

ESR HORSLEY LOGISTIC PARK - LOT 201
327-335 BURLEY ROAD, HORSLEY PARK
CIVIL WORKS PACKAGE, DETAILED DESIGN

DRAWING LIST

DRAWING NO.	DRAWING TITLE
CRC-CV-C012990.09-C10	DRAWING LIST & GENERAL NOTES
CRC-CV-C012990.09-C20	EROSION SEDIMENT CONTROL PLAN
CRC-CV-C012990.09-C25	EROSION SEDIMENT CONTROL PLAN DETAILS
CRC-CV-C012990.09-C30	BULK EARTHWORKS PLAN
CRC-CV-C012990.09-C35	BULK EARTHWORKS SECTIONS
CRC-CV-C012990.09-C40	STORMWATER MANAGEMENT KEY PLAN
CRC-CV-C012990.09-C41	STORMWATER DRAINAGE PLAN - SHEET 1
CRC-CV-C012990.09-C42	STORMWATER DRAINAGE PLAN - SHEET 2
CRC-CV-C012990.09-C43	STORMWATER DRAINAGE PLAN - SHEET 3
CRC-CV-C012990.09-C44	STORMWATER DRAINAGE PLAN - SHEET 4
CRC-CV-C012990.09-C45	STORMWATER DRAINAGE DETAILS - SHEET 1
CRC-CV-C012990.09-C46	STORMWATER DRAINAGE DETAILS - SHEET 2
CRC-CV-C012990.09-C47	STORMWATER PIT SCHEDULE
CRC-CV-C012990.09-C48	OSD TANK DETAILS
CRC-CV-C012990.09-C49.1	STORMWATER LONG SECTIONS - SHEET 1
CRC-CV-C012990.09-C49.2	STORMWATER LONG SECTIONS - SHEET 2
CRC-CV-C012990.09-C51	FINISHED LEVELS PLAN - SHEET 1
CRC-CV-C012990.09-C52	FINISHED LEVELS PLAN - SHEET 2
CRC-CV-C012990.09-C53	FINISHED LEVELS PLAN - SHEET 3
CRC-CV-C012990.09-C54	FINISHED LEVELS PLAN - SHEET 4
CRC-CV-C012990.09-C55	TYPICAL SECTIONS
CRC-CV-C012990.09-C60	RETAINING WALL PLAN
CRC-CV-C012990.09-C61	RETAINING WALL ELEVATIONS
CRC-CV-C012990.09-C65	RETAINING WALL DETAILS AND SECTIONS
CRC-CV-C012990.09-C70	OSD STRUCTURAL DETAILS - SHEET 1
CRC-CV-C012990.09-C71	OSD STRUCTURAL DETAILS - SHEET 2
CRC-CV-C012990.09-C80	EXTERNAL PAVEMENT KEY PLAN
CRC-CV-C012990.09-C81	EXTERNAL PAVEMENT PLAN - SHEET 1
CRC-CV-C012990.09-C82	EXTERNAL PAVEMENT PLAN - SHEET 2
CRC-CV-C012990.09-C83	EXTERNAL PAVEMENT PLAN - SHEET 3
CRC-CV-C012990.09-C84	EXTERNAL PAVEMENT PLAN - SHEET 4
CRC-CV-C012990.09-C85	EXTERNAL PAVEMENT DETAILS

GENERAL NOTES:

1. 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.
2. 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.
3. 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. ENGINEER'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
4. 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.
5. UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
6. 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.

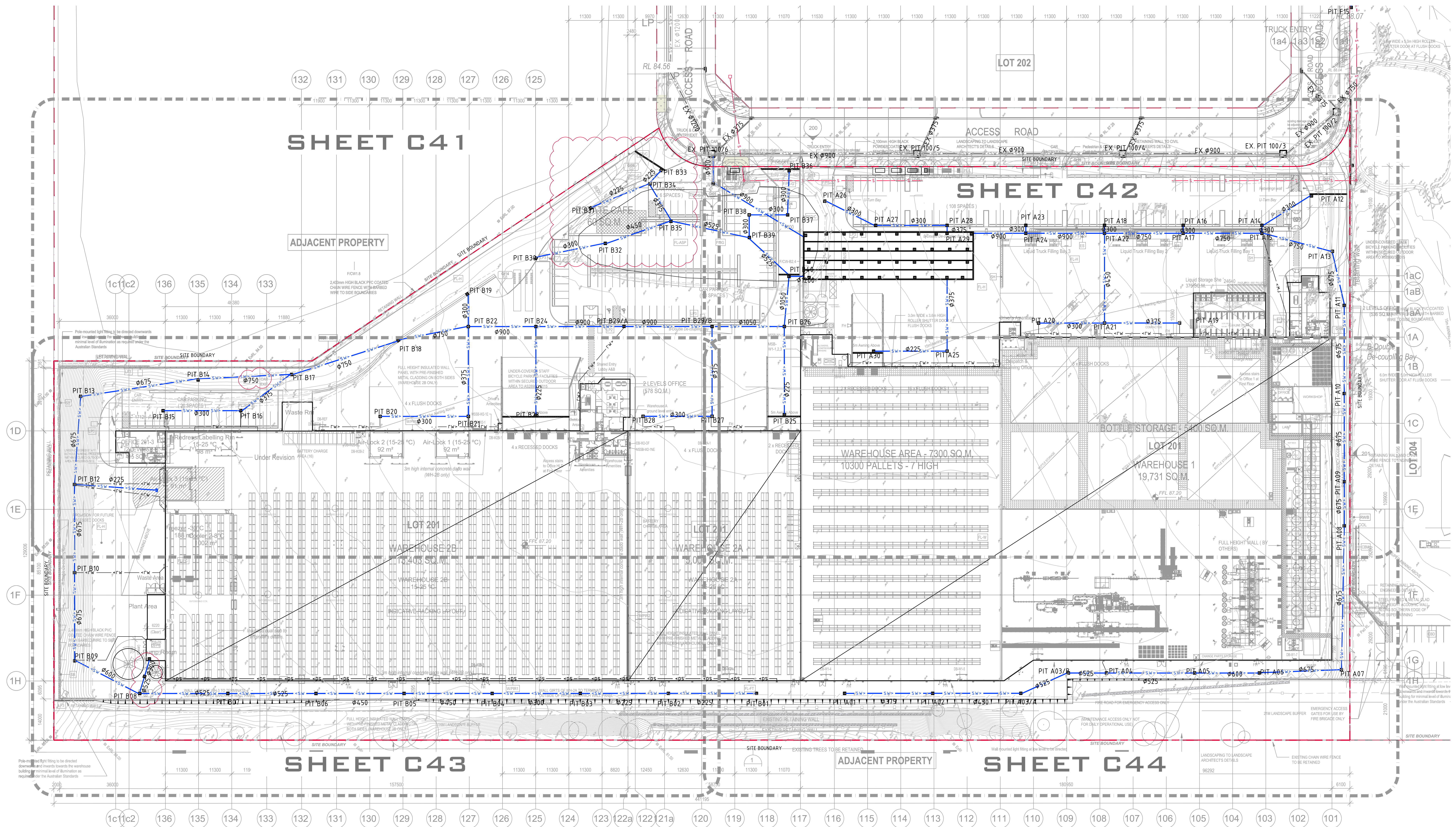
ELECTRONIC INFORMATION NOTES:

1. THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
2. 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.
3. 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.
4. 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.



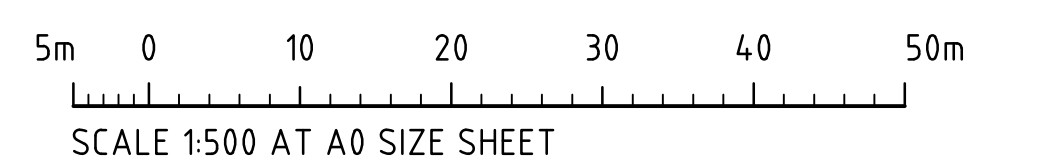
FOR CONSTRUCTION

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STORMWATER MANAGEMENT KEY PLAN
SCALE 1:500

FOR CONSTRUCTION



REVISED AS CLOUDED REVISED AS CLOUDED ISSUED FOR CONSTRUCTION ISSUED FOR CONSTRUCTION CERTIFICATE ISSUED FOR CONSTRUCTION CERTIFICATE - 90% DETAILED DESIGN AMENDMENTS				11.11.21 01.11.21 09.07.21 08.06.21 27.05.21				2 1 0 B A				AMENDMENTS DATE ISSUE AMENDMENTS DATE ISSUE			
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								DRAWING TITLE				PRECISION COMMUNICATION ACCOUNTABILITY			
								STORMWATER MANAGEMENT KEY PLAN				DRAWING No CRC-CV-C012990.09-C40			
												ISSUE 2			

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY CARDNO, DATED 13/05/21.

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

STORMWATER PITS NOTE:

REFER TO DRAWING C012990.09-C47 FOR PIT SCHEDULE.

STORMWATER QUALITY NOTE:

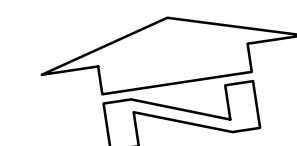
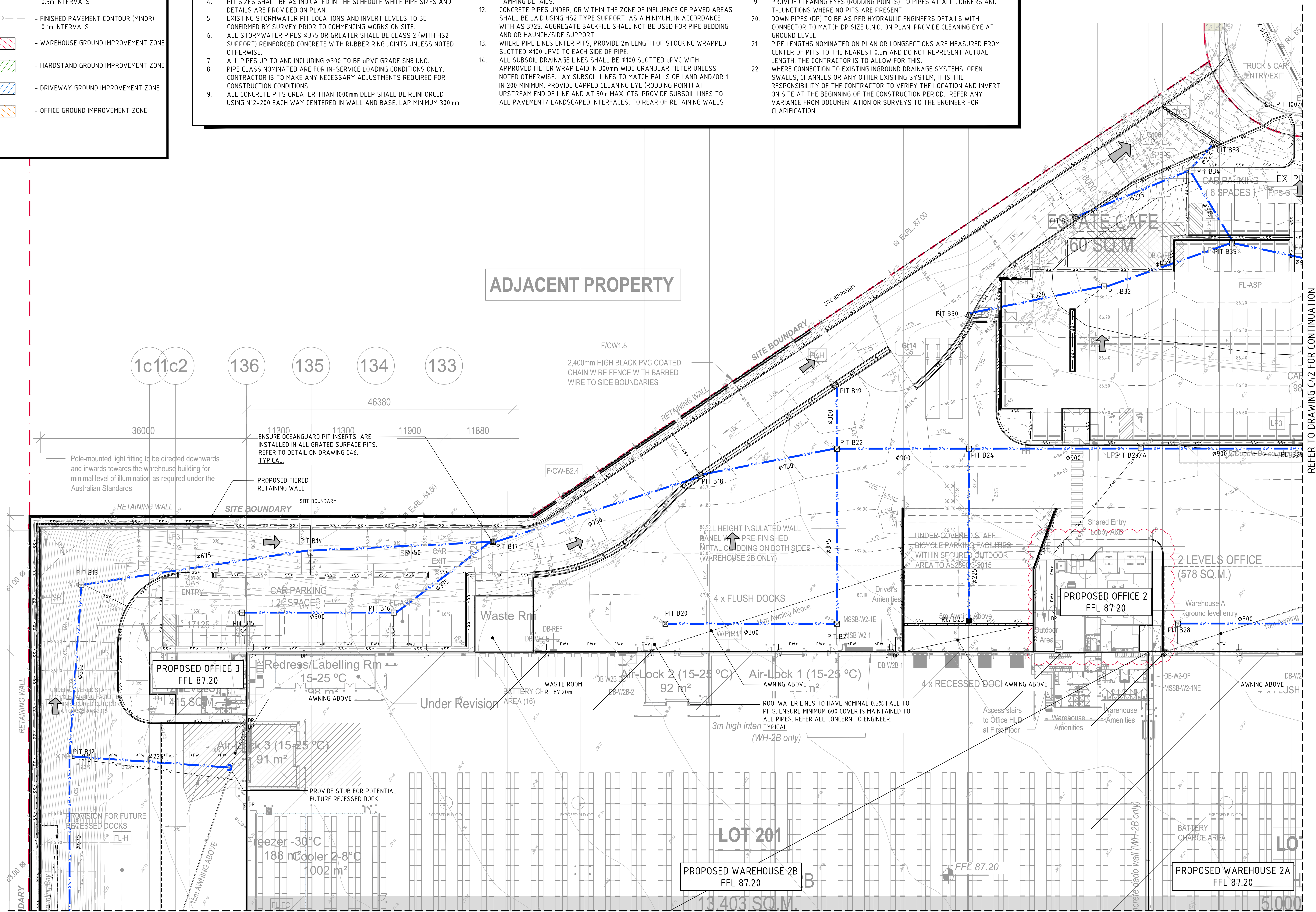
ALL SURFACE INLET PITS TO BE FITTED WITH OCEAN PROTECT OG200 OCEANGUARD PIT INSERT.

