

STORMWATER MANAGEMENT PLAN

PROPOSED DUAL OCCUPANCY - S4.55

No.12 CLERMONT AVENUE, RYDE

GENERAL NOTES:

- THESE PLANS REMAIN THE PROPERTY OF NY CIVIL ENGINEERING PTY LTD AND ARE SUBJECT TO COPYRIGHT
- ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED. ALL REDUCED LEVELS (SURFACE LEVELS, INVERT LEVELS) AND CHAINAGES ARE IN METERS UNLESS OTHERWISE STATED. DO NOT SCALE OFF THE DRAWINGS, SCALES ARE AS SHOWN, USE FIGURED DIMENSIONS.
- THIS PLAN IS TO BE READ IN JUNCTION WITH LATEST ARCHITECTURAL, STRUCTURAL, UTILITY AND LANDSCAPE PLANS IN ADDITION TO ANY RELEVANT GEOTECHNICAL, SOIL CLASSIFICATION OR REF/ENVIRONMENTAL REPORTS. ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES QUOTED ON THIS PLAN.
- ALL WORKS SHALL BE CARRIED OUT TO LOCAL COUNCIL'S DEVELOPMENT CONTROL PLAN AND SPECIFICATIONS, AS/NZS 3500.3 AND B.C.A.
- ALL LEVELS SHALL RELATE TO THE ESTABLISHED BM, PM AND/OR LM. ALL EXISTING SERVICES ARE TO BE VERIFIED FOR LOCATION AND DEPTH PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR TO NOIFY DESIGNER OF ANY DISCREPANCIES OF SERVICE LEVELS QUOTED ON THIS PLAN. ALL SURVEY INFORMATION, BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PRIOR APPROVAL REQUIRED FROM COUNCIL WITH RESPECT TO POTENTIAL IMPACT ON TREES FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF WORKS. NO TREES SHALL BE REMOVED WITHOUT THE WRITTEN PERMISSION OF COUNCIL.
- THE CONTRACTOR SHALL TAKE ALL DUE CARE TO USE THE ABSOLUTE MINIMUM AREA FOR CONSTRUCTION AND THAT NO UNDUE DAMAGE IS DONE TO THE EXISTING VEGETATION.
- THE CONTRACTOR SHALL COMPLY WITH CONDITIONS, AND SPECIFICATION OF COUNCIL AND ALL ACTS OF THE NSW EPA.
- THE CONTRACTOR SHALL TAKE ALL REASONABLE CARE TO PROTECT EXISTING SERVICES. DAMAGED SERVICES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL NEW WORK IS TO MAKE A SMOOTH JUNCTION WITH EXISTING WORK.
- SUITABLE WARNING SIGNS AND BARRICADES ARE TO BE PROVIDED IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS AND AS DIRECTED BY THE RELEVANT AUTHORITY.
- SERVICES SHOWN ARE INDICATIVE ONLY FROM AVAILABLE INFORMATION AND THE TIME OF SITE INVESTIGATION (IF ANY). THE BUILDER IS TO NOTIFY ENGINEER OF ANY DISCREPANCIES QUOTED ON THIS PLAN.
- RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITION AND COMPACT AS SPECIFIED.
- RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL AND/OR AUTHORITY STANDARD AND SPECIFICATION.
- THE WORK AS CONSTRUCTED WORKS SHALL BE INSPECTED BY THE ENGINEER, MINIMUM 48 HOURS NOTICE SHALL BE PROVIDED FOR ALL INSPECTION REQUESTS.
- THE DESIGN PLANS HEREIN ARE SUBJECT TO COUNCIL APPROVAL PRIOR TO CONSTRUCTION.
- WORK AS CONSTRUCTED DRAWINGS TO BE REQUESTED AND RECEIVED IN CAD/DWG FILE TYPE AND HARD COPY 'RED LINE' MARKUP FROM CONSTRUCTOR FOR VERIFICATION AND CERTIFICATION.

ROOF STORMWATER DRAINAGE NOTES:

- ALL DOWN PIPES TO BE MINIMUM DN90 OR 100x50MM FOR GUTTERS SLOPE 1:500 AND STEEPER AS PER AS 3500.3 - 3.7.8
- ALL ROOF GUTTERS TO HAVE OVERFLOW PROVISION IN ACCORDANCE WITH AS 3500.3 AND SECTIONS 3.5.3, 3.7.5 AND APPENDIX G OF AS 3500.3.
- ALL DOWNPIPES TO BE FITTED VERTICALLY TO THE SOLE OF EAVES GUTTERS, RAINHEAD AND/OR SUMP.
- ALL DOWNPIPES TO DRAIN INTO RAINWATER TANK AND OR PIT PRIOR TO DISCHARGE OFFSITE UNLESS PRIOR APPROVAL IS OBTAINED FROM COUNCIL IN WRITING OR NOTED OTHERWISE ON THIS PLAN.
- ALL EAVES GUTTERS TO BE SIZED FOR ARI 20 - AS PER AS 3500.3 - 3.5 AND APPENDIX H.
- ROOF DRAINAGE INSTALLATION TO BE IN ACCORDANCE TO AS 3500.3 SECTION 4.

STORMWATER DRAINAGE NOTES:

PIPE SIZE:

- THE MINIMUM PIPE SIZE SHALL BE:
 - DN90 FOR ALL DOWNPIPES;
 - DN100 WHERE THE LINE ONLY RECEIVES ROOF STORMWATER RUNOFF, OR;
 - DN100 WHERE THE LINE RECEIVES RUNOFF FROM PAVED OR UNPAVED AREAS.

PIPE GRADE:

- THE MINIMUM PIPE GRADE SHALL BE:
 - FOR DN100 - DN150 - 1.00%
 - FOR DN225 - 0.50%
 - FOR DN300 - 0.45%
 - FOR DN375 - 0.35%

STANDARD COVER:

- MINIMUM PIPE COVER FOR PVC PIPES SHALL BE AS PER AS 3500.3 TABLE 6.2.5:
 - NOT SUBJECT TO VEHICULAR LOADING:
 - WITHOUT PAVEMENT SINGLE DWELLINGS - 100mm
 - WITHOUT PAVEMENT OTHER THAN SINGLE DWELLINGS - 300mm
 - WITH PAVEMENT (BRICK/PAVERS) AND/OR UNREINFORCED CONCRETE - 100mm
 - SUBJECT TO VEHICULAR LOADING:
 - ROADS (SEALED) - 600mm
 - ROADS (UNSEALED) - 750mm
 - OTHER THAN ROADS (WITH PAVEMENT) - 100mm
 - OTHER THAN ROADS (WITHOUT PAVEMENT) - 450mm

PIPE INSTALLATION

- PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS:
 - FOR PIPE SIZES UP TO DN225 - PVC WITH SOLVENT WELDED JOINTS (IN GROUND).
 - FOR PIPE SIZES GREATER THAN DN225 - RCP WITH RUBBER RING JOINTS.
 - FOR LARGER PIPE DEPTHS AS SPECIFIED IN AS 3500.3 - RCP WITH RUBBER RING JOINTS.
 - FOR PIPES AND FITTINGS FOR SUBSOIL DRAINAGE SHALL BE SLOTTED PVS WITH SOLVENT WELDED JOINTS MINIMUM DN150.
- FOR GRATED DRAINS SHALL BE MINIMUM DN150 IN NON-TRAFFICABLE ZONES AND DN225 IN TRAFFICABLE ZONES.
- LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURING RECOMMENDATIONS AND:
 - AS 3725-1989 - LOADS ON BURIED CONCRETE PIPES
 - AS 2566 - 1988 - BURIED FLEXIBLE PIPELINES
 - AS 1597.2 - 1996 - PRECAST REINFORCED CONCRETE BOX CULVERTS
 - AS 3500 - 1990 NATIONAL PLUMBING AND DRAINAGE CODE - PART 2 SANITARY PLUMBING AND SANITARY DRAINAGE - SYDNEY WATER REQUIREMENTS.
- ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.

