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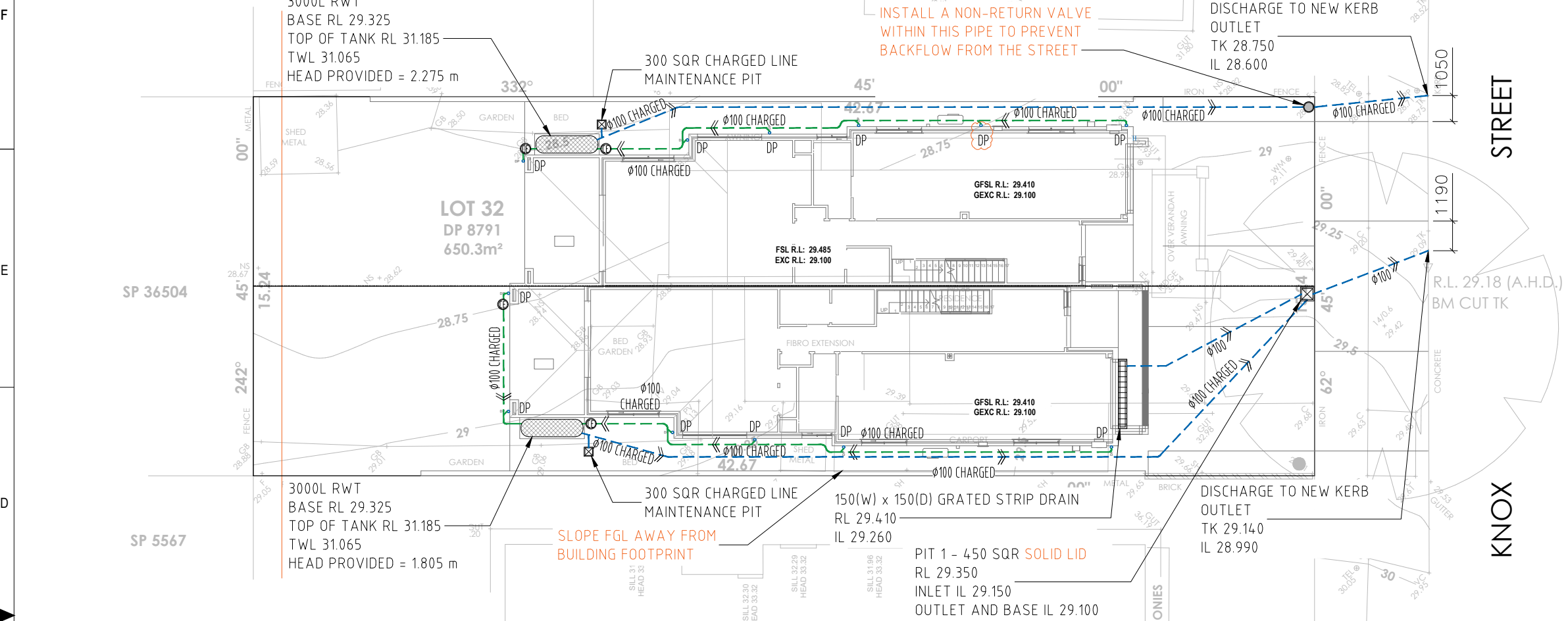
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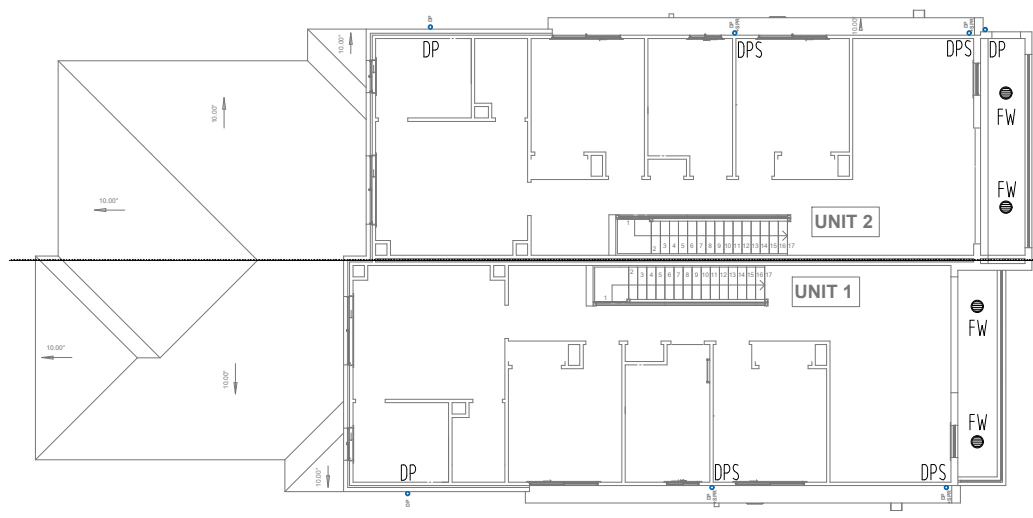
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GROUND FLOOR DRAINAGE PLAN

