

Issue	Last revision title	Date	Status
D	ISSUED FOR SSDA	01.09.25	02
C	ISSUED FOR SSDA	07.07.25	02
B	RE ISSUED FOR DA	25.06.25	02
A	ISSUED FOR DA	13.06.25	02

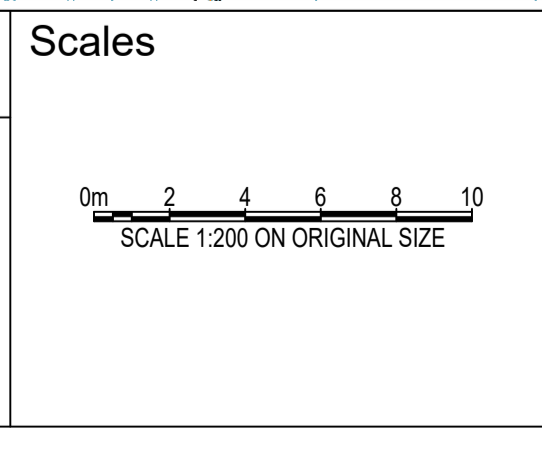
Discipline	Drawing Title and Number	Date	Rev.
ARCH	STRUC	01.09.25	02
MECH		07.07.25	02
ELEC		25.06.25	02
HYD		13.06.25	02

Discipline	Date	Rev.
DRAWN	01.09.25	
CHECKED	01.09.25	
DESIGNED	01.09.25	
VERIFIED	01.09.25	
APPROVED	01.09.25	

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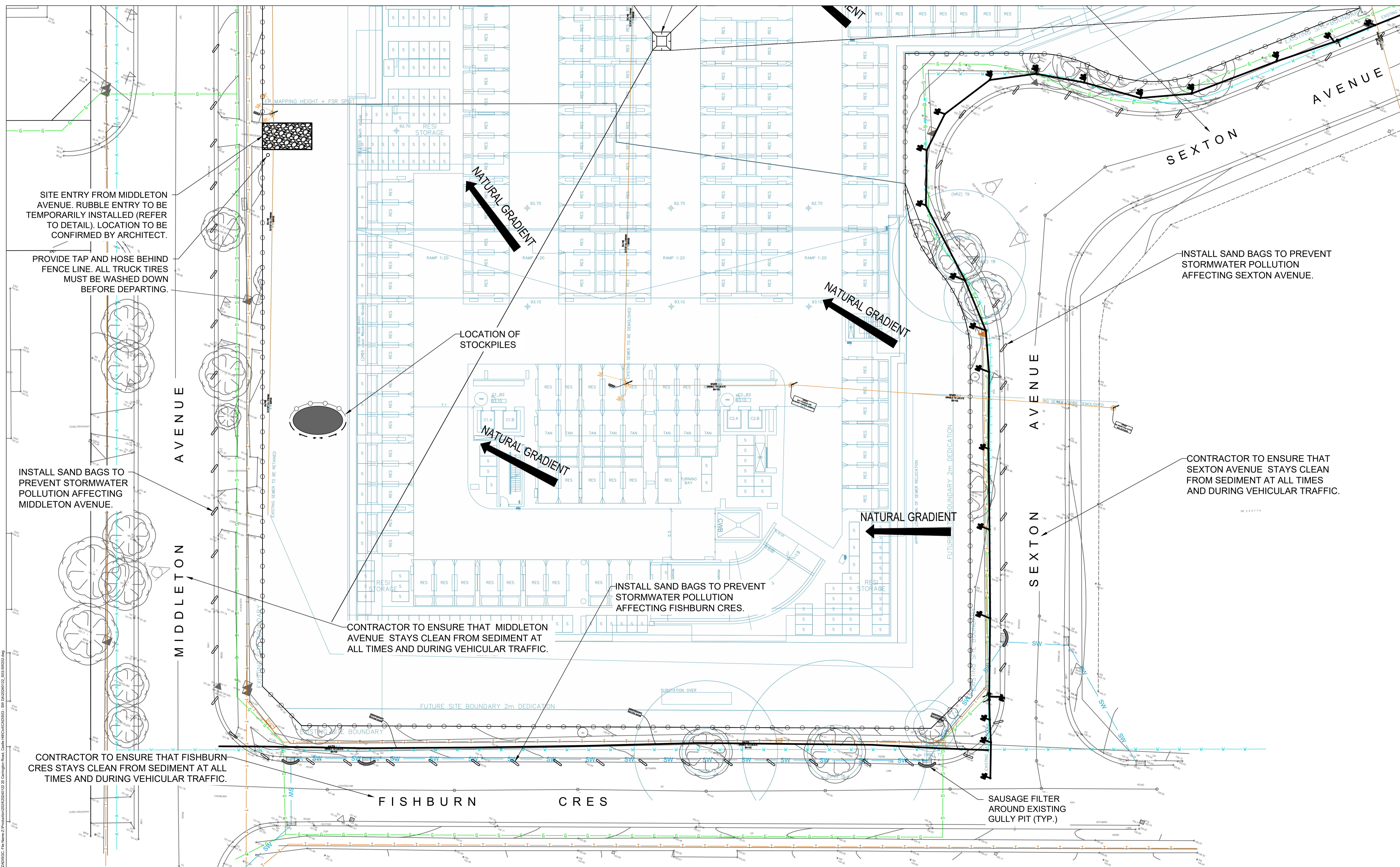
PROJECT
20 CARRINGTON ROAD,
CASTLE HILL.
STORMWATER CONCEPT DESIGN

Project No.	Set No.	Drg No.	Revision No.
20240122	S03-SW201	D	

Status: **ISSUED FOR DA**
NOT FOR CONSTRUCTION

Drawing Title:
EROSION & SEDIMENT CONTROL PLAN SHEET 01 OF 02

Grid	Datum	Sheet
-	A.H.D.	02



Issue	Last revision title	By	Date	Status
D	ISSUED FOR SSDA	SH	01.09.25	02
C	ISSUED FOR SSDA	LD	07.07.25	02
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A	ISSUED FOR DA	SH	13.06.25	02

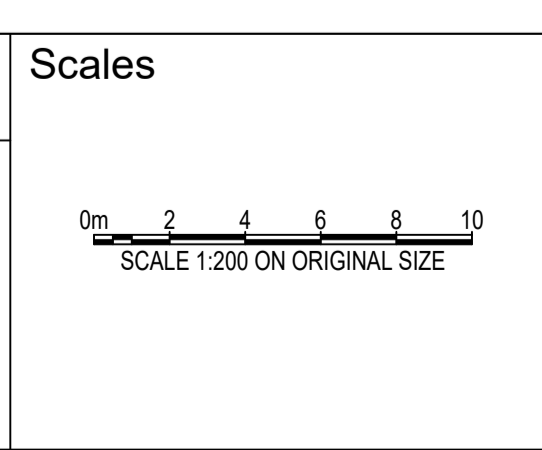
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Discipline	Drawing Title and Number	Date	Rev.	
ARCH				
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ELEC				
HYD				
FIRE				
LANDS				
CIVIL				
SURVEY				

Quality Control	
Discipline	Date
DRAWN	01.09.25
CHECKED	01.09.25
MS	01.09.25
DESIGNED	01.09.25
PE	01.09.25
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SH	01.09.25
APPROVED	01.09.25
SH	01.09.25

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PROJECT
20 CARRINGTON ROAD,
CASTLE HILL.
STORMWATER CONCEPT DESIGN

Grid	Datum	Sheet
-	A.H.D.	03

Project No.	Set No.	Drg No.	Revision No.
20240122	S03-SW202		D

Status: **ISSUED FOR DA**
NOT FOR CONSTRUCTION

Drawing Title:
EROSION & SEDIMENT CONTROL PLAN SHEET 02 OF 02

SERVICES ON THIS DRAWING ARE SHOWN BELOW SLAB U.N.O.