CONNECTIONS TO STORMWATER SYSTEMS UNDER BUILDINGS:

IN ACCORDANCE WITH AS 3500.3 SECTION 9.2

CONNECTIONS TO COUNCIL STORMWATER SYSTEMS:

CONNECTION TO COUNCIL STORMWATER SYSTEM TO BE IN ACCORDANCE TO LOCAL COUNCIL DCP AND STANDARDS. NO CONNECTIONS TO BE MADE UNTIL PROPER PERMIT/APPROVALS ARE OBTAINED FROM LOCAL COUNCIL IN WRITING.

WARNING:

EXISTING SERVICES SHOWN ON THESE PLANS ARE NOT GUARANTEED COMPLETE OR CORRECT AND FURTHER INFORMATION IS REQUIRED FROM THE RELEVANT AUTHORITY AND FIELD INVESTIGATION AND ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

LEGEND

SURFACE INLET PIT		GRATED TRENCH DRAIN	
SURFACE INLET PIT (WITH ENVIROPOD 200 MICRON)		ABSORPTION TRENCH	
ACCESS GRATE (WITH GROSS POLLUTANT TRAP)		PROPOSED ROOF GUTTER FALL	
450 SQUARE INTERVAL	450 X 450	PROPOSED DOWNPIPE SPREADER	
GRATE LEVEL = 75.50	SL 75.50	STORMWATER PIPE 100mm DIA. MIN. UNO	
INVERT LEVEL = RL 75.20	IL 75.20	SUBSOIL PIPE	
PROPOSED DOWNPIPE 90mm DIA. OR 100mm x 50mm MIN.		EXISTING STORMWATER PIPE	
NATURAL GROUND FINISHED DESIGN LEVEL	×	INSPECTION RISER	
		RAINWATER HEAD	

STORMWATER PIT/STRUCTURES NOTES:

PIT SIZES AND DEPTHS:

- PIT SIZES WILL BE AS FOLLOWS:

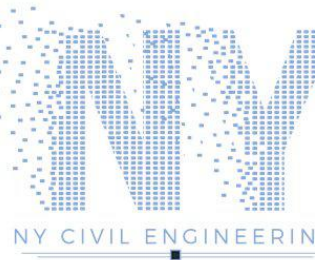

DEPTH (mm)	MIN. PIT SIZE (mm)
UP TO 450	350x350
450 – 600	450x450
600 – 900	600x600
900 – 1200	600x900
1200+	900x900 (WITH STEP IRONS)

PIT DESIGNS:

- TRENCH DRAINS; CONTINUOUS TRENCH DRAINS ARE TO BE MIN. DN150 AND MIN. 100mm DEPTH. THE BARS OF THE GRATE ARE TO BE PARALLEL TO THE DIRECTION OF SURFACE FLOW.
- STEP IRONS: PITS BETWEEN 1.2m AND 6m ARE TO HAVE STEP IRONS IN ACCORDANCE WITH AS 1657. FOR PITS GREATER THAN 6m OTHER MEANS OF ACCESS MUST BE PROVIDED.
- PLASTIC/PVC PITS: PVC PITS WILL ONLY BE PERMITTED IF THEY ARE MAX. 450x450 AND MAX. 450mm DEPTH AS WELL AS BEING HEAVY DUTY.
- IN-SITU PITS: IN-SITU PITS ARE TO BE CONSTRUCTED ON A CONCRETE BED OF AT LEAST 150mm THICK. THE WALLS ARE TO BE DESIGNED TO MEET THE MINIMUM REQUIREMENTS OF CLAUSE 4.6.3 OF AS 3500.4. PITS DEEPER THAN 1.8m SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE.
- GRATES: GRATES ARE TO BE GALVANIZED STEEL GRID TYPE. GRATES ARE TO BE OF HEAVY-DUTY TYPE IN AREAS WHERE THEY MAY BE SUBJECT TO VEHICLE LOADING.

INSTALLATION NOTES:

- ALL PIPES INTO PITS TO BE CUT FLUSH WITH PIT WALL.
- ALL PITS THAT ARE INSTALLED AT GREATER THAN 600mm DEEP TO BE MIN. 600x600 PIT.
- GRATED COVERS ON PITS GREATER THAN 600mm TO BE HINGED.
- BASE OF PIT TO BE SAME LEVEL OF INVERT OF OUTLET.
- OUTLET PIPE FROM ANY PIT TO BE 20mm LOWER THAN INLET PIPE/S

 NY CIVIL ENGINEERING	APPROVED BY	REVISION	DRAWN	DESCRIPTION	DATE	DRAWING TITLE	SHEET SIZE	A3	JOB REFERENCE	
	NADER ZAKI MIEAust CPEng NER  T 0416 334 977 E admin@nycivilengineering.com.au W www.nycivilengineering.com.au	A	MR	ISSUED FOR DA	29.09.2021	DETAILS, NOTES & LEGEND	DESIGNED	NZ	E210095	
		B	SR	ISSUED FOR S4.55	22.06.2022		CHECKED	NZ	DRAWING No. D1	
						PROJECT TITLE PROPOSED DUAL OCCUPANCY No.12 CLERMONT AVENUE RYDE	ISSUE	B	No. IN SET	
							SCALE	-	11	

PUMP-OUT CALCULATIONS

PROPOSED RISING MAIN PIPE DIAMETER:
65mm DIA uPVC 'PRESSURE PIPE' CLASS '12'

HEAD LOSS

- STATIC = 2.6m (approx)
- PIPE FRICTION = 0.5 m
- FITTINGS = 0.5 m
- TOTAL = 3.6m

PUMP DUTY :
5 l/s AT 4.0 m HEAD

PUMP TYPE :
SUBMERSIBLE EQUAL TO DAVEY D150 2.2 kW, 240 V, OR
EQUIVALENT.

USE TWO (2) x PUMPS TO OPERATE

ALTERNATIVELY

AS PER AS3500.3.

PUMP CONTROL:

