

## F

## E

- D

## C

- B

## A

- 3

Q

- AND

**ADIN**

OR CO

---

3

3

## 3

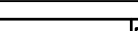
3

3

## 5

5

## LOCATION MAP

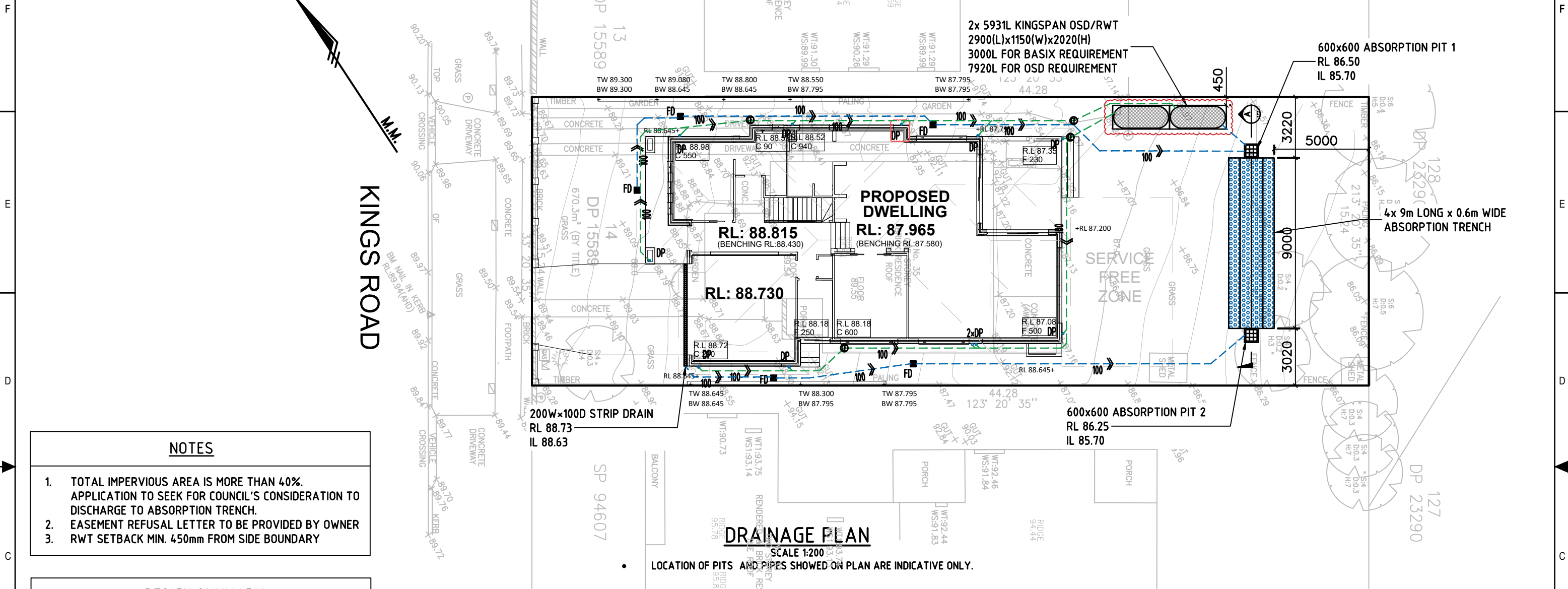


\_\_\_\_\_



\_\_\_\_\_





NOTES

1. TOTAL IMPERVIOUS AREA IS MORE THAN 40%. APPLICATION TO SEEK FOR COUNCIL'S CONSIDERATION TO DISCHARGE TO ABSORPTION TRENCH.
2. EASEMENT REFUSAL LETTER TO BE PROVIDED BY OWNER
3. RWT SETBACK MIN. 450mm FROM SIDE BOUNDARY

