAVE STEP IRONS INSTALLED IN ACCORDANCE WITH THE LOCAL OR STATUTORY AUTHORITY REQUIREMENTS.
- ACCESS COVERS AND GRATES TO BE INSTALLED IN ACCORDANCE WITH AS3996-2019.
- ALL GRATES IN PAVEMENTS TO BE CYCLE SAFE AND WHERE IN ROADWAYS TRAFFICABLE HEAVY DUTY.
- ALL BOX CULVERTS SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER AND DELIVERED TO SITE AS FIT FOR PURPOSE.
- AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

EROSION AND SEDIMENT CONTROL NOTES

- ALL WORKS SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH:
 - LOCAL AUTHORITY REQUIREMENTS
 - EPA REQUIREMENTS
 - NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004 (THE BLUE BOOK).
- EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES ARE PROVIDED FOR THE WHOLE OF THE WORKS. SHOULD THE CONTRACTOR STAGE THESE WORKS THEN THE DESIGN MAY REQUIRE TO BE MODIFIED. VARIATIONS TO THESE DETAILS MAY REQUIRE TO BE APPROVED BY THE RELEVANT AUTHORITIES. THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE IMPLEMENTED AND ADOPTED TO MEET THE VARYING SITUATIONS AS WORK ON SITE PROGRESSES.
- MINIMISE THE AREA OF SITE BEING DISTURBED AT ANY ONE TIME.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION AND THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT.
- ALL SOIL AND WATER CONTROL MEASURES ARE TO BE PUT BACK IN PLACE AT THE END OF EACH WORKING DAY AND MODIFIED TO BEST SUIT SITE CONDITIONS.
- PREVENT SITE RUNOFF ENTERING NEWLY CONSTRUCTED STORMWATER PITS UNLESS SEDIMENT FENCES ARE ERECTED AROUND THEM.
- MAINTAIN ALL STORMWATER PIPES AND PITS CLEAR OF DEBRIS AND SEDIMENT. INSPECT STORMWATER SYSTEM AND CLEAN OUT AS REQUIRED PARTICULARLY FOLLOWING EACH STORM EVENTS.
- MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES, ENSURING THEY ARE IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND/OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED PARTICULARLY FOLLOWING EACH STORM EVENTS.
- WHERE PRACTICAL, THE SOIL EROSION HAZARDS ON THE SITE ARE TO BE KEPT AS LOW AS POSSIBLE AND WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE TO MINIMISE THE RISKS:
 - INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
 - CONSTRUCT STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA AT THE LOCATION SHOWN ON THE DRAWINGS OR AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
 - INSTALL ANY SEDIMENT BASINS AND SEDIMENT TRAPS AS SHOWN ON DRAWINGS. REFER DETAIL.
 - UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.
- DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
- CONTROL WATER FROM UPSTREAM OF THE SITE SUCH THAT IT DOES NOT ENTER THE DISTURBED SITE.
- ALL CONSTRUCTION VEHICLES SHALL ENTER THE SITE VIA THE TEMPORARY CONSTRUCTION ENTRY/EXIT.
- ALL VEHICLES LEAVING THE SITE SHALL BE CLEANED AND INSPECTED BEFORE LEAVING.
- STOCKPILES ARE NOT TO BE LOCATED IN ROADWAYS, WITHIN 2 METRES OF HAZARD AREAS OR DRAINAGE PITS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS, WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS. SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE SCOUR AND EROSION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
- ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
- WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE. I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE OR DEVICE.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
- ACCEPTABLE RECEPTACLES WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHTWEIGHT WASTE MATERIALS AND LITTER.
- ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
 - ENSURING THAT NOTHING IS NAILED TO THEM
 - PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
 - ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
 - A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300mm DEPTH
 - CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.
- FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.
- ANY REVEGETATED AREAS WHICH FAIL TO ESTABLISH WITHIN THREE MONTHS MUST BE RE-SOWN.

CONCRETE NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 AND AS1379 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- FOR CONCRETE MIX DESIGN & COVER SUMMARY REFER TO TABLE C1.1 BELOW. ALL CEMENT TO BE TYPE 'GP' GENERAL PURPOSE CEMENT IN ACCORDANCE WITH AS3972-2010, EXCEPT THAT THE MAXIMUM SHRINKAGE OF THE CEMENT IN THE MORTAR TEST SAMPLE IN ACCORDANCE WITH AS2350 SHALL BE LESS THAN 600 MICROSTRAIN.
- PROJECT ASSESSMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379-2007 CLAUSE B7:
 - ALL CONCRETE IN SLABS AND BEAMS TO BE PROPORTIONED TO LIMIT DRYING SHRINKAGE TO 650 MICROSTRAIN AT 56 DAYS.
 - DETAILS OF THE PROPOSED MIX TO BE SUBMITTED AND APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.
- NO ADMIXTURES OTHER THAN THOSE SPECIFIED IN THE CONCRETE QUALITY & COVER SUMMARY TABLE C1.1 (OR APPROVED EQUIVALENTS) SHALL BE USED IN CONCRETE UNLESS APPROVED BY THE ENGINEER, WITH THE ONLY EXCEPTION BEING LOW RANGE WATER REDUCING ADMIXTURE.
- CLEAR CONCRETE COVER TO REINFORCEMENT SHALL BE IN ACCORDANCE WITH CONCRETE QUALITY & COVER TABLE C1.1.
- CONSTRUCTION JOINTS, WHERE NOT SHOWN, SHALL BE LOCATED TO THE APPROVAL OF THE STRUCTURAL ENGINEER.
- ALL CONCRETE SHALL BE MECHANICALLY VIBRATED TO ACHIEVE 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 WITH MECHANICAL VIBRATORS.
- CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF THREE (3) DAYS, AND THE PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF SEVEN (7) DAYS FOLLOWED BY A GRADUAL DRYING OUT. APPROVED SPRAY ON CURING COMPOUNDS THAT COMPLY WITH AS3799 MAY BE USED WHERE FLOOR FINISHES WILL NOT BE AFFECTED (REFER MANUFACTURERS SPECIFICATION). PVA BASED CURING COMPOUNDS ARE NOT ACCEPTABLE. POLYTHENE SHEETING OR WET HESSIAN MAY BE USED IF PROTECTED FROM WIND AND TRAFFIC.
- REPAIRS TO CONCRETE SHALL NOT BE ATTEMPTED WITHOUT THE PERMISSION OF THE ENGINEER.
- CAST-IN FIXINGS, BOLTS ETC. SHALL NOT BE ALTERED WITHOUT THE PERMISSION OF THE

CONCRETE MIX DESIGN & COVER - TABLE C1.1							
MIN. CEMENT CONTENT = 300 kg/m³							
MAX. PERMISSIBLE DRYING SHRINKAGE = 600 MICROSTRAIN AT 56 DAYS							
STRUCTURAL ELEMENT	SLUMP (MAX)	MAX. AGG. SIZE	CEMENT TYPE	STRENGTH GRADE	ADMIXTURE	REBAR COVER	
						TOP	BTM
STORMWATER PITS	80	Ø20mm	GP	32MPa	-	40	40
KERBING	80	Ø20mm	GP	32MPa	-	40	40
SLABS ON GROUND	80	Ø20mm	GP	32MPa	-	40	40
BORED PIERS	80	Ø20mm	GP	32MPa	-	-	50
STRIP FOOTINGS	80	Ø20mm	GP	32MPa	-	-	50
BLOCK WALL CORE GROUT FILLING (UNO)	230	Ø10mm	GP	25MPa	-	-	65

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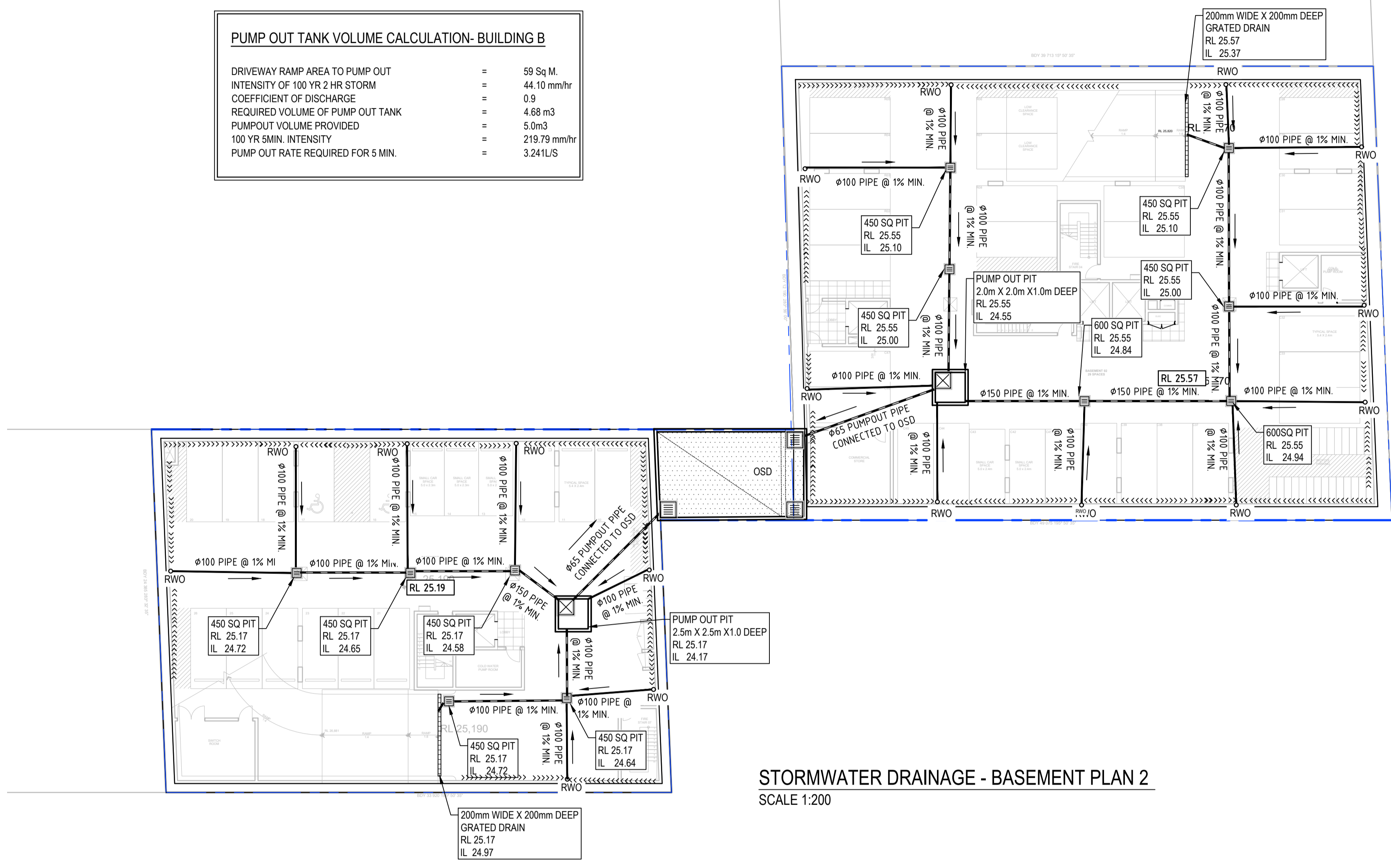
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Checked	C.F.	Date	SEP2021
Designed	K.P.	Date	SEP2021
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Approved			

Client	COLIN HENRY
Project	MIXED USE DEVELOPMENT 342-350 HIGH STREET, PENRITH
Title	CIVIL CONSTRUCTION NOTES

Status	FOR CONCEPT APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum	AHD	Scale	Size
Drawing Number	80821041-CI-0002	Revision	2

PUMP OUT TANK VOLUME CALCULATION- BUILDING A		
DRIVEWAY RAMP AREA TO PUMP OUT	=	45.66 Sq.M.
INTENSITY OF 100 YR 2 HR STORM	=	44.10mm/hr
COEFFICIENT OF DISCHARGE	=	0.9
REQUIRED VOLUME OF PUMP OUT TANK	=	3.6 m3
PUMPOUT VOLUME PROVIDED	=	4.0 m3
100 YR 5MIN. INTENSITY	=	219.79 mm/hr
PUMP OUT RATE REQUIRED FOR 5 MIN.	=	2.5 L/S

PUMP OUT TANK VOLUME CALCULATION- BUILDING B		
DRIVEWAY RAMP AREA TO PUMP OUT	=	59 Sq.M.
INTENSITY OF 100 YR 2 HR STORM	=	44.10 mm/hr
COEFFICIENT OF DISCHARGE	=	0.9
REQUIRED VOLUME OF PUMP OUT TANK	=	4.68 m3
PUMPOUT VOLUME PROVIDED	=	5.0m3
100 YR 5MIN. INTENSITY	=	219.79 mm/hr
PUMP OUT RATE REQUIRED FOR 5 MIN.	=	3.24L/S



