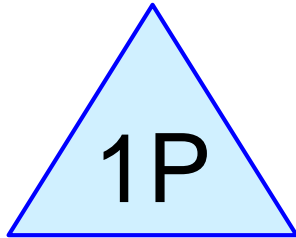
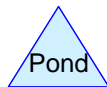
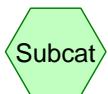


DA



SG 6x4



Routing Diagram for SG-6x4 (RCN-98)

Prepared by {enter your company name here}, Printed 1/30/2018
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SG-6x4_(RCN-98)

Type II 24-hr WQv Storm Rainfall=1.00"

Prepared by {enter your company name here}

Printed 1/30/2018

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Page 2

Summary for Pond 1P: SG 6x4

Inflow Area = 0.100 ac, 100.00% Impervious, Inflow Depth = 0.79" for WQv Storm event
 Inflow = 0.13 cfs @ 11.96 hrs, Volume= 0.007 af
 Outflow = 0.08 cfs @ 11.90 hrs, Volume= 0.006 af, Atten= 37%, Lag= 0.0 min
 Primary = 0.08 cfs @ 11.90 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 0.74' @ 12.04 hrs Surf.Area= 24 sf Storage= 18 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 3.2 min (787.8 - 784.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	18 cf	Storage Above Filter (Prismatic) Listed below (Recalc)

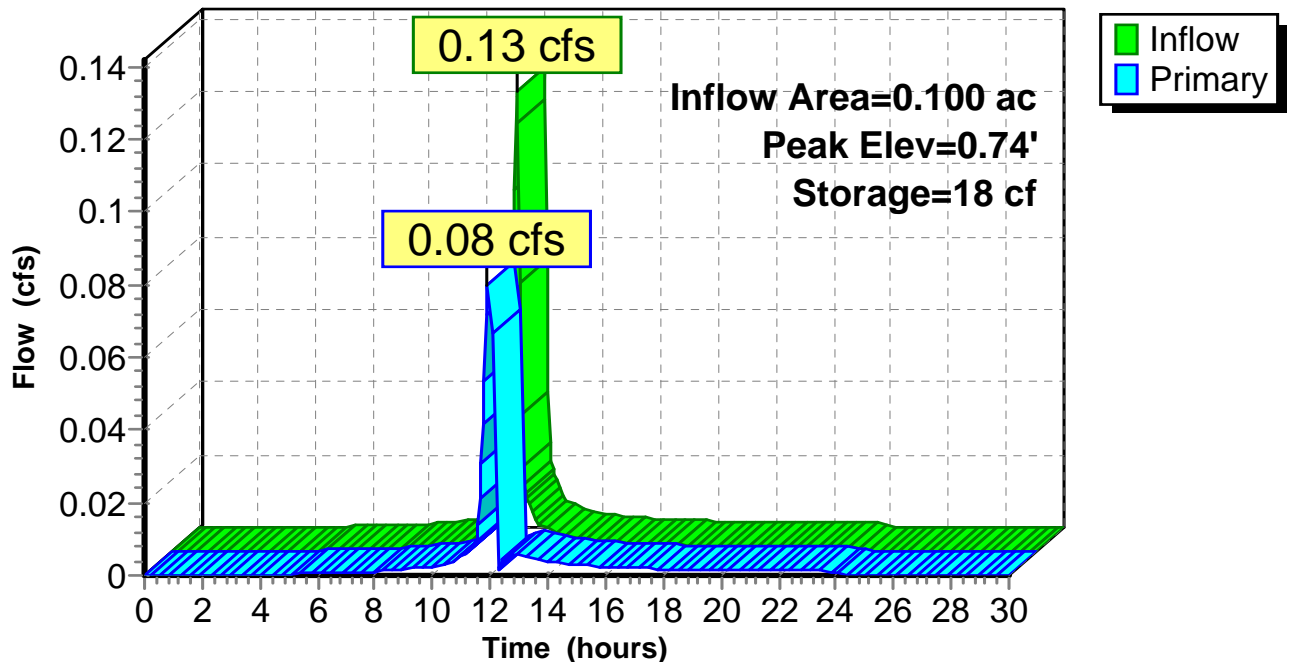
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	24	0	0
0.75	24	18	18

