

ESR HORSLEY LOGISTIC PARK

327-335 BURLEY ROAD, HORSLEY PARK

CIVIL WORKS DRAWINGS FOR SSSA

DRAWING LIST

DRAWING NO.	DRAWING TITLE
CO12990.05-SSDA10	DRAWING LIST & GENERAL NOTES
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CO12990.05-SSDA61	LOT 201 OSD TANK DETAILS
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EROSION CONTROL NOTES:

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

- SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
- HAY BALE BARRIERS AND GEOTEXTILES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
- ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
- CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
- ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
- ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
- ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
- ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
- ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
- AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
- ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
- ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
- ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
- ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FROM MOTOR VEHICLES.
- THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.

SITE PREPARATION NOTES:

- ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL SPECIFICATIONS PROVIDED BY DOUGLAS PARTNERS (REF 76582.06.R.001) DATED MAY 2016.
- EXISTING LEVELS ARE BASED ON INFORMATION PREPARED BY CALBRE FOR SUBDIVISION STAGES 2A & 2B.
- STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
- COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
- PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
- AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
- SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HLF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HLF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
- IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HLF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HLF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
- ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 mm SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HLF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION.
- ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS (IN THE STATED PERIOD) ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION.
- PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
- EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
- MATCH EXISTING LEVELS AT BATTER INTERFACE.
- CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.

GENERAL NOTES:

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
- DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

ELECTRONIC INFORMATION NOTES:

- THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
- THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
- THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
- THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

STORMWATER DRAINAGE NOTES:

- ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
- THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
- ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS SSSA51 & SSSA54.
- PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
- EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
- ALL STORMWATER PIPES ϕ 375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING ϕ 300 TO BE uPVC GRADE S8B UNO.
- PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
- ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F_{c25} MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMPERS OR OTHER SUITABLE TAMPING DETAILS.
- CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
- WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED ϕ 100 uPVC TO EACH SIDE OF PIPE.
- ALL SUBSOIL DRAINAGE LINES SHALL BE ϕ 100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT / LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
- ALL PIPE GRADES 1 IN 200 MINIMUM UNO.
- PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
- MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
- PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
- PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
- DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
- PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.

FINISHED LEVELS PLAN NOTES:

- LEVELS DATUM IS A.H.D.
- ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
- THE MAJOR CONTOUR INTERVAL IS 0.5m
- THE MINOR CONTOUR INTERVAL IS 0.1m.
- MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
- MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) IN CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
- MAXIMUM RAMP GRADES ARE TO BE 1:12 (8.3%) U.N.O. ON PLAN
- PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGES GRADE EXCEED 1:20 (5%).
- PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H.
- ALL BATTER SLOPES WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY, OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
- ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 2.5% NOMINAL GRADE.
- ALL PAVEMENTS ARE TO BE SET AT 50mm BELOW THE FINISHED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS.



FOR SSD APPROVAL

REVISION	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS
REVISED AS CLOUDED	12.02.21	F				
REVISED AS CLOUDED	14.10.20	E				
REVISED AS CLOUDED	19.06.20	D				
REVISED AS CLOUDED	12.06.20	C				
ISSUED FOR SSD APPROVAL	30.03.20	B				
ISSUED FOR INFORMATION	20.03.20	A				

ARCHITECT	CLIENT	PROJECT



DESIGNED	DRAWN	DATE	CHECKED	SCALE	CAD REF.

PROJECT	CLIENT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION	Costin Roe Consulting Pty Ltd.

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PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE	DRAWING NO.	ISSUE
DRAWING LIST & LOCALITY PLAN	Co12990.05-SSDA10	6

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C012990.05-SSDA25.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'. CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY FOR FAIRFIELD (315mm).

SEDIMENT BASIN 1:
 CATCHMENT AREA = 7.73ha
 REQUIRED BASIN VOLUME = 1,825m³
 BASE DIMENSION (LxB) = 18.0m x 32.0m
 TOP DIMENSION (LxB) = 30.0m x 44.0m
 MAX SIDE SLOPE = 1V:3H
 DEPTH = 2.0m
 PROVIDED BASIN VOLUME = 1,845m³

SEDIMENT BASIN 2:
 CATCHMENT AREA = 6.225ha
 REQUIRED BASIN VOLUME = 1,470m³
 BASE DIMENSION (LxB) = 15.0m x 30.0m
 TOP DIMENSION (LxB) = 27.0m x 42.0m
 MAX SIDE SLOPE = 1V:3H
 DEPTH = 2.0m
 PROVIDED BASIN VOLUME = 1,532m³

SEDIMENT BASIN 3:
 CATCHMENT AREA = 9.21ha
 REQUIRED BASIN VOLUME = 2,175m³
 BASE DIMENSION (LxB) = 20.0m x 36.0m
 TOP DIMENSION (LxB) = 32.0m x 48.0m
 MAX SIDE SLOPE = 1V:3H
 DEPTH = 2.0m
 PROVIDED BASIN VOLUME = 2,205m³

SEDIMENT BASIN 4:
 CATCHMENT AREA = 5.69ha
 REQUIRED BASIN VOLUME = 1,344m³
 BASE DIMENSION (LxB) = 14.0m x 28.0m
 TOP DIMENSION (LxB) = 26.0m x 40.0m
 MAX SIDE SLOPE = 1V:3H
 DEPTH = 2.0m
 PROVIDED BASIN VOLUME = 1,380m³

SEDIMENT BASIN 5:
 CATCHMENT AREA = 10.44ha
 REQUIRED BASIN VOLUME = 2,466m³
 BASE DIMENSION (LxB) = 21.0m x 40.0m
 TOP DIMENSION (LxB) = 33.0m x 52.0m
 MAX SIDE SLOPE = 1V:3H
 DEPTH = 2.0m
 PROVIDED BASIN VOLUME = 2,504m³

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

- NOTES:**
1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
 2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
 3. Cv = 0.5 & LENGTH TO WIDTH RATIO OF 2 (MIN.)
- SOIL TYPE TO BE ASSESSED BY A GEOTECHNICAL ENGINEER

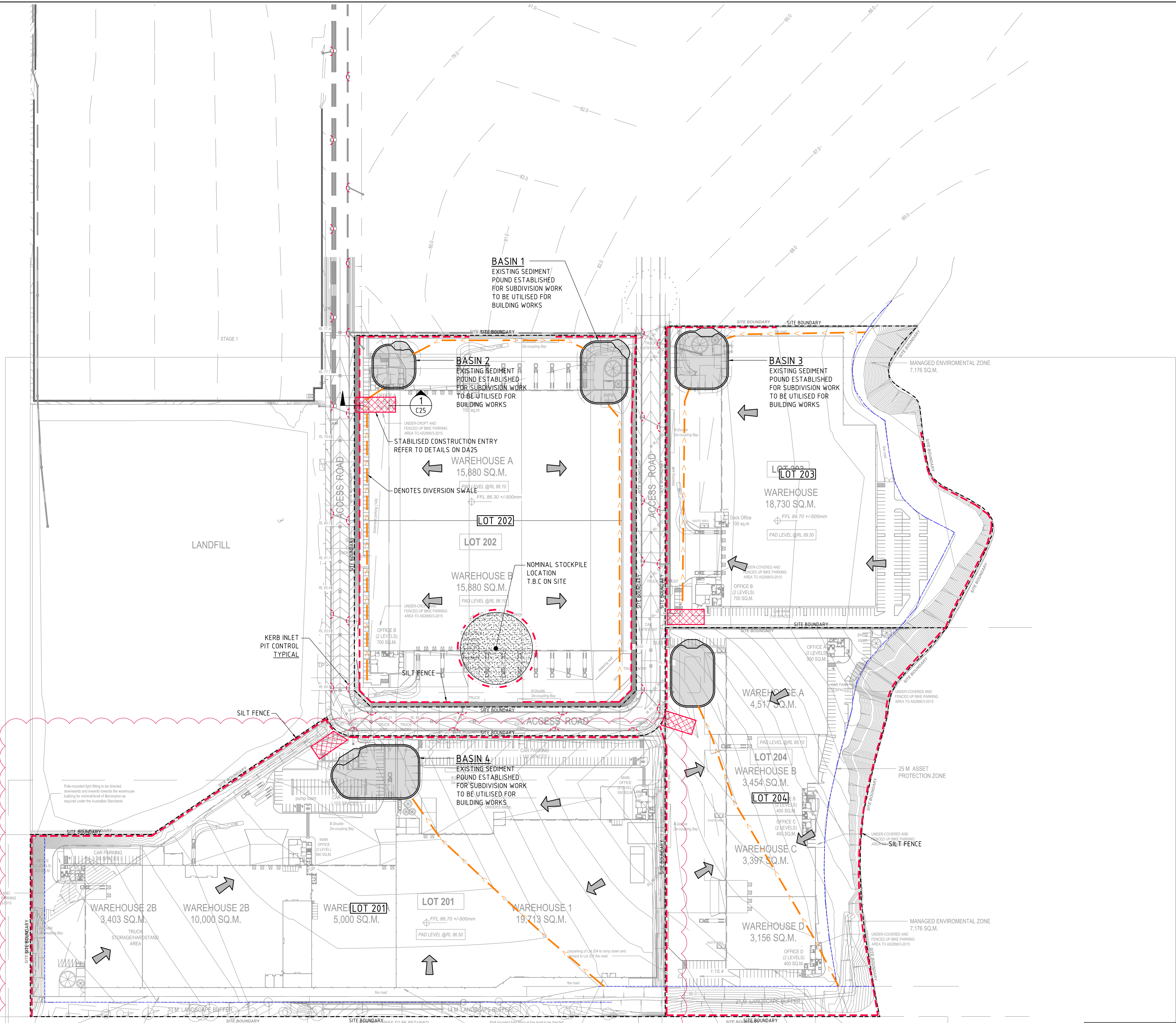
POND DEWATERING NOTES:

1. DRAIN PONDS OF WATER & DISCHARGE CLEAN WATER TO STORMWATER DRAINAGE SYSTEM (AS PER NOTES 2 & 3) - REFER TO STORMWATER PLAN FOR LOCATIONS.
2. DEWATERING TO BE PERFORMED IN SUCH A MANNER AS TO REMOVE CLEAN WATER WITHOUT REMOVING OR DISTURBING SILT, SEDIMENT OR OTHER ORGANIC MATERIAL FROM THE BASE OF THE PONDS.
3. DISCHARGE OF WATER FROM PONDS TO HAVE A PH RANGE OF 6.5-8.5 AND TSS < 50mg/L. PONDS TO BE DOSED WITH GYPSUM (APPROX. 30mg PER CUBIC METRE) TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS.
4. REMOVE ALL SILT, ORGANIC AND WATER LOGGED MATERIAL FROM BASE OF POND (NOM. DEPTH 0.5-1.0m) AND DISPOSE OF IN ACCORDANCE WITH THE ACCEPTABLE PRACTICE.
5. EXPOSE NATURAL SITE SOILS AND COMPACT SUBGRADE IN ACCORDANCE WITH THE SITE PREPARATION NOTES (REFER DRG. SSDA10) REMOVING ANY SOFT ZONES AS REQ'D.
6. PLACE AND COMPACT FILL AS PER SITE PREPARATION NOTES ON DRAWING SSDA10.
7. INFORMATION PROVIDED ON THIS DRAWING SHALL BE USED TO GUIDE THE DEVELOPMENT OF THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN THAT SHALL BE IMPLEMENTED DURING CONSTRUCTION.

LEGEND:

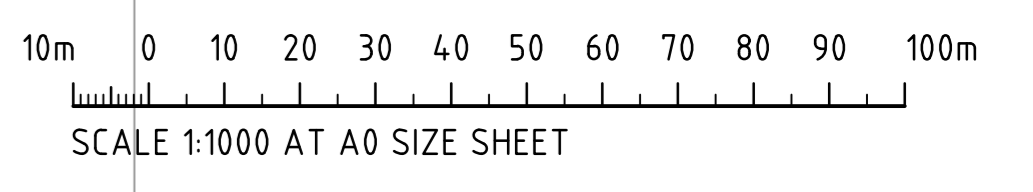
PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES OVERLAND FLOW PATH
- DENOTES CONSTRUCTION ENTRY



EROSION & SEDIMENT CONTROL NOTES:
 REFER TO DRAWING SSDA10 FOR EROSION & SEDIMENT CONTROL NOTES

EROSION SEDIMENT CONTROL PLAN
 SCALE 1:1000



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ARCHITECTURAL LAYOUT REVISED	12.02.21	E			
REVISED FOR NEW ARCHITECTURALS	06.10.20	D			
REVISED FOR NEW ARCHITECTURALS	12.06.20	C			
ISSUED FOR SSD APPROVAL	30.03.20	B			
ISSUED FOR INFORMATION	20.03.20	A			

ARCHITECT
 CLIENT

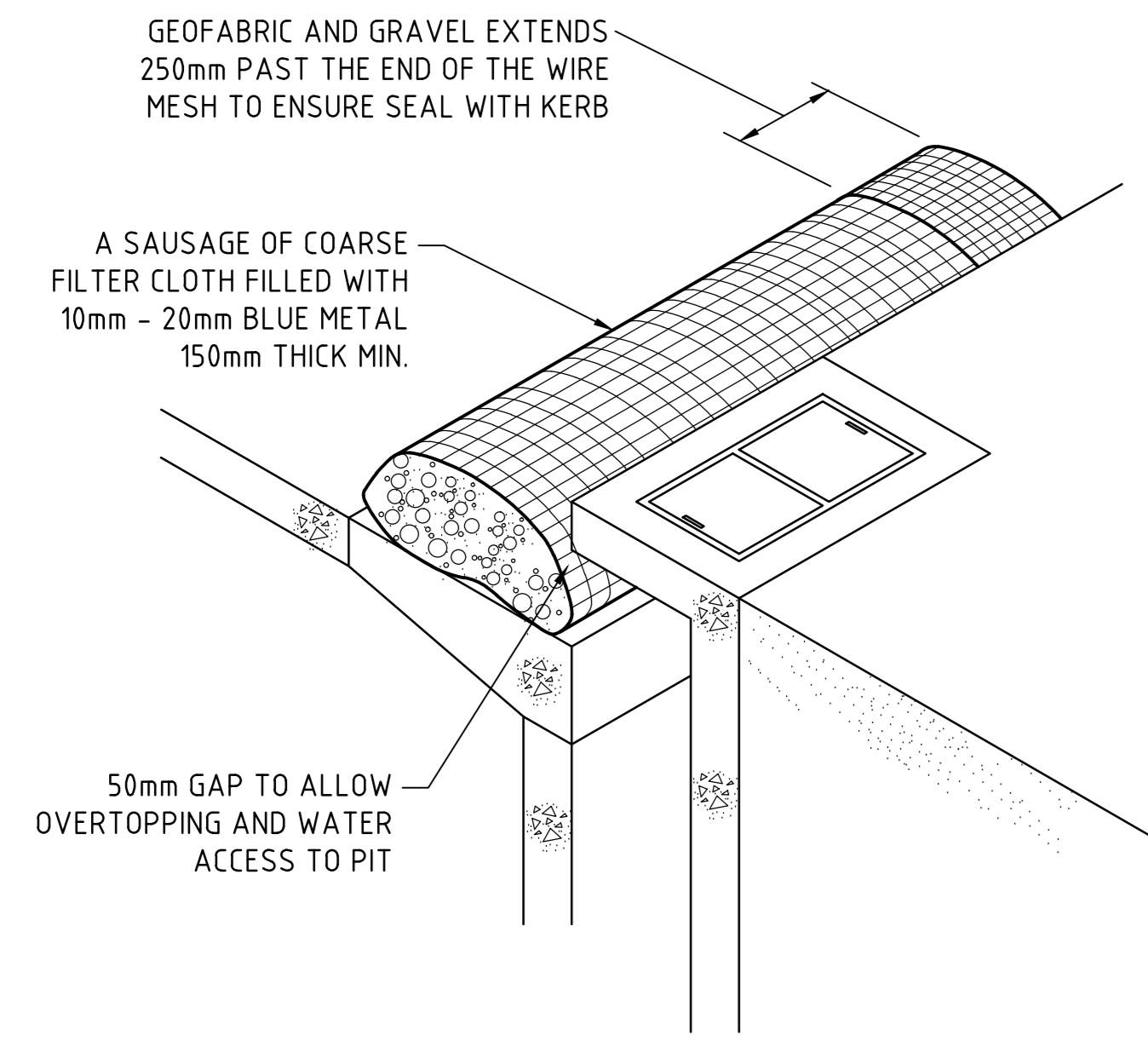


PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
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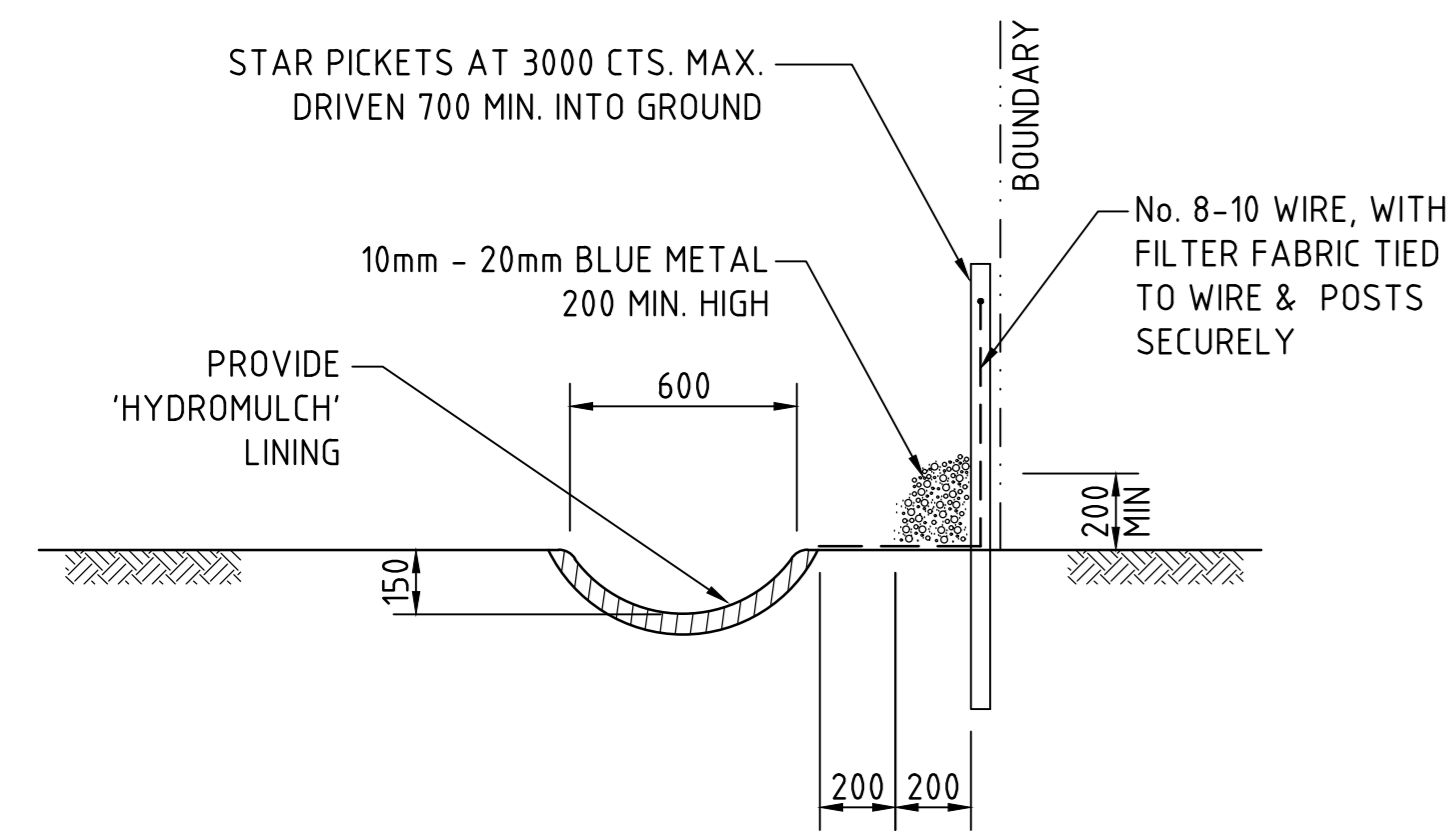
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 PRECISION | COMMUNICATION | ACCOUNTABILITY

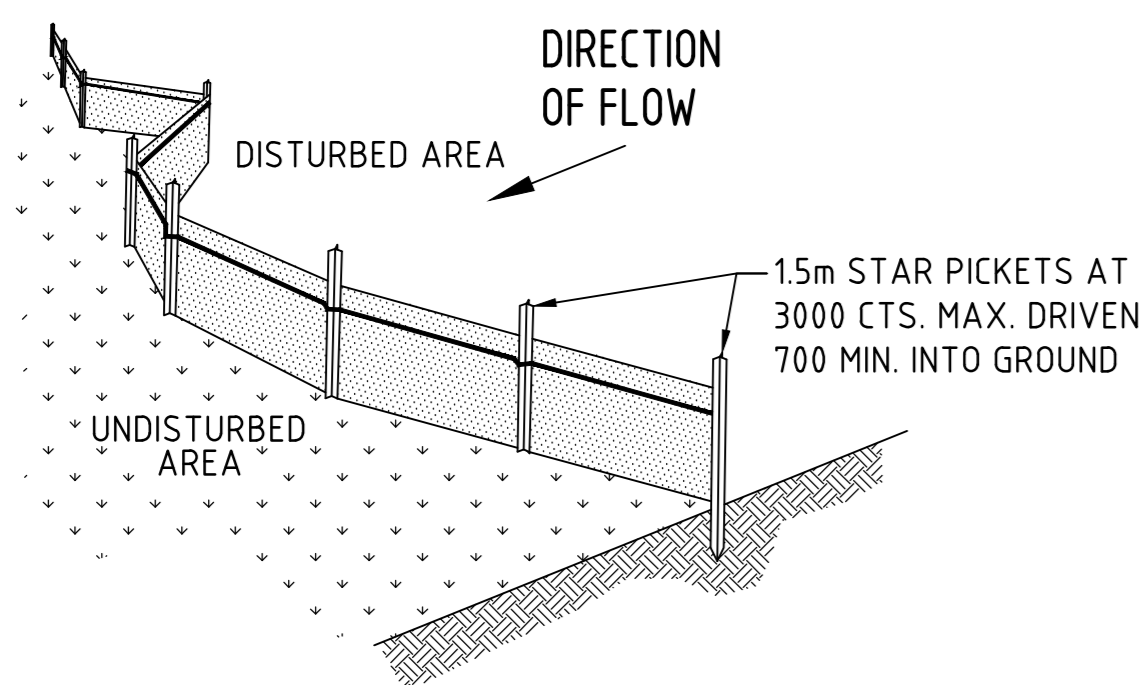
DRAWING TITLE
EROSION SEDIMENT CONTROL PLAN
 DRAWING No. C012990.05-SSDA20 ISSUE E



KERB INLET CONTROL
N.T.S.

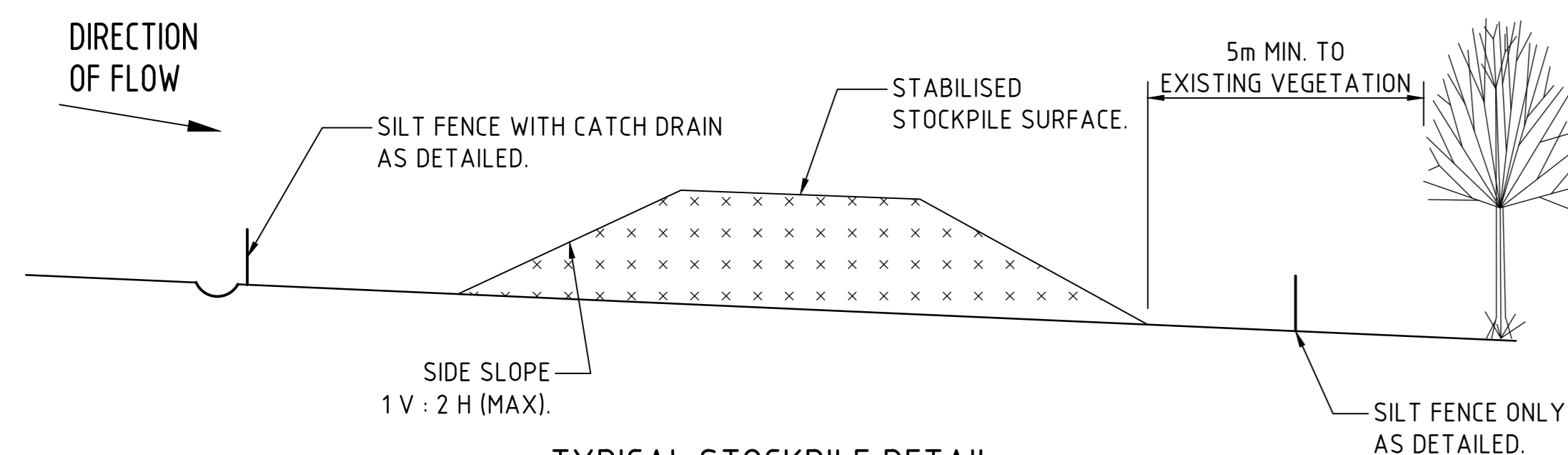


TYPICAL OPEN DRAIN & SILT FENCE
SCALE 1:20



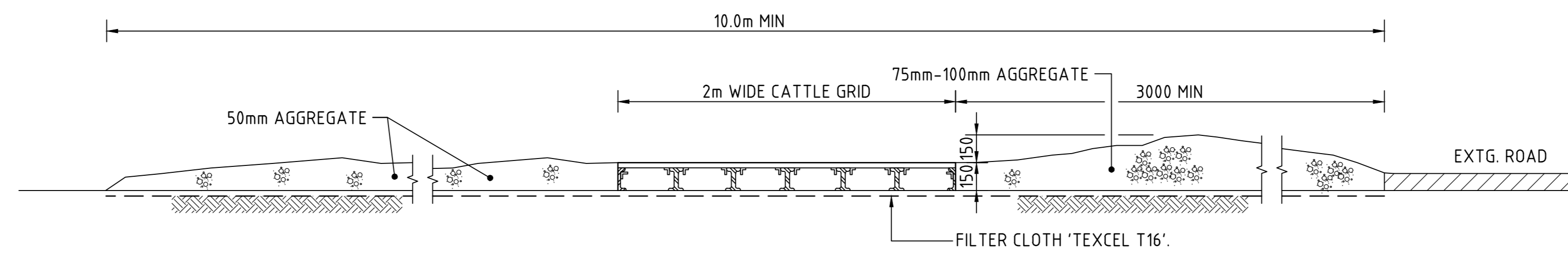
TYPICAL SILT FENCE DETAIL
N.T.S.

NOTE: PROVIDE 1m RETURNS AT 30m INTERVALS. TYPICAL

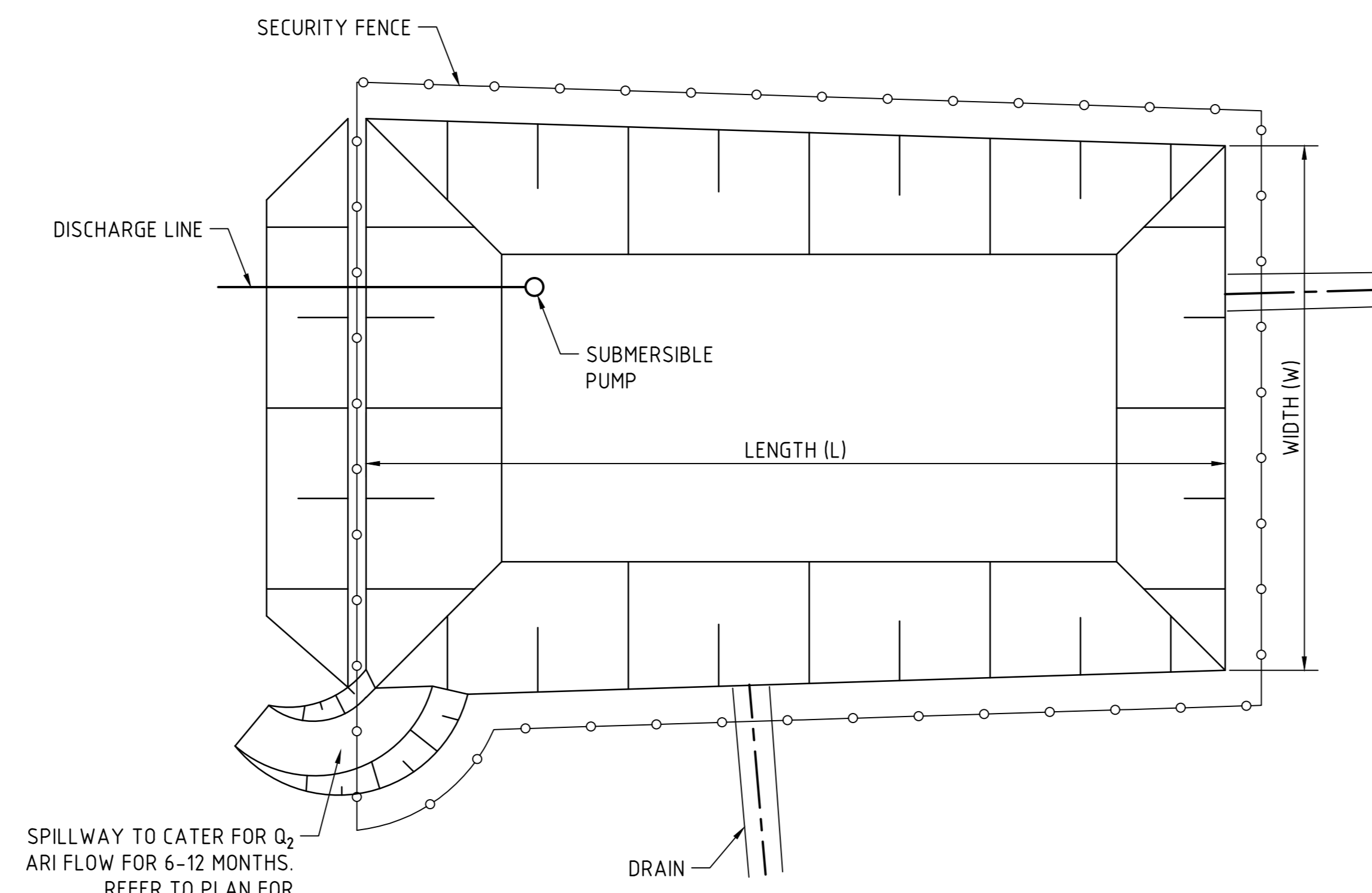


TYPICAL STOCKPILE DETAIL
N.T.S.

- STOCKPILE NOTES**
1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
 2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1V:2H MAX.
 3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
 4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
 5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.