DESIGN SUMMARY

CITY OF RYDE COUNCIL

SINGLE DWELLING DEVELOPMENT

SITE AREA = 670.30 m<sup>2</sup>

ROOF AREA = 275.10 m<sup>2</sup>

1:100 ARI 5MIN. = 242 mm/hr

1:20 ARI 5MIN. = 184 mm/hr

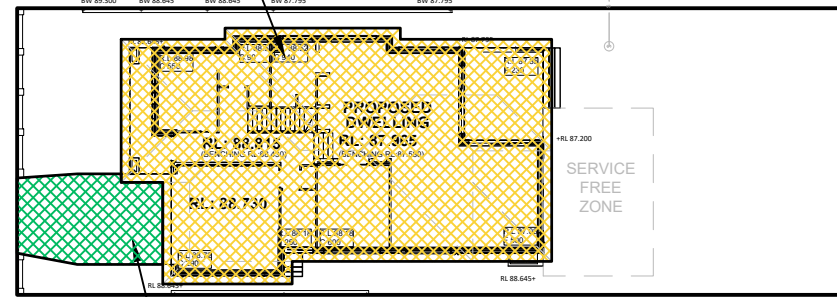
1. DOWNPIPE SIZE MIN. Ø90, GUTTER SIZE MIN.115 HI FRONT
2. ROOF AREA WILL BE COLLECTED INTO OSD/RWT, OVERFLOW FROM OSD/RWT WILL DRAINS TO ABSORPTION TRENCH (SUBJECT TO COUNCIL'S APPROVAL)
3. ALL CHARGED LINES MUST BE OF PRESSURE GRADE AND JOINTS ARE TO BE SOLVENT WELDED
4. THE PIPE SYSTEM INCLUDING DOWNPIPES MUST BE CONSTRUCTED FROM SUITABLY DURABLE MATERIALS. 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.

DRAINAGE PLAN

SCALE 1:200

LOCATION OF PITS AND PIPES SHOWN ON PLAN ARE INDICATIVE ONLY.

