

LEGEND:

- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE
- DENOTES DIVERSION DRAIN
- DENOTES DIRECTION OF OVERLAND FLOW

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C013674.01-C25 & C26.

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 (44.0mm).

APPROXIMATE AREA OF DISTURBED SITE = 4.45ha

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 DE-WATERED PRIOR TO REMOVAL FROM SITE.

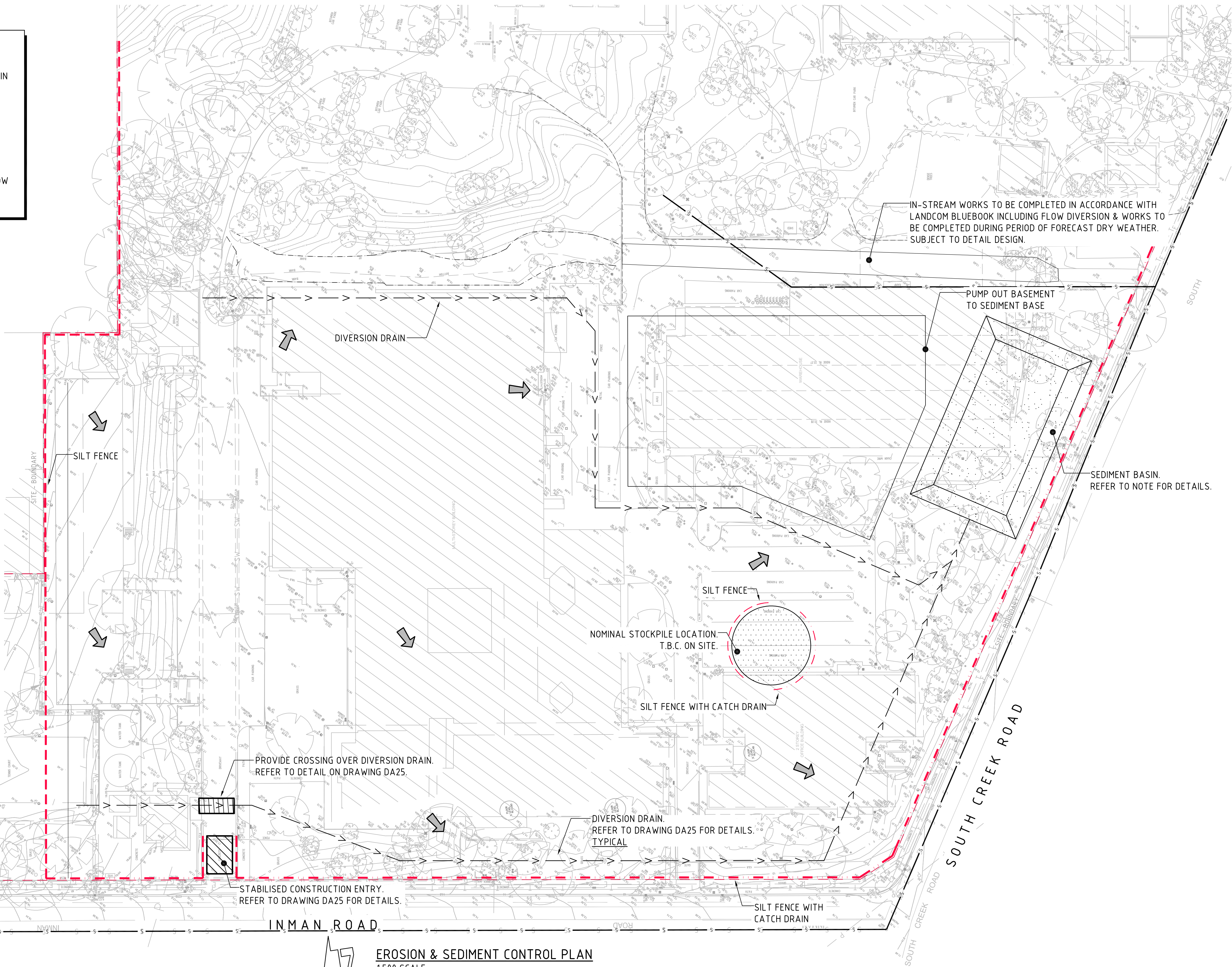
ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)

SEDIMENT BASIN:

CATCHMENT AREA = 4.45ha
REQUIRED BASIN VOLUME = 1,469m³
BASE DIMENSION (LxB) = 40.0m x 20.0m
TOP DIMENSION (LxB) = 49.0m x 29.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 1,644m³

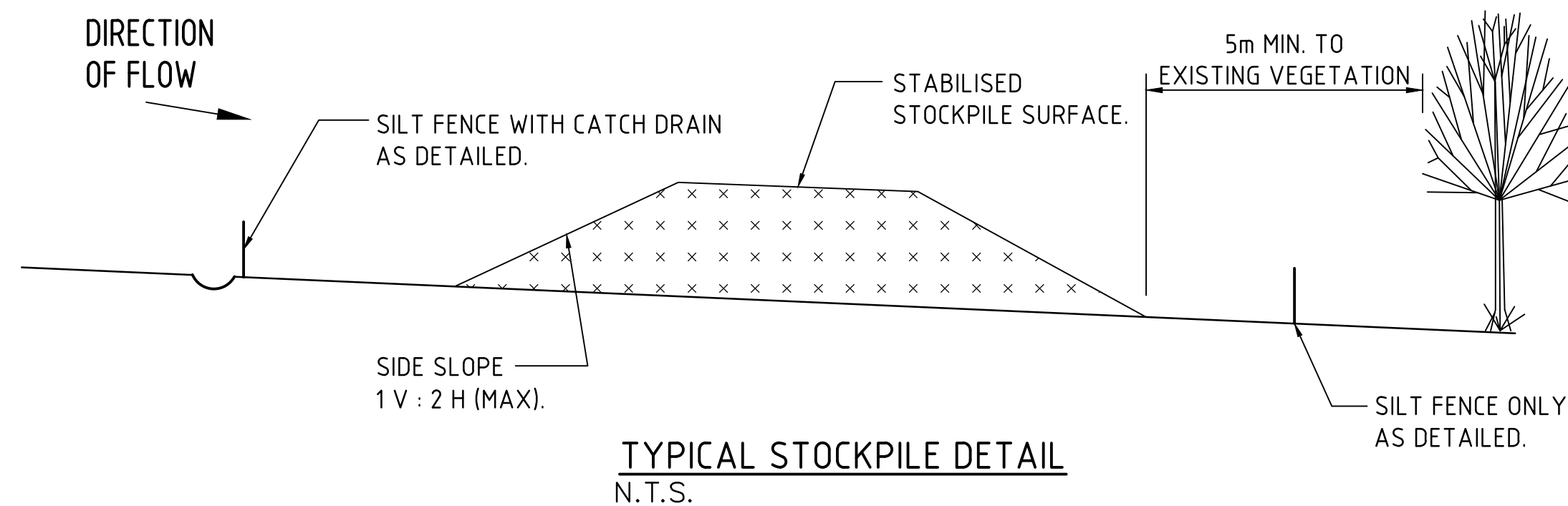
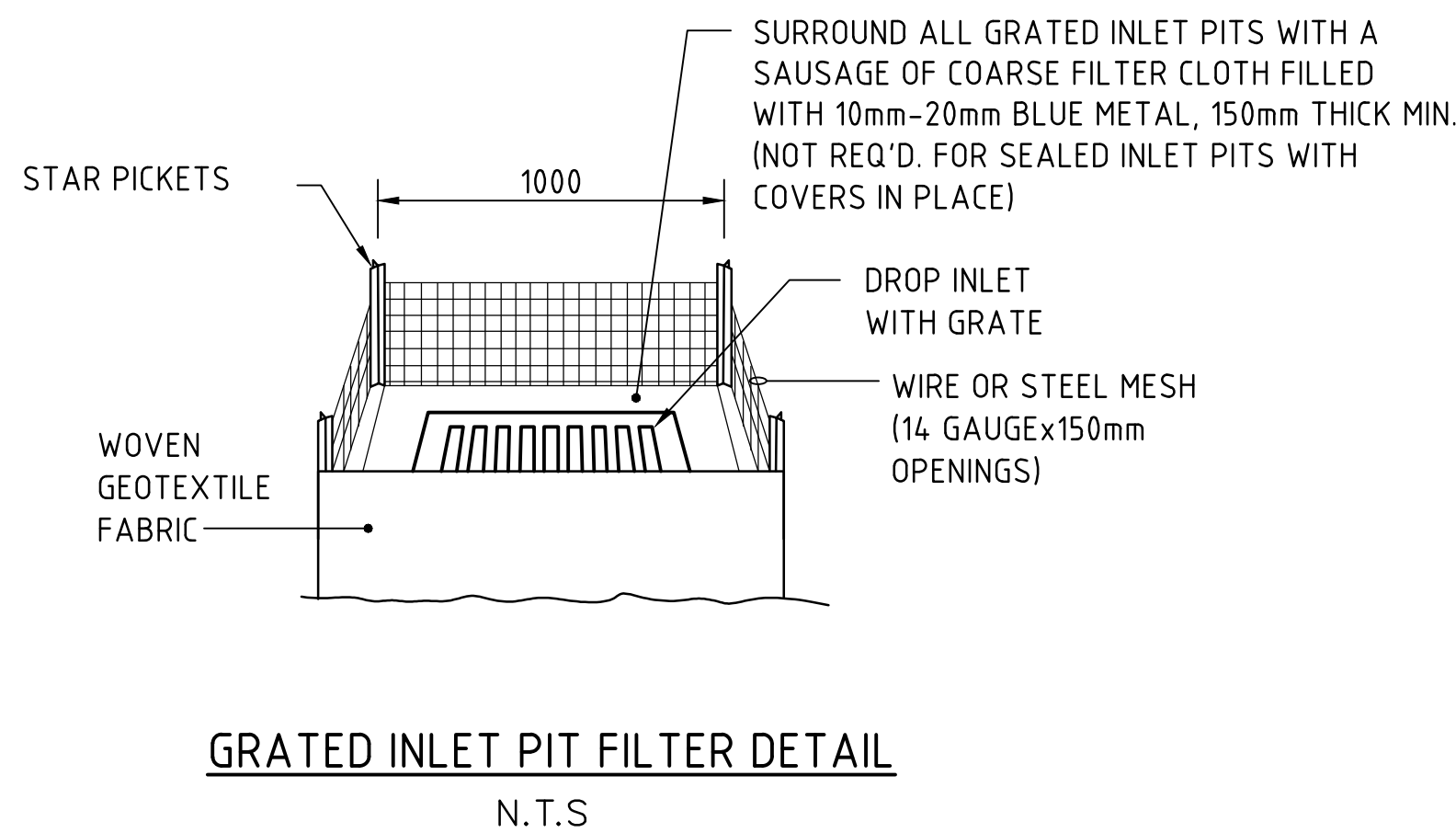
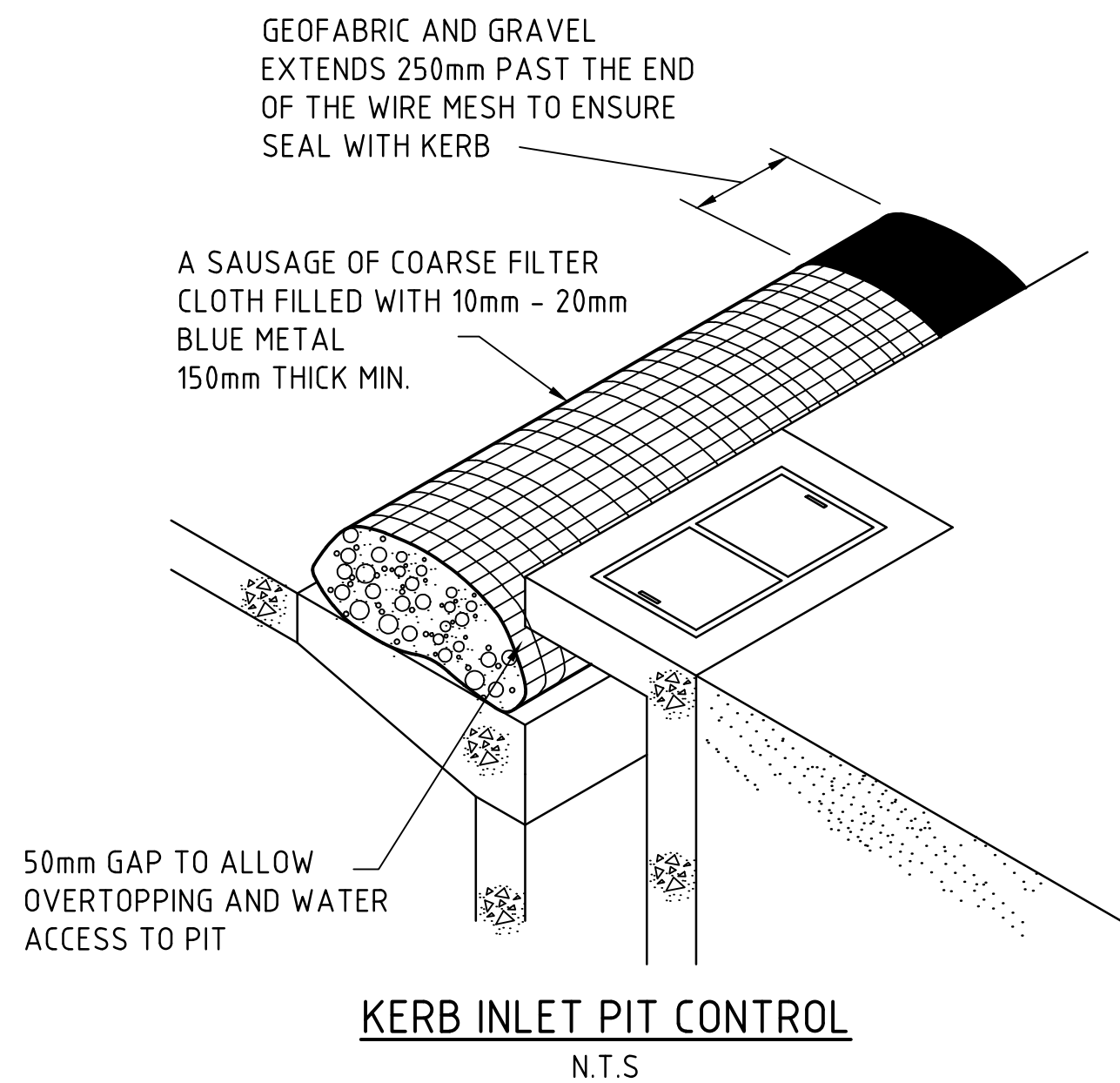


EROSION & SEDIMENT CONTROL PLAN
1:500 SCALE

FOR DEVELOPMENT APPLICATION



			ARCHITECT		CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000		PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES				Costin Roe Consulting Pty Ltd. Consulting Engineers 6238 603 696 646 Level 1, 8 Windmill Street Wahsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©				DRAWING TITLE EROSION & SEDIMENT CONTROL PLAN											
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19		A		DESIGNED TW		DRAWN TW		DATE OCT 2019		CHECKED MW		SIZE A1		SCALE AS SHOWN		CAD REF: C013674.01-DA20		PRECISION COMMUNICATION ACCOUNTABILITY		DRAWING No C013674.01-DA 20		ISSUE A	
AMENDMENTS			DATE		ISSUE																					



NOTE: ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.

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 1 V: 2 H 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.