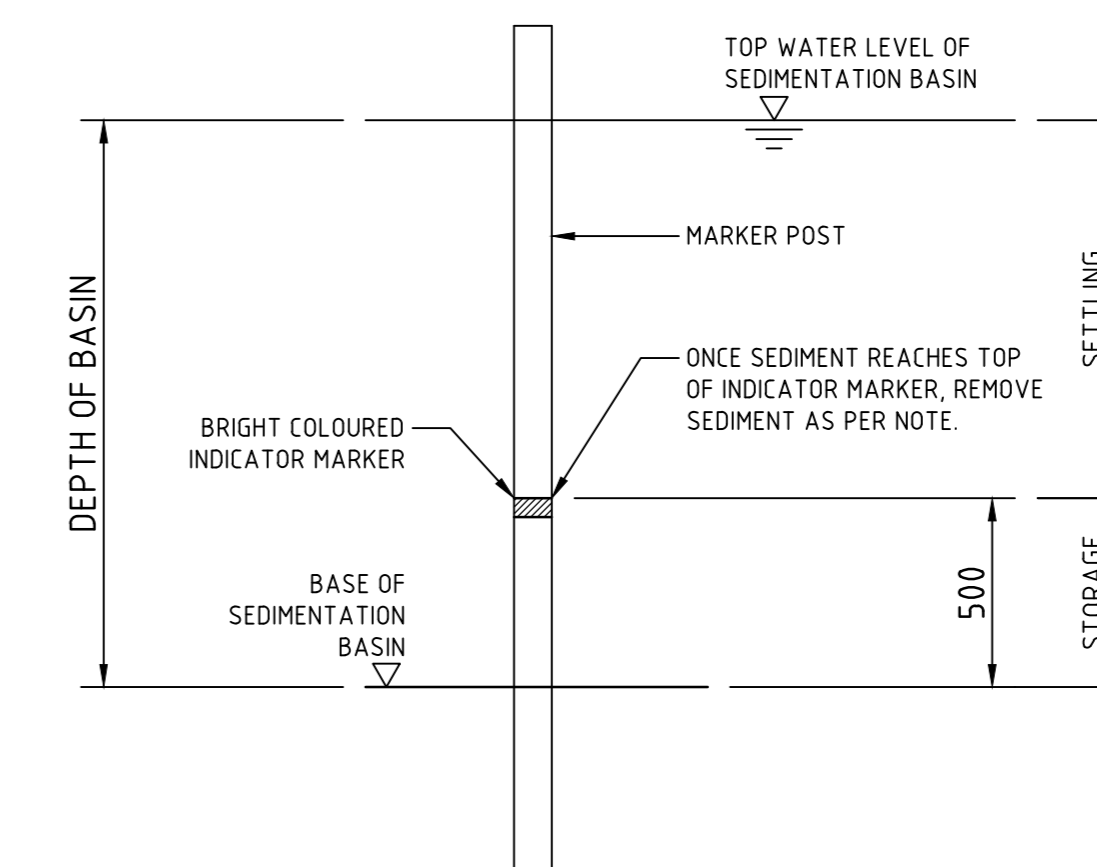


SECTION 1:20 1 : STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'



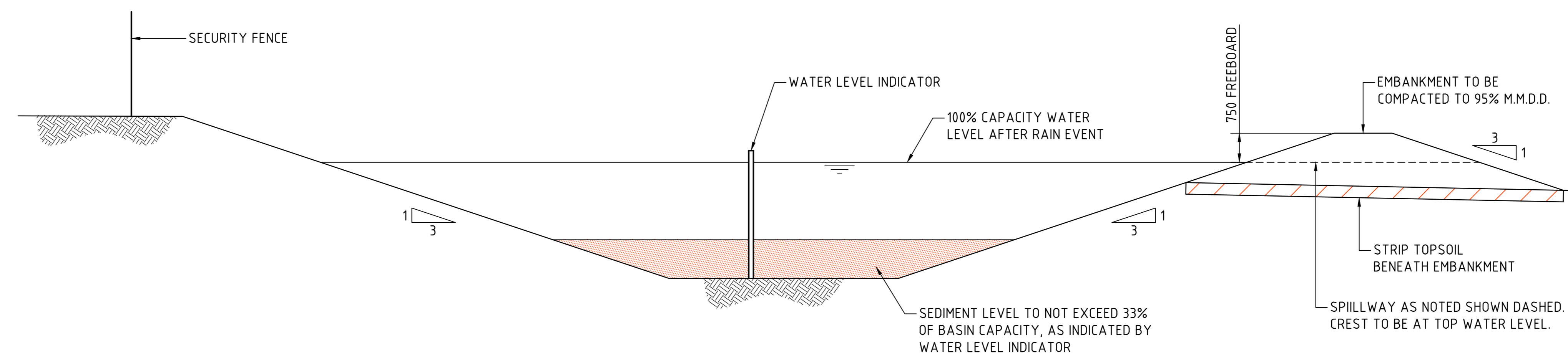
TYPICAL SEDIMENT CONTROL POND PLAN

SCALE 1:250



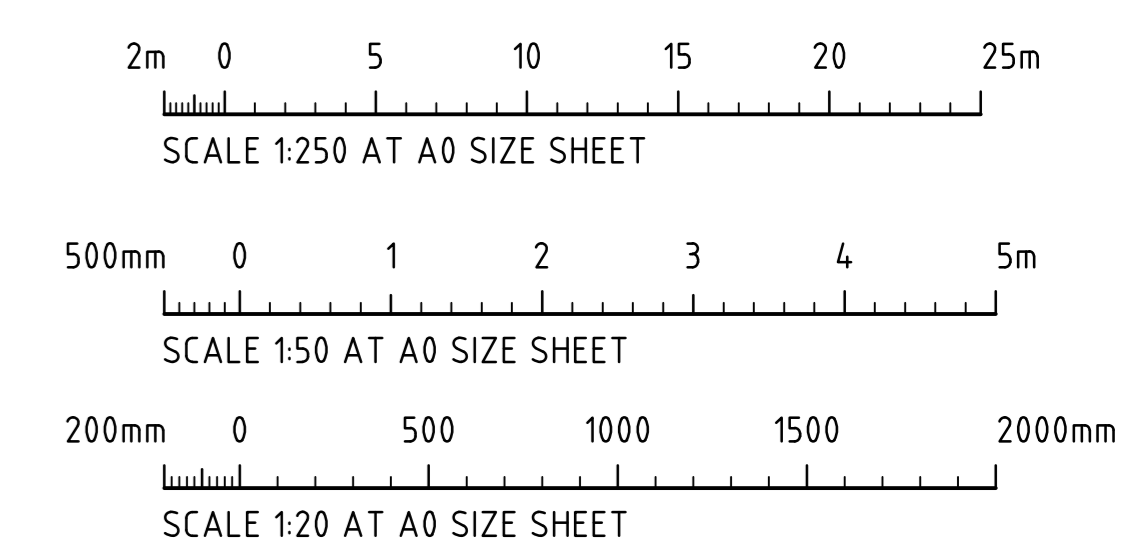
SEDIMENT STORAGE MARKER

SCALE 1:20



TYPICAL SEDIMENT CONTROL BASIN SECTION

SCALE 1:50



FOR SSD APPROVAL

ISSUED FOR SSD APPROVAL	30.03.20	B	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ISSUED FOR INFORMATION	20.03.20	A						

ARCHITECT



PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

CLIENT
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 9 Windmill Street
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Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
EROSION SEDIMENT CONTROL PLAN DETAILS
DRAWING No. **Co12990.05-SSDA25** ISSUE **B**

REFER TO SSSDA42

REFER TO SSSDA43

DISCHARGE POINT 2
ATTENUATED FLOWS FROM LOT 202
TO DISCHARGE TO PIT 120/2

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 1450m³ OF OSD STORAGE VOLUME
PROVIDE 115 FILTER CARTRIDGES.

DISCHARGE POINT 3
ATTENUATED FLOWS FROM LOT 203
TO DISCHARGE TO PIT 141/2.

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 1160m³ OF OSD STORAGE VOLUME
PROVIDE 50 FILTER CARTRIDGES.

STAGE 1

MANAGED ENVIRONMENTAL ZONE
7,176 SQ.M.

LANDFILL

WAREHOUSE A
15,880 SQ.M.

LOT 202
BUILDING 2
FFL = 86.30 ± 500mm
SUBJECT TO FUTURE
DETAILED DESIGN

WAREHOUSE B
15,880 SQ.M.

LOT 203
BUILDING 3
FFL = 89.70 ± 500mm
SUBJECT TO FUTURE
DETAILED DESIGN

PROPOSED BIO-RETENTION BASIN SYSTEM

MIN TOTAL BIO RETENTION FILTRATION AREA: 100m²
MIN EXTENDED DETENTION = 0.30m
500mm MIN FILTER MEDIA DEPTH

DISCHARGE POINT 1
ATTENUATED FLOWS FROM LOT 201
TO DISCHARGE TO PIT 100/6.

DISCHARGE POINT 3
ATTENUATED FLOWS FROM LOT
204 TO DISCHARGE TO PIT 100/2

WAREHOUSE A
4,517 SQ.M.

LOT 204
WAREHOUSE B
3,454 SQ.M.

LOT 204
BUILDING 4
FFL = 89.30
SUBJECT TO FUTURE
DETAILED DESIGN

WAREHOUSE C
3,397 SQ.M.

UNDERGROUND OSD/STORMWATER TREATMENT TANK
PROVIDE 2235m³ OF OSD STORAGE VOLUME
PROVIDE 130 FILTER CARTRIDGES.

WAREHOUSE D
3,156 SQ.M.

WATER QUALITY NOTE:
STORMWATER QUALITY REQUIREMENTS HAVE BEEN BASED ON THE
STORMWATER CONCEPT PLAN PREPARED BY BROWN CONSULTING.
REF No: XT304.4.
THE FOLLOWING REDUCTION PARAMETERS HAVE BEEN SET FOR THE
PROPOSED DEVELOPMENT:
• GP 90%
• TSS 93%
• TP 74%
• TN 4.8%

STORMWATER MANAGEMENT NOTE:
STORMWATER MANAGEMENT REQUIREMENTS ARE BASED ON THE
STORMWATER CONCEPT PLAN PREPARED BY BROWN CONSULTING.
REF No: XT304.4.

STORMWATER MANAGEMENT REQUIREMENTS

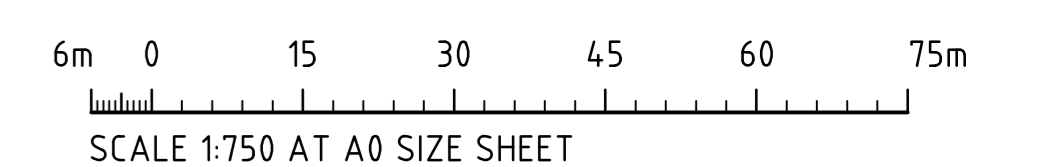
LOT No.	SITE AREA (Ha)	SSR RATE 100-Yr ARI (m³/Yr)	PSD RATE 100-Yr ARI (m³/s/Yr)	OSD VOL (m³)	BIO-RETENTION BASIN AREA (m²)	STORM-FILTER CARTRIDGES	EXISTING ESTATE DISCHARGE POINT
LOT 201	7.7	290	0.28	2235	-	130	PIT 100/6
LOT 202	5.0	290	0.28	1450	-	115	PIT 120/2
LOT 203	4.0	290	0.28	1160	100	50	PIT 141/2
LOT 204	4.0	290	0.28	1160	-	50	PIT 100/2

LEVELS NOTE:
LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND
ENVIRONMENT COURT ASSESSMENT.

NOTE:
ALL SURFACE INLET PITS TO BE FITTED WITH OCEANGUARD OG200
PIT INSERTS

NOTE:
REFER TO DRAWING C012990.05-SSDA10 FOR STORMWATER NOTES.

STORMWATER MANAGEMENT KEY PLAN
SCALE 1:750



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ARCHITECTURAL LAYOUT REVISED	12.02.21	F			
REVISED AS CLOUDED	14.10.20	E			
REVISED AS CLOUDED	24.06.20	D			
REVISED FOR NEW ARCHITECTURALS	12.06.20	C			
ISSUED FOR SSD APPROVAL	30.03.20	B			
ISSUED FOR INFORMATION	20.03.20	A	LOT 201 OSD REVISED	25.02.21	G

ARCHITECT	CLIENT	PROJECT
		ESR HORSELY LOGISTICS PARK DEVELOPMENT APPLICATION



PROJECT
ESR HORSELY LOGISTICS PARK
DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSELY PARK, 2115

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PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER MANAGEMENT
KEY PLAN
DRAWING No. C012990.05-SSDA40

PIT SCHEDULE - NETWORK A

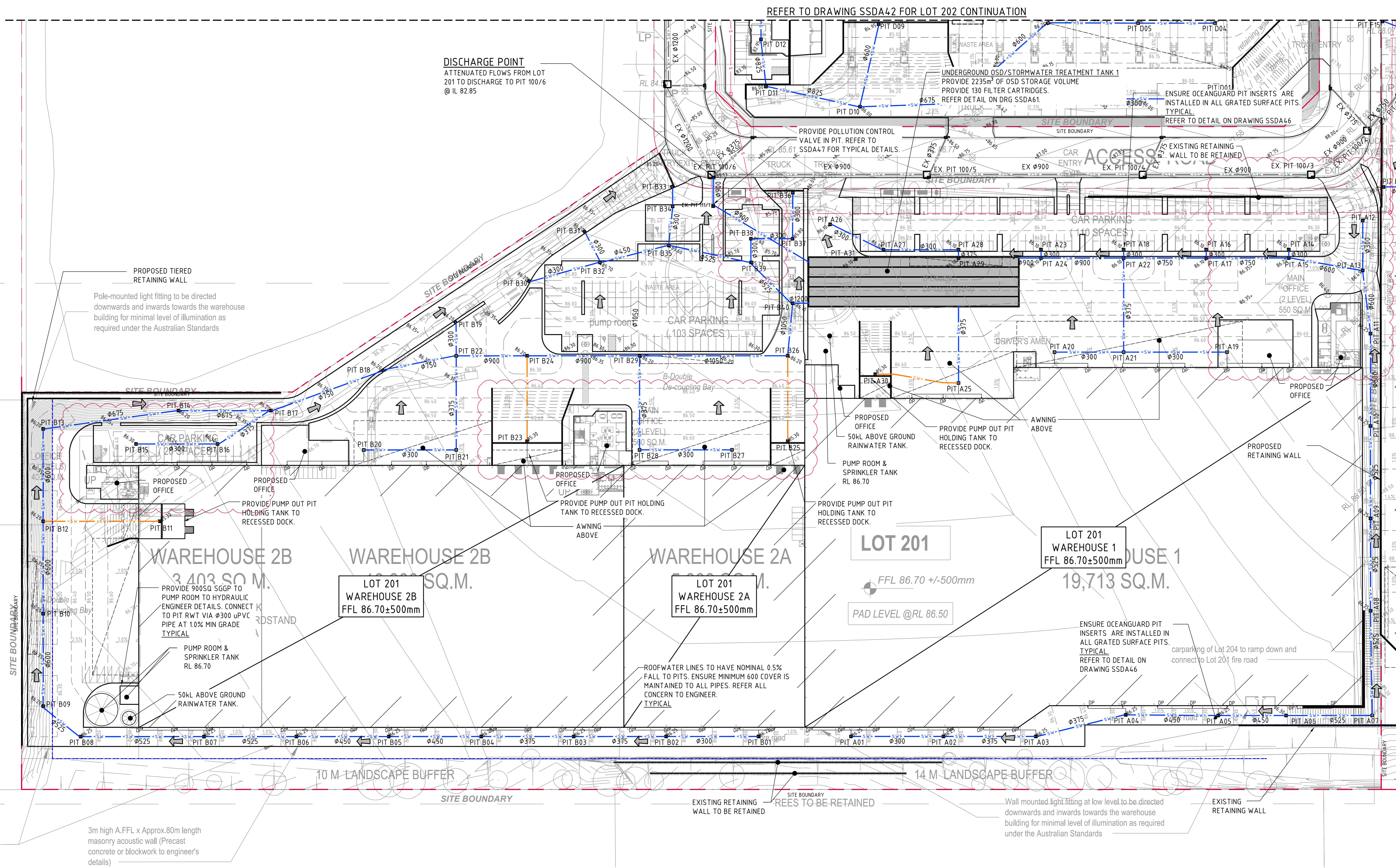
PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT A01	86.25	SGGP	900x900	-
PIT A02	86.25	SGGP	900x900	-
PIT A03	86.25	SGGP	900x900	-
PIT A04	86.25	SGGP	900x900	-
PIT A05	86.25	SGGP	900x900	-
PIT A06	86.30	SGGP	900x900	-
PIT A07	89.30	SJP	900x900	-
PIT A08	86.25	SGGP	900x900	-
PIT A09	86.25	SGGP	900x900	-
PIT A10	86.25	SGGP	900x900	-

PIT SCHEDULE - NETWORK A CONTINUED

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT A11	86.25	SGGP	900x900	-
PIT A12	87.35	SGGP	900x900	-
PIT A13	86.49	SGGP	900x900	-
PIT A14	86.10	SGGP	900x900	-
PIT A15	86.55	SGGP	900x900	-
PIT A16	86.10	SGGP	900x900	-
PIT A17	86.10	SGGP	900x900	-
PIT A18	86.10	SGGP	900x900	-
PIT A19	86.75	SJP	900x900	-
PIT A20	86.75	SJP	900x900	-
PIT A21	86.75	SJP	900x900	-
PIT A22	86.10	SGGP	900x900	-
PIT A23	86.10	SGGP	900x900	-
PIT A24	86.10	SGGP	900x900	-
PIT A25	86.75	SJP	900x900	-
PIT A26	86.10	SGGP	900x900	-
PIT A27	86.10	SGGP	900x900	-
PIT A28	86.10	SGGP	900x900	-
PIT A29	86.10	SGGP	900x900	-
PIT A30	85.30	SGGP	900x900	PUMP OUT PIT
PIT A31	86.10	SGGP	900x900	-

PIT SCHEDULE - NETWORK B

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT B01	86.25	SGGP	900x900	-
PIT B02	86.25	SGGP	900x900	-
PIT B03	86.25	SGGP	900x900	-
PIT B04	86.25	SGGP	900x900	-
PIT B05	86.25	SGGP	900x900	-
PIT B06	86.25	SGGP	900x900	-
PIT B07	86.25	SGGP	900x900	-
PIT B08	86.25	SGGP	900x900	-
PIT B09	86.20	SGGP	900x900	-
PIT B10	86.20	SGGP	900x900	-
PIT B11	85.30	SGGP	900x900	PUMP OUT PIT
PIT B12	86.20	SGGP	900x900	-
PIT B13	86.20	SGGP	900x900	-
PIT B14	86.20	SGGP	900x900	-
PIT B15	86.30	SGGP	900x900	-
PIT B16	86.30	SGGP	900x900	-
PIT B17	86.20	SGGP	900x900	-
PIT B18	86.20	SGGP	900x900	-
PIT B19	86.20	SGGP	900x900	-
PIT B20	86.75	SJP	900x900	-
PIT B21	86.75	SJP	900x900	-
PIT B22	86.25	SJP	900x900	-
PIT B23	85.30	SGGP	900x900	PUMP OUT PIT
PIT B24	86.20	SGGP	900x900	-
PIT B25	85.30	SGGP	900x900	PUMP OUT PIT
PIT B26	86.20	SGGP	900x900	-
PIT B27	86.75	SJP	900x900	-
PIT B28	86.75	SJP	900x900	-
PIT B29	86.20	SGGP	900x900	-
PIT B30	86.20	SGGP	900x900	-
PIT B31	86.20	SGGP	900x900	-
PIT B32	85.70	SGGP	900x900	-
PIT B33	85.20	SGGP	900x900	-
PIT B34	85.30	SGGP	900x900	-
PIT B35	85.60	SGGP	900x900	-
PIT B36	86.10	SGGP	900x900	-
PIT B37	85.80	SGGP	900x900	-
PIT B38	85.60	SGGP	900x900	-
PIT B39	85.70	SGGP	900x900	-
PIT B40	86.10	SGGP	900x900	-



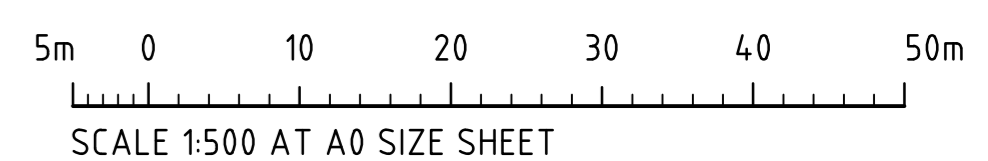
LOT 201 STORMWATER DRAINAGE PLAN
SCALE 1:500

LEVELS NOTE:
LEVELS SHOWN TO BE +500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND
ENVIRONMENT COURT ASSESSMENT.

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY CALIBRE CONSULTING DATED 10.11.17.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UND)
- PROPOSED DRAINAGE LINE
- PROPOSED DRAINAGE LINE WITH NON RETURN VALVE
- EXISTING DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ASSET PROTECTION ZONE BOUNDARY



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ARCHITECTURAL LAYOUT REVISED	12.02.21	F			
ARCHITECTURAL LAYOUT REVISED	28.10.20	E			
REVISED AS CLOUDED	14.10.20	D			
REVISED FOR NEW ARCHITECTURALS	12.06.20	C			
ISSUED FOR SSD APPROVAL	30.03.20	B	REVISED TO LATEST ARCHITECTURAL LAYOUT	29.04.21	H
ISSUED FOR INFORMATION	20.03.20	A	LOT 201 OSD REVISED	25.02.21	G

ARCHITECT

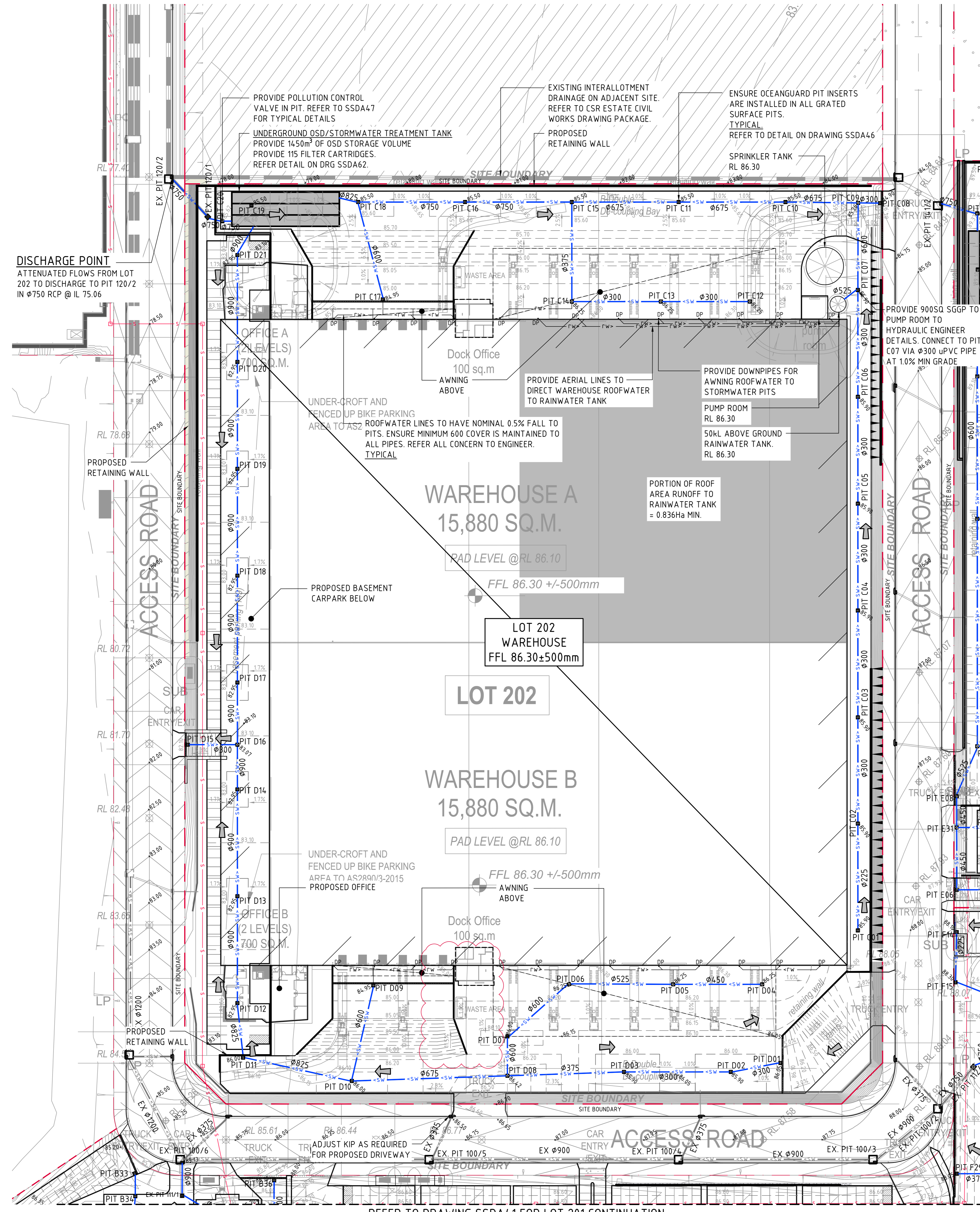


PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

CLIENT
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 9 Windmill Street
Wahia Bay, Sydney NSW 2000
Tel: (02) 8551-7899 Fax: (02) 8541-3721
email: mail@costinroe.com.au



DRAWING TITLE
LOT 201 STORMWATER DRAINAGE PLAN
DRAWING No: Co12990.05-SSDA41



PIT SCHEDULE - NETWORK C

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT C01	85.90	SGGP	900x900	-
PIT C02	85.90	SGGP	900x900	-
PIT C03	85.90	SGGP	900x900	-
PIT C04	85.90	SGGP	900x900	-
PIT C05	85.90	SGGP	900x900	-
PIT C06	85.90	SGGP	900x900	-
PIT C07	85.90	SGGP	900x900	-
PIT C08	84.90	SGGP	900x900	-
PIT C09	85.26	SJP	900x900	-
PIT C10	85.50	SGGP	900x900	-
PIT C11	85.50	SGGP	900x900	-
PIT C12	86.25	SJP	900x900	-
PIT C13	86.25	SJP	900x900	-
PIT C14	86.25	SJP	900x900	-
PIT C15	85.50	SGGP	900x900	-
PIT C16	85.50	SGGP	900x900	-
PIT C17	84.95	SGGP	900x900	-
PIT C18	85.50	SGGP	1200x1200	-
PIT C19	85.50	SGGP	900x900	-
PIT C20	85.62	SGGP	900x900	-

PIT SCHEDULE - NETWORK D

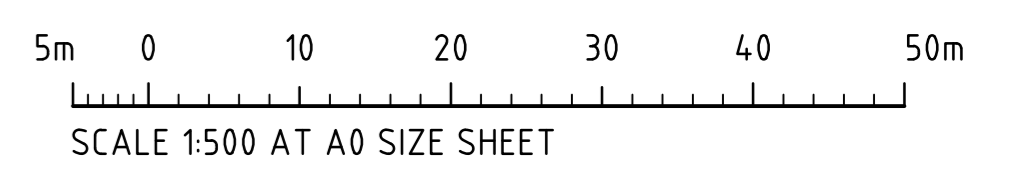
PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT D01	86.05	SGGP	900x900	-
PIT D02	85.90	SGGP	900x900	-
PIT D03	85.90	SGGP	900x900	-
PIT D04	86.25	SJP	900x900	-
PIT D05	86.25	SJP	900x900	-
PIT D06	86.25	SJP	900x900	-
PIT D07	86.00	SGGP	900x900	-
PIT D08	86.42	SJP	900x900	-
PIT D09	84.95	SGGP	900x900	-
PIT D10	86.00	SGGP	1200x1200	-
PIT D11	86.00	SGGP	1200x1200	-
PIT D12	82.95	SGGP	1200x1200	-
PIT D13	82.95	SGGP	1200x1200	-
PIT D14	82.95	SGGP	1200x1200	-
PIT D15	82.10	SGGP	1200x1200	-
PIT D16	83.07	SJP	1200x1200	-
PIT D17	82.95	SGGP	1200x1200	-
PIT D18	82.95	SGGP	1200x1200	-
PIT D19	82.95	SGGP	1200x1200	-
PIT D20	82.95	SGGP	1200x1200	-
PIT D21	82.95	SGGP	1200x1200	-

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CALIBRE CONSULTING DATED 10.11.17.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ASSET PROTECTION ZONE BOUNDARY

LEVELS NOTE:
LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.



REFER TO DRAWING SSDA41 FOR LOT 201 CONTINUATION

LOT 202 STORMWATER DRAINAGE PLAN
SCALE 1:500

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ARCHITECTURAL LAYOUT REVISED	12.02.21	F			
ARCHITECTURAL LAYOUT REVISED	28.10.20	E			
REVISED AS CLOUDED	20.10.20	D			
REVISED AS CLOUDED	14.10.20	C			
REVISED AS CLOUDED	24.06.20	B	REVISED TO LATEST ARCHITECTURAL LAYOUT	29.04.21	H
ISSUED FOR SSD APPROVAL	17.06.20	A	REISSUE WITH MINOR DRAFTING CHANGES	25.02.21	G

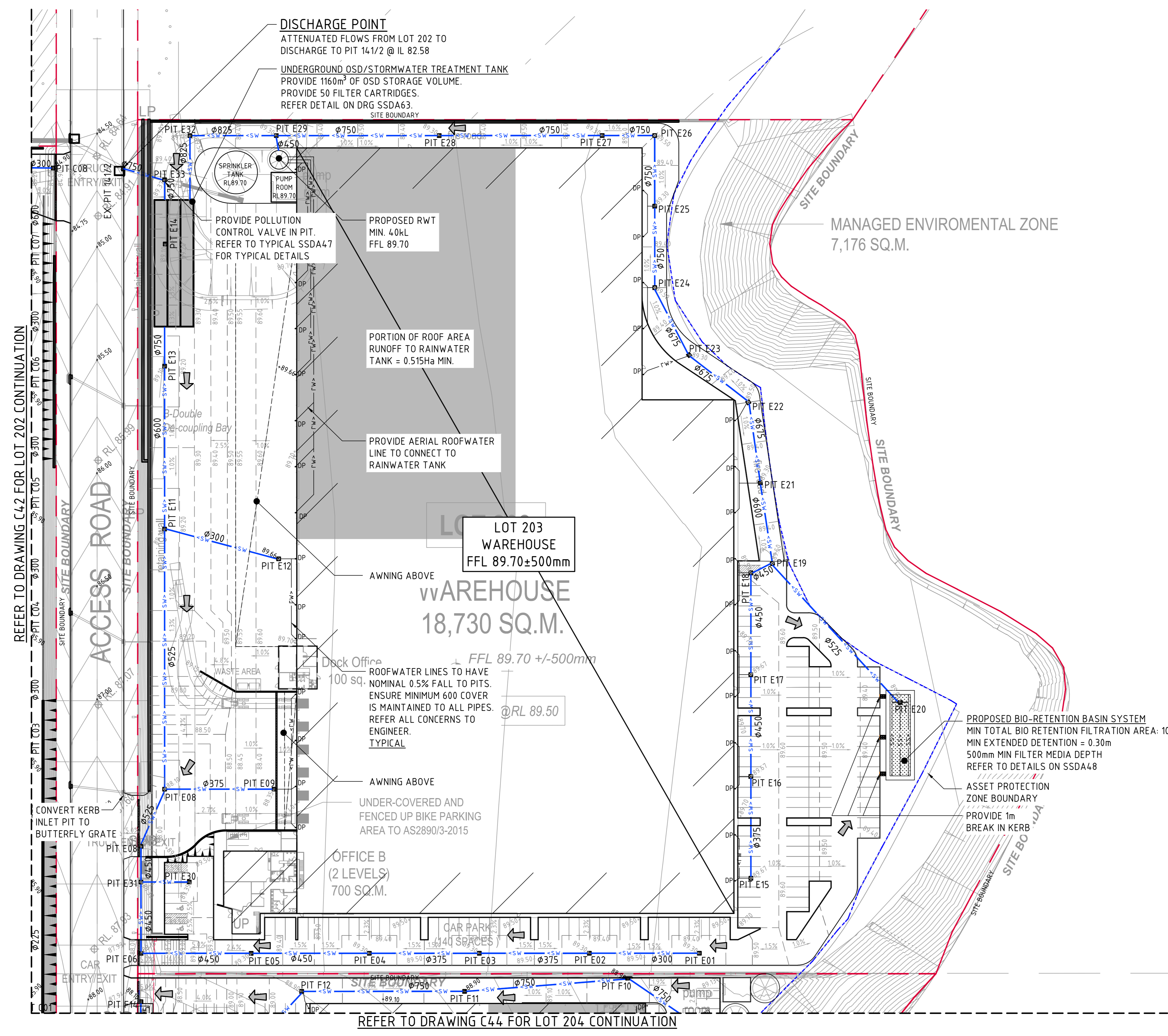
ARCHITECT	CLIENT	PROJECT
ESR	ESR	ESR

PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

Costin Roe Consulting Pty Ltd.
Consulting Engineers
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Tel: (02) 8551-7899 Fax: (02) 8541-3721
email: mail@costinroe.com.au

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DRAWING TITLE
LOT 202 STORMWATER DRAINAGE PLAN
DRAWING No. Co12990.05-SSDA42



PIT SCHEDULE - LOT 203

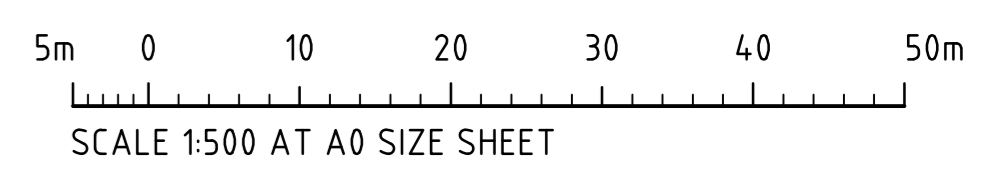
PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT E01	89.30	SGGP	900x900	-
PIT E02	89.30	SGGP	900x900	-
PIT E03	89.30	SGGP	900x900	-
PIT E04	89.30	SGGP	900x900	-
PIT E05	89.30	SGGP	900x900	-
PIT E06	88.13	SGGP	900x900	-
PIT E07	87.80	SGGP	900x900	-
PIT E08	88.10	SJP	900x900	-
PIT E09	88.35	SGGP	900x900	-
PIT E10	89.10	SGGP	900x900	-
PIT E11	89.10	SGGP	900x900	-
PIT E12	89.66	SJP	900x900	-
PIT E13	89.10	SGGP	900x900	-
PIT E14	89.10	SGGP	900x900	-
PIT E15	89.67	SJP	900x900	-
PIT E16	89.67	SJP	900x900	-
PIT E17	89.67	SJP	900x900	-
PIT E18	89.59	SJP	900x900	-
PIT E19	89.50	SJP	900x900	-
PIT E20	89.00	SGGP	900x900	BASIN INLET PIT
PIT E21	89.30	SGGP	900x900	-
PIT E22	89.50	SJP	900x900	-
PIT E23	89.30	SGGP	900x900	-
PIT E24	89.50	SJP	900x900	-
PIT E25	89.30	SGGP	900x900	-
PIT E26	89.50	SJP	900x900	-
PIT E27	89.30	SGGP	900x900	-
PIT E28	89.30	SGGP	900x900	-
PIT E29	89.30	SGGP	1200x1200	-
PIT E30	89.35	SGGP	900x900	-
PIT E31	88.30	SJP	900x900	-
PIT E32	89.48	SGGP	1200x1200	-
PIT E33	89.37	SGGP	900x900	CUT OFF VALVE

LEGEND:

- LEVELS DATUM IS AHD.
- EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CALIBRE CONSULTING DATED 10.11.17.
- SGGP, SINGLE GRATED GULLY PIT
 - SJP, SEALED JUNCTION PIT
 - KIP, KERB INLET PIT
 - GD, GRATED DRAIN (300w x 225D UNO)
 - PROPOSED DRAINAGE LINE
 - PROPOSED DRAINAGE LINE WITH NON RETURN VALVE
 - EXISTING DRAINAGE LINE
 - ROOFWATER DOWNPIPE (INDICATIVE)
 - ROOFWATER LINE
 - SUBSOIL LINE
 - OVERLAND FLOW DIRECTION
 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
 - ASSET PROTECTION ZONE BOUNDARY

LEVELS NOTE:

LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.