SCALE 1:200

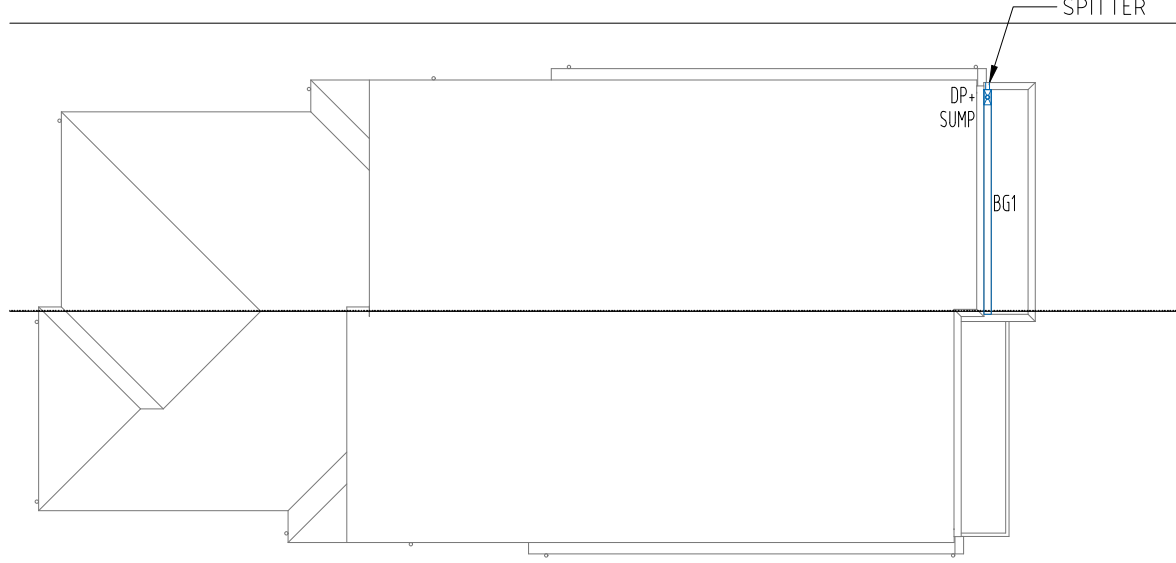
- LOCATION OF PITS AND PIPES SHOWN ON PLAN ARE INDICATIVE ONLY.



FIRST FLOOR DRAINAGE PLAN

SCALE 1:200

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



ROOF DRAINAGE PLAN

SCALE 1:200

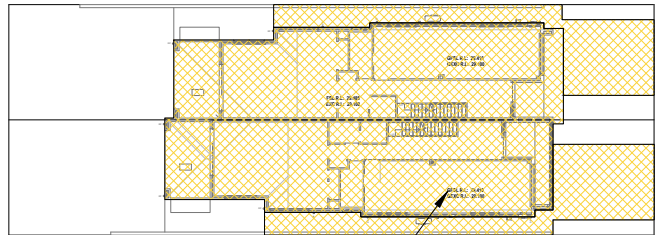
- LOCATION OF PITS AND PIPES SHOWN ON PLAN ARE INDICATIVE ONLY.

