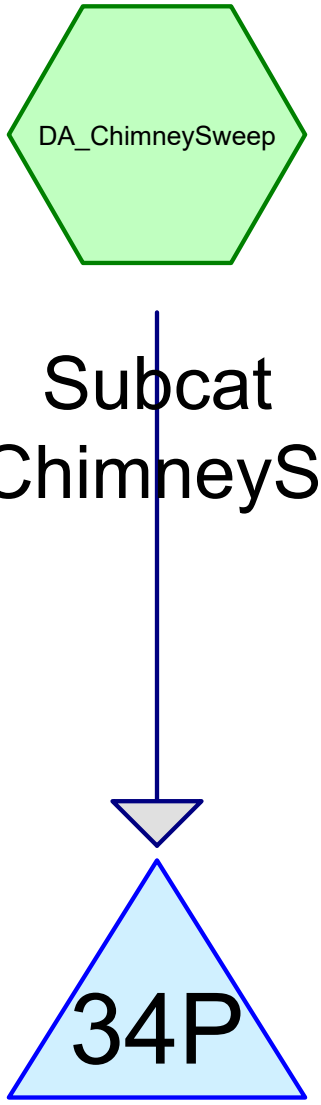


Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Subcat Reach Pond Link

Routing Diagram for Berlin Designs Updated DAs - 5-29-20
Prepared by Hewlett-Packard Company, Printed 5/29/2020

Project Notes

Rainfall events imported from "Atlas-14-Rain.txt" for 1670 VT Washington

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.394	80	>75% Grass cover, Good, HSG D (DA_ChimneySweep)
3.388	98	Paved Parking, HSG D (DA_ChimneySweep)
4.132	77	Woods, Good, HSG D (DA_ChimneySweep)
7.914	**86**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
7.914	HSG D	DA_ChimneySweep
0.000	Other	
7.914		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.394	0.000	0.394	>75% Grass cover, Good	DA_ChimneySweep
0.000	0.000	0.000	3.388	0.000	3.388	Paved Parking	DA_ChimneySweep
0.000	0.000	0.000	4.132	0.000	4.132	Woods, Good	DA_ChimneySweep
0.000	**0.000**	**0.000**	**7.914**	**0.000**	**7.914**	**TOTAL AREA**	

Time span=0.00-150.00 hrs, dt=0.05 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA_ChimneySweep: Subcat Runoff Area=7.914 ac 42.81% Impervious Runoff Depth=1.04"
Flow Length=2,014' Slope=0.0006 '/' Tc=193.9 min CN=WQ Runoff=1.67 cfs 0.683 af

Pond 34P: Chimney Sweep Sand Filter-MC Peak Elev=546.18' Storage=17,464 cf Inflow=1.67 cfs 0.683 af
Primary=0.30 cfs 0.683 af Secondary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.683 af

Total Runoff Area = 7.914 ac Runoff Volume = 0.683 af Average Runoff Depth = 1.04"
57.19% Pervious = 4.526 ac 42.81% Impervious = 3.388 ac

Summary for Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep

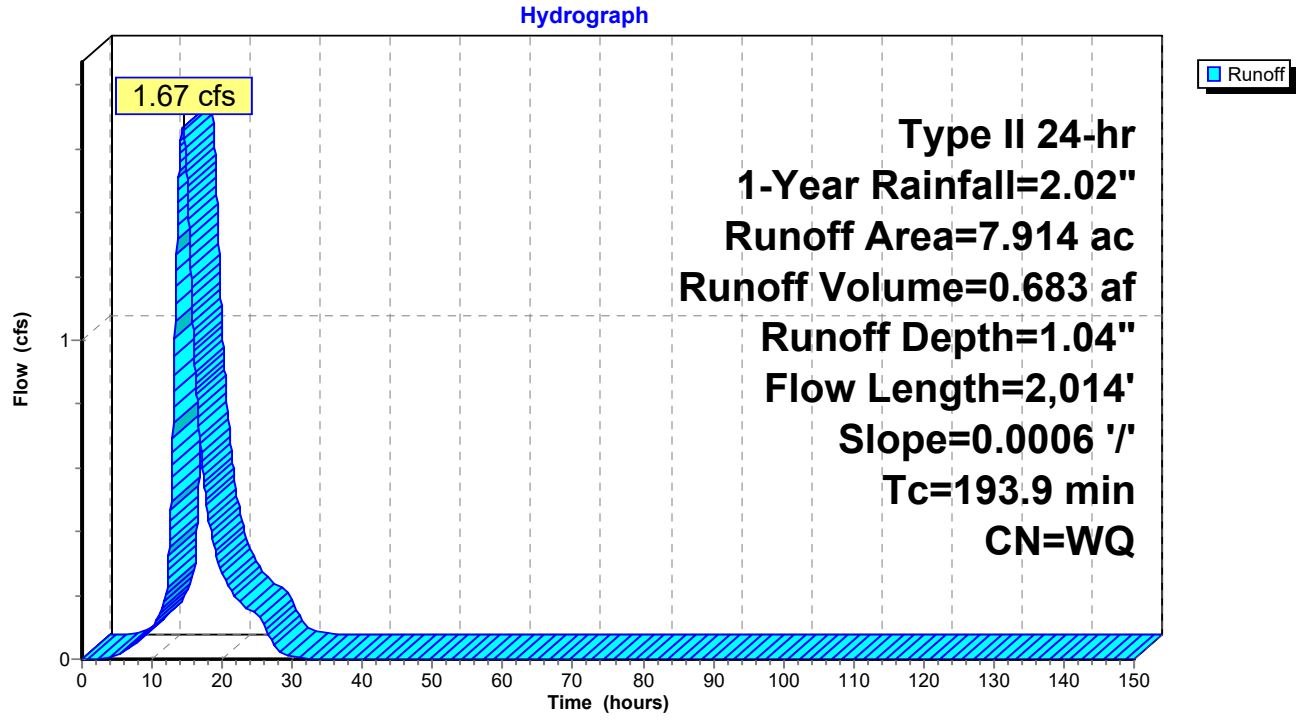
Runoff = 1.67 cfs @ 14.42 hrs, Volume= 0.683 af, Depth= 1.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.02"