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	0.08 cfs Exfiltration (k = 140 in/hr) at all elevations

Primary OutFlow Max=0.08 cfs @ 11.90 hrs HW=0.06' (Free Discharge)
 ↳1=Exfiltration (k = 140 in/hr) (Exfiltration Controls 0.08 cfs)

Pond 1P: SG 6x4

Hydrograph





ROTONDO

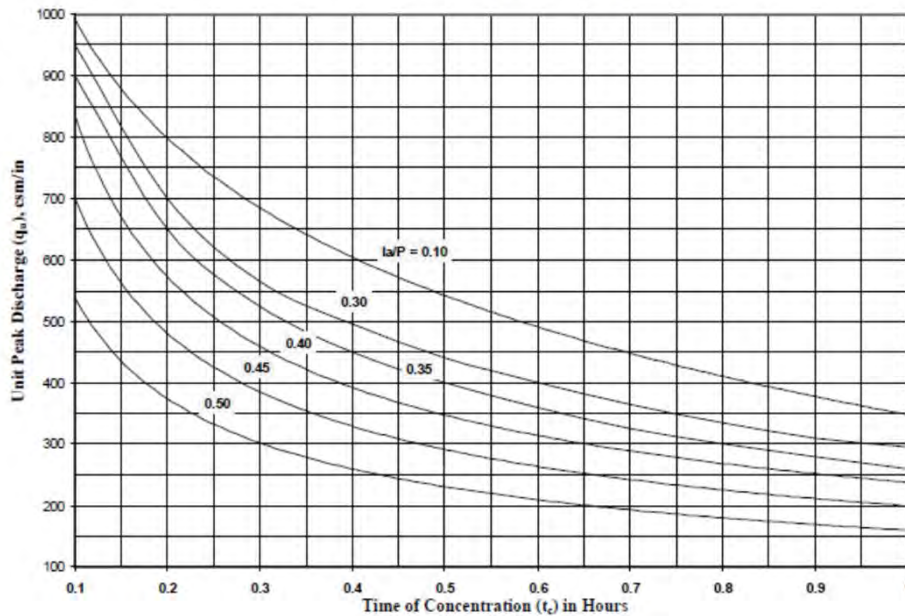
Environmental Solutions LLC

StormGarden Size: 6' x 4'
 RCN: 98
 Date: January 30, 2018

WQv Peak Discharge:

- 0.100 ac = Contributing Drainage Area
- 0.087 ac = Impervious Area
- 87.00% = I (Percent Impervious)
- 1.00 in = P (Rainfall Depth)
- 0.833 = $R_v = 0.05 + 0.009(I)$
- 0.833 in = $Q_a = P \times R_v$
- 98 = CN (Curve Number)
- 6 min = T_c (Time of Concentration)
- 0.0315 = $t_a = (200/CN) - 2$
- 0.0315 = t_a/P
- 1000 csm/in = q_u (from TR-55 exhibit 4-II)
- 0.0002 mi^2 = A (Area)
- 0.13 cfs = Q_p (Peak Discharge) = $q_u \times A \times Q_a$

Figure D.11.1 SCS Graphical Method of Determining Peak Discharge (q_p) in csm/in for 24-Hour Type II Storm Distribution



SG-6x4_(RCN-95)

Type II 24-hr WQv Storm Rainfall=1.00"