PUMP-OUT PIT NOTE:

- INSTALL WITH THE FOLLOWING ITEMS:
 - 900SG HEAVY DUTY STEEL GRATED LID FOR ACCESS AND MAINTENANCE PURPOSES.
 - CONFINED SPACE SIGN ABOVE PUMP OUT PIT FOR PUBLIC AWARENESS AND WARNING.
 - STEP IRONS. REFER TO DETAILS.
 - PUMPOUT PIT CONTROL BOX (CTRL) TO MANUFACTURERS SPECIFICATIONS. LOCATIONS TO BE CONFIRMED WITH ARCHITECT.
 - PUMPS TO OPERATE IN ALTERNATE MODE TO INCREASE LIFESPAN
 - INSTALL A FLASHING LIGHT AND PROBE AT ENTRY RAMP INTO THE BASEMENT IF REQUIRED BY THE LOCAL AUTHORITY TO INDICATE FAILURE IN PUMPS IN THE BASEMENT. DESIGN DETAILS BY ELECTRICAL CONSULTANT.
 - USE ZENIT MAN 550/280 A1F/50 OR EQUIVALENT DUAL PUMPS TO BE INSTALLED IN SUMP AND CONNECTED TO CONTROL.
 - INSTALL 2x SUBMERSIBLE PUMPS EACH WITH A PUMP CAPACITY OF 10L/s AT 10.0m HEAD, FLOAT SWITCH AND CONTROL PANEL TO MANUFACTURER'S SPECIFICATIONS.

SUBSOIL DESIGN CALCS:

100yr 2hr ARI STORM = 43.7mm/hr
 ARI x 2 = 87.4mm
 AREA OF DRIVEWAY
 RAMP UNCOVERED = 135m²

VOLUME OF RUNOFF
 $V = A \times d$
 $= 135 \times (87.4 / 1000)$
 $= 11.80m^3$
 VOLUME PROVIDED = 24m³

GEO-TECHNICAL NOTE:

BASEMENT DRAINAGE DESIGN SUBJECT TO GEOTECHNICAL INVESTIGATION AND STRUCTURAL DESIGN OF WALLS AND SLABS.

IF EXCESSIVE GROUNDWATER SEEPAGE OR WATER TABLE IS ENCOUNTERED DURING BULK EXCAVATION, STORMWATER ENGINEER IS TO BE NOTIFIED TO REASSESS BASEMENT PUMP-OUT DRAINAGE DESIGN.

AGG LINE NOTE:

CONTRACTOR TO INSTALL AGG LINES UNDER ALL CONSTRUCTION JOINTS IN THE LOWER BASEMENT SLAB. REFER TO STRUCTURAL PLANS FOR JOINTS LOCATION. CONNECT AGG LINE TO STORMWATER LINES.

PUMP NOTE

ALL STORMWATER PUMPS TO BE CLASS 1 ZONE 2 TO ELECTRICAL CONSULTANT'S REQUIREMENTS.

SURFACE GRADING NOTE:

SURFACES ARE TO BE GRADED TOWARDS SURFACE INLET PIT (GSIP) AND RAINWATER OUTLET (RWO) AT 1% MIN. FOR UNCOVERED AREA AND AT 0.5% MIN. FOR COVERED AREA AS PER AS2890.

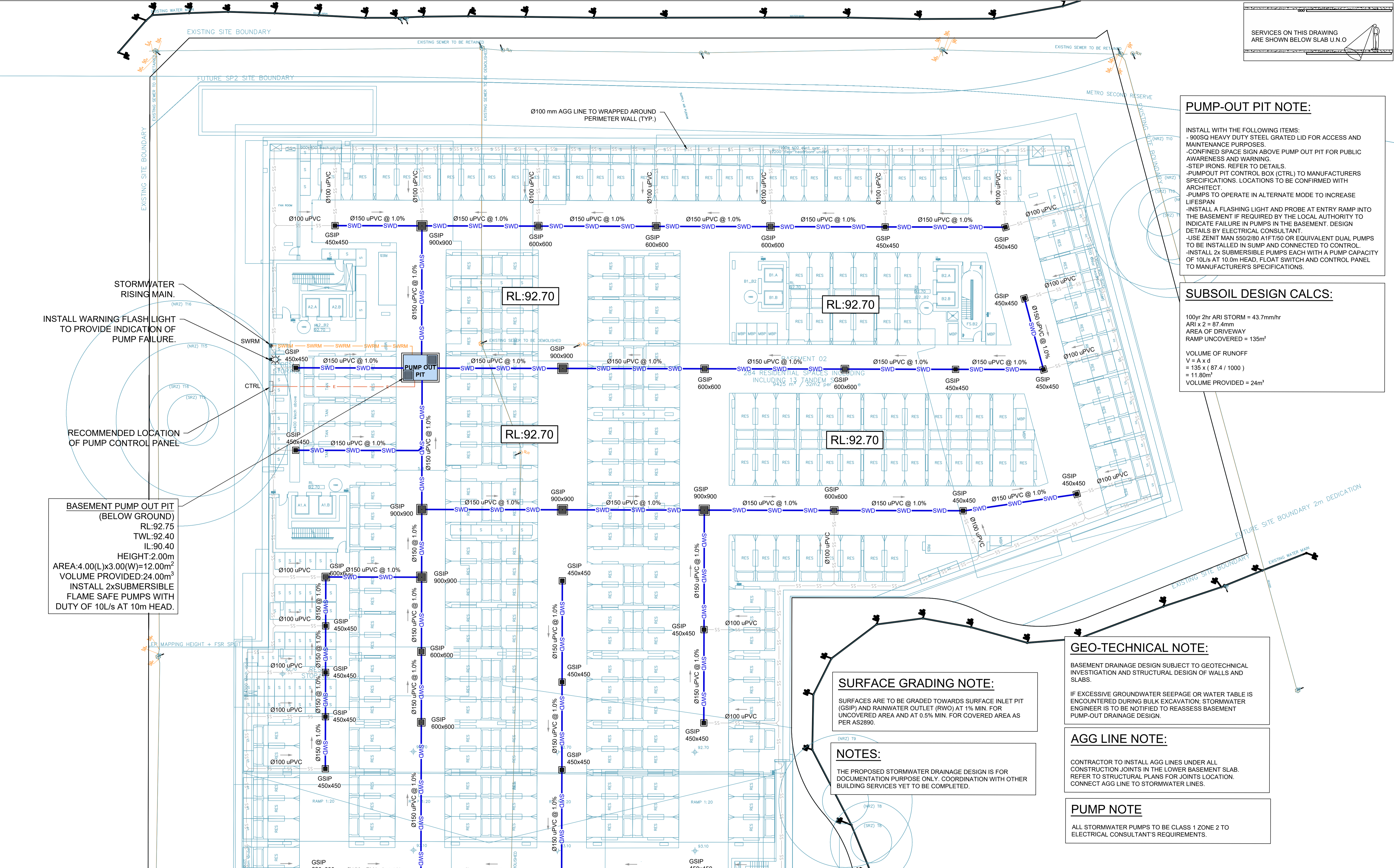
NOTES:

THE PROPOSED STORMWATER DRAINAGE DESIGN IS FOR DOCUMENTATION PURPOSE ONLY. COORDINATION WITH OTHER BUILDING SERVICES YET TO BE COMPLETED.

BASEMENT PUMP OUT PIT (BELOW GROUND)
 RL:92.75
 TWL:92.40
 IL:90.40
 HEIGHT:2.00m
 AREA:4.00(L)x3.00(W)=12.00m²
 VOLUME PROVIDED:24.00m³
 INSTALL 2xSUBMERSIBLE FLAME SAFE PUMPS WITH DUTY OF 10L/s AT 10m HEAD.

INSTALL WARNING FLASH LIGHT TO PROVIDE INDICATION OF PUMP FAILURE.