DESIGN SUMMARY

CANTERBURY-BANKSTOWN COUNCIL

DUAL OCCUPANCY DEVELOPMENT
SITE AREA = 650.30 m²
ROOF AREA = 310.10 m²
1:100 ARI 5MIN. = 213 mm/hr
1:20 ARI 5MIN. = 170 mm/hr

1. DOWNPIPE SIZE MIN. ϕ 90, GUTTER SIZE MIN. 125 QUAD
2. ROOF AREA WILL BE COLLECTED INTO RAINWATER TANK, OVERFLOW FROM RAINWATER TANK WILL DRAIN TO THE KERB VIA CHARGED SYSTEM.
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.



PROPOSED IMPERVIOUS AREA = 424.6 m² (65.3%)

CATCHMENT PLAN

SCALE 1:500

M.G.A.
DP 1129951

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					LOT 32 NO 88 KNOX STREET, BELMORE		CONCEPT PLAN FOR APPROVAL	
ARCH.		FIRE		HM	25.09.2024					TITLE:		SCALE (AT ORIGINAL SIZE)	AS NOTED
STRUCT.		LANDS		CHECKED	DATE	S. NASTASI B.E., M.I.E., CpEng, Nper-3				DRAINAGE PLAN		PROJECT NO.	DRAWING NO.
MED.		CIVIL		MD	25.09.2024							42676	C2
ELEC.		SURVEY										REVISION NO.	A
HYD.													

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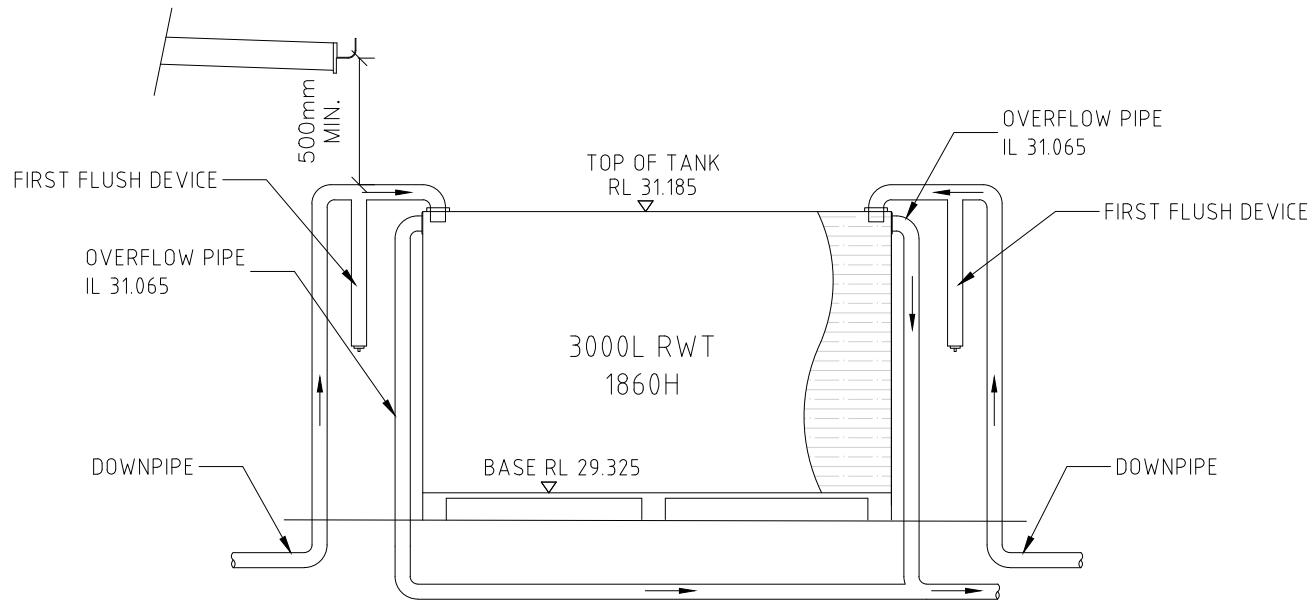
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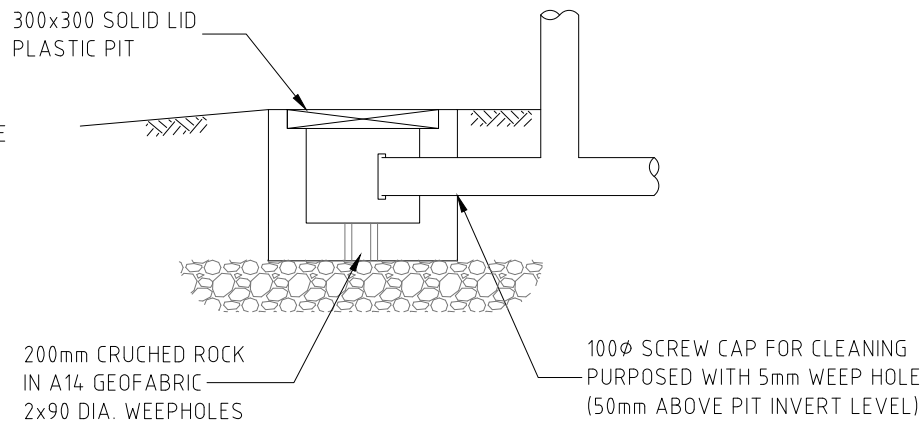
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RAINWATER TANK NOTES:

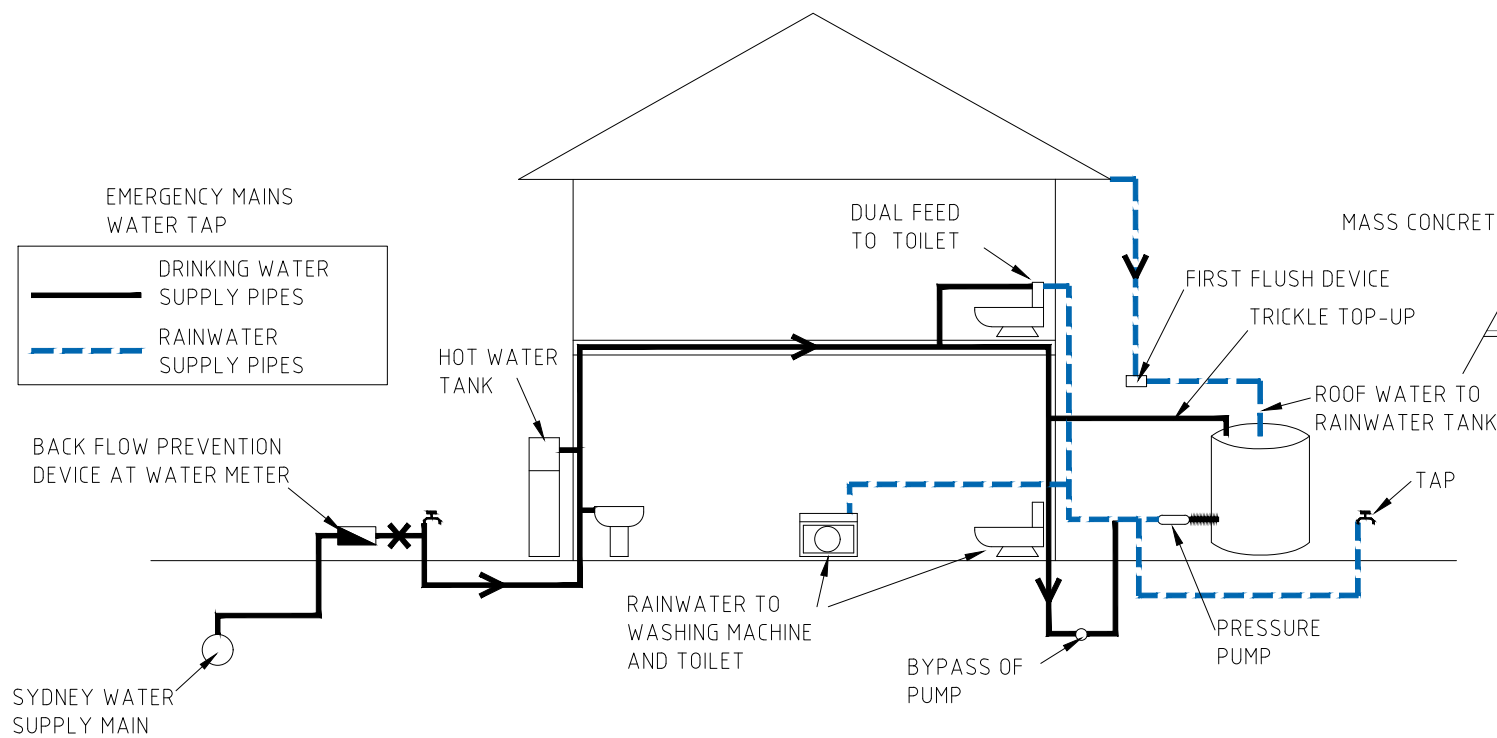
1. A FIRST FLUSH DEVICE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS SHALL BE FITTED TO RAINWATER TANK SYSTEM TO FLUSH OUT THE FIRST 0.5mm OF RUN-OFF FROM THE ROOF AREA THAT DRAINED INTO THE TANK (E.G. 0.5L/m²).
2. PUMP SIZE & SPECIFICATION TO BE NOMINATED BY MANUFACTURER.
3. DIMENSIONS ARE INDICATIVE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