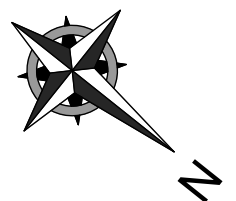
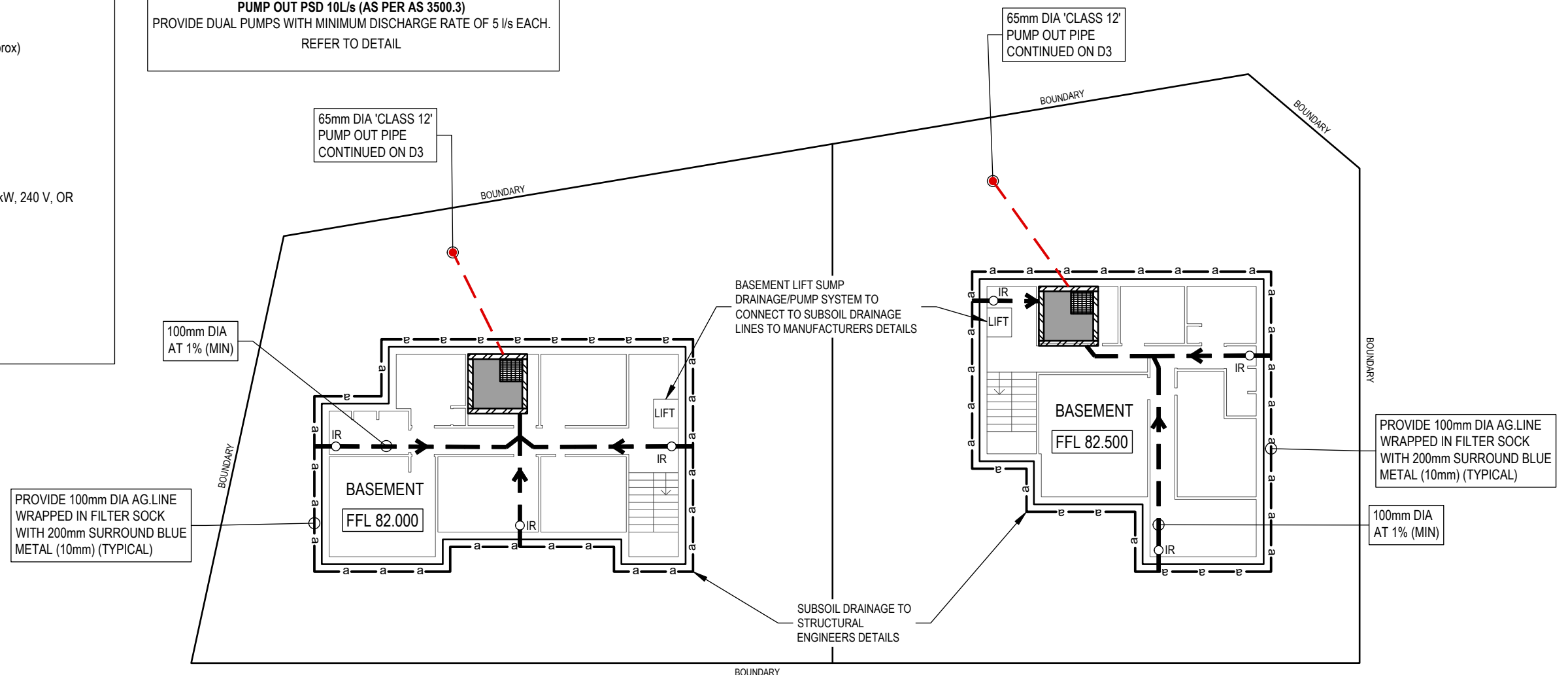
AUTOMATIC WITH FLOAT SWITCHES


PUMP OUT SYSTEM

NO SEEPAGE DATA

THEREFORE PROVIDE MINIMUM 3.0m³ HOLDING TANK
PUMP OUT PSD 10L/s (AS PER AS 3500.3)

PROVIDE DUAL PUMPS WITH MINIMUM DISCHARGE RATE OF 5 l/s EACH.
REFER TO DETAIL



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	B	SR	ISSUED FOR S4.55	22.06.2022

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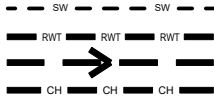
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STORMWATER MANAGEMENT BASEMENT PLAN
PROJECT TITLE
PROPOSED DUAL OCCUPANCY No.12 CLERMONT AVENUE RYDE

SHEET SIZE	A3	JOB REFERENCE	E210095
DESIGNED	NZ	DRAWING No.	D2
CHECKED	NZ	No. IN SET	11
ISSUE	B		
SCALE	1:200		

AREA CALCULATIONS		
TOTAL SITE AREA	933.0	m ²
EXISTING DEVELOPMENT		
ROOF AREA	0.0	m ²
PAVED AREA	0.0	m ²
DRIVEWAY AREA	0.0	m ²
IMPERVIOUS AREA	0.000000	m ²
TOTAL IMPERVIOUS AREA PERCENTAGE	0.000000	%
PROPOSED DEVELOPMENT		
PROPOSED ROOF AREA	383.2	m ²
PROPOSED PAVED AREA	41.2	m ²
PROPOSED DRIVEWAY AREA	75.2	m ²
TOTAL IMPERVIOUS AREA	499.600000	m ²
TOTAL IMPERVIOUS AREA PERCENTAGE	53.547696	%

DRAINAGE PIPE LEGEND

- EXISTING STORMWATER PIPE
- DRAINAGE PIPES TO RAINWATER TANK
- DRAINAGE PIPES VIA GRAVITY
- CHARGED DRAINAGE PIPES



NOTE: ALL IN GROUND PIPES TO BE 100mm DIA PVC UNO

NOTE: ENSURE ANY PROPOSED PAVING IS GRADED SO THAT IT IS NOT IMPACTING ADJOINING PROPERTIES.

INSPECTION RISER (IR)

PROVIDE 'SCREW CAP' INSPECTION RISER AT LOWEST POINT OF 'CHARGED LINES'

OSD WARRANT

LGA: RYDE COUNCIL
SOURCE: STORMWATER MANAGEMENT TECHNICAL GUIDELINES
"ANY NEW DEVELOPMENT THAT EXCEEDS 35% SITE COVER WILL REQUIRE OSD"

- SITE AREA 935 m²
 - PRE-DEV IMPERVIOUS AREA 0 m² (0%)
 - POST-DEV IMPERVIOUS AREA 495 m² (53.03%)
- TOTAL SITE COVER > 35%

THEREFORE OSD REQUIRED

NOTE: "WHERE A RAINWATER STORAGE TANK IS INCORPORATED INTO A STORMWATER DRAINAGE SYSTEM...ON-SITE DETENTION STORAGE MAY BE REDUCED BY AN EQUAL AMOUNT"

- OSD VOLUME FROM SPREADSHEET PER DWELLING 7.19m³
- RAINWATER REUSE FROM BASIX PER DWELLING 5.0m³
- ADDITIONAL RAINWATER REUSE PER DWELLING 0m³

THEREFORE PROVIDE 7.58m³ OSD STORAGE PER DWELLING

BELOW GROUND OSD TANK

- SURFACE LEVEL RL 85.20
- T.W.L RL 84.80
- INVERT LEVEL RL 84.10
- SURFACE AREA 14.40m²
- AVERAGE DEPTH 0.527m
- OSD VOLUME 7.58m³