ROOF AREA = 275.10 m<sup>2</sup>



PERMEABLE PAVING AREA =  
IMPERVIOUS AREA x 25% = 8.75 m<sup>2</sup>

OSD CATCHMENT PLAN

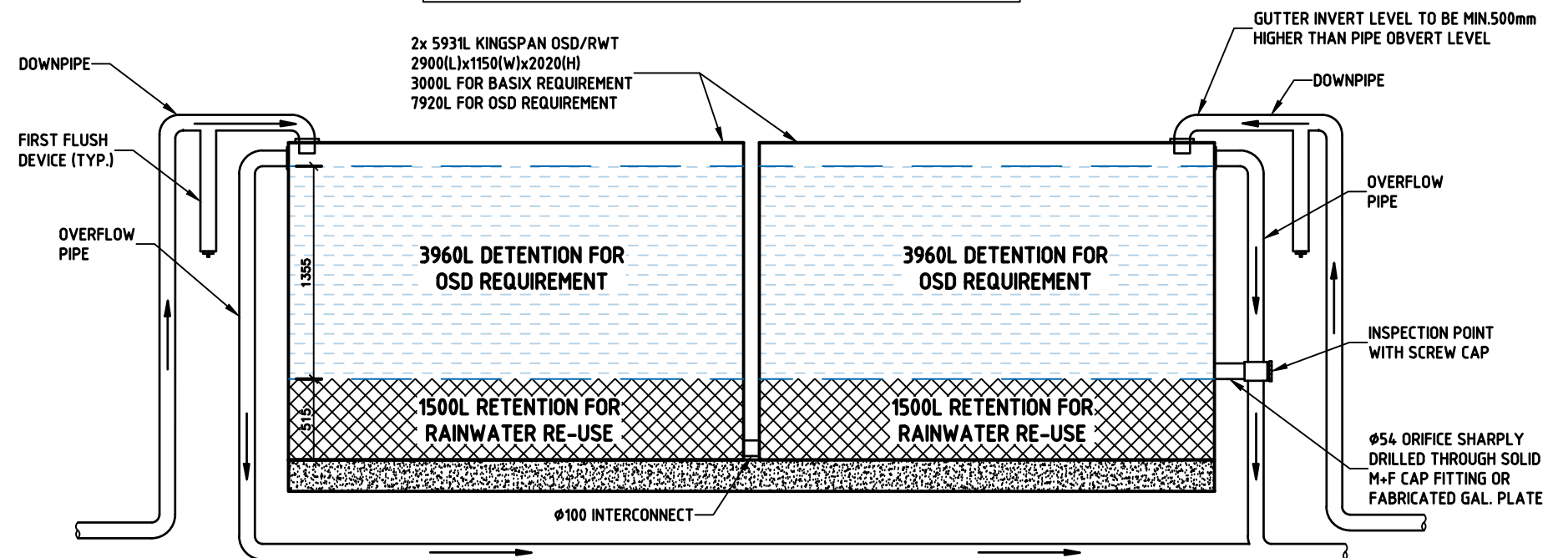
SCALE 1:400

ISSUE FOR APPROVAL

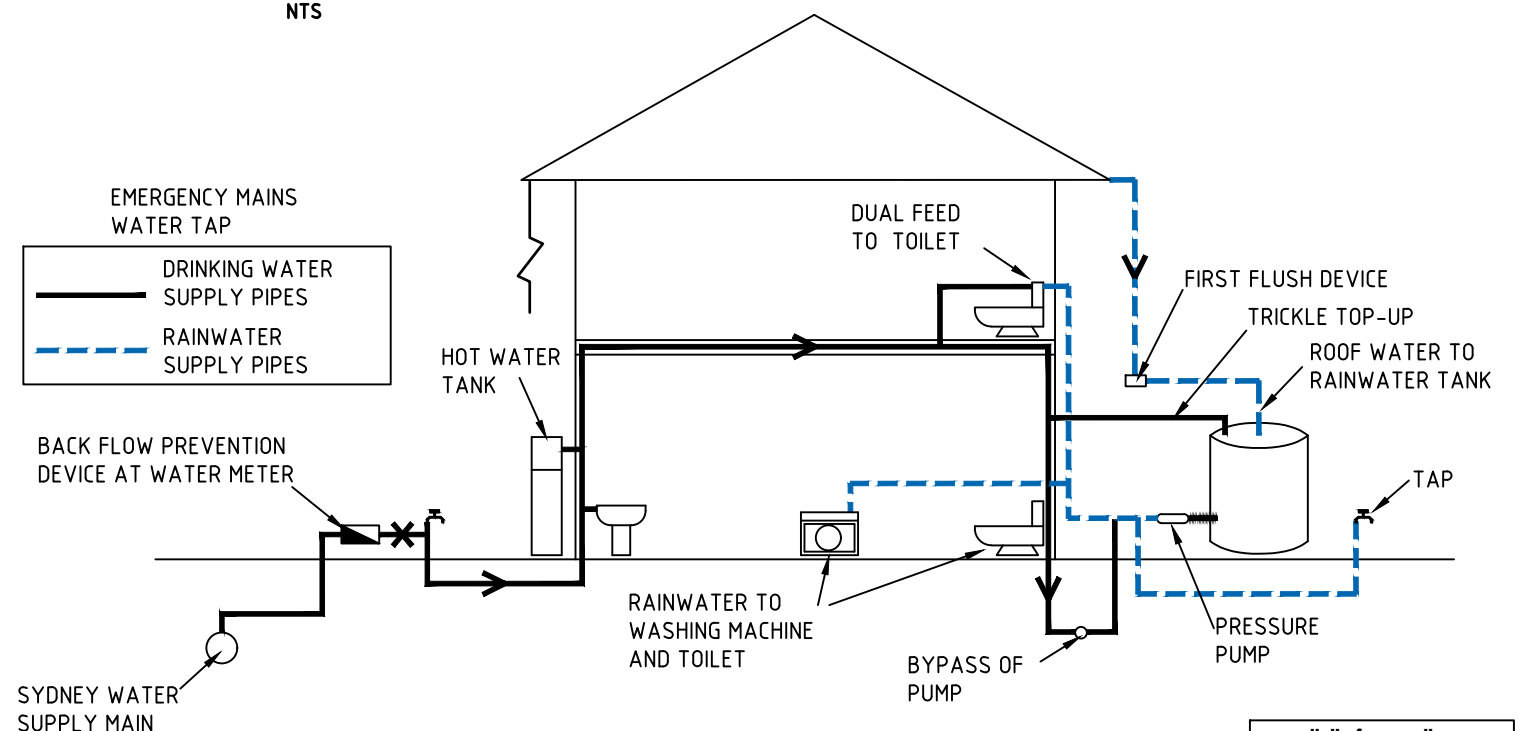
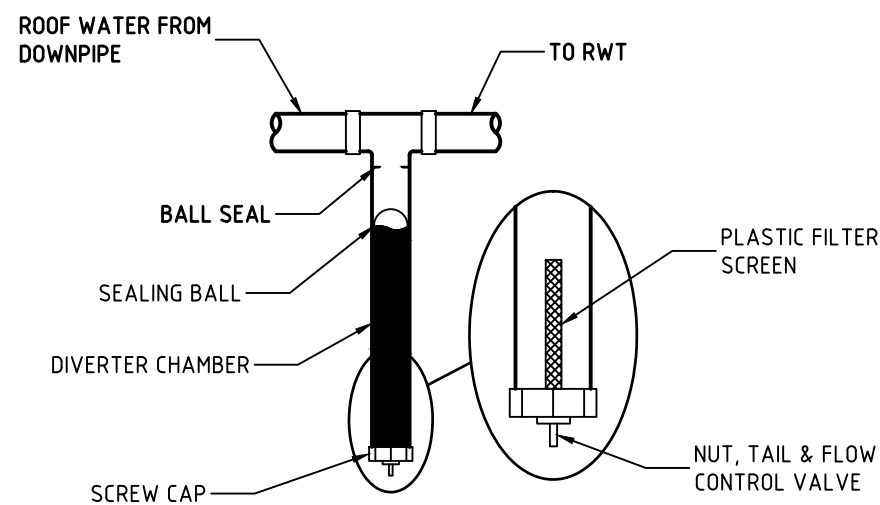