RECOMMENDED LOCATION OF PUMP CONTROL PANEL

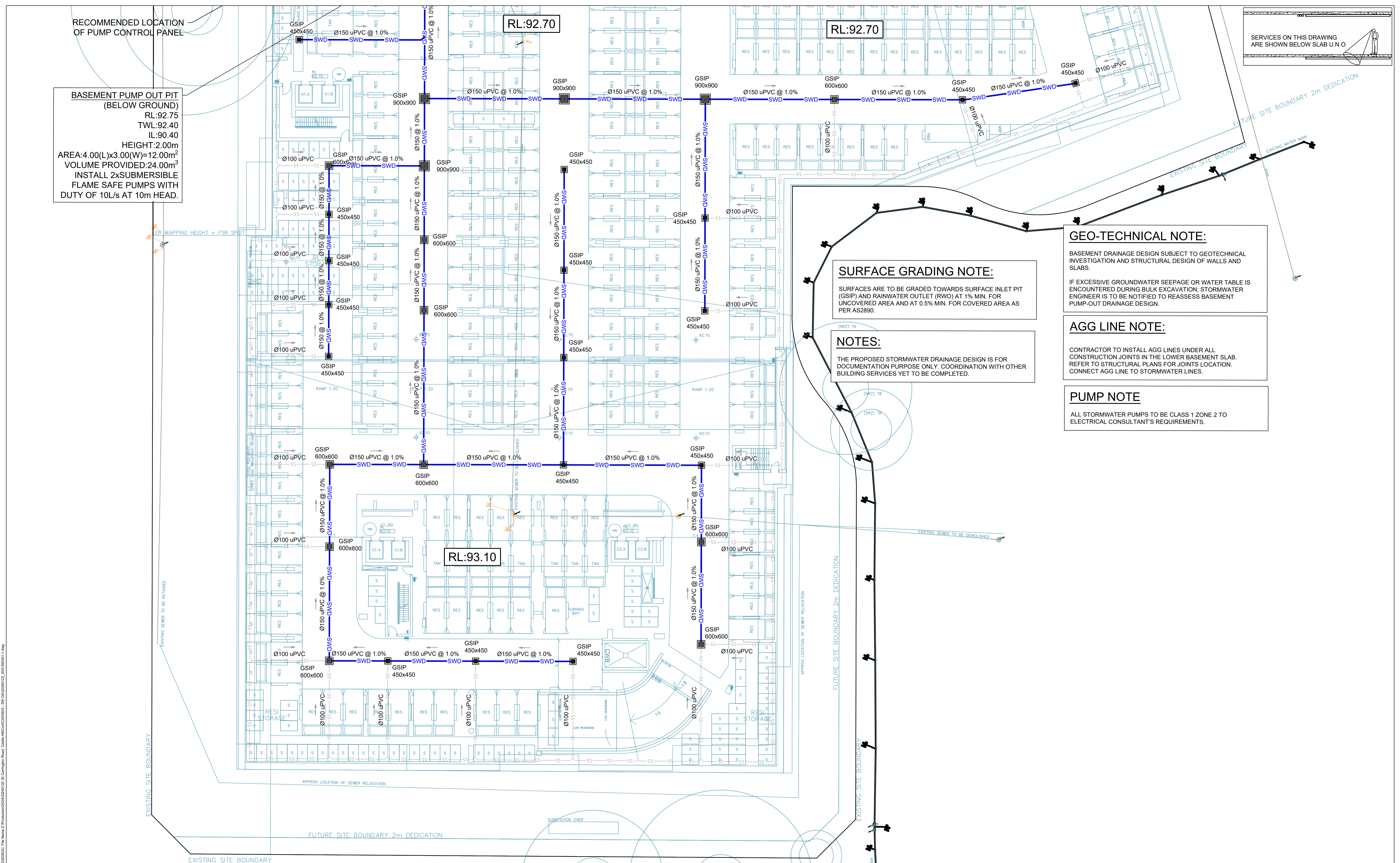


Reference Coordination Drawing Discipline Drawing Title and Number Date Rev. ARCH STRUCT MECH ELEC HYD FIRE LANDS CIVIL SURVEY		Quality Control DRAWN DATE OK 01.09.25 CHECKED DATE MS 01.09.25 DESIGNED DATE PE 01.09.25 VERIFIED DATE SH 01.09.25 APPROVED DATE SH 01.09.25		ENGINEERS AUSTRALIA Chartered Professional Engineer MEMBER WARNING: THE DESIGN, DRAWINGS, SPECIFICATIONS AND THE COPYRIGHT HEREIN REMAIN THE SOLE INTELLECTUAL PROPERTY OF S&G CONSULTANTS PTY LTD AND MUST NOT BE USED, COPIED, ALTERED OR REPRODUCED WHOLLY OR IN PART IN ANY FORM WITHOUT THE WRITTEN CONSENT OF S&G CONSULTANTS PTY LTD DIMENSIONS NOT SHOWN TO BE CHECKED ON SITE. DO NOT SCALE OF THIS DRAWING. POSITIONS OF AUTHORITIES MAINS AND/OR EXISTING SERVICES ARE TO BE CHECKED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY DISCREPANCIES TO THE CONSULTING ENGINEER FOR DECISION/CLARIFICATION BEFORE PROCEEDING WITH THE WORK. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND OTHER CONSULTANTS' DRAWINGS.		Scales 0m 2 4 6 8 10 SCALE 1:200 ON ORIGINAL SIZE		Client ARADA		Architect TURNER		S&G CONSULTANTS PTY LTD SUITE 311, LEVEL 3 480 PACIFIC HIGHWAY ST. LEONARDS, N.S.W. 2065 T: +61 2 8883 4239 Email: office@sgce.com.au Web: www.sgce.com.au A.B.N. 21 118 222 530		PROJECT 20 CARRINGTON ROAD, CASTLE HILL. STORMWATER CONCEPT DESIGN		Status ISSUED FOR DA NOT FOR CONSTRUCTION Drawing Title STORMWATER CONCEPT DESIGN BASEMENT 02 SHEET 01 OF 02	
Issue Last revision title By Date Status 1-preliminary 2-development application 4-tender 3-construction certificate 5-construction 6-other		Issuer internal sequence and revision history 1-preliminary 2-development application 3-construction certificate 4-tender 5-construction 6-other		Grid -		Datum A.H.D.		Sheet 05		Project No. 20240122		Set No. - Drg No. S03-SW301		Revision No. D			

RECOMMENDED LOCATION OF PUMP CONTROL PANEL

BASEMENT PUMP OUT PIT (BELOW GROUND)
 RL:92.75
 TWL:92.40
 IL:90.40
 HEIGHT:2.00m
 AREA:4.00(L)x3.00(W)=12.00m²
 VOLUME PROVIDED:24.00m³
 INSTALL 2xSUBMERSIBLE FLAME SAFE PUMPS WITH DUTY OF 10L/s AT 10m HEAD.

SERVICES ON THIS DRAWING ARE SHOWN BELOW SLAB U.N.O.



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PUMP NOTE

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SURFACE GRADING NOTE:

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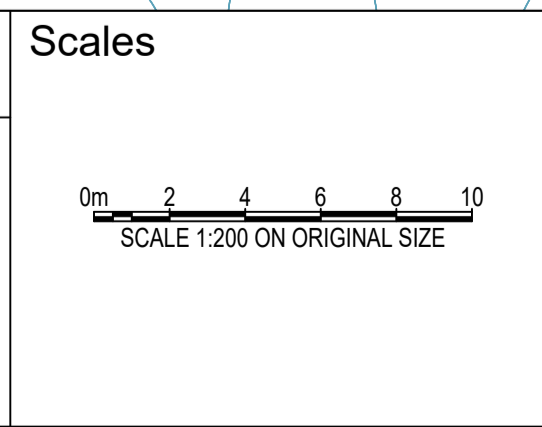
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B	ISSUED FOR SSSA	SH	01.09.25	02
A	ISSUED FOR SSSA	LD	07.07.25	02

Discipline	Drawing Title and Number	Date	Rev.
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
FIRE			
LANDS			
CIVIL			
SURVEY			

Discipline	Date
DRAWN	01.09.25
CHECKED	01.09.25
MS	01.09.25
DESIGNED	01.09.25
PE	01.09.25
VERIFIED	01.09.25
SH	01.09.25
APPROVED	01.09.25
SH	01.09.25