Area (ac)	CN	Description
0.038	80	>75% Grass cover, Good, HSG D
0.356	80	>75% Grass cover, Good, HSG D
0.137	98	Paved Parking, HSG D
3.251	98	Paved Parking, HSG D
3.912	77	Woods, Good, HSG D
0.220	77	Woods, Good, HSG D
7.914		Weighted Average
4.526		57.19% Pervious Area
3.388		42.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
193.9	2,014	0.0006	0.17		**Lag/CN Method,** Contour Length= 190' Interval= 1'

Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep



Summary for Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Inflow Area = 7.914 ac, 42.81% Impervious, Inflow Depth = 1.04" for 1-Year event
Inflow = 1.67 cfs @ 14.42 hrs, Volume= 0.683 af
Outflow = 0.30 cfs @ 19.51 hrs, Volume= 0.683 af, Atten= 82%, Lag= 305.9 min
Primary = 0.30 cfs @ 19.51 hrs, Volume= 0.683 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Peak Elev= 546.18' @ 19.51 hrs Surf.Area= 5,644 sf Storage= 17,464 cf

Plug-Flow detention time= 685.6 min calculated for 0.683 af (100% of inflow)
Center-of-Mass det. time= 684.8 min (1,652.3 - 967.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	540.50'	8,464 cf	**72.92'W x 77.40'L x 7.00'H Field A** 39,506 cf Overall - 11,293 cf Embedded = 28,213 cf x 30.0% Voids
#2A	542.75'	11,293 cf	**ADS_StormTech MC-3500 d +Cap** x 100 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 100 Chambers in 10 Rows Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf
		19,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	540.50'	**2.2" Vert. 2.2" orifice** C= 0.600
#2	Secondary	546.20'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.30 cfs @ 19.51 hrs HW=546.18' (Free Discharge)
↑—**1=2.2" orifice** (Orifice Controls 0.30 cfs @ 11.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=540.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

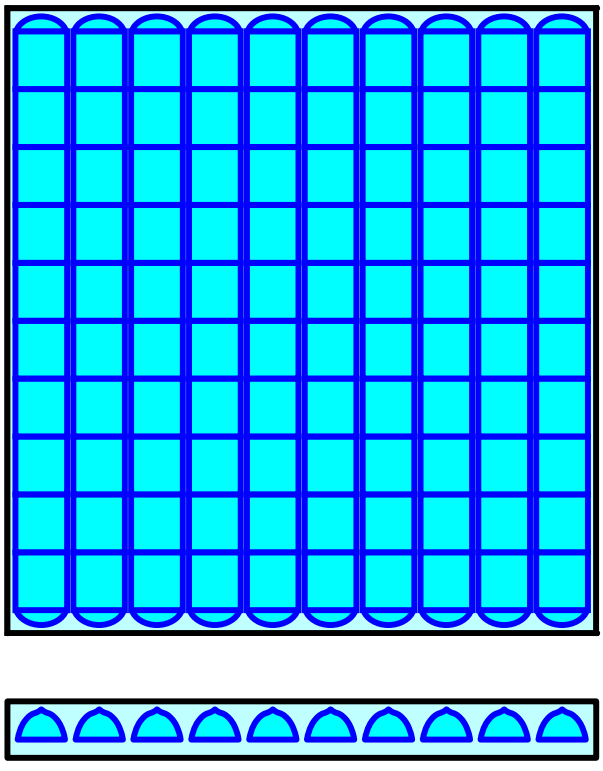
10 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 75.40' Row Length +12.0" End Stone x 2 = 77.40' Base Length
10 Rows x 77.0" Wide + 9.0" Spacing x 9 + 12.0" Side Stone x 2 = 72.92' Base Width
27.0" Base + 45.0" Chamber Height + 12.0" Cover = 7.00' Field Height

100 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 10 Rows = 11,293.2 cf Chamber Storage

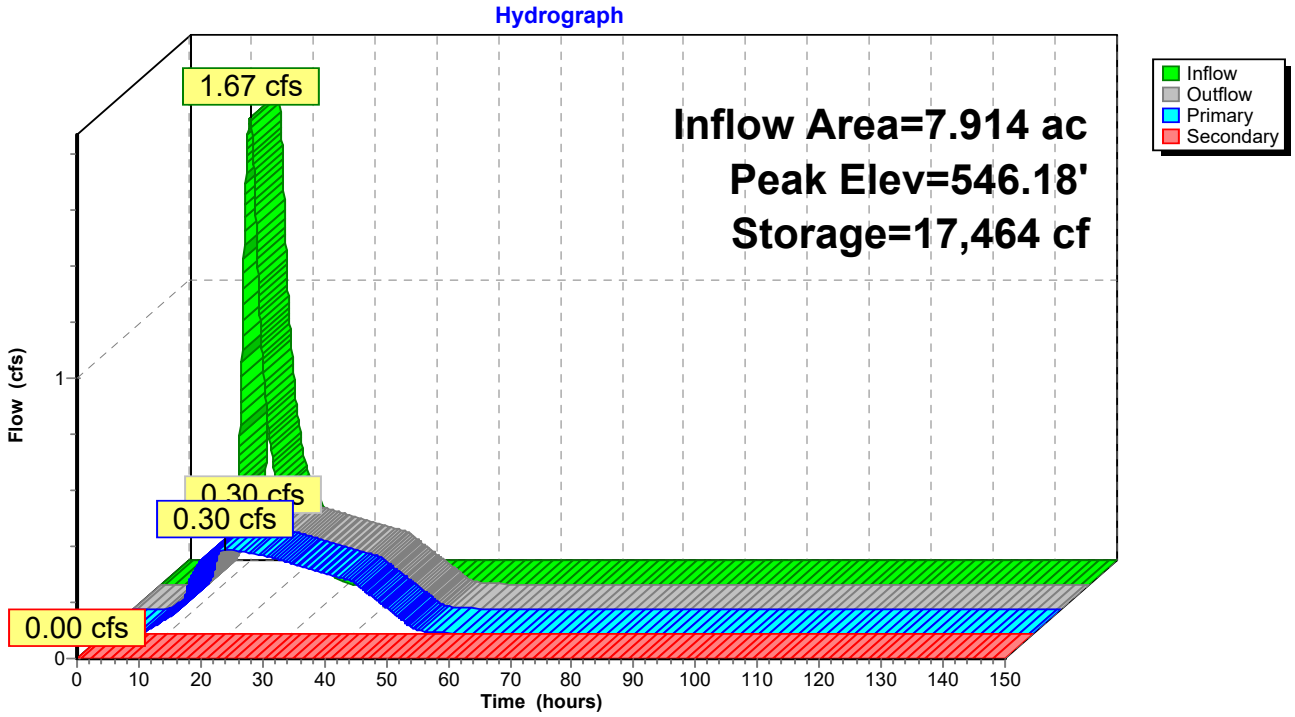
39,506.3 cf Field - 11,293.2 cf Chambers = 28,213.1 cf Stone x 30.0% Voids = 8,463.9 cf Stone Storage