LOT 203 STORMWATER DRAINAGE PLAN
SCALE 1:500

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ARCHITECTURAL PLAN REVISED	29.04.21	E			
REISSUED WITH MINOR DRAFTING CHANGES	25.02.21	D			
REVISED AS CLOUDED	28.10.20	C			
REVISED AS CLOUDED	14.10.20	B			
ISSUED FOR SSD APPROVAL	12.06.20	A			

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE

ARCHITECT

CLIENT



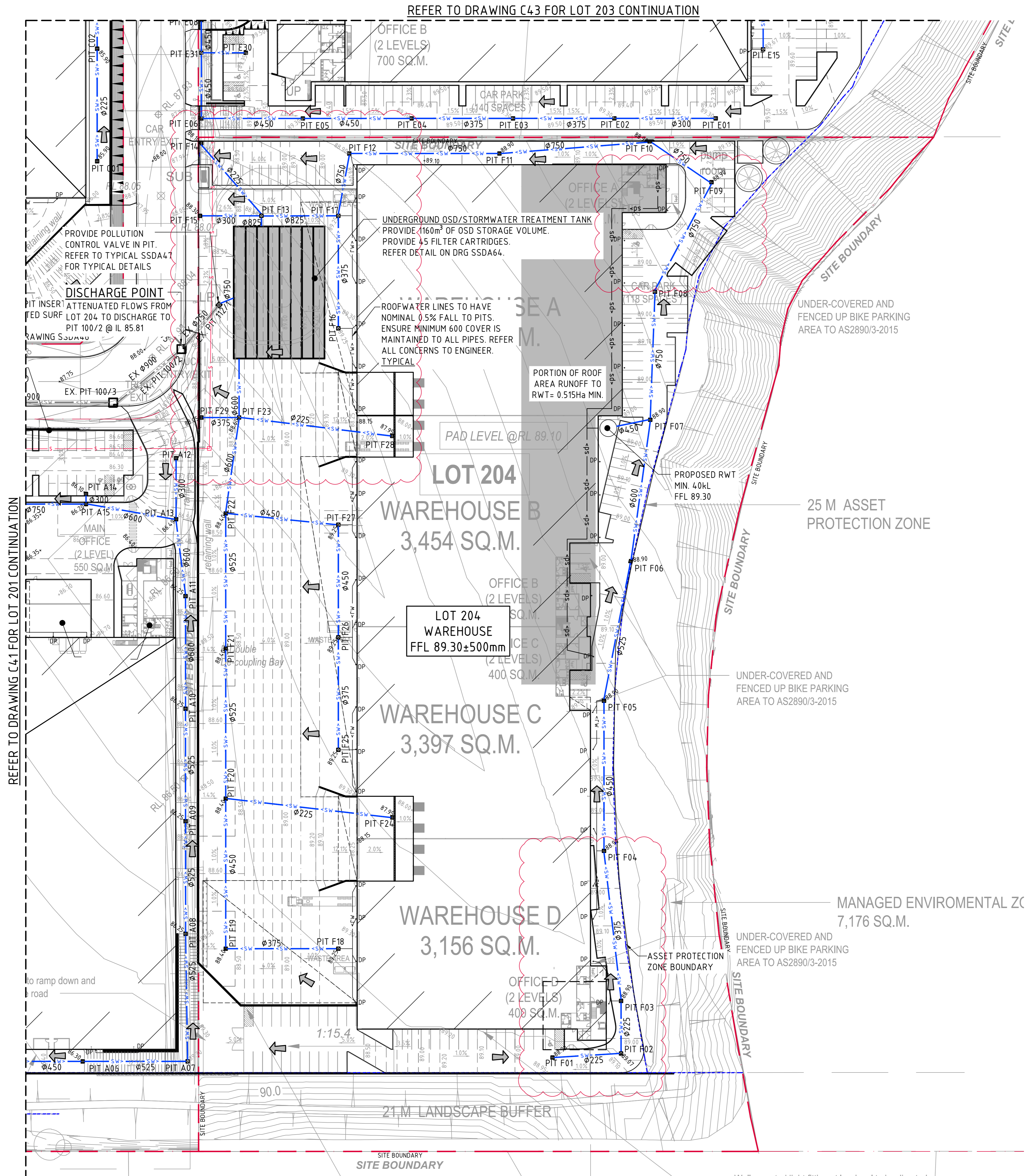
PROJECT
ESR HORSLEY LOGISTICS PARK
DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175



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Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 203 STORMWATER DRAINAGE PLAN
DRAWING No. Co12990.05-SSDA43



PIT SCHEDULE - NETWORK F

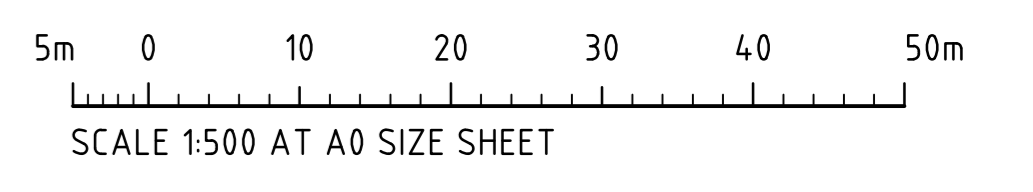
PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT F01	88.90	SGGP	900x900	-
PIT F02	89.07	SJP	900x900	-
PIT F03	88.90	SGGP	900x900	-
PIT F04	88.90	SGGP	900x900	-
PIT F05	88.90	SGGP	900x900	-
PIT F06	88.90	SGGP	900x900	-
PIT F07	88.90	SGGP	900x900	-
PIT F08	88.90	SGGP	900x900	-
PIT F09	88.90	SGGP	900x900	-
PIT F10	88.90	KIP	900x900	-
PIT F11	88.90	SGGP	900x900	-
PIT F12	88.90	SGGP	1200x1200	-
PIT F13	88.68	SJP	1200x1200	-
PIT F14	88.10	SGGP	900x900	-
PIT F15	88.30	SGGP	900x900	-
PIT F16	89.25	SJP	900x900	-
PIT F17	89.25	SJP	900x900	-
PIT F18	89.25	SJP	900x900	-
PIT F19	88.40	SGGP	900x900	-
PIT F20	88.40	SGGP	900x900	-
PIT F21	88.40	SGGP	900x900	-
PIT F22	88.40	SGGP	900x900	-
PIT F23	88.60	SJP	900x900	-
PIT F24	87.95	SGGP	900x900	-
PIT F25	89.25	SJP	900x900	-
PIT F26	89.25	SJP	900x900	-
PIT F27	89.25	SJP	900x900	-
PIT F28	87.95	SGGP	900x900	-
PIT F29	88.05	SGGP	900x900	-
PIT F30	88.10	SGGP	900x900	-

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CALIBRE CONSULTING DATED 10.11.17.

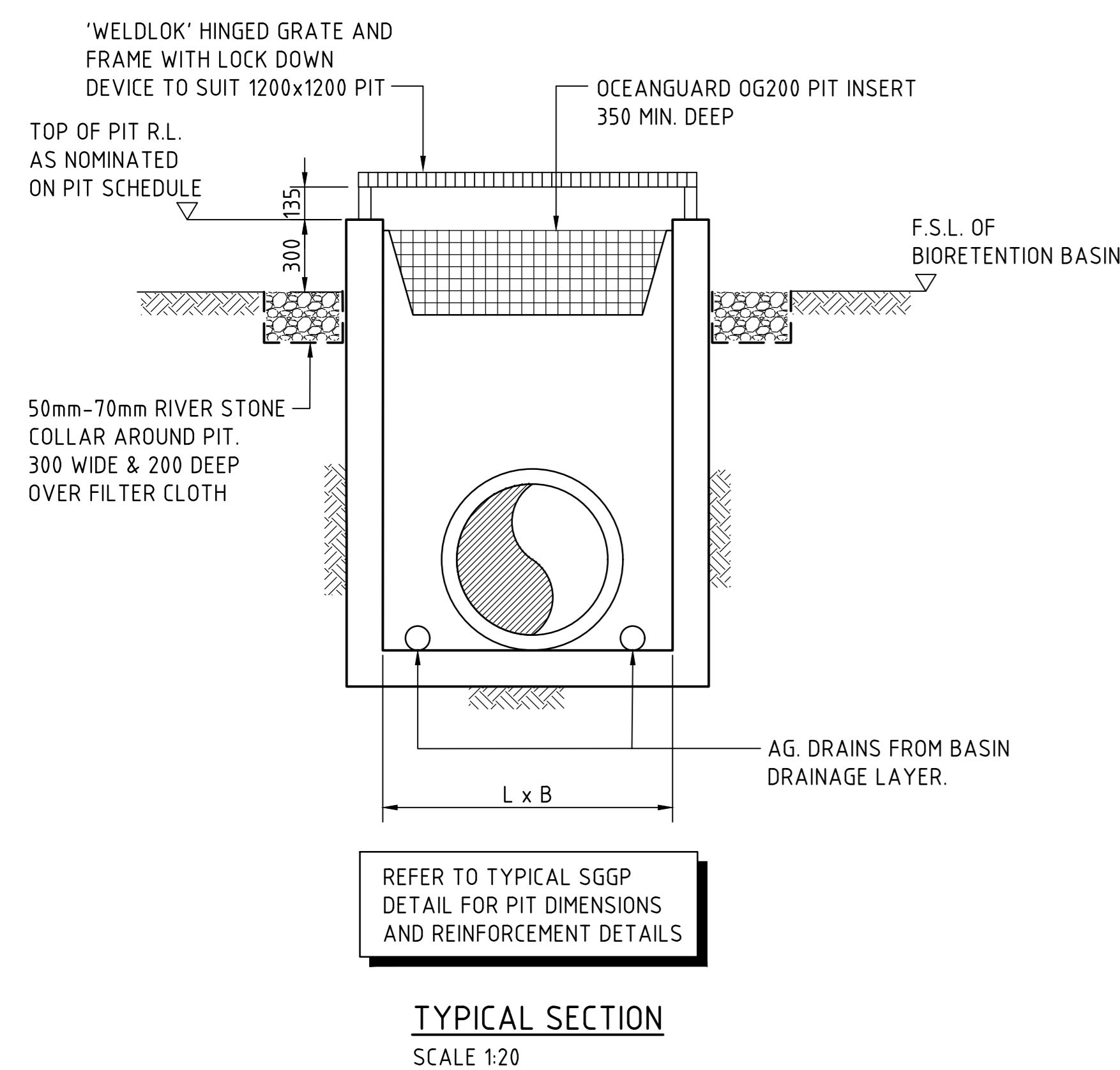
- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- ASSET PROTECTION ZONE BOUNDARY

LEVELS NOTE:
LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.

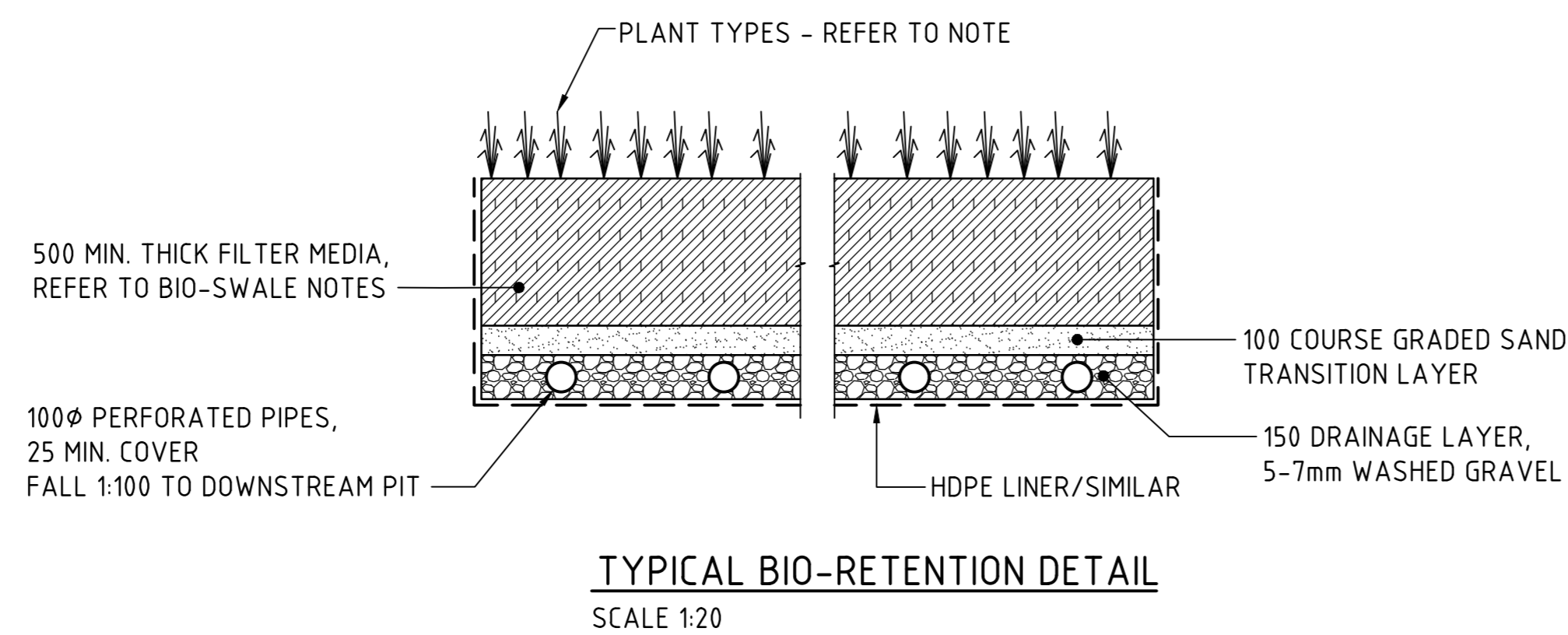


LOT 204 STORMWATER DRAINAGE PLAN
SCALE 1:500

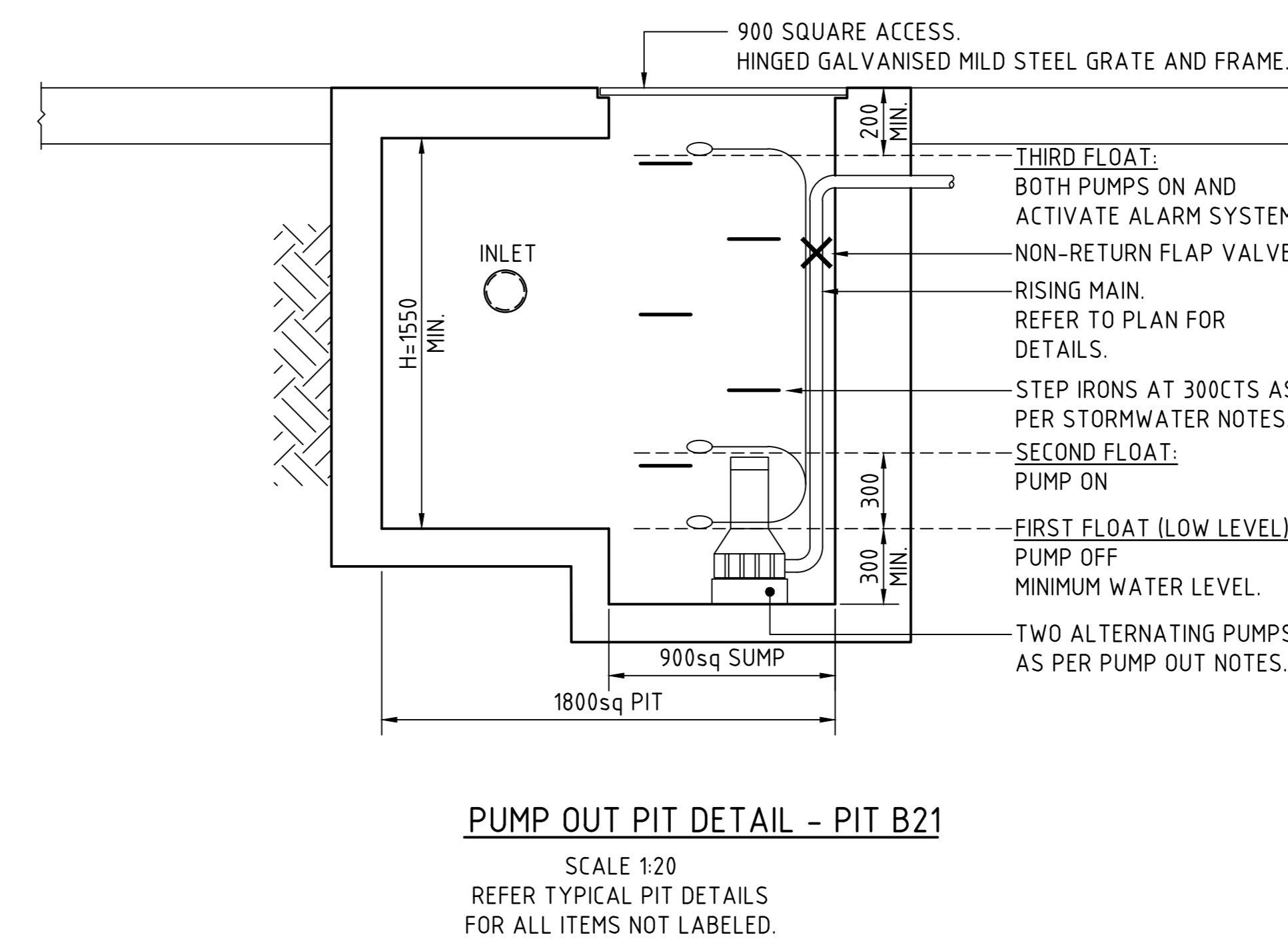
FOR SSD APPROVAL



TYPICAL SECTION
SCALE 1:20
BASIN INLET PIT - BIP



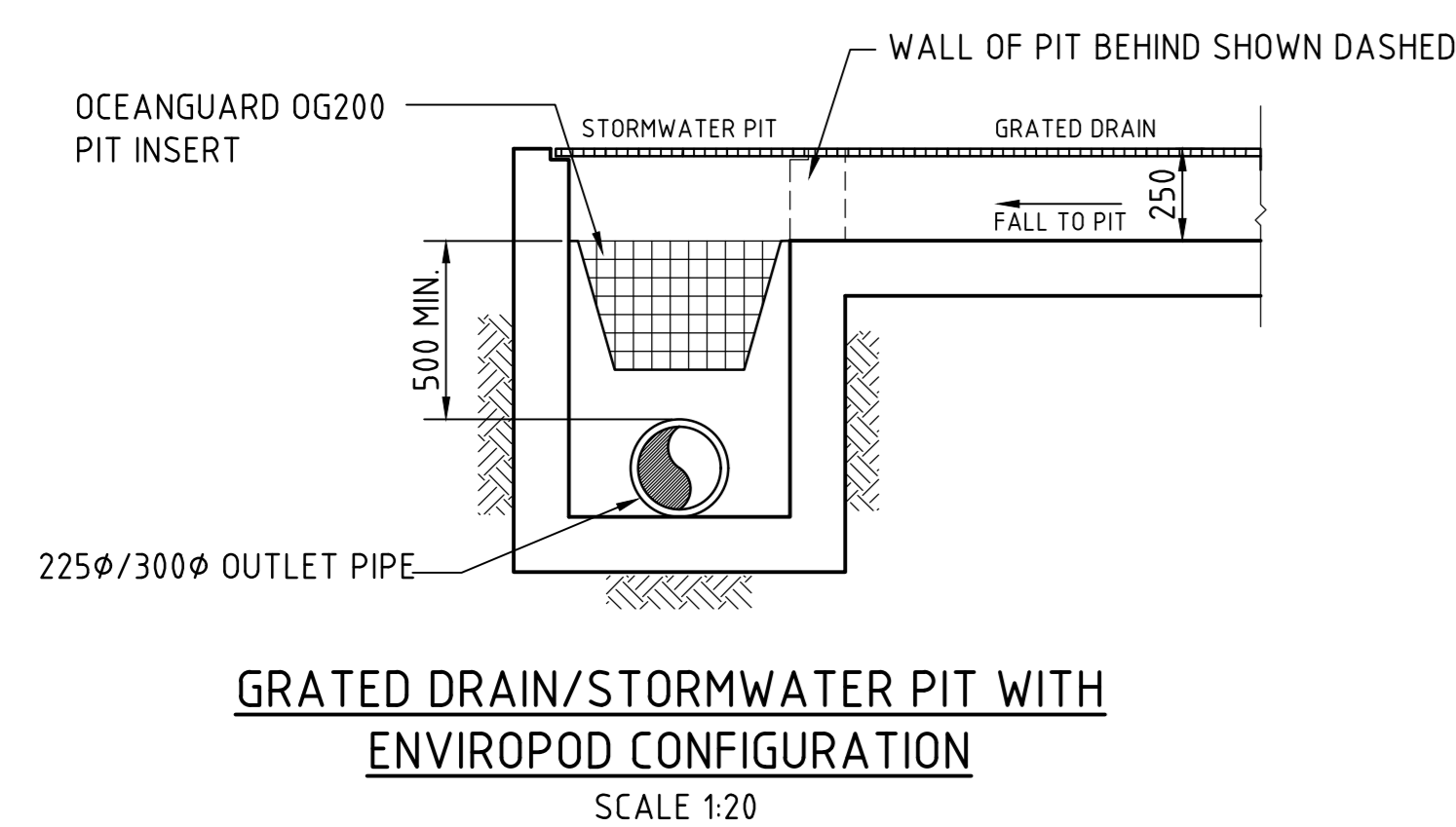
TYPICAL BIO-RETENTION DETAIL
SCALE 1:20



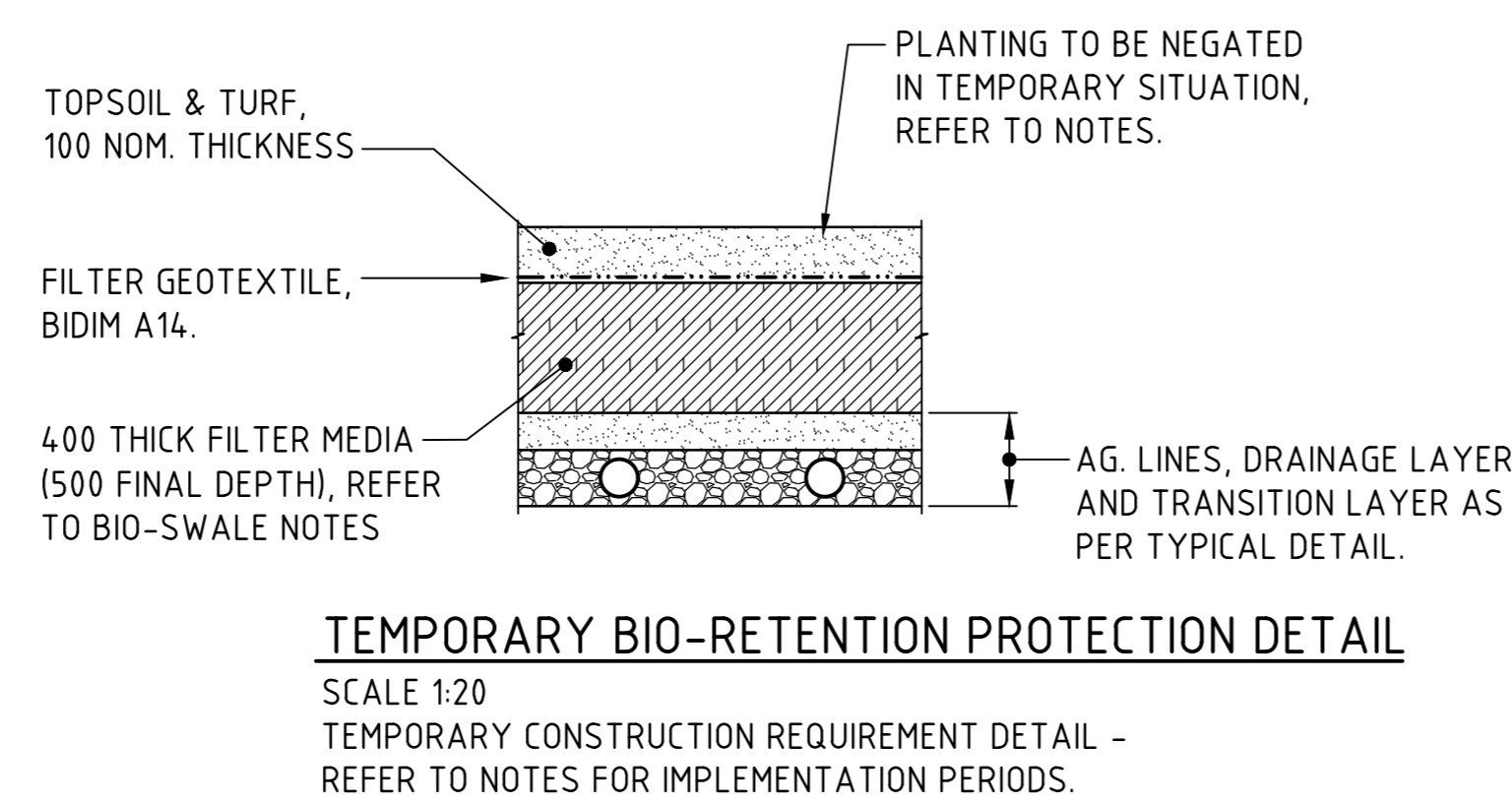
PUMP OUT PIT DETAIL - PIT B21

SCALE 1:20
REFER TYPICAL PIT DETAILS FOR ALL ITEMS NOT LABELED.

BASEMENT PUMP OUT NOTES:
PUMP SYSTEM IS TO CONSIST OF DUAL ALTERNATING PUMPS. THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER:
Q PUMP = 30 L/s VOLUME = 210 m³ (MIN)
THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE PIT. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.
A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE PIT TO THE LEVEL OF THE LOW-LEVEL FLOAT.
A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE TOP LEVEL OF THE PIT. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.



GRATED DRAIN/STORMWATER PIT WITH ENVIROPOD CONFIGURATION
SCALE 1:20



TEMPORARY BIO-RETENTION PROTECTION DETAIL
SCALE 1:20
TEMPORARY CONSTRUCTION REQUIREMENT DETAIL - REFER TO NOTES FOR IMPLEMENTATION PERIODS.

BIO-RETENTION NOTES:

FILTER MEDIA TO BE LOAMY SAND WITH A PERMEABILITY NOT LESS THAN 200mm/hr. FILTER MEDIA TO BE FREE OF RUBBISH, DELETERIOUS MATERIAL, TOXICANTS, DECLARED PLANTS AND LOCAL WEEDS, AND IS TO NOT BE HYDROPHOBIC.

FILTER MEDIA TO HAVE THE FOLLOWING COMPOSITION RANGE:
CLAY & SILT (<0.05mm) -3%
VERY FINE SAND (0.05-0.15mm) 5-30%
FINE SAND (0.15-0.25mm) 10-30%
MEDIUM TO COARSE SAND (0.25-1.00mm) 40-60%
COARSE SAND (1.0-2.0mm) 7-10%
FINE GRAVEL (2.0-3.4mm) -3%

FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING CRITERIA SHALL BE REJECTED:
a. ORGANIC MATTER CONTENT TO BE IDEALLY WITHIN 1% TO 3% (W/W) AND TO BE NO GREATER THAN 5% (W/W).
b. PH TO BE BETWEEN 5.5 AND 7.5.
c. PHOSPHOROUS CONTENT TO BE NO GREATER THAN 35mg/kg

FILTER MEDIA TO BE ASSESSED BY QUALIFIED HORTICULTURALIST TO ENSURE CAPABILITY OF SUPPORTING PLANT LIFE.

DRAINAGE LAYER TO BE CLEAN GRAVEL 5-7mm.

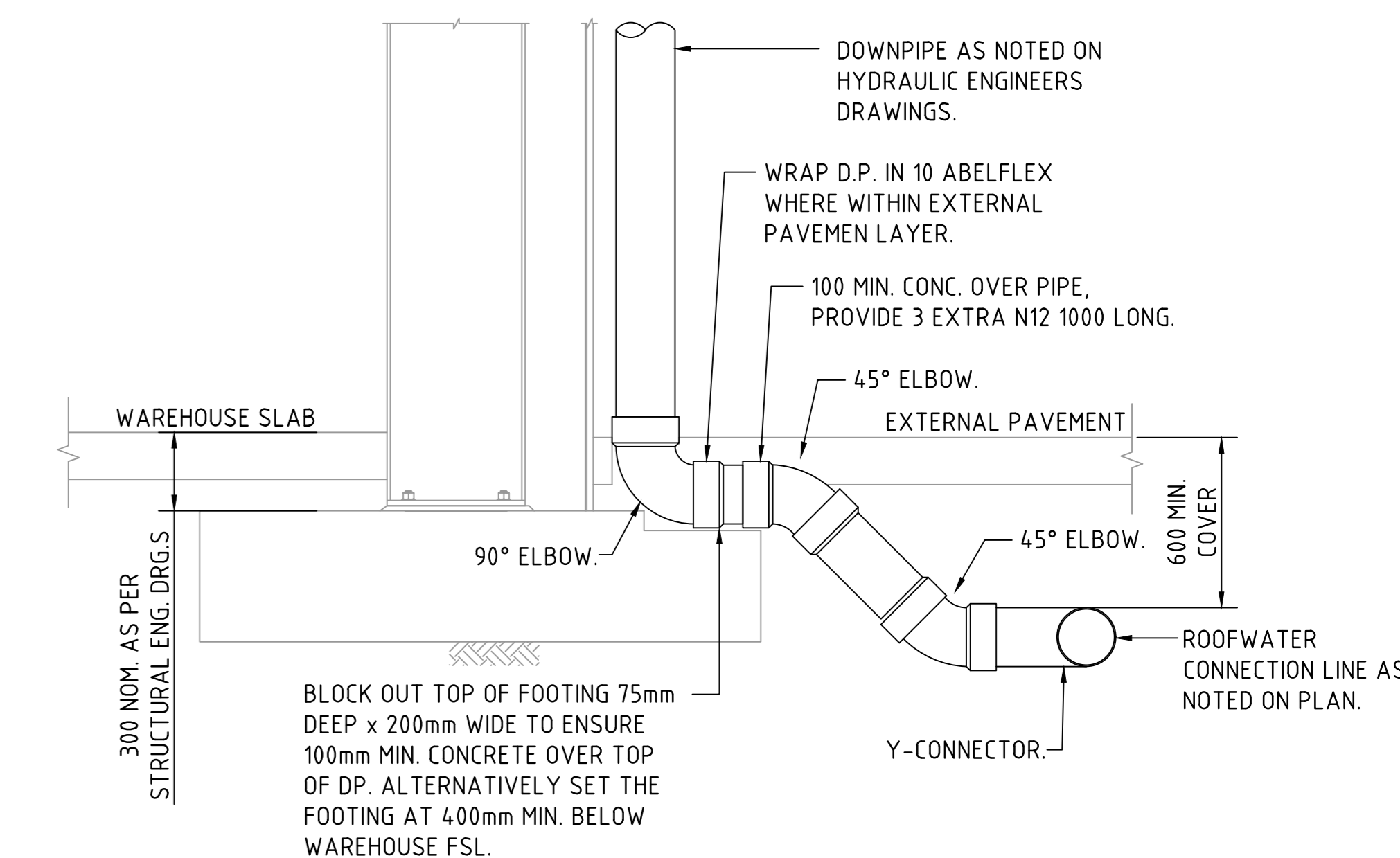
PLANTS TO BE IN ACCORDANCE WITH COUNCIL WSUD HANDBOOK PART 5 - VEGETATION SELECTION GUIDE, WITH A MINIMUM OF SIX DIFFERENT SPECIES.