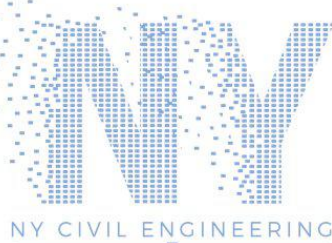
BELOW GROUND OSD TANK

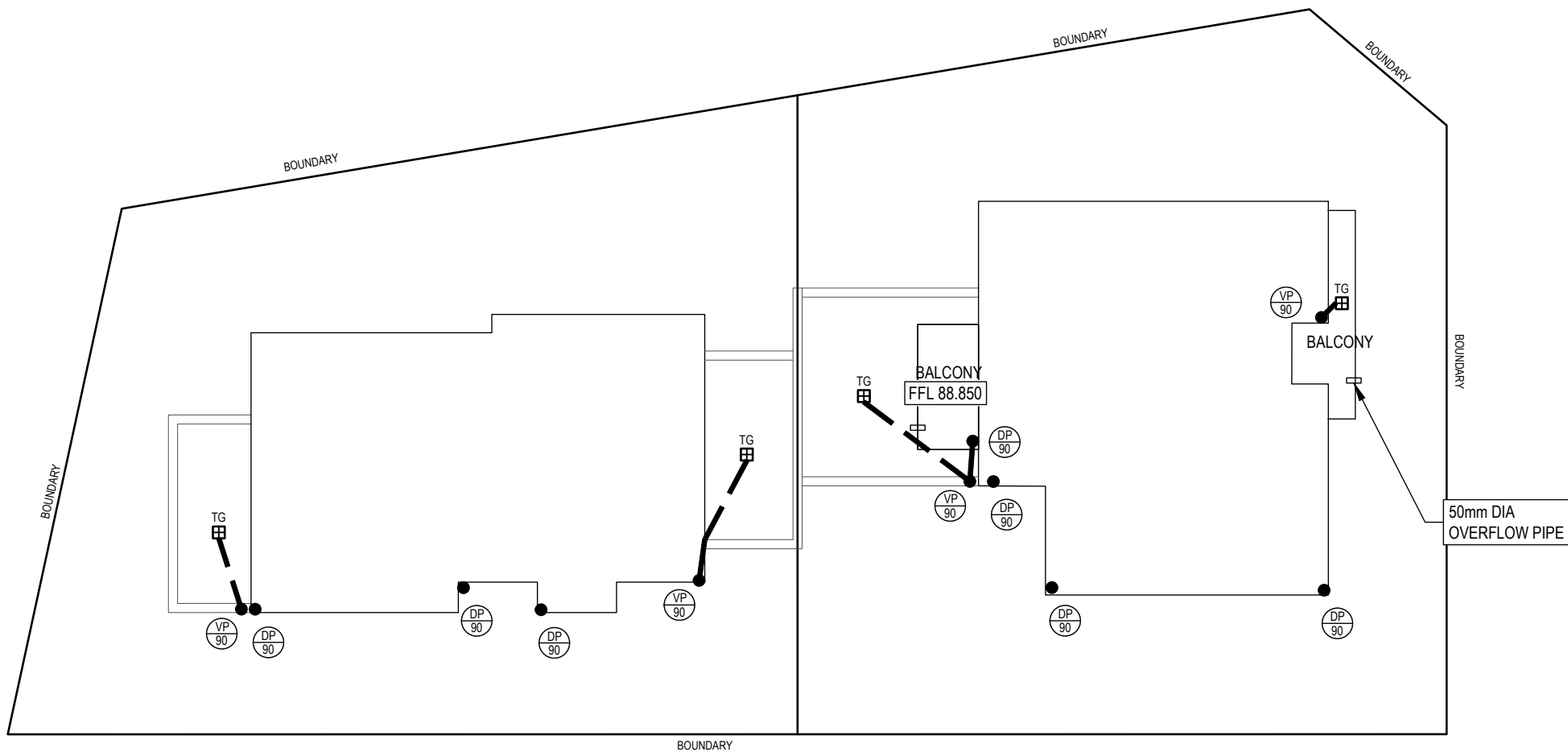
- SURFACE LEVEL RL 84.925
- T.W.L RL 84.60
- INVERT LEVEL RL 84.00
- SURFACE AREA 14.40m²
- AVERAGE DEPTH 0.527m
- OSD VOLUME 7.58m³



PLANS ARE FOR CONCEPT ONLY
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APPROVED BY		REVISION	DRAWN	DESCRIPTION	DATE	DRAWING TITLE		SHEET SIZE	A3	JOB REFERENCE
NADER ZAKI MIEAust CPEng NER		A	MR	ISSUED FOR DA	29.09.2021	STORMWATER MANAGEMENT PLAN		DESIGNED	NZ	E210095
		B	SR	ISSUED FOR S4.55	22.06.2022			CHECKED	NZ	DRAWING No. D3
						PROJECT TITLE		ISSUE	B	No. IN SET
								SCALE	1:200	11
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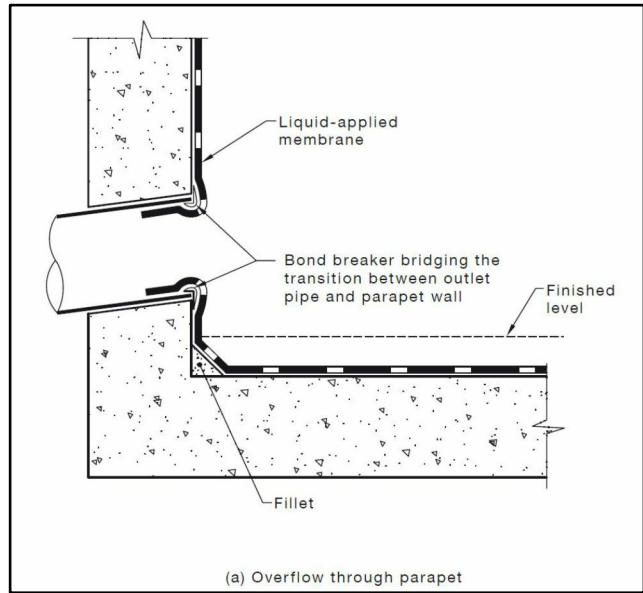
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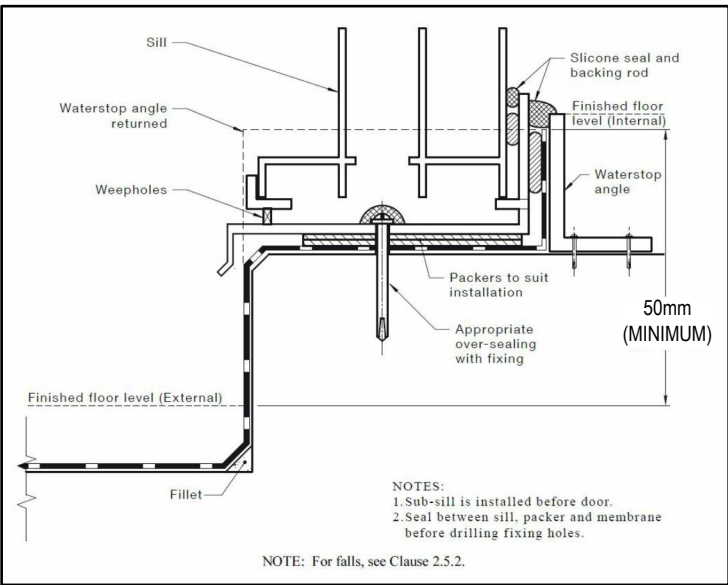
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PROJECT TITLE
PROPOSED DUAL OCCUPANCY No.12 CLERMONT AVENUE RYDE