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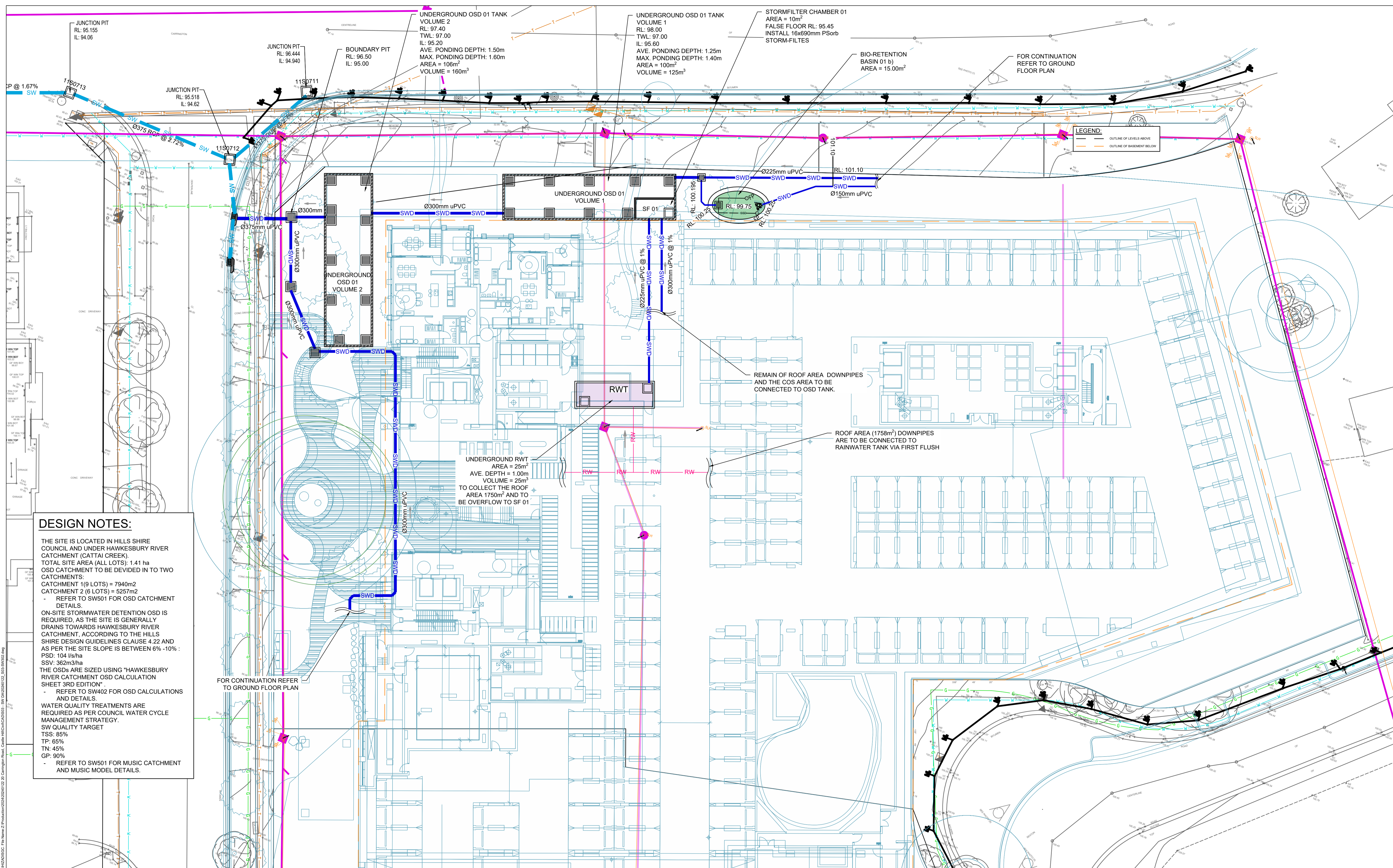
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PROJECT
 20 CARRINGTON ROAD,
 CASTLE HILL.
 STORMWATER CONCEPT DESIGN

Grid	Datum	Sheet
-	A.H.D.	06

Project No.	Set No.	Drg No.	Revision No.
20240122	S03-SW301-1	B	

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 1-preliminary 2-development application 3-construction certificate 4-tender 5-construction 6-other



Issue	Last revision title	By	Date	Status
D	ISSUED FOR SSDA	SH	01.09.25	02
C	ISSUED FOR SSDA	LD	07.07.25	02
B	RE ISSUED FOR DA	SH	25.06.25	02
A	ISSUED FOR DA	SH	13.06.25	02

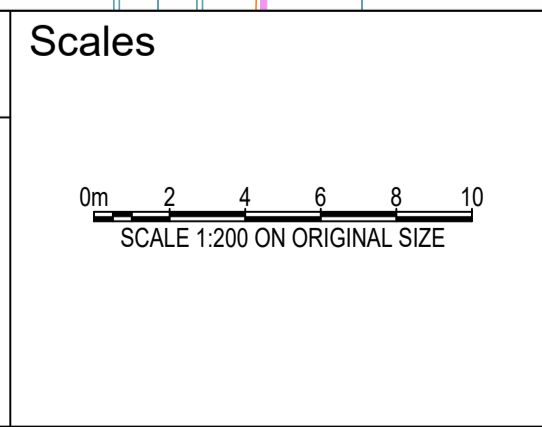
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Discipline	Drawing Title and Number	Date	Rev.	
ARCH				
STRUCT				
MECH				
ELEC				
HYD				
FIRE				
LANDS				
CIVIL				
SURVEY				

Quality Control	
Discipline	Date
DRAWN	01.09.25
OK	
CHECKED	
MS	01.09.25
DESIGNED	
PE	01.09.25
VERIFIED	
SH	01.09.25
APPROVED	
SH	01.09.25

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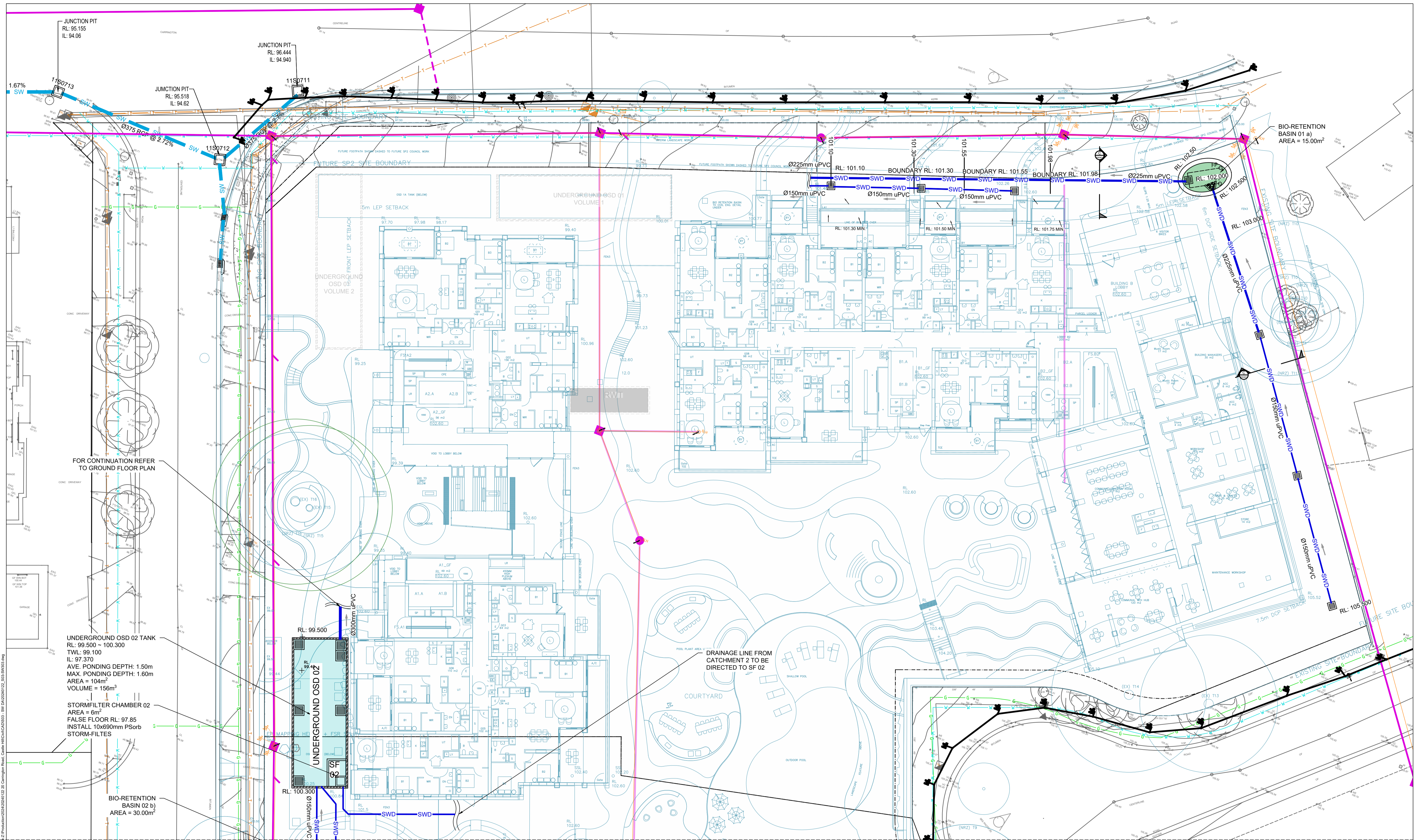
PROJECT
 20 CARRINGTON ROAD,
 CASTLE HILL.
 STORMWATER CONCEPT DESIGN