PROVIDE 100mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTEMASTER OR EQUIV) TO SWALE BATTER SLOPES AND ADJACENT LANDSCAPED AREAS. NOTE THAT NO TOPSOIL IS TO BE PLACED OVER FILTRATION MEDIA. PROVIDE SILT FENCE TO TOP OF BANK UNTIL SUCH TIME AS THIS STABILISING AND VEGETATION HAS BEEN COMPLETED.

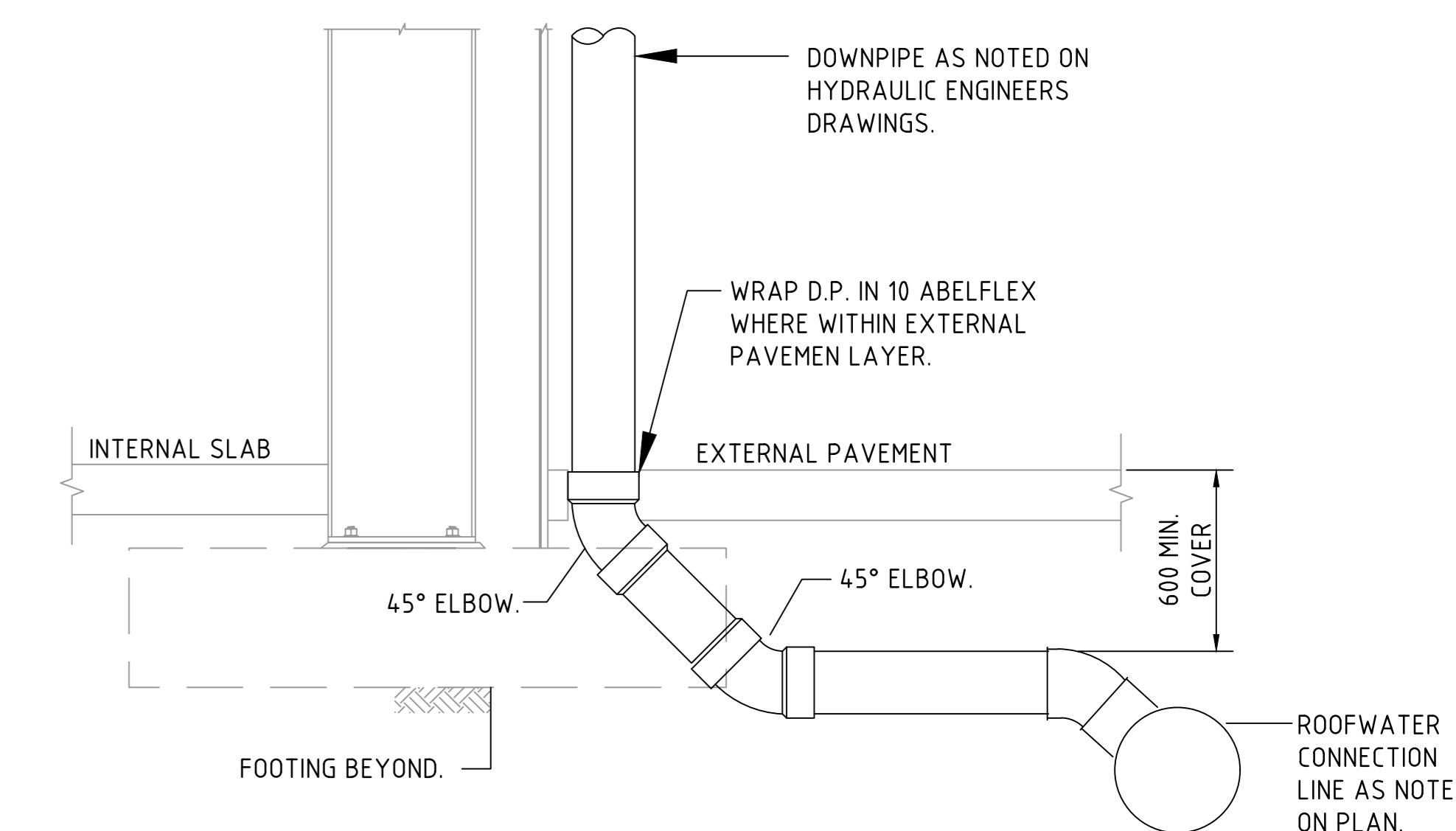
BIO-RETENTION TO BE PARTIALLY INSTALLED, FOLLOWING COMPLETION OF THE ROAD, WITH THE TOP 75-100mm OF FILTER MEDIA REPLACED WITH A FINE TO COARSE SAND UNDERLAIN WITH A GEOTEXTILE LAYER (REFER TO DETAIL). FOLLOWING COMPLETION OF THE UPSTREAM DEVELOPMENT AND SITE STABILISATION, THE SAND IS TO BE REMOVED, REPLACED WITH FILTER MATERIAL AND PLANTED OUT. REFER TO TEMPORARY BIO-BASIN DETAIL.

PRIOR TO PLANTING, THE TOP 100mm OF THE BIORETENTION FILTER MEDIA IS TO BE AMELIORATED WITH APPROPRIATE ORGANIC MATTER, FERTILISER AND TRACE ELEMENTS TO AID PLANT ESTABLISHMENT AS PER THE TABLE BELOW:

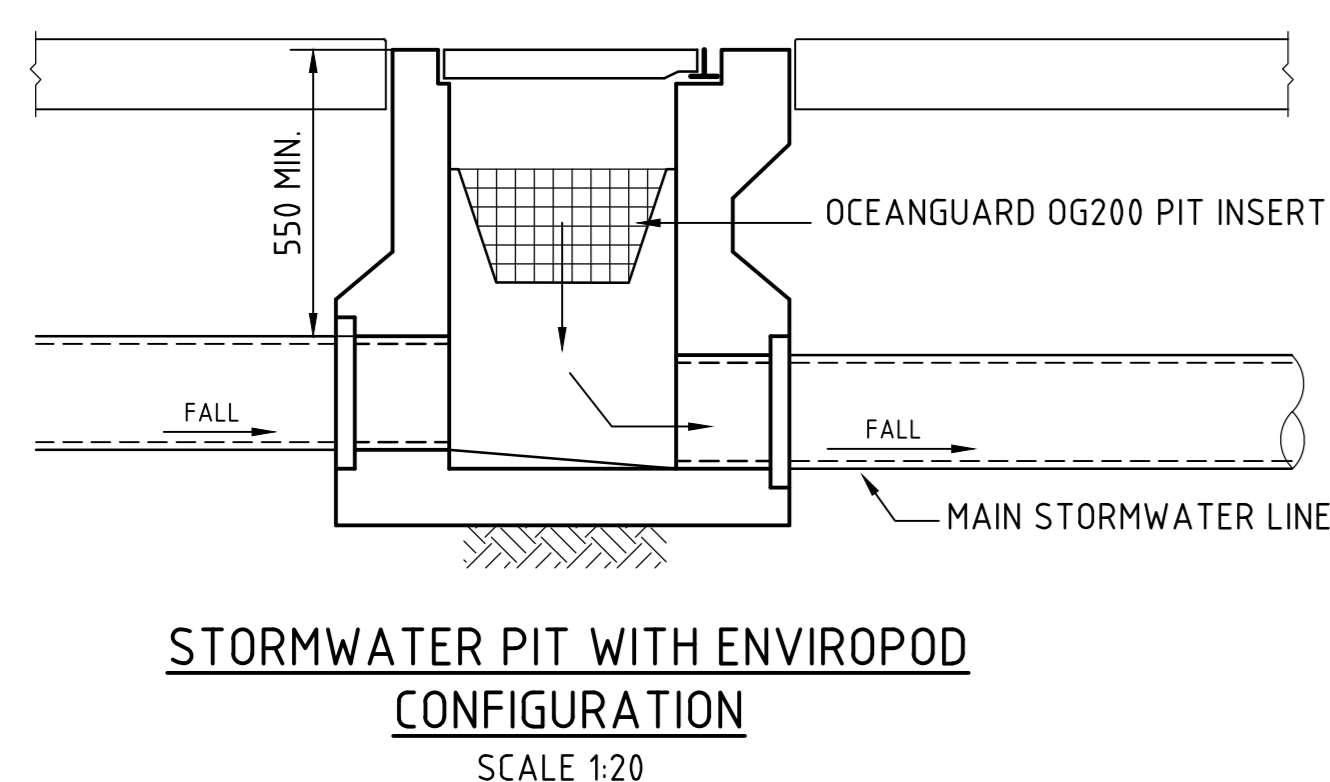
CONSTITUENT	QUANTITY (kg/m ² OF FILTER AREA)
GRANULATED POLYTRY MANURE FINES	50
SUPERPHOSPHATE	2
MAGNESIUM SULPHATE	3
POTASSIUM SULPHATE	2
TRACE ELEMENT MIX	1
FERTILISER NPK (16-4-16)	6
LIME	20



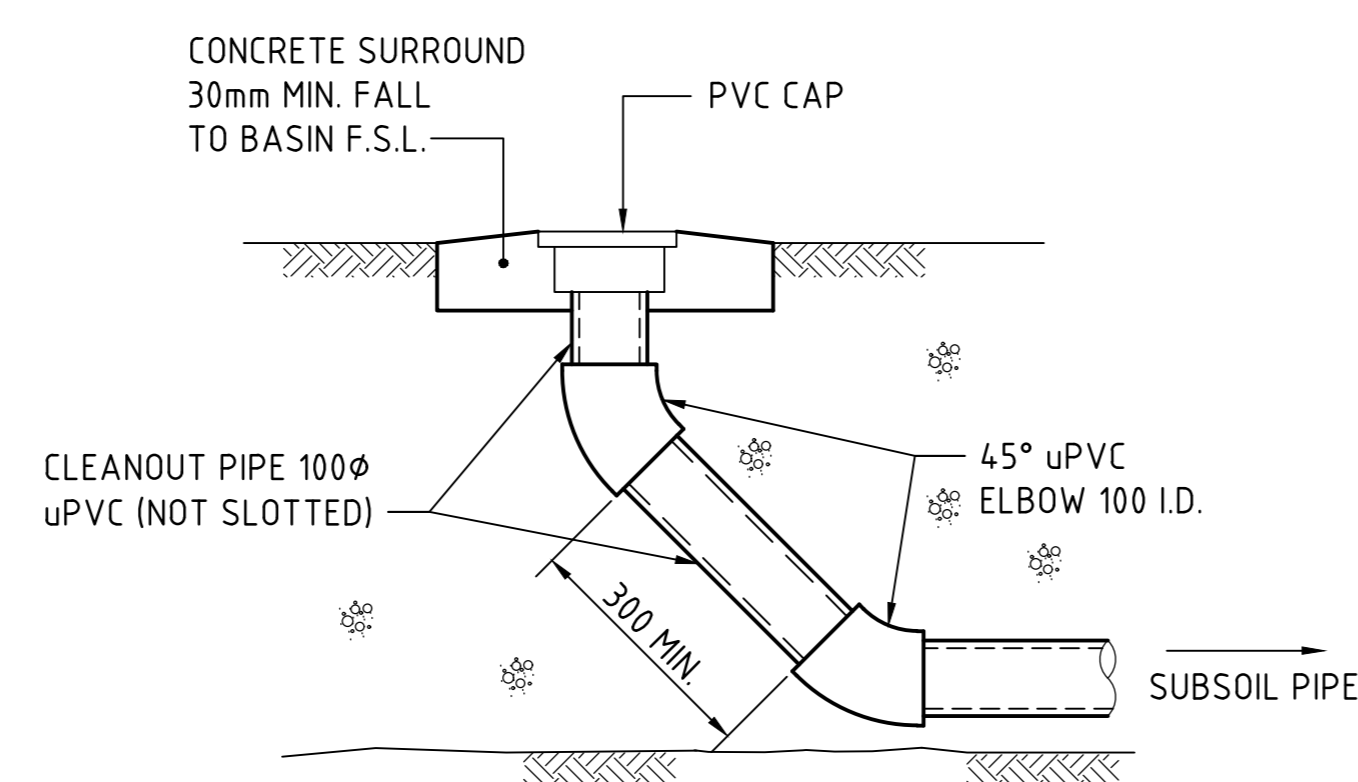
DOWNPIPE TURN-UP DETAIL A
(AT FOOTING LOCATION)
SCALE 1:20



DOWNPIPE TURN-UP DETAIL B
(CLEAR OF FOOTING)
SCALE 1:20

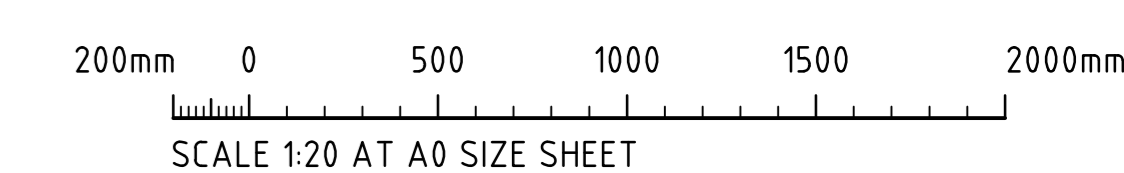


STORMWATER PIT WITH ENVIROPOD CONFIGURATION
SCALE 1:20



BIORETENTION CLEANOUT EYE ELEVATION
SCALE 1:20
DENOTED C.E. ON PLAN

BIO-RETENTION BASIN DETAILS



FOR SSD APPROVAL

ISSUED FOR SSD APPROVAL	30.03.20	B
ISSUED FOR INFORMATION	20.03.20	A
AMENDMENTS	DATE	ISSUE

ARCHITECT	CLIENT



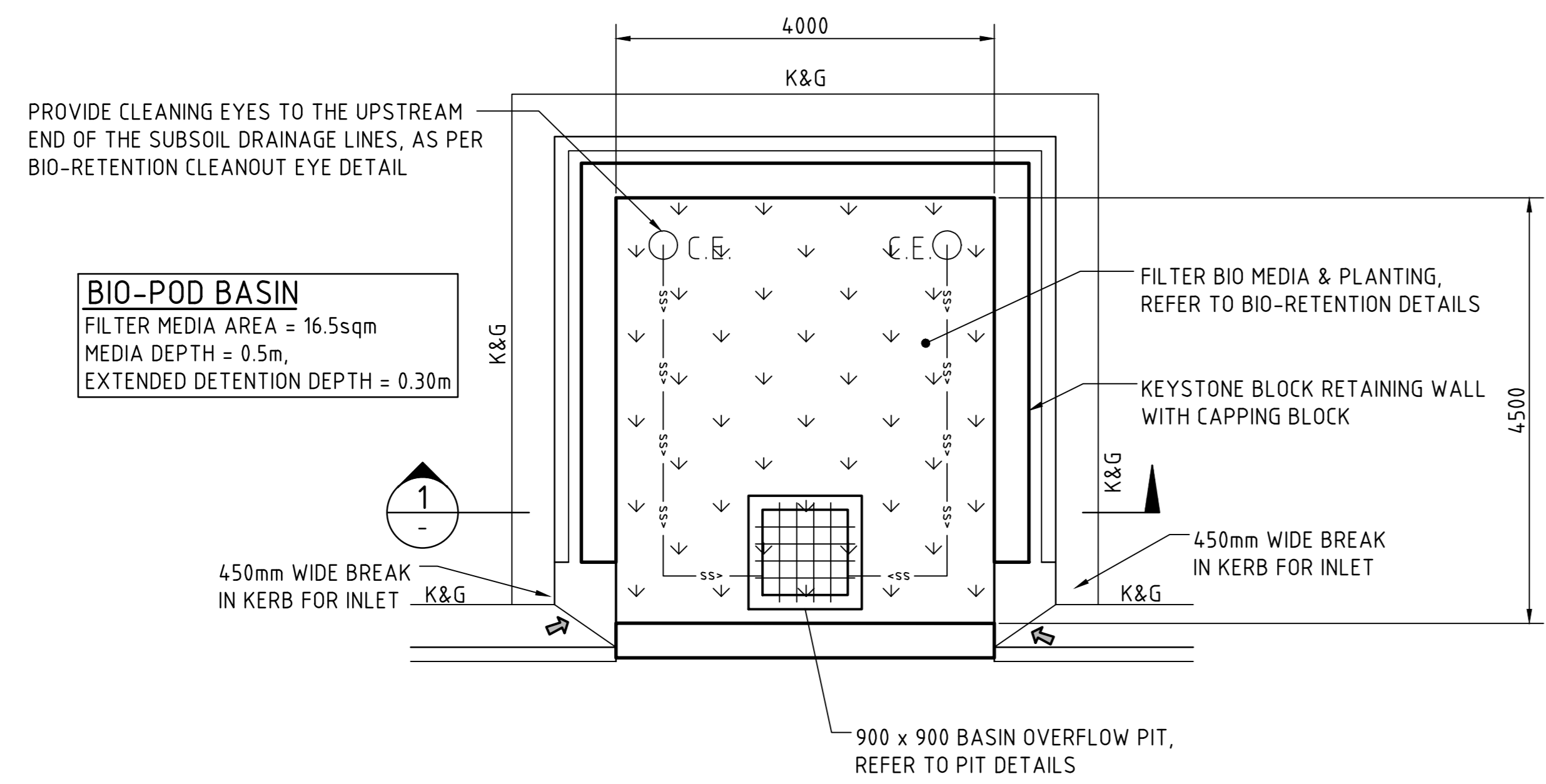
PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Wahlab Bay, Sydney NSW 2000
Tel: (02) 9251-7899 Fax: (02) 9241-3721
email: mail@costinroe.com.au

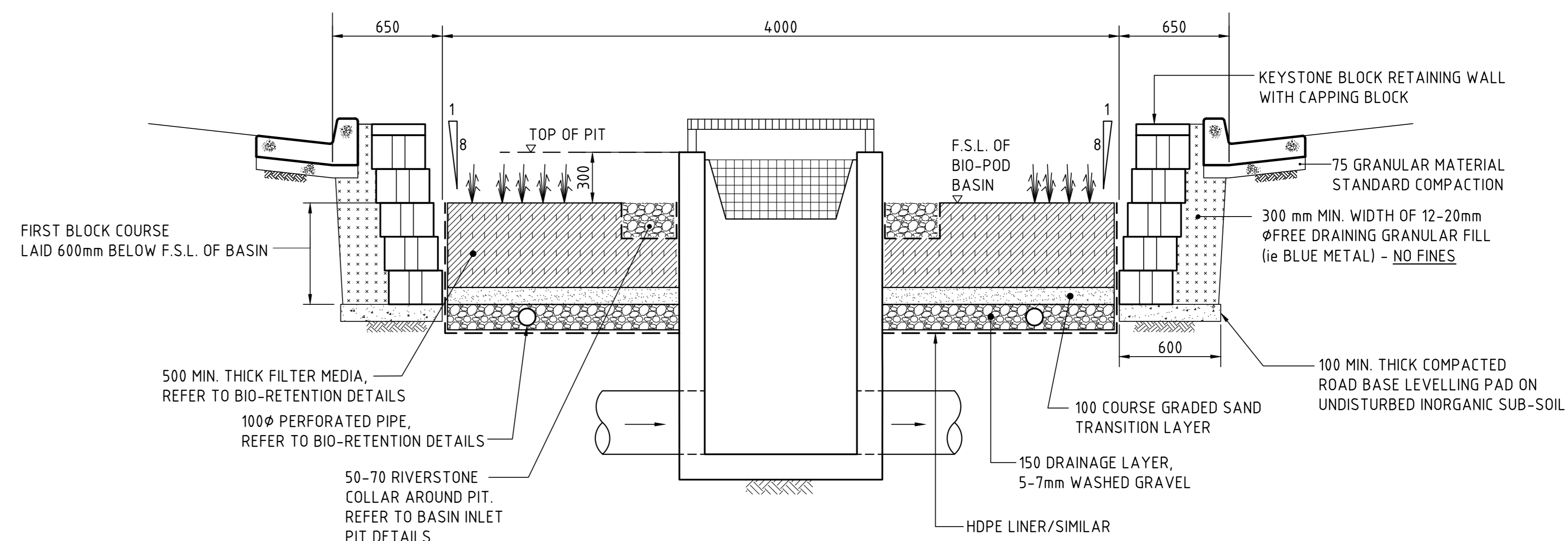
Costin Roe Consulting
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DRAWING TITLE	ISSUE
STORMWATER DRAINAGE DETAILS SHEET 2	B

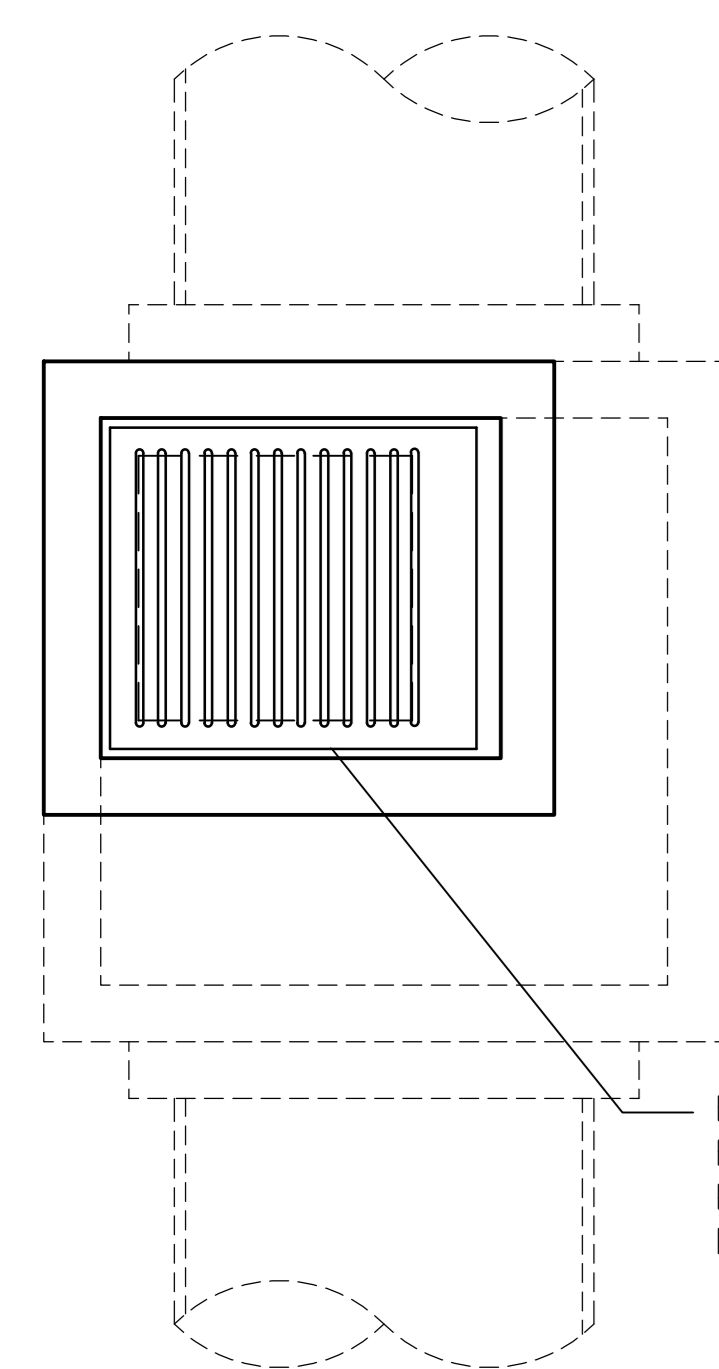
DRAWING No: **Co12990.05-SSDA46**



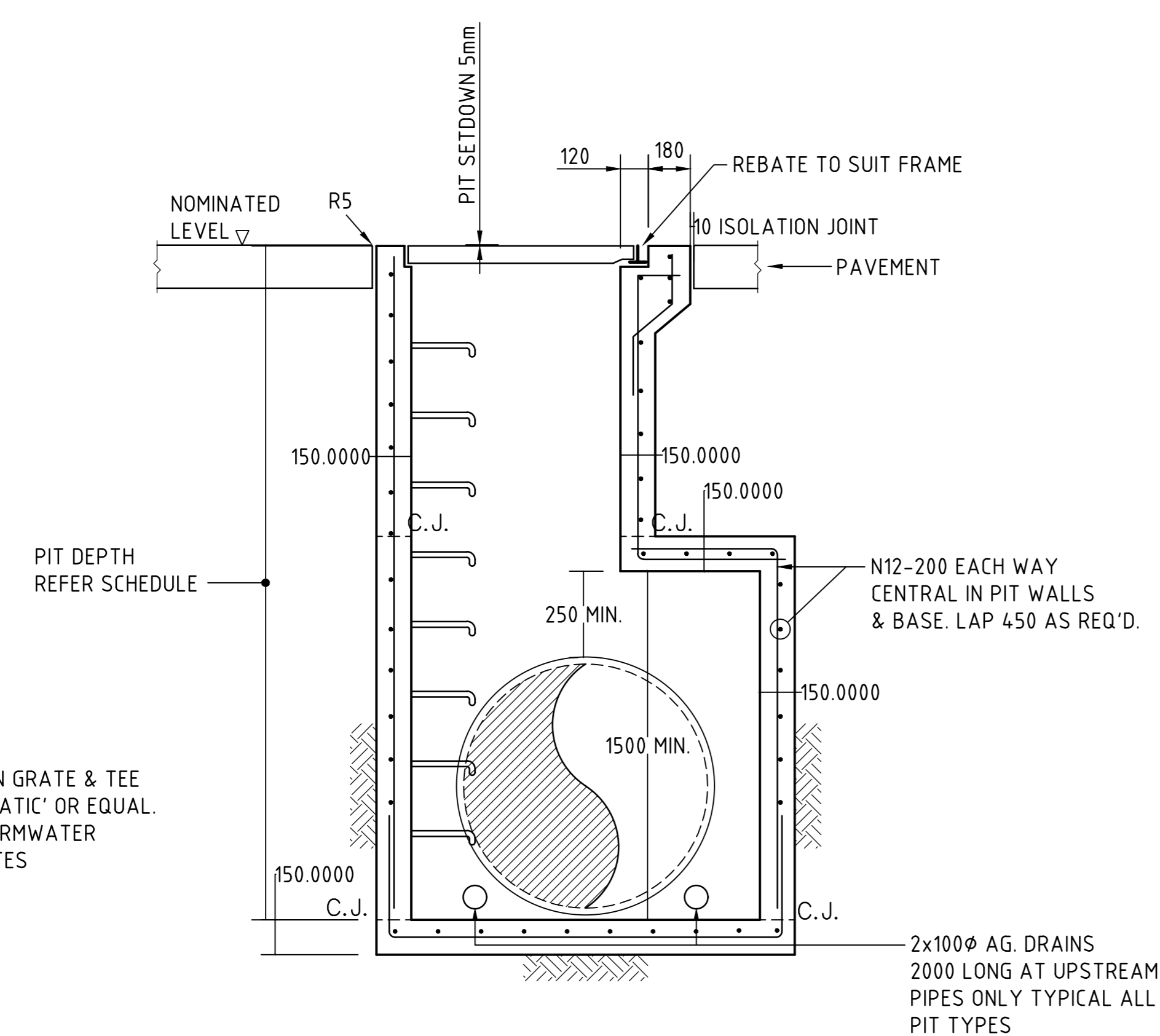
CARPARK BIO-POD BASIN TYPICAL DETAIL
SCALE 150



