



REF : C11739-16885-calcs.XLS

STORMWATER DESIGN CALCULATIONS

107 STARKEY STREET

KILLARNEY HEIGHTS

1.0 Detention System Requirements

Proposed Residence
107 STARKEY STREET
KILLARNEY HEIGHTS

REF : C11739-16885-calcs.XLS

1.1 Storage-Area calcs.

7850

DATA:

Site Area Assessed due to easements

Site Area = **0.0703** ha **703** sq.m

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

40% of site area = **281.2** sq.m

Impervious Area Pre Development = **311.6** sqm

Percentage Impervious Pre Development = **44%**

Impervious Area POST Development = **368** sqm

Percentage Impervious POST Development = **52%**

OSD Exemption Not Applicable

Catchment directed through OSD = **296** sqm **OK 42.1 %**

OSD Bypass Areas : Impervious **72** sqm **17.7 %**

Pervious **335** sqm **82.3 %**

Total **407** sqm **58 %**

Impervious area bypass **19.6 % OK**

Bypass - discharge - **19.1** L/s

Detention A

Volume Required **14.06** cu.m **200**cu.m/ha

Total Area **9.94** sq.m

Orifice Dia. = **69** mm $Q=d^2*\sqrt{h}/0.48$

Invert of pit = **114.52** m $d=\sqrt{((0.48*Q)/\sqrt{h})}$

Max. Water Level achieved = **115.34** m

Storage achieved **815** L

Minimum Storage **14060** L - SSR with no modelling.

Maximum Discharge **9.0** L/s - PSD **400**L/s/ha

Proposed Discharge **8.8** L/s - PSD **OK**

Basix Allowance

Raintank Basix = **6210** L

Raintank Provided = **6210** L

50% of OSD = **7030** L

Basin Type **Inside Raintank**

Net OSD required **7850** L