Grid	Datum	Sheet
-	A.H.D.	07

Project No.	Set No.	Drg No.	Revision No.
20240122	S03-SW302		D

Status: **ISSUED FOR DA**
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 25/09/2025 15:13:51 PM By: JASON@SGCE.COM.AU
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FOR CONTINUATION REFER TO GROUND FLOOR PLAN

UNDERGROUND OSD 02 TANK
 RL: 99.500 - 100.300
 TWL: 99.100
 IL: 97.370
 AVE. PONDING DEPTH: 1.50m
 MAX. PONDING DEPTH: 1.60m
 AREA = 104m²
 VOLUME = 156m³

STORMFILTER CHAMBER 02
 AREA = 6m²
 FALSE FLOOR RL: 97.85
 INSTALL 10x690mm PSorb
 STORM-FILTERS

BIO-RETENTION BASIN 02 b)
 AREA = 30.00m²

DRAINAGE LINE FROM CATCHMENT 2 TO BE DIRECTED TO SF 02

REFER DRAWING SW304 FOR CONTINUATION

Discipline	Drawing Title and Number	Date	Rev.
ARCH	ISSUED FOR SSDA	01.09.25	02
MECH	ISSUED FOR SSDA	07.07.25	02
ELEC	RE ISSUED FOR DA	25.06.25	02
HYD	ISSUED FOR DA	13.06.25	02
FIRE	Issue	Last revision title	

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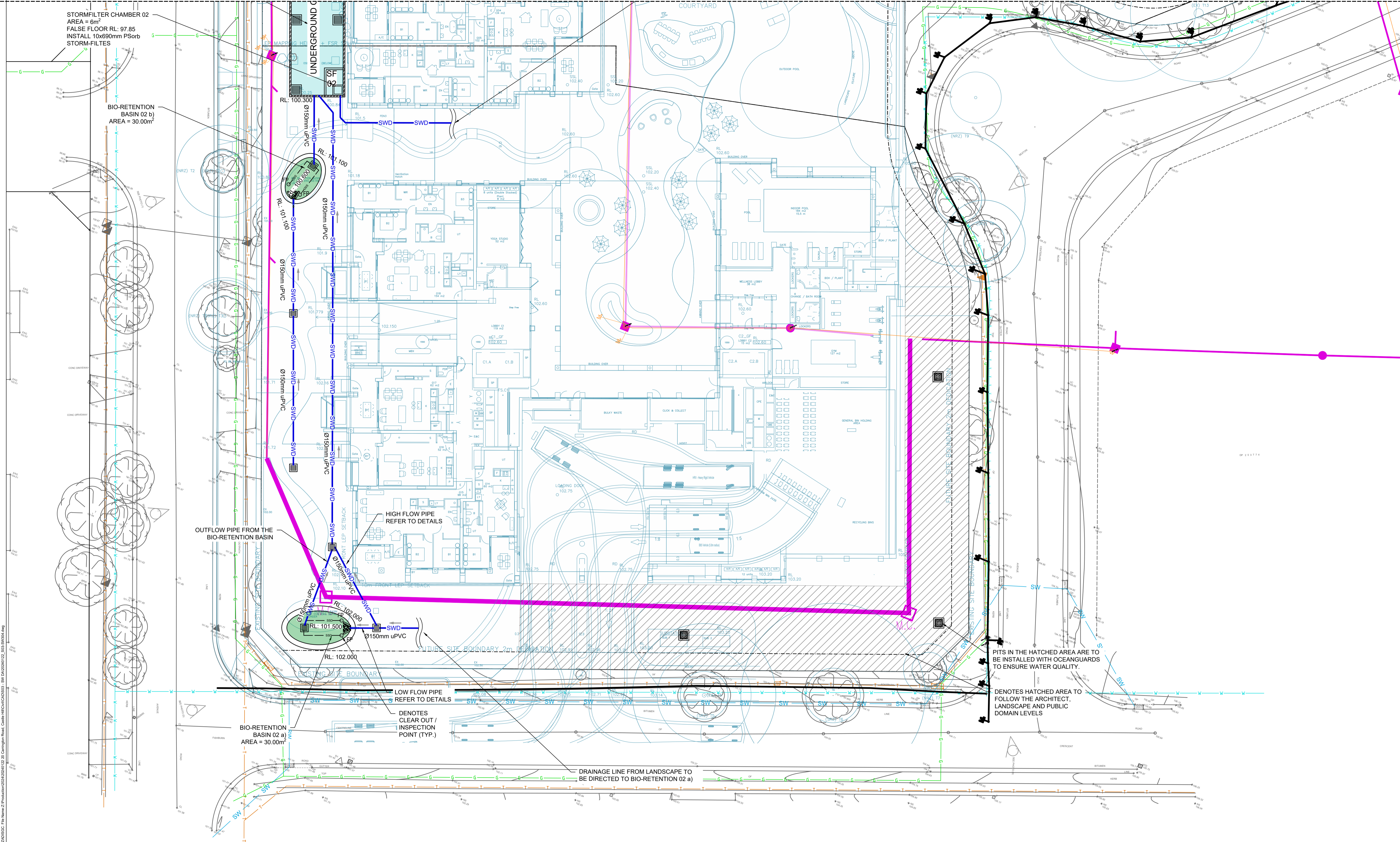
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PROJECT
 20 CARRINGTON ROAD,
 CASTLE HILL.
 STORMWATER CONCEPT DESIGN

Status
 ISSUED FOR DA
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Drawing Title
 STORMWATER CONCEPT DESIGN
 GROUND FLOOR
 SHEET 01 OF 02

Project No. 20240122
Set No. - Drg No. S03-SW303
Revision No. D



Issue	Last revision title	Date	Status
1	Issued for DA	01.09.25	02
2	Issued for SSSA	07.07.25	02
3	Re-issued for DA	25.06.25	02
4	Issued for DA	13.06.25	02
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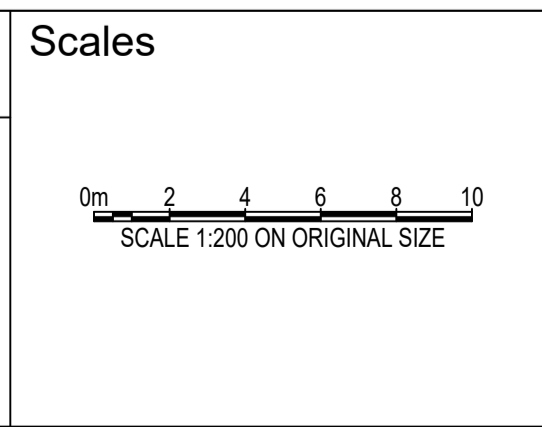
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STRUCT			
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SURVEY			

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PROJECT
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CASTLE HILL.
STORMWATER CONCEPT DESIGN

Grid	Datum	Sheet
-	A.H.D.	09

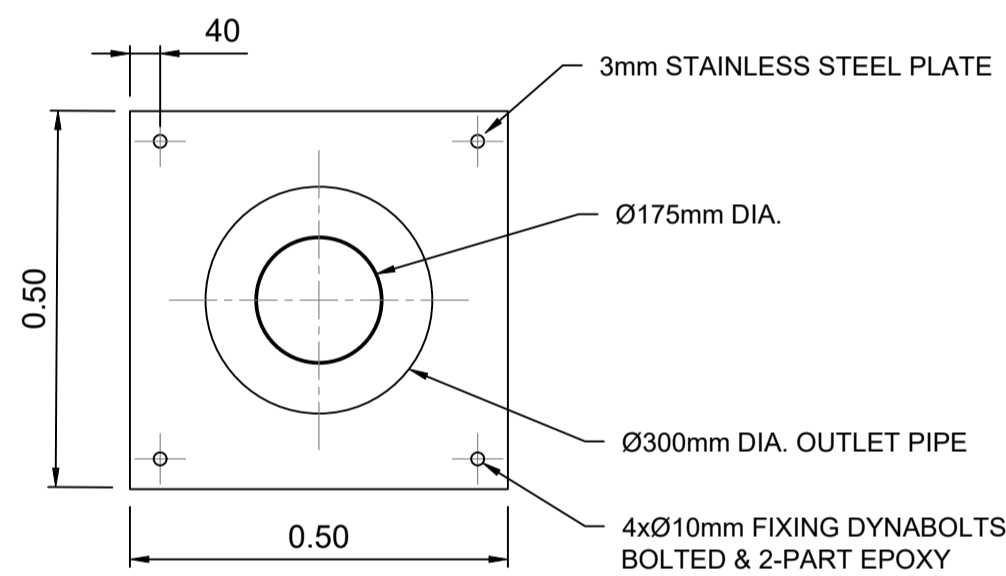
Project No.	Set No.	Drg No.	Revision No.
20240122	S03-SW304	D	