SECTION 1:20

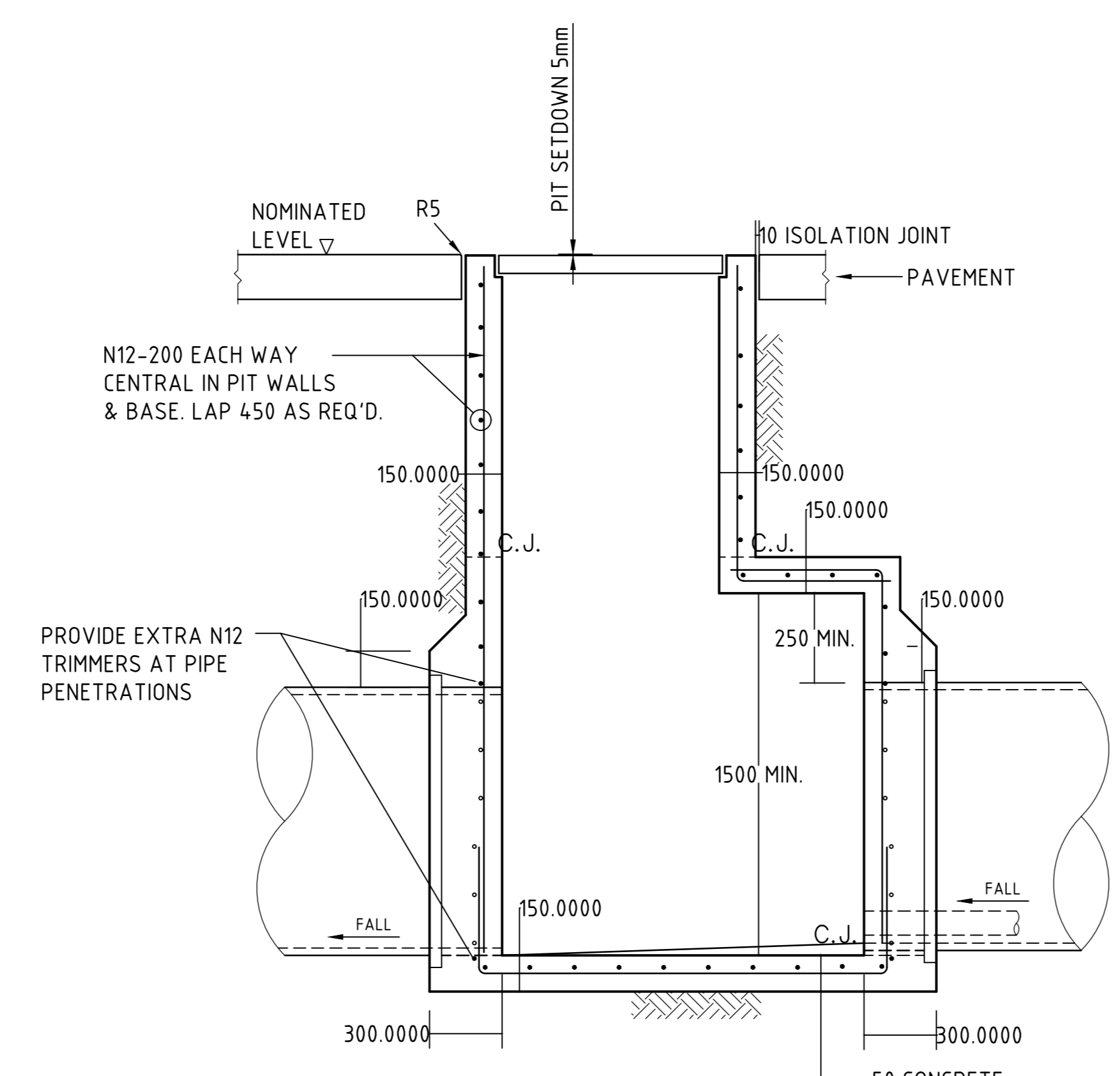


PLAN
SCALE 1:20



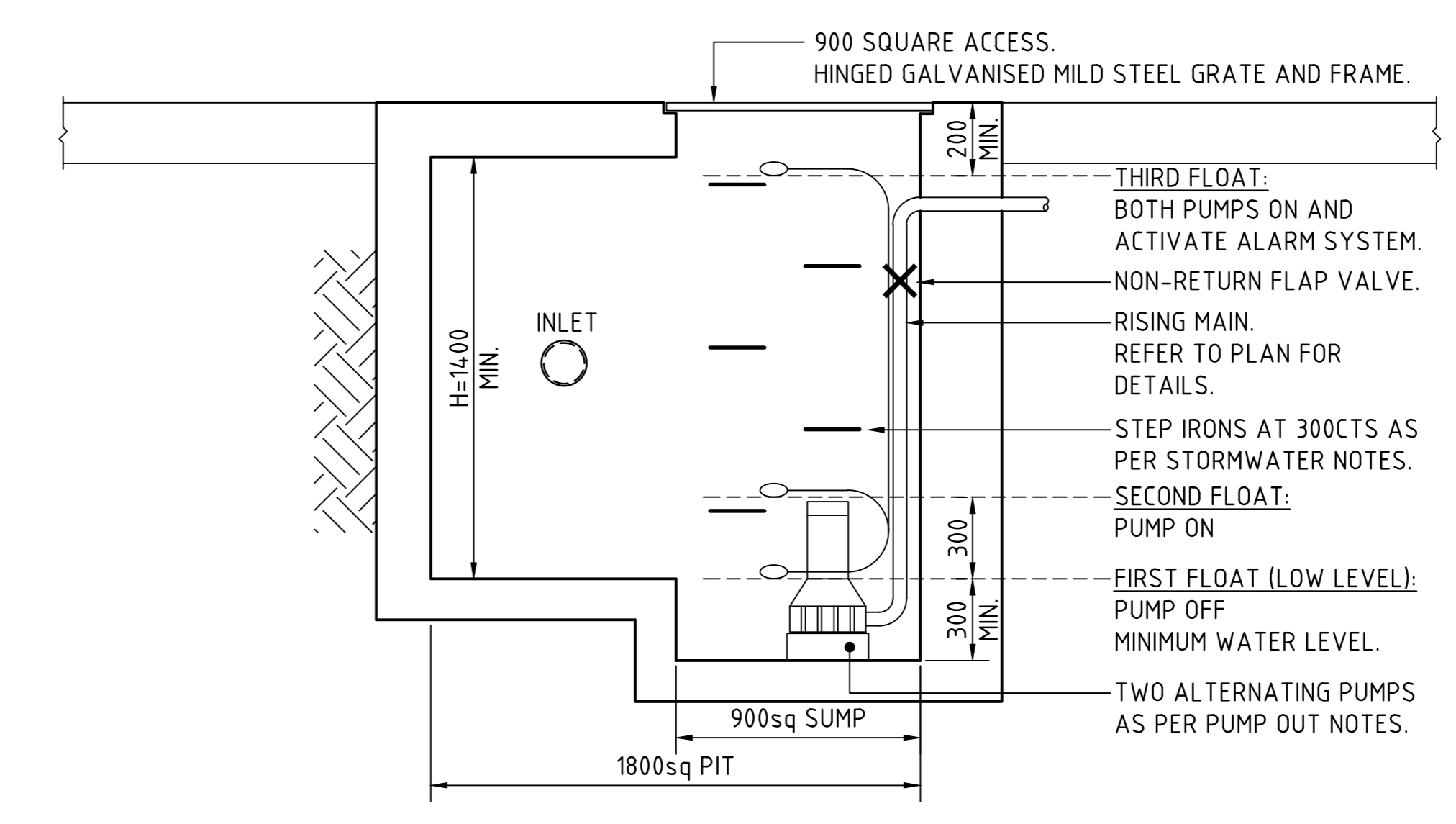
SECTION
SCALE 1:20

TAPERED SINGLE GRATED GULLY PIT - SGGP



SECTION
SCALE 1:20

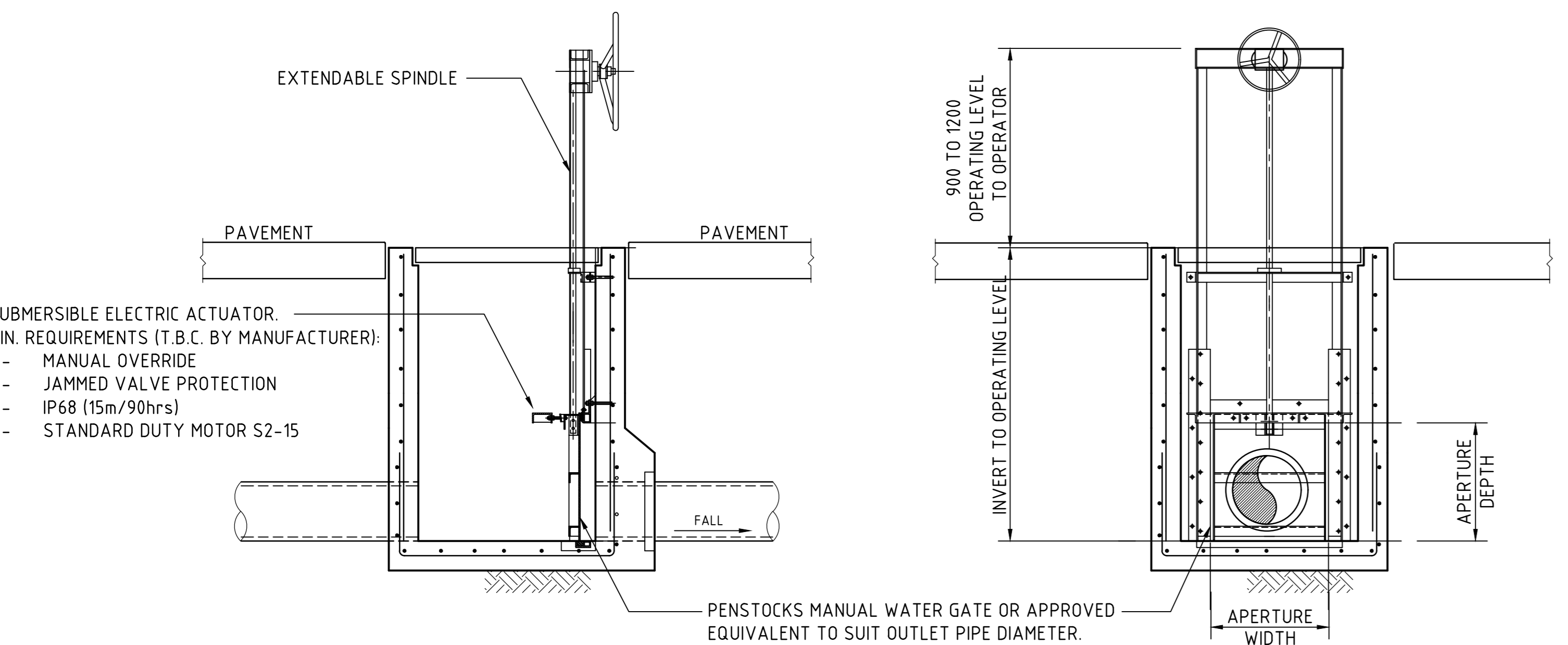
TAPERED SINGLE GRATED GULLY PIT - SGGP



PUMP OUT PIT DETAIL - PIT G15

SCALE 1:20
REFER TYPICAL PIT DETAILS
FOR ALL ITEMS NOT LABELED.

BASEMENT PUMP OUT NOTES:
PUMP SYSTEM IS TO CONSIST OF DUAL ALTERNATING PUMPS. THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER:
Q PUMP = 10 L/s VOLUME = 5.0 m³ (MIN.)
THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE PIT. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.
A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE PIT TO THE LEVEL OF THE LOW-LEVEL FLOAT.
A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE TOP LEVEL OF THE PIT. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.

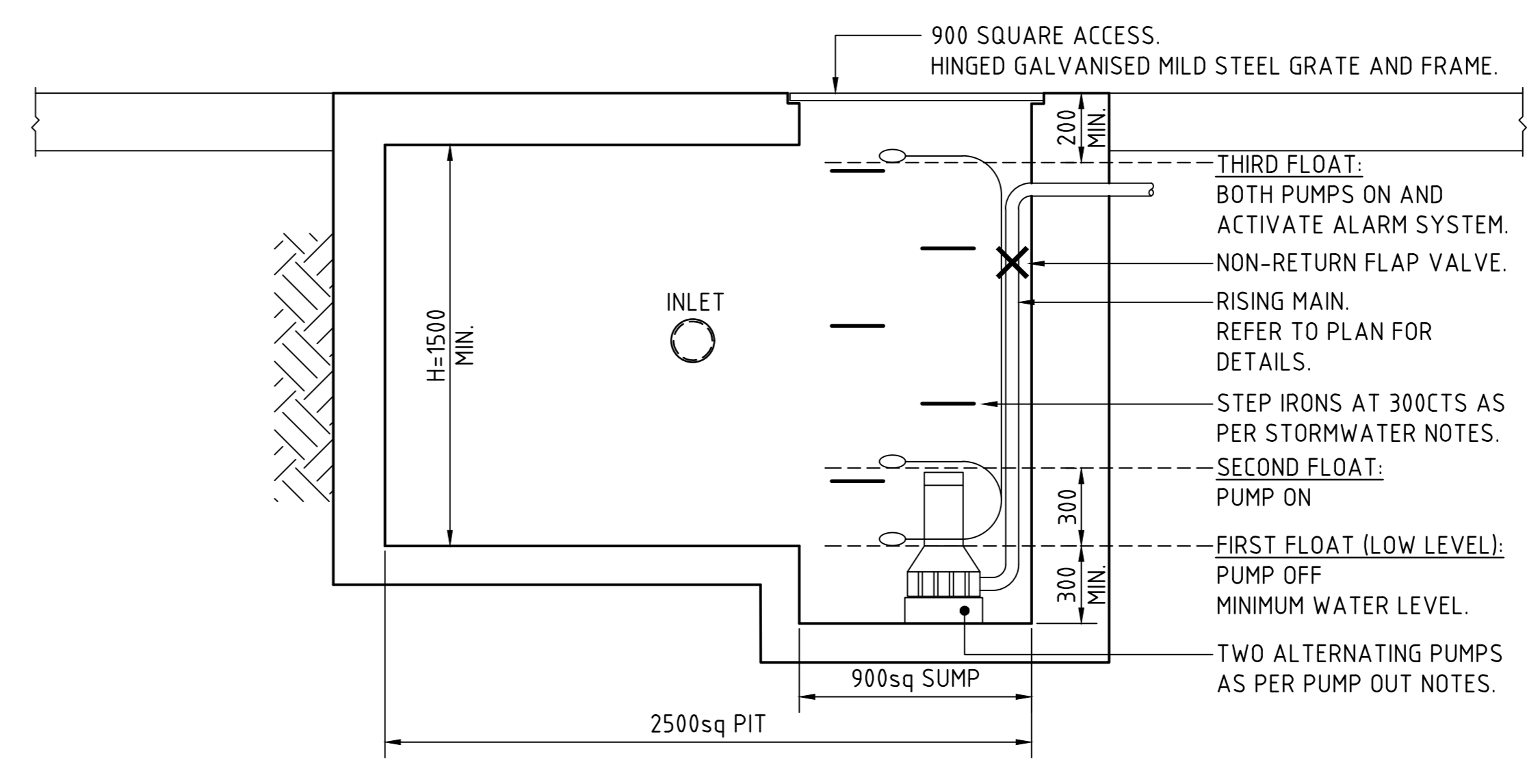


LONG SECTION
SCALE 1:20

CROSS SECTION
SCALE 1:20

CUT-OFF VALVE PIT

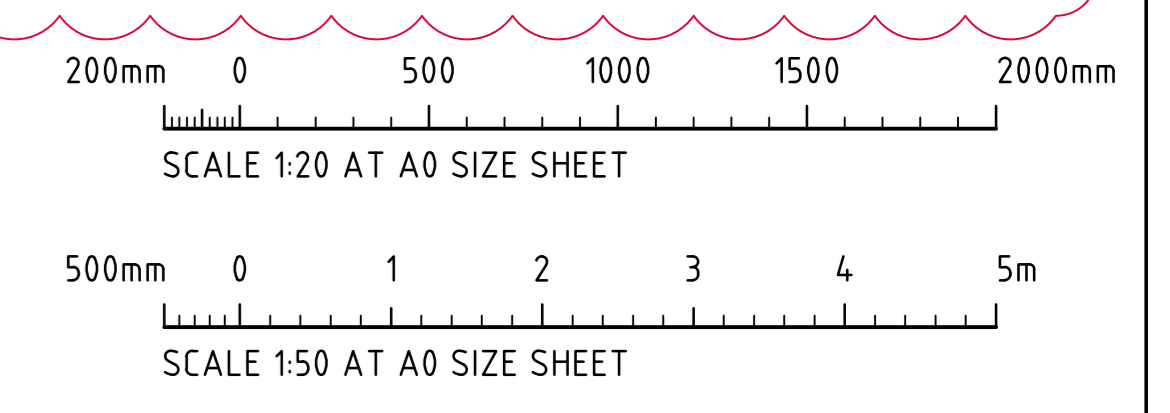
- NOTES:**
- PROVIDE CUT-OFF VALVE TO OUTLET PIPE OF PIT AS NOTED ON STORMWATER DRAINAGE PLANS
 - ACTUATOR TO BE CONNECTED TO FIRE SYSTEM TRIP



PUMP OUT PIT DETAIL - PIT H06

SCALE 1:20
REFER TYPICAL PIT DETAILS
FOR ALL ITEMS NOT LABELED.

BASEMENT PUMP OUT NOTES:
PUMP SYSTEM IS TO CONSIST OF DUAL ALTERNATING PUMPS. THE PUMP OUT SYSTEM SHALL BE DESIGNED TO BE OPERATED IN THE FOLLOWING MANNER:
Q PUMP = 15 L/s VOLUME = 9.3 m³ (MIN.)
THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE PIT. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.
A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE PIT TO THE LEVEL OF THE LOW-LEVEL FLOAT.
A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE TOP LEVEL OF THE PIT. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
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FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ISSUED FOR INFORMATION	23.03.20	A			
ISSUED FOR SSD APPROVAL	30.03.20	B			
REVISED AS CLOUDED	17.06.20	D			
REVISED AS CLOUDED	19.06.20	E			

ARCHITECT
CLIENT



PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2115

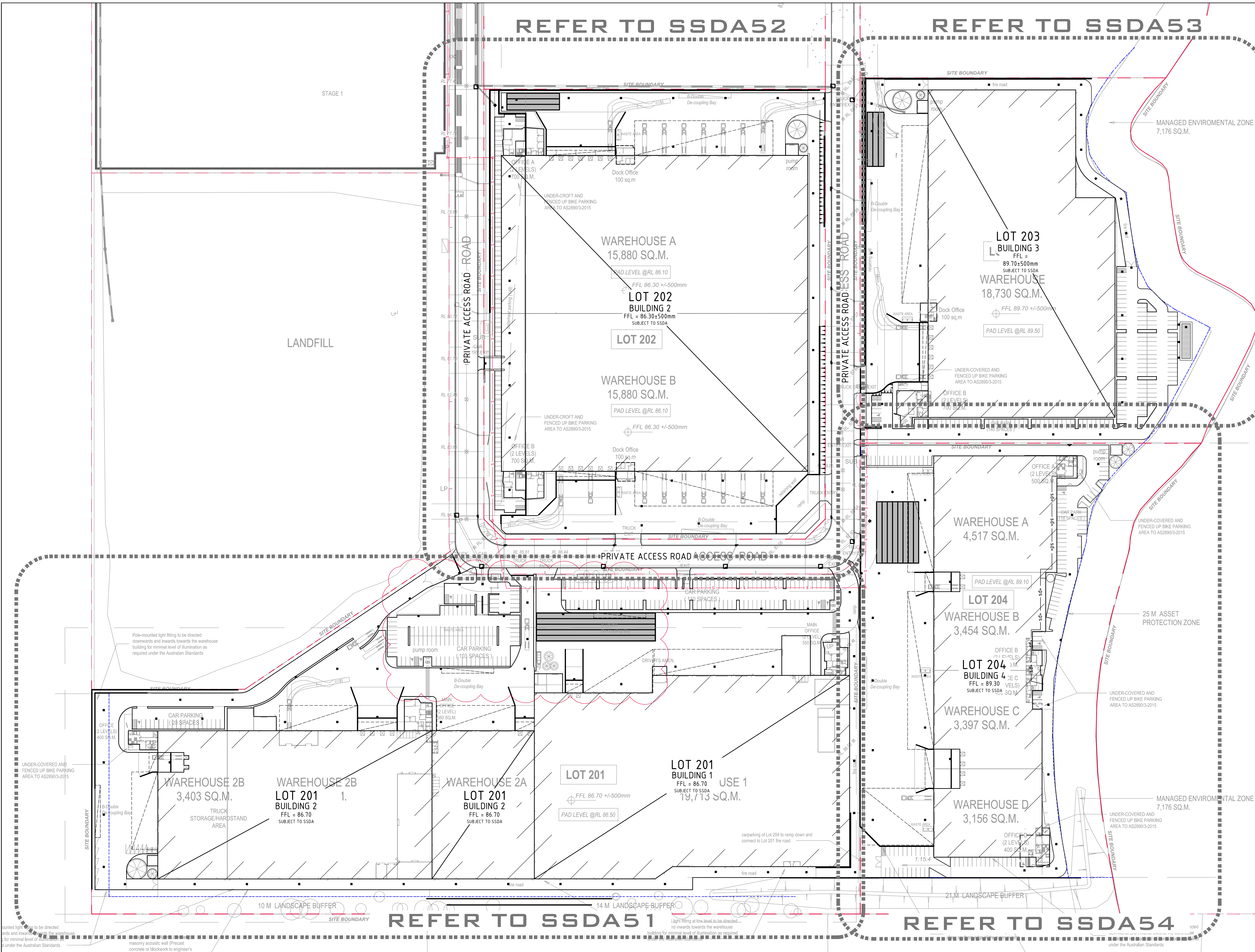
Costin Roe Consulting Pty Ltd.
Consulting Engineers
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Wahlab Bay, Sydney NSW 2000
Tel: (02) 9251-7899 Fax: (02) 9241-3721
email: mail@costinroe.com.au

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DRAWING TITLE
STORMWATER DRAINAGE DETAILS SHEET 3
DRAWING No. **Co12990.05-SSDA47** ISSUE **E**

REFER TO SSSDA52

REFER TO SSSDA53



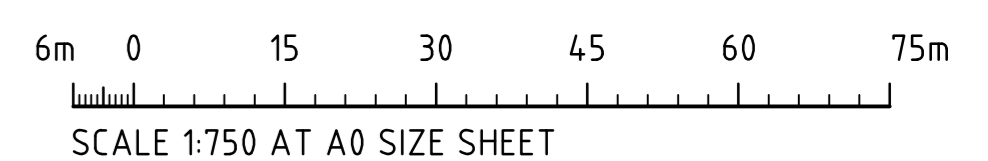
REFER TO SSSDA51

REFER TO SSSDA54

LEVELS NOTE:
 LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
 FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
 ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
 EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND
 ENVIRONMENT COURT ASSESSMENT.

NOTE:
 REFER TO DRAWING C012990.05-SSDA10 FOR FINISHED LEVELS PLAN
 NOTES.

FINISHED LEVELS KEY PLAN
 SCALE 1:750



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
LOT 201 SSD REVISION	25.02.21	D			
ARCHITECTURAL LAYOUT REVISION	12.02.21	C			
REVISION TO NEW ARCHITECTURAL LAYOUT	28.02.20	B			
ISSUED FOR SSD APPROVAL	12.05.20	A			

ARCHITECT

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PROJECT
**ESR HORSLEY LOGISTICS PARK
 DEVELOPMENT APPLICATION**
 327-335 BURLEY ROAD, HORSLEY PARK, 2115



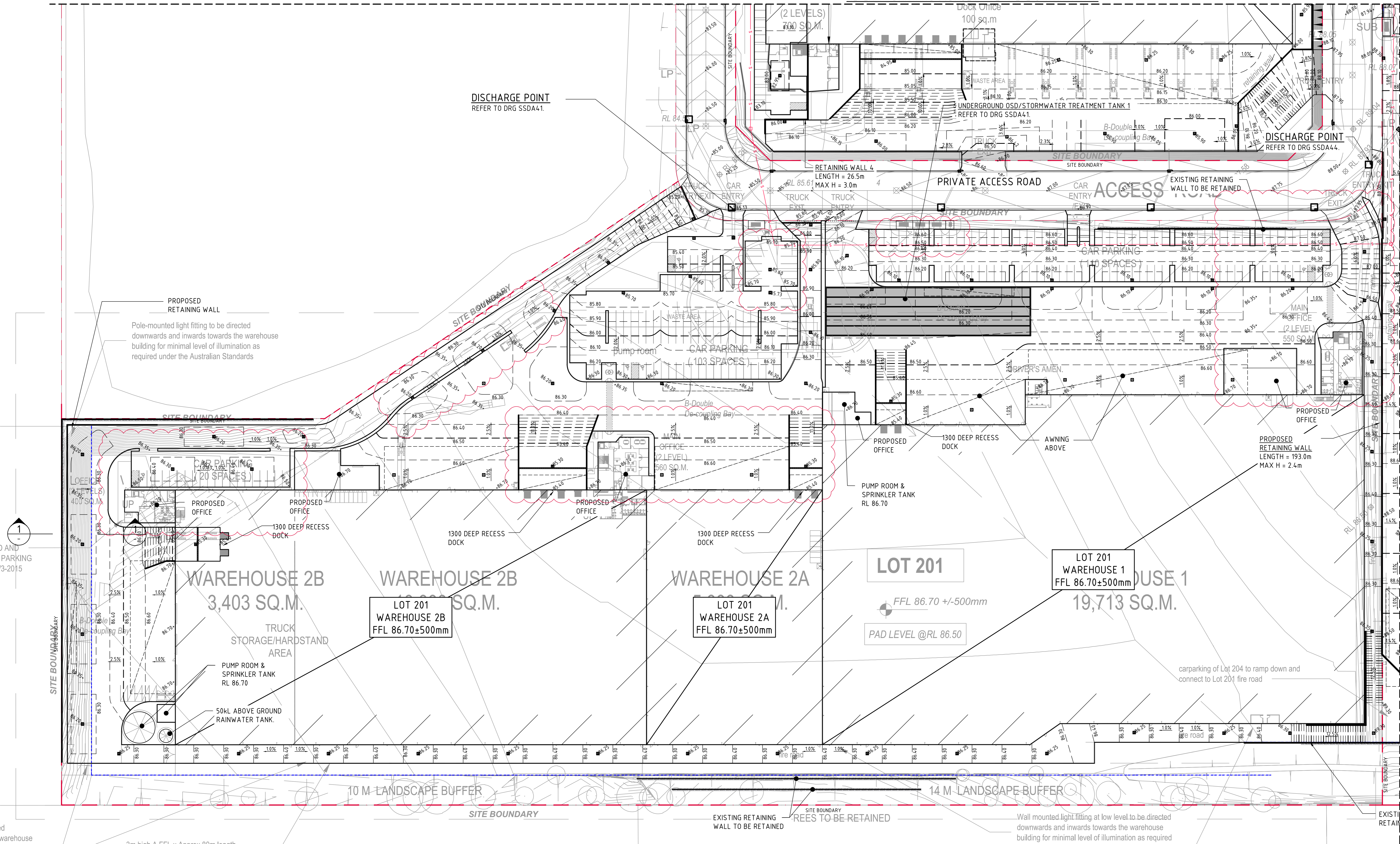
Costin Roe Consulting Pty Ltd.
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 Walsh Bay, Sydney NSW 2000
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 email: mail@costinroe.com.au

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DRAWING TITLE
FINISHED LEVELS KEY PLAN
 DRAWING No. **C012990.05-SSDA50** ISSUE **D**

REFER TO DRAWING SSDA52 FOR LOT 202 CONTINUATION

REFER TO DRAWING SSDA52 FOR LOT 204 CONTINUATION



PROPOSED RETAINING WALL
Pole-mounted light fitting to be directed downwards and inwards towards the warehouse building for minimal level of illumination as required under the Australian Standards

Wall mounted light fitting at low level to be directed downwards and inwards towards the warehouse building for minimal level of illumination as required

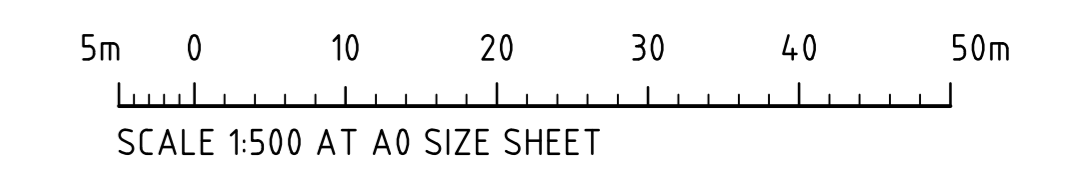
1
AND PARKING
3-2015

LOT 201 FINISHED LEVELS PLAN - SHEET 1
SCALE 1:500

LEGEND:
LEVELS DATUM IS AHD.

	- SGGP, SINGLE GRATED GULLY PIT
	- SJP, SEALED JUNCTION PIT
	- KIP, KERB INLET PIT
	- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
	- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
	- GD, GRATED DRAIN (300W x 225D UNO)
	- PROPOSED RETAINING WALL

LEVELS NOTE:
LEVELS SHOWN TO BE +500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ARCHITECTURAL LAYOUT REVISED	12.02.21	F			
ARCHITECTURAL LAYOUT REVISED	28.10.20	E			
REVISED AS CLOUDED	14.10.20	D			
REVISED FOR NEW ARCHITECTURALS	12.06.20	C			
ISSUED FOR SSD APPROVAL	30.03.20	B	REVISED TO LATEST ARCHITECTURAL LAYOUT	29.04.21	H
ISSUED FOR INFORMATION	20.03.20	A	LOT 201 OSD REVISED	25.02.21	G

ARCHITECT

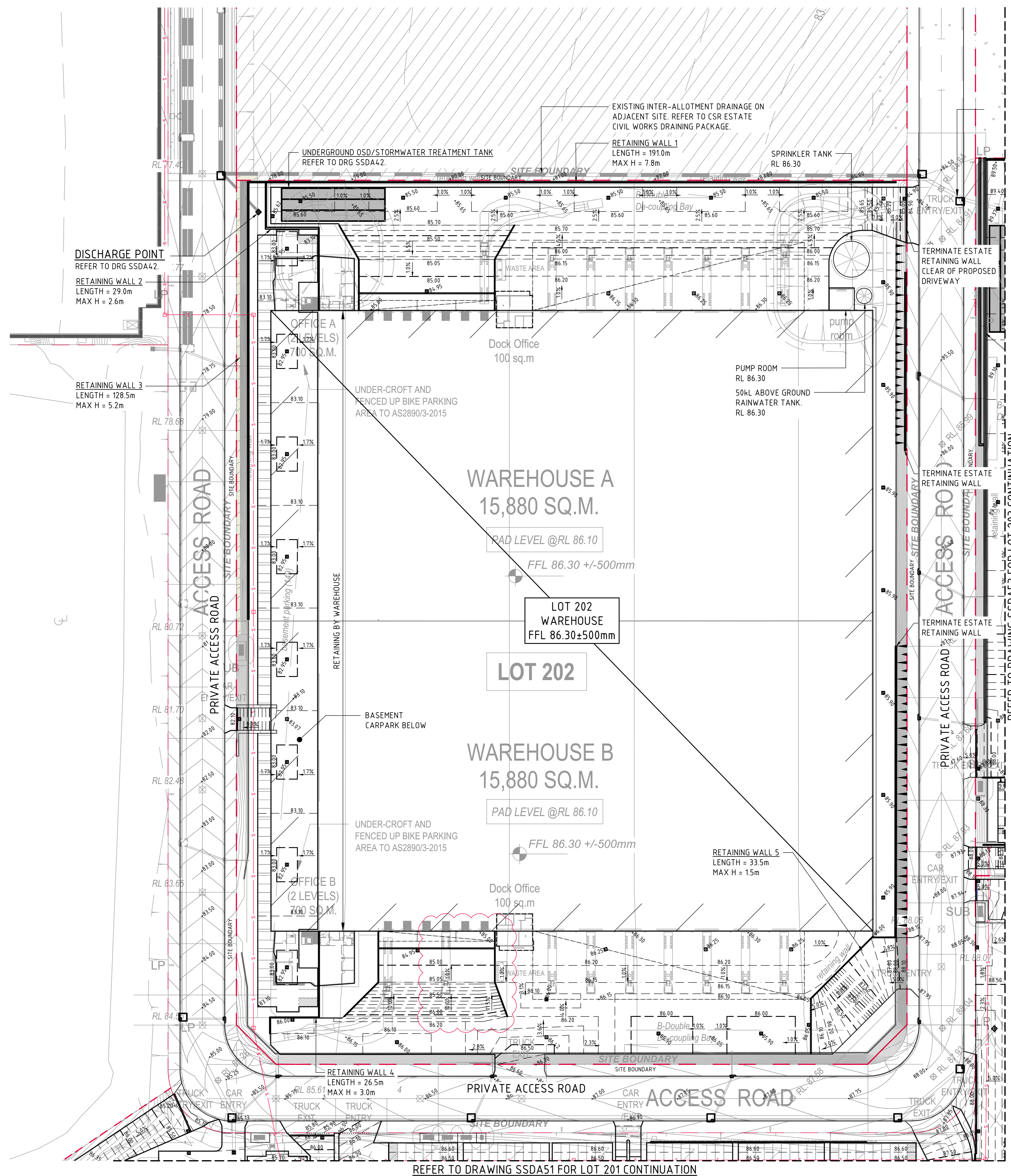


PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

CLIENT
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email: mail@costinroe.com.au



DRAWING TITLE
LOT 201 FINISHED LEVELS PLAN SHEET 1
DRAWING No. Co12990.05-SSDA51



REFER TO DRAWING SSSA51 FOR LOT 201 CONTINUATION

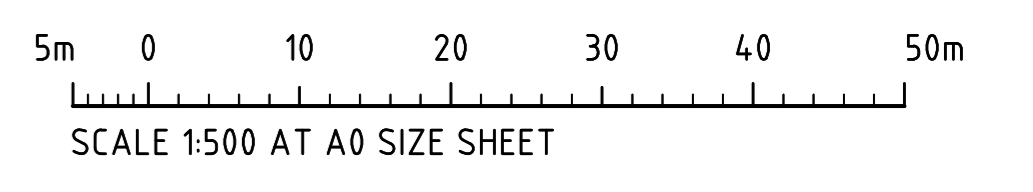
REFER TO DRAWING SSSA53 FOR LOT 203 CONTINUATION

LOT 202 FINISHED LEVELS PLAN - SHEET 1
SCALE 1:500

LEGEND:
LEVELS DATUM IS AHD.

	- SGGP, SINGLE GRATED GULLY PIT
	- SJP, SEALED JUNCTION PIT
	- KIP, KERB INLET PIT
	- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
	- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
	- GD, GRATED DRAIN (300W x 225D UNO)
	- PROPOSED RETAINING WALL

LEVELS NOTE:
LEVELS SHOWN TO BE +500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND
ENVIRONMENT COURT ASSESSMENT.



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ARCHITECTURAL LAYOUT REVISED	12.02.21	F						
ARCHITECTURAL LAYOUT REVISED	28.10.20	E						
REVISED AS CLOUDED	20.10.20	D						
REVISED TO NEW ARCHITECTURAL LAYOUT	14.09.20	C						
REVISED AS CLOUDED	24.06.20	B	REVISED TO LATEST ARCHITECTURAL LAYOUT	29.04.21	H			
ISSUED FOR INFORMATION	17.06.20	A	REVISED FOR MINOR DRAFTING CHANGES	25.02.21	G			

ARCHITECT

CLIENT



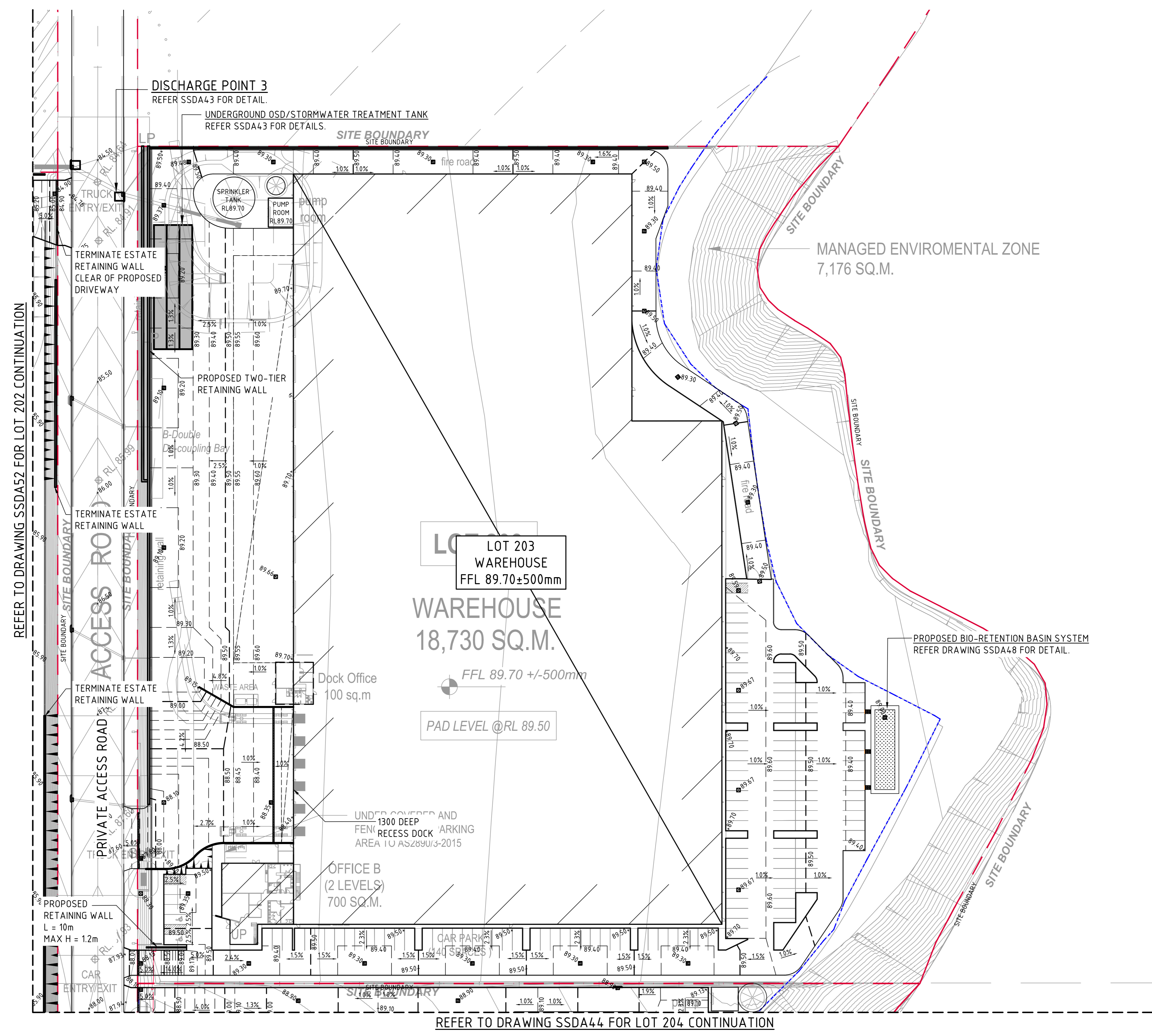
PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175



Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Widdrill Street
Wahlab Bay, Sydney NSW 2000
Tel: (02) 8551-7899 Fax: (02) 8541-3721
email: mail@costinroe.com.au

Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
LOT 202 FINISHED LEVELS PLAN SHEET 2
DRAWING No. **Co12990.05-SSDA52** ISSUE **H**



LOT 203
WAREHOUSE
FFL 89.70±500mm
18,730 SQ.M.
FFL 89.70 +/-500mm
PAD LEVEL @RL 89.50

MANAGED ENVIRONMENTAL ZONE
7,176 SQ.M.

