

**SCM**

This report was prepared with the free HydroCAD SAMPLER, which is licensed for evaluation and educational use ONLY. For actual design or modeling applications you MUST use a full version of HydroCAD which may be purchased at www.hydrocad.net. Full programs also include complete technical support, training materials, and additional features which are essential for actual design work.

**Summary for Pond SCM: STORMWATER WET POND**

Outlet Structure is a 32" X 32" concrete box with two rectangular notches that act as weir flow at low heads. Orifice flow otherwise

Inflow Area = 2.940 ac, 71.43% Impervious, Inflow Depth = 3.90" for 10-Year event  
 Inflow = 15.97 cfs @ 12.13 hrs, Volume= 0.957 af  
 Outflow = 6.90 cfs @ 12.25 hrs, Volume= 0.764 af, Atten= 57%, Lag= 7.4 min  
 Primary = 6.90 cfs @ 12.25 hrs, Volume= 0.764 af  
 Routed to Reach AP-POST : Ex Pond

Routing by Dyn-Stor-Ind method, Time Span= 1.00-25.00 hrs, dt= 0.02 hrs  
 Peak Elev= 801.97' @ 12.25 hrs Surf.Area= 7,240 sf Storage= 18,262 cf

Plug-Flow detention time= 146.1 min calculated for 0.764 af (80% of inflow)  
 Center-of-Mass det. time= 76.1 min ( 859.7 - 783.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	799.00'	34,280 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
799.00	3,683	0	0
800.00	6,295	4,989	4,989
800.50	6,504	3,200	8,189
801.00	6,735	3,310	11,499
802.00	7,257	6,996	18,495
803.00	7,779	7,518	26,013
804.00	8,756	8,268	34,280

Device	Routing	Invert	Outlet Devices
#1	Primary	795.58'	<b>18.0" Round CMP_Round Discharge Pipe</b> L= 58.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 795.58' / 795.00' S= 0.0100 '/ Cc= 0.900 n= 0.021 Corrugated metal, Flow Area= 1.77 sf
#2	Device 1	799.00'	<b>1.5" Vert. WQ Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	800.50'	<b>10.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#4	Device 1	801.00'	<b>18.0" W x 12.0" H Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	802.00'	<b>32.0" x 32.0" Horiz. Orifice/Grate-Emergency Spillway</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=6.89 cfs @ 12.25 hrs HW=801.97' TW=795.05' (Dynamic Tailwater)

- 1=CMP Round Discharge Pipe (Passes 6.89 cfs of 16.05 cfs potential flow)
- 2=WQ Orifice/Grate (Orifice Controls 0.10 cfs @ 8.21 fps)
- 3=Orifice/Grate (Orifice Controls 2.21 cfs @ 5.30 fps)
- 4=Orifice/Grate (Orifice Controls 4.58 cfs @ 3.16 fps)
- 5=Orifice/Grate-Emergency Spillway ( Controls 0.00 cfs)