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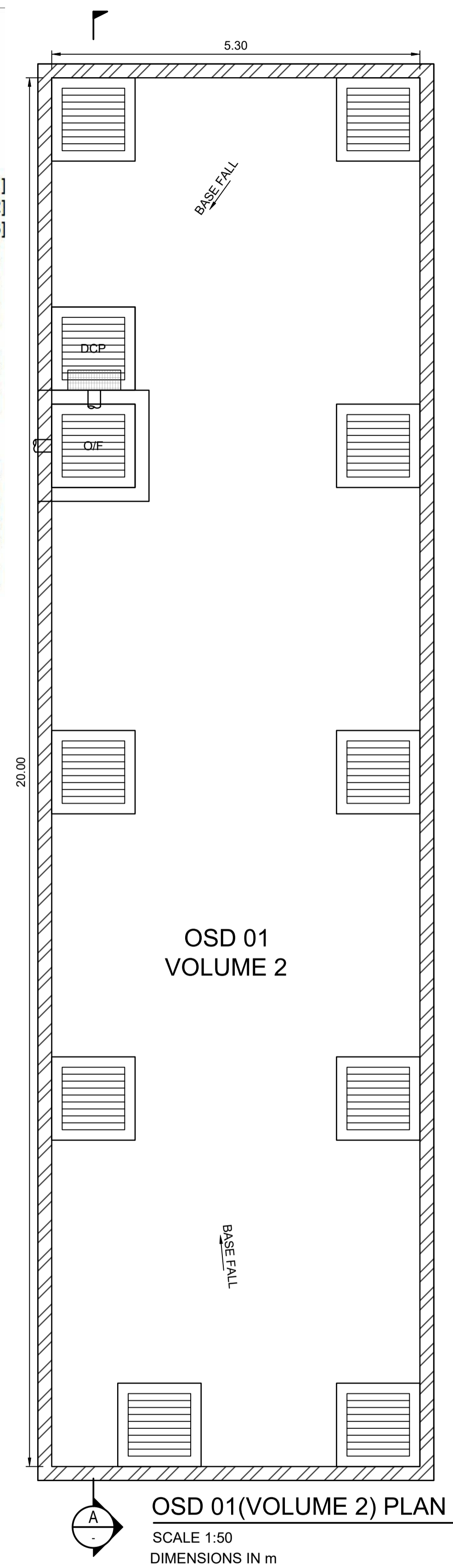
HAWKESBURY RIVER CATCHMENT

COUNCIL O.S.D. CHECK SHEET

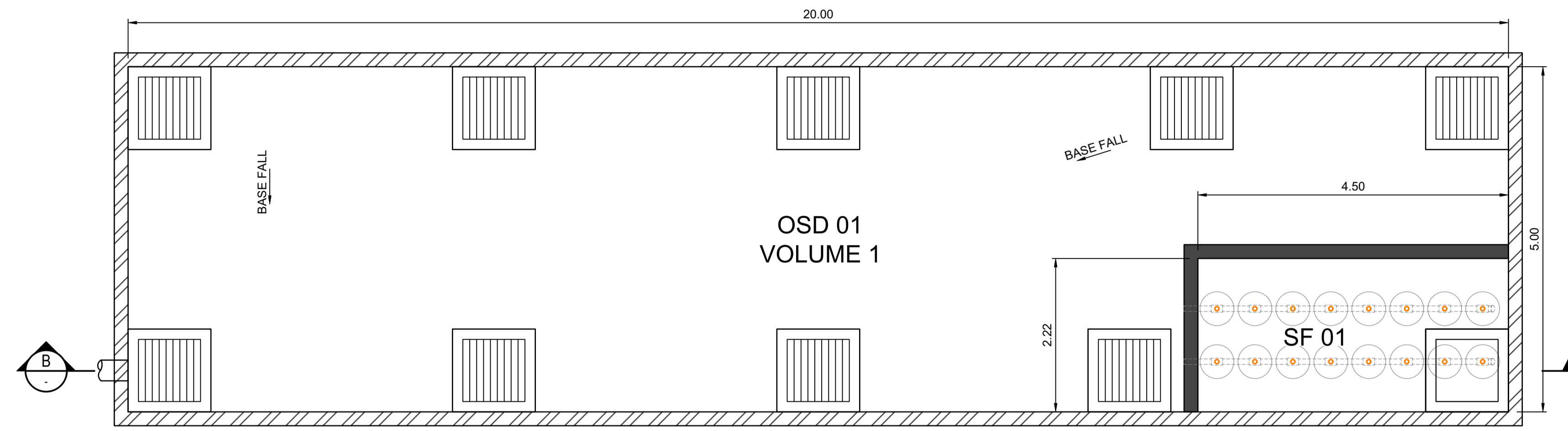
Site Address	= 20 Carrington Rd, Castle Hill NSW 2154
File No.	= OSD 01 - 2024.0122
Site Area	= 0.7745 Ha [A]
Site Slope	= 7 % [A1]
Site Storage Volume	= See Chart = 362 m ³ /Ha [A2]
Permissible Discharge	= See Chart = 104 l/s/Ha [A3]
Basic Storage Volume	= [A2] x [A] = 280.4 m ³ [B]
Basic Discharge	= [A3] x [A] = 80.5 l/s [C]
Area of Site Drained to Storage	= 0.7745 Ha [D]
% of Total Site	= [D] / [A] x 100 = 100 % [E]
Storage Per Ha.	= [B] / [D] = 362.0 m ³ /Ha [F]
Permissible Discharge	= $\{([F] / 69.21)^{1.4} (-1.368)\} \times 1000$ = 104.0 l/s/Ha [G]
P.S.D.	= [G] x [D] = 80.5 l/s [H]
Maximum Head to Orifice Centre	= 1.500 m [K]
Selected Orifice Dia.	= $\{(0.464 \times [H] / 1000)^{0.5} / [K]^{0.5}\} \times 1000$ = 175 mm [J]
Maximum Discharge	= [H] = 80.6 l/s [L]
Head for High Early Discharge	= 1.400 m [M]
High Early Discharge	= $\{([L] \times ([M] / [K])^{0.5})\}$ = 77.9 l/s [N]
Approx. Ave. Discharge	= $\{([L] + [N]) / 2\}$ = 79.2 l/s [P]
Ave. Discharge per Ha.	= [P] / [D] = 102.3 l/s/Ha [Q]
Storage Volume	= $69.21 \times ([Q] / 1000)^{-0.731}$ = 366.3 m ³ /Ha [R]
Site Storage Volume	= [R] x [D] = 283.7 m ³ [S]