Chamber Storage + Stone Storage = 19,757.1 cf = 0.454 af
Overall Storage Efficiency = 50.0%
Overall System Size = 77.40' x 72.92' x 7.00'

100 Chambers
1,463.2 cy Field
1,044.9 cy Stone



Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20



Time span=0.00-150.00 hrs, dt=0.05 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA_ChimneySweep: Subcat Runoff Area=7.914 ac 42.81% Impervious Runoff Depth=1.29"
Flow Length=2,014' Slope=0.0006 '/' Tc=193.9 min CN=WQ Runoff=2.09 cfs 0.848 af

Pond 34P: Chimney Sweep Sand Filter-MC Peak Elev=546.38' Storage=17,847 cf Inflow=2.09 cfs 0.848 af
Primary=0.31 cfs 0.722 af Secondary=0.88 cfs 0.126 af Outflow=1.18 cfs 0.848 af

Total Runoff Area = 7.914 ac Runoff Volume = 0.848 af Average Runoff Depth = 1.29"
57.19% Pervious = 4.526 ac 42.81% Impervious = 3.388 ac

Summary for Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep

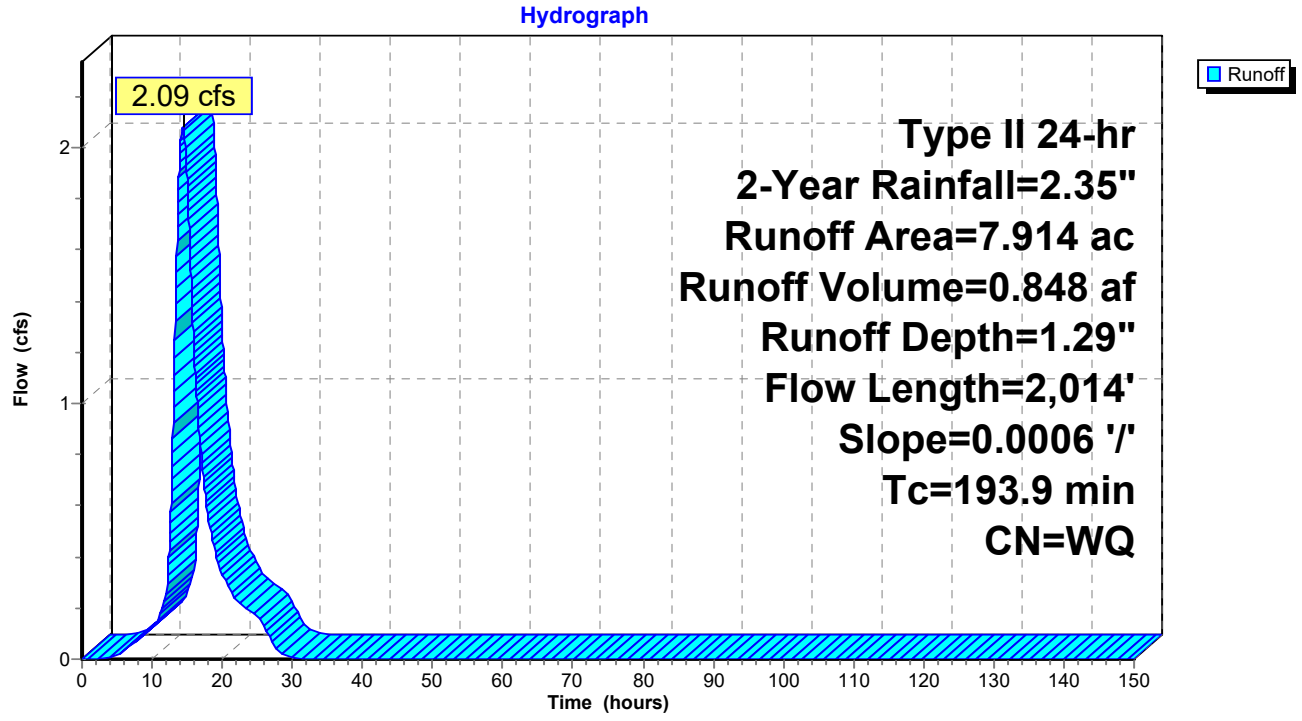
Runoff = 2.09 cfs @ 14.41 hrs, Volume= 0.848 af, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.35"

Area (ac)	CN	Description
0.038	80	>75% Grass cover, Good, HSG D
0.356	80	>75% Grass cover, Good, HSG D
0.137	98	Paved Parking, HSG D
3.251	98	Paved Parking, HSG D
3.912	77	Woods, Good, HSG D
0.220	77	Woods, Good, HSG D
7.914		Weighted Average
4.526		57.19% Pervious Area
3.388		42.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
193.9	2,014	0.0006	0.17		**Lag/CN Method,** Contour Length= 190' Interval= 1'

Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep



Summary for Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Inflow Area = 7.914 ac, 42.81% Impervious, Inflow Depth = 1.29" for 2-Year event
Inflow = 2.09 cfs @ 14.41 hrs, Volume= 0.848 af
Outflow = 1.18 cfs @ 16.04 hrs, Volume= 0.848 af, Atten= 43%, Lag= 97.3 min
Primary = 0.31 cfs @ 16.04 hrs, Volume= 0.722 af
Secondary = 0.88 cfs @ 16.04 hrs, Volume= 0.126 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Peak Elev= 546.38' @ 16.04 hrs Surf.Area= 5,644 sf Storage= 17,847 cf