NOTES:

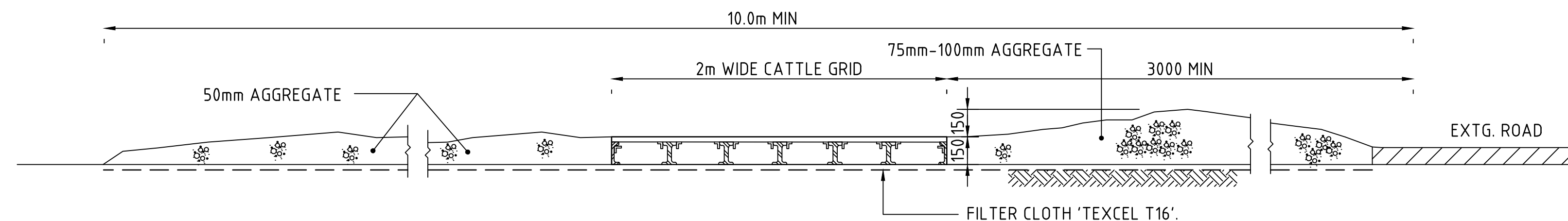
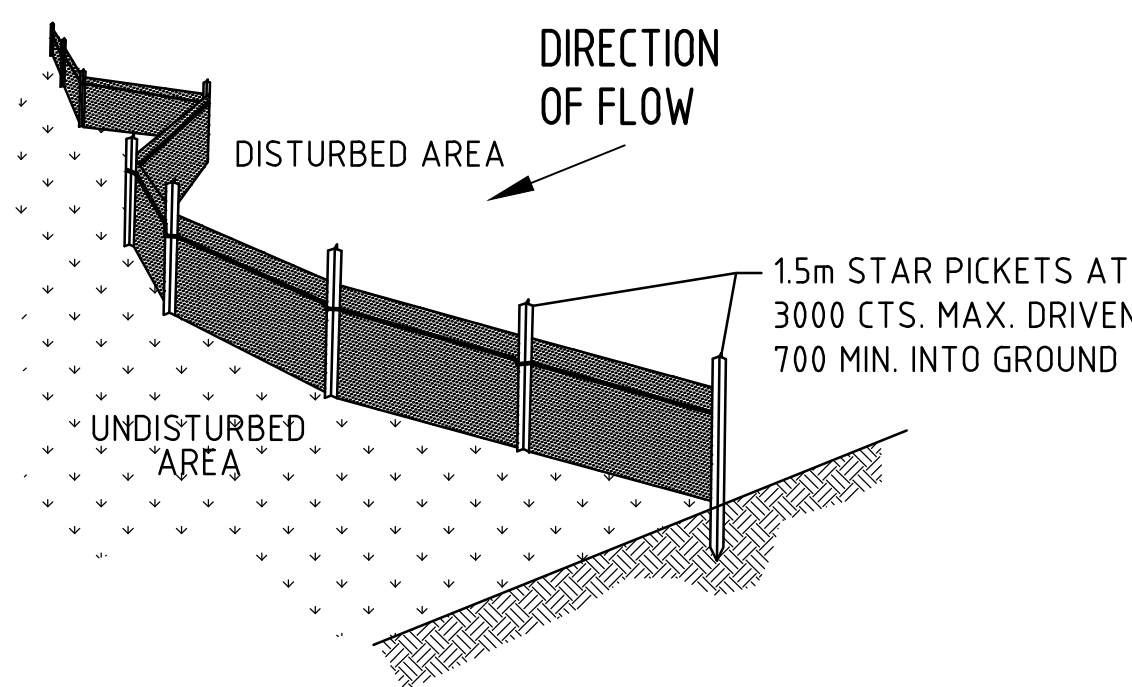
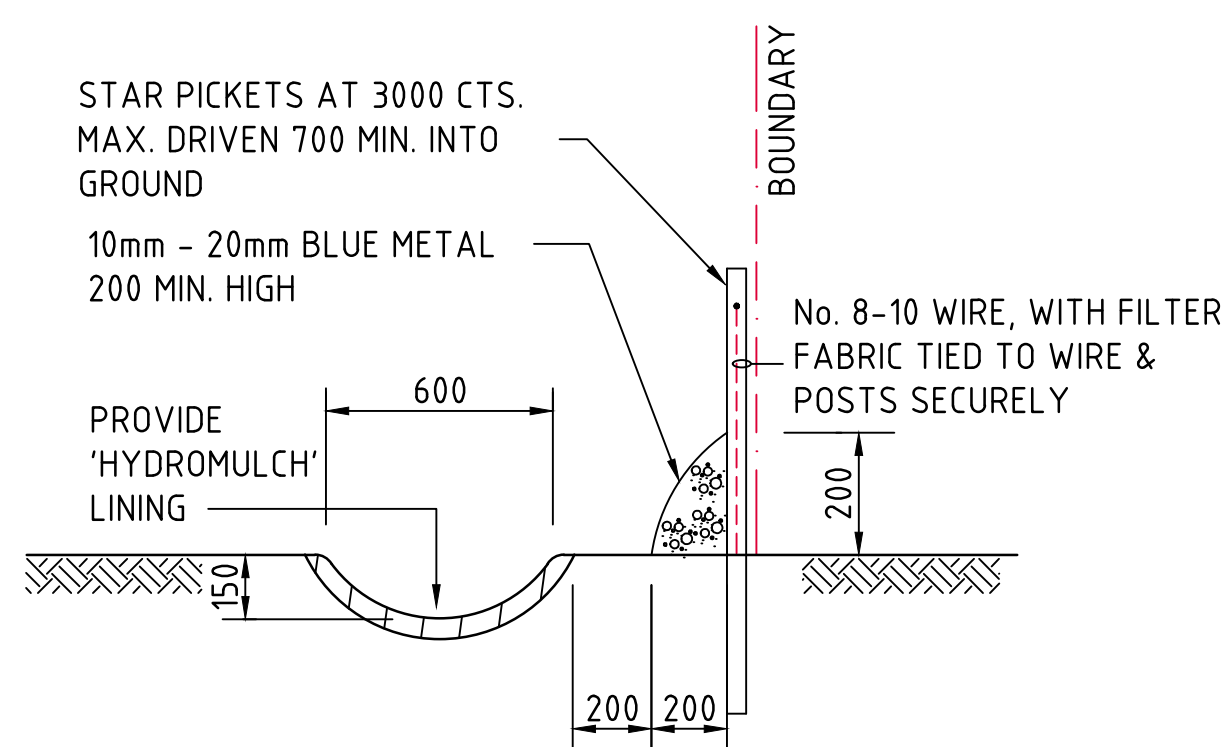
ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

MINIMISE DISTURBED AREAS.

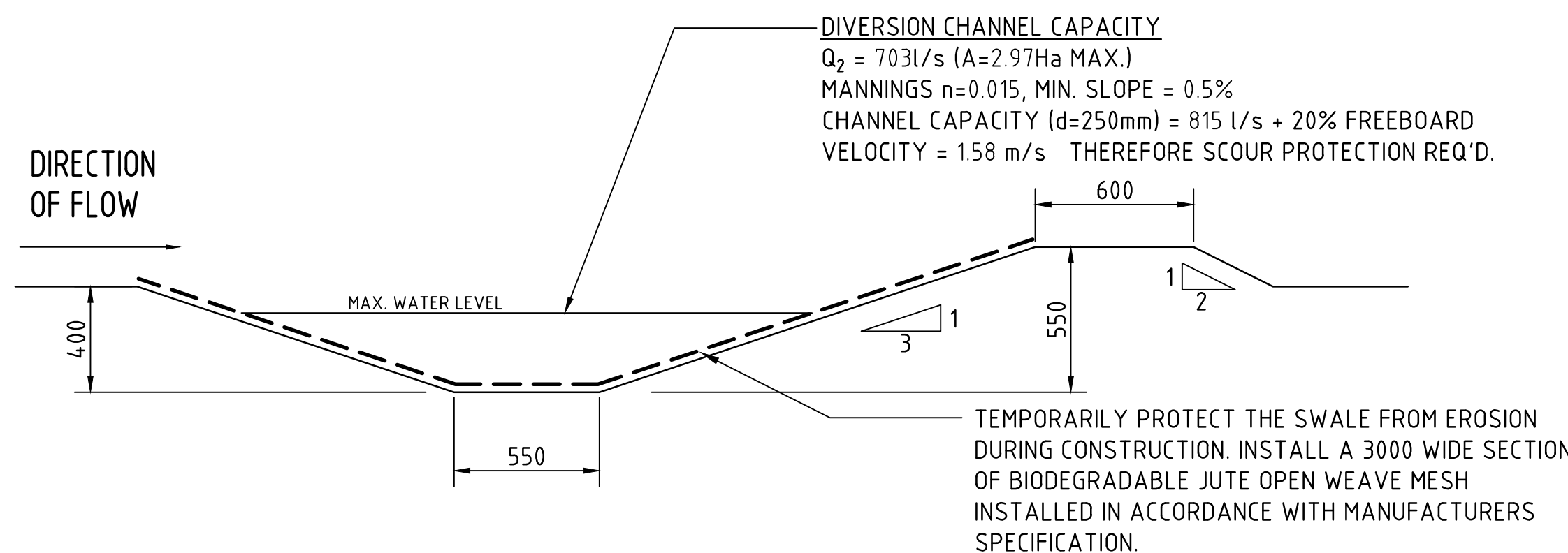
ROADS & FOOTPATHS TO BE SWEEPED DAILY.

1.2m TURF TO BE PLACED BEHIND KERBS.

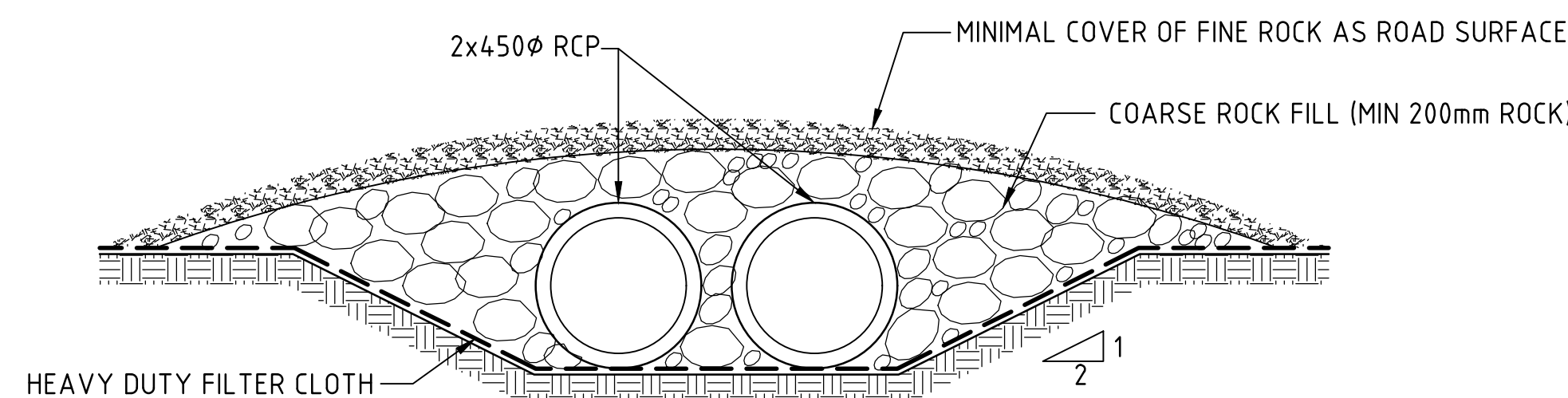
DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.



SECTION 1: STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'



DIVERSION DRAIN SECTION
SCALE 1:20

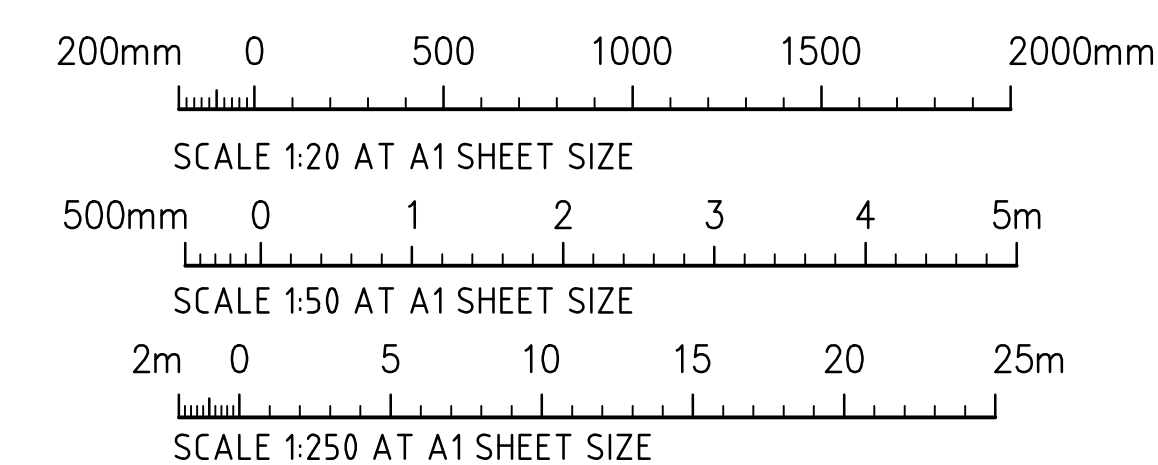


TYPICAL CROSSING OVER DIVERSION CHANNEL
SCALE 1:20



200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A1 SHEET SIZE

FOR DEVELOPMENT APPLICATION

ARCHITECT			CLIENT			PROJECT			CONSULTING ENGINEERS			DRAWING TITLE		
EG FUNDS MANAGEMENT			GOVERNOR PHILLIP TOWER			PROPOSED DEVELOPMENT			Level 1, 8 Windmill Street			EROSION & SEDIMENT CONTROL		
21/1 FARRER PLACE			SYDNEY, NSW 2000			CROMER, 2099, NEW SOUTH WALES			Walsh Bay, Sydney NSW 2000			DETAILS - SHEET 1		
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19			OCT 2019			Tel: (02) 9251-7899 Fax: (02) 9241-3731			DRAWING No		
AMENDMENTS			DATE			SCALE			email: mail@costinroe.com.au			C013674.01-DA25		
			ISSUE			AS SHOWN						A		

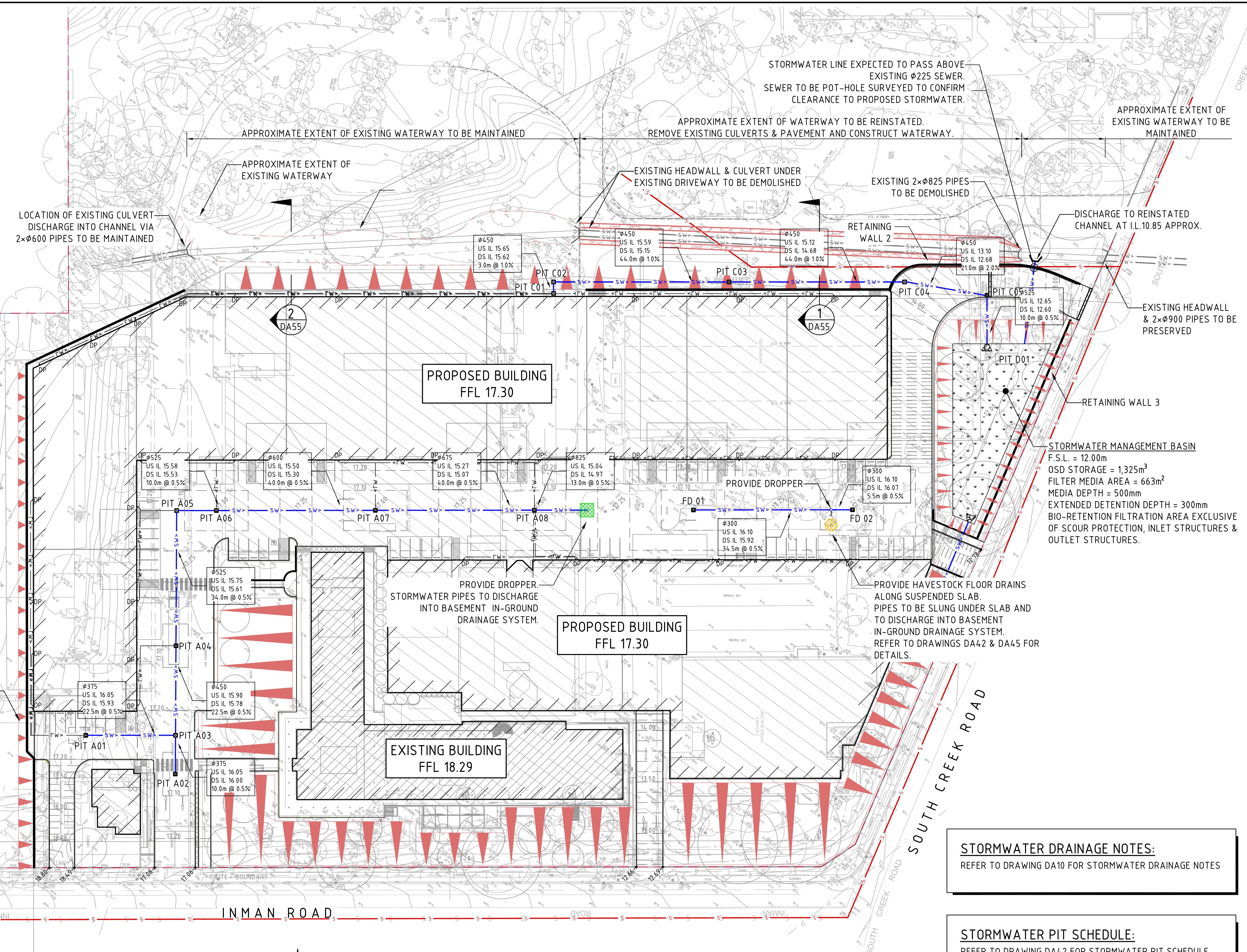


FOR DEVELOPMENT APPLICATION

			ARCHITECT		CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000		PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES				Costin Roe Consulting Pty Ltd. Consulting Engineers <small>ACH 000 608 646</small> Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©					DRAWING TITLE EROSION & SEDIMENT CONTROL DETAILS - SHEET 2								
ISSUED FOR DEVELOPMENT APPLICATION 26.11.19 A							DESIGNED J.W.		DRAWN J.W.		DATE OCT 2019		CHECKED M.W.		SIZE A1		SCALE AS SHOWN		CAD REF: C013674.01-DA 26		DRAWING No C013674.01-DA 26		ISSUE A	
AMENDMENTS			DATE		ISSUE																PRECISION COMMUNICATION ACCOUNTABILITY			

LEGEND:
LEVELS DATUM IS AHD.