STORMWATER DRAINAGE - BASEMENT PLAN 2
SCALE 1:200

LEGEND

- RWO RWO- RAINWATER OUTLET
- ▭ OSD TANK
- ▭ STORMWATER PIT
- ▭ SEALED ACCESS PIT
- DP DOWN PIPE
- STORMWATER PIPE
- RWO CONNECTION PIPE
- ▭ GRATED DRAIN

NOTE:
• LEGEND NOT TO SCALE

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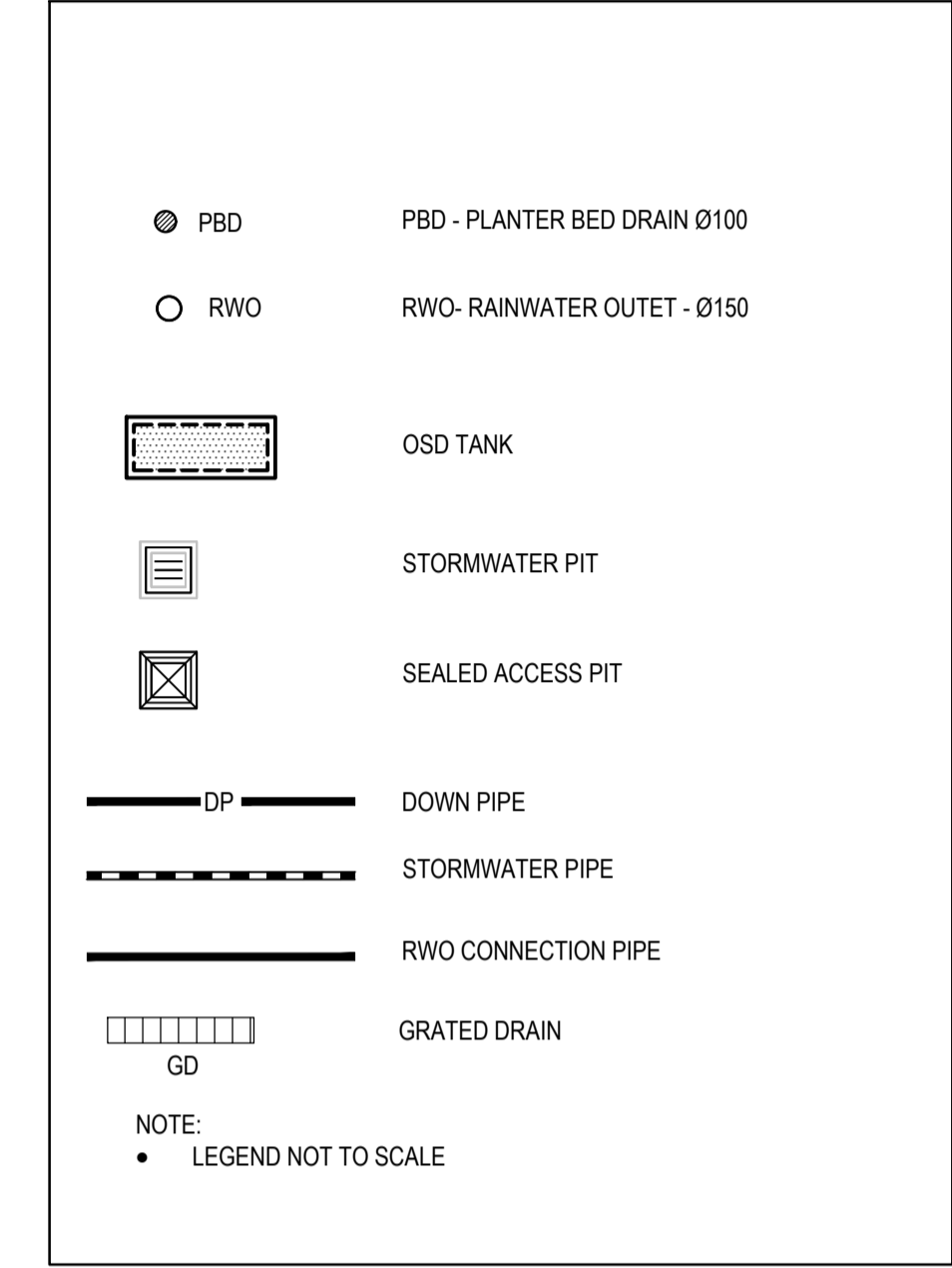
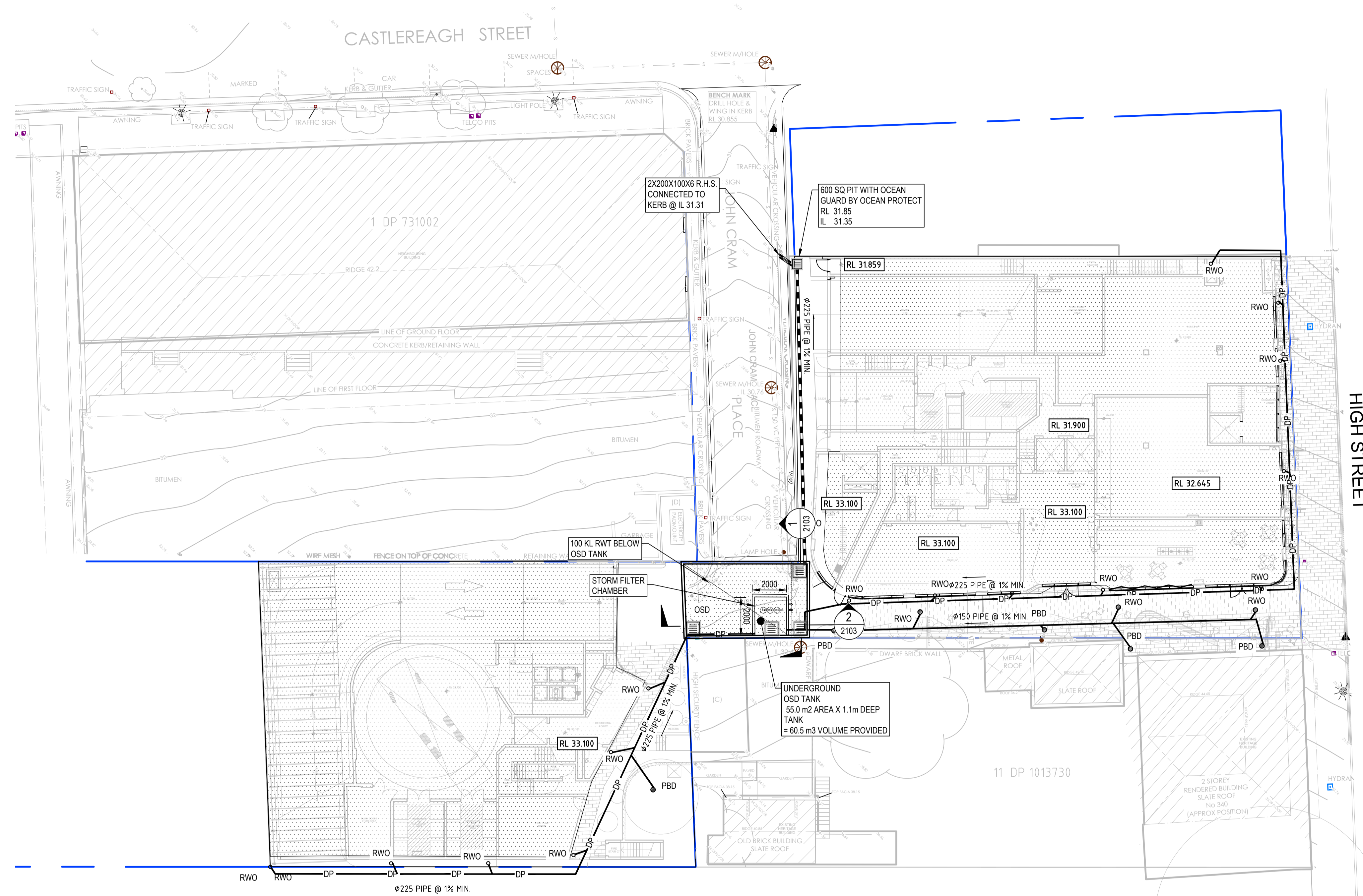
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Checked	C.F.	Date	SEP2021
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Client	COLIN HENRY
Project	MIXED USE DEVELOPMENT 342-350 HIGH STREET, PENRITH
Title	STORMWATER DRAINAGE PLAN BASEMENT 2

Status	FOR CONCEPT APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES		
DATUM	AHD	Scale	Size A1
Drawing Number	80821041-CI-1101	Revision	2



GROUND FLOOR PLAN
SCALE 1:100

XREFs: X-GROUND FLOOR; X-SURVEY PLAN
CAD File: N:\Projects\80821041_Civil\Drawings\80821041-CI-1102.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
2	19.10.2021	ISSUE FOR DA APPROVAL	K.P.	C.F.	
1	30.09.2021	PRELIMINARY ISSUE	K.P.	C.F.	

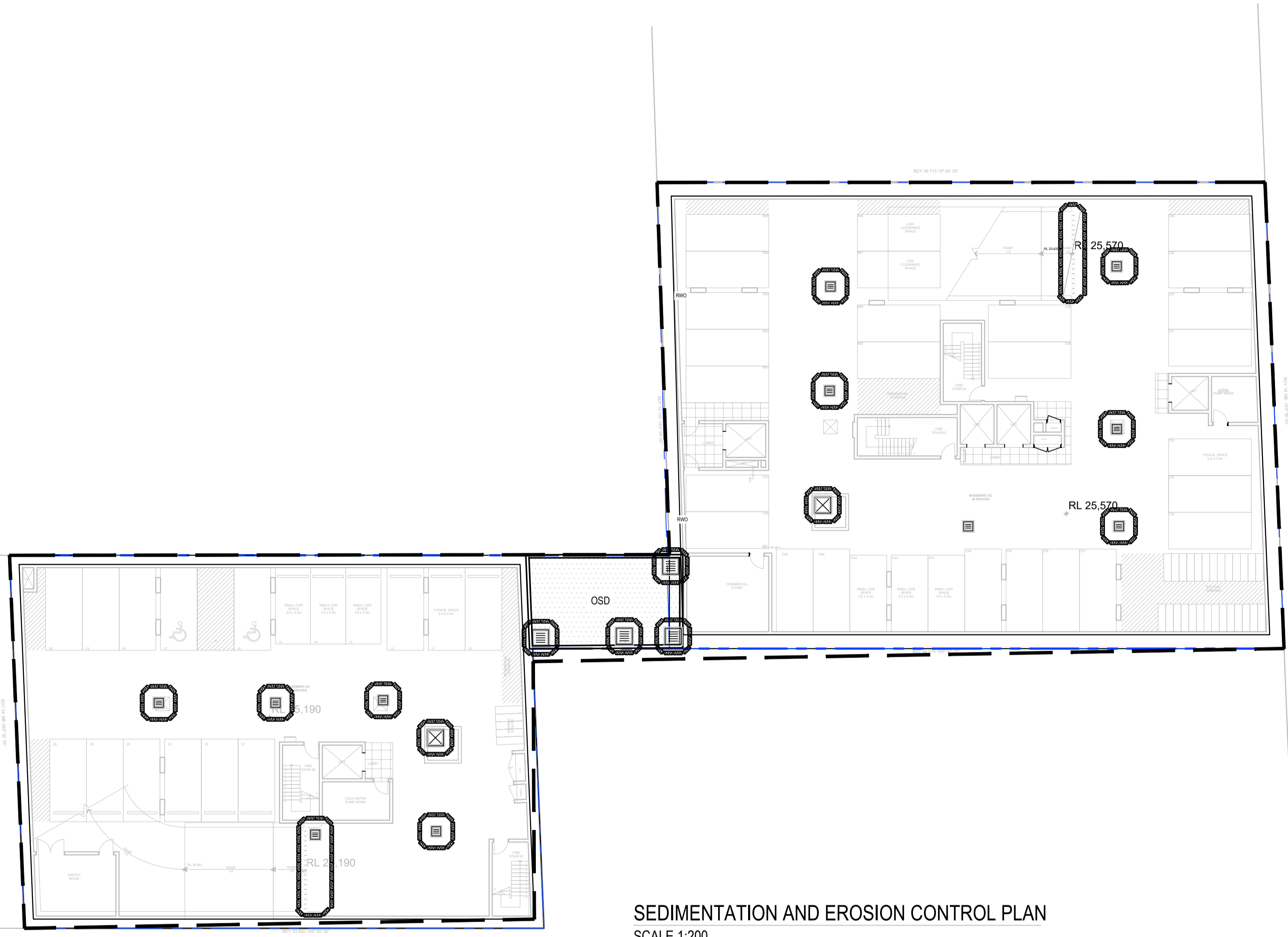
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Drawn	K.P.	Date	SEP2021
Checked	C.F.	Date	SEP2021
Designed	K.P.	Date	SEP2021
Verified	C.F.	Date	SEP2021
Approved			

Client	COLIN HENRY
Project	MIXED USE DEVELOPMENT 342-350 HIGH STREET, PENRITH
Title	STORMWATER DRAINAGE PLAN GROUND FLOOR

Status	FOR CONCEPT APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES		
DATUM	AHD	Scale	Size A1
Drawing Number	80821041-CI-1102	Revision	2



SEDIMENTATION AND EROSION CONTROL PLAN
SCALE 1:200

LEGEND

- SITE FENCE
- SILT FENCE
- STORMWATER PIT
- SEALED ACCESS PIT
- SILT TRAP/SAND BAGS
- TEMPORARY SURFACE INLET SEDIMENT TRAP OR GROSS POLLUTANT TRAP
- TEMPORARY CONSTRUCTION VEHICLE ENTRY/EXIT

FOR SEDIMENTATION AND EROSION CONTROL DETAILS REFER TO DRAWING 80821041-CI-2201.