REFERENCE COORDINATION DRAWING		GENERAL NOTES:		QUALITY CONTROL		APPROVED:		CLIENT:		ADDRESS:		DRAWING STATUS	
DISCIPLINE	DRAWING TITLE AND NUMBER	DATE	REV.	DESIGNED	DATE					LOT 14 NO. 35 KINGS ROAD, DENISTONE EAST		CONCEPT PLAN FOR APPROVAL	
ARCH.				NV	29.09.2022							SCALE ( AT ORIGINAL SIZE) AS NOTED	
STRUCT.				CHECKED	DATE	S. NASTASI B.E., M.A.E., CPEng, Nper-3				DRAINAGE PLAN		PROJECT NO. 28556	
MEDIA.				MD	29.09.2022							DRAWING NO. C2	
ELEC.												REVISION NO. B	
HYD.													
ISSUE	REVISION	DATE											

NASTASI & ASSOCIATES CONSULTING CIVIL & STRUCTURAL ENGINEERS					
ON-SITE DETENTION CALCULATION SHEET					
Development Type:		Proposed New Dwelling			
Address:		LOT 14 NO 35 KINGS ROAD, DENISTONE EAST			
Project number:		28556			
Catchment Zone:			1		
Site area:			670.30 m <sup>2</sup>		(A)
65% Site area:			435.70 m <sup>2</sup>		
Total Proposed Impervious Area (roof, driveways, hardstands etc):			283.85 m <sup>2</sup>		(B)
% of site impervious:			0.42 %		
Impervious are draining to the storage facility:			275.10 m <sup>2</sup>		(C)
Pervious area draining to the storage facility:			0.00 m <sup>2</sup>		(D)
Total area draining to the storage facility (Impervious + pervious):			275.1 m <sup>2</sup>		(E)
Pervious area bypassing the storage facility:			386.45 m <sup>2</sup>		(F)
Impervious area bypassing the storage facility:			8.75 m <sup>2</sup>		(G)
[(C) + (G)] / (C) (must not be greater than 1.25)			1.03		(L)
<b>Permitted Site Discharge</b>					
Permitted Site Discharge (PSD) rate per m2			0.0254 l/s/m <sup>2</sup>		(J)
Permitted Site Discharge (E) x (J)			6.98 l/s		
Storage volume rate per m2			0.0275 m <sup>3</sup>		(K)
Site Storage Requirement [(E)+(G)]x(K)			7.81 m <sup>3</sup>		
Is OSD provided in a landscaped surface basin?			No		
If yes, then Site Storage Requirement (increased by 20%)			7.81		
Allowance for Rainwater Tank offset (5000L max.)			0		
Total OSD volume required after RWT offset			7.81 m <sup>3</sup>		
OSD volume provided			7.92 m <sup>3</sup>		101%
<b>Outlet Control (sharp edged orifice plate)</b>					
Height difference between top water level and centre of orifice			1.355 m		(H)
Orifice diameter (mm)			54 mm		