Prepared by {enter your company name here}

Printed 1/30/2018

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Page 1

Summary for Pond 1P: SG 6x4

Inflow Area = 0.133 ac, 0.00% Impervious, Inflow Depth = 0.56" for WQv Storm event
 Inflow = 0.13 cfs @ 11.97 hrs, Volume= 0.006 af
 Outflow = 0.08 cfs @ 11.90 hrs, Volume= 0.006 af, Atten= 38%, Lag= 0.0 min
 Primary = 0.08 cfs @ 11.90 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 0.74' @ 12.05 hrs Surf.Area= 24 sf Storage= 18 cf

Plug-Flow detention time= 47.5 min calculated for 0.006 af (92% of inflow)
 Center-of-Mass det. time= 6.9 min (827.9 - 820.9)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	18 cf	Storage Above Filter (Prismatic) Listed below (Recalc)

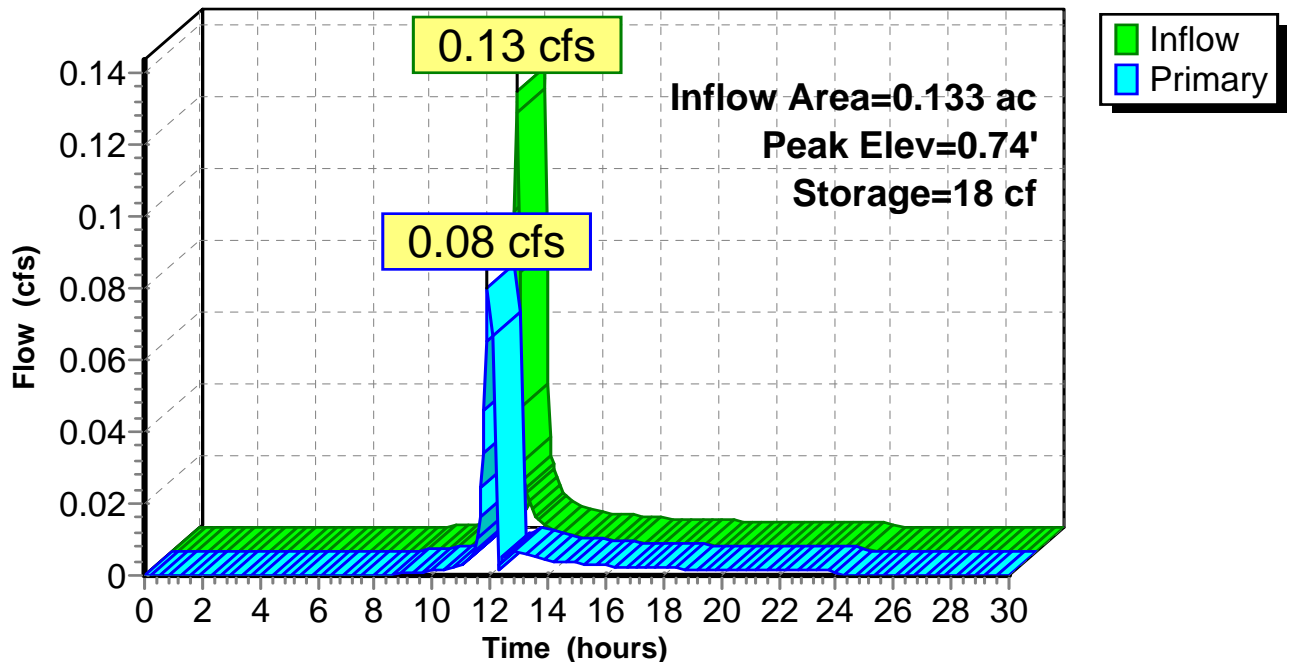
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	24	0	0
0.75	24	18	18

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	0.08 cfs Exfiltration (k = 140 in/hr) at all elevations

Primary OutFlow Max=0.08 cfs @ 11.90 hrs HW=0.04' (Free Discharge)
 ↑1=Exfiltration (k = 140 in/hr) (Exfiltration Controls 0.08 cfs)