THIS LAYOUT PRESENTS ONE OF A NUMBER OF POSSIBLE SOLUTIONS FOR THE EROSION AND SEDIMENTATION CONTROL ON THE SITE DURING THE CONSTRUCTION PERIOD. FINAL LAYOUT MAY BE ALTERED BY THE CONTRACTOR TO SUIT THEIR SITE LAYOUT, OPERATIONS SEQUENCE, STAGING ETC. ANY SUCH CHANGES MUST BE IN ACCORDANCE WITH THE GUIDELINES OF LANDCOM MANAGING URBAN STORMWATER MANUAL, 2004 ("BLUE BOOK") SHOULD THE STRIPPED AREA AT ANY STAGE EXCEED 2500 m², SEDIMENTATION POND INCL. ASSOCIATED BERMS, CUT OFF TRENCHES ETC. IS TO BE PROVIDED IN ACCORDANCE WITH THE GUIDELINES OF LANDCOM MANAGING URBAN STORMWATER MANUAL.

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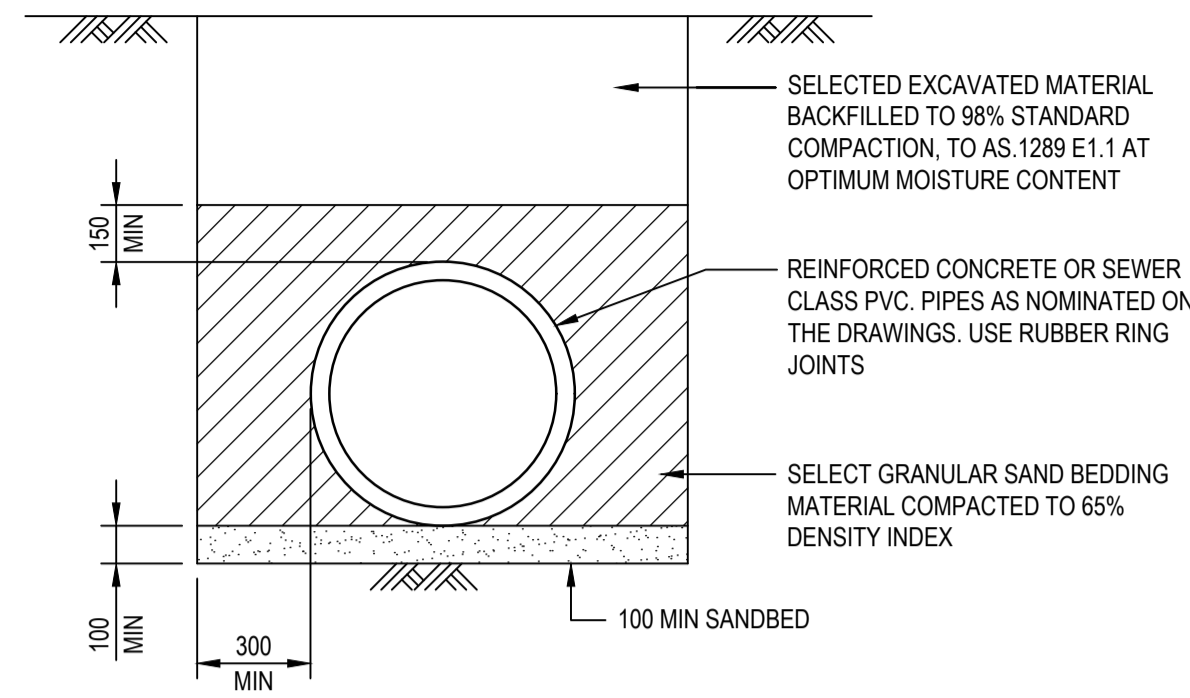
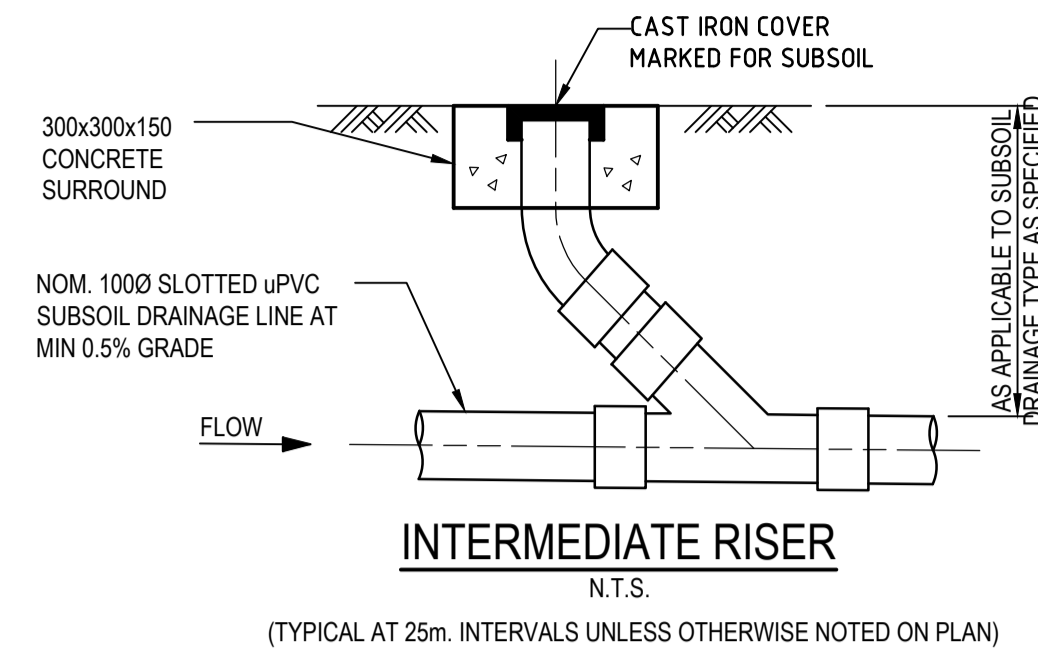
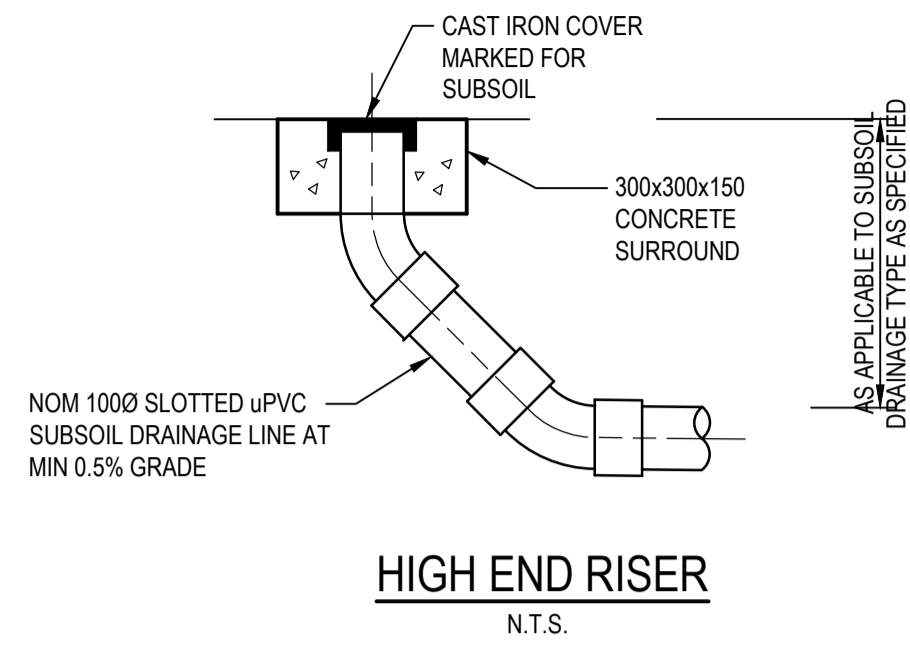
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Approved			

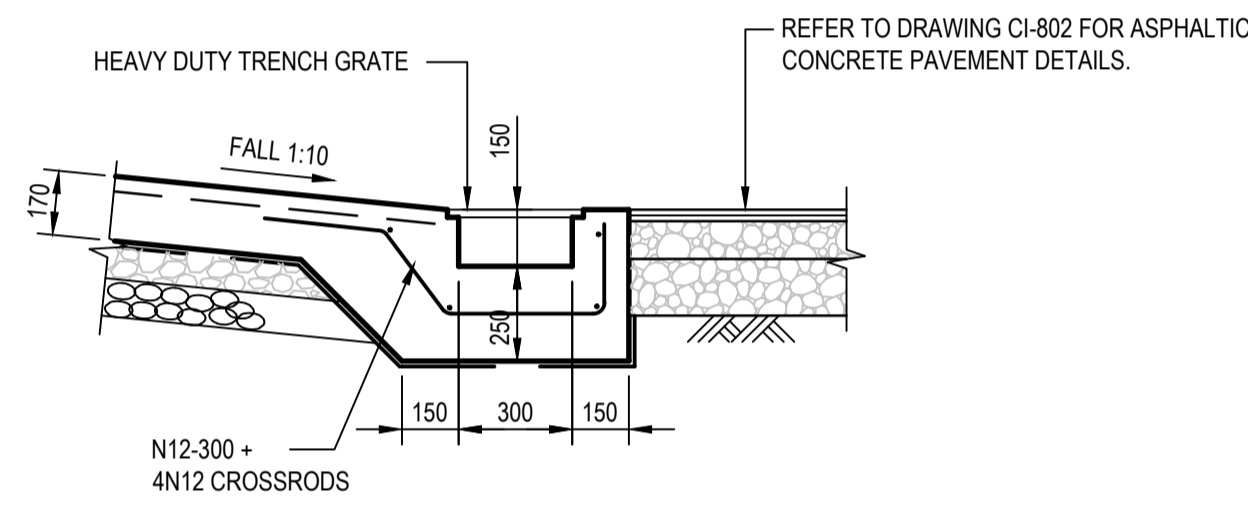
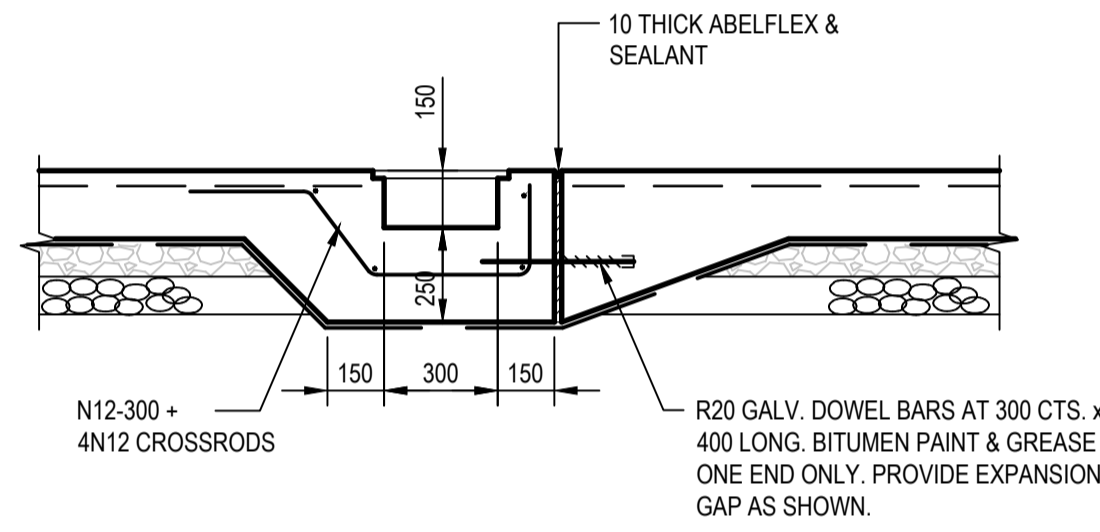
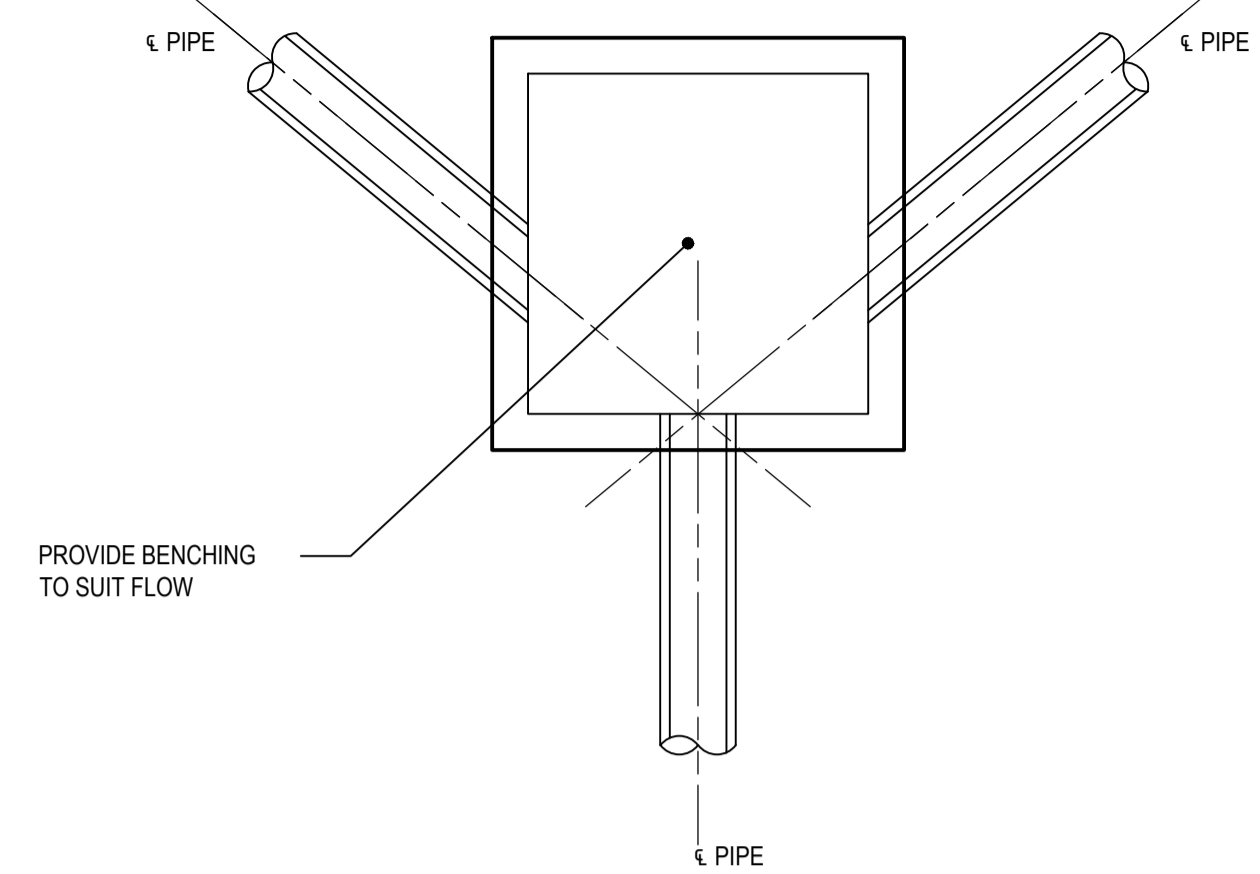
Client	COLIN HENRY
Project	MIXED USE DEVELOPMENT 342-350 HIGH STREET, PENRITH
Title	SEDIMENTATION AND EROSION PLAN