Plug-Flow detention time= 599.7 min calculated for 0.848 af (100% of inflow)
Center-of-Mass det. time= 598.9 min (1,564.3 - 965.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	540.50'	8,464 cf	**72.92'W x 77.40'L x 7.00'H Field A** 39,506 cf Overall - 11,293 cf Embedded = 28,213 cf x 30.0% Voids
#2A	542.75'	11,293 cf	**ADS_StormTech MC-3500 d +Cap** x 100 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 100 Chambers in 10 Rows Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf
		19,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	540.50'	**2.2" Vert. 2.2" orifice** C= 0.600
#2	Secondary	546.20'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.31 cfs @ 16.04 hrs HW=546.38' (Free Discharge)
↑—**1=2.2" orifice** (Orifice Controls 0.31 cfs @ 11.58 fps)

Secondary OutFlow Max=0.87 cfs @ 16.04 hrs HW=546.38' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 0.87 cfs @ 0.99 fps)

Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

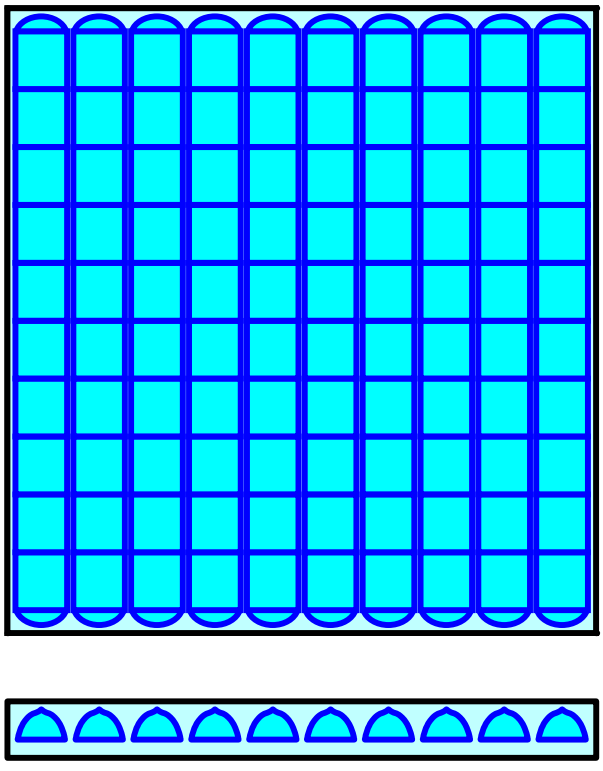
10 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 75.40' Row Length +12.0" End Stone x 2 = 77.40' Base Length
10 Rows x 77.0" Wide + 9.0" Spacing x 9 + 12.0" Side Stone x 2 = 72.92' Base Width
27.0" Base + 45.0" Chamber Height + 12.0" Cover = 7.00' Field Height

100 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 10 Rows = 11,293.2 cf Chamber Storage

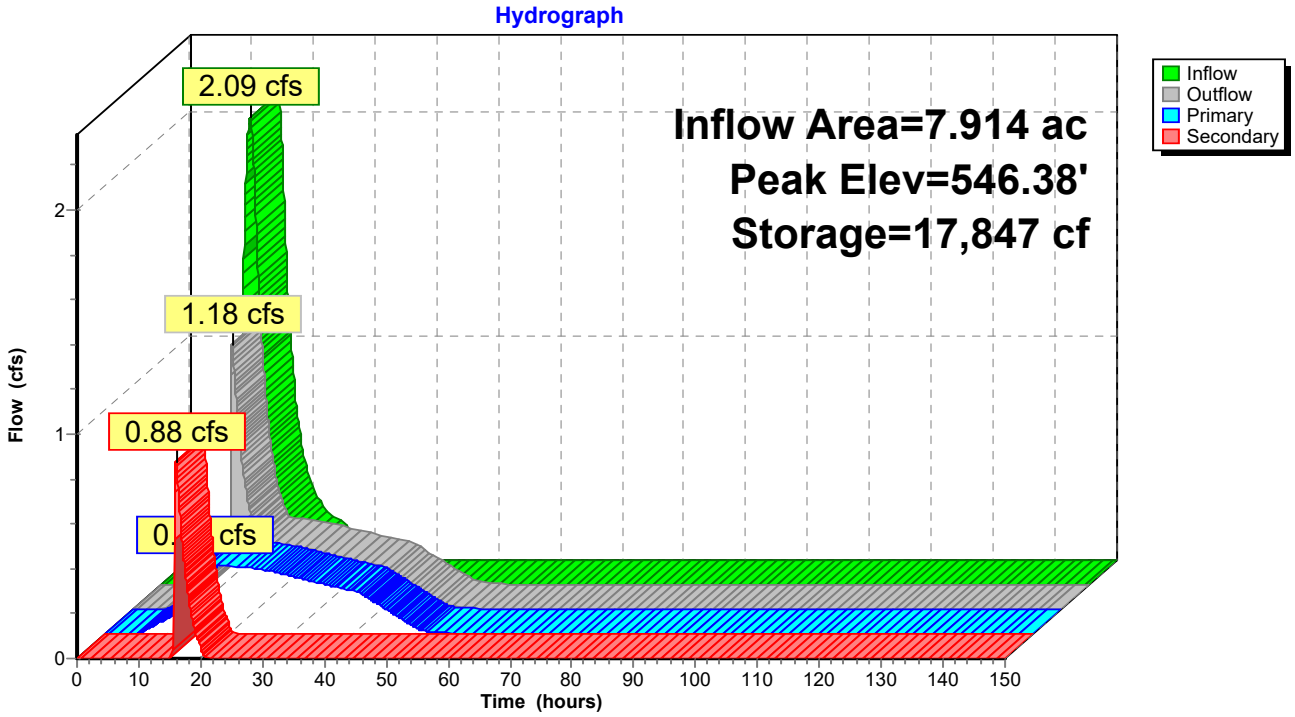
39,506.3 cf Field - 11,293.2 cf Chambers = 28,213.1 cf Stone x 30.0% Voids = 8,463.9 cf Stone Storage