STORMWATER DRAINAGE NOTES:

- ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2018 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 CRC-CV-C012990.09-C51 TO C54.
- 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 Ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING Ø300 TO BE UPVC GRADE S8 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'c=25 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 Ø100 UPVC TO EACH SIDE OF PIPE.
- ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 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.
- WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, CHANNELS OR ANY OTHER EXISTING SYSTEM, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE ENGINEER FOR CLARIFICATION.

STORMWATER DRAINAGE PLAN - SHEET 1
SCALE 1:250

FOR CONSTRUCTION

2m 0 5 10 15 20 25m
SCALE 1:250 AT A0 SIZE SHEET

ISSUED FOR CONSTRUCTION	13.10.21	2
ISSUED FOR CONSTRUCTION	24.08.21	1
ISSUED FOR CONSTRUCTION	09.07.21	0
ISSUED FOR CONSTRUCTION CERTIFICATE	08.06.21	C
REVISED AS CLOUDED	27.05.21	B
ISSUED FOR CONSTRUCTION CERTIFICATE - 90% DETAILED DESIGN	19.05.21	A
AMENDMENTS	DATE	ISSUE

ARCHITECT	11.11.21	5
ARCHITECTURAL BACKGROUND REVISED	01.11.21	4
REVISED AS CLOUDED	22.10.21	3
AMENDMENTS	DATE	ISSUE

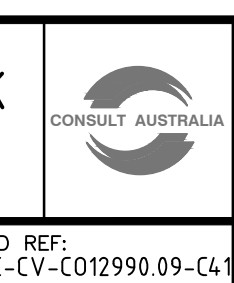
ARCHITECT



CLIENT



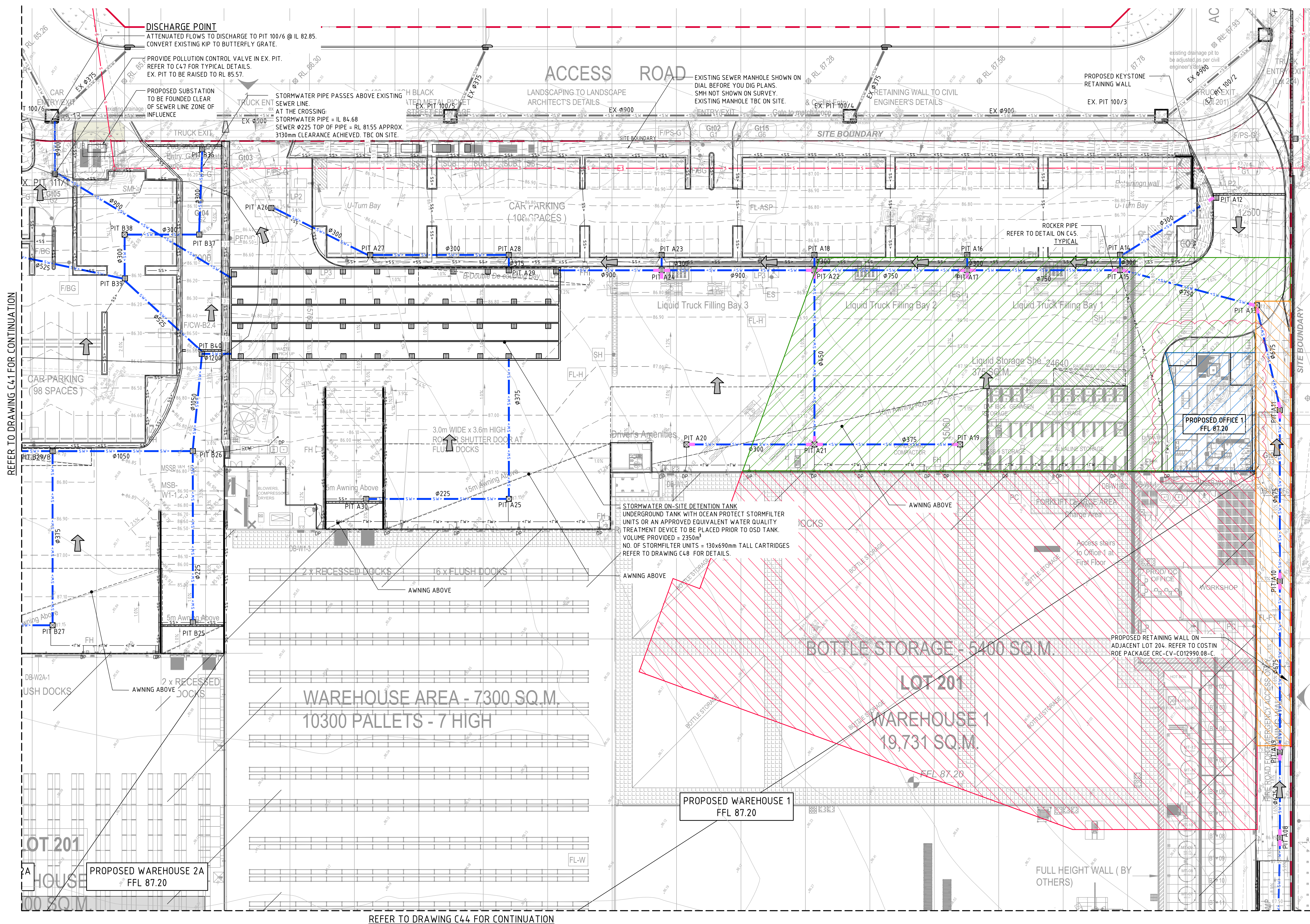
PROJECT

ESR HORSLEY LOGISTICS PARK
LOT 201
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PRECISION | COMMUNICATION | ACCOUNTABILITY

Costin Roe Consulting

DRAWING TITLE
STORMWATER DRAINAGE PLAN
SHEET 1
DRAWING No
CRC-CV-C012990.09-C41
ISSUE
5



GROUND IMPROVEMENT NOTE:

■ DENOTES ROCKER PIPE TO BE INSTALLED AT
INTERFACE WITH STORMWATER PIT STRUCTURE.
REFER TO DETAIL ON DRAWING C45.

GROUND IMPROVEMENT NOTE:

GROUND IMPROVEMENT ZONES HAVE BEEN SHOWN INDICATIVELY
ONLY. REFER TO STRUCTURAL ENGINEER FOR GROUND
IMPROVEMENT ZONE LAYOUT AND DETAILS.

STORMWATER PITS NOTE:

REFER TO DRAWING C012990.09-C47 FOR PIT SCHEDULE.

STORMWATER QUALITY NOTE:

ALL SURFACE INLET PITS TO BE FITTED WITH OCEAN PROTECT
OG200 OCEANGUARD PIT INSERT.

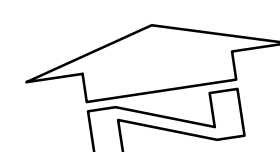
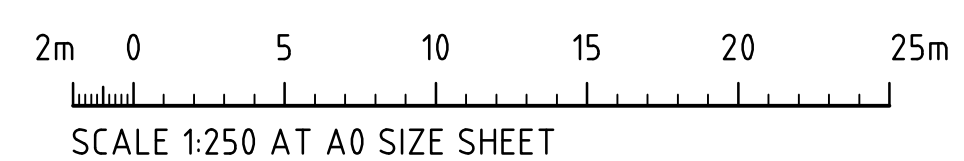
STORMWATER DRAINAGE NOTE:

REFER TO DRAWING C012990.09-C41 FOR STORMWATER DRAINAGE
NOTES.

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY CARNO DATED 13.05.21.

- - SGGP, SINGLE GRATED GULLY PIT
- - SJP, SEALED JUNCTION PIT
- - KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- SW, PROPOSED DRAINAGE LINE
- SW, PROPOSED DRAINAGE LINE WITH
NON RETURN VALVE
- EXISTING DRAINAGE LINE
- EXISTING SEWER LINE
- DP - ROOFWATER DOWNPIPE (INDICATIVE)
- RW - ROOFWATER LINE
- SS - SUBSOIL LINE
- ➔ - OVERLAND FLOW DIRECTION
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS
- ▨ - WAREHOUSE GROUND IMPROVEMENT ZONE
- ▨ - HARDSTAND GROUND IMPROVEMENT ZONE
- ▨ - DRIVEWAY GROUND IMPROVEMENT ZONE
- ▨ - OFFICE GROUND IMPROVEMENT ZONE



STORMWATER DRAINAGE PLAN - SHEET 2
SCALE 1:250

FOR CONSTRUCTION

DOWNPIPES REVISION	22.10.21	3
ISSUED FOR CONSTRUCTION	13.10.21	2
PUMP OUT PITS REMOVED	24.08.21	1
ISSUED FOR CONSTRUCTION	09.07.21	0
REVISED AS CLOUDED	27.06.21	0
ISSUED FOR CONSTRUCTION CERTIFICATE - 90% DETAILED DESIGN	19.05.21	A
AMENDMENTS	DATE	ISSUE
	11.11.21	5
	01.11.21	4
	DATE	ISSUE
	AMENDMENTS	

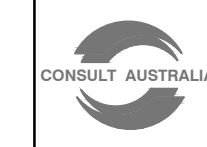
ARCHITECT



CLIENT



PROJECT
ESR HORSLEY LOGISTICS PARK
LOT 201
327-335 BURLEY ROAD, HORSLEY PARK, 2175



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Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER DRAINAGE PLAN
SHEET 2

DRAWING No
CRC-CV-C012990.09-C42

ISSUE
5

The architectural site plan illustrates a proposed industrial development. Key features include:










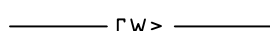
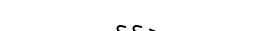



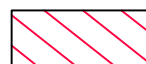

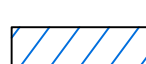

- Proposed Office 3:** Located in the upper left, measuring 415.80 SQ.M. with a FFL of 87.20. It includes a Redress/Labeling Rm and a Waste Rm.
- Proposed Office 2:** Located in the upper right, measuring 578 SQ.M. with a FFL of 87.20. It includes a 2-level office and a shared entry lobby.
- Proposed Warehouse 2B:** A large central warehouse measuring 13,403 SQ.M. with a FFL of 87.20 and a temperature range of 15-25 °C.
- Proposed Warehouse 2A:** Located on the right, measuring 5,000 SQ.M. with a FFL of 87.20.
- Other Structures:** Includes a freezer (-30 °C), a cooler (2-8 °C), a pump room, and a waste area.
- Infrastructure:** Features include a 4x flush docks, 4x recessed dock, and a 4x flush docks. The plan also shows a 14m landscape buffer and a 14m high black PVC coated chain wire fence.
- Site Details:** The plan includes numerous annotations for drainage, ventilation, and structural requirements. For example, it specifies "ROOFWATER LINES TO HAVE NOMINAL 0.5% FALL TO PITS. ENSURE MINIMUM 600 COVER IS MAINTAINED TO ALL PIPES. REFER ALL CONCERN TO ENGINEER." and "3m high internal concrete dado wall (WH-2B only)".