Status FOR CONCEPT APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES			
DATUM	AHD	Scale	Size
			A1
Drawing Number			Revision
80821041-CI-1201			2



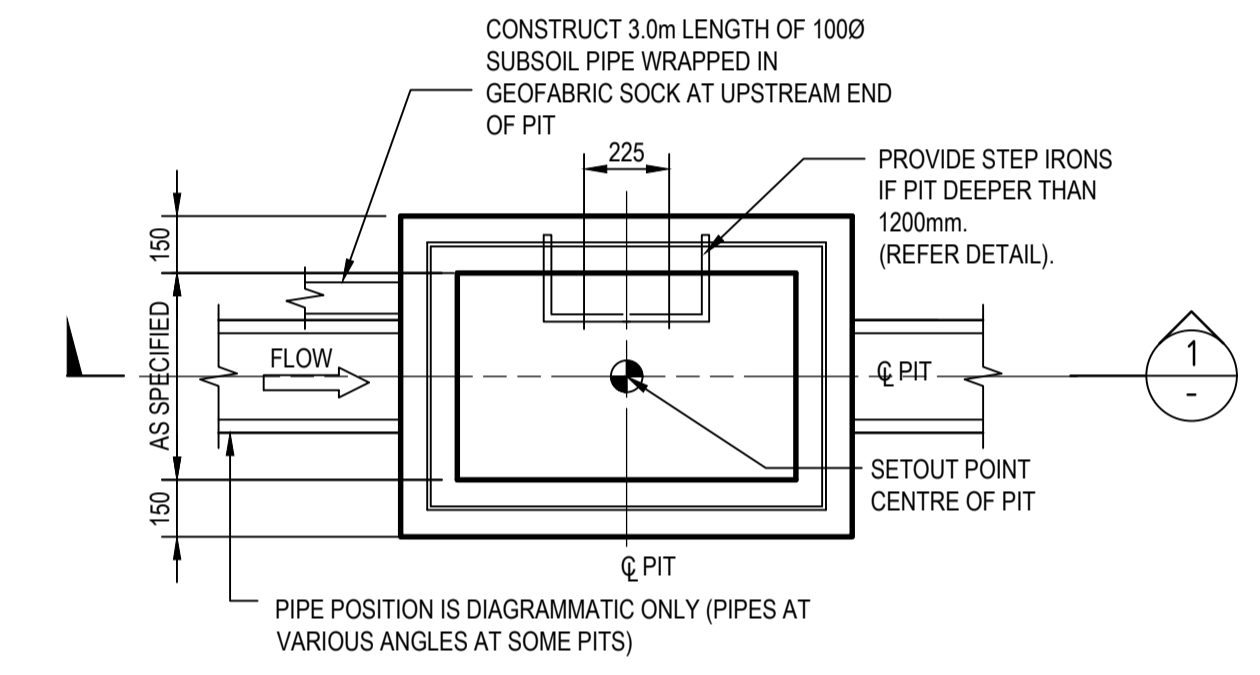
TYPICAL PIPE LAYING DETAIL U.N.O.

NOTE:
ALLOW TO BUILD 1000 AG. DRAIN IN THE LAST 3.0m OF DRAINAGE PIPE, UPSTREAM OF ALL DRAINAGE PITS.



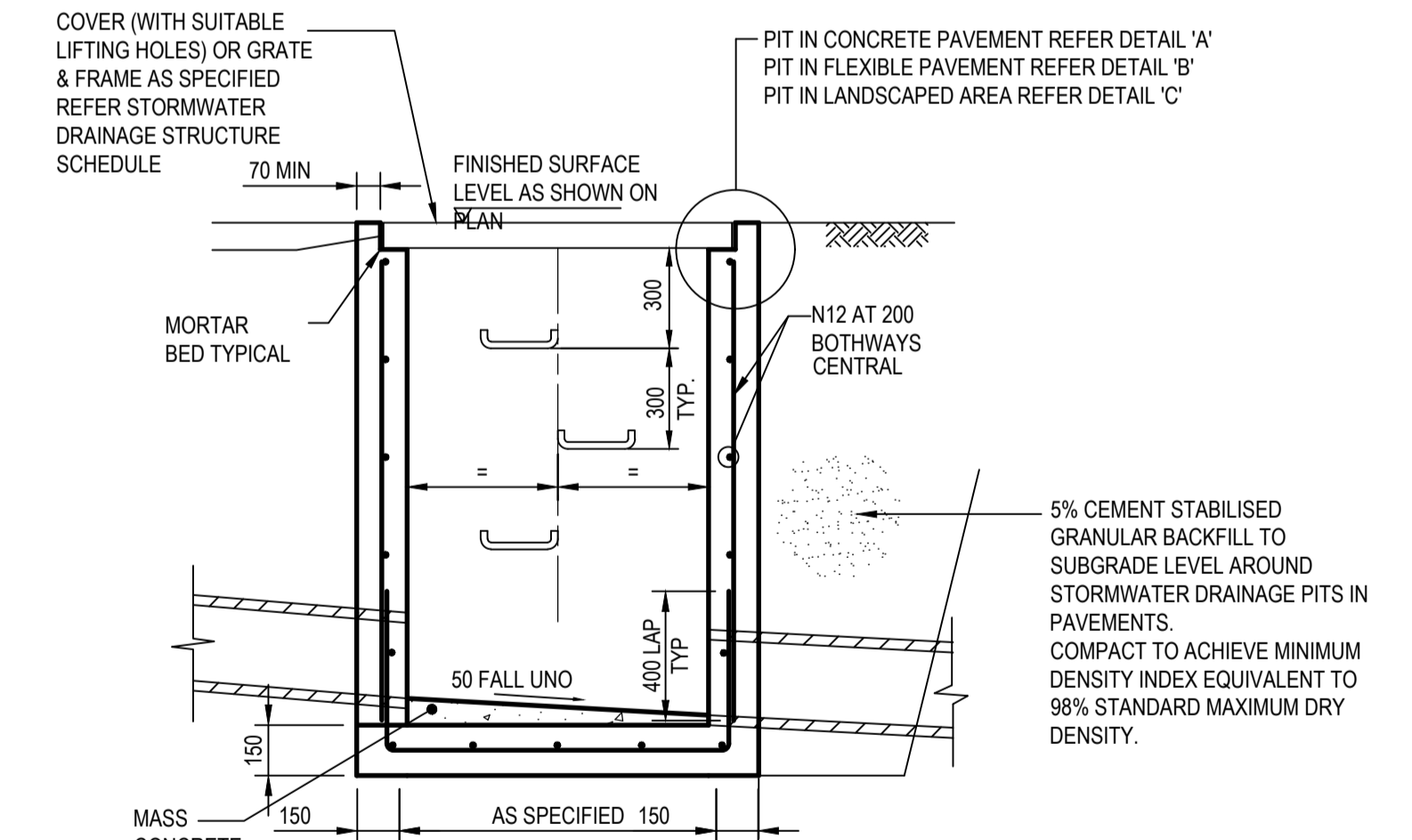
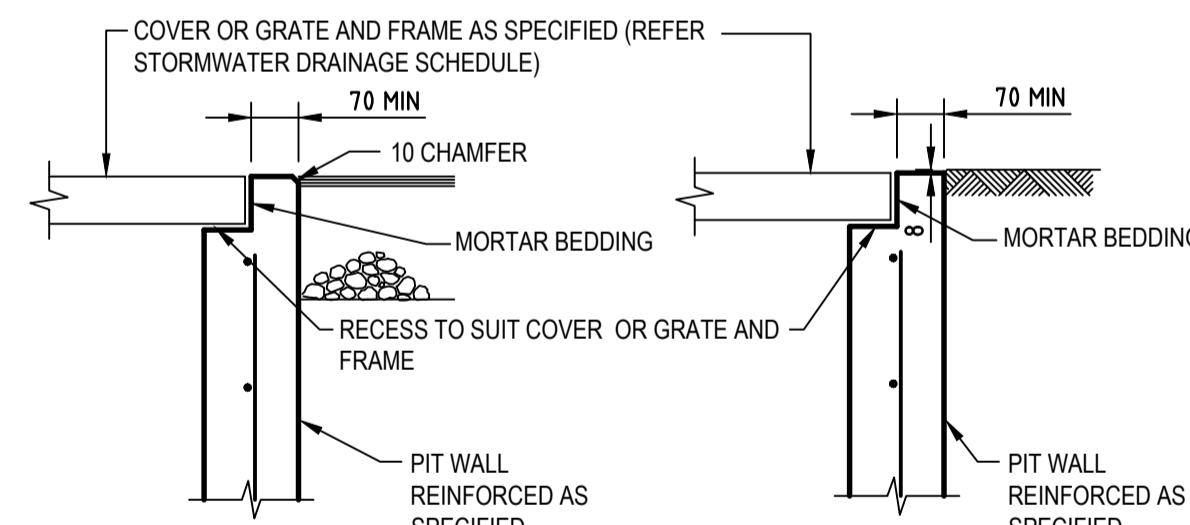
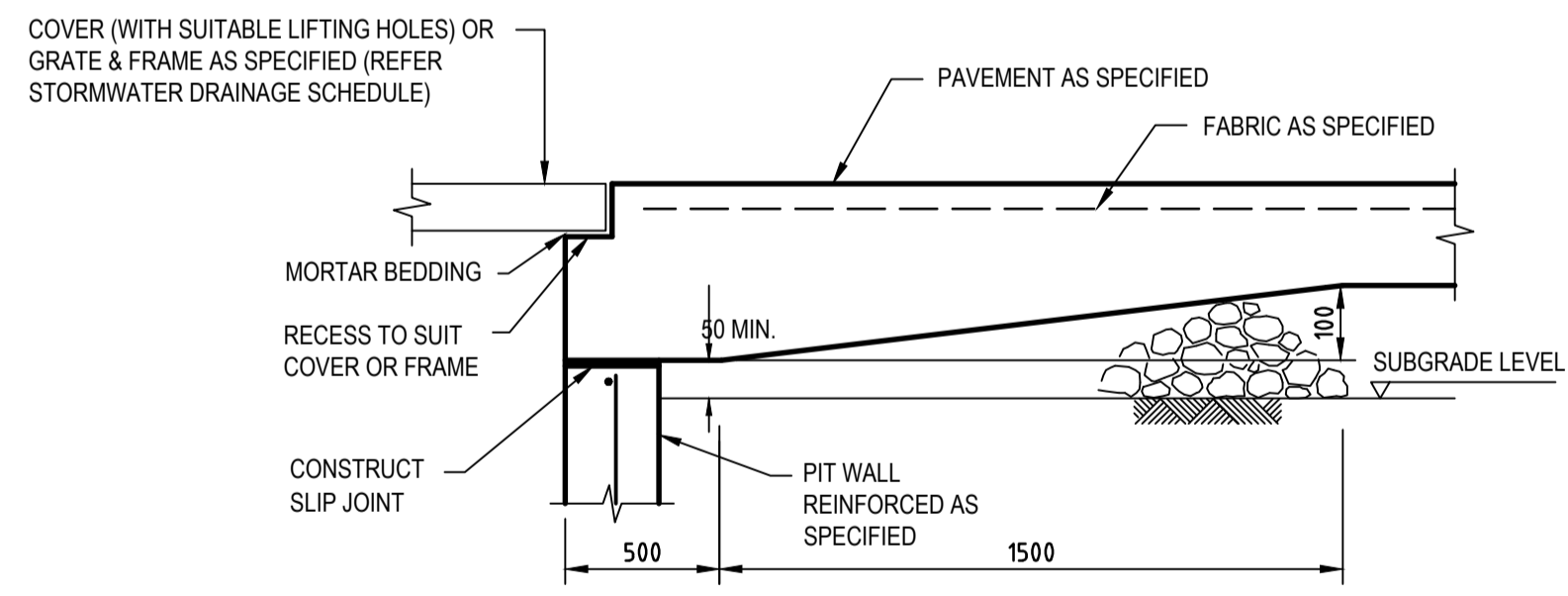
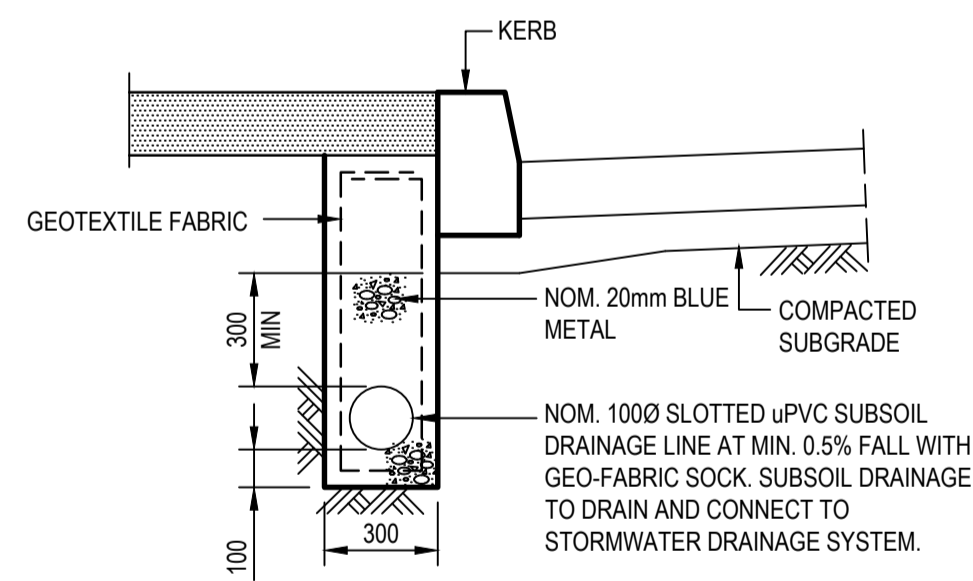
GRADED DRAIN DETAIL
SCALE 1:20