Pond 1P: SG 6x4

Hydrograph

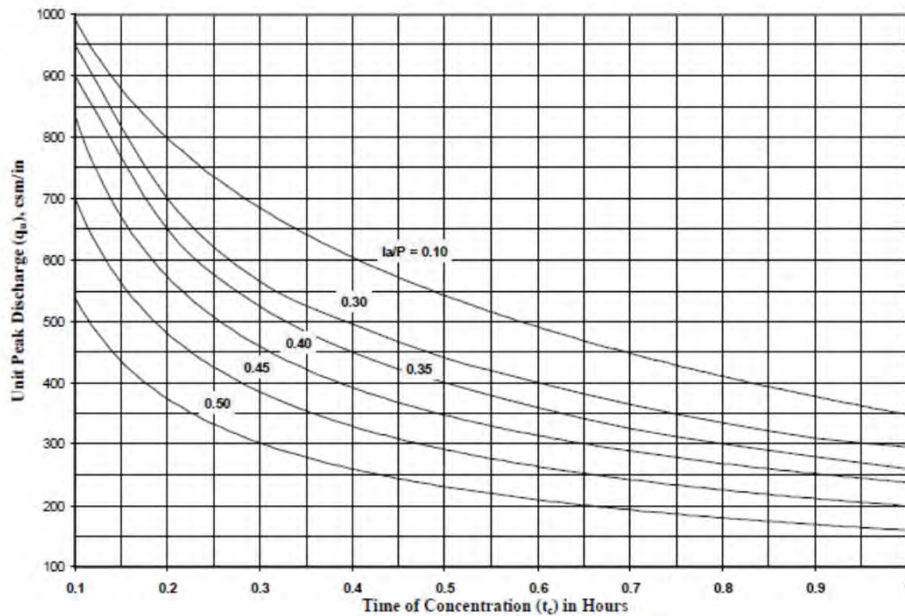


StormGarden Size: 6' x 4'
 RCN: 95
 Date: January 30, 2018

WQv Peak Discharge:

- 0.133 ac = Contributing Drainage Area
- 0.080 ac = Impervious Area
- 60.15% = I (Percent Impervious)
- 1.00 in = P (Rainfall Depth)
- 0.591 = $R_v = 0.05 + 0.009(I)$
- 0.591 in = $Q_a = P \times R_v$
- 95 = CN (Curve Number)
- 6 min = T_c (Time of Concentration)
- 0.0957 = $t_a = (200/CN) - 2$
- 0.0957 = t_a/P
- 1000 csm/in = q_u (from TR-55 exhibit 4-II)
- 0.0002 mi² = A (Area)
- 0.12 cfs = Q_p (Peak Discharge) = $q_u \times A \times Q_a$

Figure D.11.1 SCS Graphical Method of Determining Peak Discharge (q_u) in csm/in for 24-Hour Type II Storm Distribution



SG-6x4_(RCN-89)

Type II 24-hr WQv Storm Rainfall=1.00"

Prepared by {enter your company name here}

Printed 1/30/2018

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Page 1

Summary for Pond 1P: SG 6x4

Inflow Area = 0.275 ac, 0.00% Impervious, Inflow Depth = 0.28" for WQv Storm event
 Inflow = 0.13 cfs @ 11.98 hrs, Volume= 0.007 af
 Outflow = 0.08 cfs @ 11.90 hrs, Volume= 0.007 af, Atten= 40%, Lag= 0.0 min
 Primary = 0.08 cfs @ 11.90 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 0.75' @ 12.06 hrs Surf.Area= 24 sf Storage= 18 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	18 cf	Storage Above Filter (Prismatic) Listed below (Recalc)