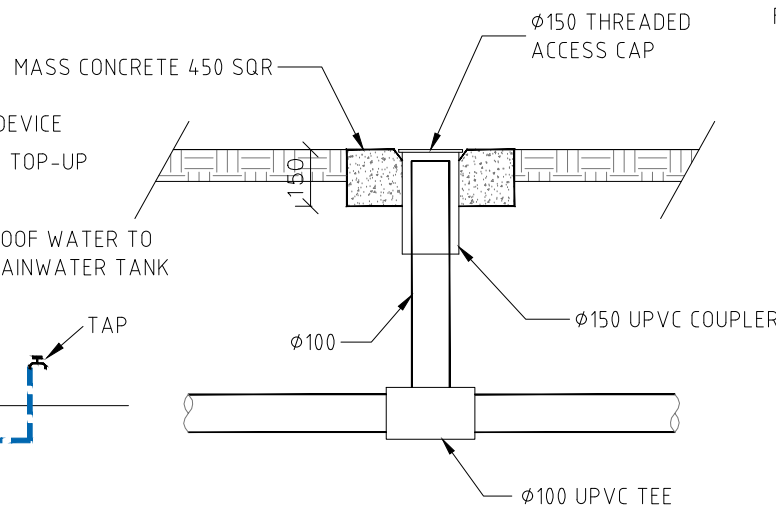
RAINWATER TANK DETAIL PER UNIT
NTS



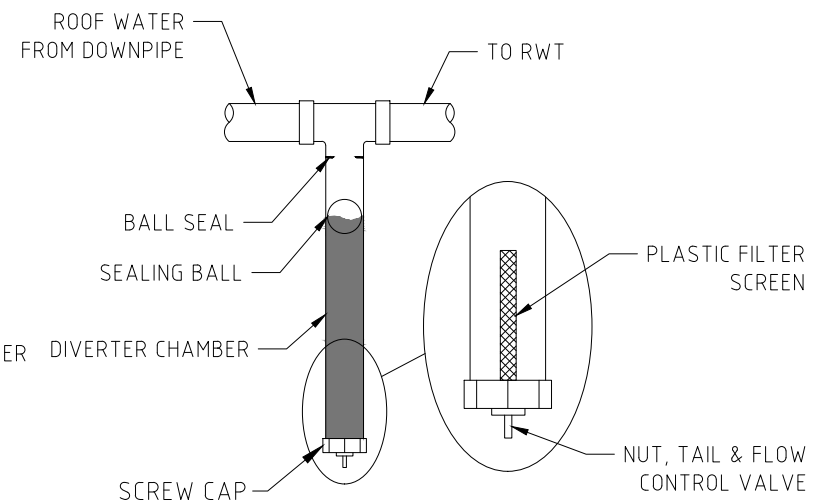
TYPICAL MAINTENANCE PIT
SCALE 1:20



RAINWATER TANK RE-USE DIAGRAM
NTS



CLEANING EYE DETAILS
SCALE 1:20



FIRST FLUSH DEVICE DETAIL
1:20
ISSUE FOR APPROVAL



NASTASI & ASSOCIATES CONSULTING CIVIL & STRUCTURAL ENGINEERS

HYDRAULIC GRADE LINE CALCULATIONS

Project No:42676

Address:LOT 32 NO 88 KNOX STREET, BELMORE

Coefficients

Gravity accelerationg9.81m/s²

Roughness Coefficientk0.00510⁻³m (pvc pipe)

