

F

E

D

- C

B

- A

3

- 1

3

- △

4

4

4

4

F

CBA

F

E

D

C

B

A

F

E

D

C

B

A

a3

1

2

3

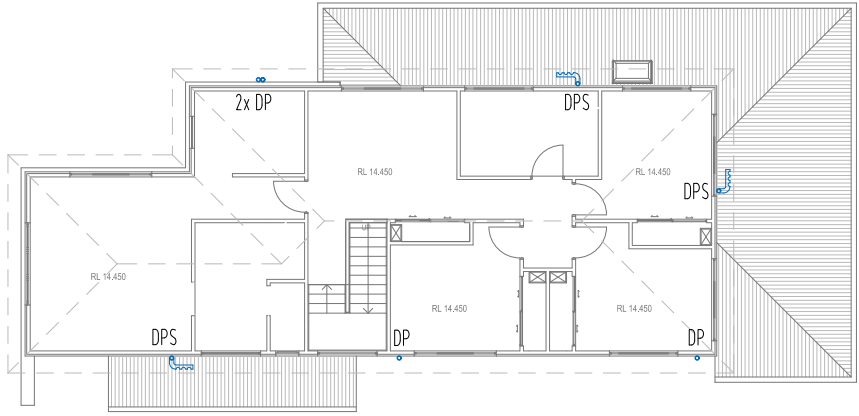
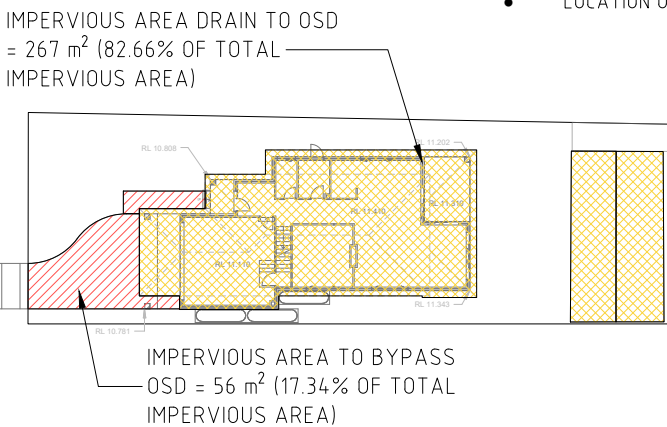
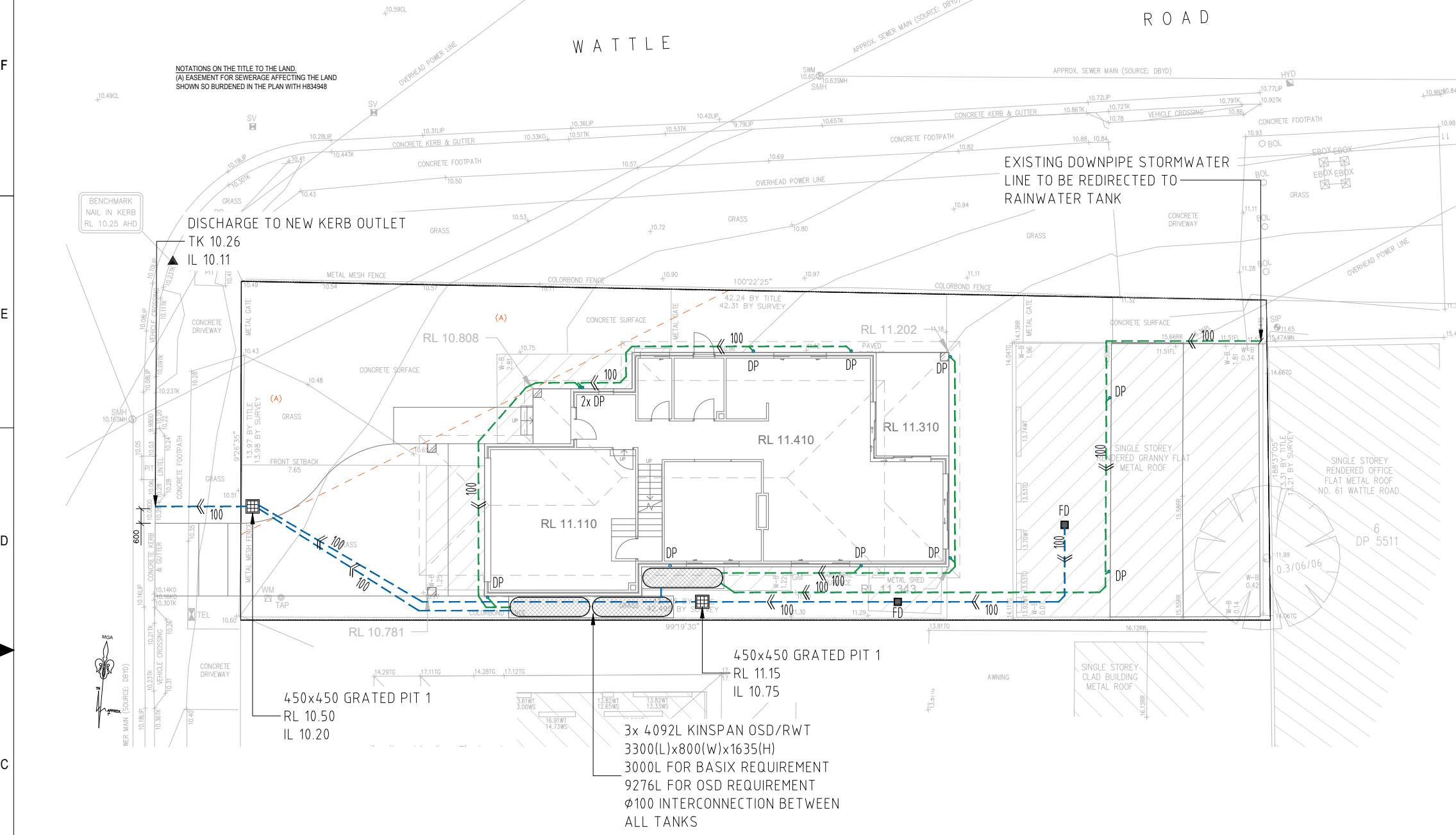
4