PROPOSED BIO-RETENTION BASIN SYSTEM
REFER DRAWING SSDA48 FOR DETAIL.

UNDER COVERED AND FENCED
1300 DEEP RECESS DOCK
AREA TO AS2890.3-2015

OFFICE B
(2 LEVELS)
700 SQ.M.

Dock Office
100 sq.m

REFER TO DRAWING SSDA52 FOR LOT 202 CONTINUATION

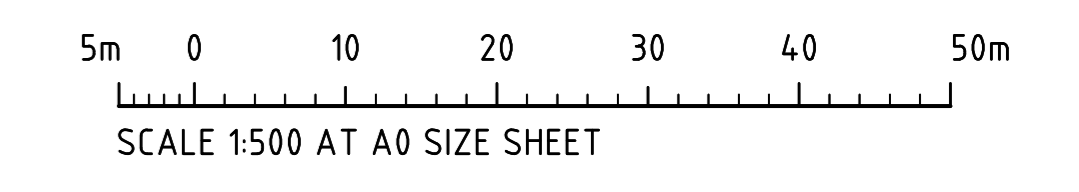
REFER TO DRAWING SSDA44 FOR LOT 204 CONTINUATION

LOT 203 FINISHED LEVELS PLAN
SCALE 1:500

LEGEND:
LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED RETAINING WALL

LEVELS NOTE:
LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND
ENVIRONMENT COURT ASSESSMENT.



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ARCHITECTURAL LAYOUT REVISED	29.04.21	E			
REISSUED FOR MINOR DRAFTING CHANGES	25.02.21	D			
ARCHITECTURAL LAYOUT REVISED	28.10.20	C			
REVISED TO NEW ARCHITECTURAL LAYOUT	14.10.20	B			
ISSUED FOR SSD APPROVAL	12.06.20	A			

ARCHITECT	CLIENT	PROJECT



CLIENT
ESR

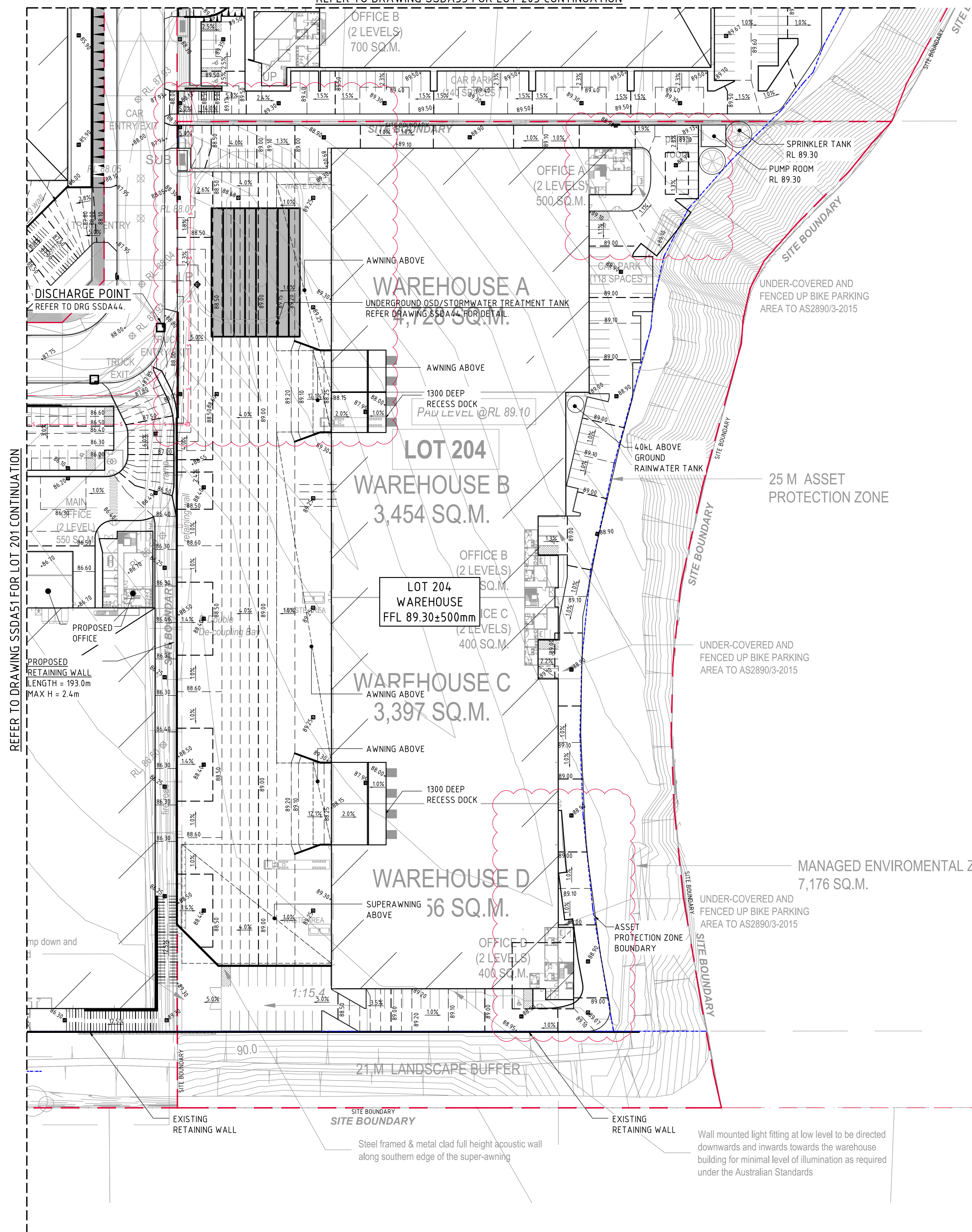
PROJECT
**ESR HORSLEY LOGISTICS PARK
DEVELOPMENT APPLICATION**
327-335 BURLEY ROAD, HORSLEY PARK, 2115

CONSULT AUSTRALIA
Costin Roe Consulting Pty Ltd.
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DRAWING TITLE	DRAWING No	ISSUE
LOT 203 FINISHED LEVELS PLAN	Co12990.05-SSDA53	E

REFER TO DRAWING SSDA53 FOR LOT 203 CONTINUATION



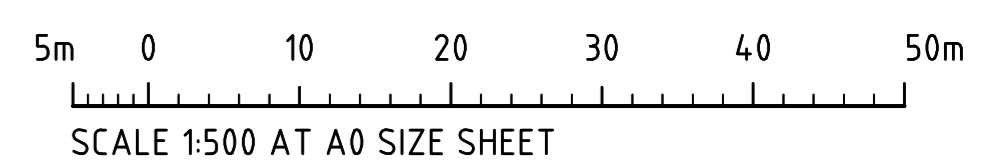
REFER TO DRAWING SSDA51 FOR LOT 201 CONTINUATION

LOT 204 FINISHED LEVELS PLAN - SHEET 1
SCALE 1:500

LEGEND:
LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- G.D., GRATED DRAIN (300W x 225D UNO)
- PROPOSED RETAINING WALL

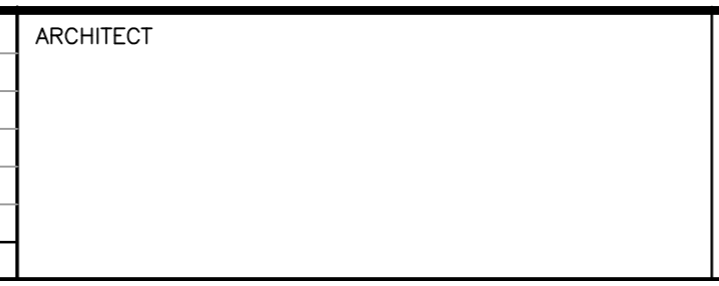
LEVELS NOTE:
LEVELS SHOWN TO BE +500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY AND LAND AND ENVIRONMENT COURT ASSESSMENT.



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ISSUED FOR INFORMATION	19.06.20	A	REVISED FOR NEW ARCHITECTURAL LAYOUT	29.04.21	G
REVISED TO NEW ARCHITECTURAL LAYOUT	14.10.20	B			
REVISED AS CLOUDED	28.10.20	D			
ARCHITECTURAL LAYOUT REVISED	12.02.21	E			
ARCHITECTURAL LAYOUT REVISED	25.02.21	F			

ARCHITECT	CLIENT	PROJECT



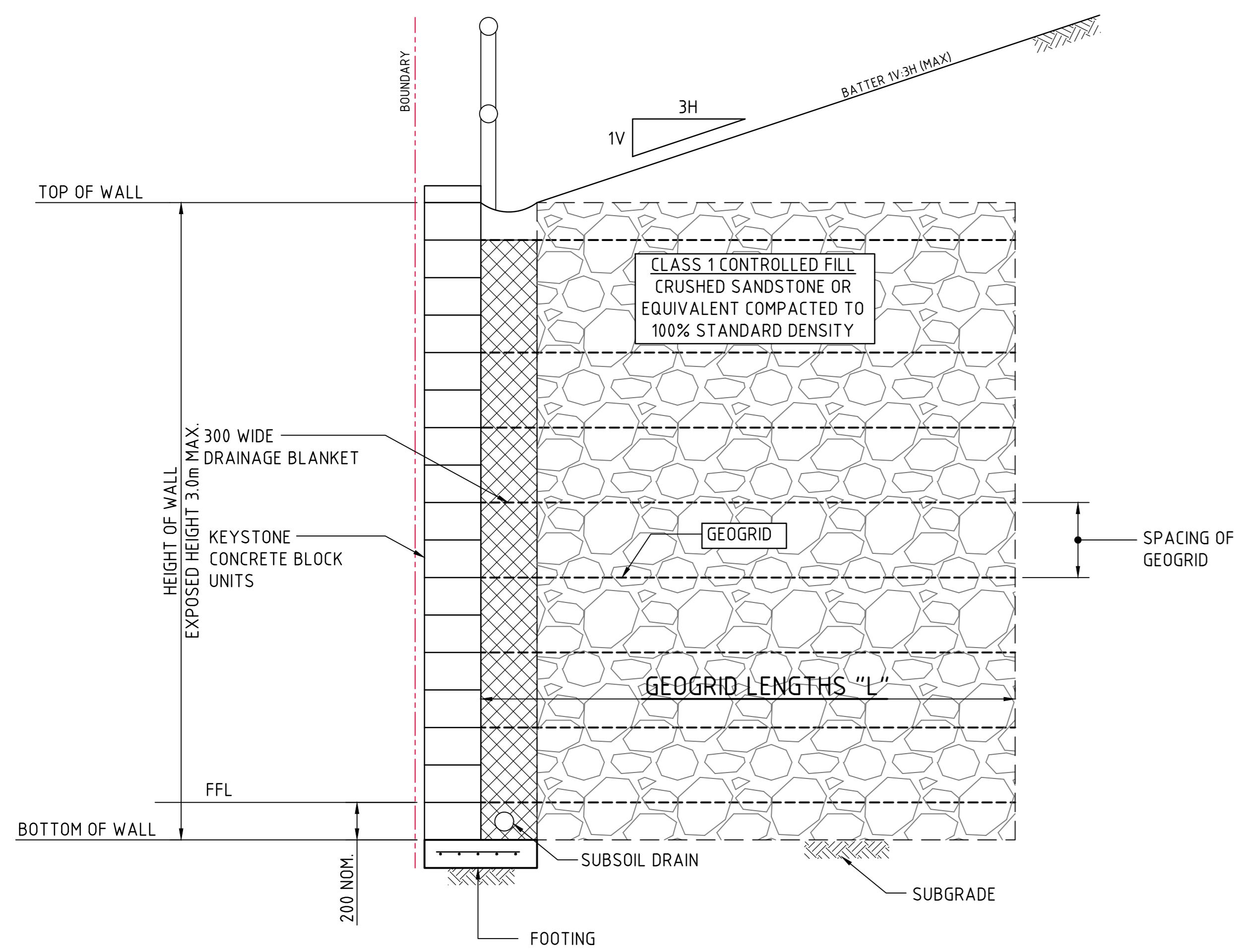
PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2115

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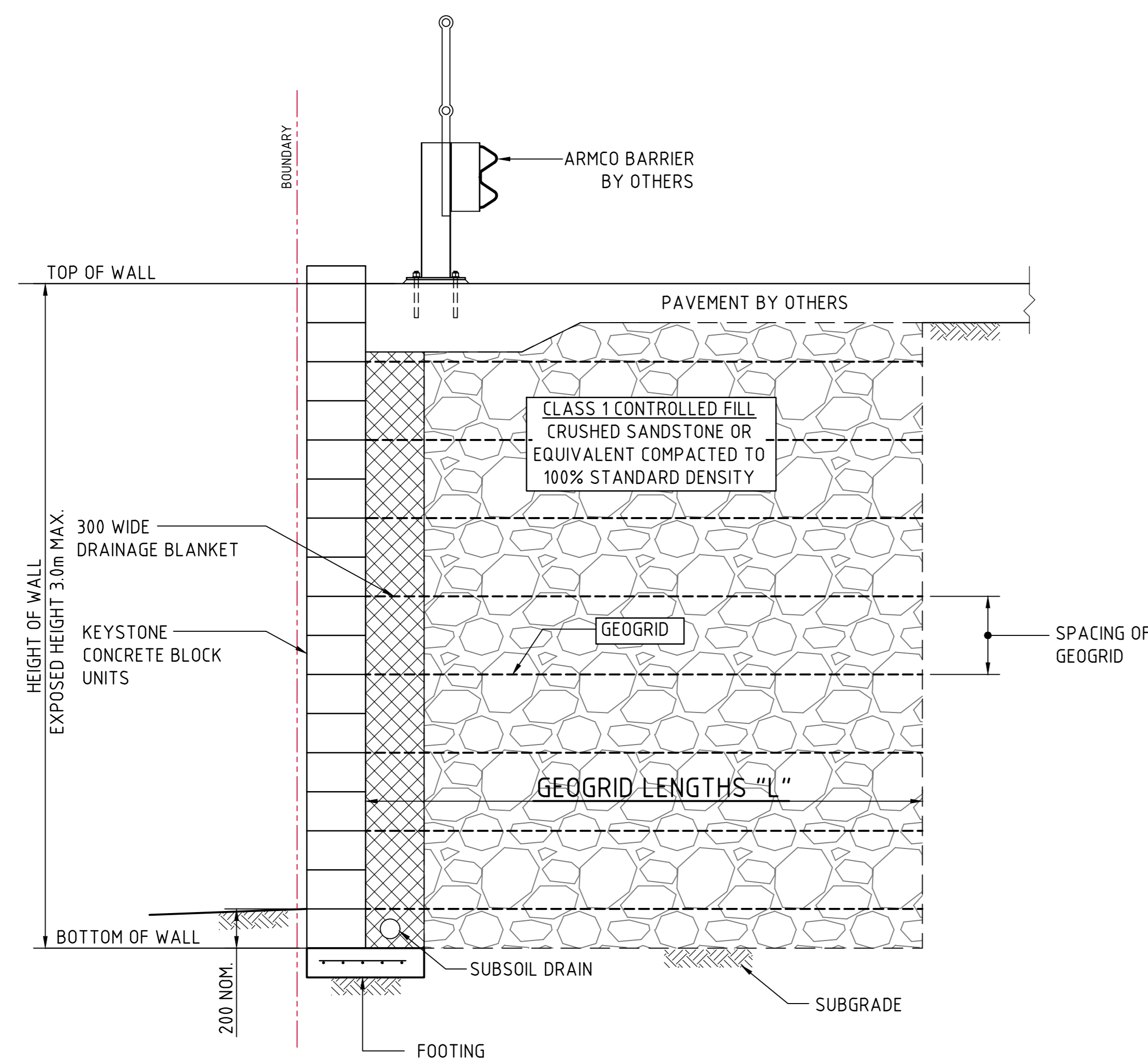
Costin Roe Consulting

DRAWING TITLE
LOT 204 FINISHED LEVELS PLAN SHEET 4
DRAWING No. Co12990.05-SSDA54 ISSUE 6



**RETAINING WALL TYPE 1
(REINFORCED EARTH WALL)**
SCALE 1:20

REINFORCED EARTH RETAINING WALL
STRUCTURAL DESIGN TO D+C CONTRACTOR

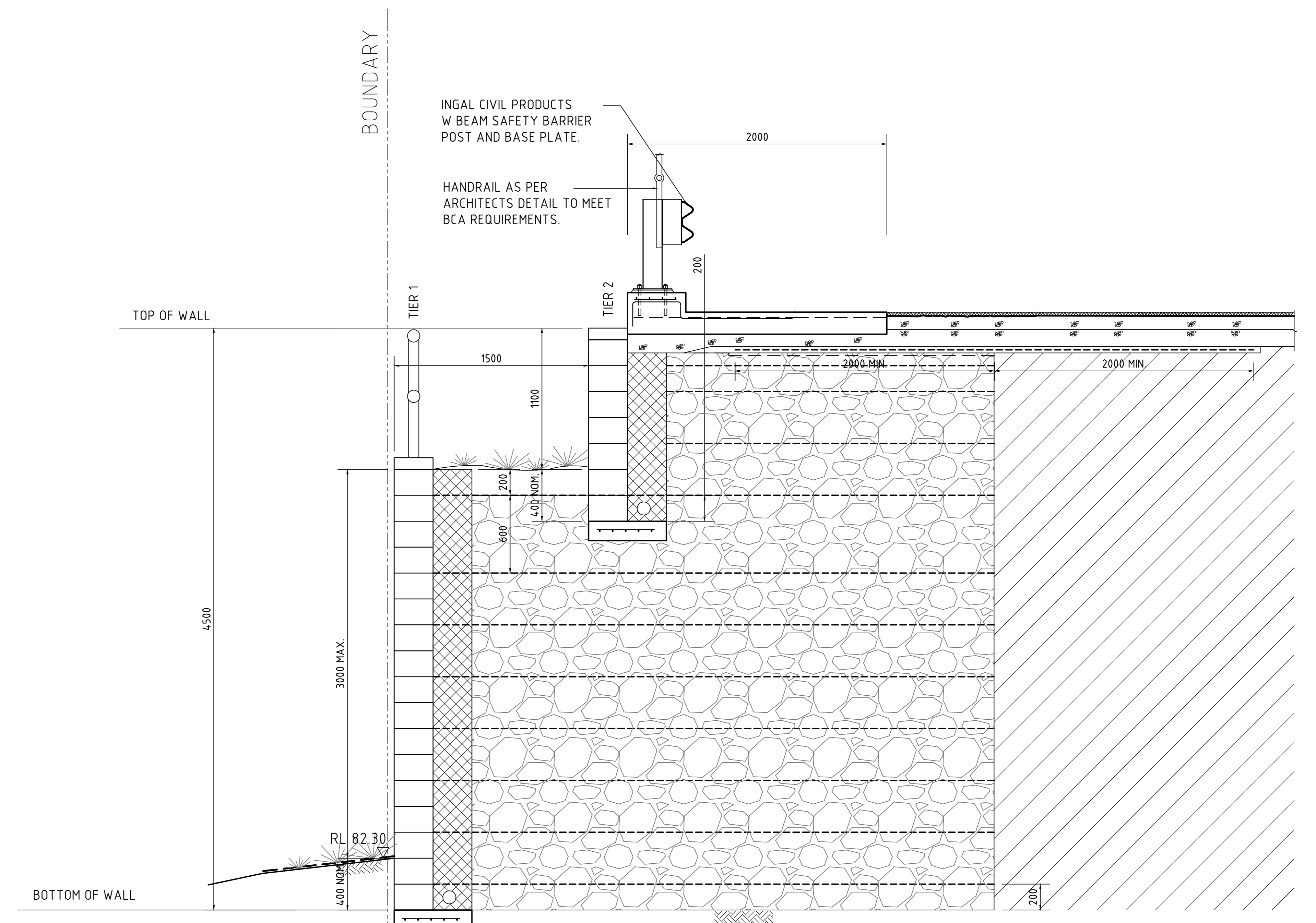


**RETAINING WALL TYPE 2
(REINFORCED EARTH WALL)**
SCALE 1:20

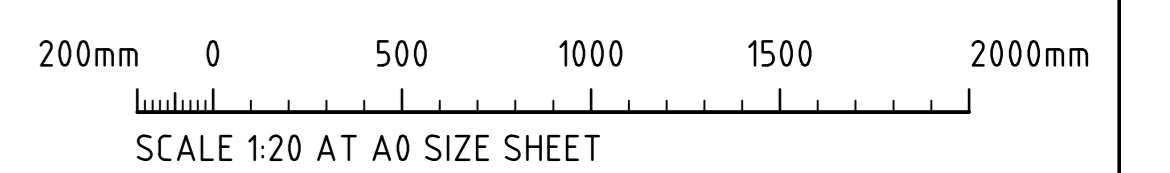
REINFORCED EARTH RETAINING WALL
STRUCTURAL DESIGN TO D+C CONTRACTOR

REINFORCED EARTH RETAINING WALL NOTES:

- ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
- MINIMUM HEIGHT (H) TO GEOGRID REINFORCEMENT LENGTH (L) TO BE 1.0.
- MINIMUM BEARING CAPACITY OF FOUNDATION (BASED ON MINIMUM H/L RATIO OF 1.0) TO BE AS FOLLOWS:
 - H MAX. 2.0m = 100 kPa
 - H MAX. 3.5m = 150 kPa
 - H MAX. 5.0m = 200 kPa
- BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
- WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
- MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O. ON PLAN:
 - LIVE LOAD = 20 kPa
 - DEAD LOAD = 5 kPa
 - CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
- THE GEOGRIDS SHALL BE OF THE TYPE AND INDEX STRENGTH NOMINATED ON THE DRAWINGS. THE MINIMUM GEOGRIDS SHALL BE A SINGLE LENGTH IN THE DIRECTION OF DESIGN TENSION, NOT LAPPED, MAKING PROVISION FOR CONNECTION TO THE FACING ACROSS THE WHOLE WIDTH OF THE FACING AND PROVIDING FOR THE SPECIFIED ANCHORAGE WITHIN THE DESIGNATED ANCHORAGE ZONE. GEOGRIDS SHALL COVER THE WHOLE OF THE PLAN AREA BEHIND THE WALL FOR THE SPECIFIED ANCHORAGE LENGTH AND SHALL BE LAPPED WITH ADJACENT SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300mm.
- DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
- SELECT BACKFILL MATERIAL WITHIN THE REINFORCED SOIL BLOCK SHALL BE SOUND GRANULAR MATERIAL OF NATURAL OR INDUSTRIAL ORIGIN, NON-EXPANSIVE, FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL CONFORMING TO THE PHYSICAL, CHEMICAL AND ELECTROCHEMICAL LIMITS AS SPECIFIED AND SHALL NOT BE SUBJECT TO BREAKDOWN UNDER COMPACTION. THE SELECT BACKFILL MATERIAL IS TO HAVE THE FOLLOWING PARAMETERS:
 - MINIMUM INTERNAL FRICTION, $\phi = 34^\circ$
 - EFFECTIVE COHESION, $c' = 0$ kPa
 - UNIT WEIGHT = 21 kN/m³
 - PH BETWEEN 4 AND 9
- SELECT BACKFILL IS TO BE PLACED AND COMPACTED IN LAYERS NOT MORE THAN 300mm (LOOSE) COMPACTION TO NOT LESS THAN 100% SMDD WILL BE ACHIEVED AND MATERIAL PLACED WITHIN 2% OF OMC. DENSITY TESTING SHALL BE PERFORMED IN EACH COMPACTED LIFT IN ACCORDANCE WITH AS3198.
- PROVIDE A DRAINAGE LAYER DIRECTLY BEHIND THE FACING UNITS IN A MINIMUM 300mm WIDE 12-20mm AGGREGATE LAYER. FACING UNIT VOIDS TO BE FILLED WITH AGGREGATE. PROVIDE 100mm MINIMUM AG. DRAIN IN GEOTEXTILE SOCK AT TOE OF WALL FACING AND CONNECT TO DRAINAGE SYSTEM AT 30m MAX. SPACING.
- THE NEED FOR A CHIMNEY DRAIN OR DRAINAGE AT THE REAR OF THE MASS SOIL BLOCK IS TO BE CONFIRMED ON SITE BY THE GEOTECHNICAL ENGINEER AND DESIGNER FOLLOWING PREPARATION OF THE FOUNDATION AND PRIOR TO CONSTRUCTION OF THE MASS SOIL BLOCK.
- CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500KG STATIC WEIGHT IS TO BE KEPT BACK 1.5m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 1.5m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
- ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.
- TOP OF WALL HEIGHTS ARE NOTED TO ALIGN WITH FINISHED PAVEMENT HEIGHTS. THE CONTRACTOR AND THEIR DESIGN AND CONSTRUCT WALLING CONTRACTORS ARE TO ENSURE THAT ALL WALL STRAPS ARE INSTALLED BELOW THE DESIGN EARTHWORKS SUBGRADE. CONTRACTOR TO ALLOW FOR WALL STRAPS TO BE GRADED AWAY FROM THE FACE OF THE WALL OR OTHERWISE INSTALLED TO SUIT EARTHWORKS DESIGN LEVELS AND GRADES.
- DIFFERENTIAL SETTLEMENT NOTE.**
FUTURE BUILDING AND SERVICE DESIGNERS TO CONSIDER DIFFERENTIAL SETTLEMENT OF REINFORCED EARTH WALL BLOCK AND GENERAL FILL AREAS. PARTICULAR ATTENTION TO BE DRAWN TO HEAVILY LOADED AREAS, OR DIFFERING LOADED AREAS (INCLUDING SPRINKLER TANK AND TRUCK PAVEMENT AREAS) AND WHERE SIGNIFICANT CHANGES IN OVERALL WALL HEIGHT OR FILL AMOUNTS ARE EXPERIENCED. IT IS THE RESPONSIBILITY OF THE FUTURE DESIGNERS TO ENSURE APPROPRIATE DESIGN CONSIDERATION TO DIFFERENTIAL SETTLEMENT ARE MADE DEPENDING ON THE DESIGN ELEMENT AND INTERACTION WITH RETAINED ELEMENTS AND GENERAL FILL MATERIAL.



SECTION 1:20
RETAINING WALL



FOR SSD APPROVAL

ISSUED FOR SSD APPROVAL	14.10.20	A							
AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS

ARCHITECT	CLIENT



PROJECT	DESIGNED	DRAWN	DATE	CHECKED	DATE	SCALE	AS SHOWN	CAD REF.
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION	TF	JB	MAR 19	XC		A0	AS SHOWN	LOT2990.05-SSDA55

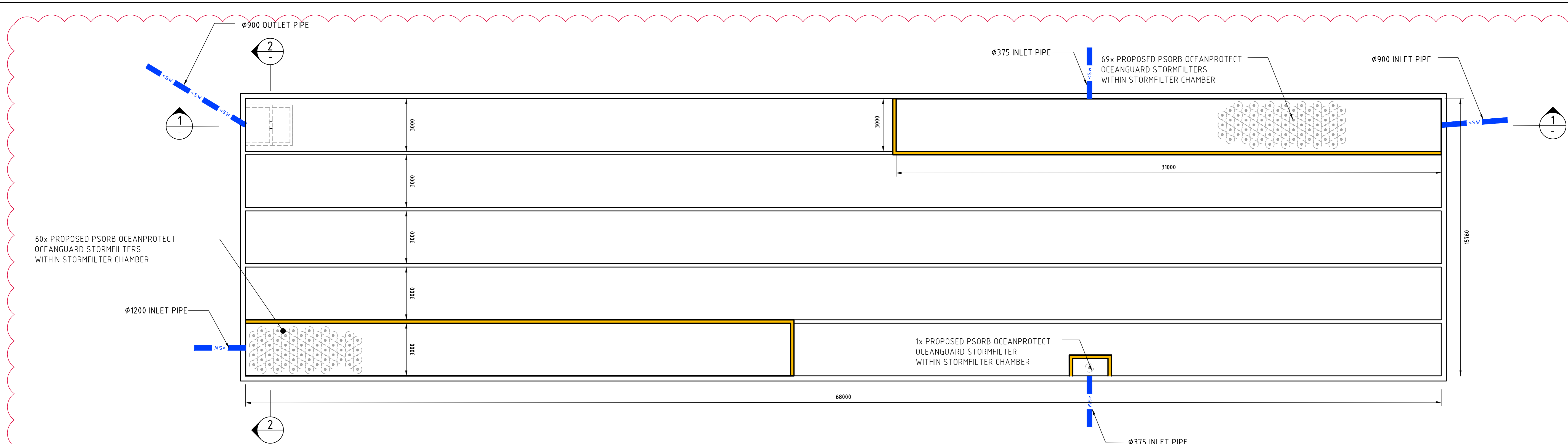
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Wahlab Bay, Sydney NSW 2000
Tel: (02) 9251-7899 Fax: (02) 9241-3721
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Costin Roe Consulting

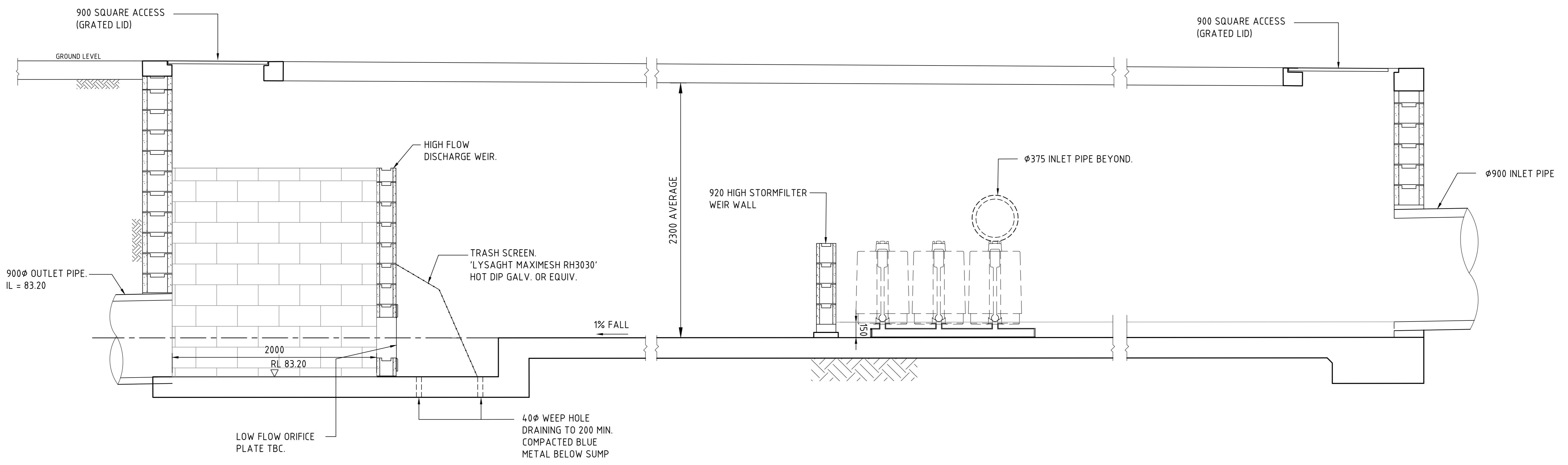
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE	ISSUE
RETAINING WALL DETAILS & TYPICAL SECTIONS	A