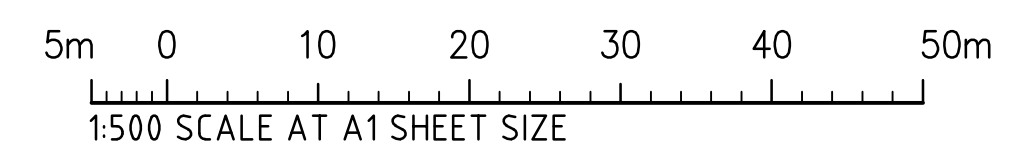
- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GRATED DRAIN (300W x 200D U.N.O.)
- DRAINAGE LINE
- ROOFWATER LINE
- EXISTING SEWER MAIN
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS



STORMWATER DRAINAGE PLAN - GROUND FLOOR
1:500 SCALE

STORMWATER DRAINAGE NOTES:
REFER TO DRAWING DA10 FOR STORMWATER DRAINAGE NOTES

STORMWATER PIT SCHEDULE:
REFER TO DRAWING DA42 FOR STORMWATER PIT SCHEDULE



FOR DEVELOPMENT APPLICATION

ARCHITECT			CLIENT			PROJECT			Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wah Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©			DRAWING TITLE STORMWATER DRAINAGE PLAN GROUND FLOOR		
ISSUED FOR DEVELOPMENT APPLICATION			EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000			PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES			PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING No C013674.01-DA41		
ISSUED FOR INFORMATION ONLY														
AMENDMENTS														

LEVELS DATUM IS AHD.

- PIT SCHEDULE
NETWORK A

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT A 01	17.05	SGGP	900×900	⊕
PIT A 02	17.05	SGGP	900×900	⊕
PIT A 03	17.05	SGGP	900×900	⊕
PIT A 04	17.05	SGGP	900×900	⊕
PIT A 05	17.12	SJP	900×900	
PIT A 06	17.00	SGGP	900×900	⊕
PIT A 07	17.00	SGGP	900×900	⊕
PIT A 08	17.00	SGGP	900×900	⊕

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT B 01	14.05	SGGP	900x900	⊕
PIT B 02	14.05	SGGP	900x900	⊕
PIT B 03	14.05	SGGP	900x900	⊕
PIT B 04	14.05	SGGP	900x900	⊕
PIT B 05	14.05	SGGP	900x900	⊕
PIT B 06	14.05	SGGP	900x900	⊕
PIT B 07	14.05	SGGP	900x900	⊕
PIT B 08	14.05	SGGP	900x900	⊕
PIT B 09	14.05	SGGP	900x900	⊕
PIT B 10	14.05	SGGP	900x900	⊕
PIT B 11	14.05	SGGP	900x900	⊕
PIT B 12	14.05	SGGP	900x900	⊕
PIT B 13	14.05	SGGP	900x900	⊕
PIT B 14	14.05	SGGP	900x900	⊕
PIT B 15	14.05	SGGP	900x900	⊕
PIT B 16	14.05	SGGP	900x900	⊕
PIT B 17	14.05	SGGP	900x900	⊕
PIT B 18	14.05	SGGP	900x900	⊕
PIT B 19	13.70	SJP	900x900	

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT C 01	17.25	SJP	900×900	
PIT C 02	17.00	SJP	900×900	
PIT C 03	15.00	SJP	900×900	
PIT C 04	13.92	SJP	900×900	
PIT C 05	13.50	SGGP	900×900	⊕

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT D 01	12.45	BIP	1200×1200	

SUED FOR DEVELOPMENT APPLICATION	26.11.19	B
SUED FOR INFORMATION ONLY	01.11.19	A
ENDMENTS	DATE	ISSUE

ARCHITECT

CLIENT
EG FUNDS MANAGEMENT
GOVERNOR PHILLIP TOWER
21/1 FARRER PLACE
SYDNEY, NSW 2000

PROJECT
PROPOSED DEVELOPMENT
100 SOUTH CREEK ROAD
CROMER, 2099, NEW SOUTH WALES



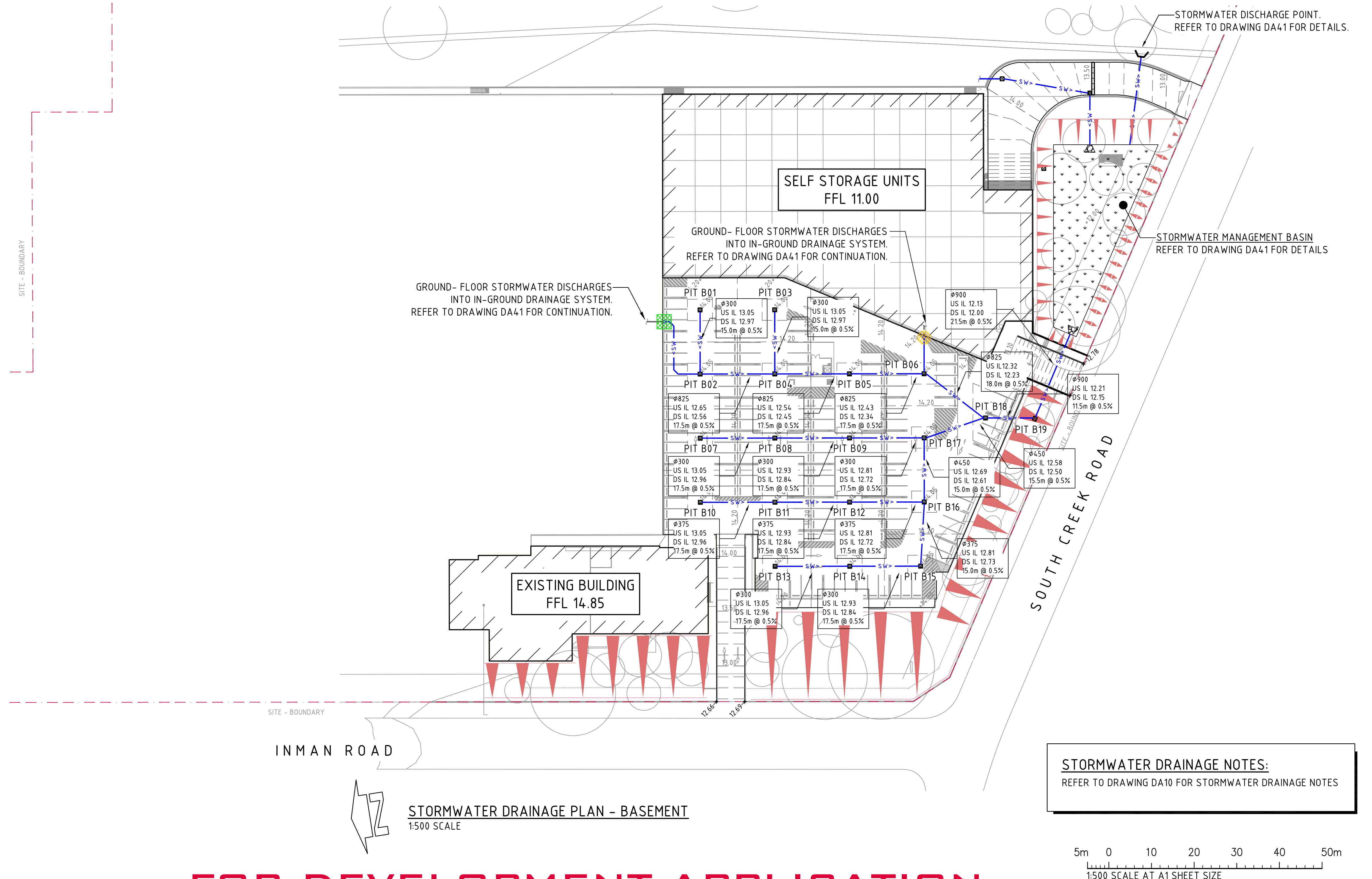
Costin Roe Consulting Pty Ltd.
Consulting Engineers ACN 003 696 446
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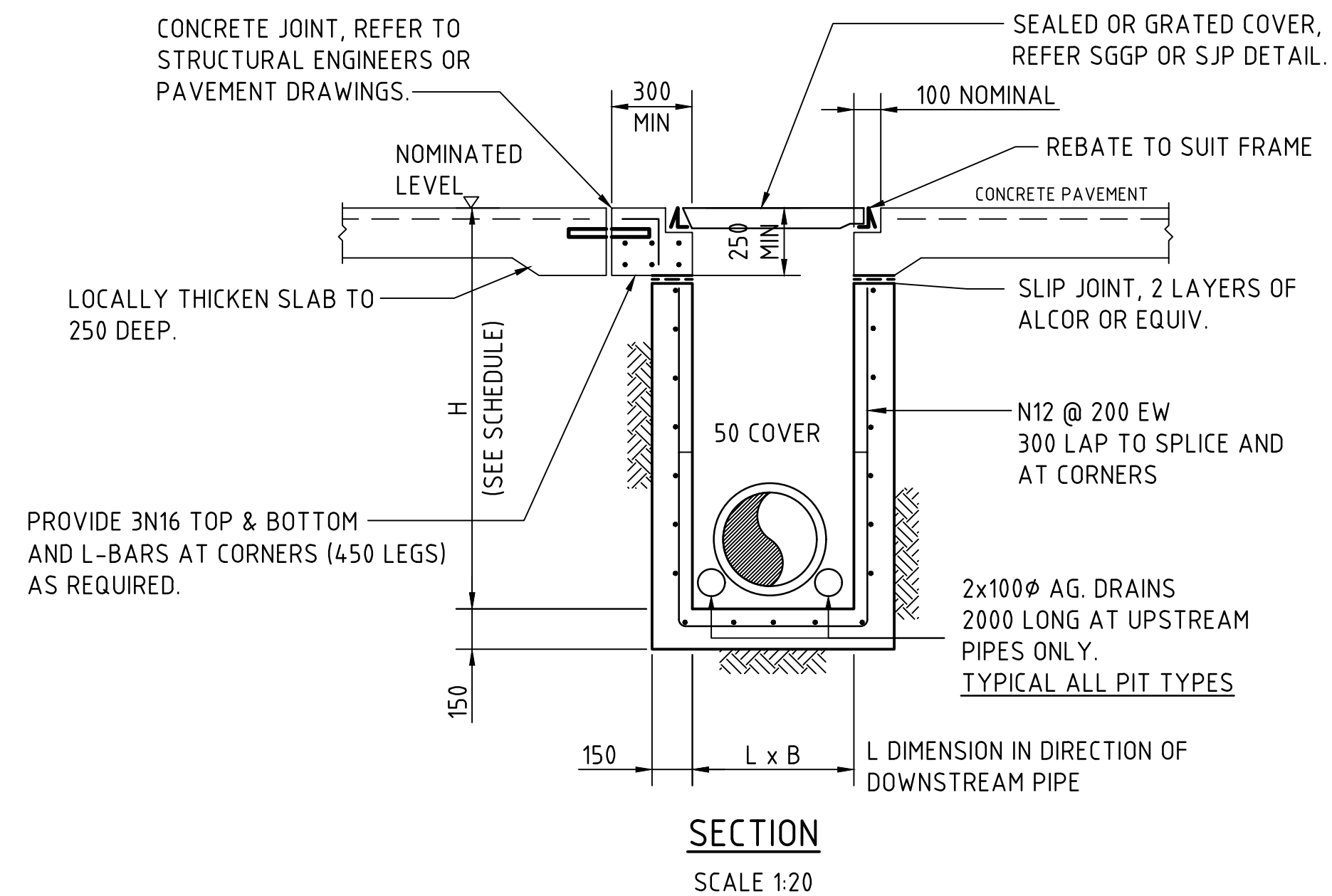
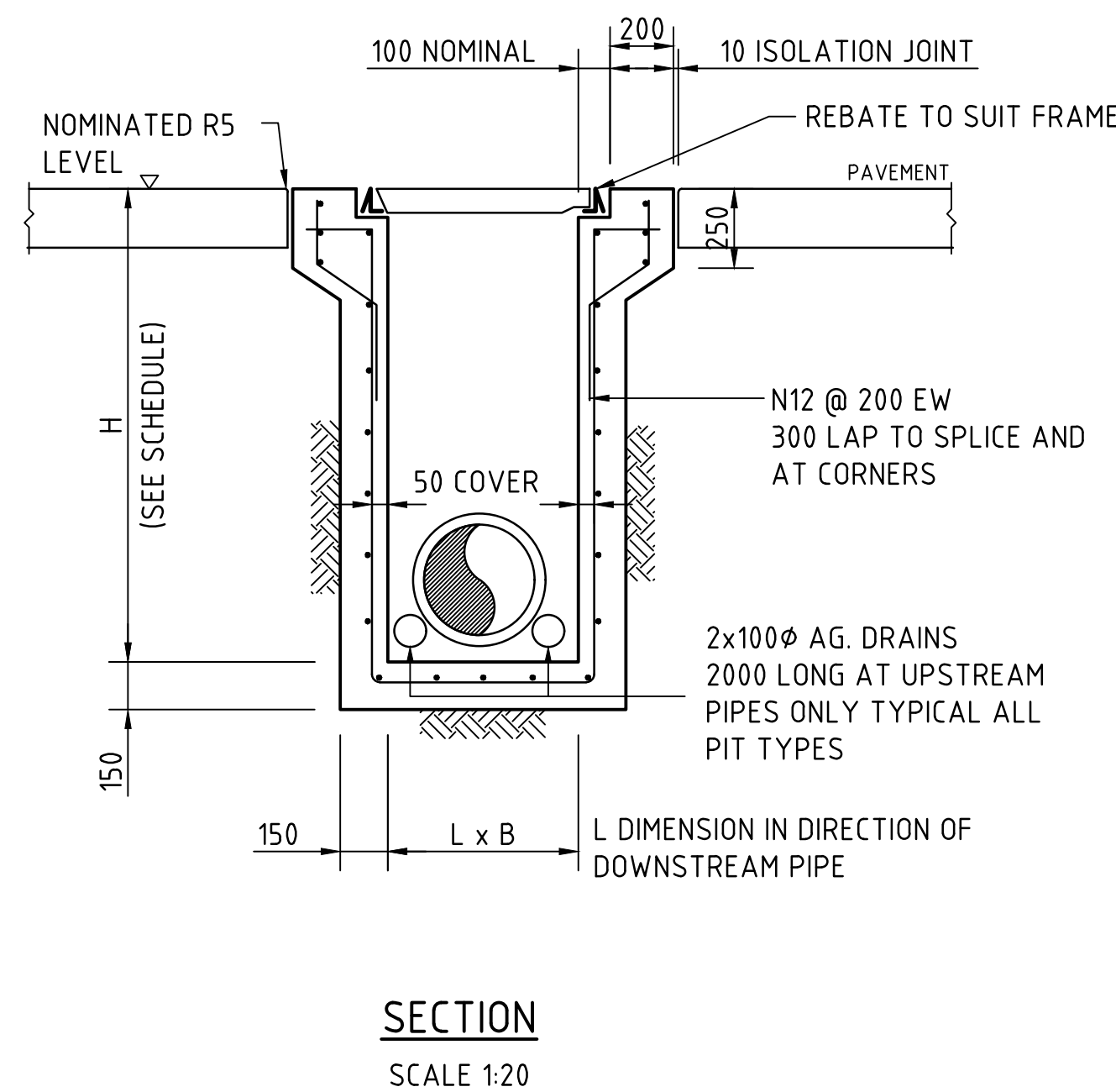
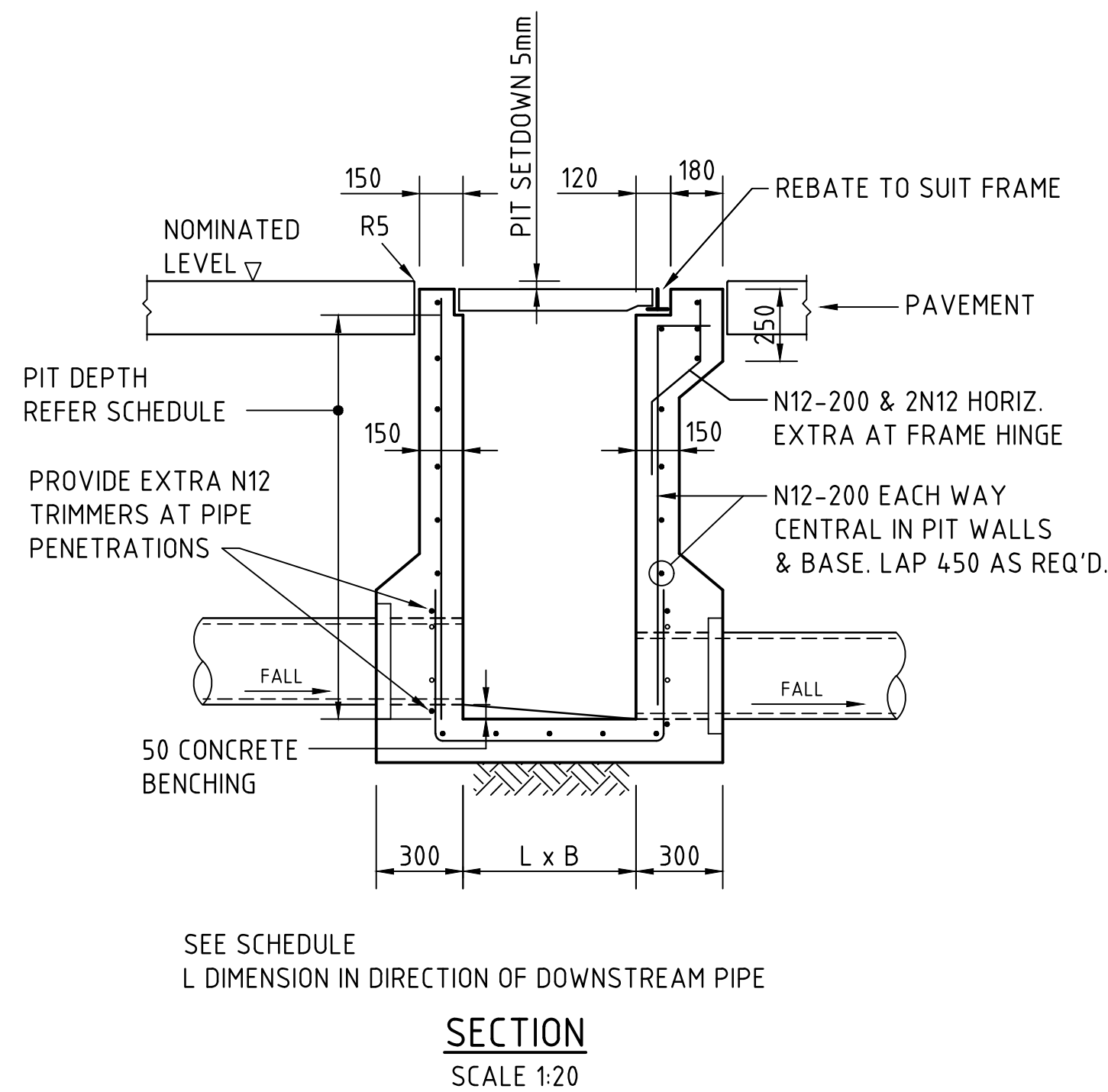
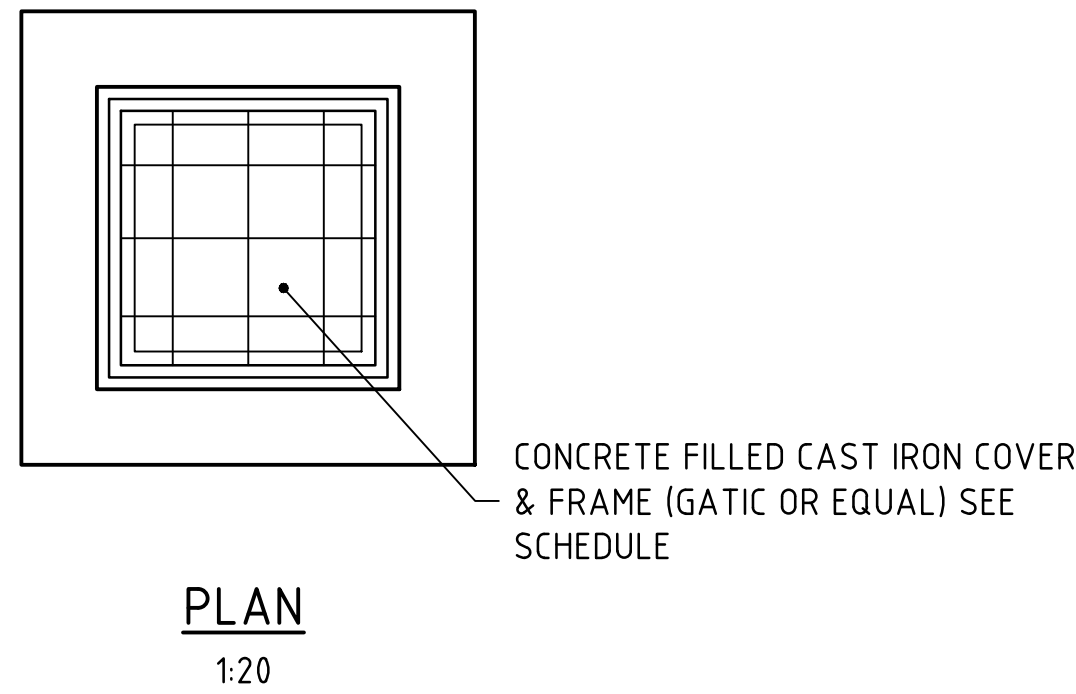
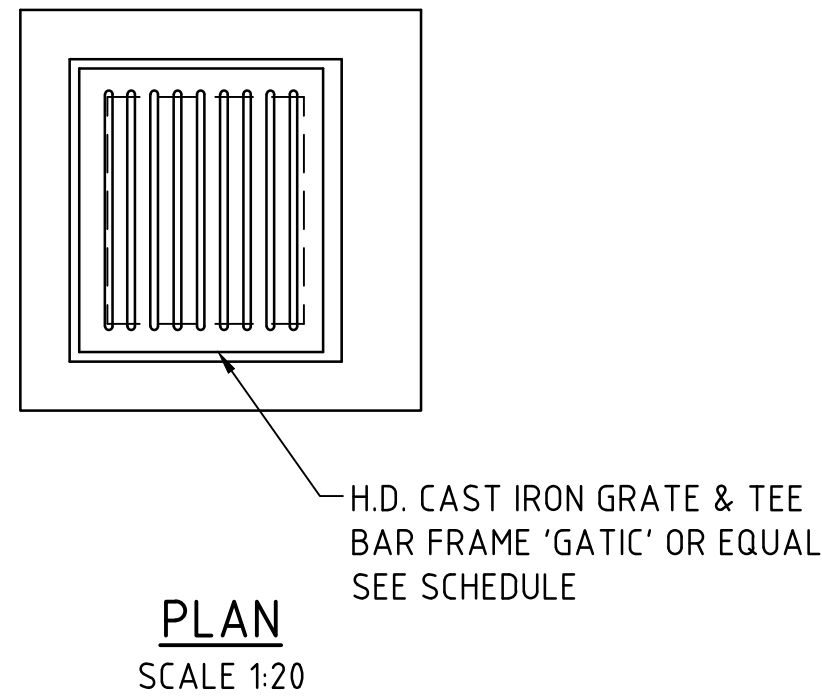
DRAWING TITLE
STORMWATER DRAINAGE PLAN
BASEMENT