SHEET SIZE A3	JOB REFERENCE E210095
DESIGNED NZ	DRAWING No. D4
CHECKED NZ	No. IN SET 11
ISSUE B	
SCALE 1:200	



BALCONY PARAPET OVERFLOW - AS4654.2

NTS

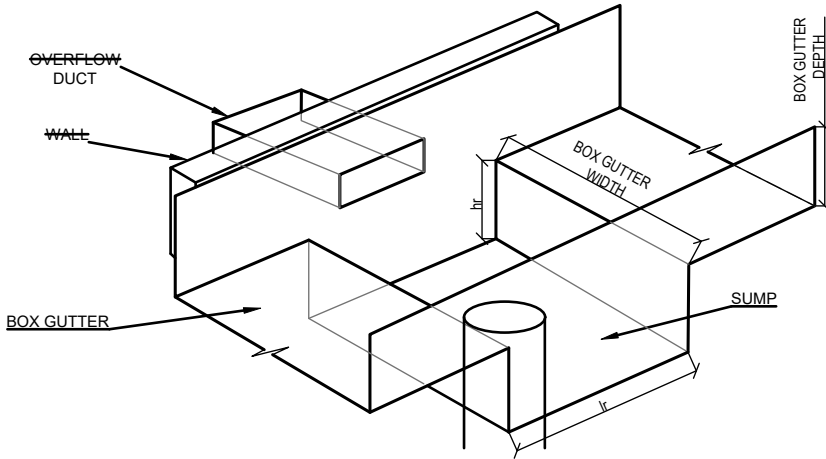


BACLONY MEMBRANE TERMINATION - AS4654.2

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DIMENSIONS (mm)	
	BOX GUTTER #1
CATCHMENT AREA TO DOWNPIPE	50m ²
WIDTH OF BOX GUTTER	300
DEPTH OF BOX GUTTER	121
SLOPE OF BOX GUTTER	1:200
SUMP WIDTH	300
SUMP LENGTH (lr)	400
SUMP DEPTH (hr)	75
OVERFLOW WIDTH	200
OVERFLOW DEPTH	67
DOWNPIPE DIA	90
ROOF DRAINAGE DESIGNED FOR 100 YEAR ARI STORM EVENT (I = 237 mm/hr)	

LEGEND:	
DP	- DOWNPIPE TO RWT
VP	- VERTICAL PIPE NOT TO RWT
HP	- HIGH POINT OF GUTTER

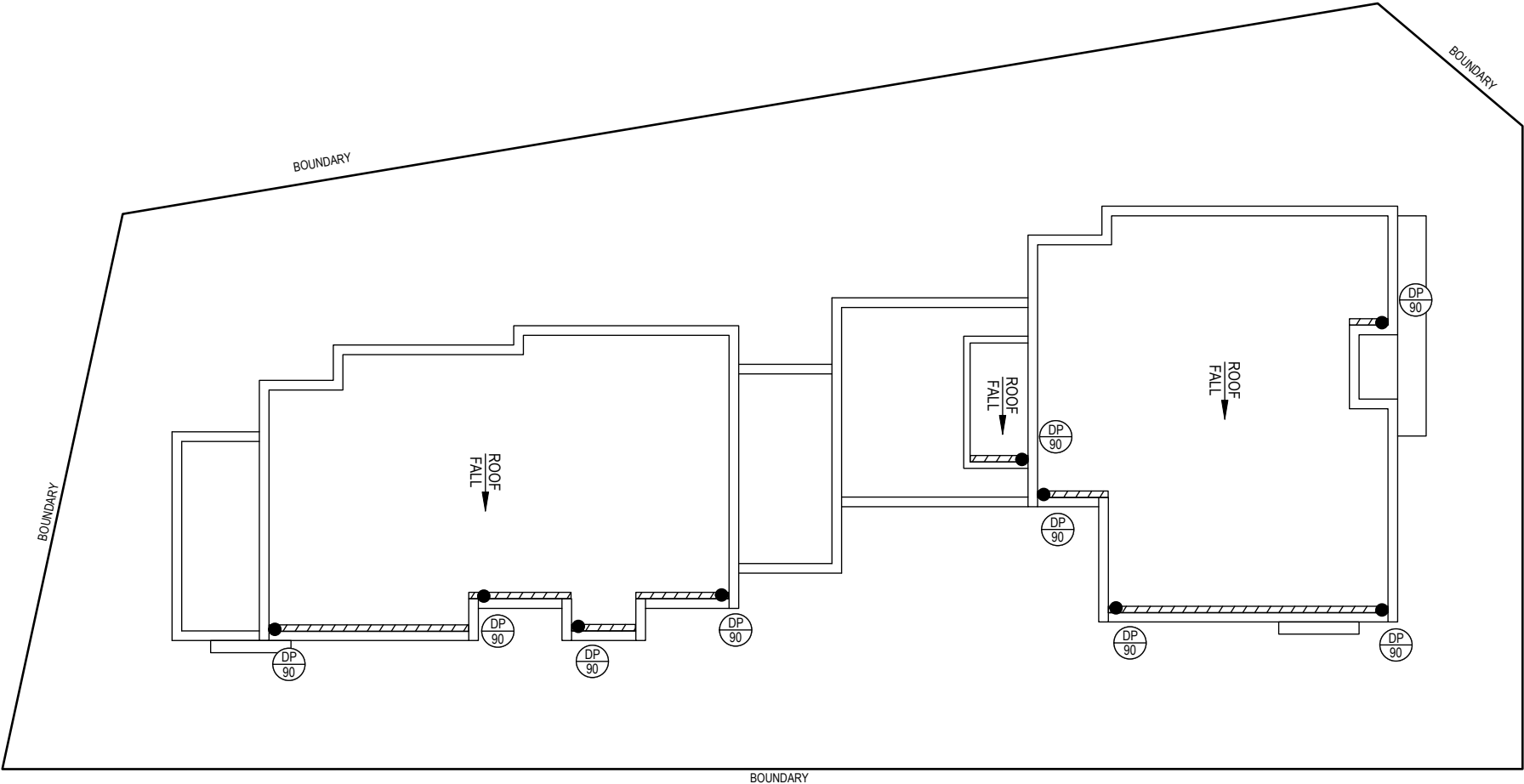


SUMP DETAIL

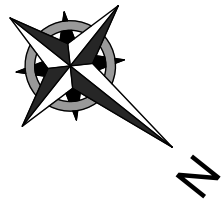
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ROOF DRAINAGE	
• GUTTERING	- BOX GUTTER 121 DEEP x 300 WIDE
• DOWN PIPES	- 90mm DIA PVC OR COLORBOND
NOTE: ROOF DESIGNED TO 1% AEP INTENSITY 237 mm/hr	

AS3500.3:2021 BOX GUTTER REQUIREMENTS				
MATERIALS	BASE METAL THICKNESS (mm)	MAXIMUM LENGTH BETWEEN EXPANSION JOINTS (m)		MINIMUM EXPANSION SPACE (mm)
		ONE END FIXED AND ONE END FREE TO MOVE	BOTH ENDS FREE TO MOVE	
ALUMINIUM	0.90	12	24	50
	1.00	12	24	
COPPER	0.60	9	18	50
	0.80	15	30	
	1.00	26	52	
STEEL	0.55	20	40	50
	0.75	25	50	
STAINLESS STEEL	0.55	20	40	50
PVC		10	20	30
ZINC	0.80	10	20	50
LAP JOINTS: FOR METAL GUTTERS WITH LAPS BETWEEN 20 mm TO 25 mm THE LAP SHALL BE FULLY SEALED. WIDER LAPS SHALL BE SEALED AND FASTENED AT EACH END OF THE LAP RATHER THAN FILLING THE TOTAL AREA.				
GRADIENTS: GRADIENTS SHALL BE NOT FLATTER THAN 1:200 FOR SOLE WIDTHS EQUAL TO OR LESS THAN 600 mm WIDE. DEVIATIONS FROM THESE GRADIENTS SHALL BE SMOOTH AND NOT CAUSE PERMANENT PONDING.				
OUTLETS: OUTLETS SHALL DISCHARGE THROUGH EITHER A RAINHEAD OR A SUMP.				