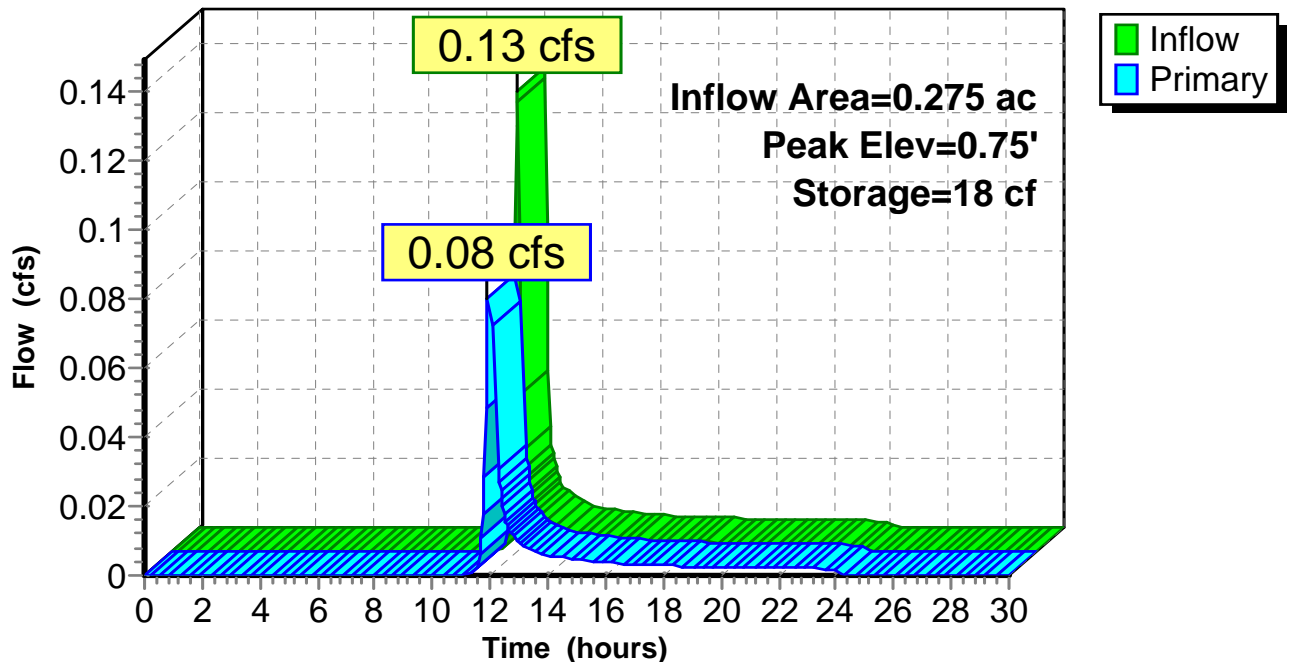
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	24	0	0
0.75	24	18	18

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	0.08 cfs Exfiltration (k = 140 in/hr) at all elevations

Primary OutFlow Max=0.08 cfs @ 11.90 hrs HW=0.01' (Free Discharge)
 ↳1=Exfiltration (k = 140 in/hr) (Exfiltration Controls 0.08 cfs)

Pond 1P: SG 6x4

Hydrograph



StormGarden Size: 6' x 4'
 RCN: 89
 Date: January 30, 2018

WQv Peak Discharge:

0.275	ac	= Contributing Drainage Area
0.077	ac	= Impervious Area
28.00%		= I (Percent Impervious)
1.00	in	= P (Rainfall Depth)
0.302		= $R_v = 0.05 + 0.009(I)$
0.302	in	= $Q_a = P \times R_v$
89		= CN (Curve Number)
6	min	= T_c (Time of Concentration)
0.2348		= $t_a = (200/CN) - 2$
0.2348		= t_a/P
1000	csn/in	= q_u (from TR-55 exhibit 4-II)
0.0004	mi ²	= A (Area)
0.13	cfs	= Q_p (Peak Discharge) = $q_u \times A \times Q_a$

Figure D.11.1 SCS Graphical Method of Determining Peak Discharge (q_p) in csm/in for 24-Hour Type II Storm Distribution