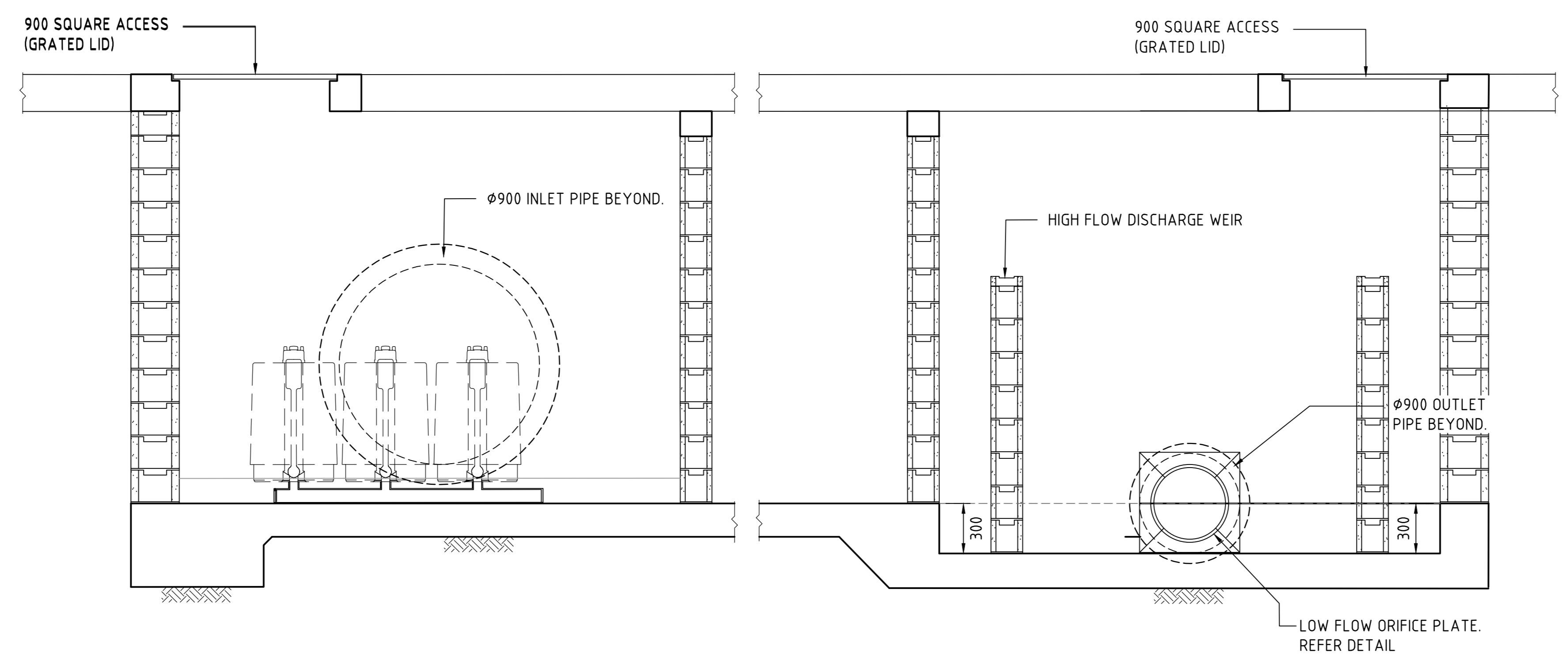
DRAWING No. Co12990.05-SSDA55



LOT 201 OSD TANK 1 PLAN
1:100



SECTION 1:50 : TYPICAL THRU' TANK



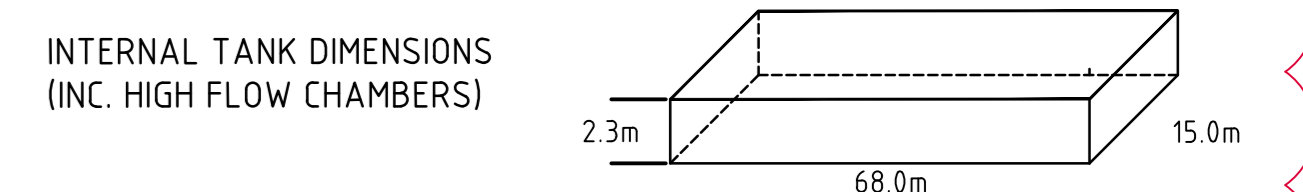
SECTION 1:50 : TYPICAL THRU' TANK

LOT 201 OSD TANK 1 DETAILS

SITE AREA
TOTAL SITE AREA 77,000m²
TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS) 77,000m²

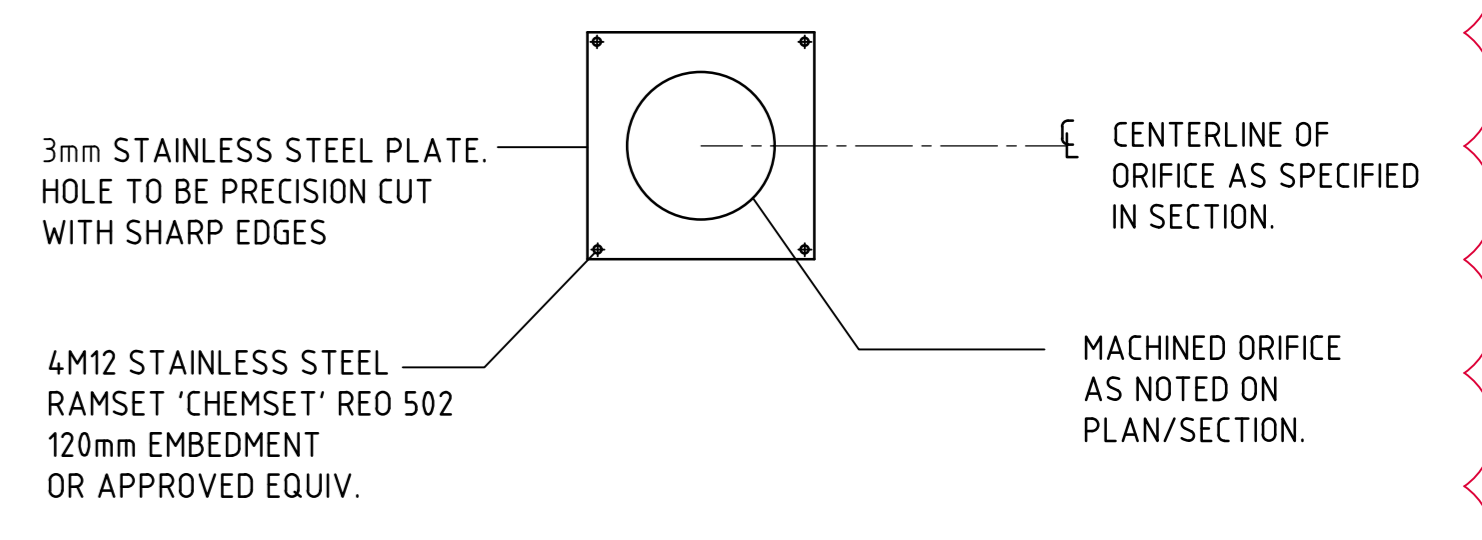
STORAGE

VOLUME PROVIDED 2235m³

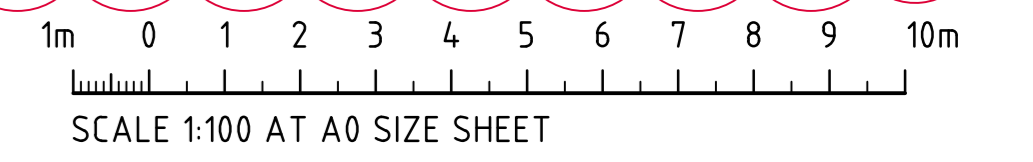


INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)

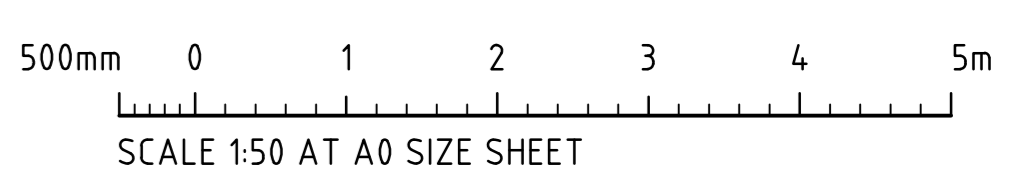
NOTE:
TANK TO BE DESIGNED BY
STRUCTURAL ENGINEER



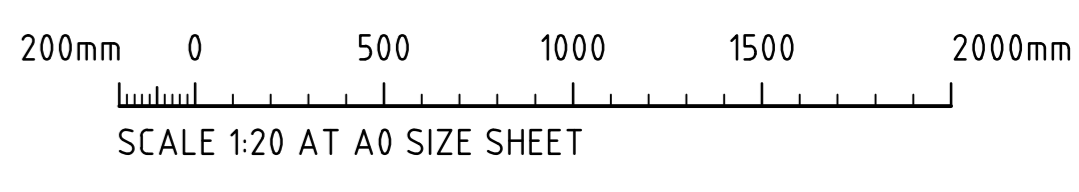
ORIFICE PLATE DETAIL
1:20



SCALE 1:100 AT A0 SIZE SHEET



SCALE 1:50 AT A0 SIZE SHEET



SCALE 1:20 AT A0 SIZE SHEET

FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
OSD TANK REVISED FOR LOT201	25.02.21	F			
OSD TANK REVISED, DRAWING RENAMED FROM SSDA61 TO SSDA61A	12.02.21	E			
REVISED AS CLOUDED	14.10.20	D			
DRAWING RENAMED FROM SSDA48 TO SSDA61	10.06.20	C			
ISSUED FOR SSD APPROVAL	30.03.20	B			
ISSUED FOR INFORMATION	20.03.20	A			

ARCHITECT

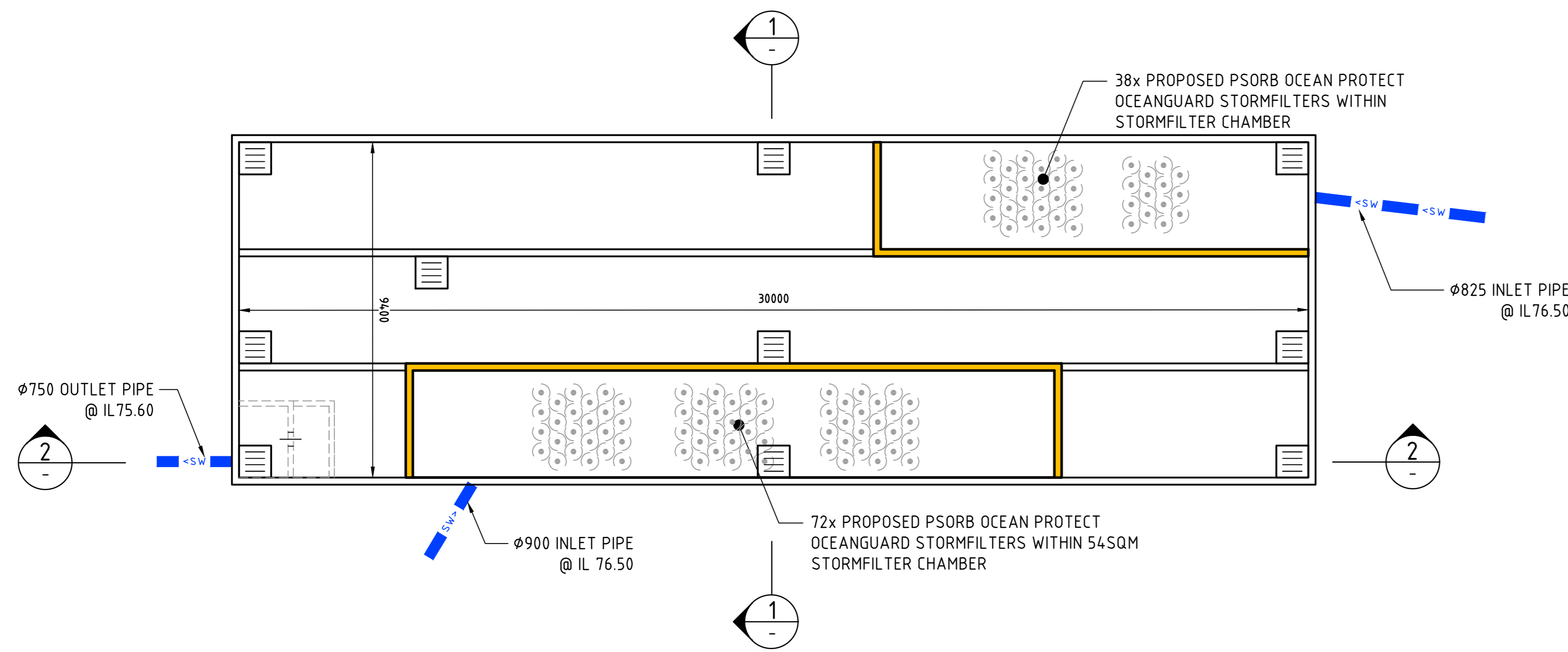
CLIENT
ESR

PROJECT
ESR HORSLEY LOGISTICS PARK
DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

CONSULT AUSTRALIA
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DRAWING TITLE
LOT 201 OSD TANK 1 DETAILS
DRAWING No. Co12990.05-SSDA61

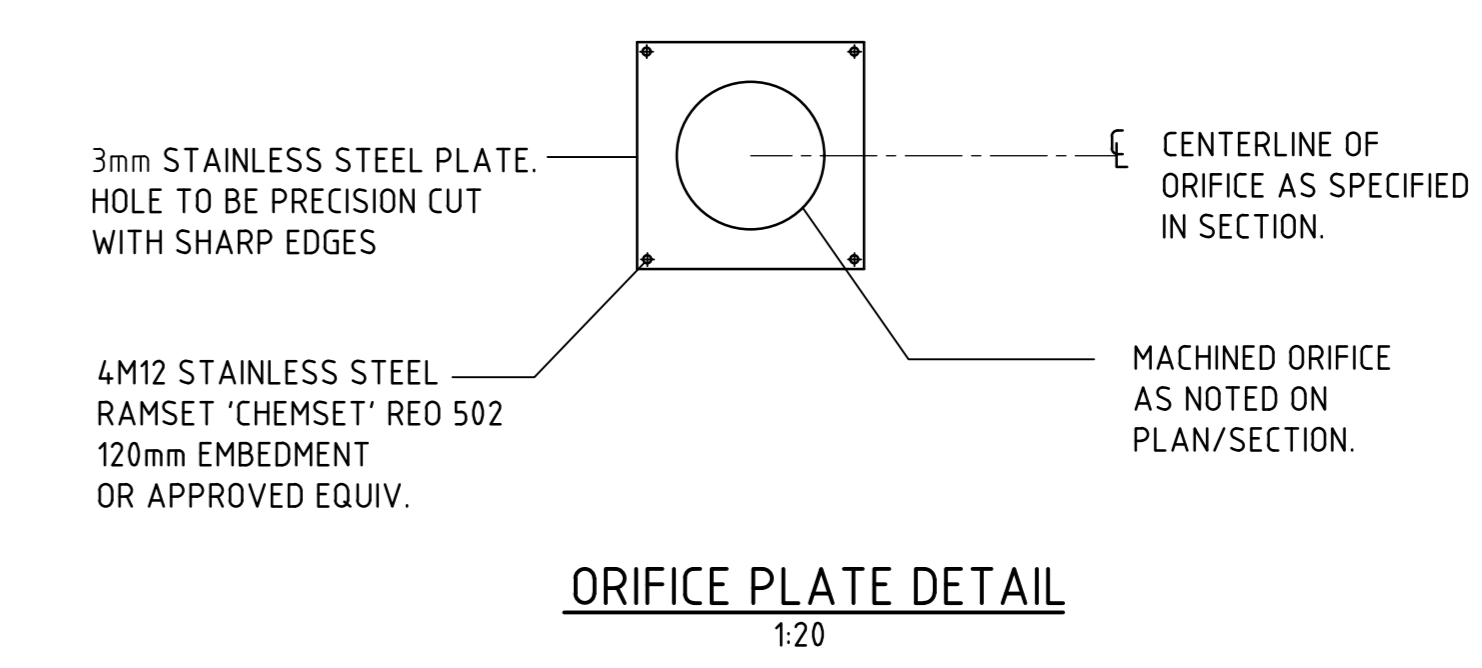


OSD TANK DETAILS

SITE AREA
 TOTAL SITE AREA 50,500m²
 TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS) 50,500m²

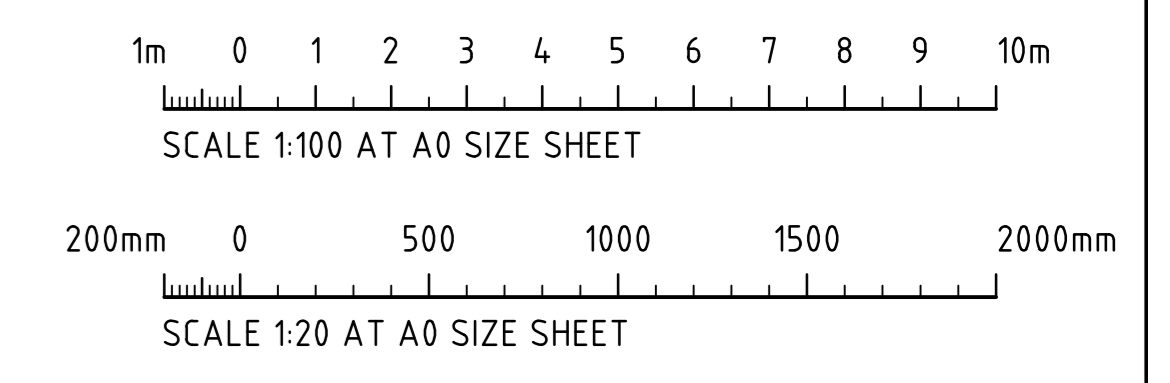
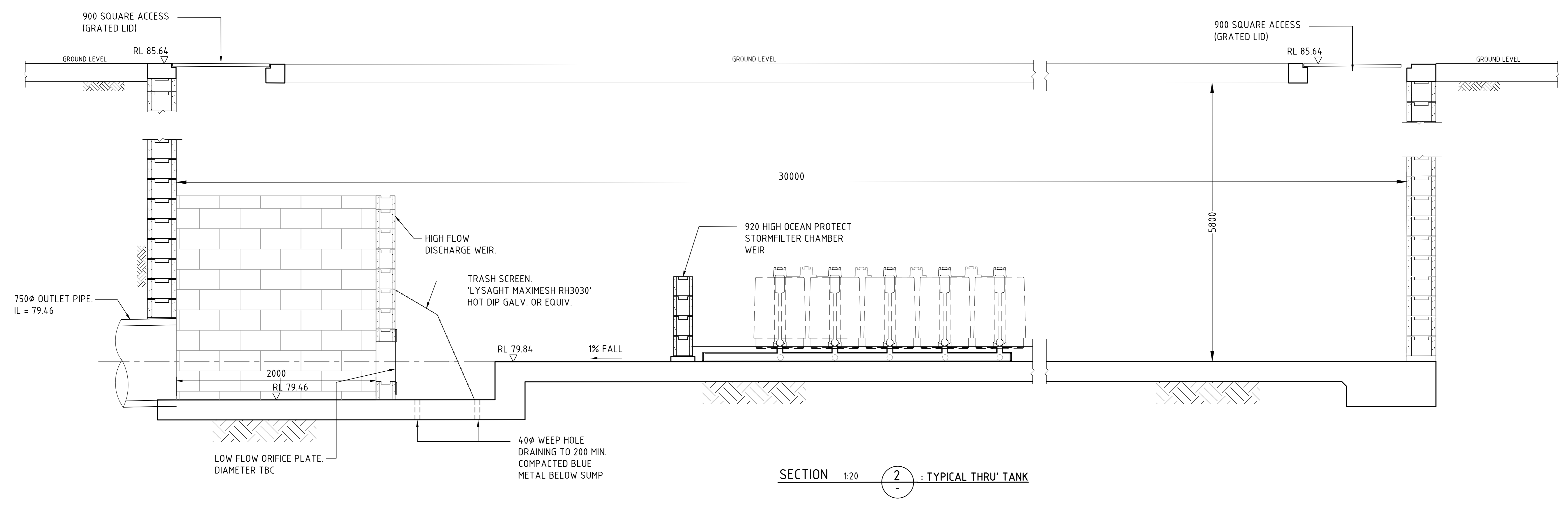
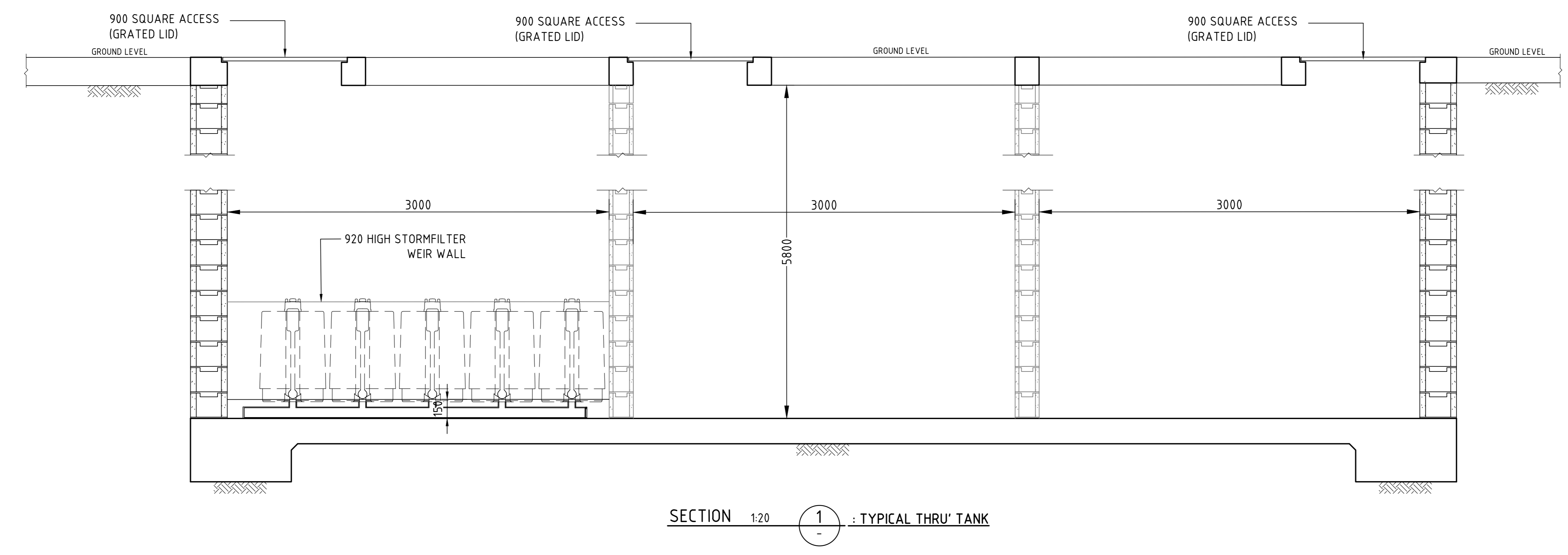
STORAGE

VOLUME PROVIDED 1450m³ MIN.
 INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)
 5.8m x 9.40m x 30.0m



NOTE:
 TANK TO BE DESIGNED BY STRUCTURAL ENGINEER

LOT 203 OSD TANK PLAN
 1:100



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
ISSUED FOR SSD APPROVAL	17.06.20	A			

ARCHITECT



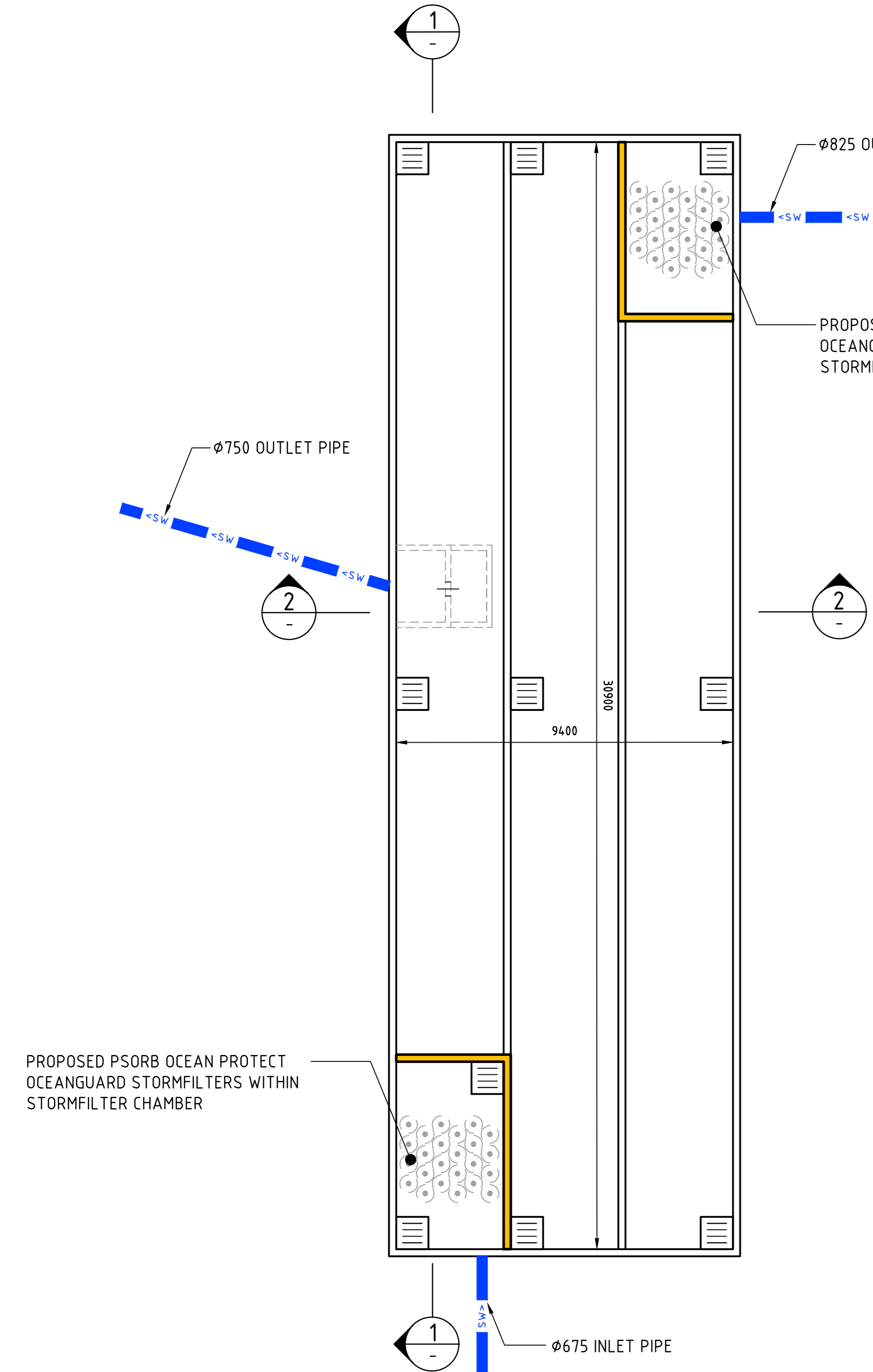
PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
 327-335 BURLEY ROAD, HORSLEY PARK, 2175

CLIENT
ESR

CONSULTING ENGINEERS
Costin Roe Consulting
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 Walsh Bay, Sydney NSW 2000
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DRAWING TITLE
LOT 202 OSD TANK DETAILS
 DRAWING No. **Co12990.05-SSDA62**

PRECISION | COMMUNICATION | ACCOUNTABILITY



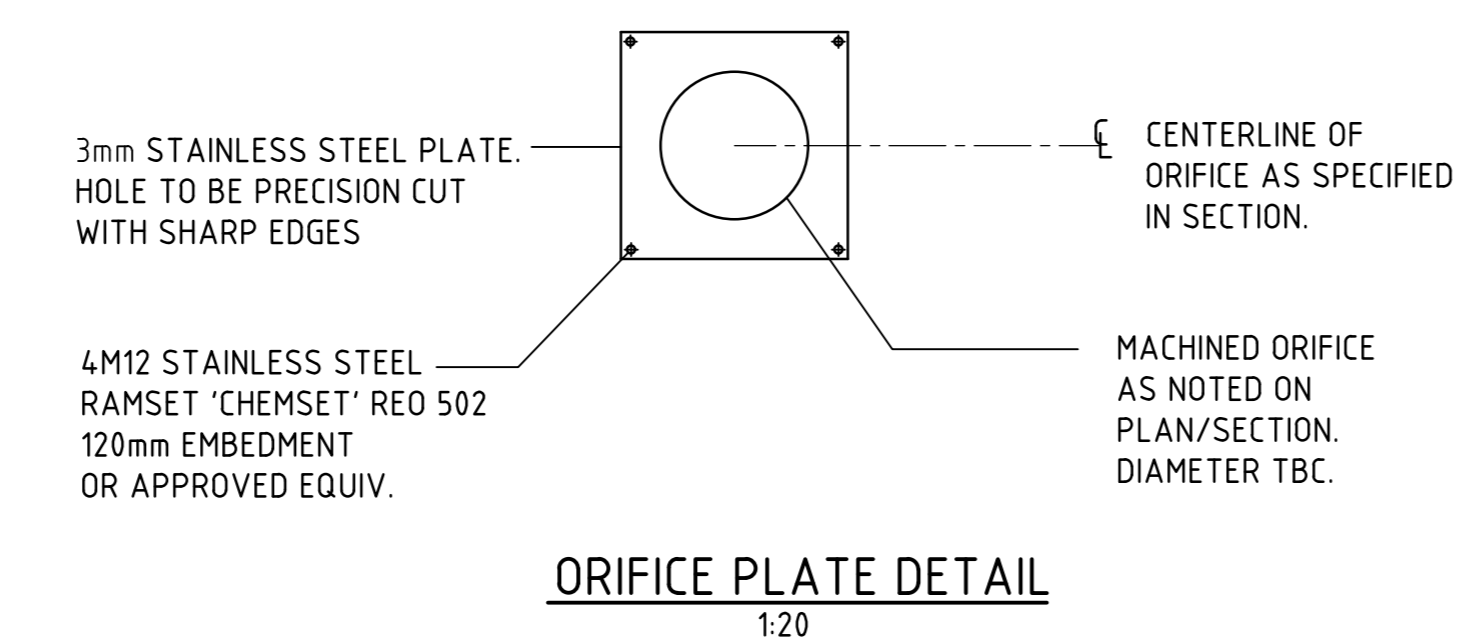
LOT 203 OSD TANK PLAN
1:100

OSD TANK DETAILS
 SITE AREA
 TOTAL SITE AREA 40,295m²
 TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS) 33,830m²