The plan is bounded by a site boundary and includes a north arrow. The overall layout is designed to optimize space utilization and infrastructure integration.

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS SAVED ON SURVEY INFORMATION PROVIDED BY CARNO DATED 13.05.21.

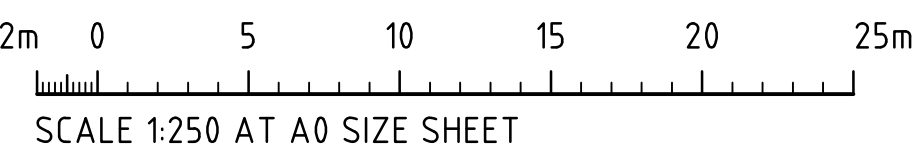
	- SGGP, SINGLE GRATED GULLY PIT
	- SJP, SEALED JUNCTION PIT
	- KIP, KERB INLET PIT
	- GD, GRATED DRAIN (300W x 225D UNO)
	- PROPOSED DRAINAGE LINE
	- PROPOSED DRAINAGE LINE WITH NON RETURN VALVE
	- EXISTING DRAINAGE LINE
	- EXISTING SEWER LINE
	- ROOFWATER DOWNPIPE (INDICATIVE)
	- ROOFWATER LINE
	- SUBSOIL LINE
	- OVERLAND FLOW DIRECTION
	- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
	- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
	- WAREHOUSE GROUND IMPROVEMENT ZONE
	- HARDSTAND GROUND IMPROVEMENT ZONE
	- DRIVEWAY GROUND IMPROVEMENT ZONE
	- OFFICE GROUND IMPROVEMENT ZONE



DRAWING TITLE
STORMWATER DRAINAGE PLAN
SHEET 3

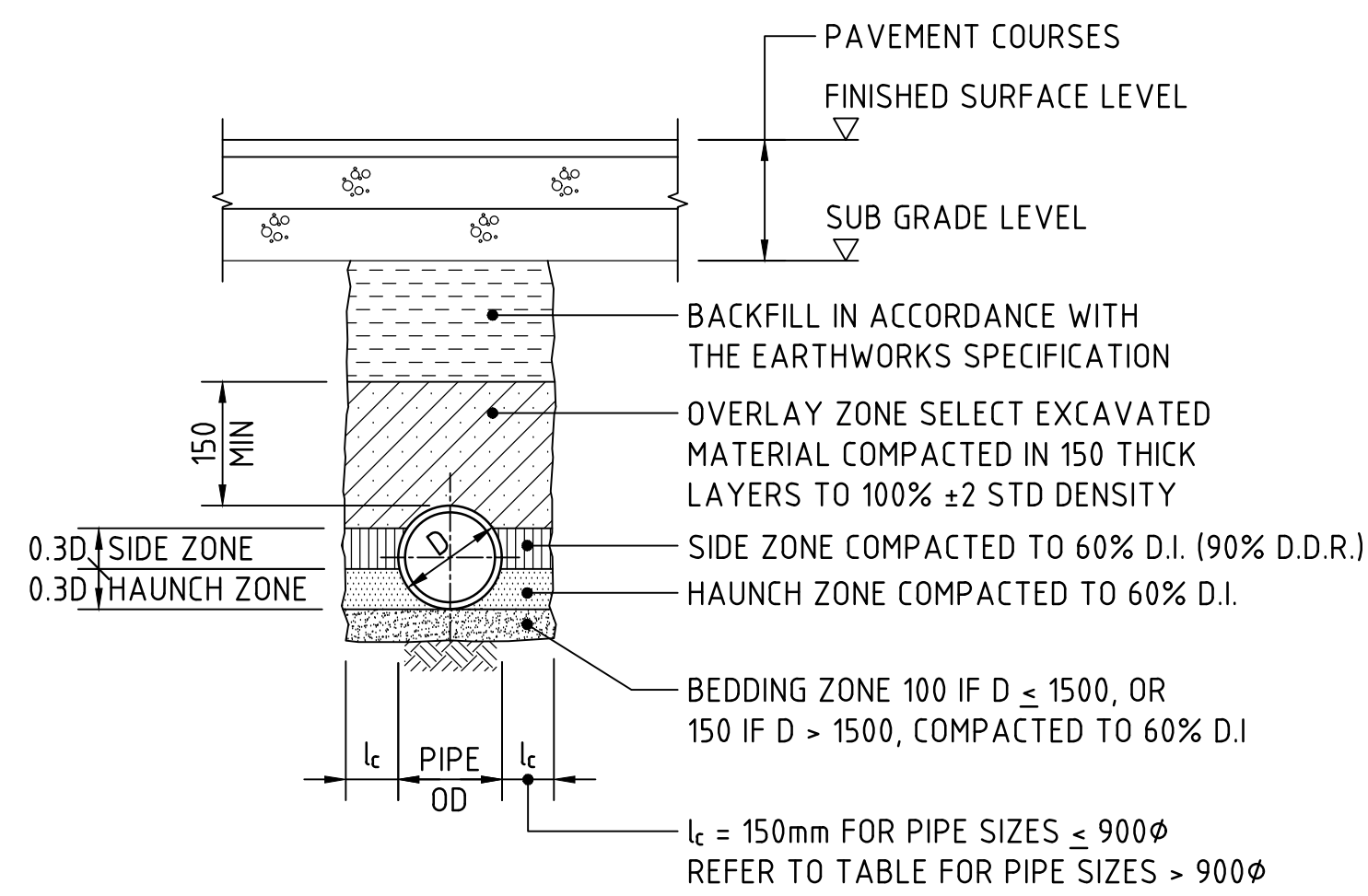
DRAWING No. CIP-CV-C012990 09-C43

ISSUE 5



DRAWING No
CFC CV C013000.00 C / 1

Consulting	DRAWING TITLE	
	STORMWATER DRAINAGE PLAN SHEET 4	
COMMUNICATION ACCOUNTABILITY	DRAWING No	ISSUE
	CR-CV-C012990.09-C44	4