Chamber Storage + Stone Storage = 19,757.1 cf = 0.454 af
Overall Storage Efficiency = 50.0%
Overall System Size = 77.40' x 72.92' x 7.00'

100 Chambers
1,463.2 cy Field
1,044.9 cy Stone



Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20



Time span=0.00-150.00 hrs, dt=0.05 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA_ChimneySweep: Subcat Runoff Area=7.914 ac 42.81% Impervious Runoff Depth=1.68"
Flow Length=2,014' Slope=0.0006 '/' Tc=193.9 min CN=WQ Runoff=2.74 cfs 1.105 af

Pond 34P: Chimney Sweep Sand Filter-MC Peak Elev=546.51' Storage=18,081 cf Inflow=2.74 cfs 1.105 af
Primary=0.31 cfs 0.764 af Secondary=2.09 cfs 0.341 af Outflow=2.40 cfs 1.105 af

Total Runoff Area = 7.914 ac Runoff Volume = 1.105 af Average Runoff Depth = 1.68"
57.19% Pervious = 4.526 ac 42.81% Impervious = 3.388 ac

Summary for Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep

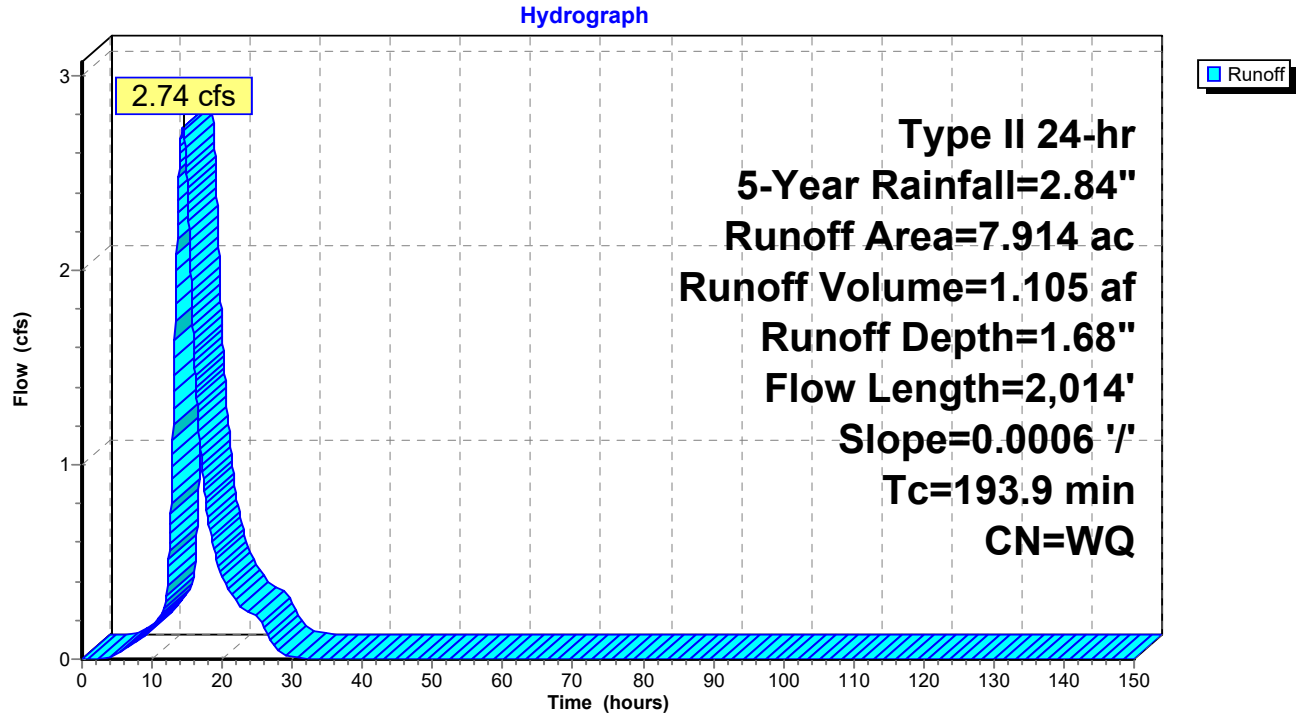
Runoff = 2.74 cfs @ 14.41 hrs, Volume= 1.105 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Type II 24-hr 5-Year Rainfall=2.84"

Area (ac)	CN	Description
0.038	80	>75% Grass cover, Good, HSG D
0.356	80	>75% Grass cover, Good, HSG D
0.137	98	Paved Parking, HSG D
3.251	98	Paved Parking, HSG D
3.912	77	Woods, Good, HSG D
0.220	77	Woods, Good, HSG D
7.914		Weighted Average
4.526		57.19% Pervious Area
3.388		42.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
193.9	2,014	0.0006	0.17		**Lag/CN Method,** Contour Length= 190' Interval= 1'

Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep



Summary for Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Inflow Area = 7.914 ac, 42.81% Impervious, Inflow Depth = 1.68" for 5-Year event
Inflow = 2.74 cfs @ 14.41 hrs, Volume= 1.105 af
Outflow = 2.40 cfs @ 15.08 hrs, Volume= 1.105 af, Atten= 12%, Lag= 40.1 min
Primary = 0.31 cfs @ 15.08 hrs, Volume= 0.764 af
Secondary = 2.09 cfs @ 15.08 hrs, Volume= 0.341 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Peak Elev= 546.51' @ 15.08 hrs Surf.Area= 5,644 sf Storage= 18,081 cf