GRADED DRAIN DETAIL AT ENTRY ROAD
SCALE 1:20



JUNCTION PIT SET OUT DETAILS
N.T.S.

PLAN
N.T.S.



SURFACE INLET/JUNCTION PIT (SIP/JP)

SECTION 1
SCALE 1:20

XREFS: CAD File: N:\Projects\8082\CI-2101.dwg; 344 High Street Perth\012_Civil\Drawings\8082\CI-2101.dwg

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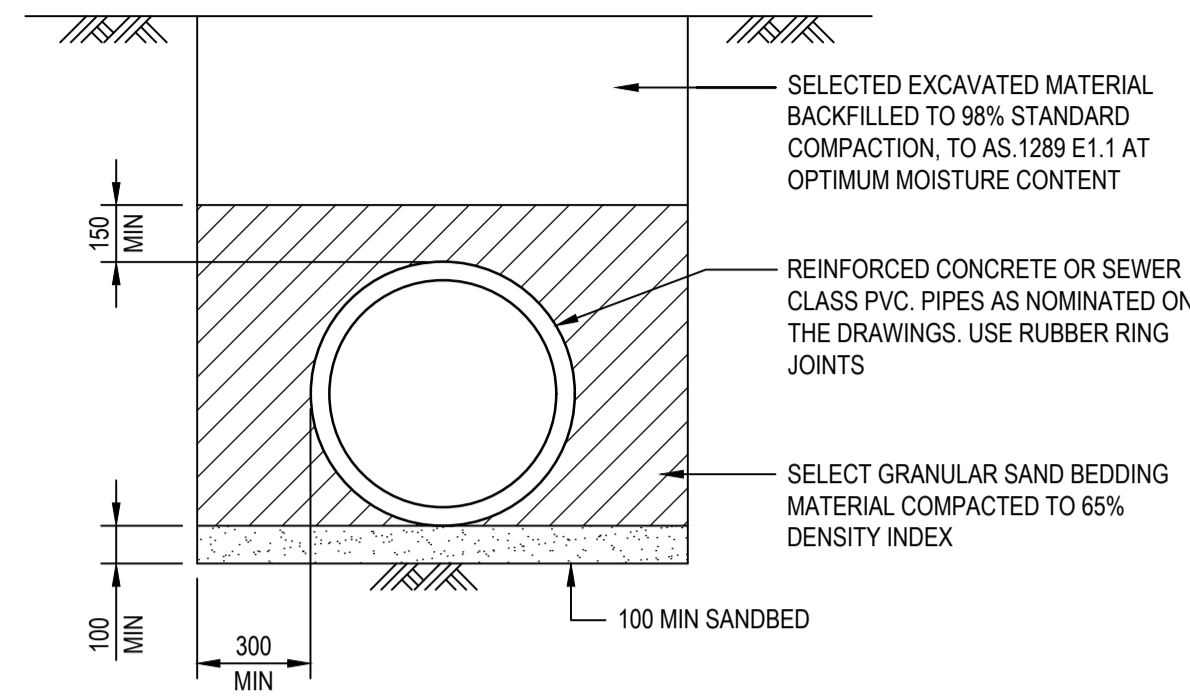
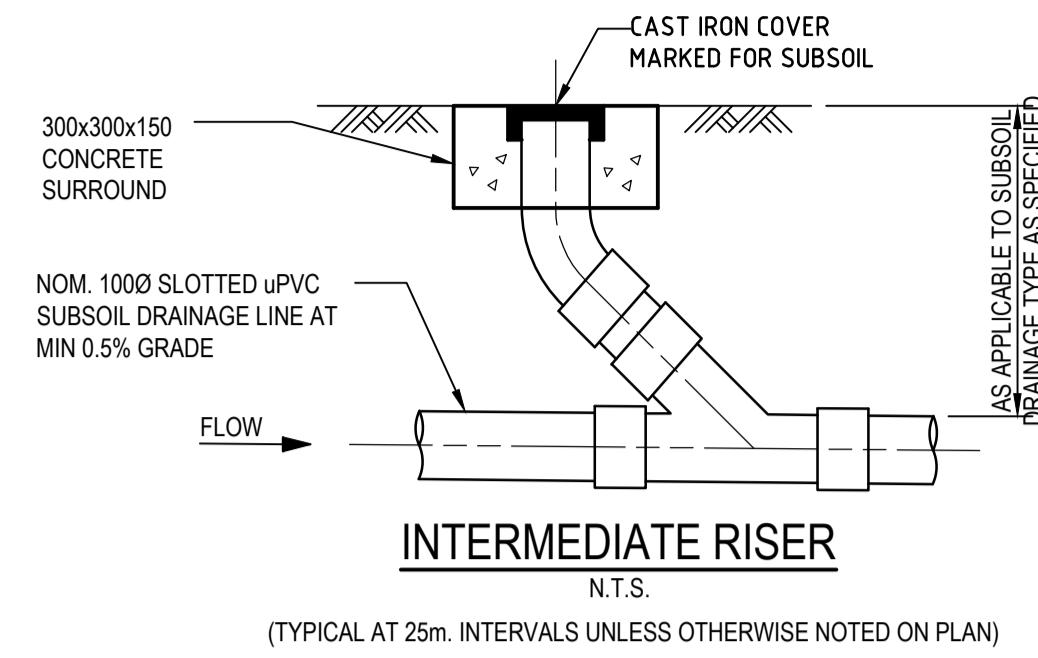
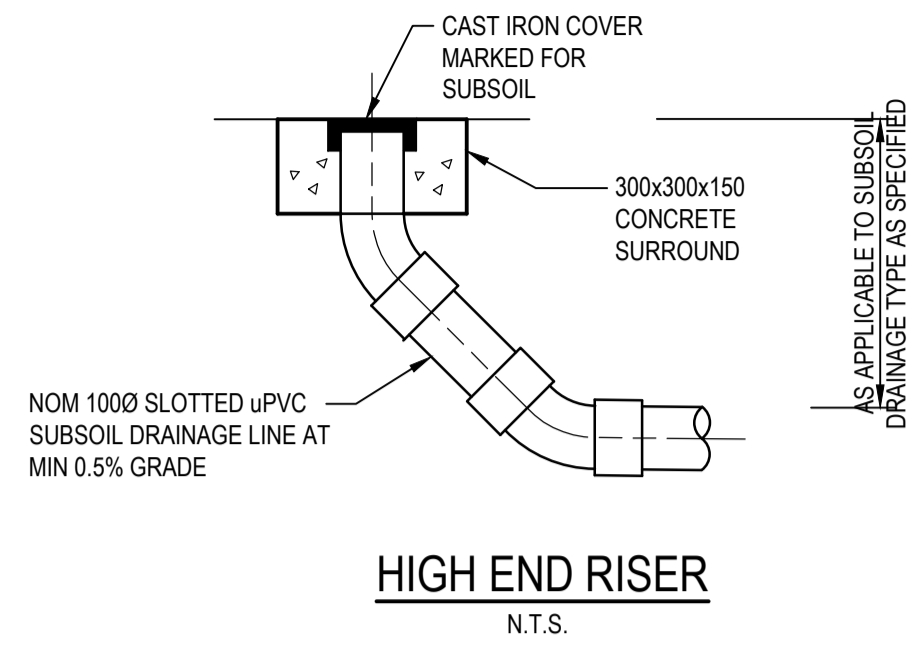
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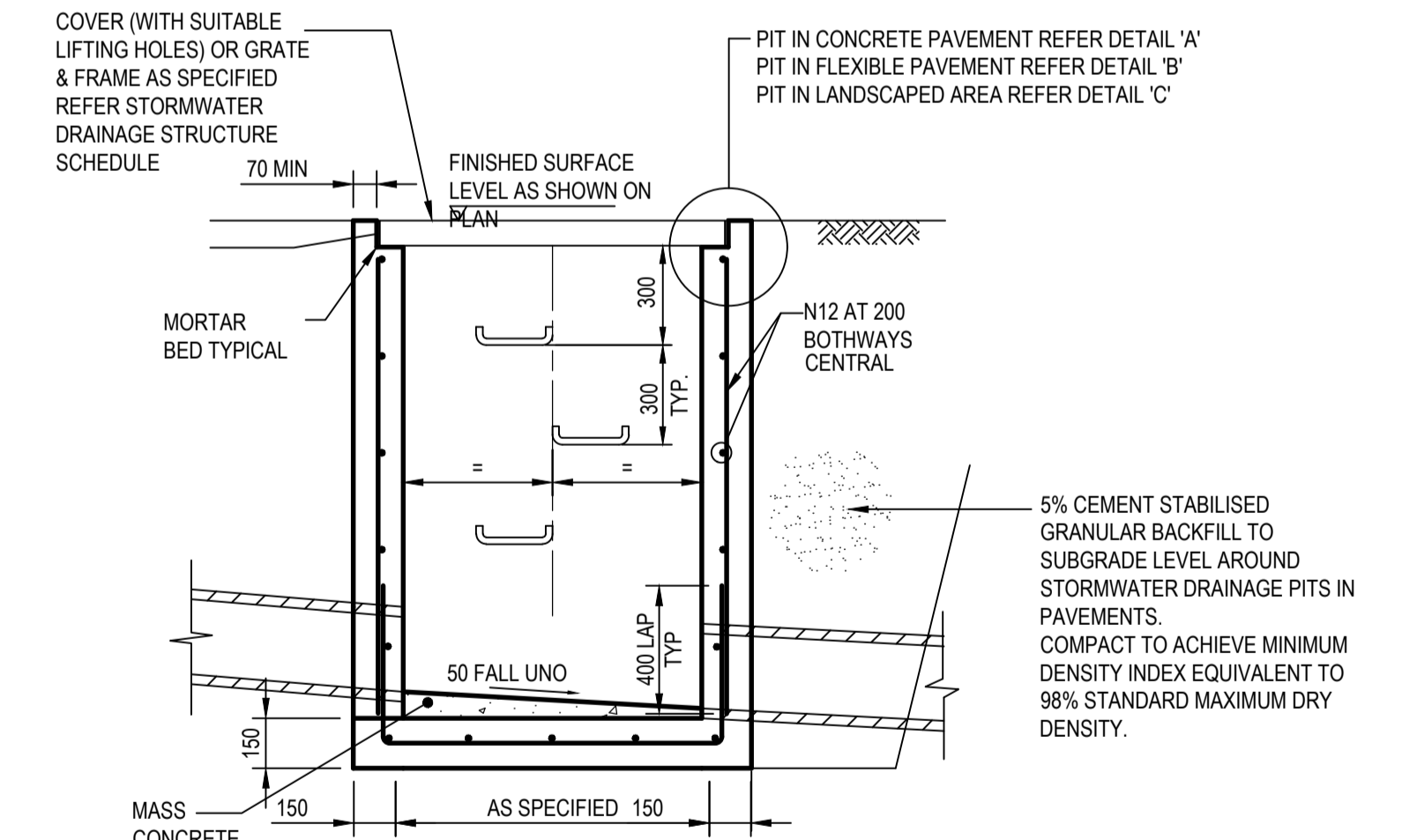