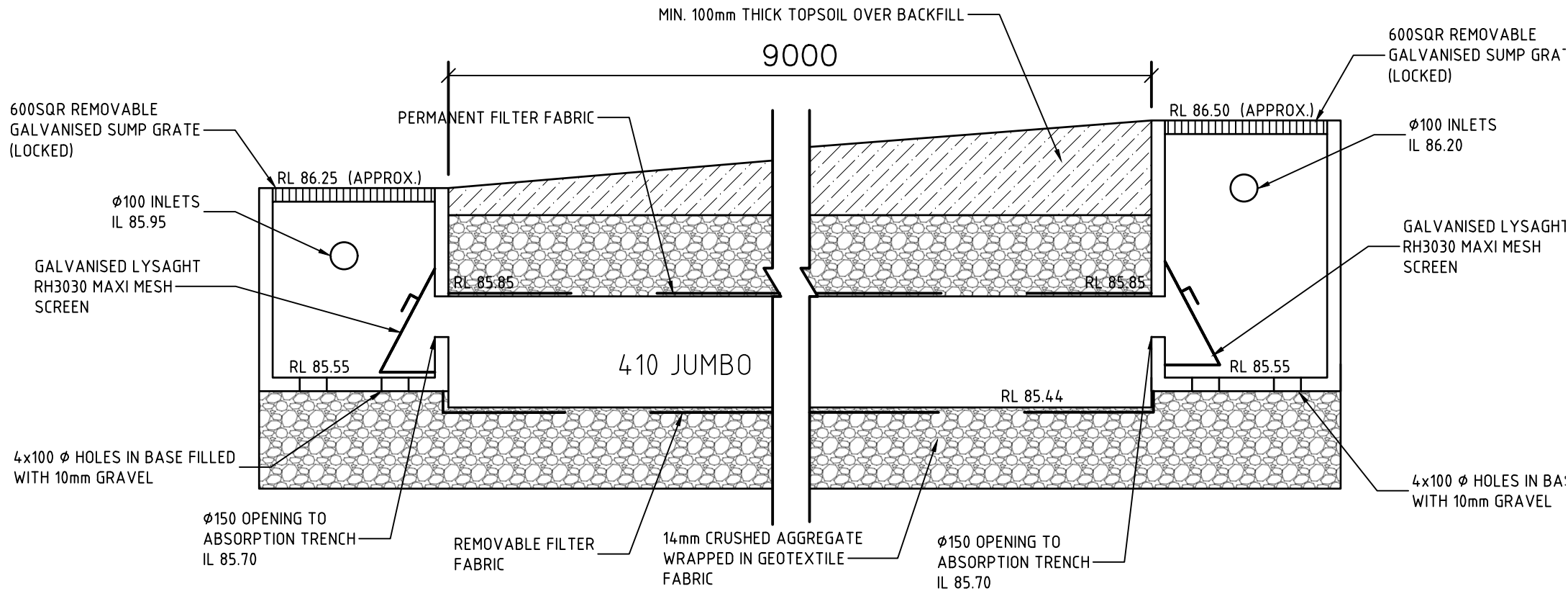
## OSD/RWT DETAIL



## RAINWATER TANK RE-USE DIAGRAM

[illegible]