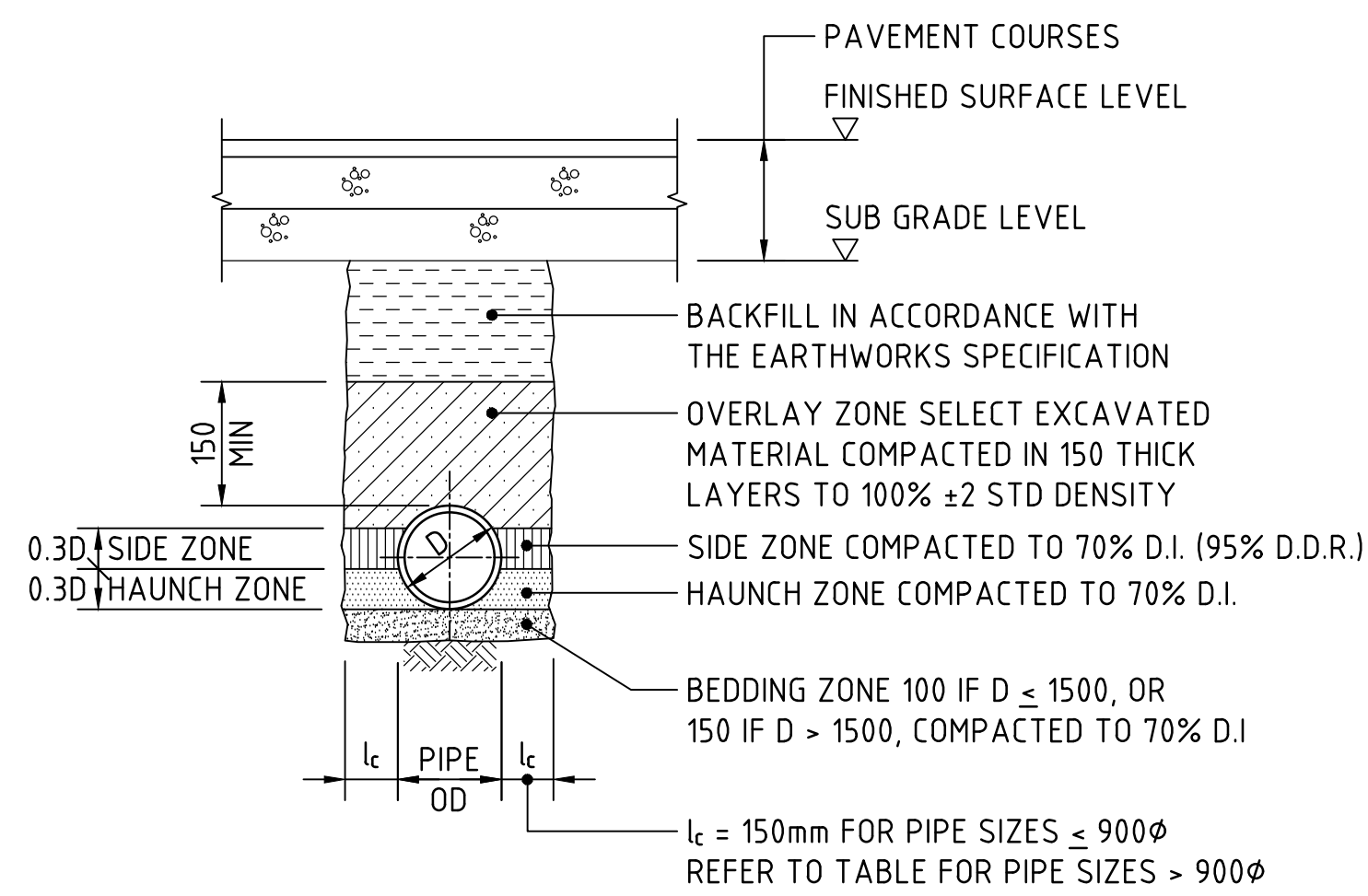


TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

SCALE 1:20
D ≤ 1350, MAX FILL = 4.0m
D > 1350, MAX FILL = 3.0m

BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

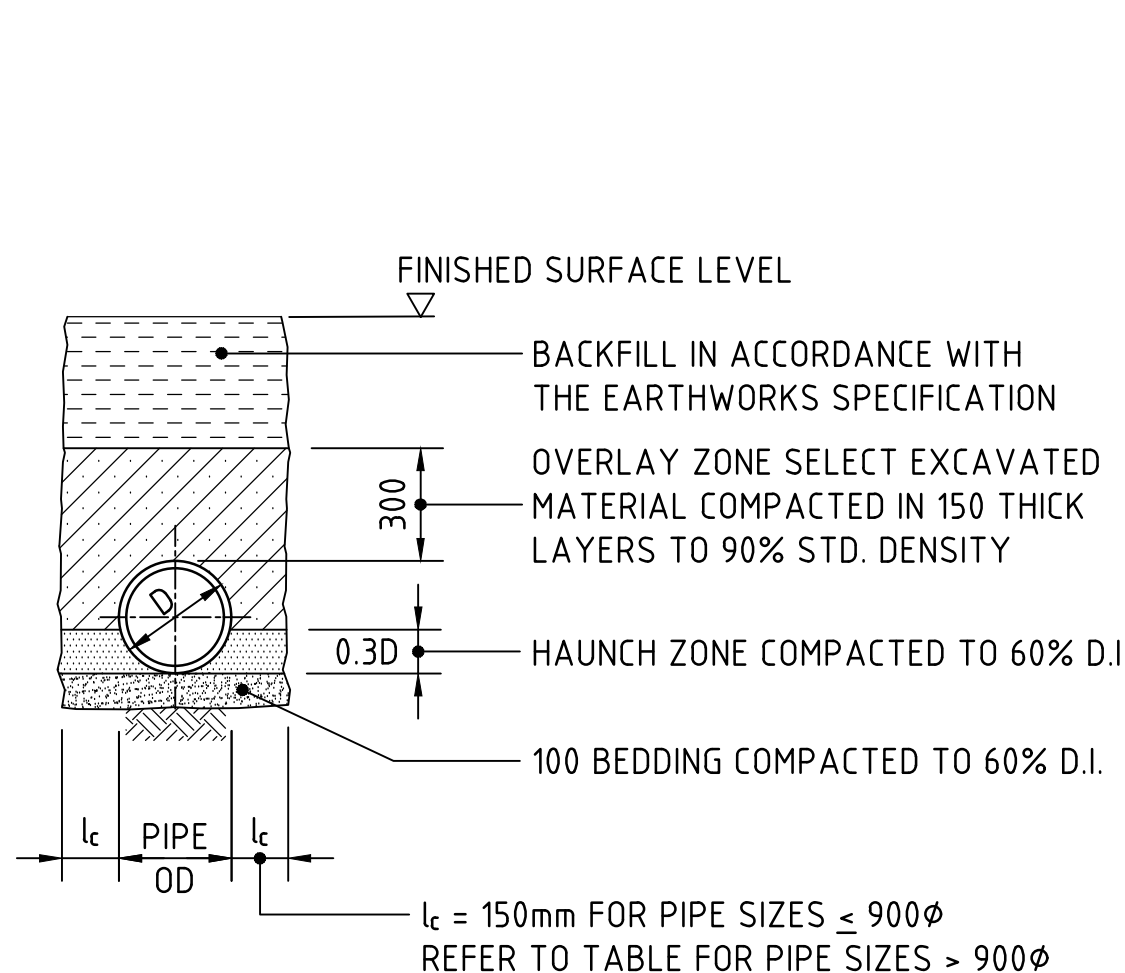
SIDE ZONE WIDTH	
PIPE SIZE (mm)	l _b (mm)
≤ 900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø	



TYPE HS3 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

SCALE 1:20
D ≤ 1050, MAX FILL = 6.0m
D > 1050, MAX FILL = 4.8m

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
9.5	100 TO 50
2.6	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	

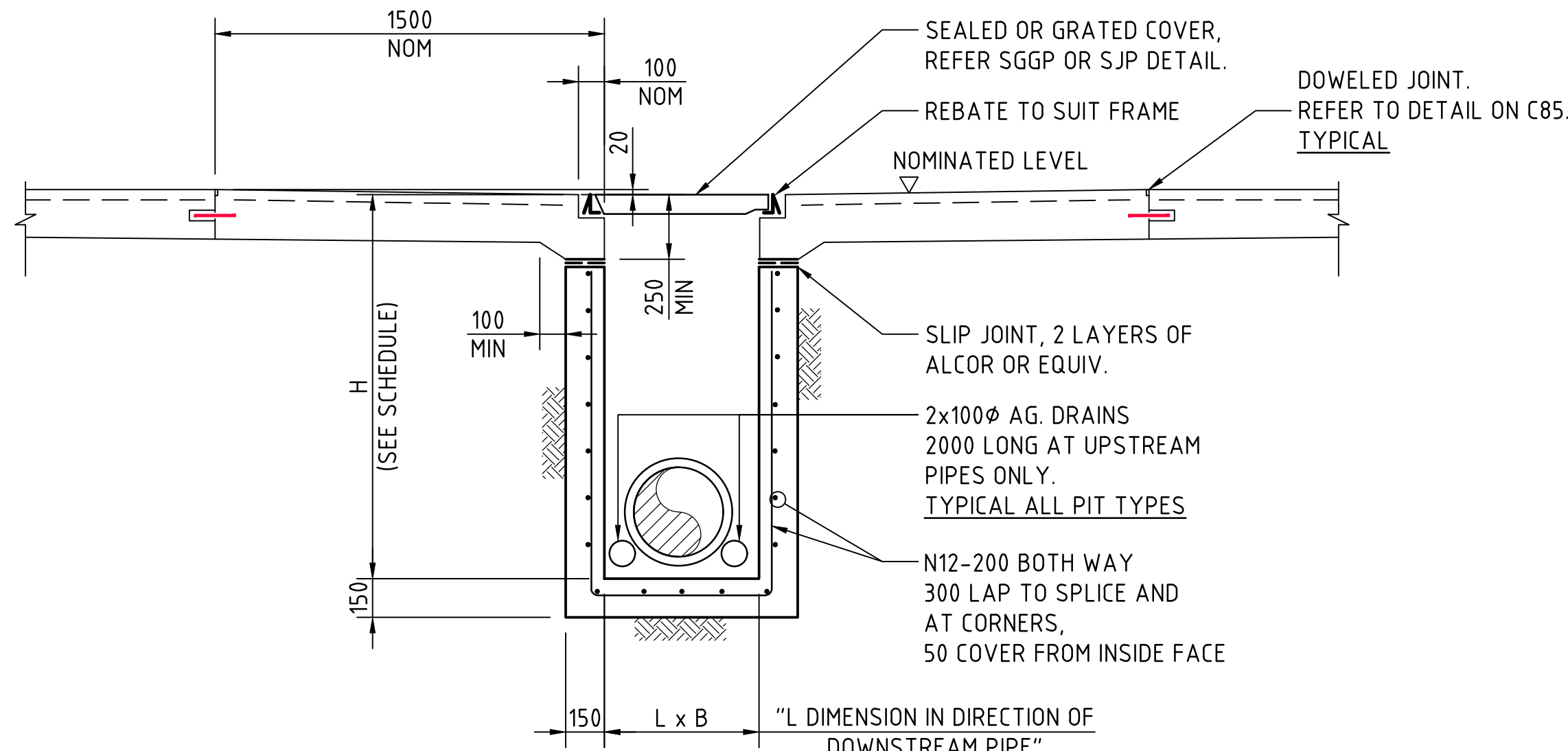


TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPED AREAS

SCALE 1:20

BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	20 TO 0

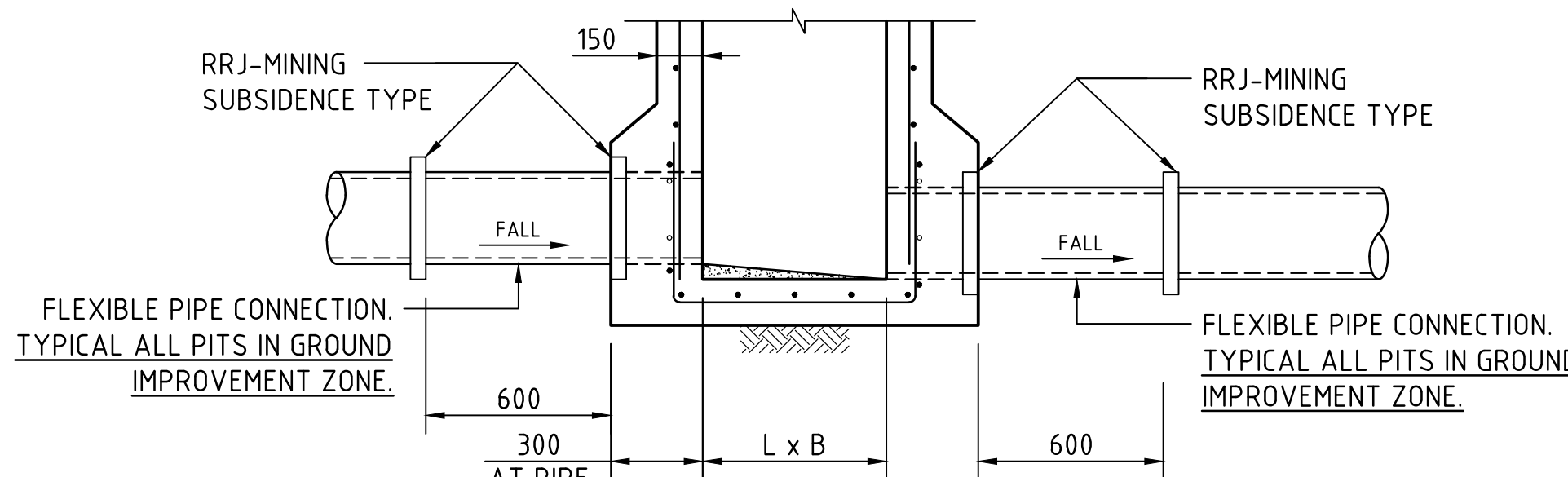
SIDE ZONE WIDTH	
PIPE SIZE (mm)	l _b (mm)
≤ 900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø	



