



REF : B10461-403704-calcs.XLS

STORMWATER DESIGN CALCULATIONS

44 BIX ROAD

DEE WHY

1.0 Detention System Requirements

Proposed Residence
44 BIX ROAD
DEE WHY

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1.1 Storage-Area calcs.

4640

DATA:

Site Area Assessed due to easements

Site Area = **0.0589** ha **589** sq.m

Site Area Excluding

granny flat= **0.0382** ha **382** sq.m

OSD exemption if less than 450sqm or less than 40% site coverage

40% of site area = 152.8 sq.m

Impervious Area Pre Development = **393.43** sqm

Percentage Impervious Pre Development = 103%

Impervious Area POST Development = **274.15** sqm

Percentage Impervious POST Development = 72%

OSD Exemption Not Applicable

Catchment directed through OSD = **260.3** sqm 68.1 %

OSD Bypass Areas :	Impervious	13.85 sqm	11.4 %
	Pervious	107.85 sqm	88.6 %
	Total	121.7 sqm	32 %

Impervious area bypass 5.1 % OK

Bypass - discharge - 5.6 L/s

Detention A

Volume Required 7.64 cu.m 200cum/ha

Total Area 333.33 sq.m

Orifice Dia. = **63** mm $Q=d^2 \cdot \sqrt{h}/0.48$

Invert of pit = **19.95** m $d=\sqrt{((0.48 \cdot Q)/\sqrt{h})}$

Max. Water Level achieved = **21.35** m

Storage achieved 2871 L

Minimum Storage **7640** L - SSR with no modelling.

Maximum Discharge **9.7** L/s - PSD 400L/s/ha

Proposed Discharge 9.6 L/s - PSD **OK**

Basix Allowance

Raintank Basix = **3000** L

Raintank Provided = **3000** L

50% of OSD = 3820 L

Basin Type Below Ground Tank

Net OSD required **4640** L