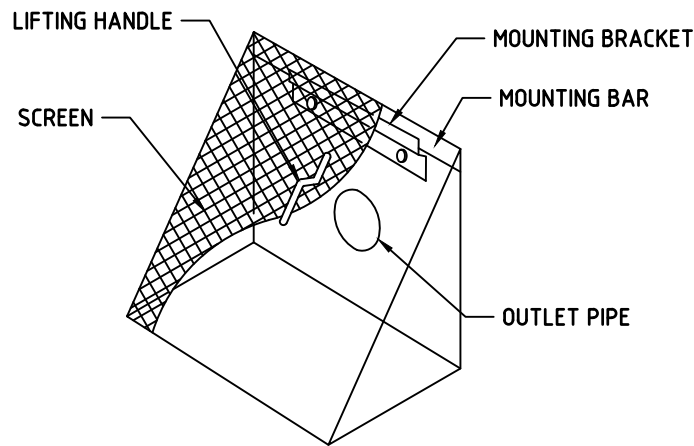


## ABSORPTION SYSTEM LONG SECTION A

SCALE 1:20

### 8.2 Appendix 2 - Absorption System Calculation Sheet

Development Type:	RESIDENTIAL DEVELOPMENT			
Address:	35 KINGS ROAD, DENISTONE EAST			
Catchment Zone =	ZONE 1			
1. Site Area =	670.30	m <sup>2</sup>	(A)	
2. Roof Area =	275.10	m <sup>2</sup>	(B)	
3. Driveway Area =	0.00	m <sup>2</sup>	(C)	
4. Other Paved Area =	0	m <sup>2</sup>	(D)	
5. Pervious Paving Area =	m <sup>2</sup> x 0.25 =	8.75	m <sup>2</sup>	(E)
6. Total <b>Proposed</b> Impervious Area (B+C+D+E) =		283.85	m <sup>2</sup>	(F)
7. Impervious Area <b>Draining</b> to Absorption Trench =		283.85	m <sup>2</sup>	(G)
(As much of the impervious areas possible are to drain to the absorption system, with 100% of the roof area and driveway to connect to the system)				
8. Site impervious % = (F)/(A) x 100 =	42	%	(H)	
(must be less than 40%)				
9. Area available for dispersal =	5.00	m <sup>2</sup>	(K)	
10. Rainfall intensity =	88.20	mm/hr	(L)	
11. Volume of Runoff = (G) x (L) x (1/3) =	8345	L	(M)	
12. Storage Required = (M)/1000	8.35	m <sup>3</sup>	(N)	
13. Absorption trench type	Jumbo cell			
14. Storage Capacity per lineal metre (from product guide) =	0.175	m <sup>3</sup> /m	(O)	
15. Additional Storage Capacity in Gravel Trench with voids =	0.077	m <sup>3</sup> /m	(P)	
(Trench width(m) x trench height(m) - cross section area of absorption trench(m)) x void space				
17. Total Storage Capacity = (O) + (P) =	0.252	m <sup>3</sup> /m	(Q)	
18. Length of Trench Required = (N)/(Q)	33.12	m	(P)	
THIS IS A TOTAL DESIGN FOR BOTH UNITS.				
Trench Provide d	36.00	m		