DRAWING No C013674.01-DA42

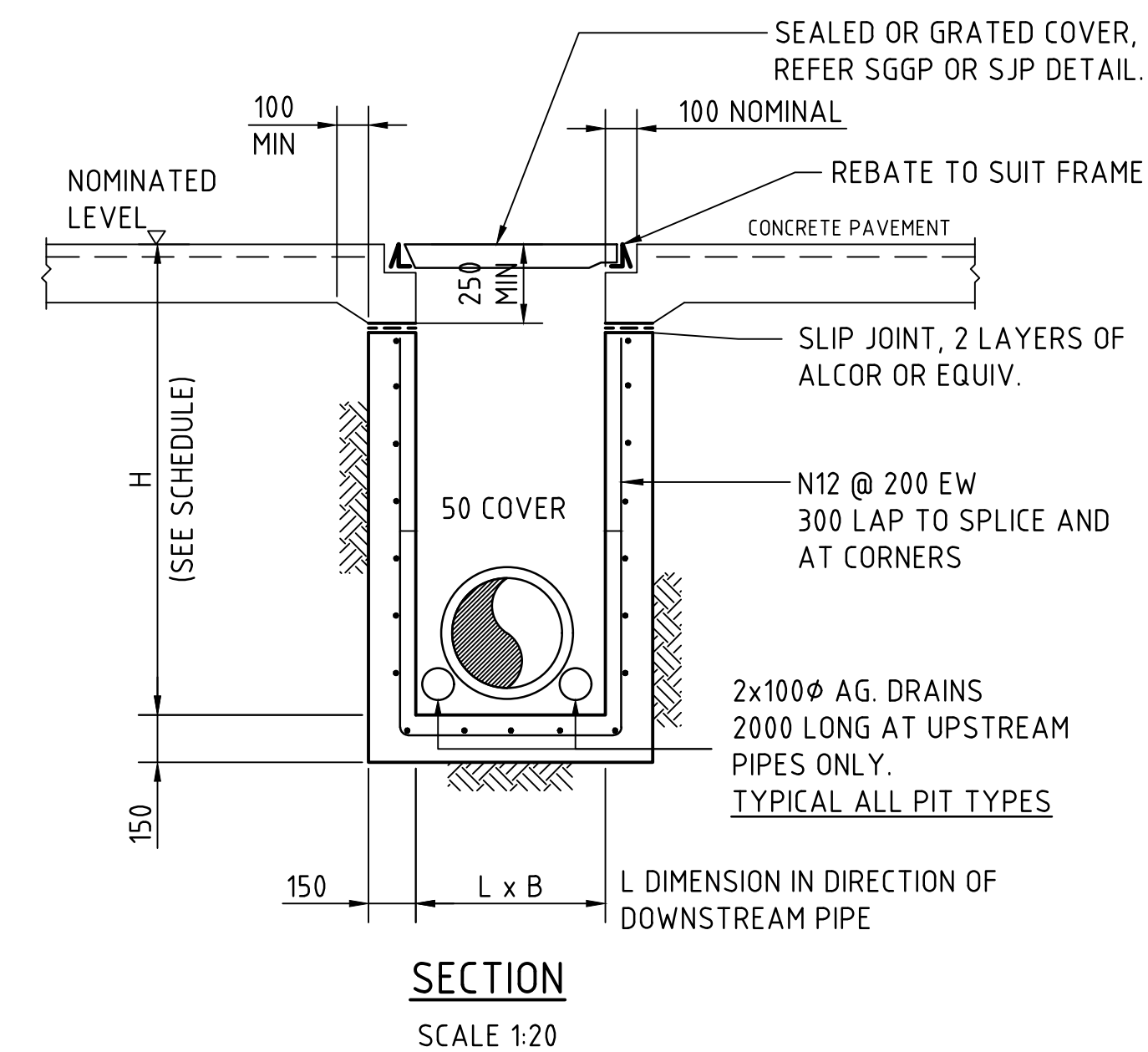
UE
B



FOR DEVELOPMENT APPLICATION



SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRATE/COVER SUPPORT CAST-INTO PAVEMENT SLAB (ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's, WHERE PITS ARE LOCATED IN THE CORNER OF SLAB PANELS OR ADJACENT TO SLAB PANEL JOINTS)

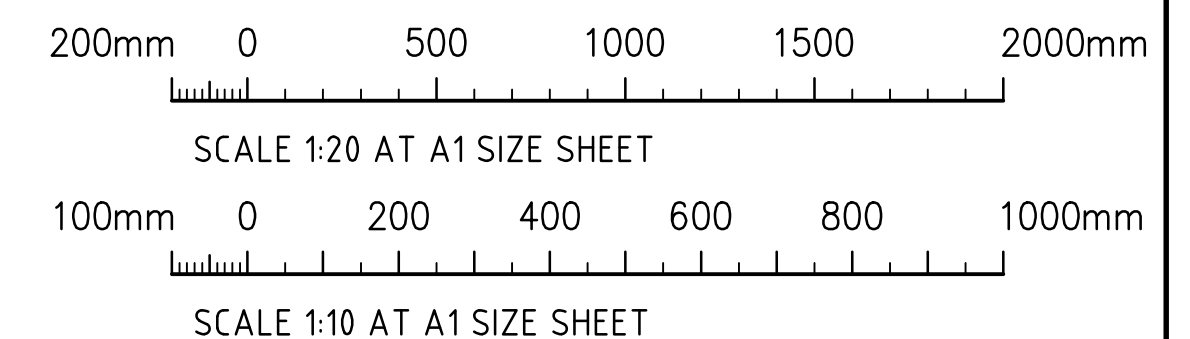
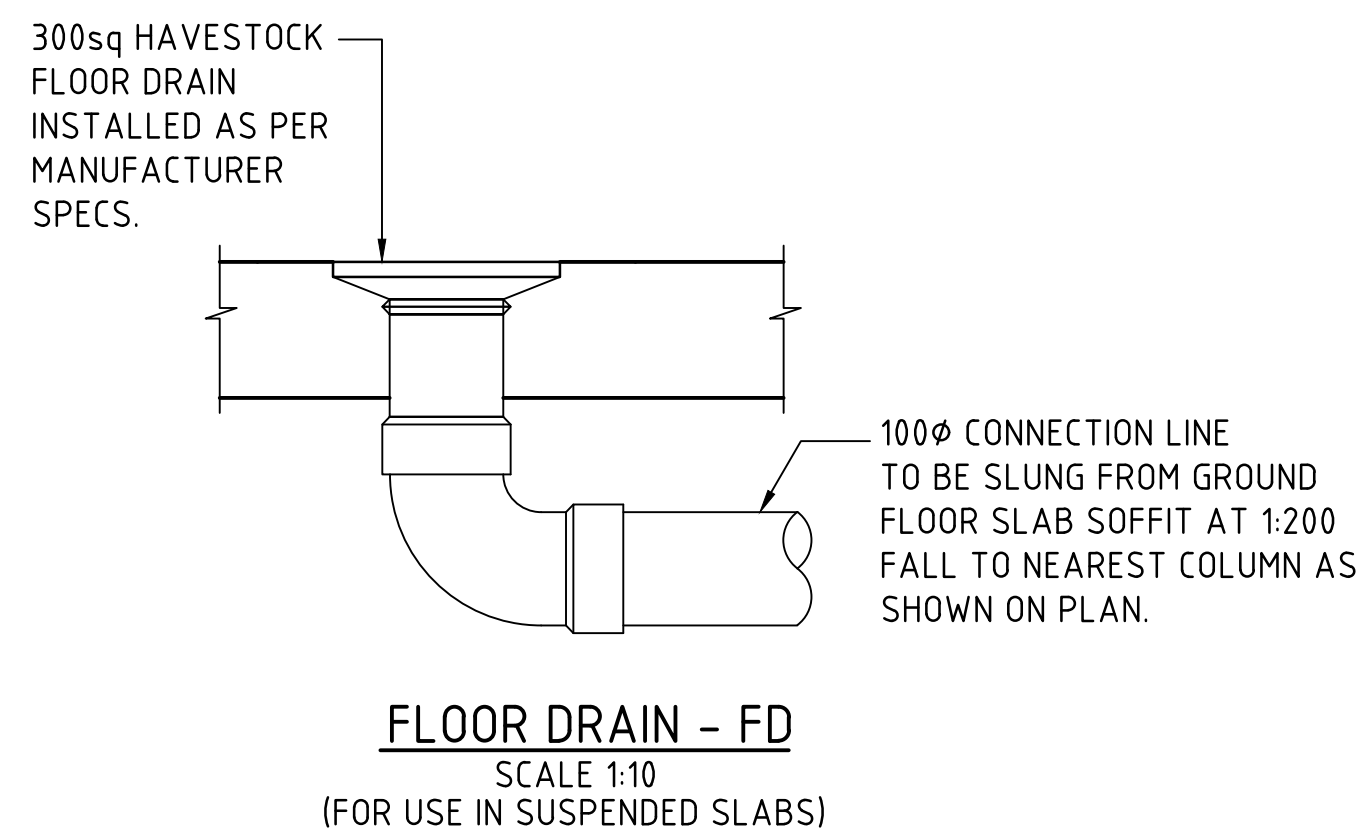


SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRATE/COVER SUPPORT CAST-INTO PAVEMENT SLAB (ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)

NOTES:

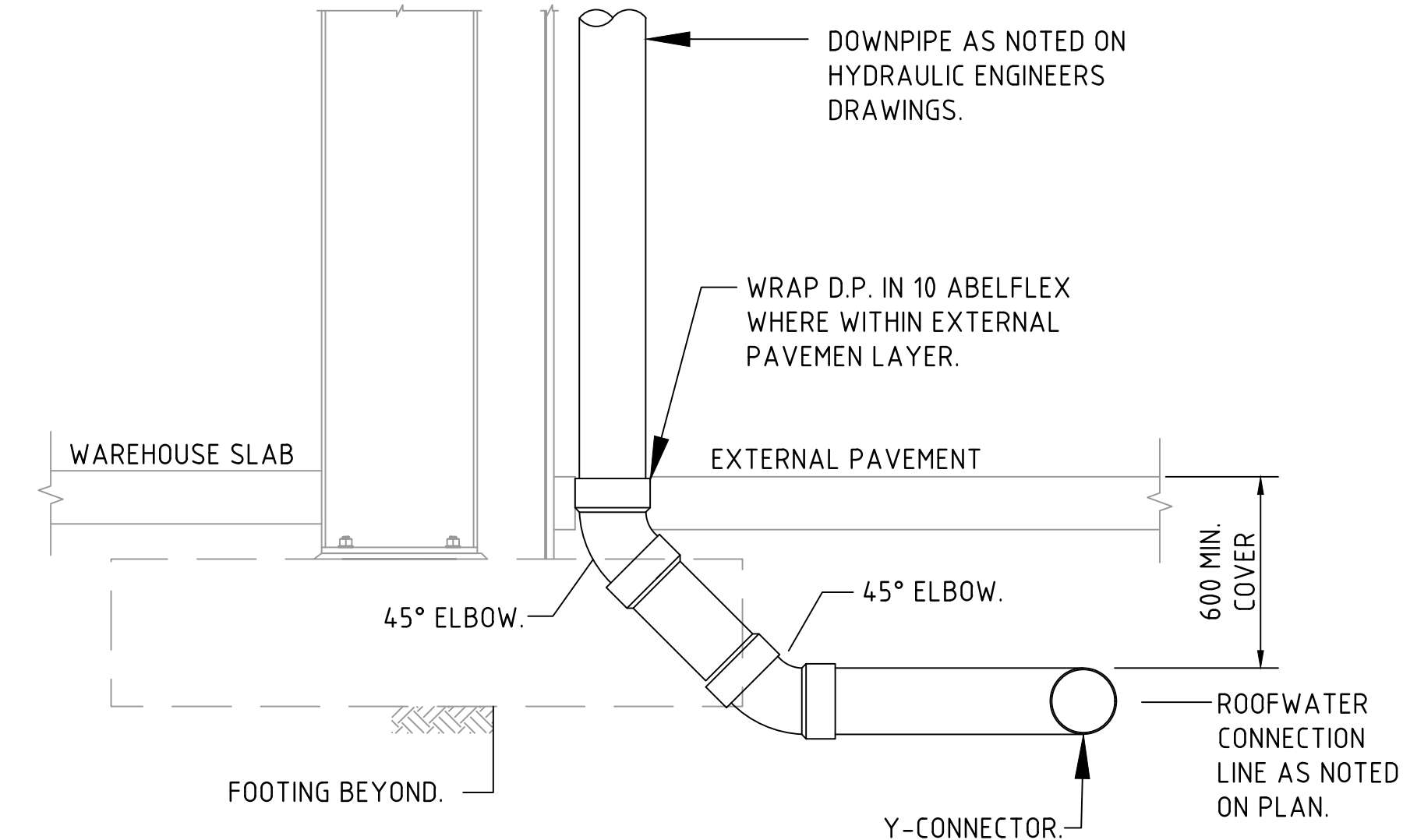
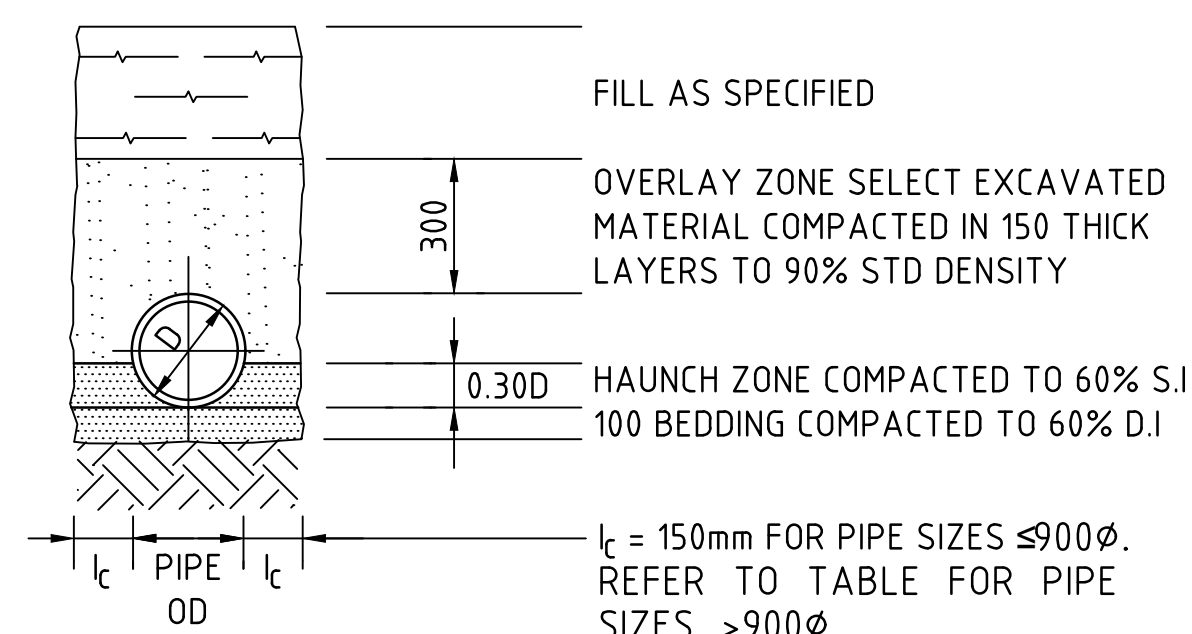
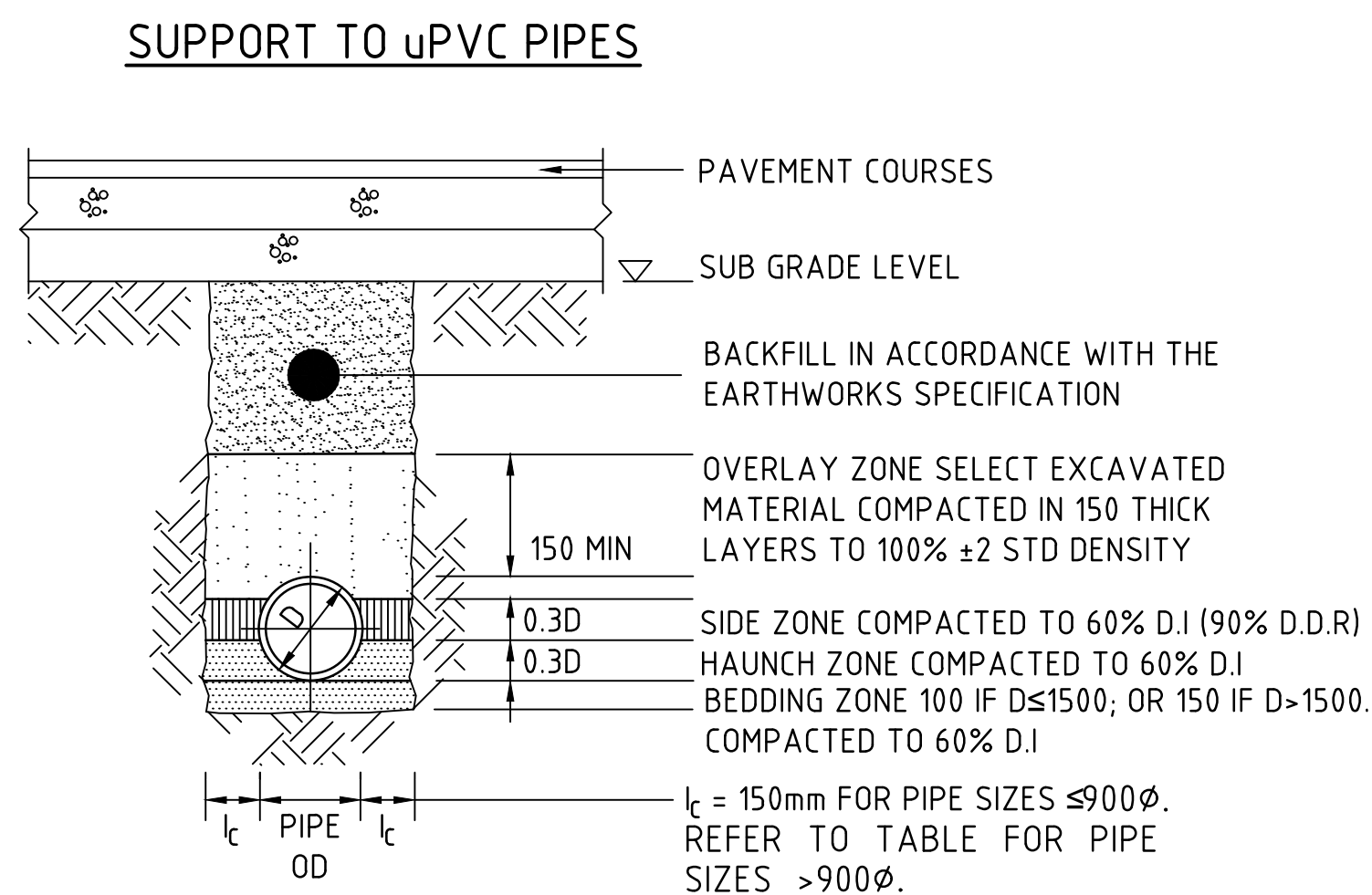
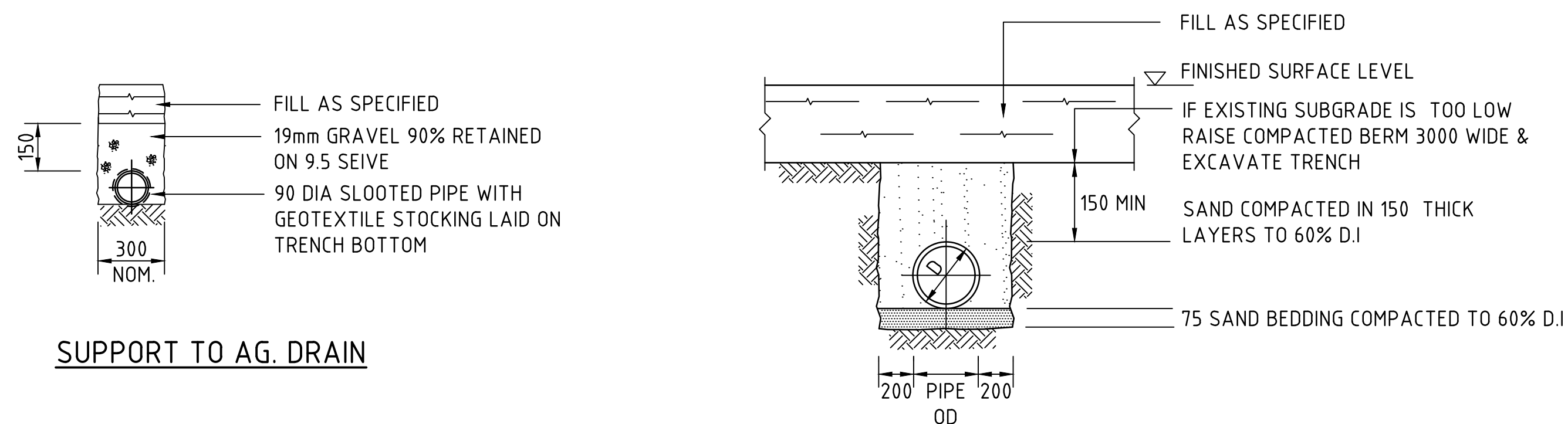
- WHERE GULLY PIT IS LOCATED ON KERB RETURNS OR BULB OF CUL-DE-SACS PROVIDE CURVED PRECAST CONCRETE LINTELS.
- SAG PITS SHALL HAVE LINTEL PLACED CENTRALLY ABOUT THE GRATE.
- ALL REINFORCING TO HAVE 30 MIN. CLEAR CONCRETE COVER.
- FOR PITS DEEPER THAN 1200mm CLIMB RAILS SHALL BE PROVIDED.