SECTION
SCALE 1:20

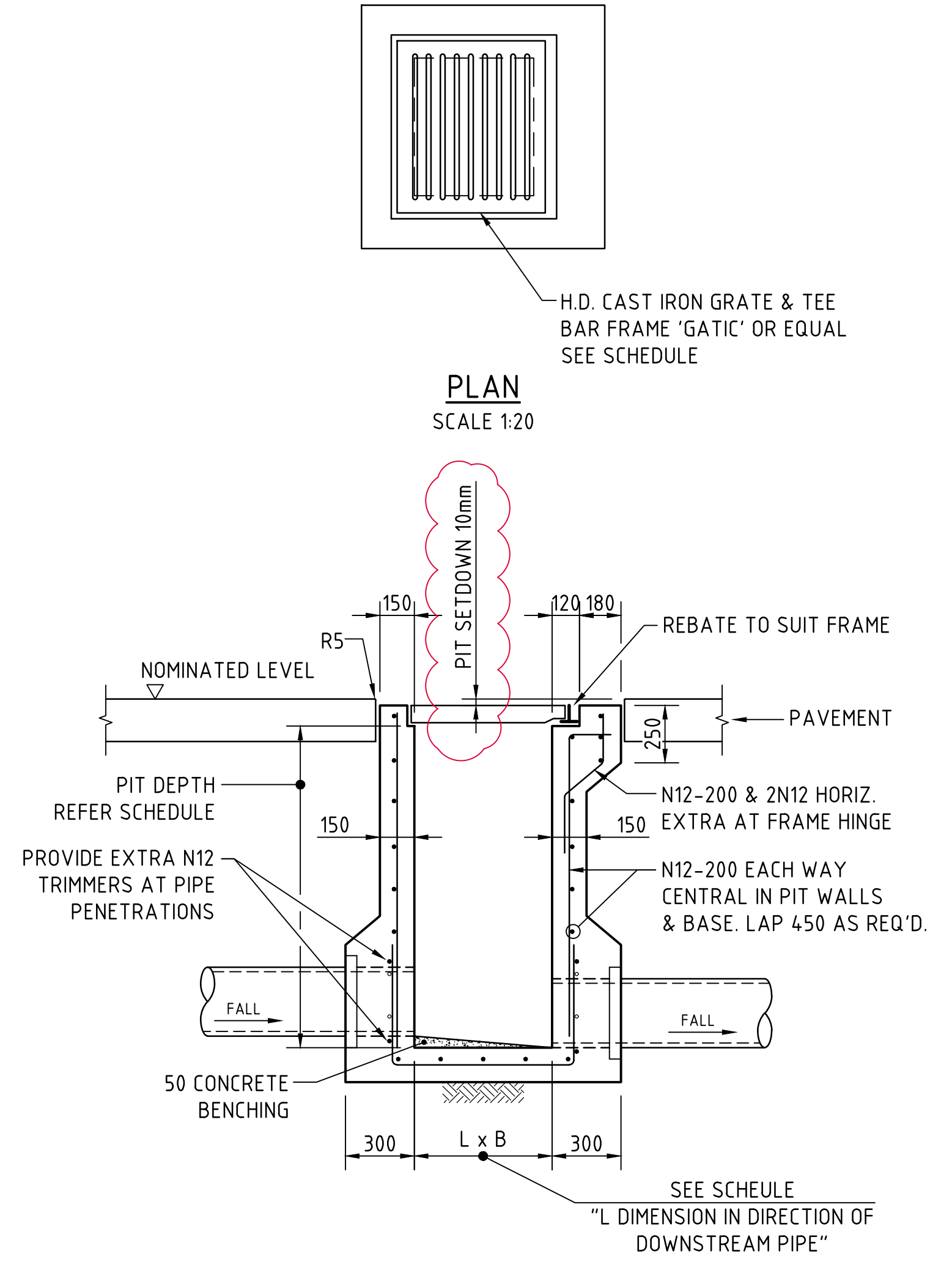
SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRATE/COVER SUPPORT

CAST-INTO PAVEMENT SLAB IN GROUND IMPROVEMENT ZONE
(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's THAT ARE LOCATED IN THE GROUND IMPROVEMENT ZONES)

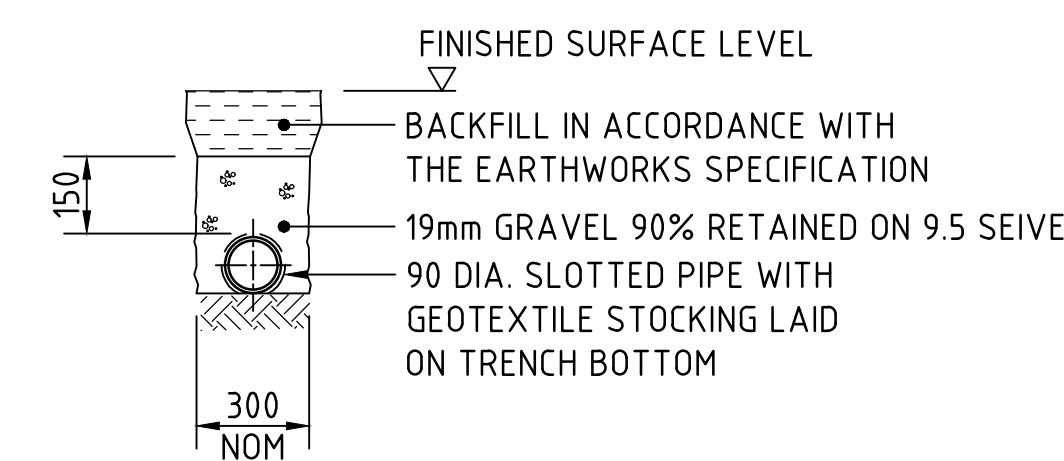


SECTION
SCALE 1:20

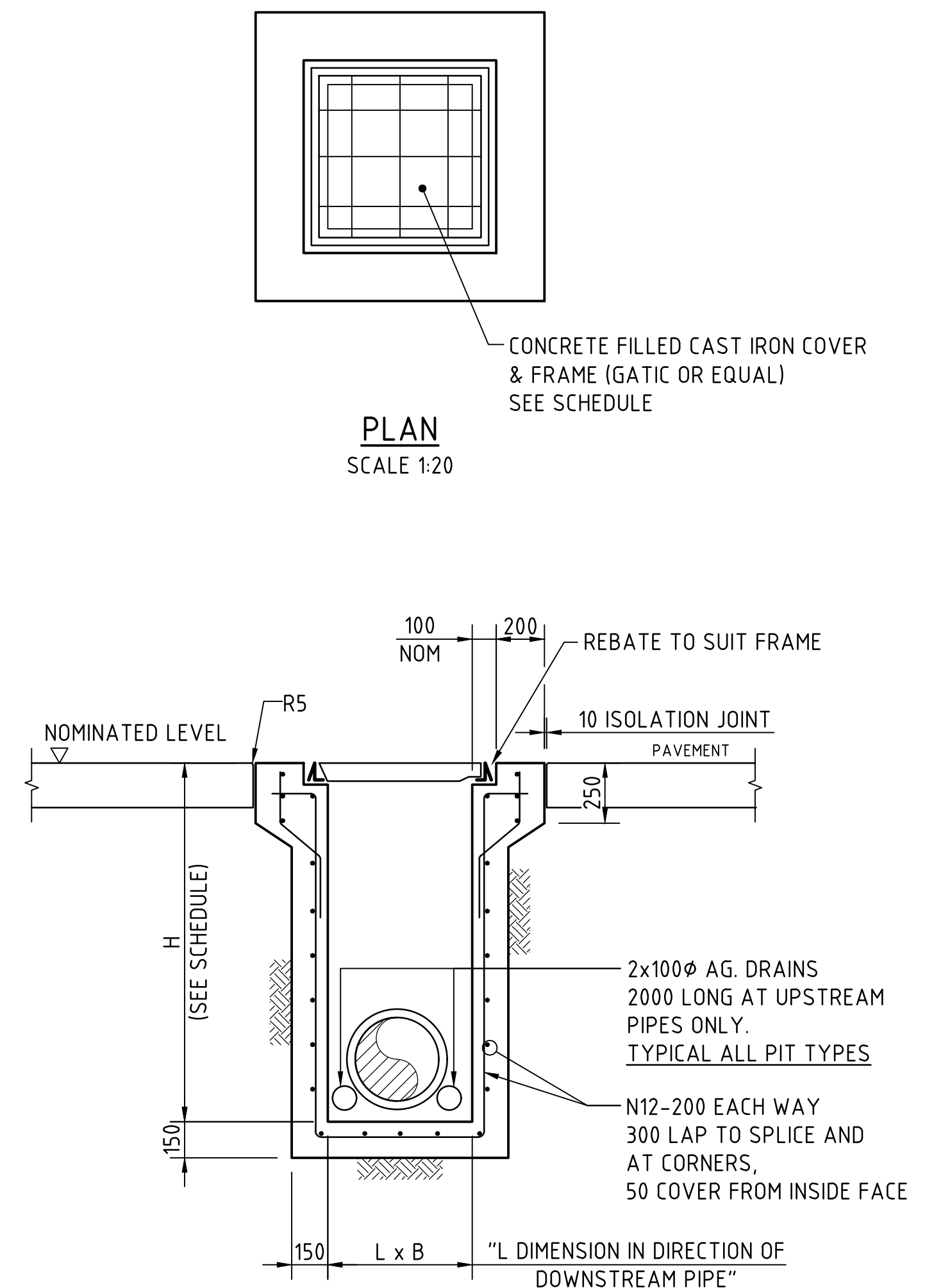
ROCKER PIPE TO PIT CONNECTION DETAIL



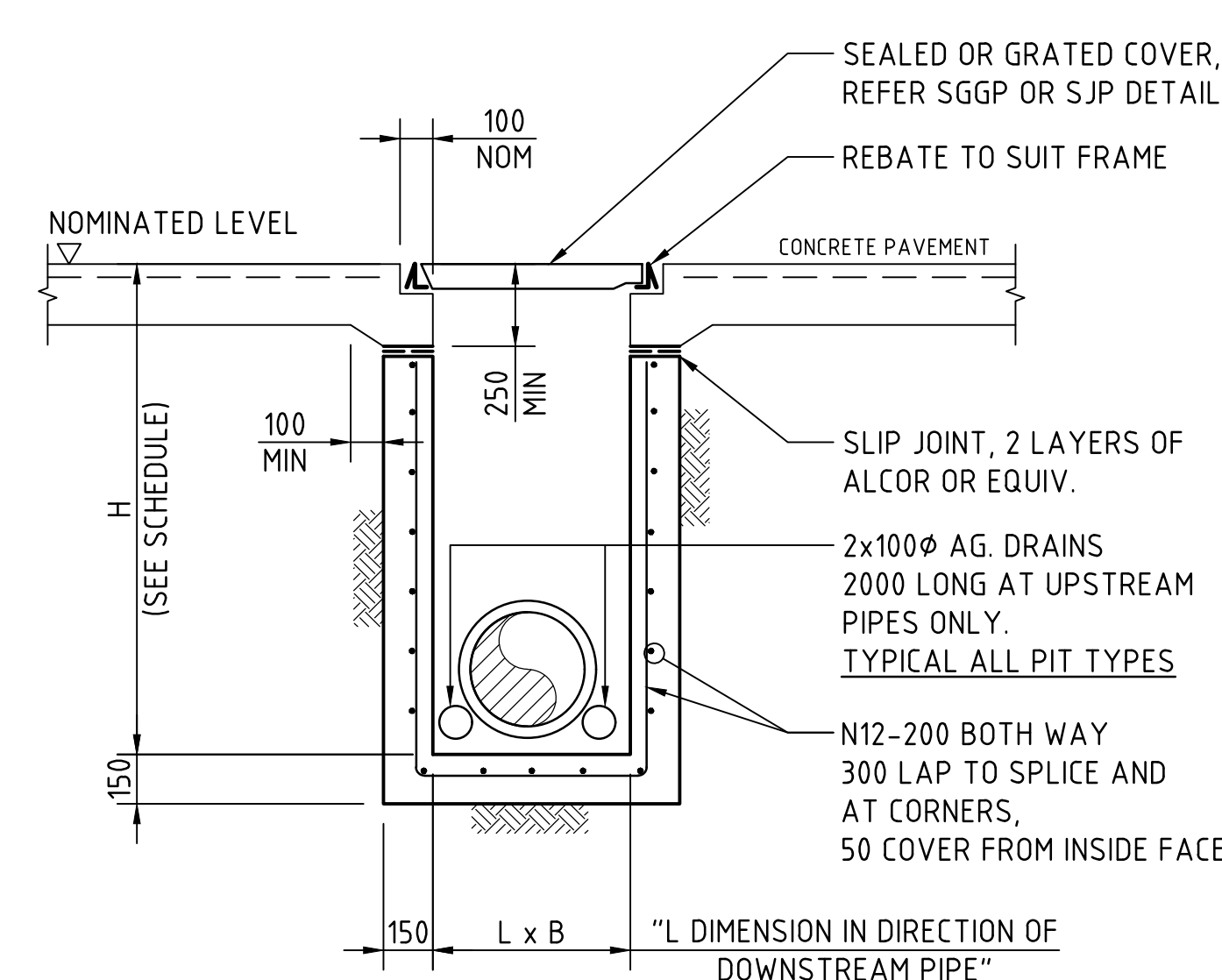
SECTION
SCALE 1:20
SINGLE GRATED GULLY PIT - SGGP