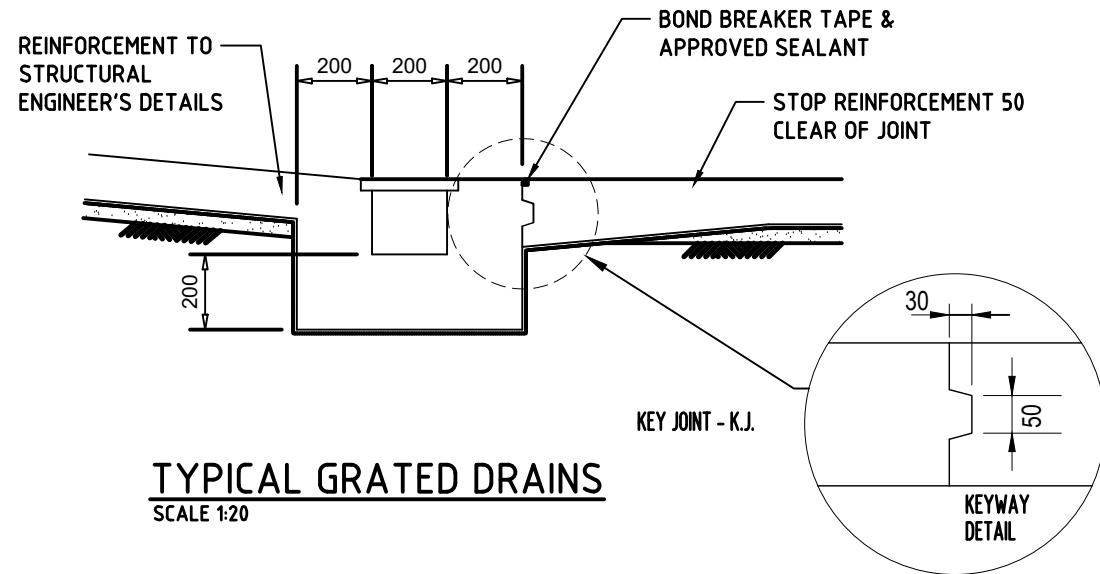
### DEBRIS SCREEN DETAILS

NTS

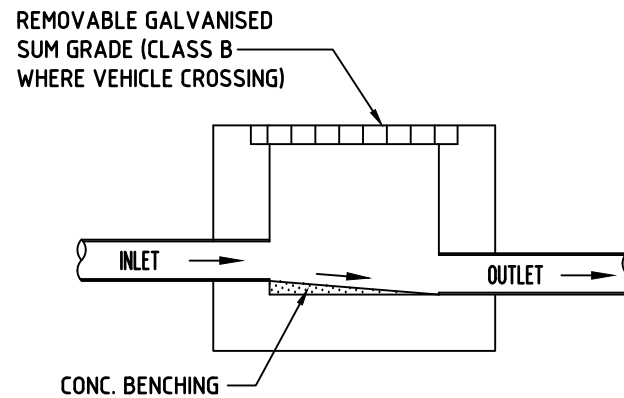
ISSUE FOR APPROVAL



REFERENCE COORDINATION DRAWING		GENERAL NOTES:		QUALITY CONTROL		APPROVED:		CLIENT:		ADDRESS:		DRAWING STATUS	
DISCIPLINE DRAWING TITLE AND NUMBER DATE REV.		DRAWING TITLE AND NUMBER DATE REV.		DESIGNED DATE		NV 29.09.2022		WISDOM		LOT 14 NO. 35 KINGS ROAD, DENISTONE EAST		CONCEPT PLAN FOR APPROVAL	
B REVISED DRAINAGE PLAN 29.09.2022		ARCH. DATE REV.		CHECKED DATE		MD 29.09.2022		S. NASTASI B.E., M.A.E., CPEng, Nper-3		TITLE:		SCALE ( AT ORIGINAL SIZE) AS NOTED	
A ISSUED FOR REVIEW 30.06.2022		MECH. DATE REV.		PROJECT NO.		28556		DRAWING NO.		C4		REVISION NO.	
ISSUE REVISION DATE		ELEC. DATE REV.		SURVEY								B	