CONCRETE QUALITY					
ELEMENT	SLUMP	AGGREGATE (MAX. SIZE)	CEMENT TYPE	ADMIXTURE	F'c (MPa)
PIT	80	20	GP	NIL	25

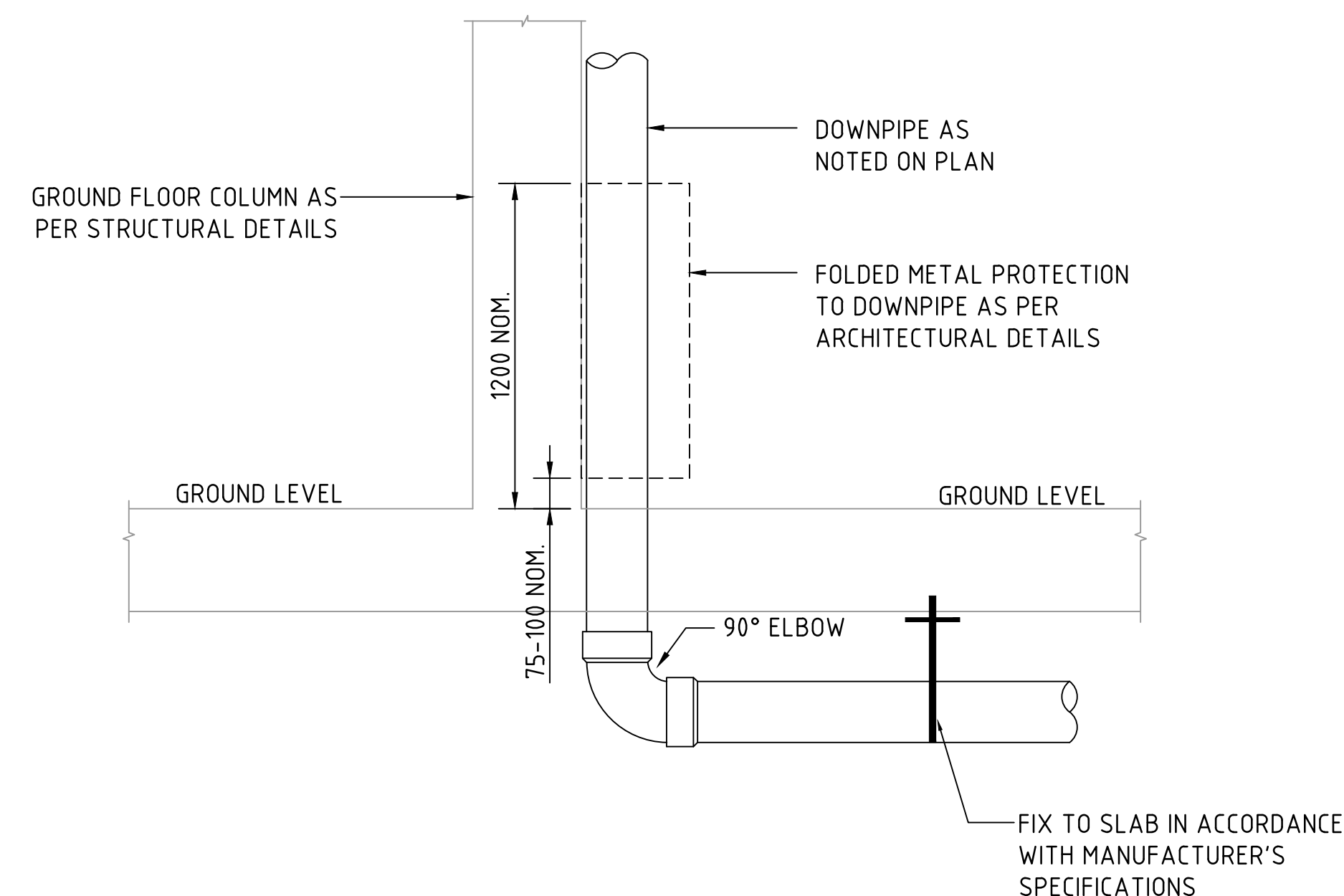


FOR DEVELOPMENT APPLICATION

ARCHITECT		CLIENT		PROJECT		CONSULTING ENGINEERS		DRAWING TITLE	
EG FUNDS MANAGEMENT		GOVERNOR PHILLIP TOWER		100 SOUTH CREEK ROAD		Level 1, 8 Windmill Street		STORMWATER DRAINAGE DETAILS	
21/1 FARRER PLACE		SYDNEY, NSW 2000		CROMER, 2099, NEW SOUTH WALES		Walsh Bay, Sydney NSW 2000		SHEET 1	
ISSUED FOR DEVELOPMENT APPLICATION		26.11.19		B		Tel: (02) 9251-7899 Fax: (02) 9241-3731		DRAWING No	
ISSUED FOR INFORMATION ONLY		01.11.19		A		email: mail@costinroe.com.au ©		C013674.01-DA45	
AMENDMENTS		DATE		ISSUE		PRECISION COMMUNICATION ACCOUNTABILITY		ISSUE	
								B	



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



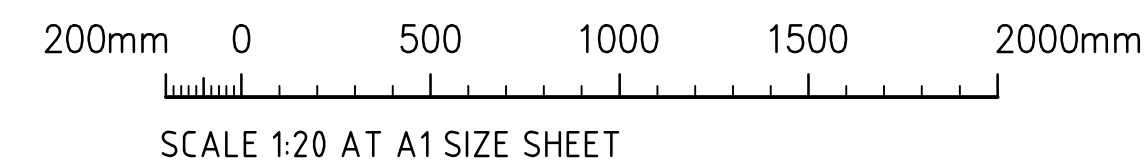
DOWNPIPE TURN-UP DETAIL
(AT COLUMN LOCATION)
SCALE 1:20

BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE	WEIGHT PASSING(%)
19	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE	WEIGHT PASSING(%)
75	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0

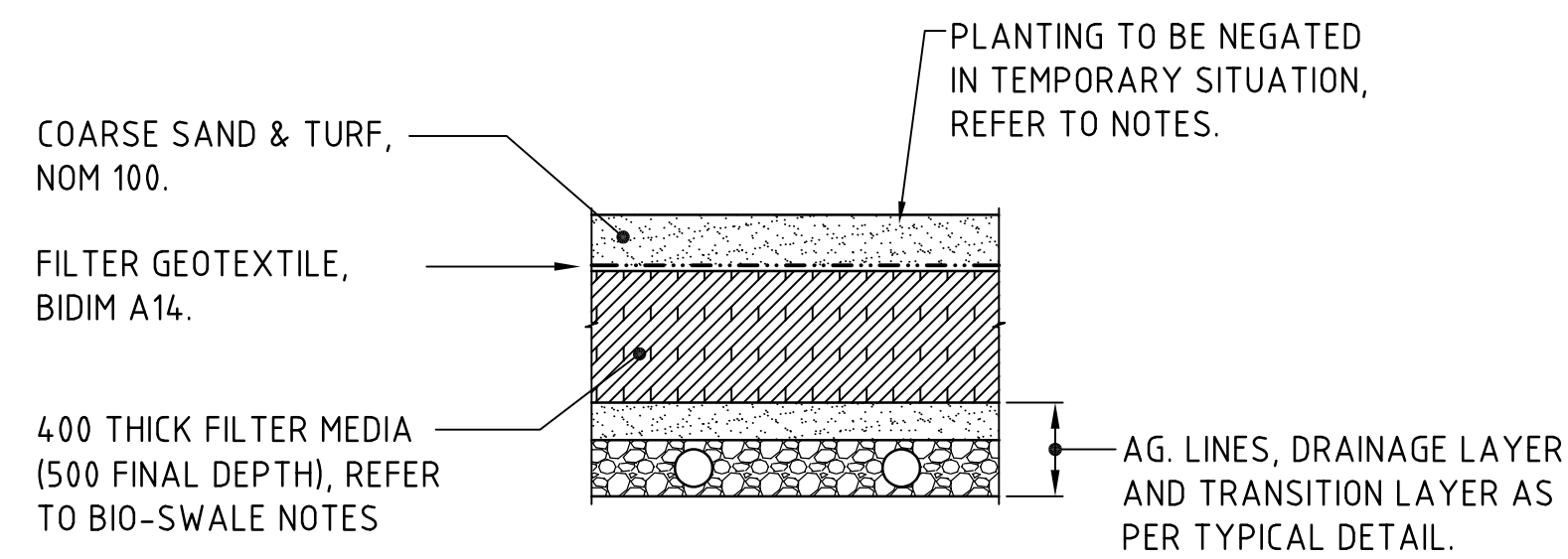
SIDE ZONE WIDTH	
PIPE SIZE	lc (mm)
≤900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300

PIPE LAYING DETAILS
SCALE 1:20



FOR DEVELOPMENT APPLICATION

ARCHITECT			PROJECT			CLIENT			PROPOSED DEVELOPMENT			Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©			DRAWING TITLE STORMWATER DRAINAGE DETAILS SHEET 2		
ISSUED FOR DEVELOPMENT APPLICATION 26.11.19 B			EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000			100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES			DESIGNED TW DRAWN TW DATE OCT 2019 CHECKED MW SIZE A1 SCALE AS SHOWN CAD REF: C013674.01-DA46			PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING No C013674.01-DA46 ISSUE B		
AMENDMENTS			DATE			ISSUE											



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



CONCRETE SURROUND
30mm MIN. FALL TO
BASIN F.S.L.

PVC CAP

CLEANOUT PIPE 100Ø
UPVC (NOT SLOTTED)

45° uPVC
ELBOW 100 ID

300 MIN.

SUBSOIL PIPE

'WELDLOK' HINGED GRATE AND FRAME WITH LOCK DOWN DEVICE TO SUIT 1200x1200 PIT

STORMWATER 360 ENVIROPD INSERT 350 MIN DEEP

F.S.L. OF BIO BASIN

70 RIVERSTONE
LAR AROUND PIT.
O WIDE & 200 DEEP
ER FILTER CLOTH

NS
AILS

AG. DRAINS FROM BASIN
DRAINAGE LAYER.

L x B

BASIN INLET PIT - BIP

SCALE 1:20

SCALE 1:20

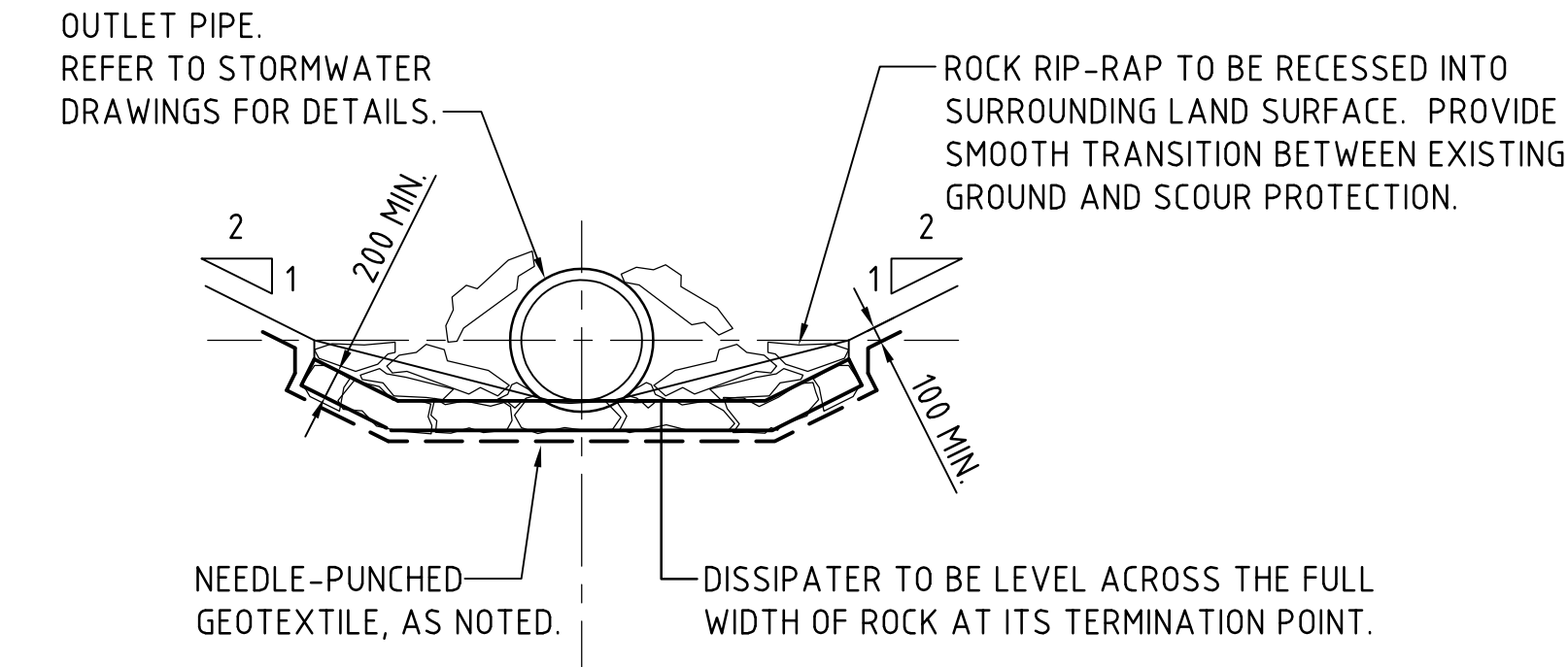
FOR DEVELOPMENT APPLICATION



			ARCHITECT	CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000	PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES		Costin Roe Consulting Pty Ltd. Consulting Engineers <small>ACN 003 098 446</small> Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©		DRAWING TITLE STORMWATER DRAINAGE DETAILS SHEET 3
ISSUED FOR DEVELOPMENT APPLICATION 26.11.19 B									
ISSUED FOR INFORMATION ONLY 01.11.19 A									
AMENDMENTS DATE ISSUE									
PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING No C013674.01-DA-47						ISSUE B

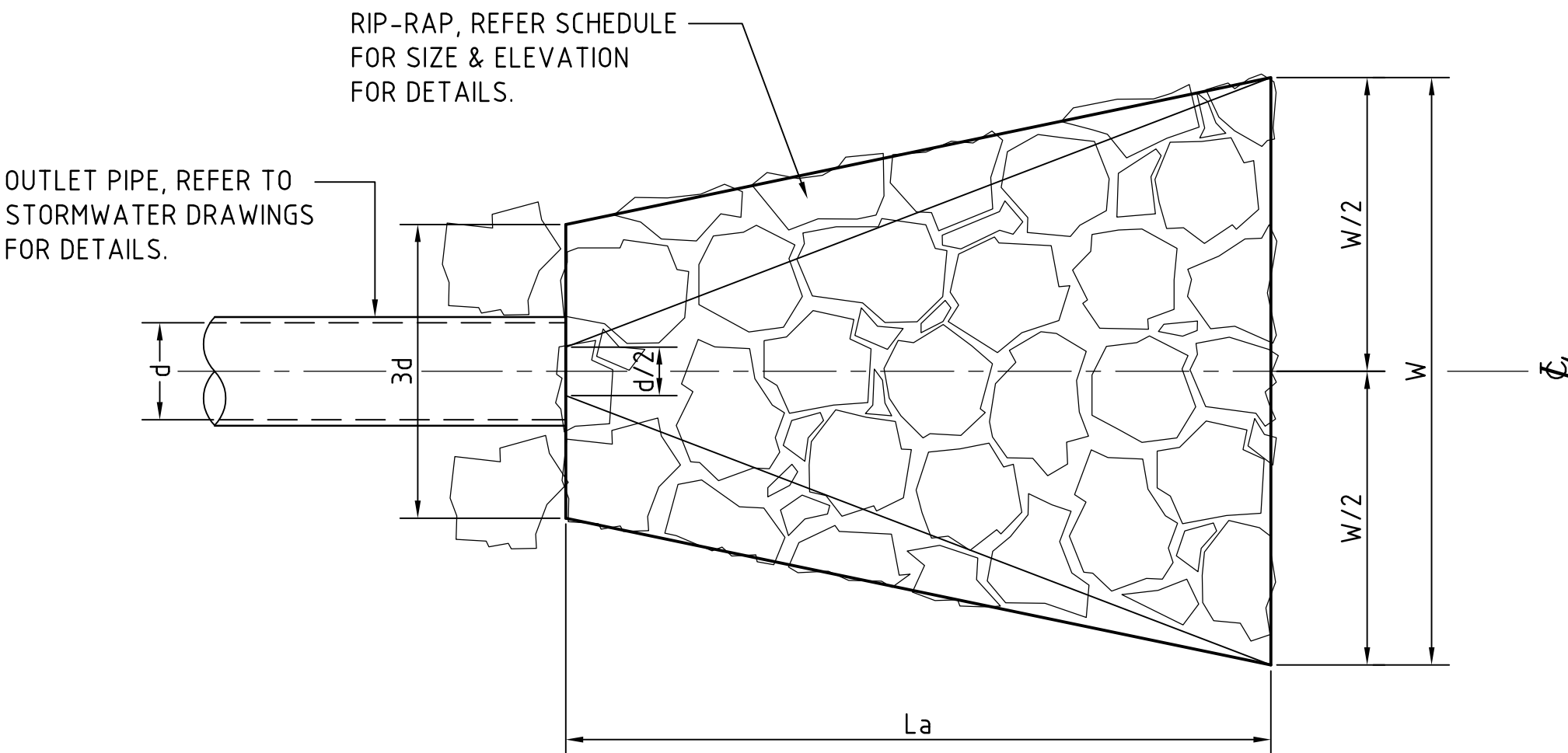
DISSIPATER NOTES :

1. ALIGN STRUCTURE EVENLY WITH BANK.
2. LOCATE STRUCTURE AT INVERT LEVEL OF STREAM AND POINT IN A DOWNSTREAM DIRECTION.
3. PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED).
4. DISCHARGE INTO STREAM WHERE BEDROCK IS PRESENT, OTHERWISE SCOUR PROTECT AS REQUIRED.
5. SCOUR PROTECT THE OPPOSITE BANK AS REQUIRED. SCOUR PROTECTION TO BE PROVIDED WHERE OPPOSITE BANK IS WITHIN 12-14 TIMES THE PIPE DIAMETER.
6. RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK (d50= 150mm MINIMUM) AS NOTED ON THE PLAN. RIP-RAP TO BE MINIMUM THICKNESS OF RIP-RAP LAYER TO BE 1.6x AVERAGE ROCK SIZE (d50).
7. RIP-RAP IS TO BE PLACED OVER A 200mm LAYER OF 140mm COBBLES OVER NEEDLE-PUNCHED GEOFAB A44.
8. PLACE ROCK SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS. THE FINISHED RIP-RAP SURFACE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS.
9. GAPS IN RIP-RAP TO BE HAND PACKED WITH TOPSOIL & PLANTED WITH NATIVE SEDGES & RUSHES TO PROVIDE. THE INTENT IS FOR THERE TO BE NO VOIDS BETWEEN RIP-RAP BOULDERS.
10. ENSURE THE FINISHED ROCK SURFACE BLENDS WITH THE SURROUNDING GROUND LEVELS. NO OVERFALL OR PROTRUSION OF ROCK SHOULD BE APPARENT.
11. ENSURE THAT STORMWATER FROM SURROUNDING GROUND IS FREE TO ENTER THE STRUCTURE WITHOUT CAUSING UNDESIRABLE PONDING OR SCOUR.