Plug-Flow detention time= 494.2 min calculated for 1.105 af (100% of inflow)
Center-of-Mass det. time= 494.7 min (1,457.2 - 962.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	540.50'	8,464 cf	**72.92'W x 77.40'L x 7.00'H Field A** 39,506 cf Overall - 11,293 cf Embedded = 28,213 cf x 30.0% Voids
#2A	542.75'	11,293 cf	**ADS_StormTech MC-3500 d +Cap** x 100 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 100 Chambers in 10 Rows Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf
		19,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	540.50'	**2.2" Vert. 2.2" orifice** C= 0.600
#2	Secondary	546.20'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.31 cfs @ 15.08 hrs HW=546.51' (Free Discharge)
↑—**1=2.2" orifice** (Orifice Controls 0.31 cfs @ 11.71 fps)

Secondary OutFlow Max=2.09 cfs @ 15.08 hrs HW=546.51' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 2.09 cfs @ 1.35 fps)

Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

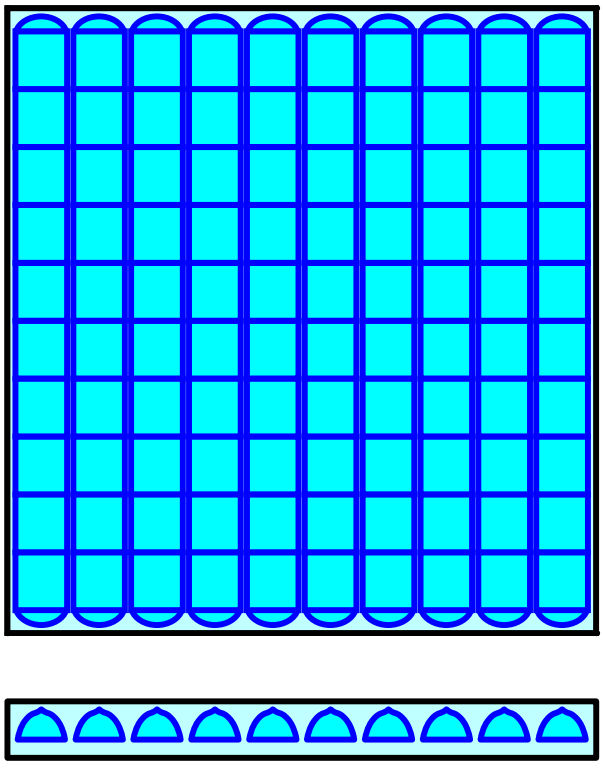
10 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 75.40' Row Length +12.0" End Stone x 2 = 77.40' Base Length
10 Rows x 77.0" Wide + 9.0" Spacing x 9 + 12.0" Side Stone x 2 = 72.92' Base Width
27.0" Base + 45.0" Chamber Height + 12.0" Cover = 7.00' Field Height

100 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 10 Rows = 11,293.2 cf Chamber Storage

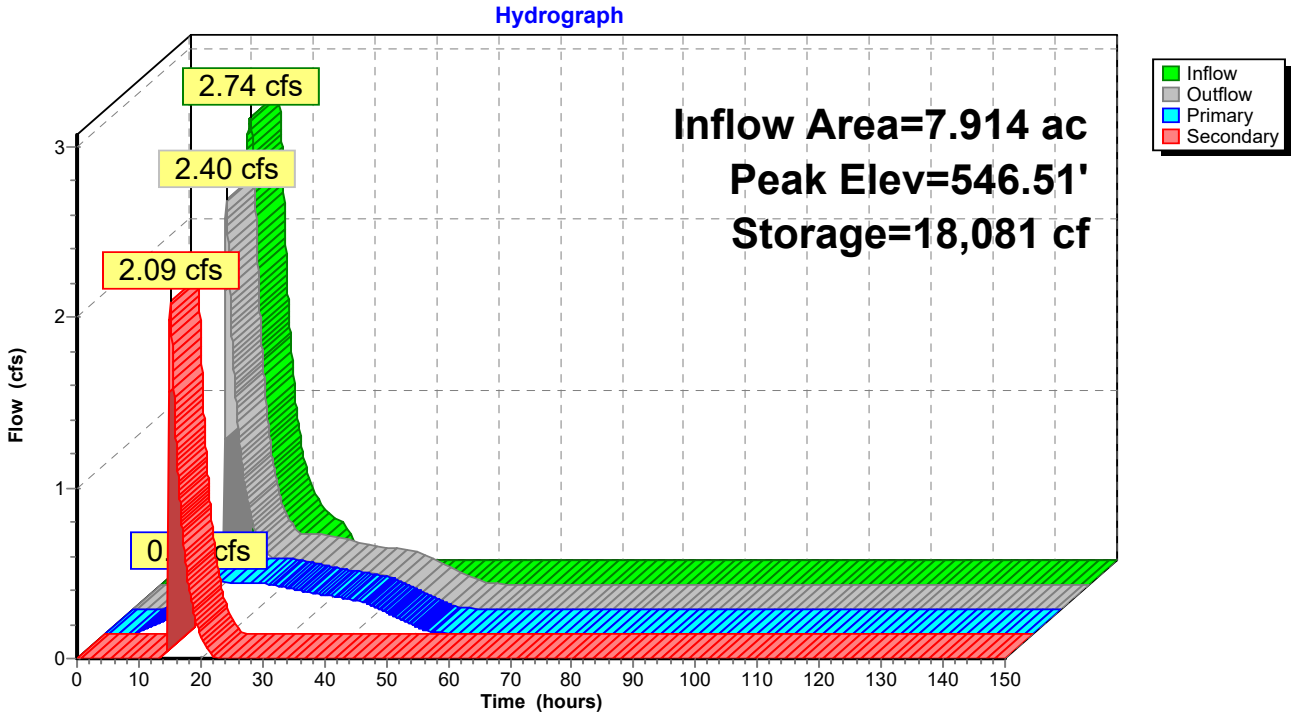
39,506.3 cf Field - 11,293.2 cf Chambers = 28,213.1 cf Stone x 30.0% Voids = 8,463.9 cf Stone Storage

Chamber Storage + Stone Storage = 19,757.1 cf = 0.454 af
Overall Storage Efficiency = 50.0%
Overall System Size = 77.40' x 72.92' x 7.00'

100 Chambers
1,463.2 cy Field
1,044.9 cy Stone



Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20



Time span=0.00-150.00 hrs, dt=0.05 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA_ChimneySweep: Subcat Runoff Area=7.914 ac 42.81% Impervious Runoff Depth=2.03"
Flow Length=2,014' Slope=0.0006 '/' Tc=193.9 min CN=WQ Runoff=3.34 cfs 1.340 af