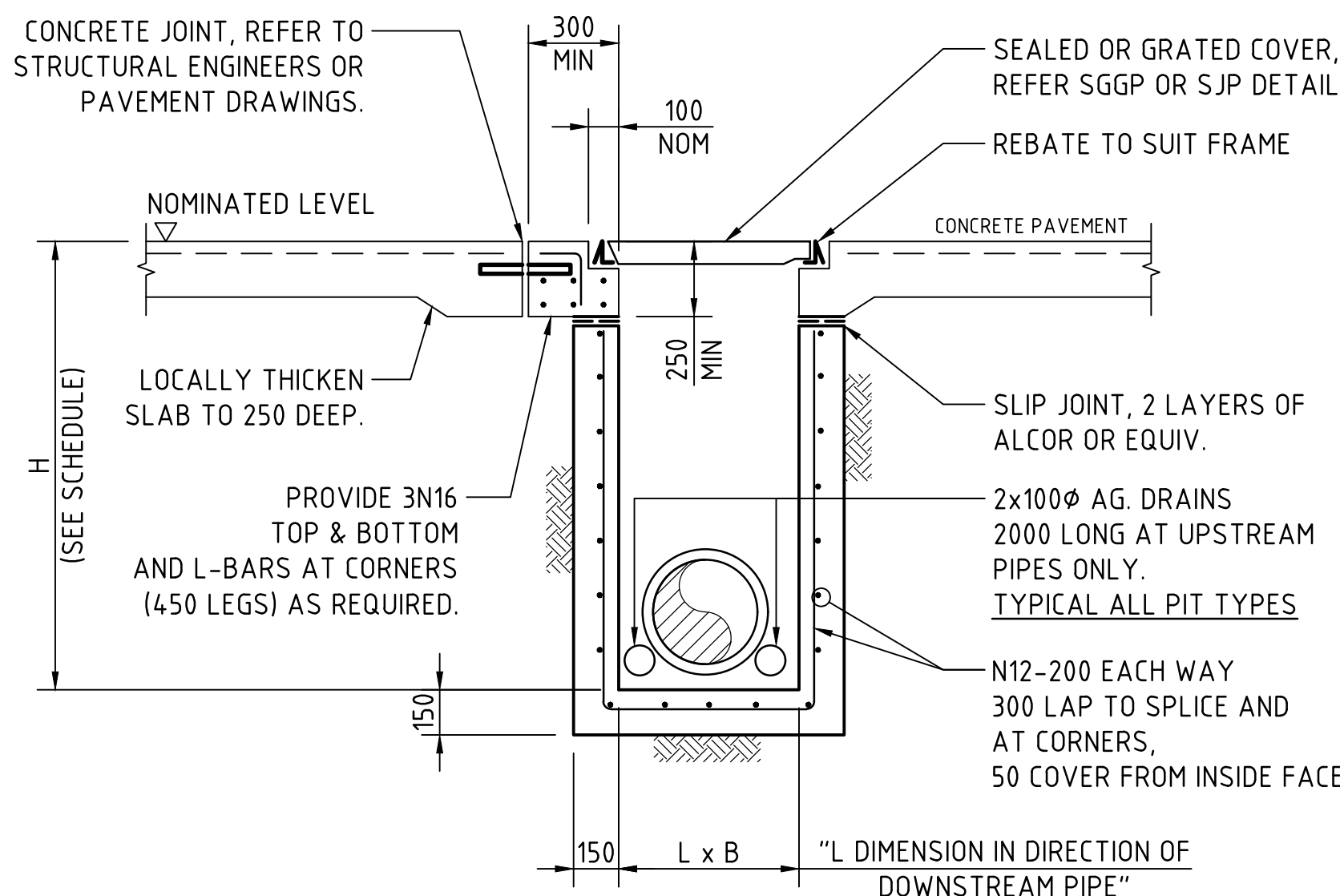
SUPPORT TO AGRICULTURAL DRAIN
SCALE 1:20