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A	MR	ISSUED FOR DA	29.09.2021
B	SR	ISSUED FOR S4.55	22.06.2022

DRAWING TITLE	
STORMWATER MANAGEMENT ROOF PLAN	
PROJECT TITLE	
PROPOSED DUAL OCCUPANCY No.12 CLERMONT AVENUE RYDE	

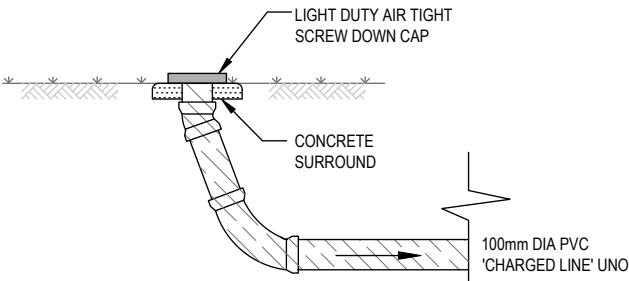
SHEET SIZE	A3	JOB REFERENCE E210095
DESIGNED	NZ	
CHECKED	NZ	DRAWING No. D5
ISSUE	B	No. IN SET 11
SCALE	1:200	



TYPICAL WARNING SIGN

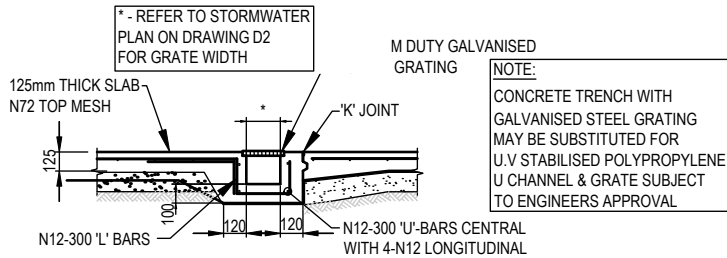
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EVERY EXTERNAL SUPPLY OUTLET FROM
RAINWATER RE-USE TANK TO BE LABELED
WITH METALLIC WARNING SIGN



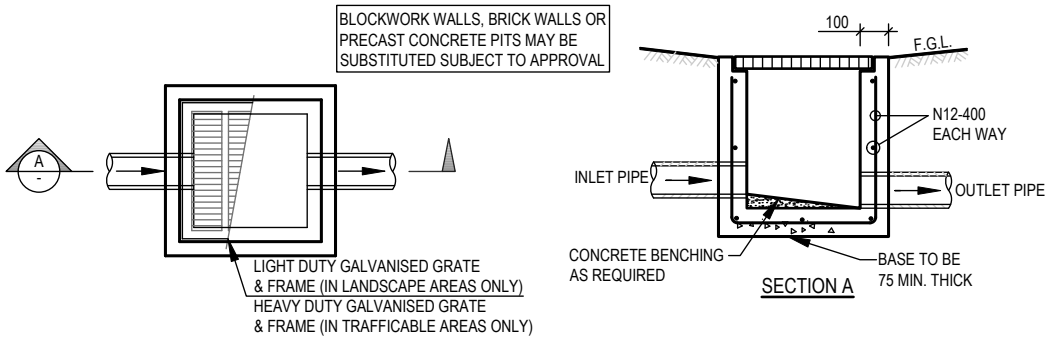
INSPECTION RISER - IR

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GRATED DRAIN

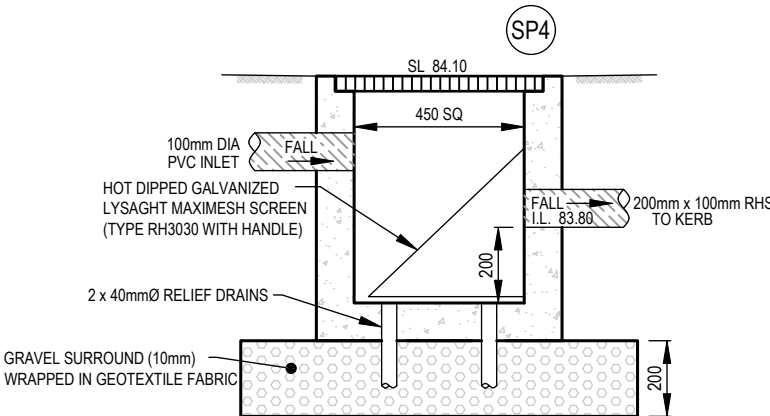
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TYPICAL PIT (SIP)

NTS

NOTE:
ALL PROPOSED SITE PITS ARE TO BE
CONSTRUCTED IN CONCRETE CAST IN SITU,
PLASTIC OR BRICK PITS ARE NOT ACCEPTABLE.
HOWEVER, 'COUNCIL MAY CONSIDER PRE-CAST
UNITS IF THE UNITS ARE PLACED ON A SOLID
BASE OF GRAVEL OR CONCRETE OF 75mm
THICK AND BACKFILL UP TO HALF THE DEPTH
OF THE PIT SURROPPED WITH CONCRETE.