5

6

7

8



DESIGN SUMMARY

NORTHERN BEACHES COUNCIL - REGION 2

SINGLE DWELLING DEVELOPMENT
SITE AREA = 577.30 m²
ROOF AREA = 237.53 m²
1:100 ARI 5MIN. = 278 mm/hr
1:20 ARI 5MIN. = 209 mm/hr

NORTHERN BEACHES COUNCIL WATER MANAGEMENT POLICY 2021,
CLAUSE 9.3.2 - OSD IS REQUIRED DUE TO TOTAL IMPERVIOUS AREA
EXCEEDS 40% OF SITE AREA.

STREAMLINED METHOD OSD DESIGN
SSR = 200 × 0.05773 = 11.546 m³
PSD = 400 × 0.05773 = 23.092 L/s

CLAUSE 9.3.2.1 - BASIX VOLUME TO BE FULLY CREDITED AGAINST THE
DETERMINED OSD VOLUME, PROVIDED THAT THE **RAINWATER REUSE
MUST BE USED FOR FLUSHING OF TOILETS AS A MINIMUM.**

REVISED OSD VOLUME = 11.546 - 3.000 = 8.546 m³
PROVIDED OSD VOLUME = 9.276 m³



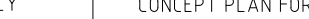
1. DOWNPIPE SIZE MIN. Ø90, GUTTER SIZE MIN.150 HALF ROUND

2. ROOF AREA WILL BE COLLECTED INTO RAINWATER TANK, OVERFLOW FROM RAINWATER TANK WILL DRAINS TO EXISTING KERB & GUTTER VIA SEDIMENT CONTROL PIT.

3. ALL CHARGED LINES MUST BE OF PRESSURE GRADE AND JOINTS ARE TO BE SOLVENT WELDED

4. THE PIPE SYSTEM INCLUDING DOWNPIPES MUST BE CONSTRUCTED FROM SUITABLY DURABLE MATERIALS.

5. SEALED CLEANING EYES ARE TO BE PROVIDED AT LOWEST POINTS IN THE SYSTEM AND AT FRONT BOUNDARY PRIOR TO COUNCIL LAND AND SHOULD BE EASE TO ACCESS.