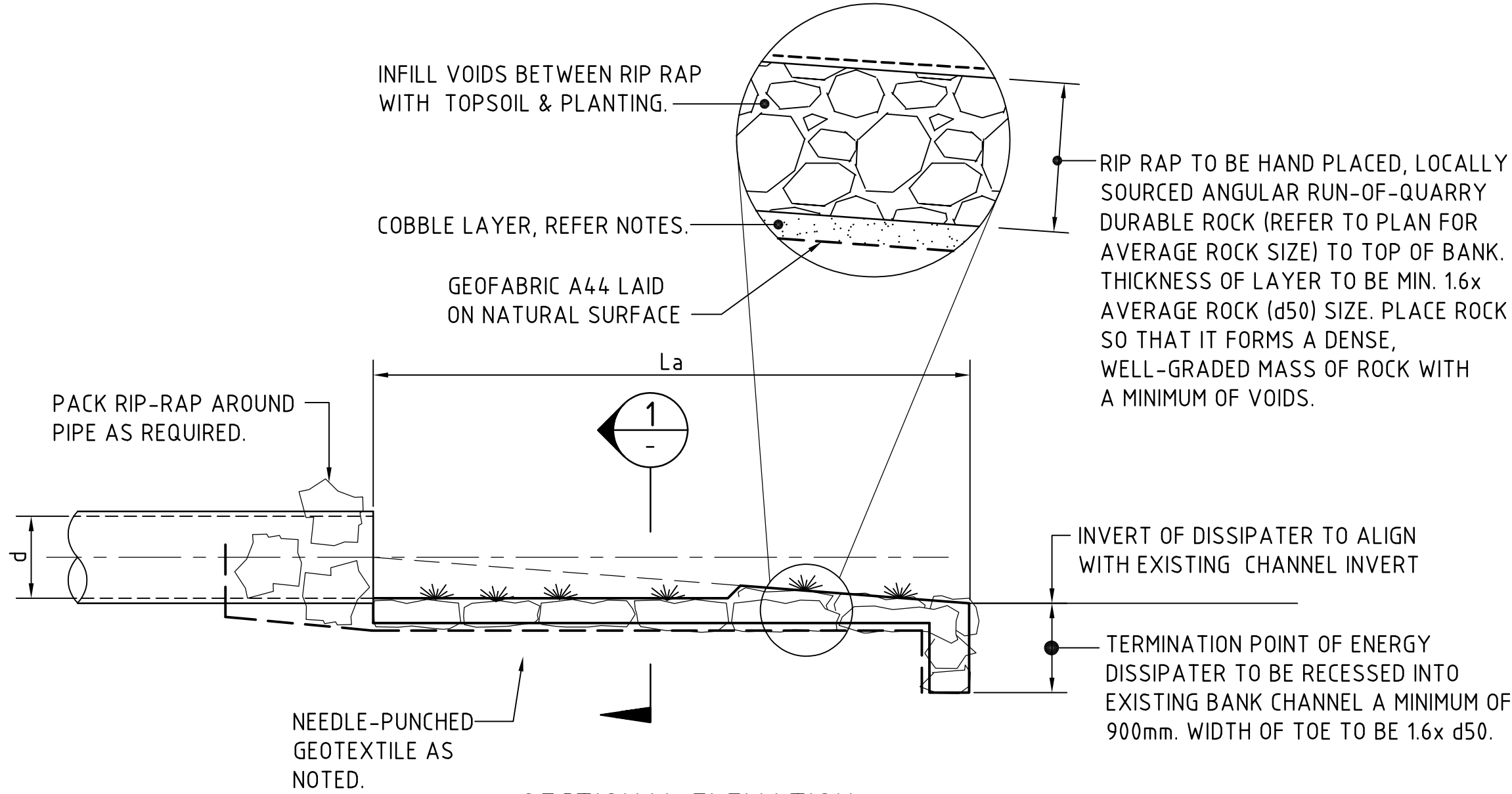


SECTION 1:50

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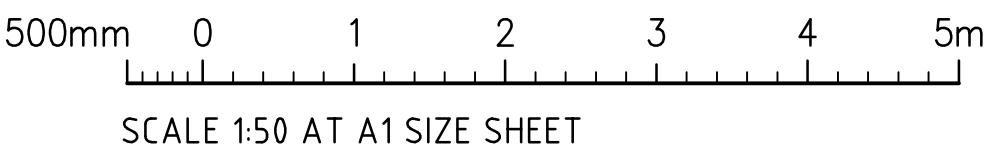
PLAN



SECTIONAL ELEVATION

STORMWATER OUTLET DISSIPATER

SCALE 1:50



FOR DEVELOPMENT APPLICATION

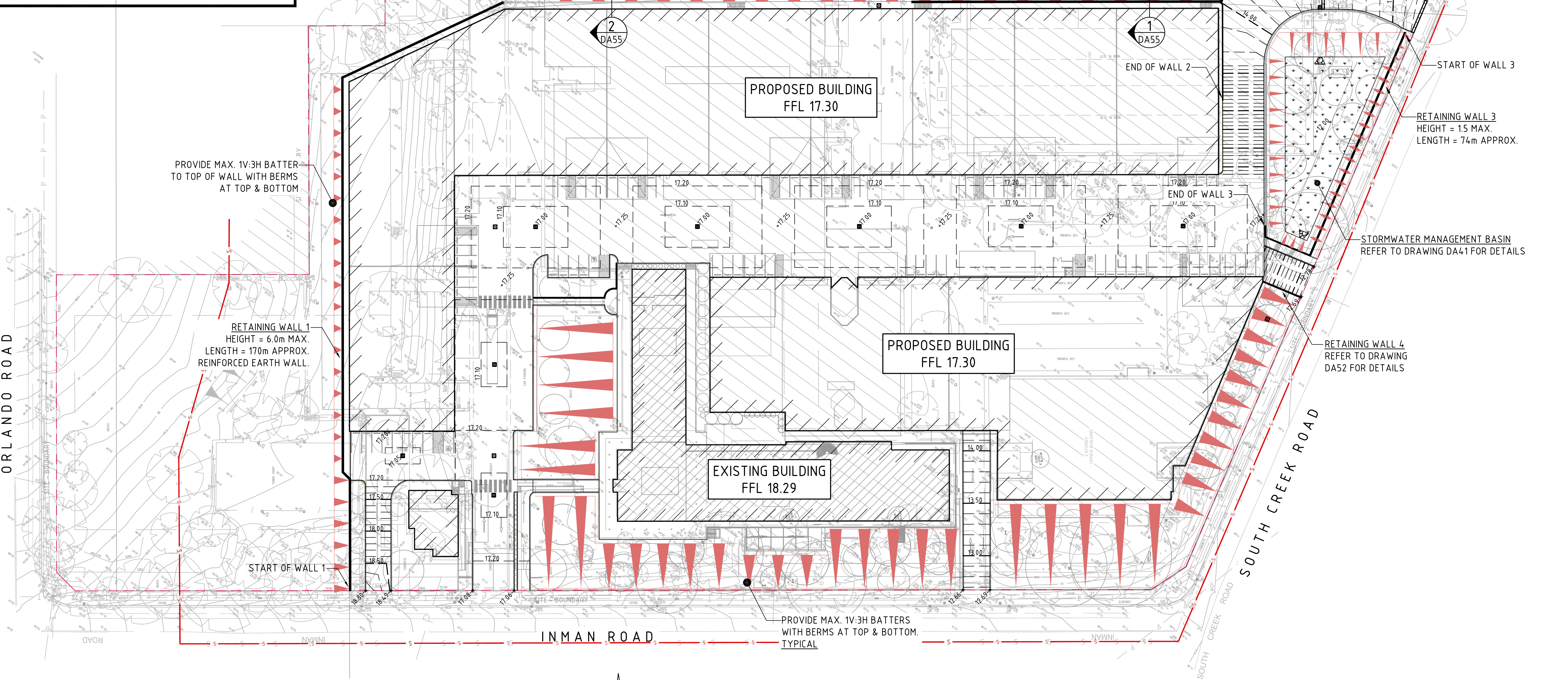
			ARCHITECT		CLIENT		PROJECT				Costin Roe Consulting Pty Ltd. Consulting Engineers <small>ACN 603 696 446</small> Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©				DRAWING TITLE STORMWATER DRAINAGE DETAILS SHEET 4							
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19		A		EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000		PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES													
AMENDMENTS			DATE		ISSUE		DESIGNED TW		DRAWN TW		DATE OCT 2019		CHECKED MW		SIZE A1		SCALE AS SHOWN		CAD REF: C013674.01-DA-48			

LEGEND:

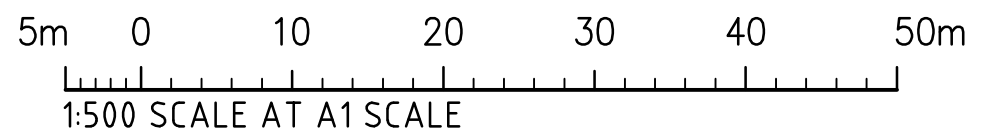
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LTS LOCKLEY SURVEYORS TITLED 05384 001DT DATED 21/06/2018.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GRATED DRAIN (300W x 200D U.N.O.)
- EXISTING SEWER MAIN
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS



FINISHED LEVELS PLAN - GROUND FLOOR
1:500 SCALE



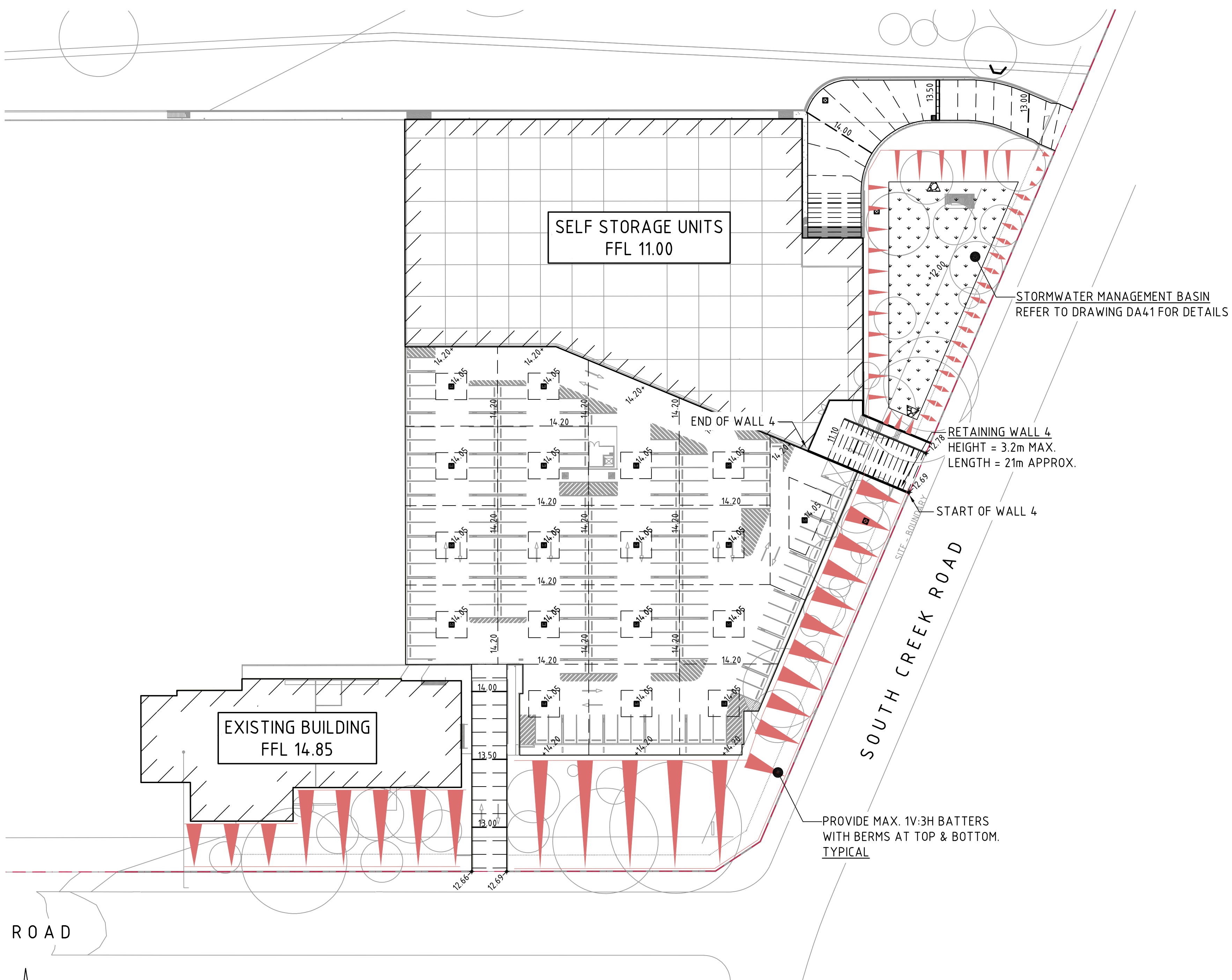
FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION 26.11.19 B			ARCHITECT			PROJECT			CLIENT			COSTIN ROE CONSULTING PTY LTD.			DRAWING TITLE		
ISSUED FOR INFORMATION ONLY 01.11.19 A						PROPOSED DEVELOPMENT			EG FUNDS MANAGEMENT			Consulting Engineers			FINISHED LEVELS PLAN		
AMENDMENTS			DATE			100 SOUTH CREEK ROAD			GOVERNOR PHILLIP TOWER			Level 1, 8 Windmill Street			GROUND FLOOR		
			DATE			CROMER, 2099, NEW SOUTH WALES			21/1 FARRER PLACE			Tel: (02) 9251-7699 Fax: (02) 9241-3731			DRAWING No		
			DATE			SYDNEY, NSW 2000			SYDNEY, NSW 2000			email: mail@costinroe.com.au ©			C013674.01-DA51		
						DESIGNED TW			DRAWN TW			CHECKED MW			PRECISION COMMUNICATION ACCOUNTABILITY		
						DATE OCT 2019			SCALE A1			SCALE AS SHOWN			ISSUE		
						CAD REF: C013674.01-DA51									B		

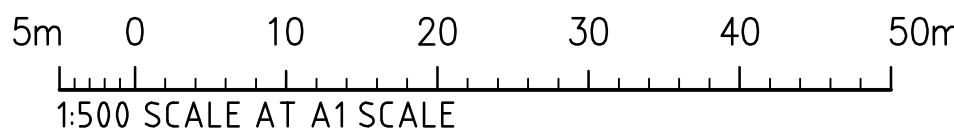
LEGEND:
LEVELS DATUM IS AHD.