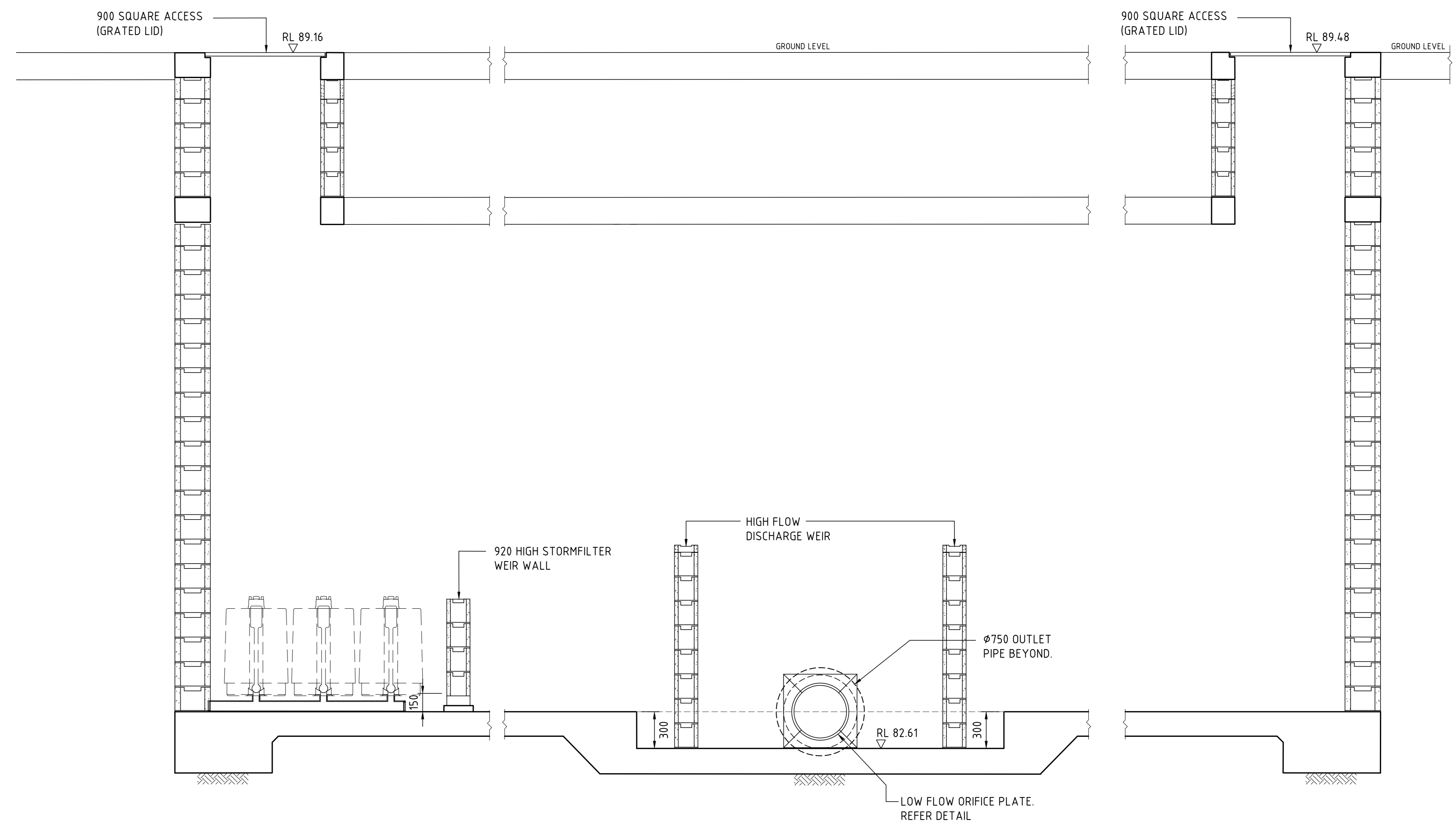
STORAGE
 VOLUME PROVIDED 1160m³

INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)
 4.0m x 9.4m x 30.9m

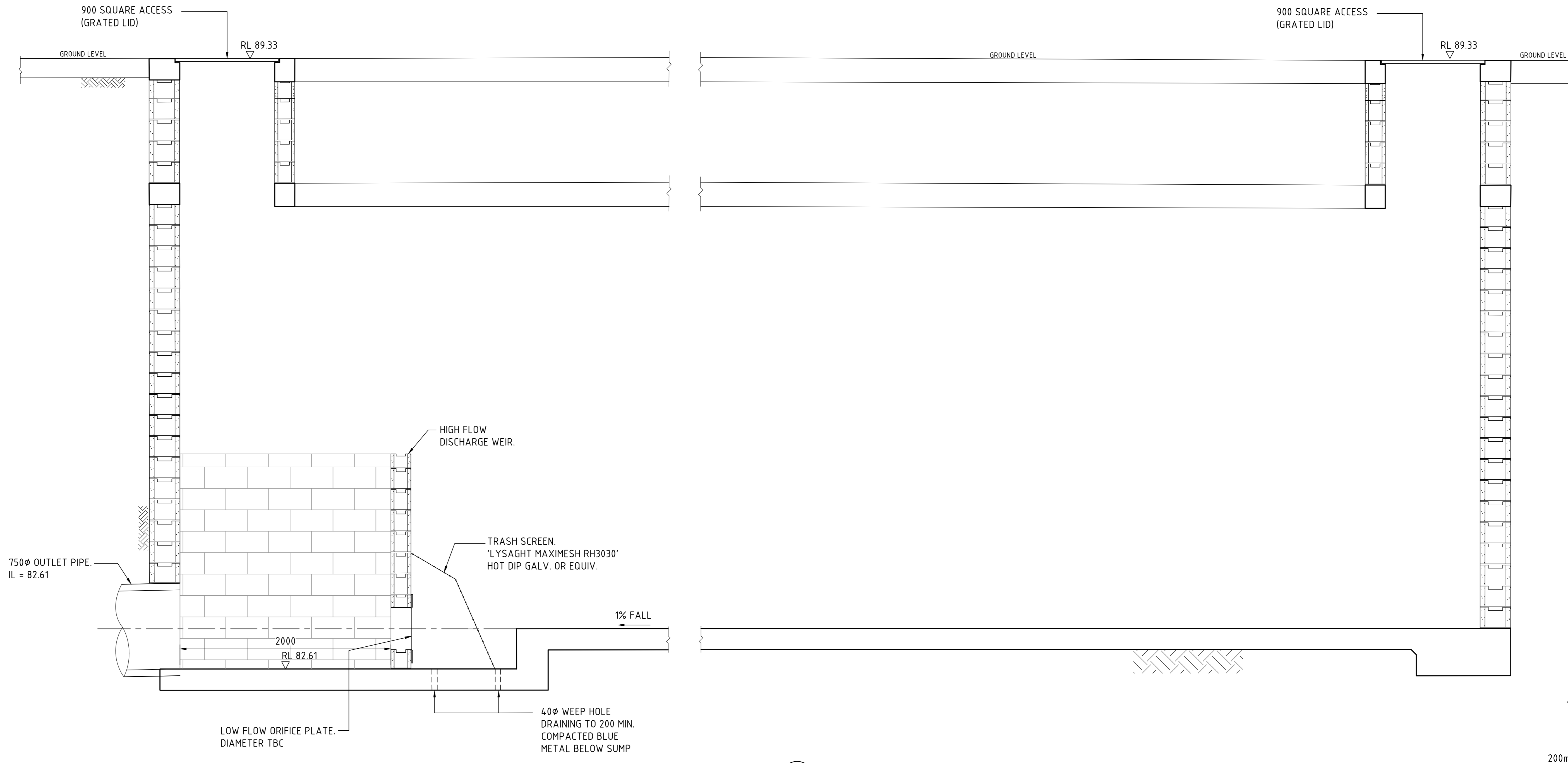
NOTE:
 TANK TO BE DESIGNED BY STRUCTURAL ENGINEER



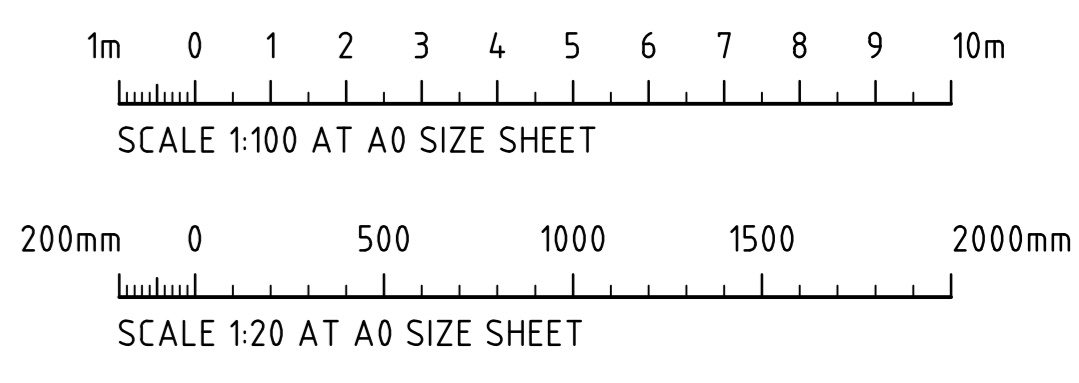
ORIFICE PLATE DETAIL
1:20



SECTION 1:20 1 : TYPICAL THRU' TANK



SECTION 1:20 2 : TYPICAL THRU' TANK



FOR SSD APPROVAL

OSD TANK DETAILS

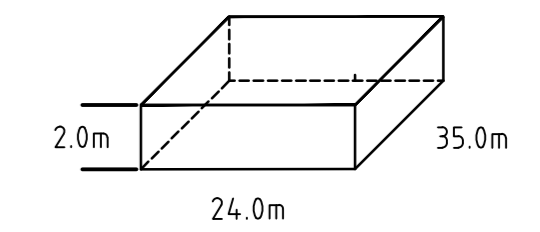
SITE AREA
TOTAL SITE AREA 4,010m²

TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS) 1,137m²

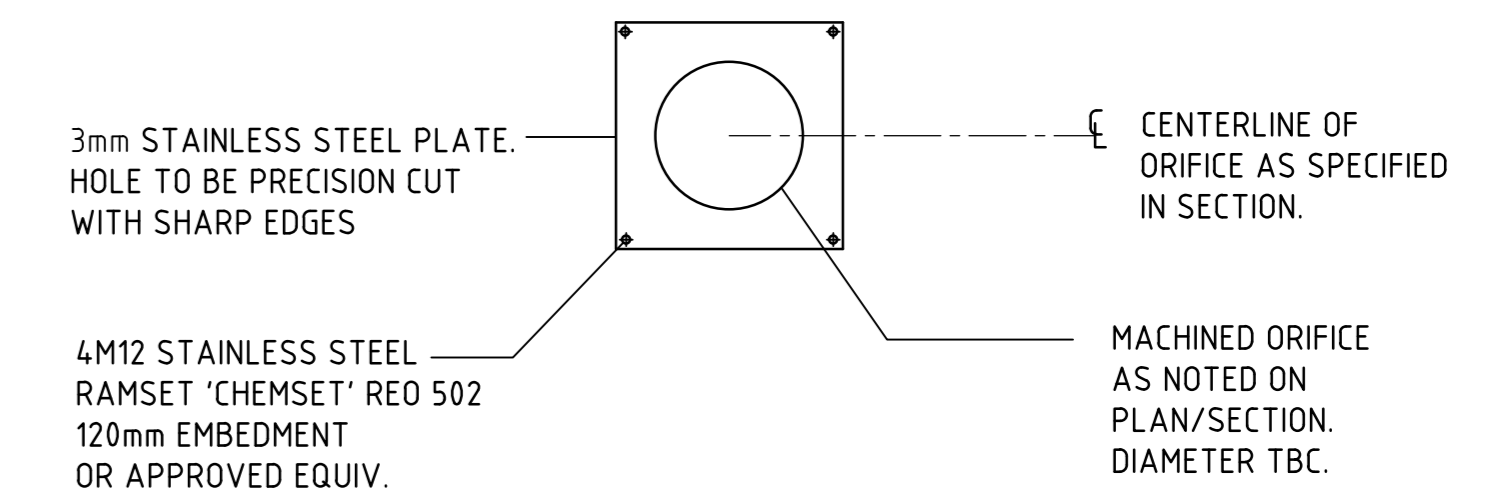
STORAGE

VOLUME PROVIDED 1160m³

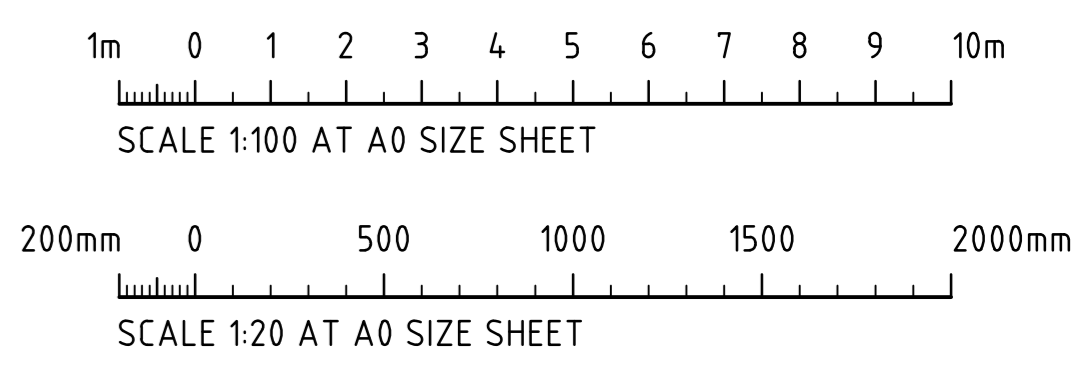
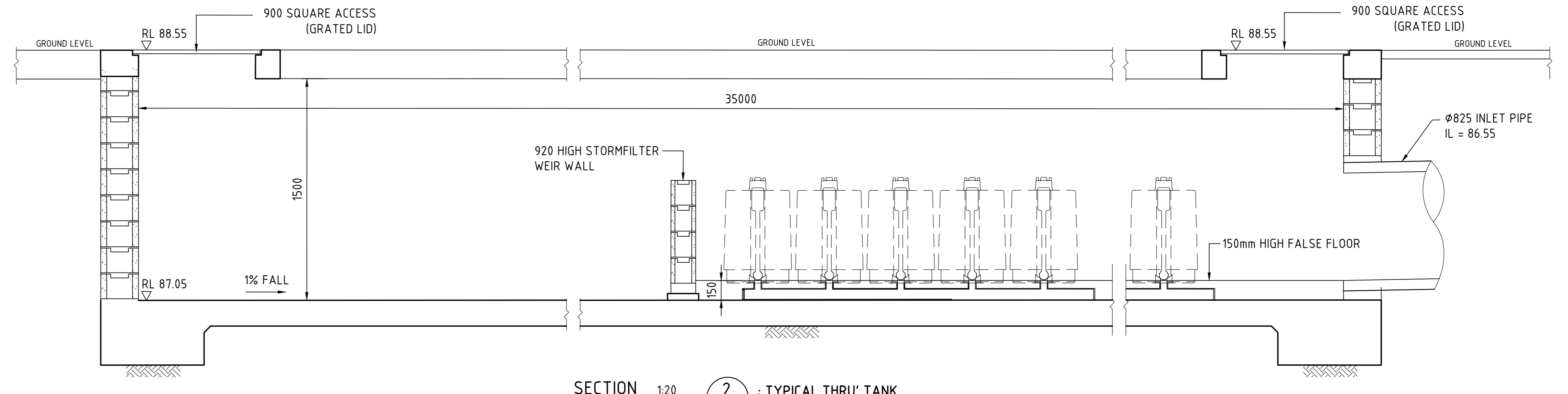
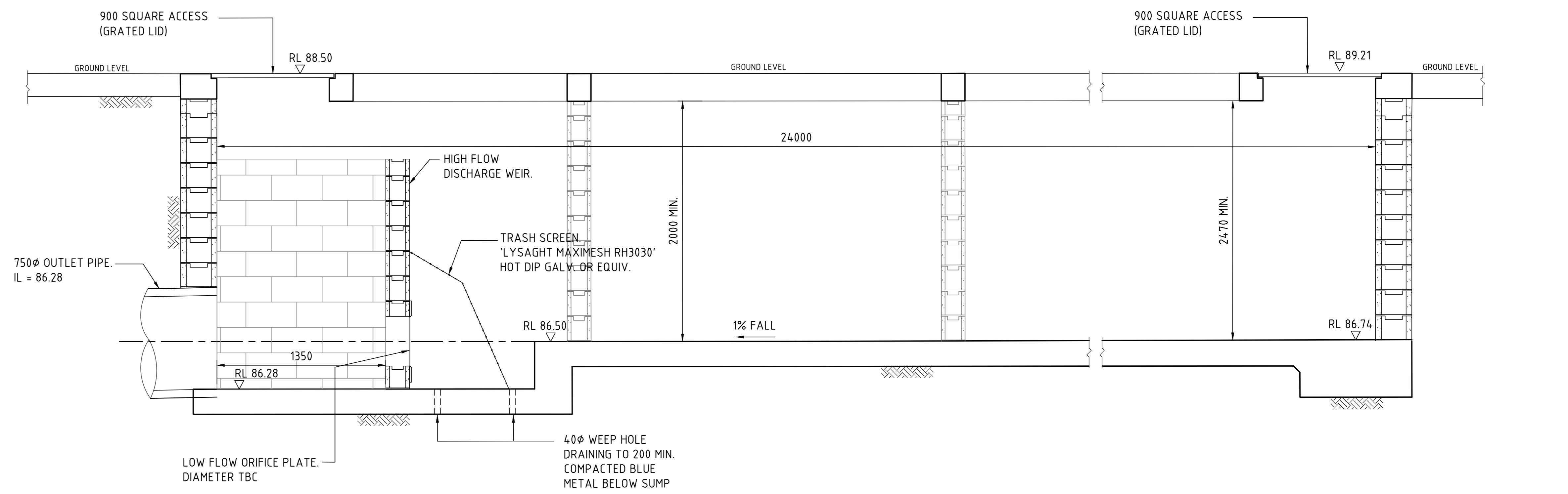
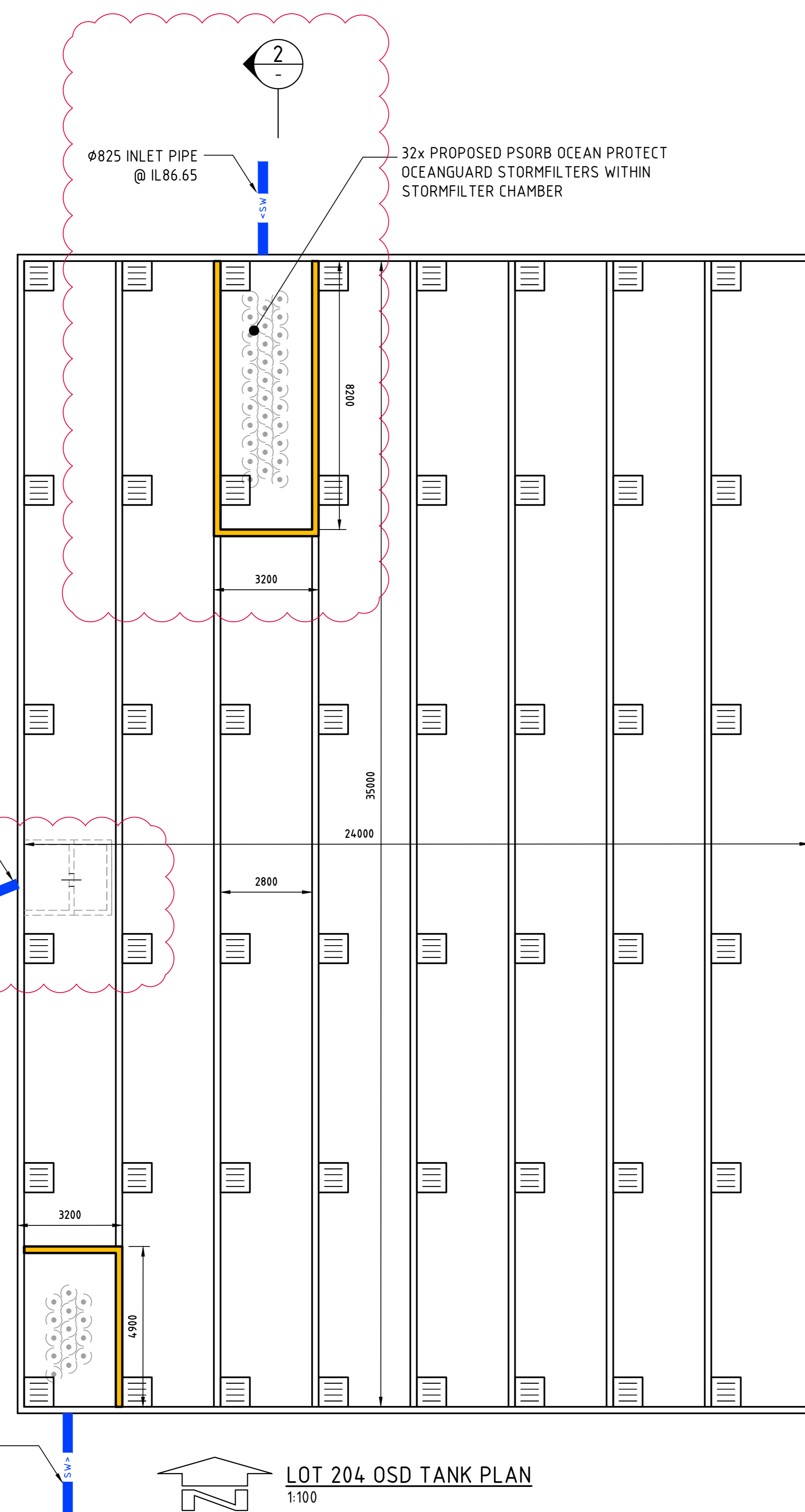
INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)



NOTE:
TANK TO BE DESIGNED BY
STRUCTURAL ENGINEER



ORIFICE PLATE DETAIL
1/20



FOR SSD APPROVAL

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
REVISD AS CLOUDED	29.04.21	C			
DRAWING RENAMED, TANK REVISED	14.10.20	B			
ISSUED FOR SSD APPROVAL	19.06.20	A			

ARCHITECT

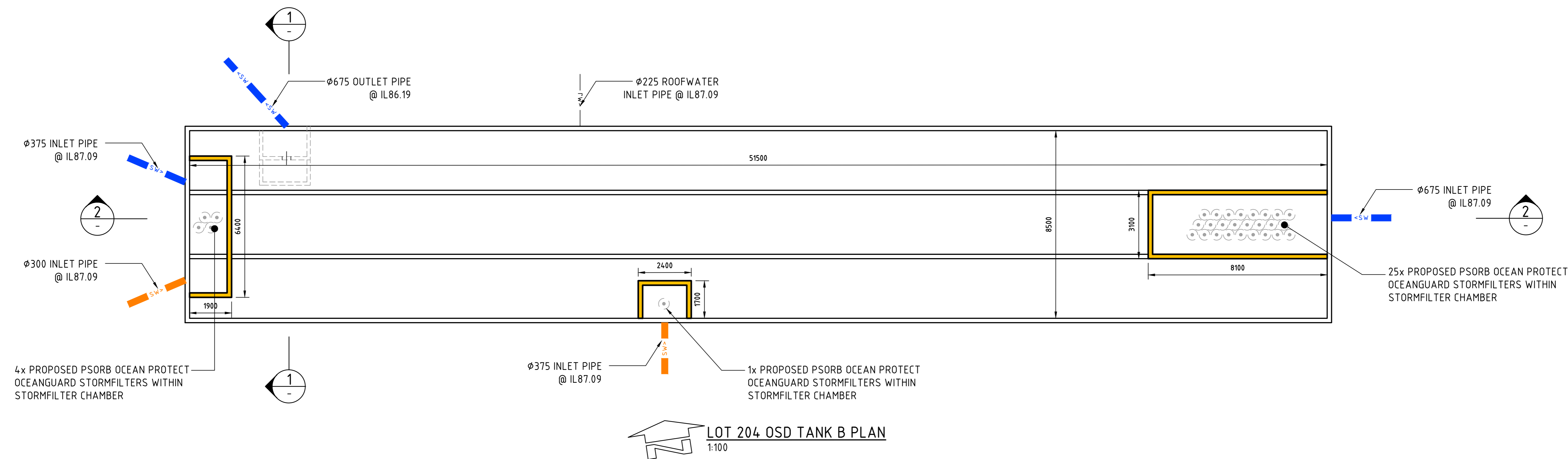


PROJECT
ESR HORSLEY LOGISTICS PARK DEVELOPMENT APPLICATION
327-335 BURLEY ROAD, HORSLEY PARK, 2175

CLIENT
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email: mail@costinroe.com.au



DRAWING TITLE
LOT 204 OSD TANK DETAILS
DRAWING No. Co12990.05-SSDA64



LOT 204 OSD TANK B PLAN
1:100

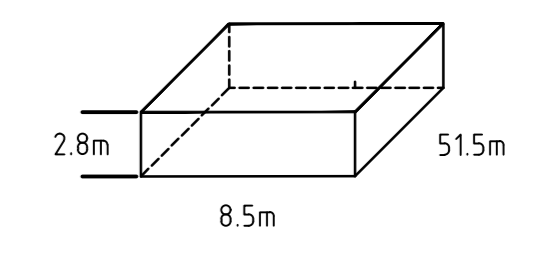
OSD TANK DETAILS

SITE AREA	
TOTAL SITE AREA	40,295m ²
TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS)	33,830m ²

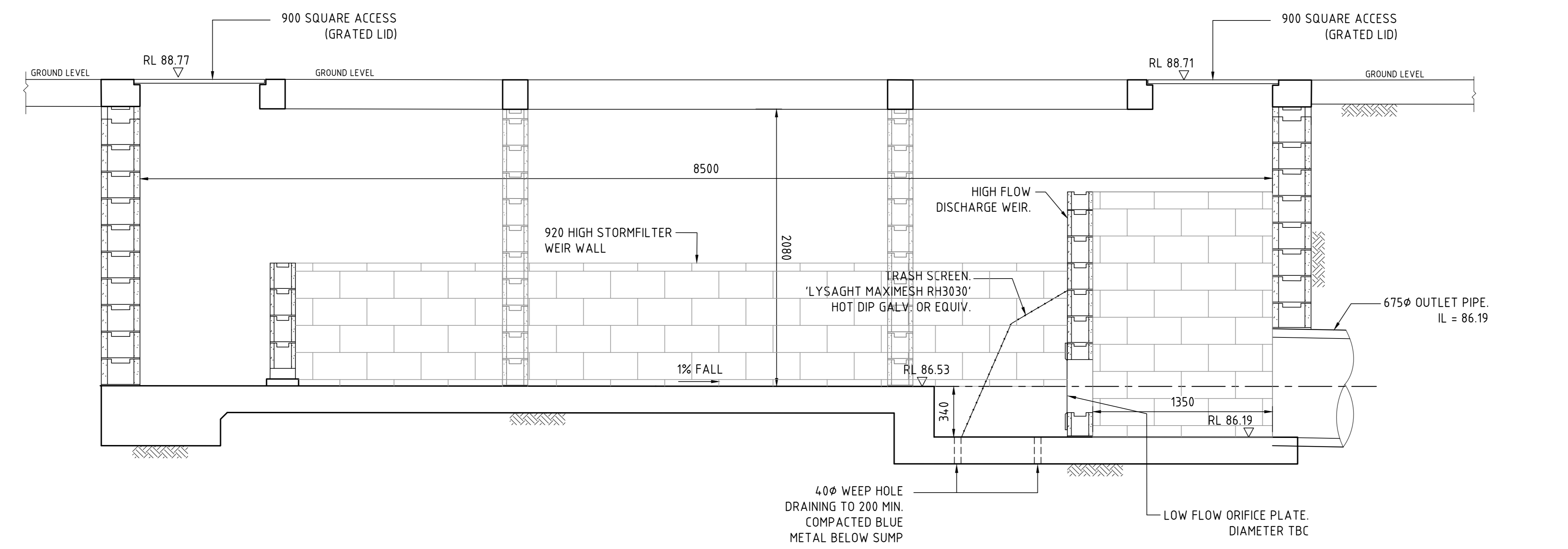
STORAGE

VOLUME PROVIDED	777m ³
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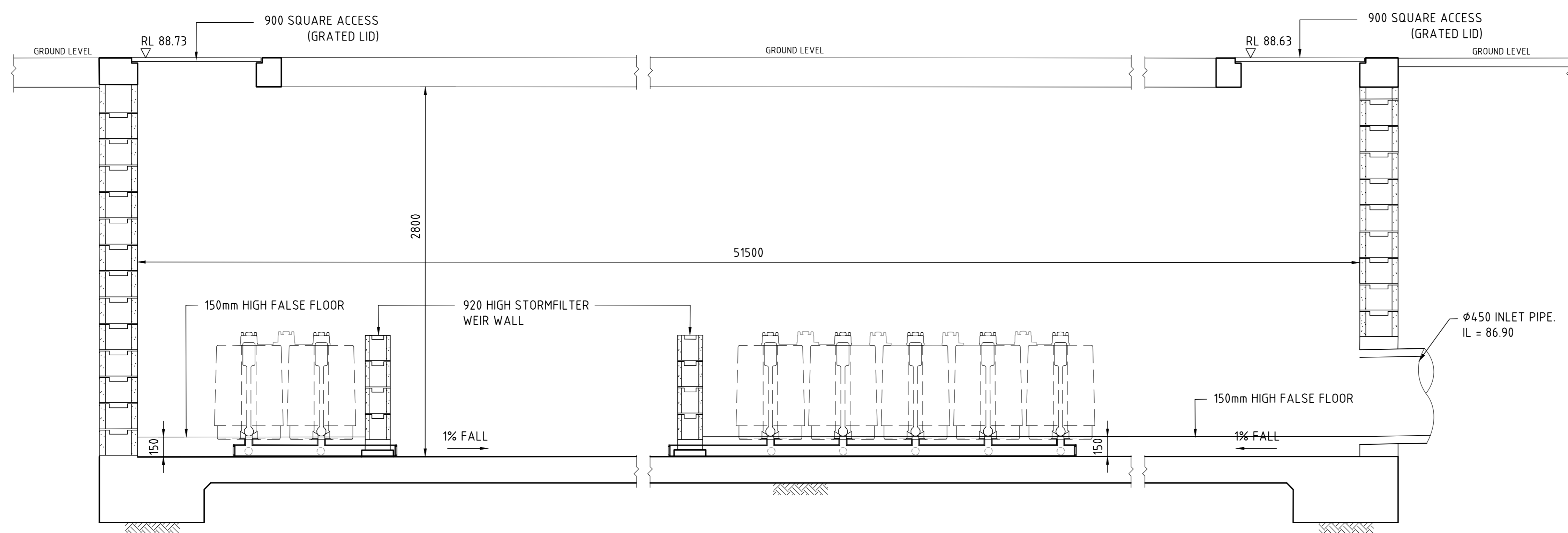
INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)



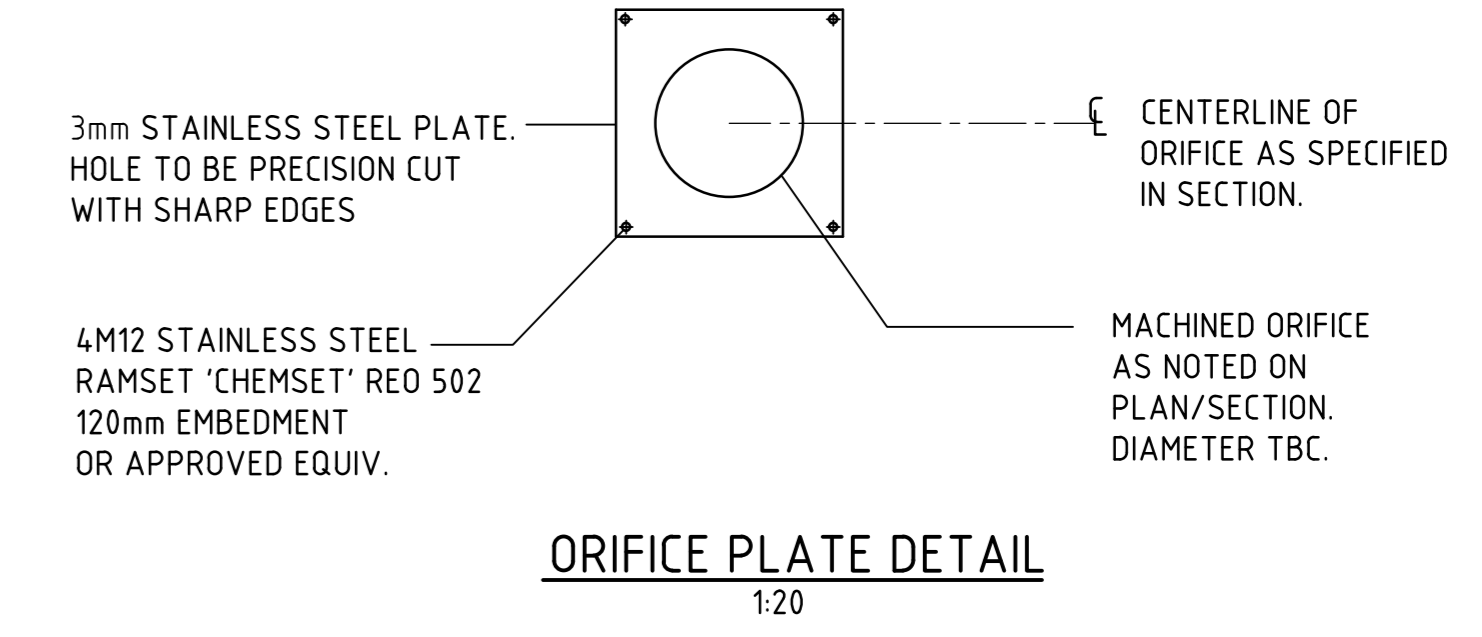
NOTE:
TANK TO BE DESIGNED BY STRUCTURAL ENGINEER



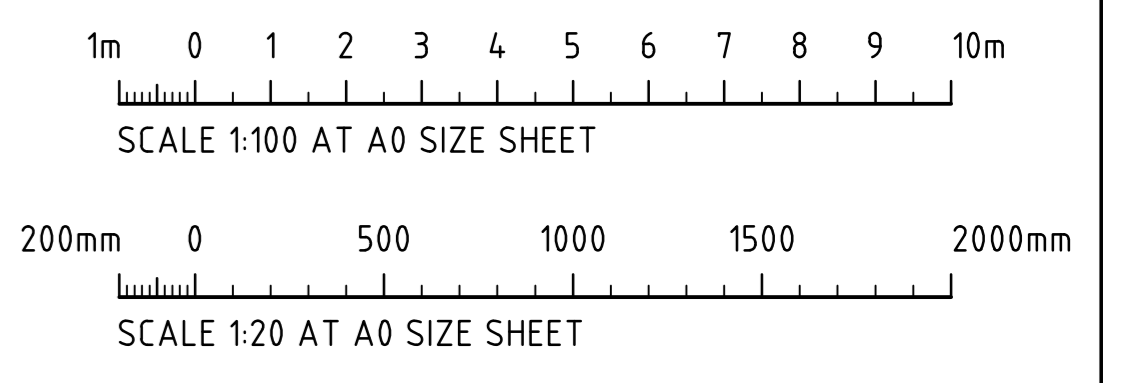
SECTION 1:20 : TYPICAL THRU TANK



SECTION 2:20 : TYPICAL THRU TANK



ORIFICE PLATE DETAIL
1:20



FOR SSD APPROVAL