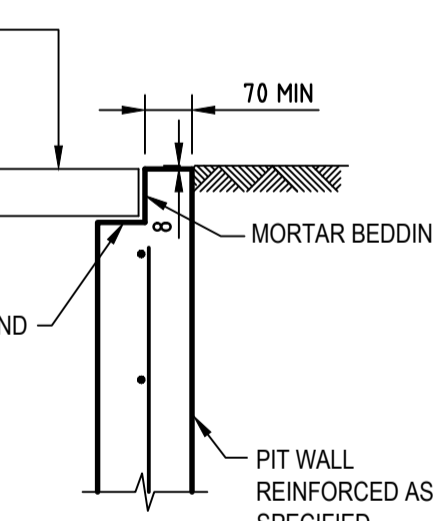
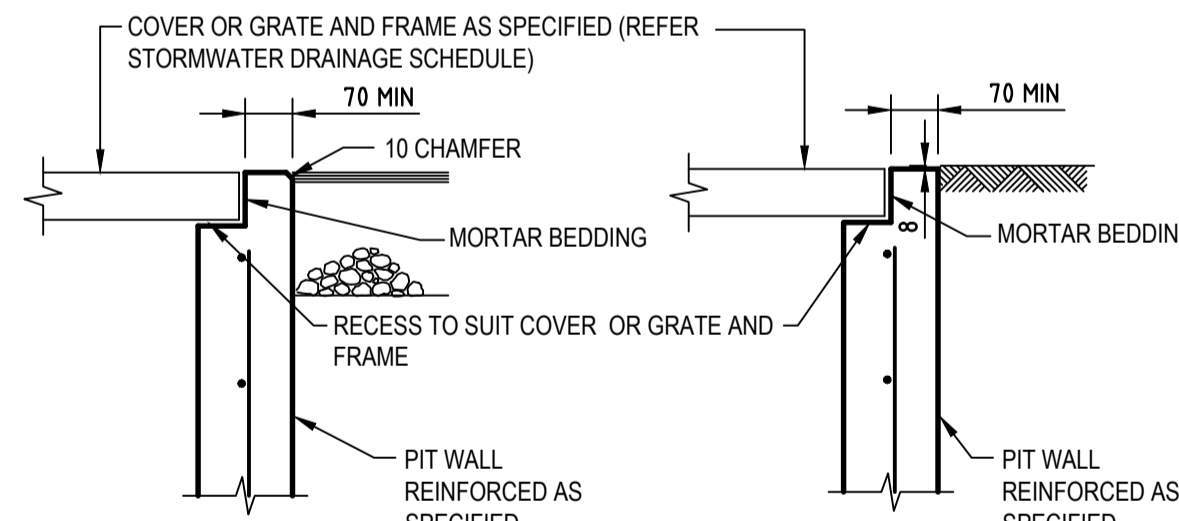
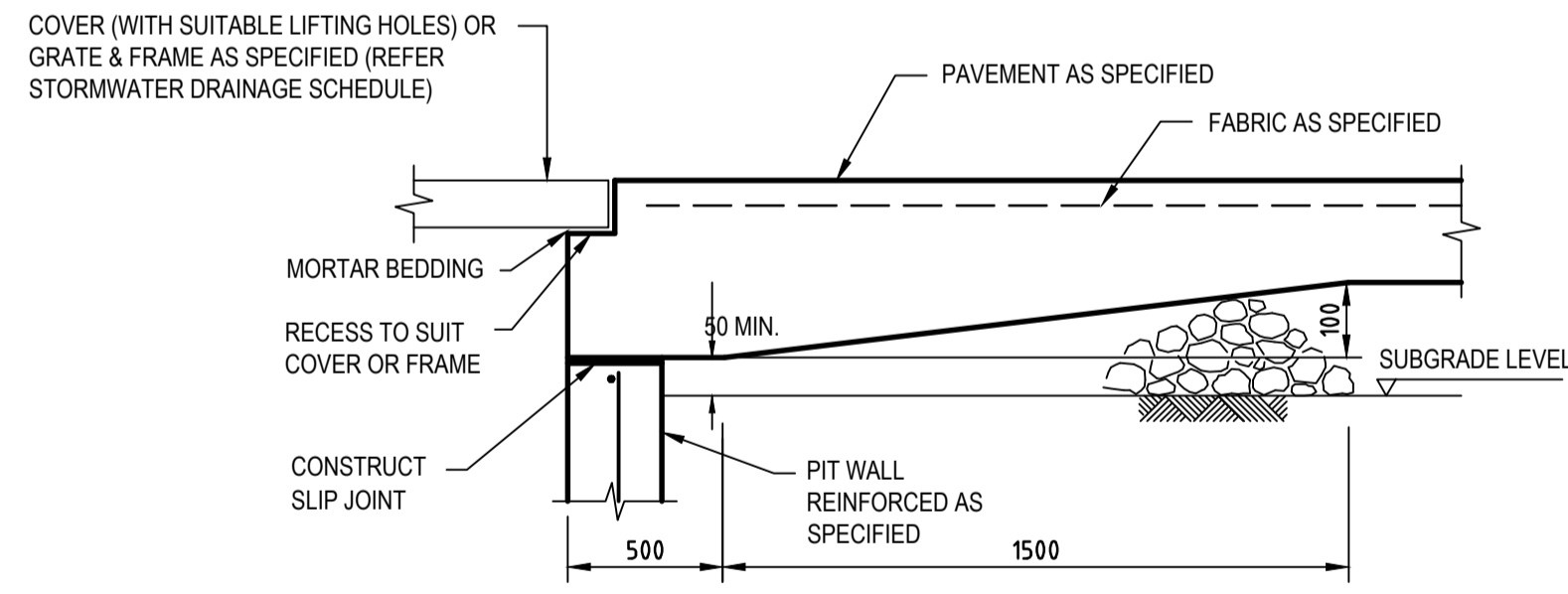
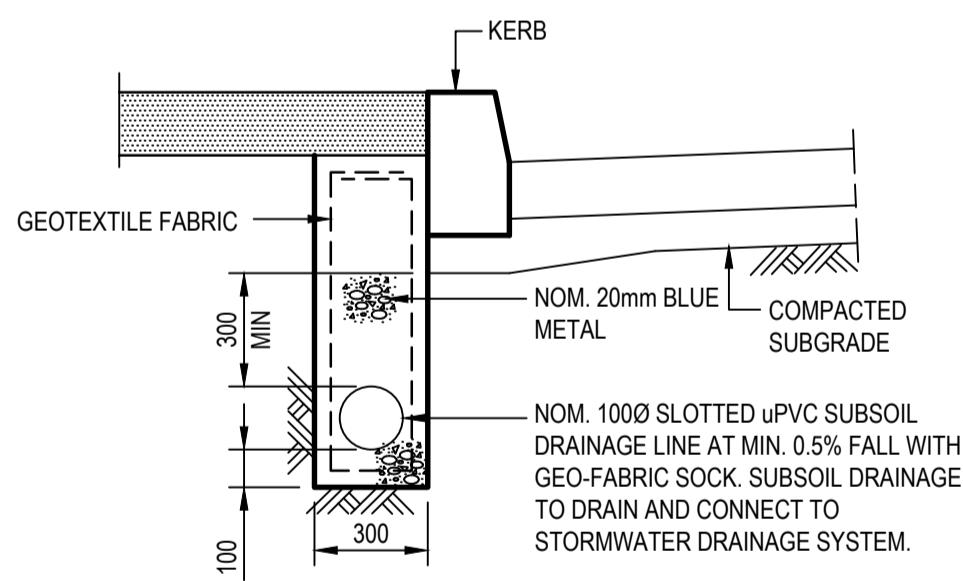
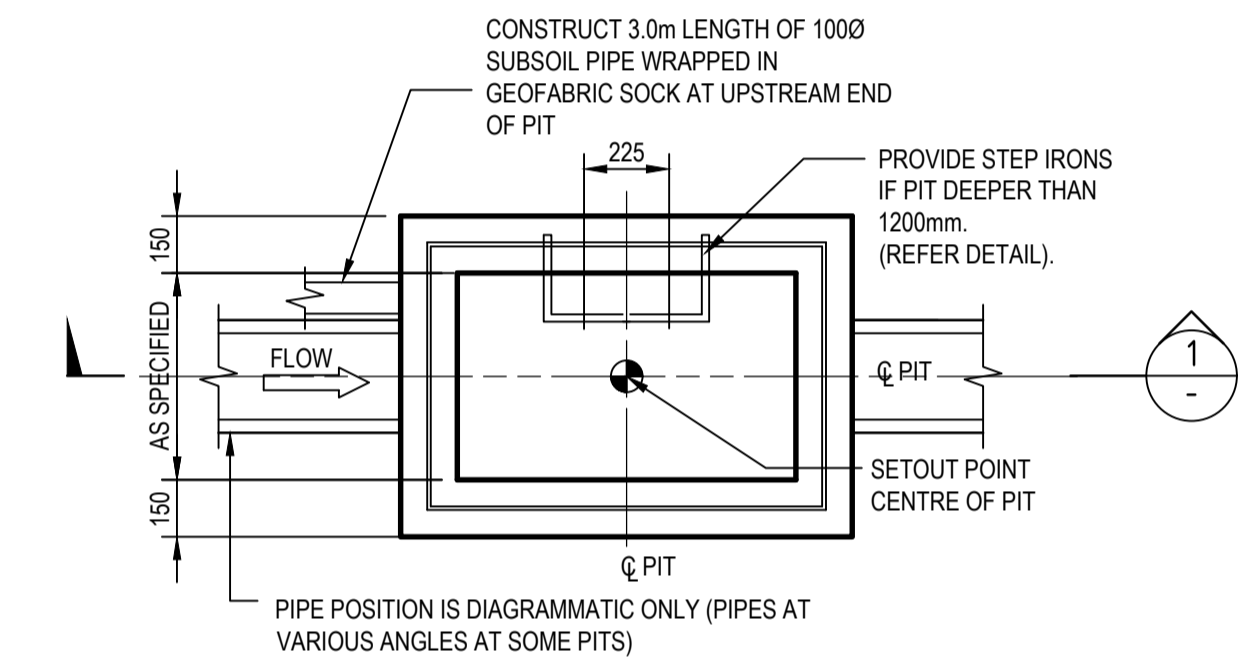
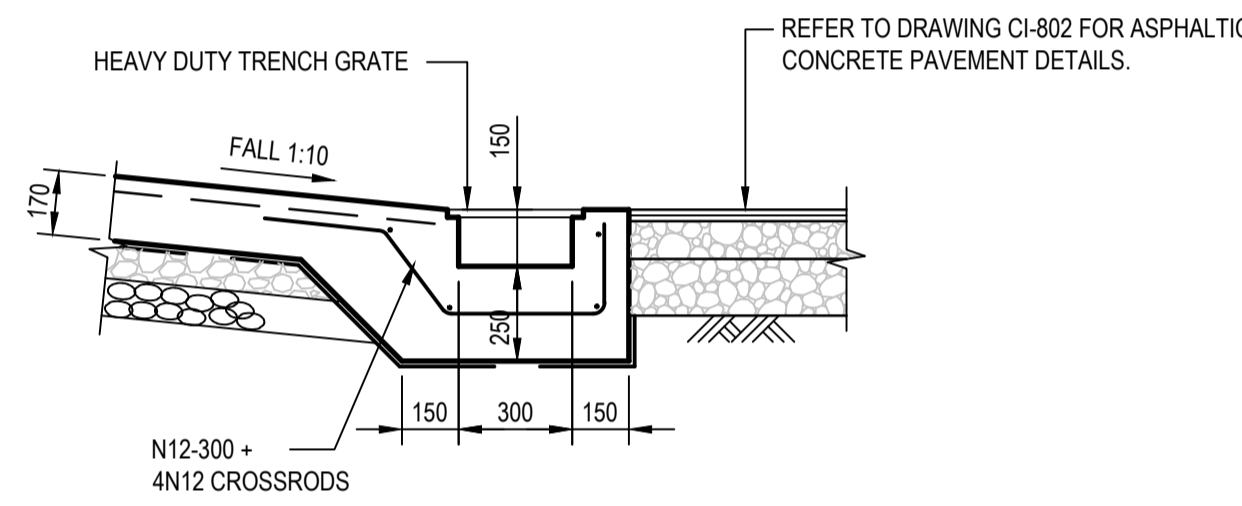
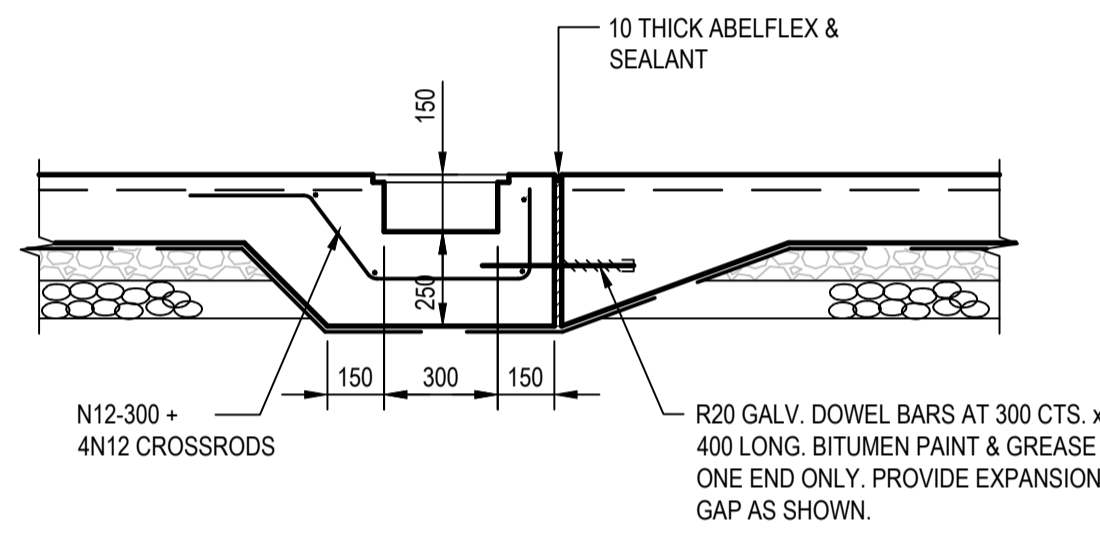
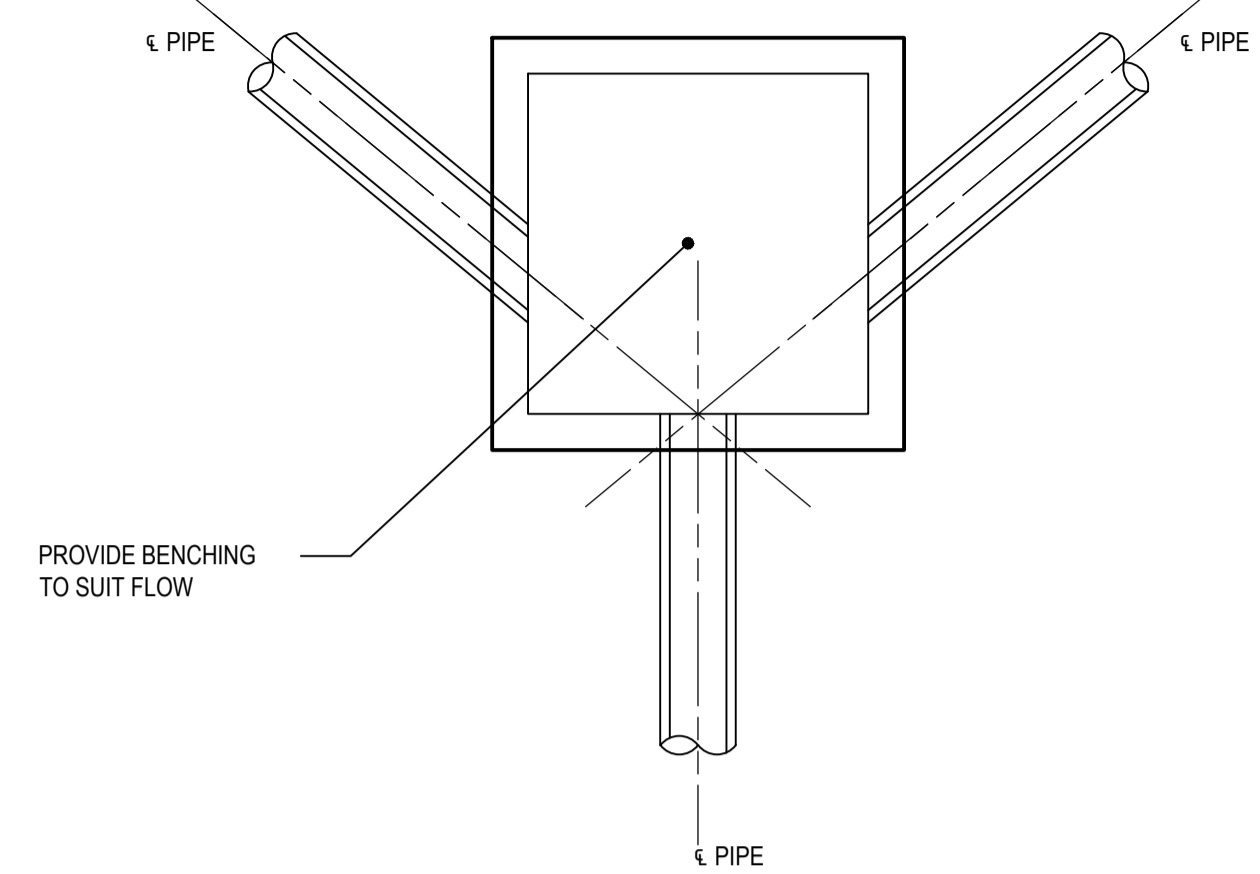
Client	COLIN HENRY
Project	MIXED USE DEVELOPMENT 342-350 HIGH STREET, PENRITH
Title	STORMWATER DRAINAGE DETAILS 1