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- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

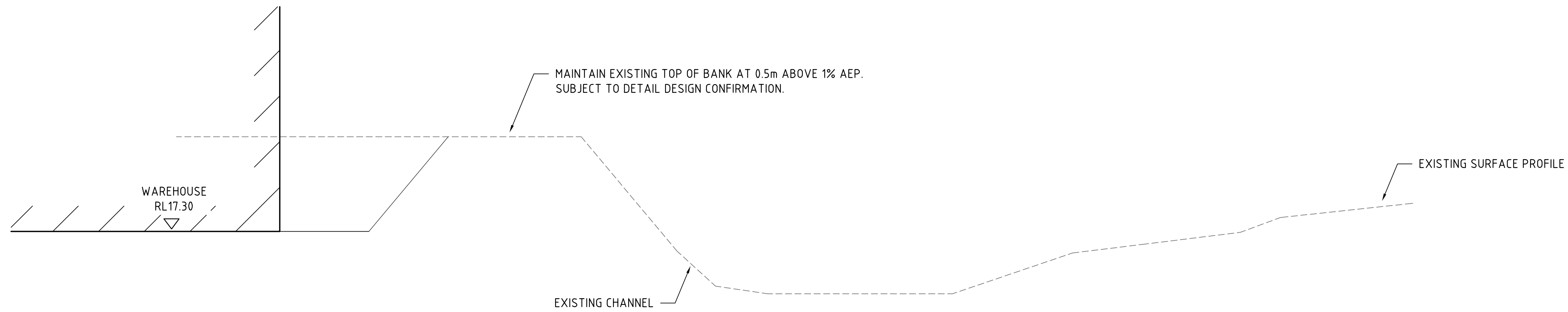


FINISHED LEVELS PLAN - BASEMENT
1:500 SCALE

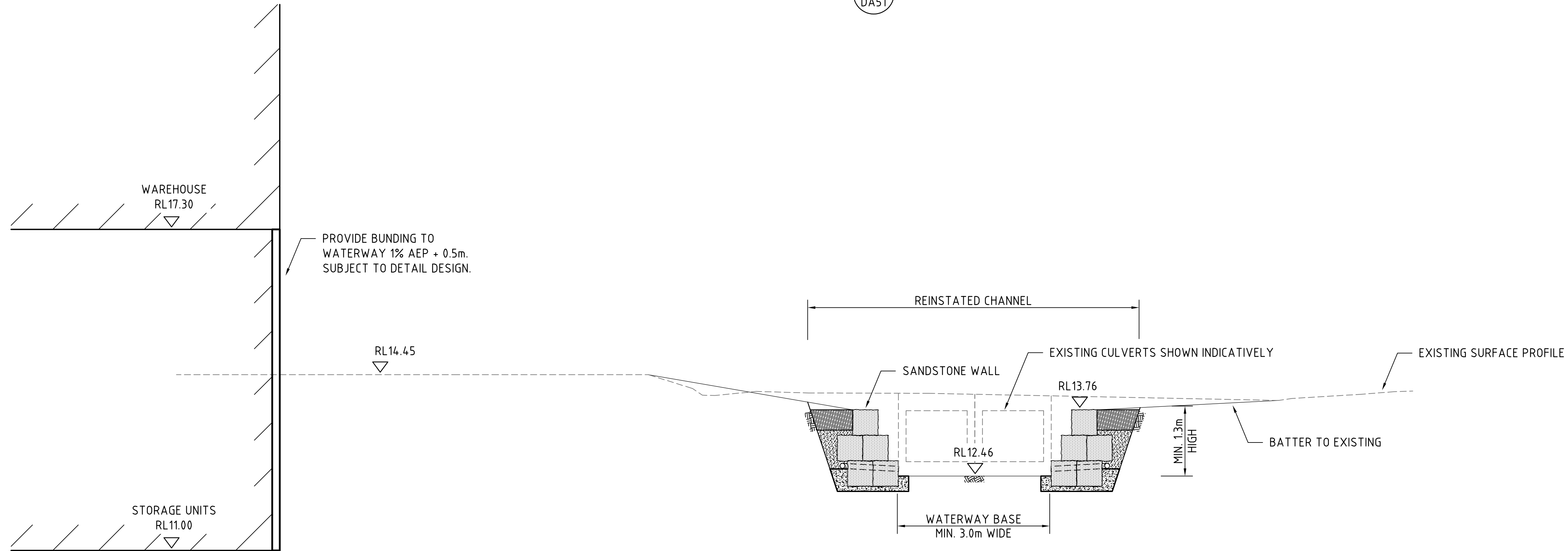


FOR DEVELOPMENT APPLICATION

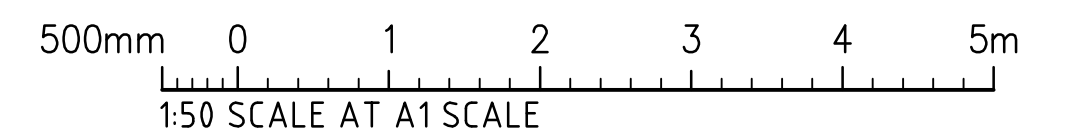
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EG FUNDS MANAGEMENT			GOVERNOR PHILLIP TOWER			PROPOSED DEVELOPMENT			Costin Roe Consulting Engineers			FINISHED LEVELS PLAN		
21/1 FARRER PLACE			CROMER, 2099, NEW SOUTH WALES			100 SOUTH CREEK ROAD			Level 1, 8 Windmill Street			BASEMENT		
SYDNEY, NSW 2000						CROMER, 2099, NEW SOUTH WALES			Wah Bay, Sydney NSW 2000					
AMENDMENTS			DESIGNED			CHECKED			Tel: (02) 9251-7699 Fax: (02) 9241-3731			DRAWING No		
DATE			DATE			DATE			email: mail@costinroe.com.au ©			C013674.01-DA52		
ISSUE			OCT 2019			AS SHOWN						B		



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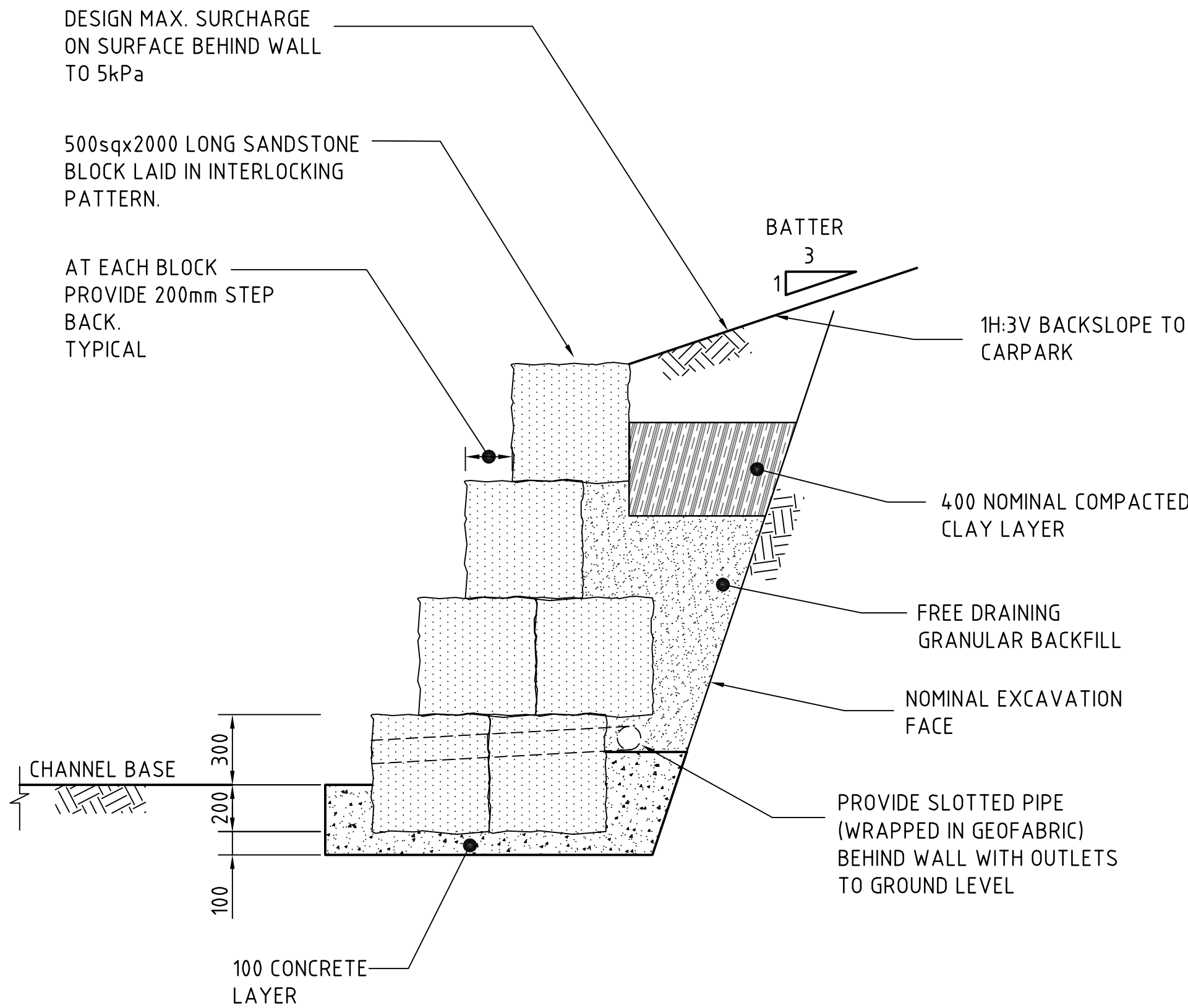


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FOR DEVELOPMENT APPLICATION

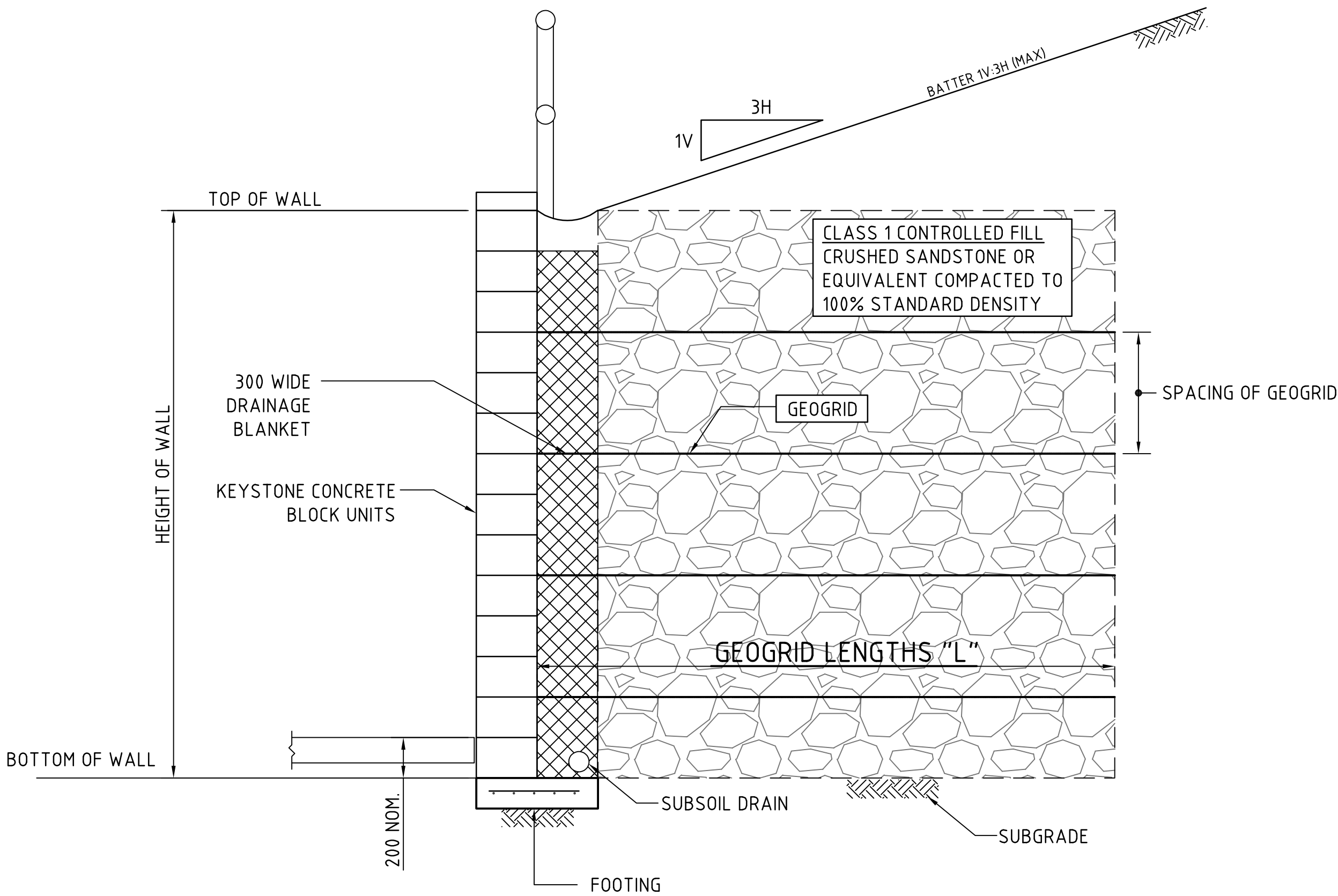
ARCHITECT			CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000			PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES			CONSULT AUSTRALIA			Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wahsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©			Costin Roe Consulting			DRAWING TITLE TYPICAL SECTIONS		
ISSUED FOR DEVELOPMENT APPLICATION 26.11.19 A			DESIGNED TW DRAWN TW DATE OCT 2019 CHECKED MW SIZE A1 SCALE AS SHOWN CAD REF: C013674.01-DA55			PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING No C013674.01-DA55			ISSUE A								



SANDSTONE WALL DETAIL
SCALE 1:20

NOTE:
BASED ON 500x500x2000 LONG STANDARD CUT SANDSTONE BLOCKS LAID IN INTERLOCKING BRICK PATTERN:

- FIRST TWO COURSES TO BE 2xSANDSTONE BLOCKS IN 100 MASS CONCRETE BEDDING.
- THIRD & FOURTH COURSE TO BE 1 SANDSTONE BLOCK.
- STEP EACH SUCCESSIVE COURSES 200mm BACK



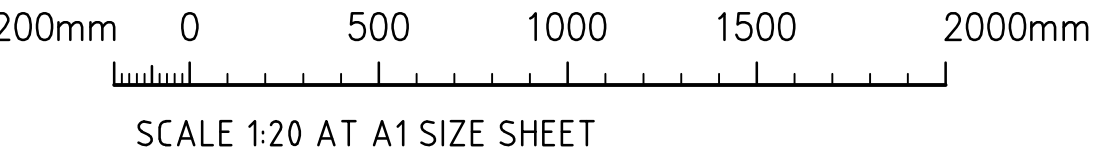
REINFORCED EARTH RETAINING WALL
SCALE 1:20

WALL HEIGHT "H"	GEOGRID LENGTH "L"	GEOGRID TYPE
2300	2600	GX50/30
3300	3500	GX50/30
4300	4700	GX50/30
5300	5800	GX50/30
6400	6900	GX50/30
7400	7600	GX50/30

NOTE :
INDICATIVE DETAIL ONLY. DESIGN TO BE CONFIRMED / PROVIDED BY 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/m^3
 - 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 AS3798.
- 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.



FOR DEVELOPMENT APPLICATION

ARCHITECT			CLIENT EG FUNDS MANAGEMENT GOVERNOR PHILLIP TOWER 21/1 FARRER PLACE SYDNEY, NSW 2000			PROJECT PROPOSED DEVELOPMENT 100 SOUTH CREEK ROAD CROMER, 2099, NEW SOUTH WALES			CONSULT AUSTRALIA			Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3731 email: mail@costinroe.com.au ©			Costin Roe Consulting			DRAWING TITLE RETAINING WALL DETAILS		
ISSUED FOR DEVELOPMENT APPLICATION			26.11.19			A			PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING No			C013674.01-DA65			ISSUE		
AMENDMENTS			DATE			ISSUE												A		