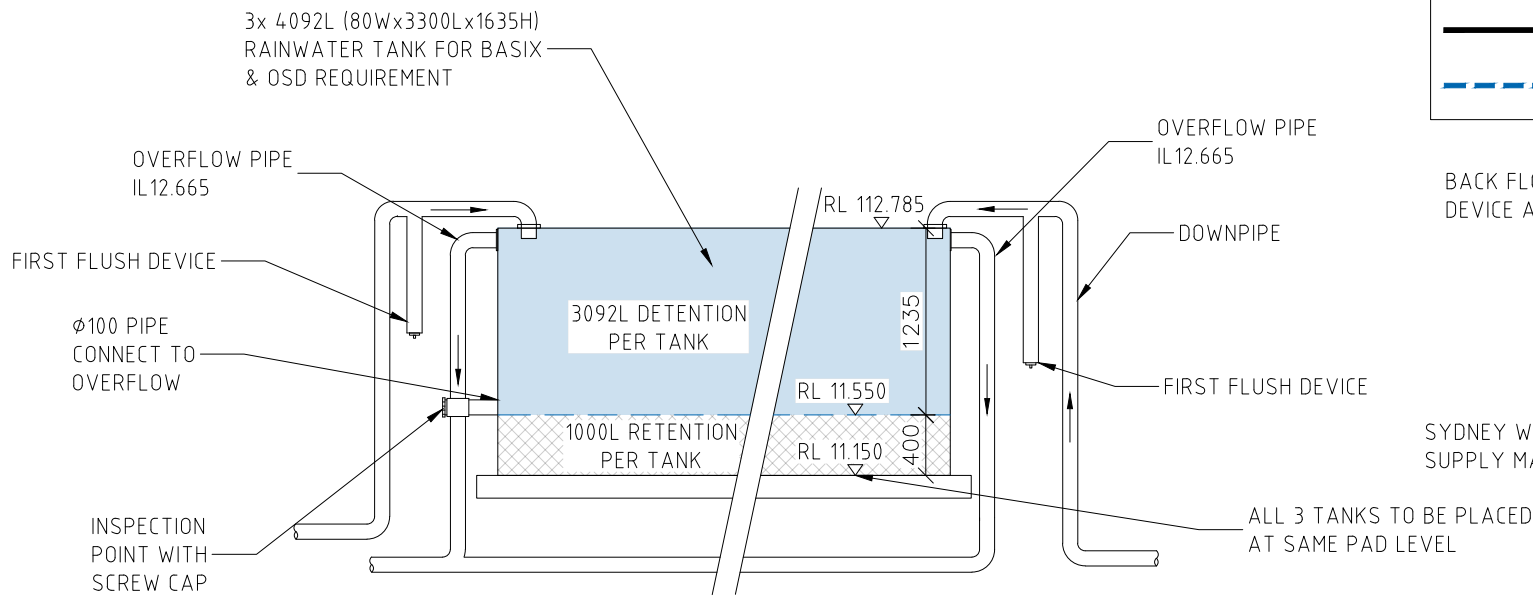
		REFERENCE COORDINATION DRAWING				GENERAL NOTES:				<div>NASTASI & ASSOCIATES CONSULTING CIVIL & STRUCTURAL ENGINEERS B.E., M.J.E., CPEng, Nper-3</div> <div>UNIT 5, 1-3 WHYMALLA PLACE, PRESTONS NSW 2170 PH: (02) 9607 2864 OR (02) 8798 5817 FAX: (02) 9751 2081 MOB: 0419 041 401</div>		QUALITY CONTROL		APPROVED:		CLIENT:		ADDRESS:		DRAWING STATUS					
												DESIGNED		DATE		9 SHORT STREET, NORTH MANLY		CONCEPT PLAN FOR APPROVAL							
C	REVISED ARCHITECTURAL PLAN	13.03.2025	ARCH.									GY	13.03.2025					TITLE:		SCALE (1 AT ORIGINAL SIZE)		AS NOTED			
B	REVISED DOWNPIPES	11.03.2025	STRUCT.																						
A	ORIGINAL ISSUE	05.03.2025	MECH.																						
			ELEC.																						
			HYD.																						
ISSUE		REVISION	DATE									MD	13.03.2025	S. NASTASI B.E., M.J.E., CPEng, Nper-3		DRAINAGE PLAN				PROJECT NO. 46471		DRAWING NO. C2		REVISION NO. C	