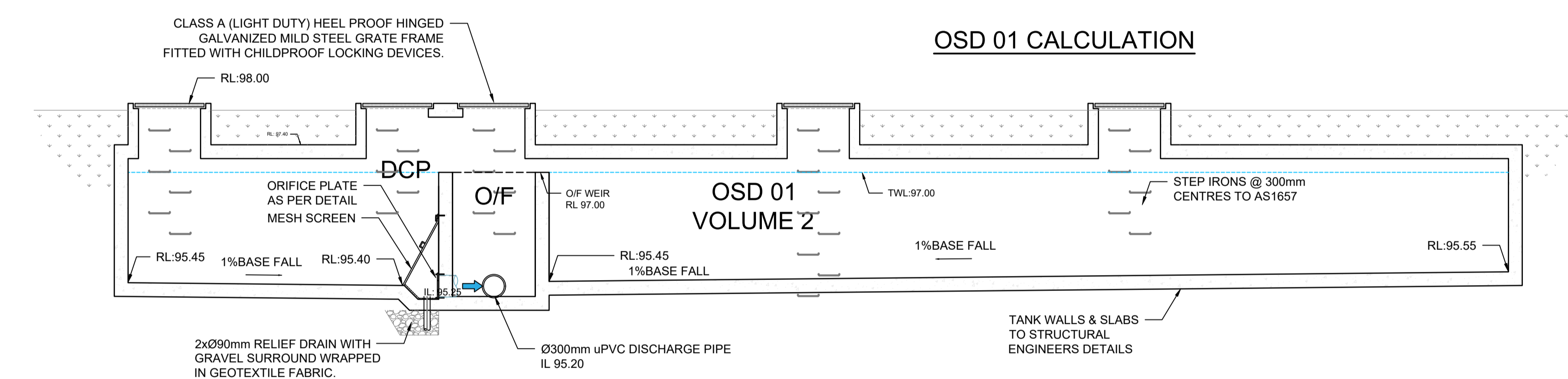
ORIFICE PLATE FOR OSD 01
SCALE 1: 10



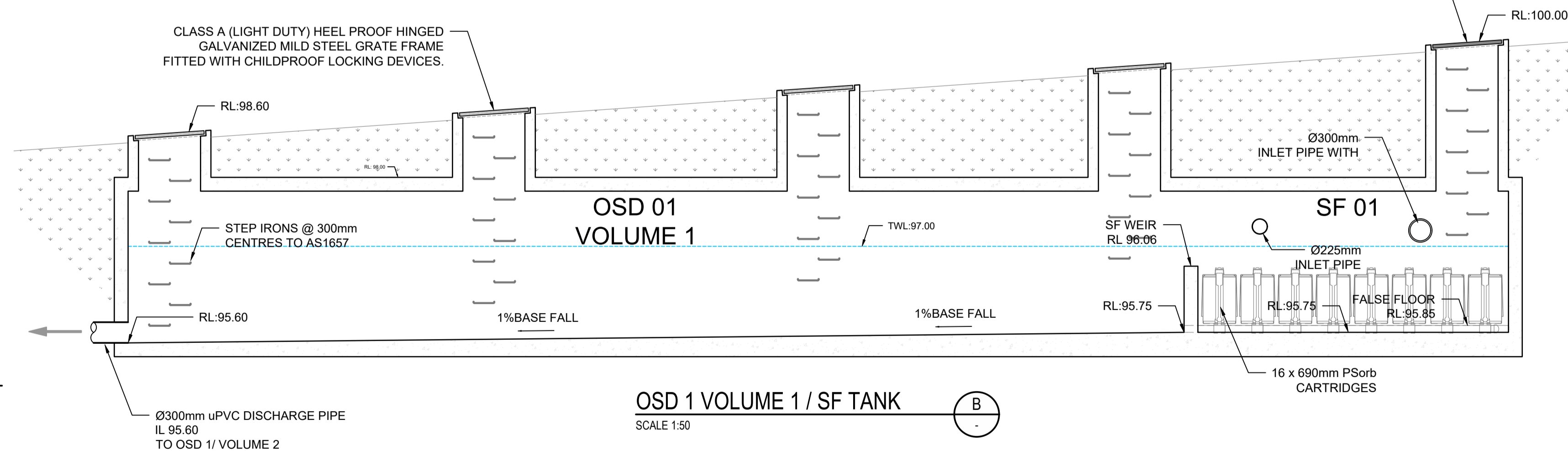
OSD 01 (VOLUME 2) PLAN
SCALE 1:50
DIMENSIONS IN m



OSD 01 (VOLUME 1) / SF 01 PLAN
SCALE 1:50
DIMENSIONS IN m



OSD 01 VOLUME 2 / SF TANK
SCALE 1:50



OSD 01 VOLUME 1 / SF TANK
SCALE 1:50

1- preliminary 2- development application 3- construction certificate 4- tender 5- construction 6- other
 Project File: 2_Supplement_2024_0122_P11 By: JAS/STP/2024/0122 - 20 Carrington Road, Castle Hill NSW 2154
 File Name: Z:\Production\2024\0122_20 Carrington Road, Castle Hill NSW 2154
 Date: 2024/01/22 10:30:00 AM

Discipline	Drawing Title and Number	Date	Rev.
ARCH	ISSUED FOR SSSA	01.09.25	02
STRUCT	ISSUED FOR SSSA	07.07.25	02
MECH	RE ISSUED FOR DA	25.06.25	02
ELEC	ISSUED FOR DA	13.06.25	02
HYD	ISSUED FOR DA	13.06.25	02
FIRE	Last revision title	By	Date
LANDS	Issuer internal sequence and revision history		
CIVIL	1-preliminary	2-development application	3-construction certificate
SURVEY	4-tender	5-construction	6-other

Quality Control	DATE
DRAWN	01.09.25
CHECKED	01.09.25
DESIGNED	01.09.25
VERIFIED	01.09.25
APPROVED	01.09.25
SH	01.09.25

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Scales

Client
ARADA

Architect
TURNER

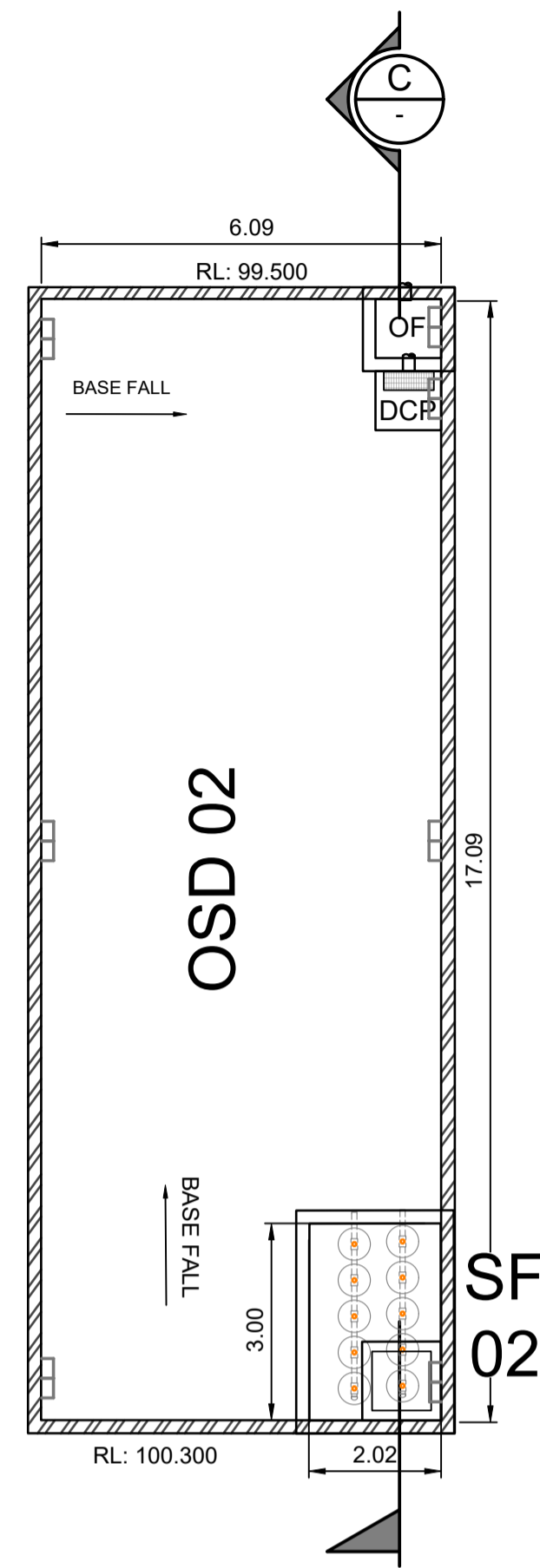
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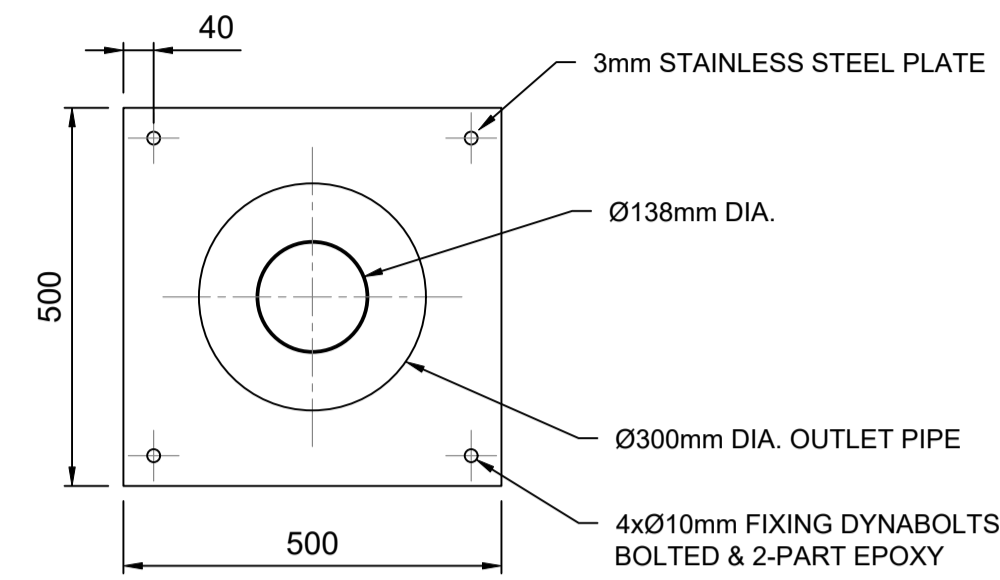
PROJECT
20 CARRINGTON ROAD,
CASTLE HILL.
STORMWATER CONCEPT DESIGN