SEDIMENT CONTROL PIT - SP4

1:20



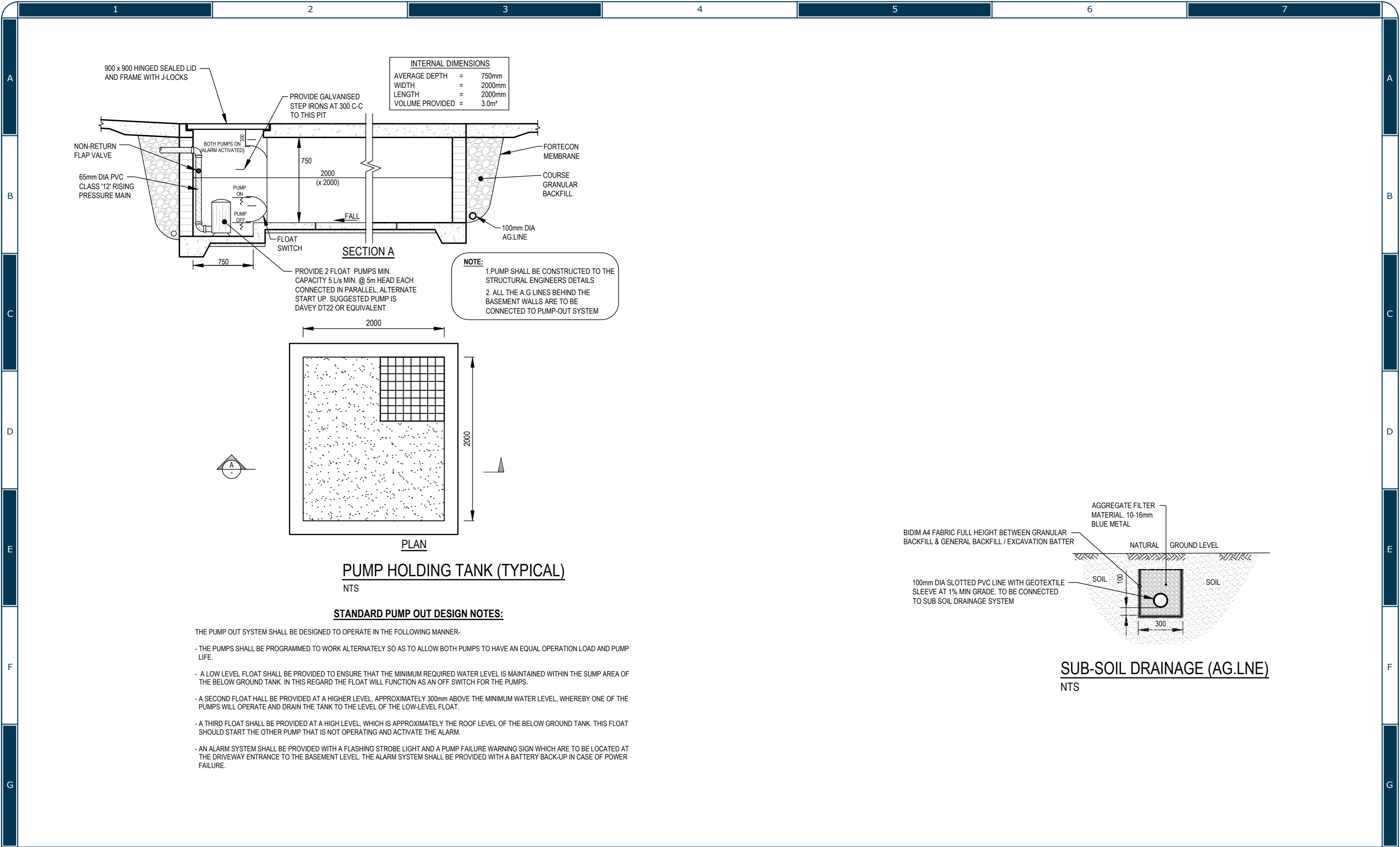
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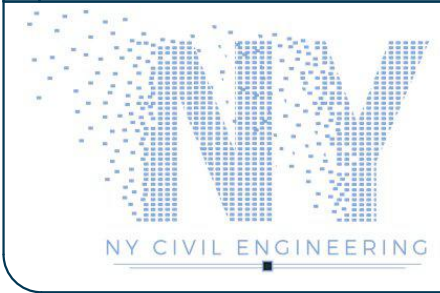
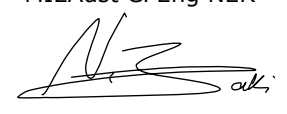
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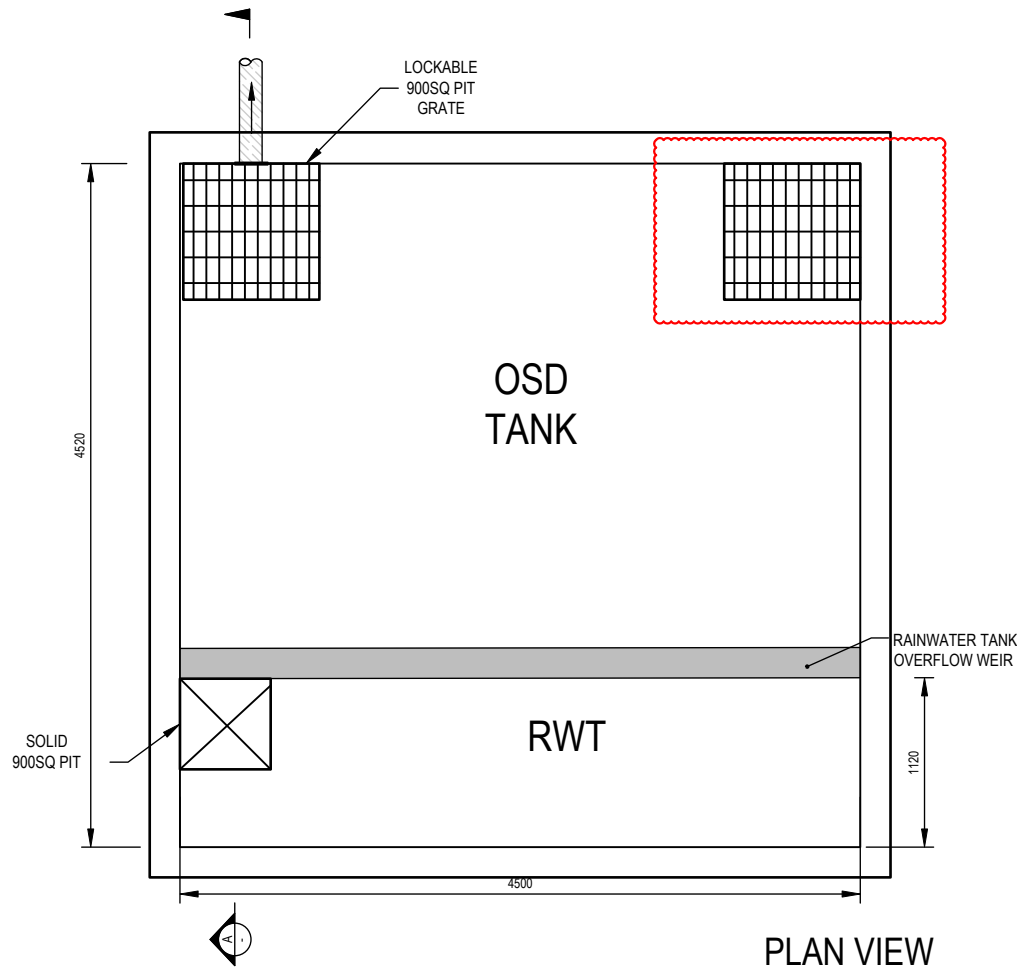
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A	MR	ISSUED FOR DA	29.09.2021
B	SR	ISSUED FOR S4.55	22.06.2022

DRAWING TITLE
STORMWATER DETAILS
PROJECT TITLE
PROPOSED DUAL OCCUPANCY No.12 CLERMONT AVENUE RYDE

SHEET SIZE	A3	JOB REFERENCE
DESIGNED	NZ	E210095
CHECKED	NZ	DRAWING No.
ISSUE	B	D6
SCALE	AS NOTED	No. IN SET
		11



	APPROVED BY		REVISION	DRAWN	DESCRIPTION	DATE	DRAWING TITLE		SHEET SIZE	A3	JOB REFERENCE E210095
	NADER ZAKI MIEAust CPEng NER		A	MR	ISSUED FOR DA	29.09.2021	STORMWATER DETAILS		DESIGNED	NZ	
			B	SR	ISSUED FOR S4.55	22.06.2022			CHECKED	NZ	DRAWING No. D7
							PROJECT TITLE		ISSUE	B	No. IN SET
							PROPOSED DUAL OCCUPANCY No.12 CLERMONT AVENUE RYDE		SCALE	AS NOTED	11

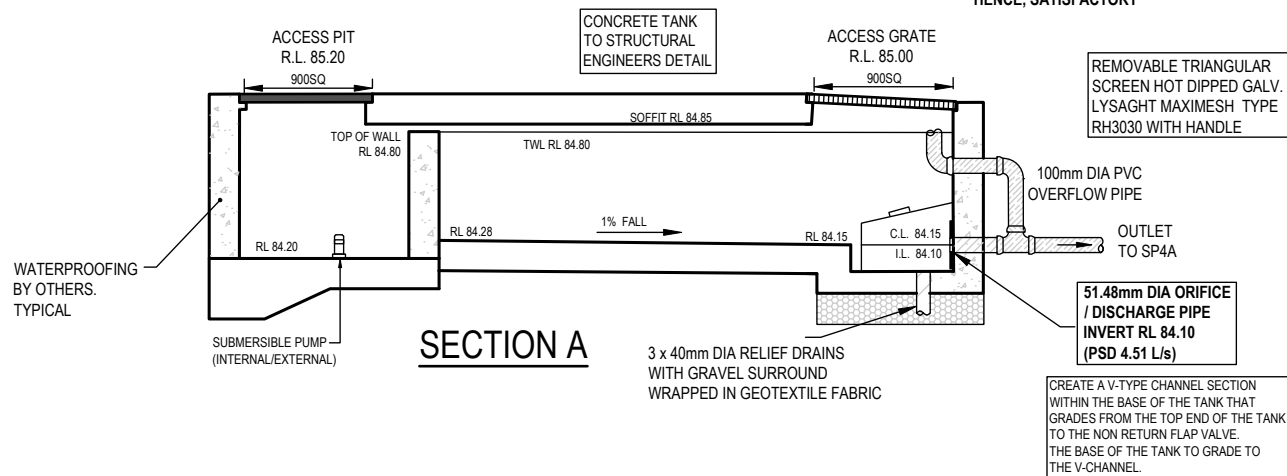


PLAN VIEW

CALCULATIONS (WEIR ON RWT):