 **NASTASI & ASSOCIATES**
CONSULTING CIVIL & STRUCTURAL ENGINEERS
B.E., M.J.E. AUST. CPENG NPER-3
AUSA 45 533 226 008
UNIT 5, 1-3 WHYYALLA PLACE, PRESTONS NSW 2170
PH: (02) 9607 2884 OR (02) 8798 5617 FAX: (02) 9731 2081
MOBILE: 0419 041 451

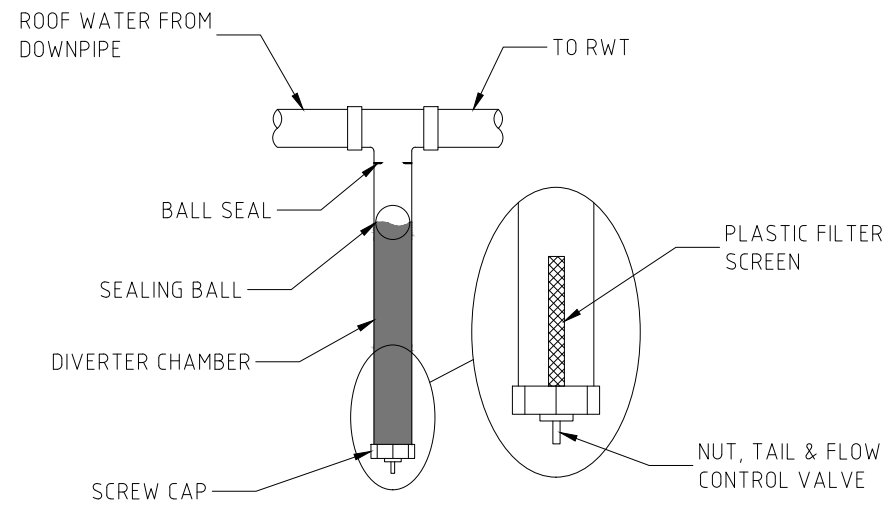
RAINWATER TANK NOTES:

1. A FIRST FLUSH DEVICE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS SHALL BE FITTED TO RAINWATER TANK SYSTEM TO FLUSH OUT THE FIRST 0.5mm OF RUN-OFF FROM THE ROOF AREA THAT DRAINED INTO THE TANK (E.G. 0.5L/m2).
2. PUMP SIZE & SPECIFICATION TO BE NOMINATED BY MANUFACTURER.
3. DIMENSIONS ARE INDICATIVE ONLY. EXACT DETAILS TO MANUFACTURER'S SPECIFICATIONS.