Bendloss CoefficientK_b0.4790⁰ bend

Water densityρ1000kg/m³

Runoff CoefficientC_{roof}0.85

Absolute viscosityμ0.001water

Minor Loss Coefficientξ1

Length of pipeL37m

Pipe diameterh_d0.1m

Roof AreaA_{roof}155m²

Rainfall 100 yearI_{5min}213mm/h

Flow RateQ7.80l/s

Flow VelocityV0.99m/s

Fiction loss

Reynolds NoRe99252Turbulent

Roughness Ratio0.00005

Friction coefficientλ0.018(The Moody Diagram)

Friction lossh_f0.33m

Bend loss (x4)h_b0.20m

Exist loss h_e0.20m

Total head loss =H0.74m

Head provided =1.805m

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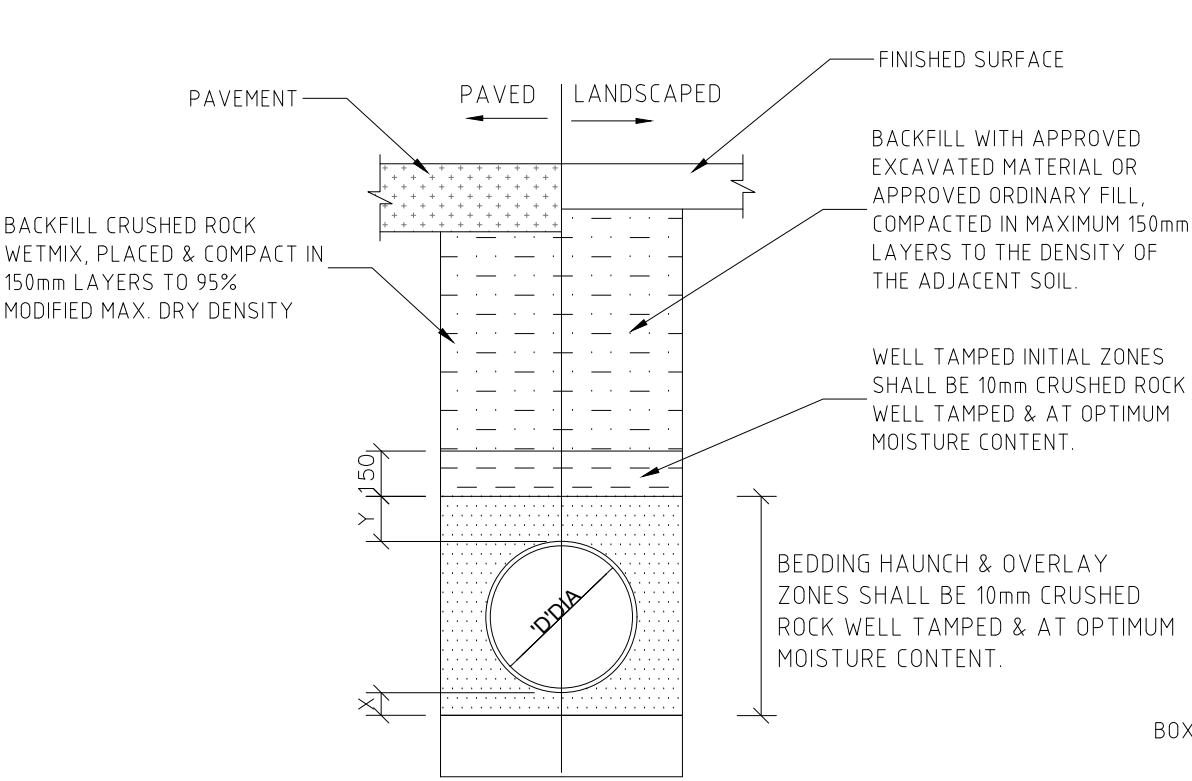
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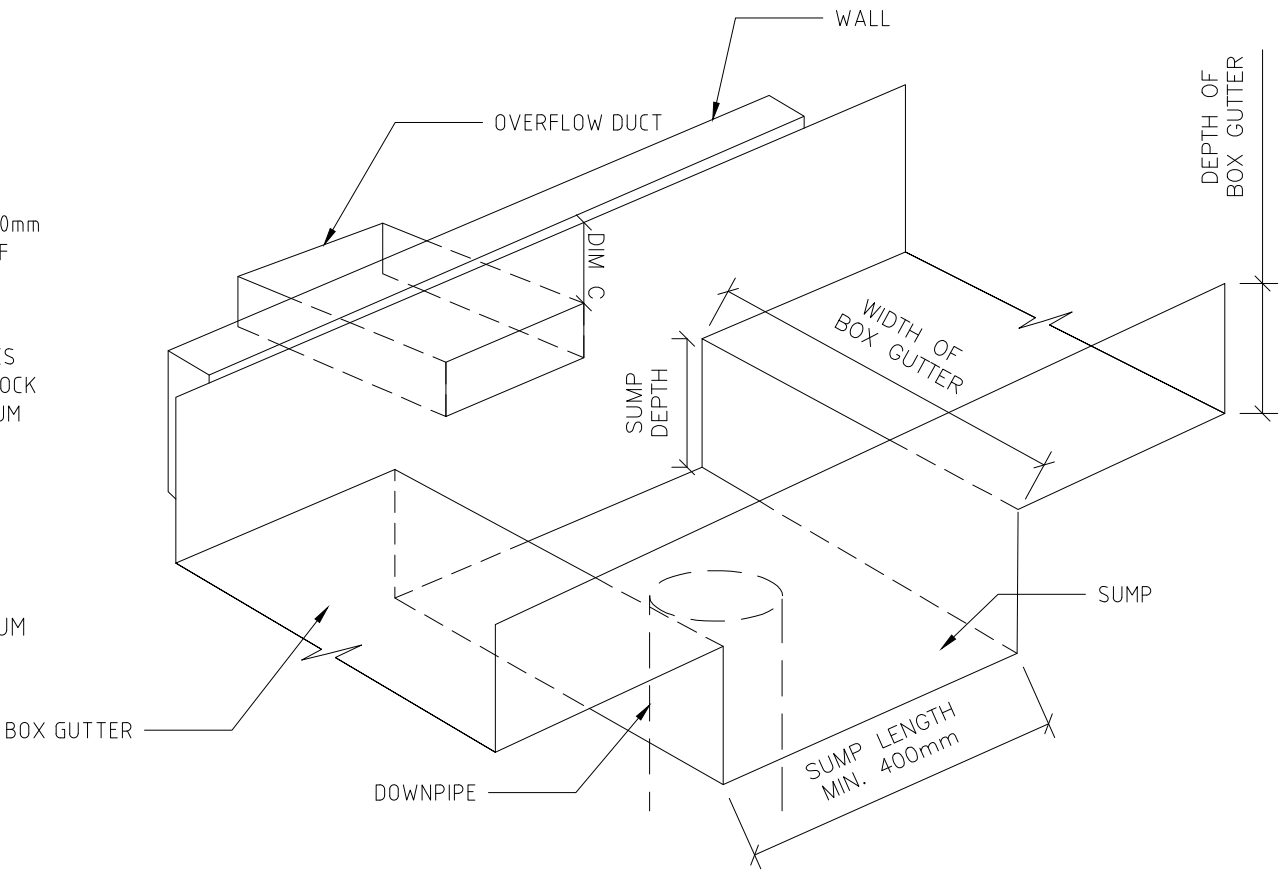
NOTE:
1 REFER TO PIPE LAYING SPECIFICATIONS FOR DETAILS.