Status	PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES	
DATUM	AHD
Scale	
Size	A1
Drawing Number	80821041-CI-2101
Revision	1



TYPICAL PIPE LAYING DETAIL U.N.O.

NOTE:
ALLOW TO BUILD 1000 AG. DRAIN IN THE LAST 3.0m OF DRAINAGE PIPE, UPSTREAM OF ALL DRAINAGE PITS.



SURFACE INLET/JUNCTION PIT (SIP/JP)

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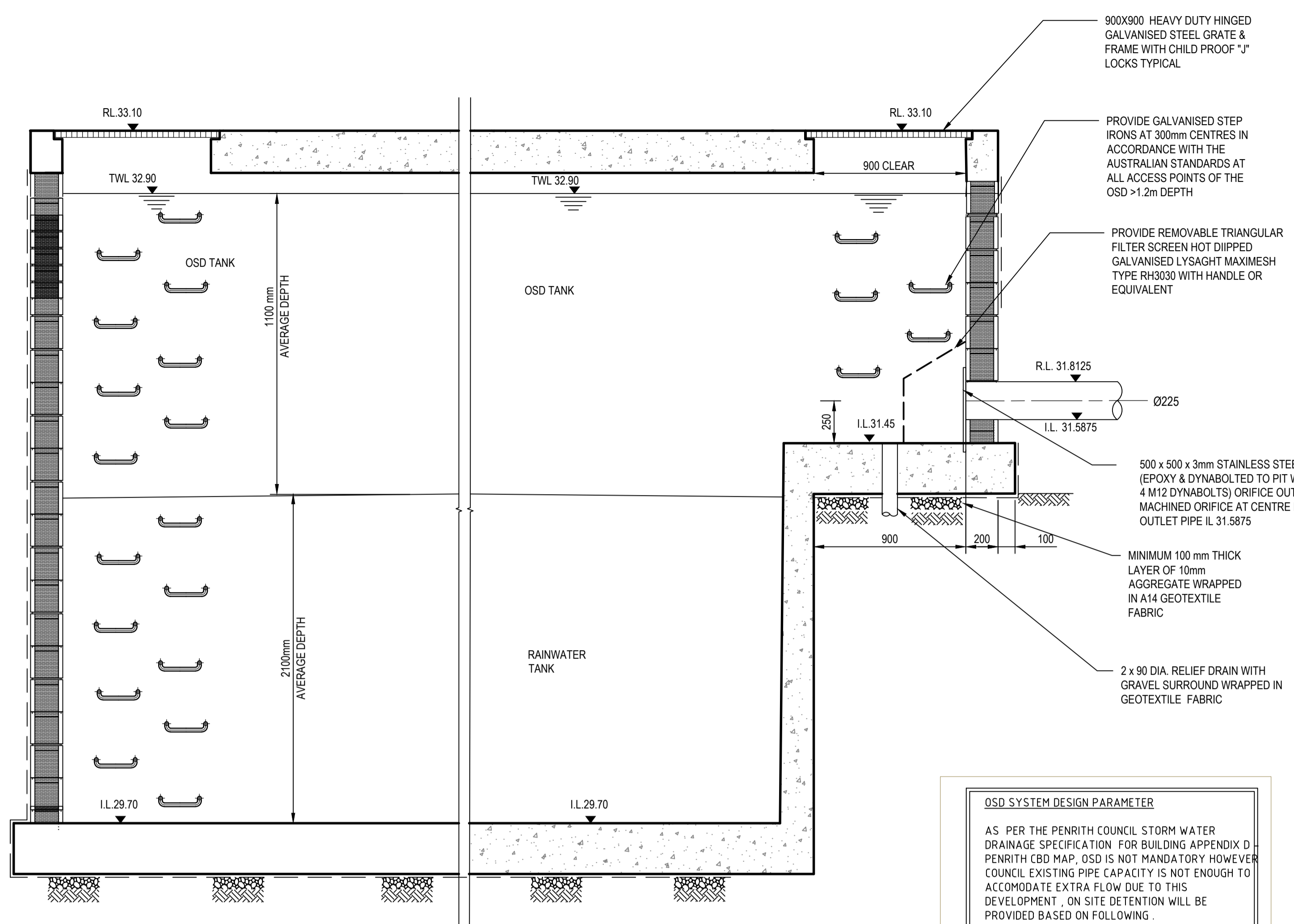
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Client	COLIN HENRY
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Title	STORMWATER DRAINAGE DETAILS 1

Status	FOR CONCEPT APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES
DATUM	AHD
Scale	
Size	A1
Drawing Number	80821041-CI-2101
Revision	2

DATE PLOTTED: 19 October 2021 4:08 PM BY: KUMPLE PATEL



SECTION 1
SCALE 1:20
1102

OSD SYSTEM DESIGN PARAMETER

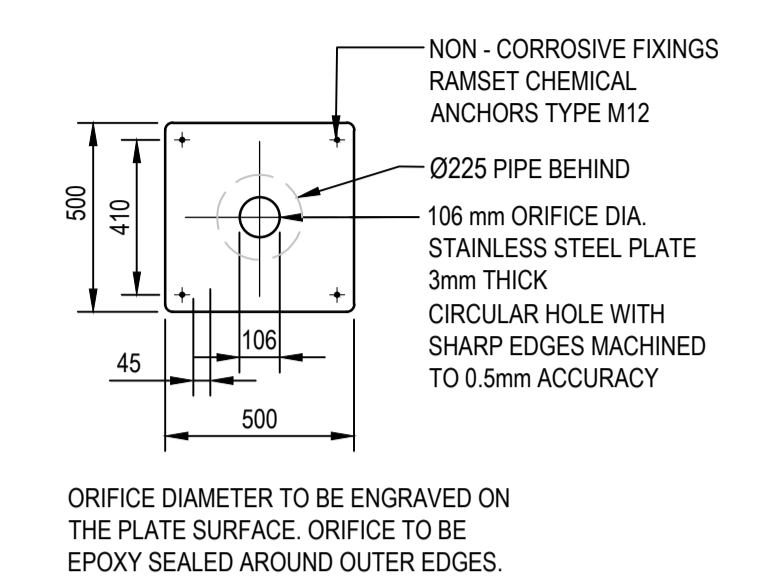
AS PER THE PENRITH COUNCIL STORM WATER DRAINAGE SPECIFICATION FOR BUILDING APPENDIX D PENRITH CBD MAP, OSD IS NOT MANDATORY HOWEVER COUNCIL EXISTING PIPE CAPACITY IS NOT ENOUGH TO ACCOMMODATE EXTRA FLOW DUE TO THIS DEVELOPMENT, ON SITE DETENTION WILL BE PROVIDED BASED ON FOLLOWING.