**TYPICAL GRATED DRAINS**  
SCALE 1:20



**TYPICAL SURFACE PIT**  
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.

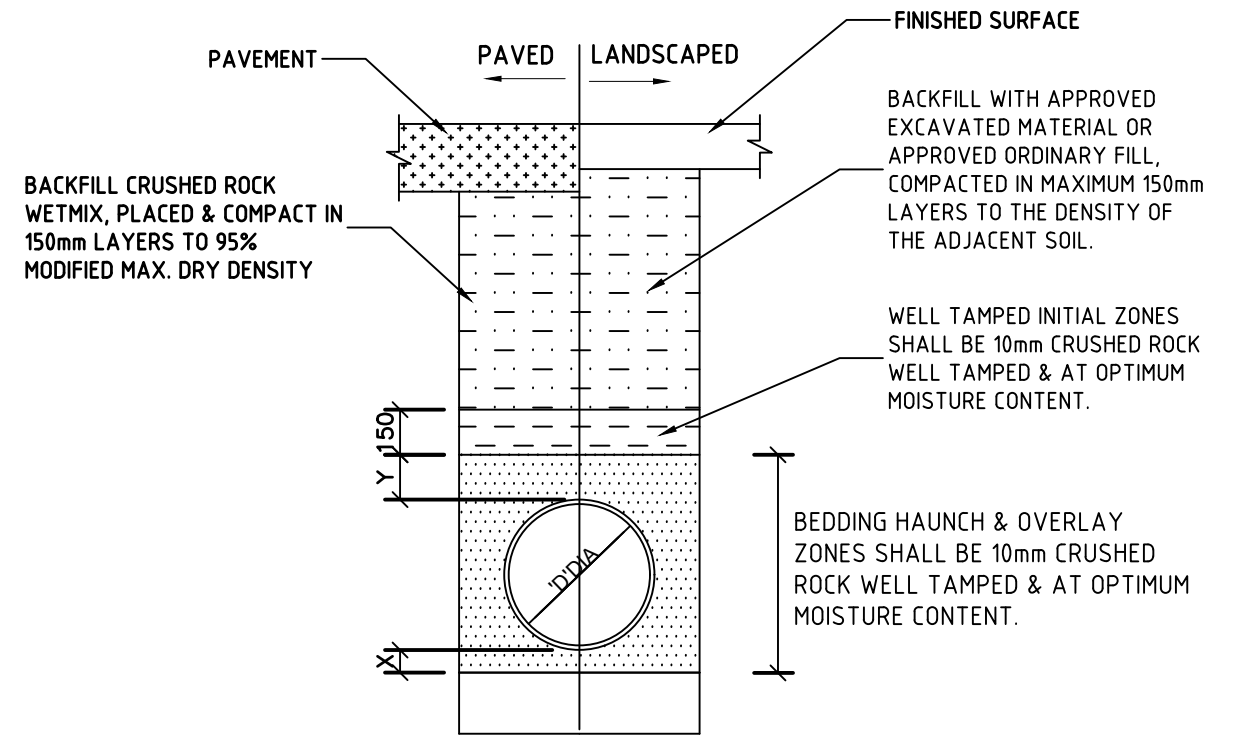
**Deep Flo-way Pit**

257  
160  
257

**Shallow Flo-way Pit**

257  
75  
257

**TYPICAL SURFACE DRAINS**  
NTS

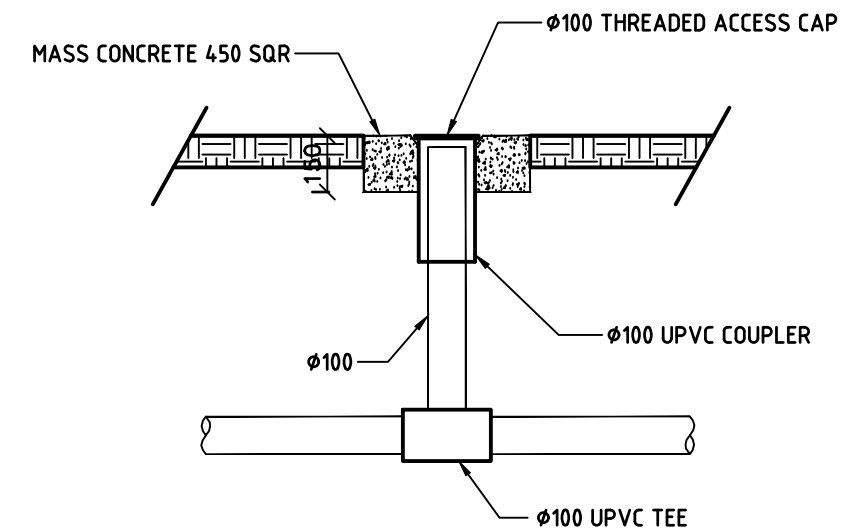


NOTE:  
1 REFER TO PIPE LAYING SPECIFICATIONS FOR DETAILS.

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



UPVC PIPE

**TYPICAL PIPE LAYING DETAIL**  
NTS



**CLEANING EYE DETAILS**  
SCALE 1:20



		REFERENCE COORDINATION DRAWING						GENERAL NOTES:		QUALITY CONTROL		APPROVED:	CLIENT:	ADDRESS:	DRAWING STATUS			
								* THIS DRAWING IS THE COPYRIGHT OF NASTASI & ASSOCIATES CONSULTING CIVIL & STRUCTURAL ENGINEERS, Unit 5/1-3 Wyndale Place/Prestons, 2170, NSW 1500, New South Wales, 2170, AUSTRALIA		DESIGNED		DATE	 S. NASTASI B.E., M.A.E., CPEng, Nper-3		LOT 14 NO. 35 KINGS ROAD, DENISTONE EAST		CONCEPT PLAN FOR APPROVAL	
								* IT IS NOT ALLOWED TO COPY OR REPRODUCE IT'S CONTENTS IN ANY FORM EXCEPT FOR THE PURPOSE WHICH IT IS ISSUED WITHOUT THE ABOVE CONSULTANTS' AGREEMENT.		NV		29.09.2022			TITLE:		SCALE ( AT ORIGINAL SIZE) AS NOTED	
								* DO NOT SCALE THIS DRAWING, ONLY STORED DIMENSIONS ARE TO BE CONSIDERED.		CHECKED		DATE			STORMWATER DETAILS		PROJECT NO. DRAWING NO. REVISION NO.	
B	REVISED DRAINAGE PLAN	29.09.2022						* 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.		MD		29.09.2022			28556 C5 B			
A	ISSUED FOR REVIEW	30.06.2022																
ISSUE	REVISION	DATE		REV.														