



REF : M9400-706658-calcs.xls

STORMWATER DESIGN CALCULATIONS

46 PRINGLE AVENUE

BELROSE

1.0 Detention System Requirements

Proposed Residence
46 PRINGLE AVENUE
BELROSE

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1.1 Storage-Area calcs.

DATA:

Site Area Assessed due to easements

Site Area = **0.0686** ha **686** sq.m

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

40% of site area = 274.4 sq.m

Impervious Area Pre Development = **349.69** sqm

Percentage Impervious Pre Development = 51%

Impervious Area POST Development = **311.18** sqm

Percentage Impervious POST Development = 45%

OSD Exemption Not Applicable

Catchment directed through OSD = **270.88** sqm

39.5 %

OSD Bypass Areas : Impervious **40.3** sqm

9.7 %

Pervious **374.82** sqm

90.3 %

Total **415.12** sqm

%

Impervious area bypass 13.0 % OK

Bypass - discharge - 18.8 L/s

Detention A

Volume Required 13.72 cu.m 200cum/ha

Total Area 0.00 sq.m

Orifice Dia. = **61** mm $Q=d^2 \cdot \sqrt{h}/0.48$

Invert of pit = **162.40** m $d=\sqrt{((0.48 \cdot Q)/\sqrt{h})}$

Max. Water Level achieved = **163.60** m

Storage achieved 162 L

Minimum Storage **13720** L - SSR with no modelling.

Maximum Discharge **8.6** L/s - PSD 400L/s/ha

Proposed Discharge 8.5 L/s - PSD **OK**

Basix Allowance

Raintank Basix = **7000** L

Raintank Provided = **7088** L

50% of OSD = 6860 L

Basin Type Below Ground Tank

Net OSD required **6860** L