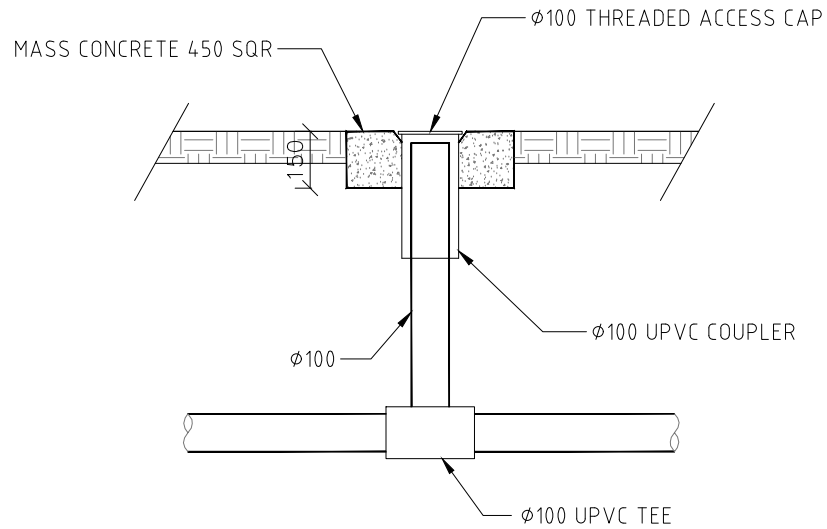


OSD/RWT DETAILS
SCALE 1:50

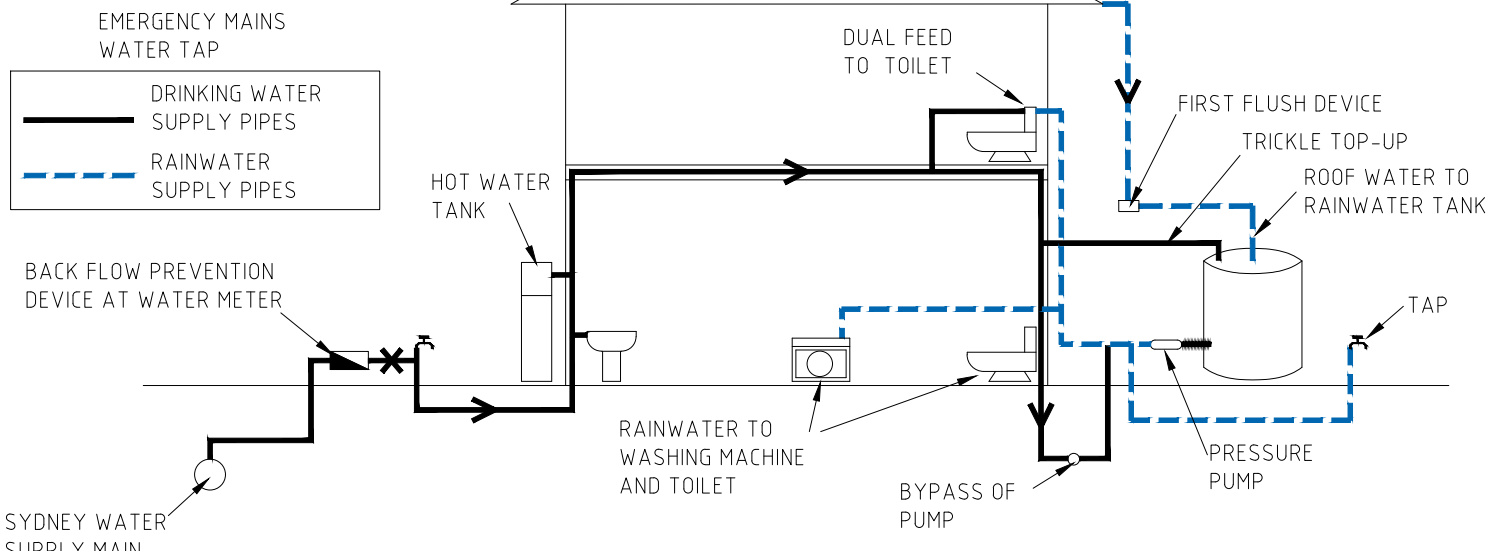
Ø100 INTERCONNECTION PIPE
BETWEEN ALL TANKS



FIRST FLUSH DEVICE DETAIL
1:20



CLEANING EYE DETAILS
SCALE 1:20



RAINWATER TANK RE-USE DIAGRAM
NTS

Orifice Plate Discharge Calculation :

$$Q_{max} = AC_d \sqrt{2gh} \Rightarrow A = \frac{Q_{max}}{C_d \sqrt{2gh}}$$

$Q_{max} = 0.0231 \text{ (m}^3/\text{s)}$
 $h = 1.115 \text{ (m)}$
 $C_d = 0.61$
 $g = 9.8 \text{ m/s}^2$
 $A = 0.008 \text{ m}^2$