SSR = 280 m³/Ha
PSD = 120 L/s/Ha

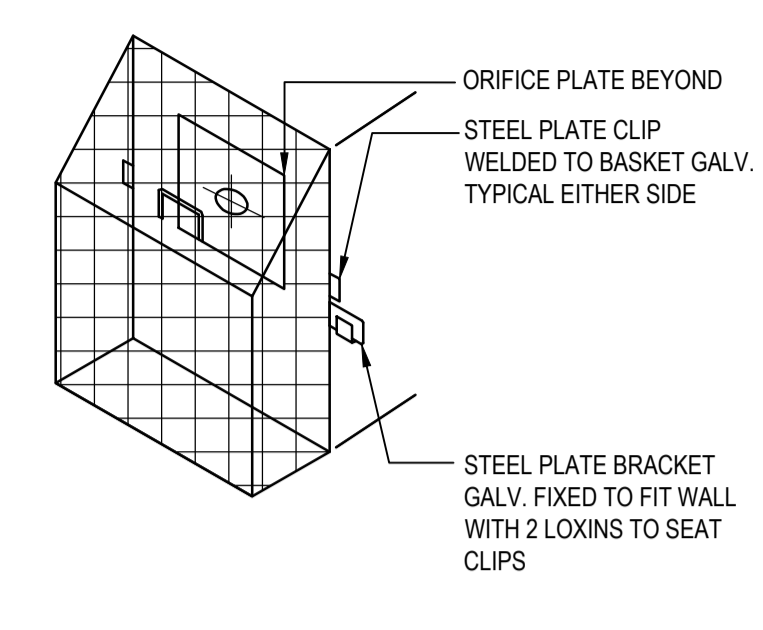
SITE AREA = 2087 Sq m.

OSD STORAGE REQUIRED FOR SITE = 58.0 m³
PSD REQUIRED FOR SITE = 25.0 L/s

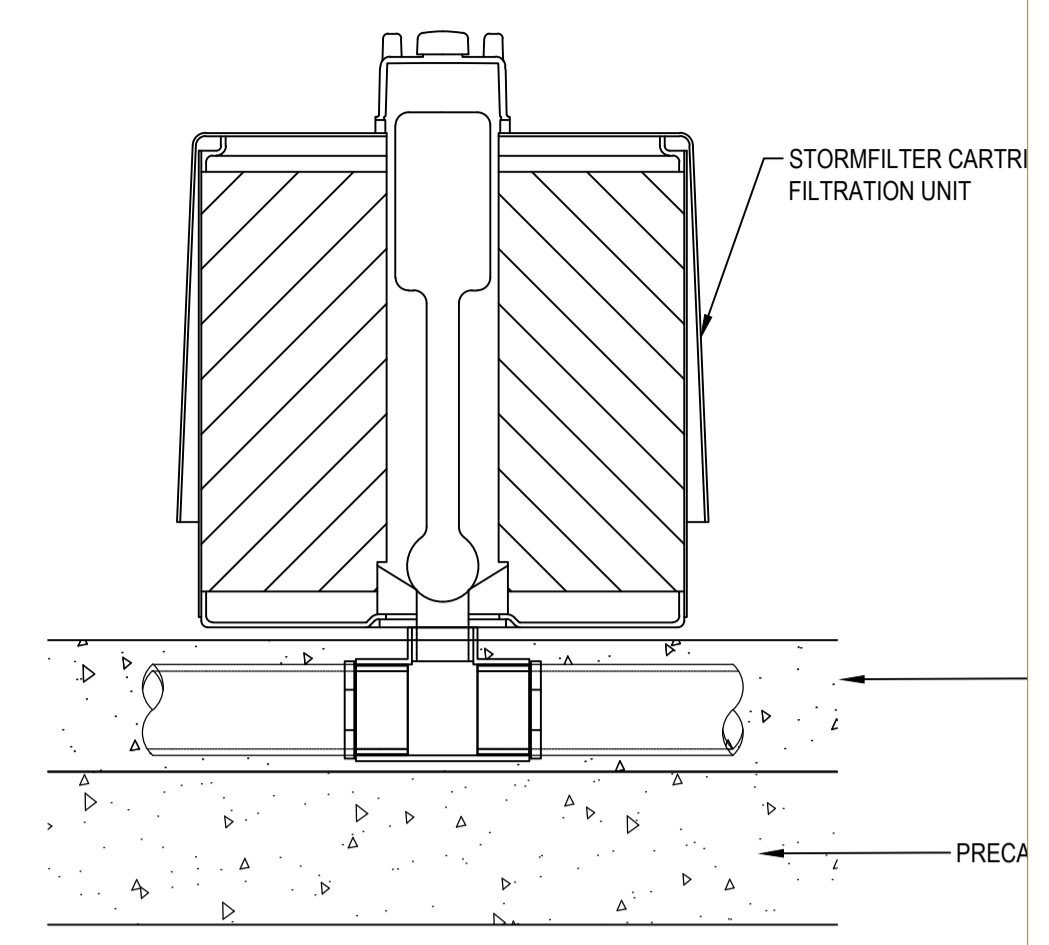
OSD STORAGE PROVIDED = 60.5 m³
OSD TANK DETAIL
TOP WATER LEVEL = 32.90
DEPTH OF WATER = 1.10m
TANK AREA = 55 m²
ORIFICE DIAMETER = 106 mm



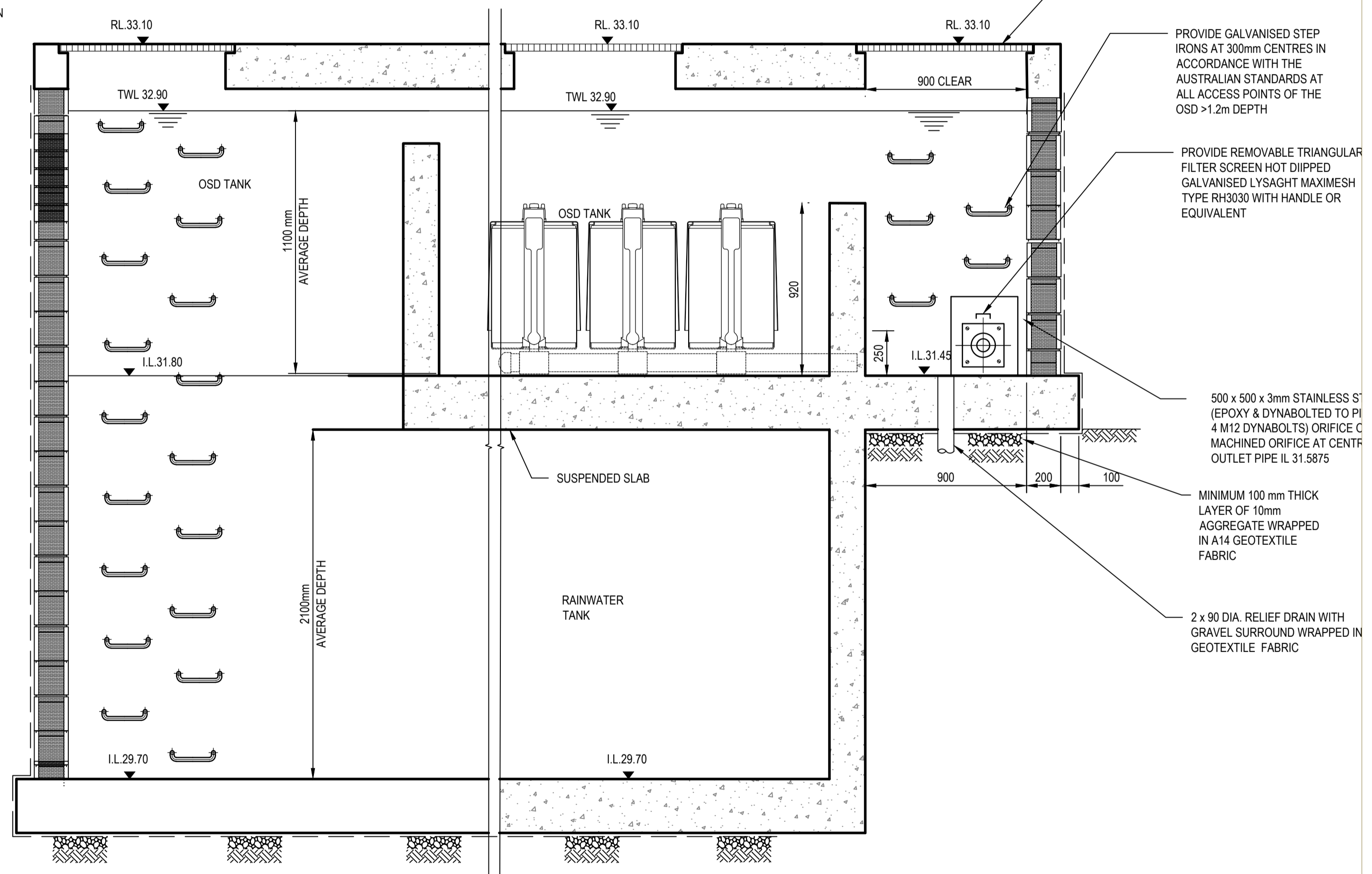
ORIFICE PLATE DETAIL
N.T.S.



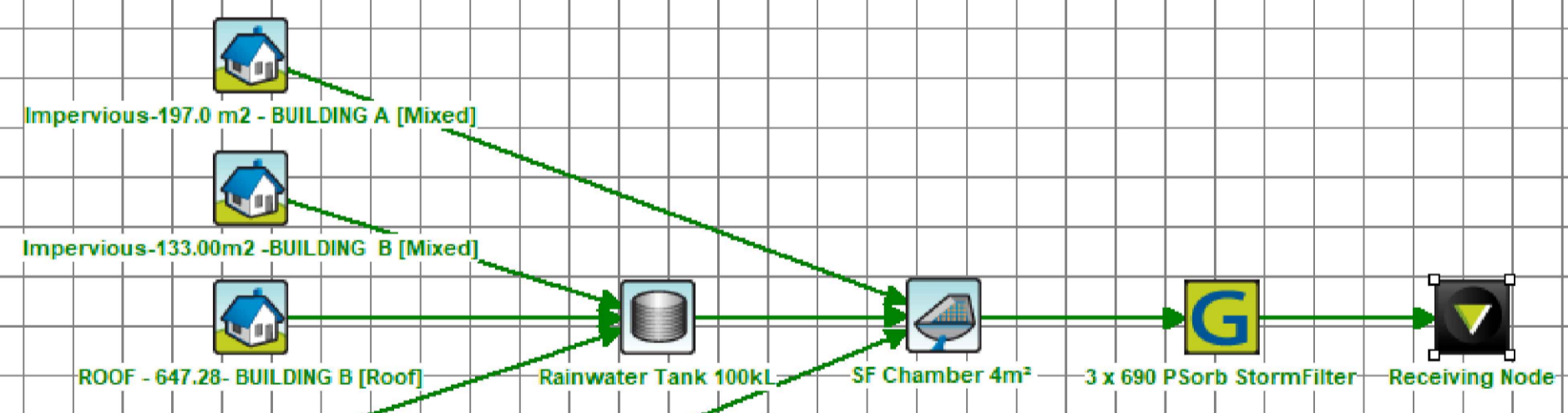
TRASH SCREEN DETAIL
N.T.S.



STORMFILTER CARTRIDGE DETAIL



SECTION 1
SCALE 1:20
1102



Treatment Train Effectiveness - Receiving Node

	Sources	Residual Load	% Reduction
Flow (ML/yr)	1.24	0.629	49.1
Total Suspended Solids (kg/yr)	77	10.7	86.1
Total Phosphorus (kg/yr)	0.23	0.0414	82
Total Nitrogen (kg/yr)	2.7	0.748	72.3
Gross Pollutants (kg/yr)	35.3	0	100

XREFs: x_ground floor plan REV 121.01.2020
CAD File: N:\Projects\8082\CI-2103\041_344_High Street Penrith\012_CIVILD Drawings\8082\041-CI-2103.dwg

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K.P.	SEP2021	COLIN HENRY
Checked	Date	Project
C.F.	SEP2021	MIXED USE DEVELOPMENT
Designed	Date	342-350 HIGH STREET, PENRITH
K.P.	SEP2021	
Verified	Date	Title
C.F.	SEP2021	STORMWATER DRAINAGE OSD TANK
Approved		

Status	FOR CONCEPT APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES
DATUM	AHD
Scale	A1
Drawing Number	80821041-CI-2103
Revision	2