AREA DETAINED TO DETENTION TANK = 466 m²
MAX FLOW TO DETENTION TANK (0.86 x 237mm/hr x 0.0466Ha/360) = 0.027 m³/s
CAPACITY OF WEIR (1.67 x 4.5 x 0.05^{1.5}) = 0.084 m³/s

HENCE, SATISFACTORY



OSD TANK (DWELLING 2)

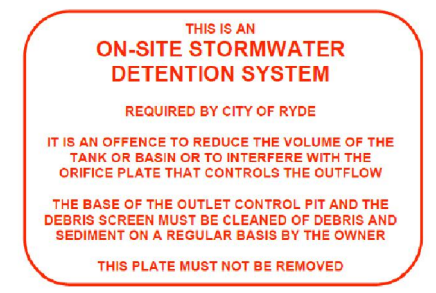
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CONFINED SPACE DANGER SIGN

COLOURS:- "DANGER" AND BACKGROUND - WHITE
ELLIPTICAL AREA - RED
RECTANGLE CONTAINING ELLIPSE - RED
OTHER LETTERING AND BORDER - BLACK

- A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANK/S CONFINED SPACE.
- B) MINIMUM DIMENSIONS OF THE SIGN
- 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS)
- 250mm x 180mm (SMALL ENTRIES SUCH AS GRATES AND MANHOLES)
- C) THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINUM OR POLYPROPELENE.
- D) SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN.



OSD PLAQUE
NTS



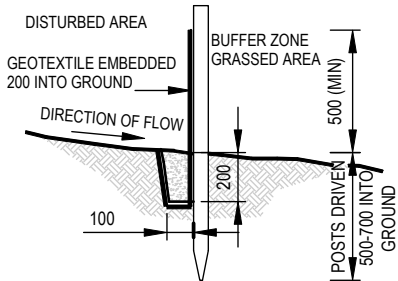
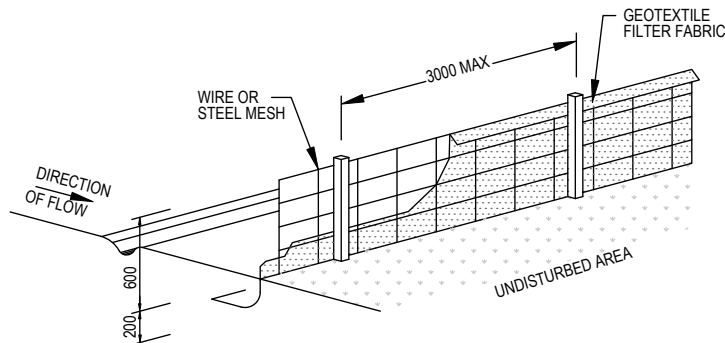
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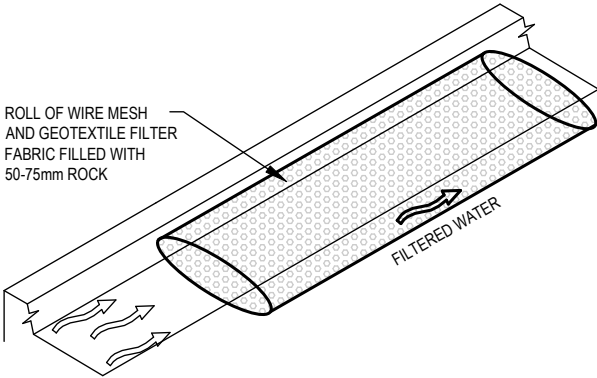
DRAWING TITLE
STORMWATER DETAILS
PROJECT TITLE
PROPOSED DUAL OCCUPANCY No.12 CLERMONT AVENUE RYDE

SHEET SIZE A3	JOB REFERENCE E210095
DESIGNED NZ	
CHECKED NZ	DRAWING No. D9
ISSUE B	No. IN SET 11
SCALE AS NOTED	



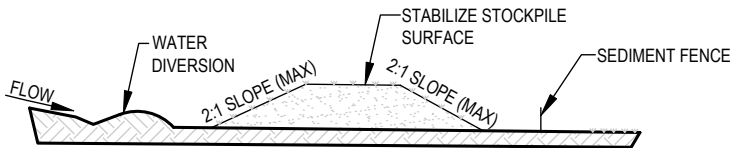
SEDIMENT FENCE DETAIL
NTS

- CONSTRUCTION NOTES:**
1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENTS AREA OF ANY ONE SECTION. THE CATCHMENTS AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10 YEAR EVENT.
 2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
 3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND AT 2.5m INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
 4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
 5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH 150mm OVERLAP.
 6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.



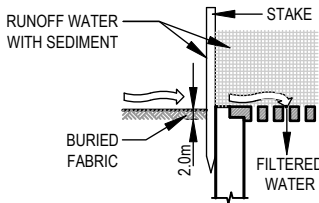
MESH AND GRAVEL FILTER
NTS

- CONSTRUCTION NOTES:**
1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS
 2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
 3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm(h) x 400mm(w).
 4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
 5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
 6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.



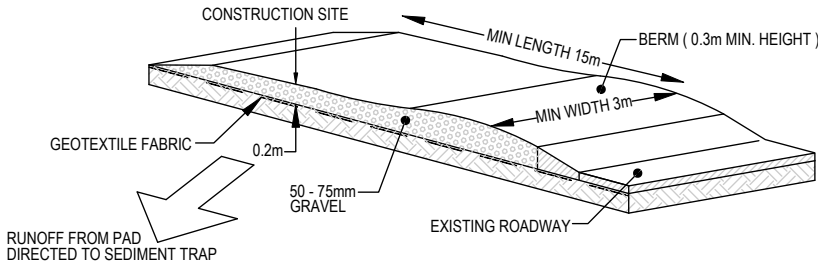
STOCKPILE
NTS

- NOTE:**
1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METERS FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
 2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
 3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METERS IN HEIGHT.
 4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILIZE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
 5. CONSTRUCT EARTH BANKS (LOW FLOW) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METERS ON THE DOWNSLOPE.



SEDIMENT BARRIER AROUND PIT
NTS

- CONSTRUCTION NOTES:**
1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
 2. FOLLOW STRAW FILTER AND SEDIMENT FENCE FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
 3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
 4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.



STABILIZED SITE ACCESS
NTS

- CONSTRUCTION NOTES:**
1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE
 2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE
 3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASED OR 30mm AGGREGATE
 4. ENSURE THE STRUCTURE IS AT LEAST 15m LONG OR TO BUILD ALIGNMENT AND AT LEAST 3 METERS WIDE.
 5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILIZED ACCESS, CONSTRUCT A HUMP IN THE STABILIZED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.



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DRAWING TITLE
SEDIMENT CONTROL DETAILS
PROJECT TITLE
PROPOSED DUAL OCCUPANCY No.12 CLERMONT AVENUE RYDE

SHEET SIZE	A3	JOB REFERENCE
DESIGNED	NZ	E210095
CHECKED	NZ	DRAWING No.
ISSUE	B	D11
SCALE	AS NOTED	No. IN SET
		11