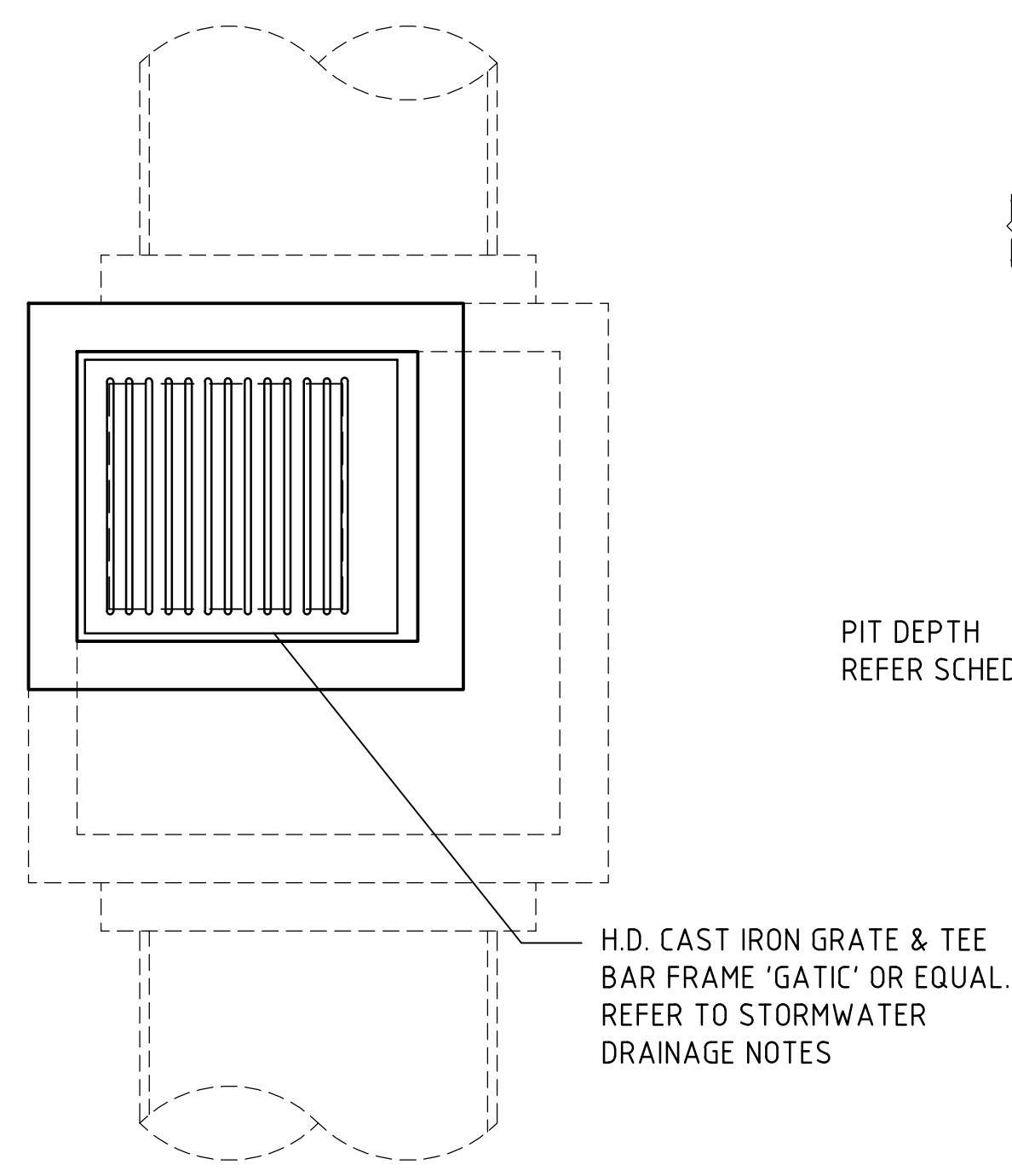
SECTION
SCALE 1:20
SEALED PIT - SP



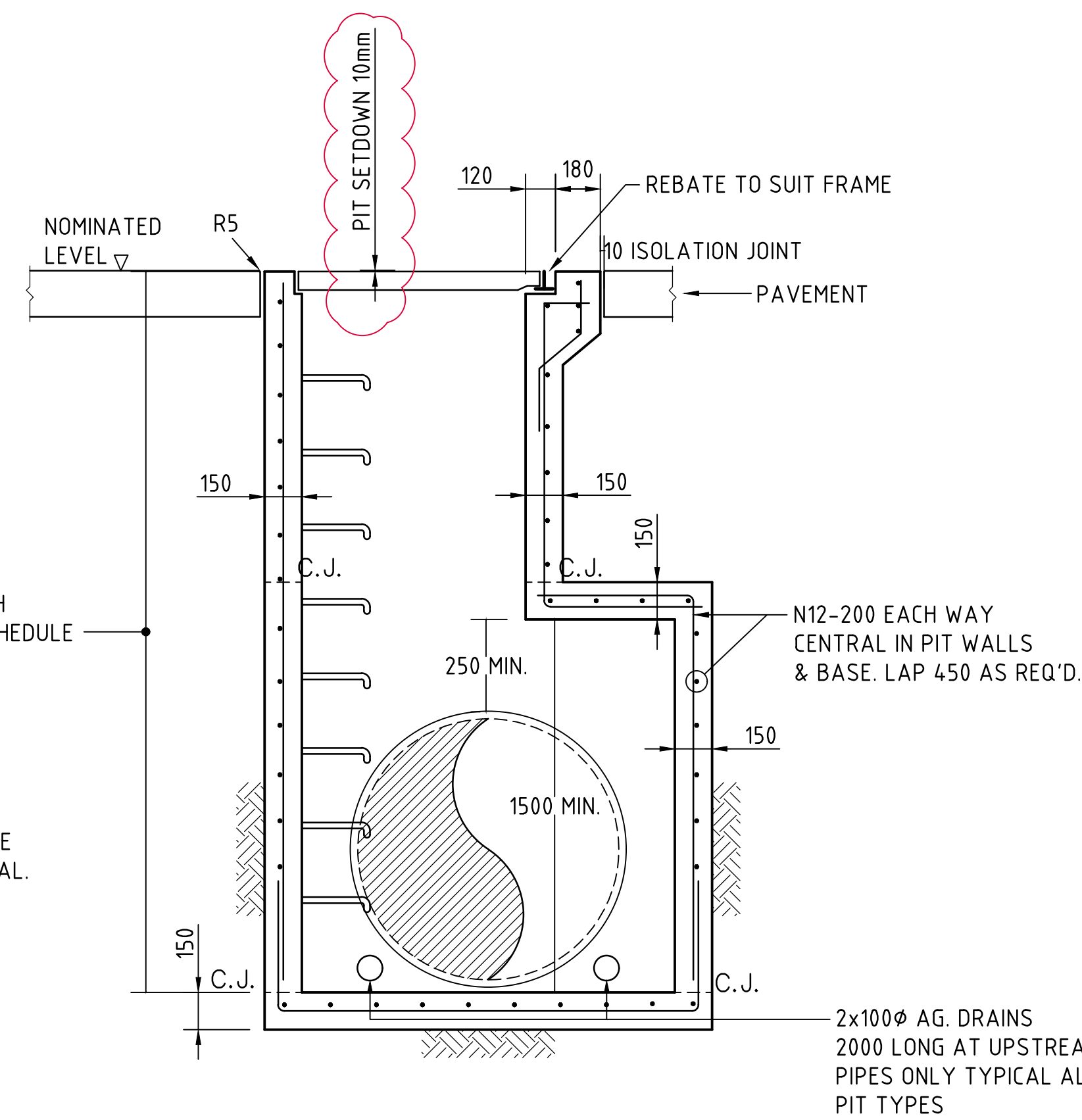
SECTION
SCALE 1:20



SECTION
SCALE 1:20

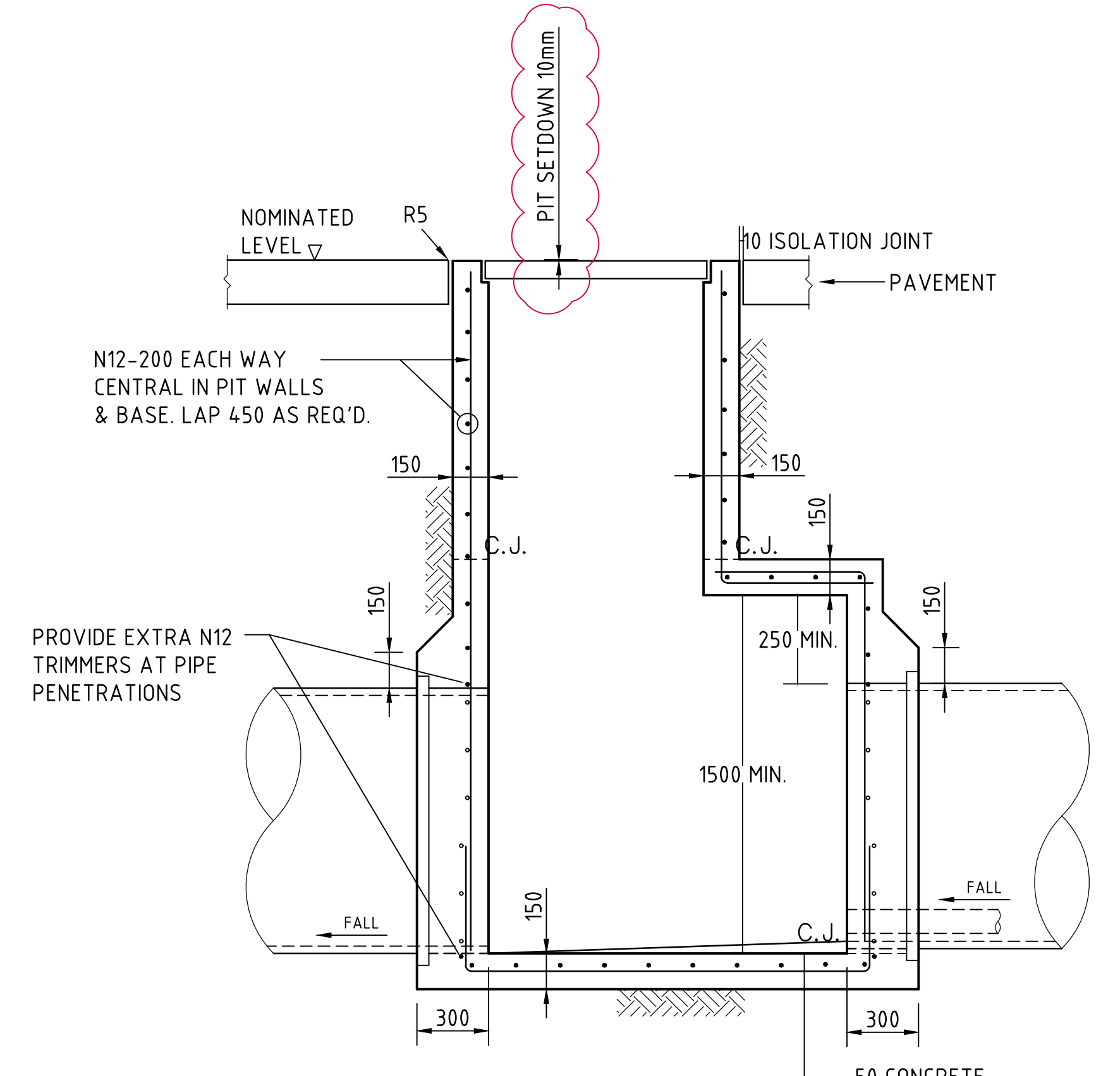


PLAN
SCALE 1:20



SECTION
SCALE 1:20

TAPERED SINGLE GRATED GULLY PIT - SGGP



SECTION
SCALE 1:20

TAPERED SINGLE GRATED GULLY PIT - SGGP

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SIZE SHEET

FOR CONSTRUCTION

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
REVISD AS FLOUDED	12.07.21	1			
ISSUED FOR CONSTRUCTION	09.07.21	0			
ISSUED FOR CONSTRUCTION CERTIFICATE - 90% DETAILED DESIGN	19.05.21	A			

ARCHITECT	CLIENT
hlc	HANSENYUNCKEN ESR

PROJECT	DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF.
ESR HORSLEY LOGISTICS PARK LOT 201	TF	ML	MAY '21	XC	A0	AS SHOWN	CRC-CV-C012990.09-C45

PROJECT	DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF.
ESR HORSLEY LOGISTICS PARK LOT 201	TF	ML	MAY '21	XC	A0	AS SHOWN	CRC-CV-C012990.09-C45

PROJECT	DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF.
ESR HORSLEY LOGISTICS PARK LOT 201	TF	ML	MAY '21	XC	A0	AS SHOWN	CRC-CV-C012990.09-C45

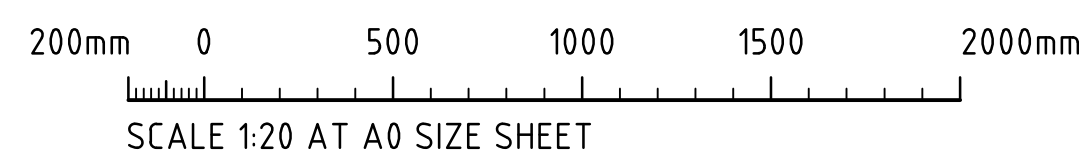
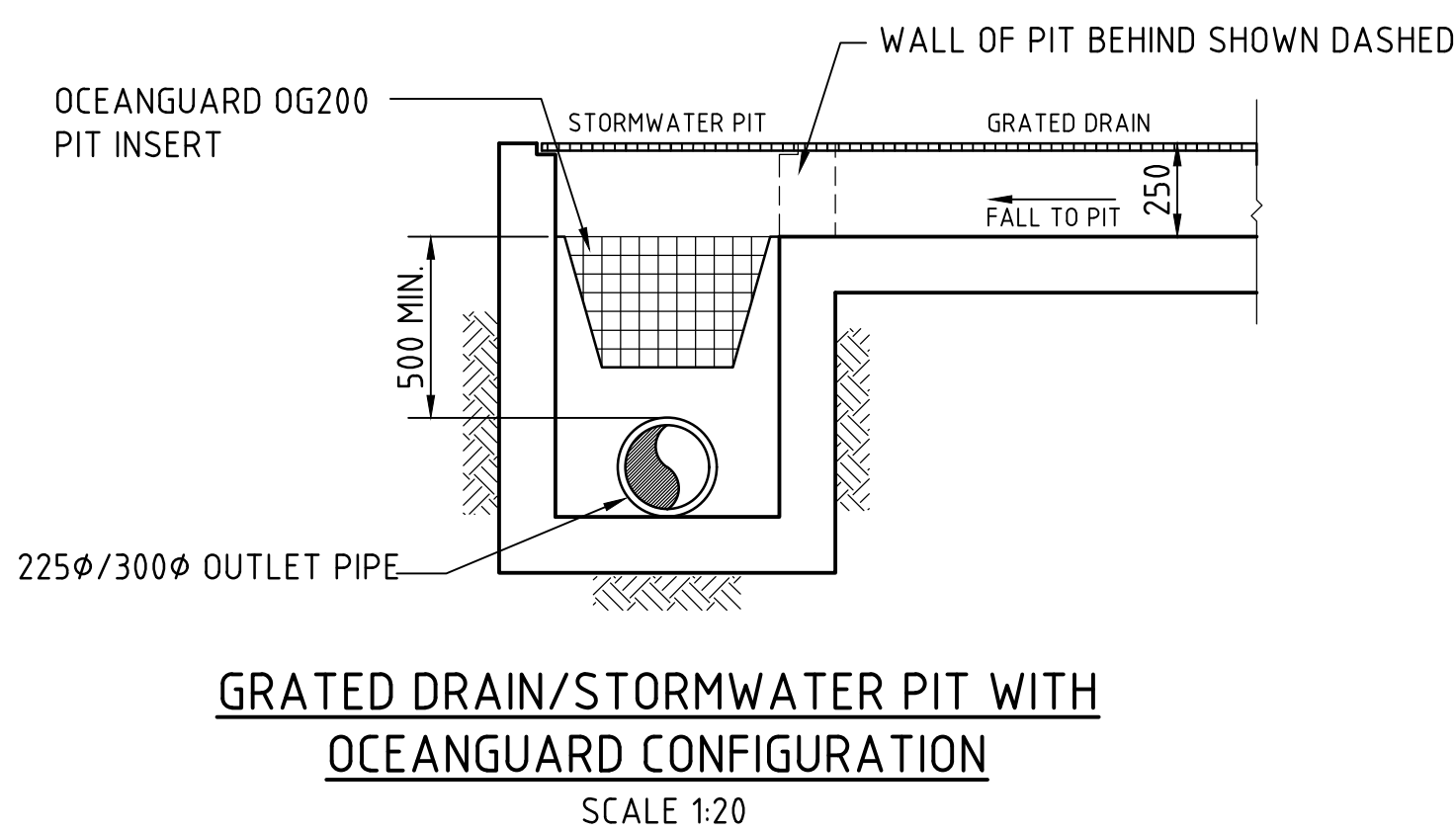
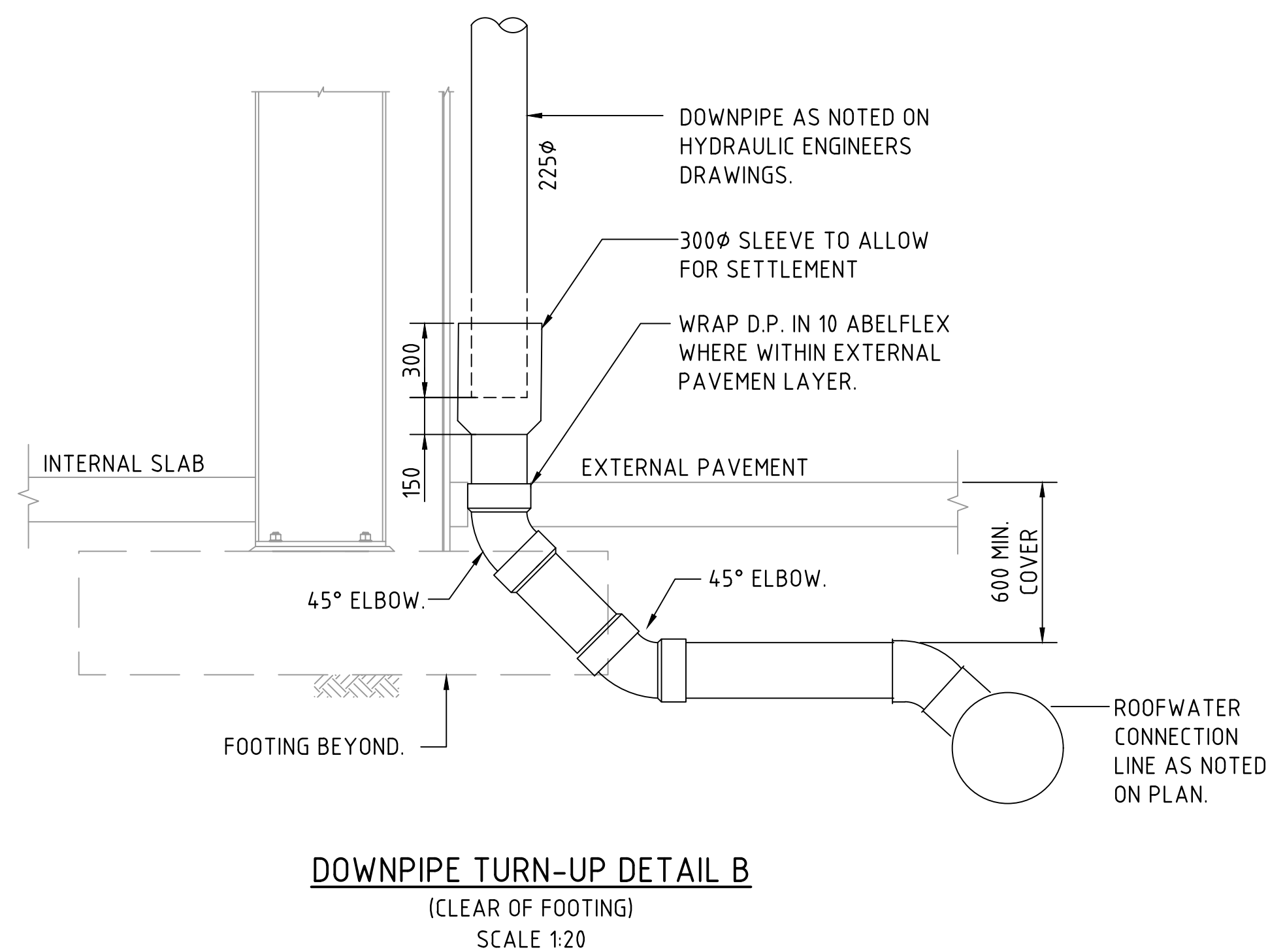
PROJECT	DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF.
ESR HORSLEY LOGISTICS PARK LOT 201	TF	ML	MAY '21	XC	A0	AS SHOWN	CRC-CV-C012990.09-C45