Orifice Diameter = $D = \sqrt{\frac{A \times 4}{\pi}} = 0.102 \text{ (m)}$



REFERENCE COORDINATION DRAWING		GENERAL NOTES:		NASTASI & ASSOCIATES		QUALITY CONTROL		APPROVED:		CLIENT:		ADDRESS:		DRAWING STATUS	
DISCIPLINE DRAWING TITLE AND NUMBER DATE REV.		DRAWING TITLE AND NUMBER DATE REV.		UNIT 5, 1-3 WHYALLA PLACE, PRESTONS NSW 2170 PH: (02) 9607 2888 OR (02) 8798 5617 FAX: (02) 9731 2081 MOBILE: 0419 041 401		DESIGNED DATE GY 13.03.2025		S. NASTASI B.E., M.I.E., CpEng, Nper-3		WATTLE COURT HOMES BUILT FOR LIFE		9 SHORT STREET, NORTH MANLY		CONCEPT PLAN FOR APPROVAL	
C REVISED ARCHITECTURAL PLAN 13.03.2025		ARCH. LANDS				CHECKED DATE MD 13.03.2025						TITLE: STORMWATER DETAILS		SCALE (AT ORIGINAL SIZE) AS NOTED	
B REVISED DOWNPIPES 11.03.2025		STRUCT. CIVIL												PROJECT NO. 46471	
A ORIGINAL ISSUE 05.03.2025		ELEC. SURVEY												DRAWING NO. C3	
ISSUE REVISION		DATE												REVISION NO. C	



PIPE DIA 'D'	W	X MIN.	Y
100-150	300	75	75
225-300	600	75	75

UPVC PIPE


TYPICAL PIPE LAYING DETAIL

NTS

SURFACE WATER DRAINAGE - DOMESTIC

EasyDRAIN™ SHALLOW & DEEP FLO-WAY™ PITS & GRATES AND RAINWATER PIT




- Innovative, yet simple approach to solving your drainage problems
- Flo-way Pits are available in two sizes - 75mm shallow and 160mm deep.
- Flo-way Pits suit 90mm or 100mm PVC Pipe.
- Square trap design funnels rainwater direct into a connected stormwater pipe.
- Complete units with grates in black, grey sandstone and terracotta polymer as well as aluminium and EURODESIGN 316 Stainless Steel.



The technical drawings illustrate the dimensions of the drainage units. The 'Deep Flo-way Pit' has a height of 160mm and a width of 257mm. The 'Shallow Flo-way Pit' has a height of 75mm and a width of 257mm. A 'Grate' is shown with a width of 245mm.

TYPICAL SURFACE DRAINS

NTS

				REFERENCE COORDINATION DRAWING				GENERAL NOTES: * THIS DRAWING IS THE COPYRIGHT OF NASTASI & ASSOCIATES CONSULTING CIVIL & STRUCTURAL ENGINEERS. Unit 5,1-3 Whyalla Place,Prestons, 2170. PO Box 5046, Hornsby NSW, 2170. * IT IS NOT ALLOWED TO COPY OR REPRODUCE IT'S CONTENTS IN ANY FORM EXCEPT FOR THE PURPOSE. WHICH IT IS INTENDED WITHOUT THE ABOVE CONSULTANT'S AUTHORITY. * DO NOT SCALE THIS DRAWING, ONLY STATED DIMENSIONS ARE TO BE CONSIDERED. * CONTRACTOR TO VERIFY THE DETAIL / INFORMATION GIVEN IN THIS DRAWING, ANY DISCREPANCIES SHALL BE BROUGHT TO ENGINEERS ATTENTION PRIOR TO COMMENCEMENT OF WORK, FAILURE TO COMPLY WITH THE ABOVE WILL BE CONTRACTORS LIABILITY.				<div><div></div><div>UNIT 5, 1-3 WHYALLA PLACE, PRESTONS NSW 2170 PH: (02) 9607 2884 OR (02) 8798 9617 FAX: (02) 9733 2081 MOB: (0419) 041 041</div></div>				QUALITY CONTROL		APPROVED:		CLIENT:		ADDRESS:		DRAWING STATUS	
												DESIGNED		DATE				9 SHORT STREET, NORTH MANLY		CONCEPT PLAN FOR APPROVAL					
C REVISED ARCHITECTURAL PLAN		13.03.2025		ARCH.		FIRE						GY		13.03.2025											
B REVISED DOWNPIPES		11.03.2025		STRUCT.		LANDS						CHECKED		DATE		S. NASTASI				SCALE (AT ORIGINAL SIZE) AS NOTED					
A ORIGINAL ISSUE		05.03.2025		MECH.		CIVIL						MD		13.03.2025		B.E., M.I.E., CPEng, Nper-3				PROJECT NO. 46471					
ISSUE		REVISION		DATE		ELEC.		SURVEY												DRAWING NO. C4					
						HYD.														REVISION NO. C					