Status	ISSUED FOR DA NOT FOR CONSTRUCTION		
Drawing Title	STORMWATER CONCEPT DESIGN DETAILS SHEET 02 OF 03		
Project No.	Set No.	Drg No.	Revision No.
20240122	S03-SW402		D

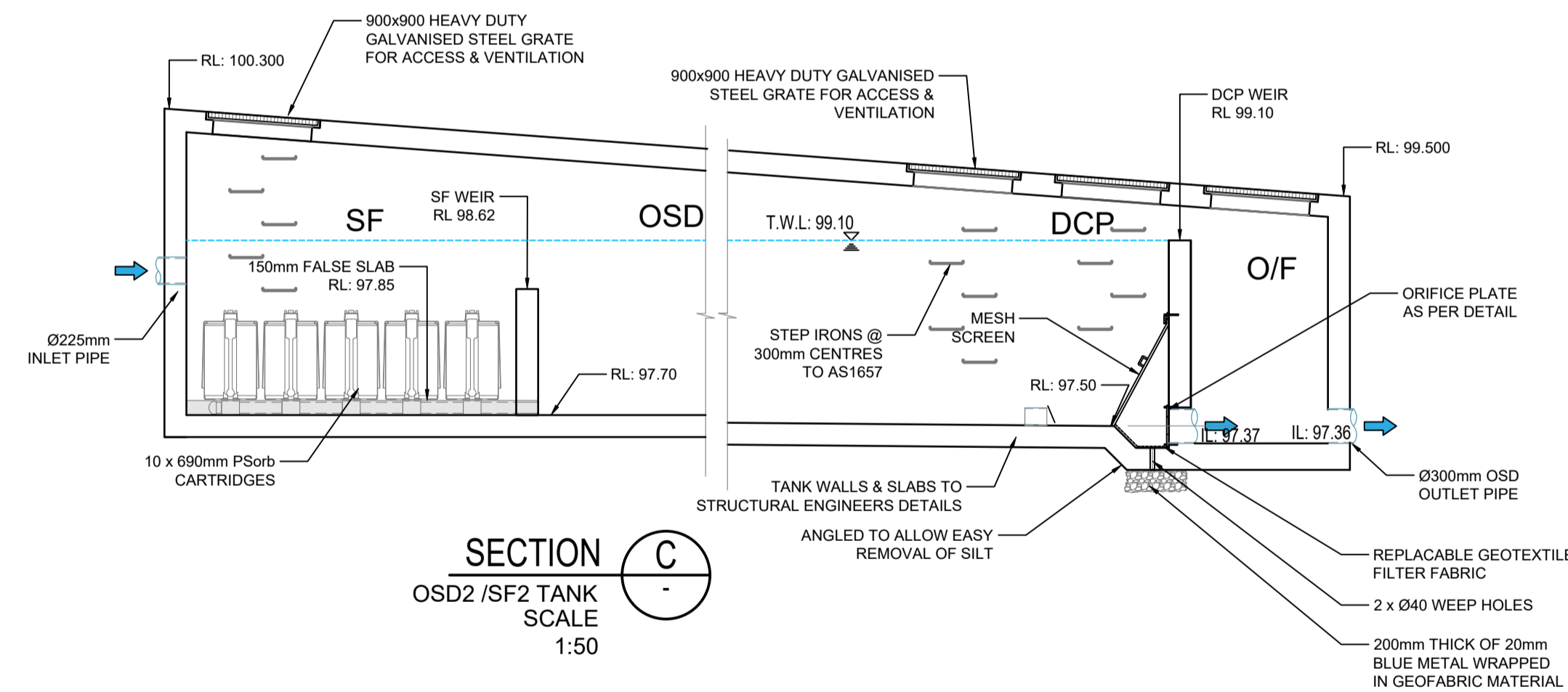
Grid	Datum	Sheet
-	A.H.D.	11



OSD 02 / SF 02 PLAN
SCALE N.T.S
DIMENSIONS IN m



ORIFICE PLATE FOR OSD 02
SCALE 1: 10



SECTION C
OSD2 / SF2 TANK
SCALE 1:50

HAWKESBURY RIVER CATCHMENT
COUNCIL O.S.D. CHECK SHEET

Site Address = 20 Carrington Rd, Castle Hill NSW 2154
File No. = OSD 02 - 2024.0122

Site Area	=	0.4156 Ha	[A]
Site Slope	=	7 %	[A1]
Site Storage Volume	=	See Chart	[A2]
Permissible Discharge	=	See Chart	[A3]
Basic Storage Volume	=	[A2] x [A]	[B]
Basic Discharge	=	[A3] x [A]	[C]
Area of Site Drained to Storage	=	0.4156 Ha	[D]
% of Total Site	=	[D] / [A] x 100	[E]
Storage Per Ha.	=	[B] / [D]	[F]
Permissible Discharge	=	{([F] / 69.21) ^{-1.368} } x 1000	[G]
P.S.D.	=	[G] x [D]	[H]
Maximum Head to Orifice Centre	=	1.100 m	[K]
Selected Orifice Dia.	=	{(0.464x[H]/1000) ^{0.5} / [K] ^{0.5} } x 1000	[J]
Maximum Discharge	=	[H]	[L]
Head for High Early Discharge	=	1.000 m	[M]
High Early Discharge	=	{[L] x ([M]/[K]) ^{0.5} }	[N]
Approx. Ave. Discharge	=	{([L] + [N]) / 2}	[P]
Ave. Discharge per Ha.	=	[P] / [D]	[Q]
Storage Volume	=	69.21 x ([Q] / 1000) ^{-0.731}	[R]
Site Storage Volume	=	[R] x [D]	[S]

OSD 02 CALCULATION

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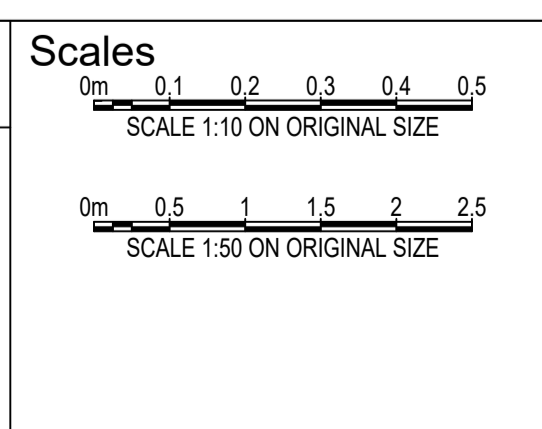
Reference Coordination Drawing				
Discipline	Drawing Title and Number	Date	Rev.	
ARCH				
STRUCT				
MECH				
ELEC				
HYD				
FIRE				
LANDS				
CIVIL				
SURVEY				

Quality Control	
DRWN	DATE
OK	01.09.25
CHEKED	DATE
MS	01.09.25
DESIGNED	DATE
PE	01.09.25
VERIFIED	DATE
SH	01.09.25
APPROVED	DATE
SH	01.09.25

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Client: **ARADA**

Architect: **TURNER**

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A.B.N. 21 118 222 530

PROJECT
20 CARRINGTON ROAD,
CASTLE HILL.
STORMWATER CONCEPT DESIGN

Status	ISSUED FOR DA NOT FOR CONSTRUCTION		
Drawing Title	STORMWATER CONCEPT DESIGN DETAILS SHEET 03 OF 03		
Project No.	Set No.	Drg No.	Revision No.
20240122	S03-SW403		D

Grid	Datum	Sheet
-	A.H.D.	12