PROJECT	DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF.
ESR HORSLEY LOGISTICS PARK LOT 201	TF	ML	MAY '21	XC	A0	AS SHOWN	CRC-CV-C012990.09-C45

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER DRAINAGE DETAILS
SHEET 1

DRAWING No
CRC-CV-C012990.09-C45



FOR CONSTRUCTION

[illegible]

PIT SCHEDULE - NETWORK A

PIT No.	GRATE RL	TYPE	GRATE SIZE	CHAMBER SIZE	DEPTH	COMMENT
PIT A01	86.82	SGGP	900x900	900x900	910	⊕ ◇
PIT A02	86.84	SGGP	900x900	900x900	1080	⊕ ◇
PIT A03/A	86.92	SGGP	900x900	900x900	1250	⊕ ◇
PIT A03/B	87.00	SJP	900x900	900x900	1570	-
PIT A04	86.81	SGGP	900x900	900x900	1400	⊕
PIT A05	86.75	SGGP	900x900	900x900	1570	⊕
PIT A06	86.76	SGGP	900x900	900x1200	1700	⊕
PIT A07	88.90	SJP	900x900	900x1200	3520	-
PIT A08	86.85	SGGP	900x900	900x1200	2190	⊕ ◇
PIT A09	86.85	SGGP	900x900	900x1200	2270	⊕ ◇
PIT A10	86.85	SGGP	900x900	900x1200	2380	⊕ ◇
PIT A11	86.85	SGGP	900x900	900x1200	2490	⊕ ◇
PIT A12	87.80	SGGP	900x900	900x900	2150	⊕ ◇
PIT A13	87.09	SJP	900x900	900x1200	2800	◇
PIT A14	86.50	SGGP	900x900	900x900	1000	⊕ ◇
PIT A15	86.71	SGGP	900x900	900x1200	2510	⊕ ◇
PIT A16	86.50	SGGP	900x900	900x900	1000	⊕ ◇
PIT A17	86.70	SGGP	900x900	900x1200	2610	⊕ ◇
PIT A18	86.50	SGGP	900x900	900x900	1000	⊕ ◇
PIT A19	87.15	SJP	900x900	900x900	1050	◇ -
PIT A20	87.15	SJP	900x900	900x900	1050	◇ -
PIT A21	87.15	SJP	900x900	900x900	1270	◇ -
PIT A22	86.70	SGGP	900x900	900x1200	2710	⊕ ◇
PIT A23	86.50	SGGP	900x900	900x900	1000	⊕
PIT A24	86.71	SGGP	900x900	900x1200	2800	⊕
PIT A25	87.15	SJP	900x900	900x900	1050	-
PIT A26	86.25	SGGP	900x900	900x900	1050	⊕
PIT A27	86.50	SGGP	900x900	900x900	1450	⊕
PIT A28	86.50	SGGP	900x900	900x900	2630	⊕
PIT A29	86.70	SGGP	900x900	900x900	-	⊕
PIT A30	85.83	SGGP	900x900	1800x1200	1850	⊕

⊕ DENOTES PITS TO BE FITTED WITH OCEAN PROTECT 200 MICRON OCEANGUARD PIT BASKETS - TREATING SURFACE FLOW
◇ DENOTES PITS IN GROUND IMPROVEMENT ZONE. REFER TO DETAILS ON C45.

PIT SCHEDULE - NETWORK B

PIT No.	GRATE RL	TYPE	GRATE SIZE	CHAMBER SIZE	DEPTH	COMMENT
PIT B01	86.99	SGGP	900x900	900x900	720	⊕
PIT B02	86.94	SGGP	900x900	900x900	830	⊕
PIT B03	86.91	SGGP	900x900	900x900	940	⊕
PIT B04	86.82	SGGP	900x900	900x900	1050	⊕
PIT B05	86.82	SGGP	900x900	900x900	1160	⊕
PIT B06	86.82	SGGP	900x900	900x900	1270	⊕
PIT B07	86.82	SGGP	900x900	900x900	1380	⊕
PIT B08	86.82	SGGP	900x900	900x900	1490	⊕
PIT B09	86.70	SGGP	900x900	900x1200	1490	⊕
PIT B10	86.70	SGGP	900x900	900x1200	1600	⊕
PIT B11	NO LONGER IN USE					
PIT B12	86.70	SGGP	900x900	1800x1200	1710	⊕
PIT B13	86.70	SGGP	900x900	900x900	1820	⊕
PIT B14	86.70	SGGP	900x900	900x1200	1960	⊕
PIT B15	86.80	SGGP	900x900	900x900	950	⊕
PIT B16	86.80	SGGP	900x900	900x900	1160	⊕
PIT B17	86.70	SGGP	900x900	900x1200	2100	⊕
PIT B18	86.65	SGGP	900x900	900x1200	2200	⊕
PIT B19	86.60	SGGP	900x900	900x900	950	⊕
PIT B20	87.15	SJP	900x900	900x900	950	-
PIT B21	87.15	SJP	900x900	900x900	1150	-
PIT B22	86.74	SJP	900x900	900x1200	2450	-
PIT B23	85.83	SGGP	900x900	900x900	850	⊕
PIT B24	86.70	SGGP	900x900	900x1200	2500	⊕
PIT B25	85.83	SGGP	900x900	900x900	850	⊕
PIT B26	86.70	SGGP	900x900	900x1500	2890	⊕
PIT B27	87.15	SJP	900x900	900x900	1120	-
PIT B28	87.15	SJP	900x900	900x900	950	-
PIT B29A	86.70	SGGP	900x900	900x900	2640	⊕
PIT B29B	86.70	SGGP	900x900	900x1500	2780	⊕
PIT B30	86.65	SGGP	900x900	900x900	1150	⊕
PIT B31	86.60	SGGP	900x900	900x900	1340	⊕
PIT B32	86.10	SGGP	900x900	900x900	950	⊕
PIT B33	85.53	SGGP	900x900	900x900	1310	⊕
PIT B34	85.75	SGGP	900x900	900x900	1650	⊕
PIT B35	86.00	SGGP	900x900	900x900	2010	⊕
PIT B36	86.08	SGGP	900x900	900x900	1220	⊕
PIT B37	86.05	SGGP	900x900	900x900	1600	⊕
PIT B38	85.97	SJP	900x900	900x900	1390	-
PIT B39	86.11	SGGP	900x900	900x900	2280	⊕
PIT B40	86.60	SGGP	900x900	900x1500	2880	⊕

⊕ DENOTES PITS TO BE FITTED WITH OCEAN PROTECT 200 MICRON OCEANGUARD PIT BASKETS - TREATING SURFACE FLOW

STORMWATER DRAINAGE NOTES:

- ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2018 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 CRC-CV-C012990.09-C51 TO C54.
- 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 ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING ø300 TO BE uPVC GRADE SN8 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_{ck}≥25 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 RAMMERS 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 ø100 uPVC TO EACH SIDE OF PIPE.
- ALL SUBSOIL DRAINAGE LINES SHALL BE ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER (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' UNO.
- 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 UNO. 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.
- WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, CHANNELS OR ANY OTHER EXISTING SYSTEM, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE ENGINEER FOR CLARIFICATION.

STORMWATER NOTE:

REFER TO DRAWINGS C41 TO C44 FOR STORMWATER DRAINAGE PLANS.

FOR CONSTRUCTION

REVISED AS CLOUDED	02.12.21	3							
REVISED AS CLOUDED	01.11.21	2							
REVISED AS CLOUDED	24.08.21	1							
ISSUED FOR CONSTRUCTION	09.07.21	0							
ISSUED FOR CONSTRUCTION CERTIFICATE	08.06.21	B							
ISSUED FOR CONSTRUCTION CERTIFICATE - 90% DETAILED DESIGN	27.05.21	A							
AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	

ARCHITECT



CLIENT



PROJECT

ESR HORSLEY LOGISTICS PARK
LOT 201
327-335 BURLEY ROAD, HORSLEY PARK, 2175



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Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE

STORMWATER PIT SCHEDULE

CRC-CV-C012990.09-C47

ISSUE

3

DRAWING TITLE	
OSD TANK DETAILS	
DRAWING No	ISSUE
CRF-CV-C012990 09-C48	2