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

UPVC PIPE

TYPICAL PIPE LAYING DETAIL

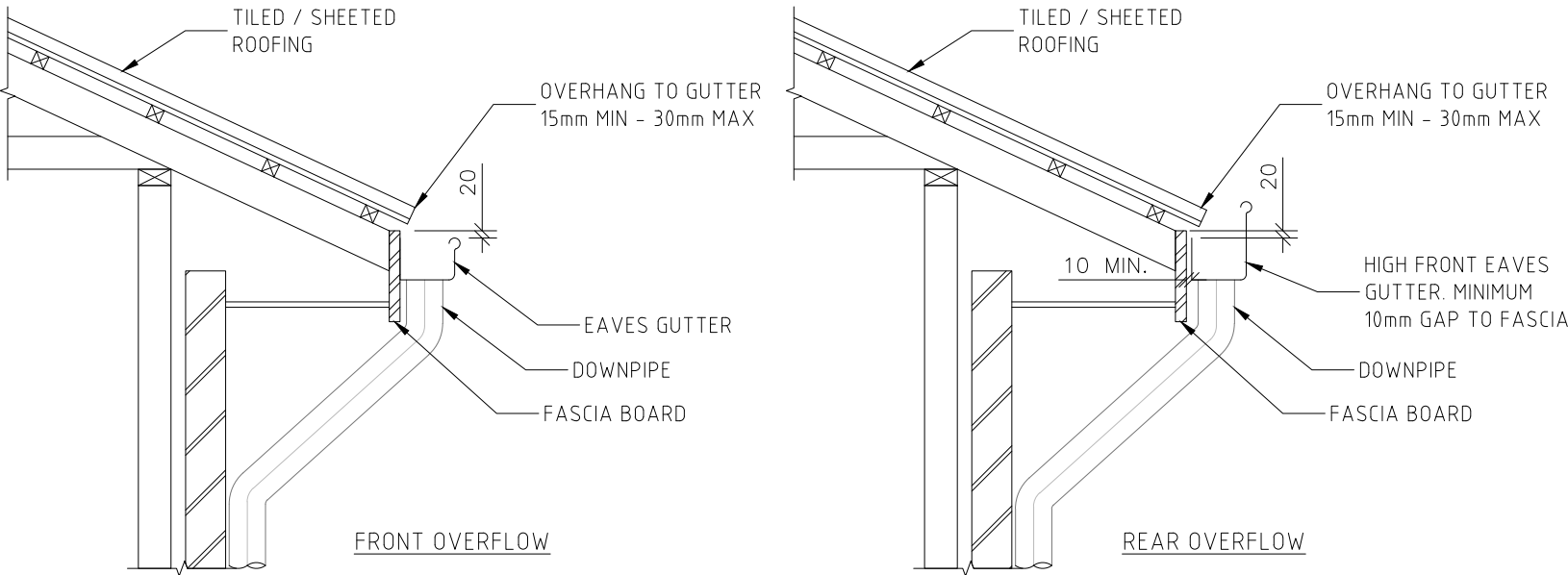
NTS



BOX GUTTER WITH SUMP SIDE OVERFLOW SIZING SCHEDULE DIMENSIONS (mm)	
NODE	BG1
BOX GUTTER WIDTH	300
BOX GUTTER DEPTH (AT UPSTREAM END)	105
BOX GUTTER DEPTH (AT DOWNSTREAM END)	110
BOX GUTTER SLOPE	1:200
SUMP WIDTH	300
SUMP LENGTH	400
SUMP DEPTH	50
OVERFLOW WIDTH	100
OVERFLOW DEPTH	65
DIMENSION C	31
DOWNPIPE DIAMETER	90

BOX GUTTER WITH SUMP SIDE OVERFLOW

NTS



TYPICAL EAVES GUTTER DETAIL

SCALE 1:20

ISSUE FOR APPROVAL



REFERENCE COORDINATION DRAWING	
DISCIPLINE	DRAWING TITLE AND NUMBER DATE REV.
ARCH.	
STRUCT.	
MED.	
ELEC.	
HYD.	
ISSUE	REVISION

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PH: (02) 9607 2884 OR (02) 8798 5617 FAX: (02) 9731 2081
MOBILE: 0419 041 401

QUALITY CONTROL	
DESIGNED	DATE
HM	25.09.2024
CHECKED	DATE
MD	25.09.2024

APPROVED:

S. NASTASI
B.E., M.I.E., CpEng, Nper-3

CLIENT:


ADDRESS: LOT 32 NO 88 KNOX STREET, BELMORE	DRAWING STATUS CONCEPT PLAN FOR APPROVAL
TITLE: STORMWATER DETAILS	SCALE (AT ORIGINAL SIZE) AS NOTED

PROJECT NO. 42676	DRAWING NO. C4	REVISION NO. A
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