Pond 34P: Chimney Sweep Sand Filter-MC Peak Elev=546.58' Storage=18,200 cf Inflow=3.34 cfs 1.340 af
Primary=0.31 cfs 0.792 af Secondary=2.92 cfs 0.548 af Outflow=3.23 cfs 1.340 af

Total Runoff Area = 7.914 ac Runoff Volume = 1.340 af Average Runoff Depth = 2.03"
57.19% Pervious = 4.526 ac 42.81% Impervious = 3.388 ac

Summary for Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep

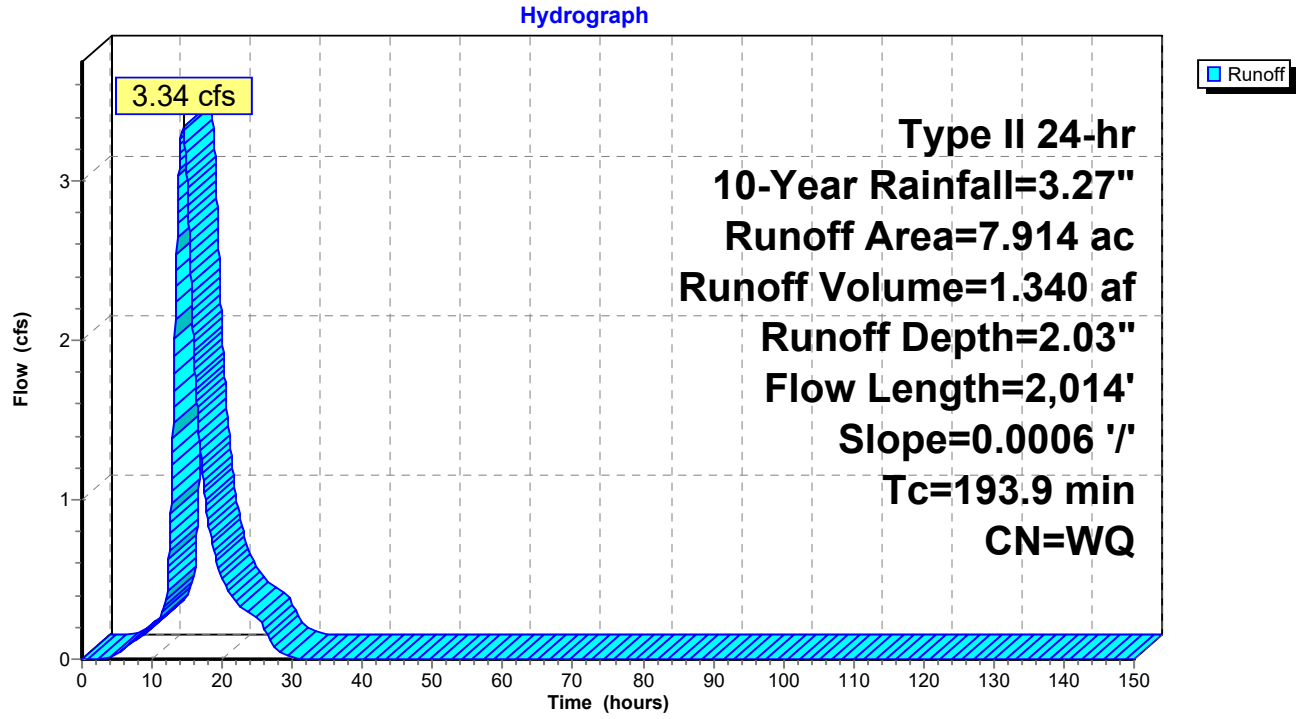
Runoff = 3.34 cfs @ 14.41 hrs, Volume= 1.340 af, Depth= 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.27"

Area (ac)	CN	Description
0.038	80	>75% Grass cover, Good, HSG D
0.356	80	>75% Grass cover, Good, HSG D
0.137	98	Paved Parking, HSG D
3.251	98	Paved Parking, HSG D
3.912	77	Woods, Good, HSG D
0.220	77	Woods, Good, HSG D
7.914		Weighted Average
4.526		57.19% Pervious Area
3.388		42.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
193.9	2,014	0.0006	0.17		**Lag/CN Method,** Contour Length= 190' Interval= 1'

Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep



Summary for Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Inflow Area = 7.914 ac, 42.81% Impervious, Inflow Depth = 2.03" for 10-Year event
Inflow = 3.34 cfs @ 14.41 hrs, Volume= 1.340 af
Outflow = 3.23 cfs @ 14.65 hrs, Volume= 1.340 af, Atten= 3%, Lag= 14.5 min
Primary = 0.31 cfs @ 14.65 hrs, Volume= 0.792 af
Secondary = 2.92 cfs @ 14.65 hrs, Volume= 0.548 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Peak Elev= 546.58' @ 14.65 hrs Surf.Area= 5,644 sf Storage= 18,200 cf

Plug-Flow detention time= 426.0 min calculated for 1.339 af (100% of inflow)
Center-of-Mass det. time= 426.5 min (1,386.8 - 960.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	540.50'	8,464 cf	**72.92'W x 77.40'L x 7.00'H Field A** 39,506 cf Overall - 11,293 cf Embedded = 28,213 cf x 30.0% Voids
#2A	542.75'	11,293 cf	**ADS_StormTech MC-3500 d +Cap** x 100 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 100 Chambers in 10 Rows Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf
		19,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	540.50'	**2.2" Vert. 2.2" orifice** C= 0.600
#2	Secondary	546.20'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.31 cfs @ 14.65 hrs HW=546.58' (Free Discharge)
↑—**1=2.2" orifice** (Orifice Controls 0.31 cfs @ 11.78 fps)

Secondary OutFlow Max=2.91 cfs @ 14.65 hrs HW=546.58' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 2.91 cfs @ 1.53 fps)

Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

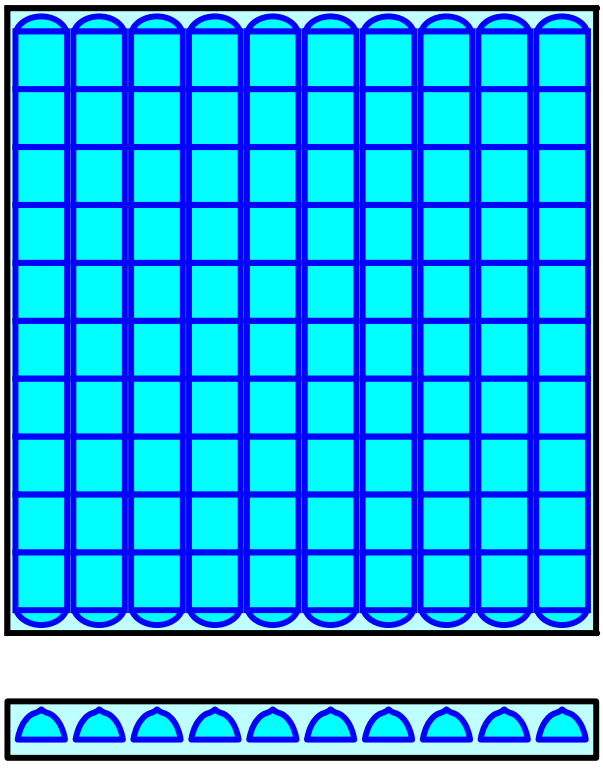
10 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 75.40' Row Length +12.0" End Stone x 2 = 77.40' Base Length
10 Rows x 77.0" Wide + 9.0" Spacing x 9 + 12.0" Side Stone x 2 = 72.92' Base Width
27.0" Base + 45.0" Chamber Height + 12.0" Cover = 7.00' Field Height

100 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 10 Rows = 11,293.2 cf Chamber Storage

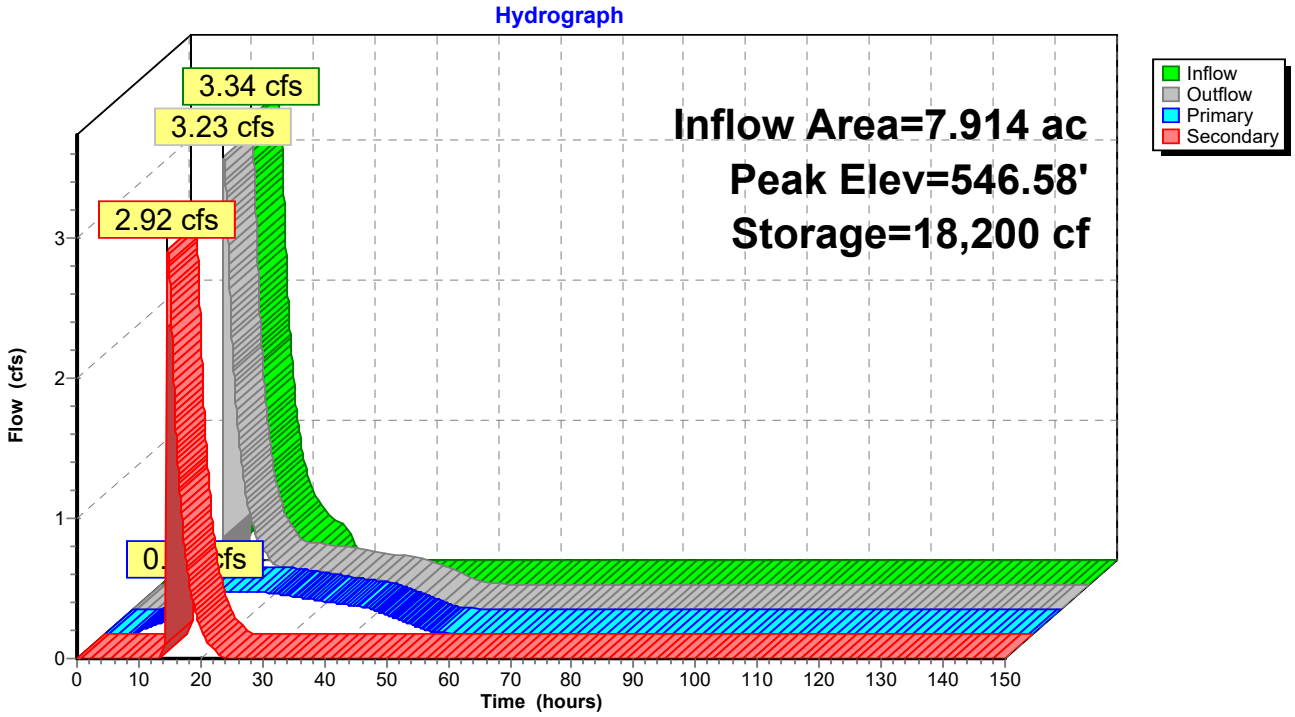
39,506.3 cf Field - 11,293.2 cf Chambers = 28,213.1 cf Stone x 30.0% Voids = 8,463.9 cf Stone Storage

Chamber Storage + Stone Storage = 19,757.1 cf = 0.454 af
Overall Storage Efficiency = 50.0%
Overall System Size = 77.40' x 72.92' x 7.00'

100 Chambers
1,463.2 cy Field
1,044.9 cy Stone



Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20



Time span=0.00-150.00 hrs, dt=0.05 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA_ChimneySweep: Subcat Runoff Area=7.914 ac 42.81% Impervious Runoff Depth=2.61"
Flow Length=2,014' Slope=0.0006 '/' Tc=193.9 min CN=WQ Runoff=4.31 cfs 1.719 af

Pond 34P: Chimney Sweep Sand Filter-MC Peak Elev=546.66' Storage=18,335 cf Inflow=4.31 cfs 1.719 af
Primary=0.31 cfs 0.821 af Secondary=4.00 cfs 0.898 af Outflow=4.31 cfs 1.719 af

Total Runoff Area = 7.914 ac Runoff Volume = 1.719 af Average Runoff Depth = 2.61"
57.19% Pervious = 4.526 ac 42.81% Impervious = 3.388 ac

Summary for Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep

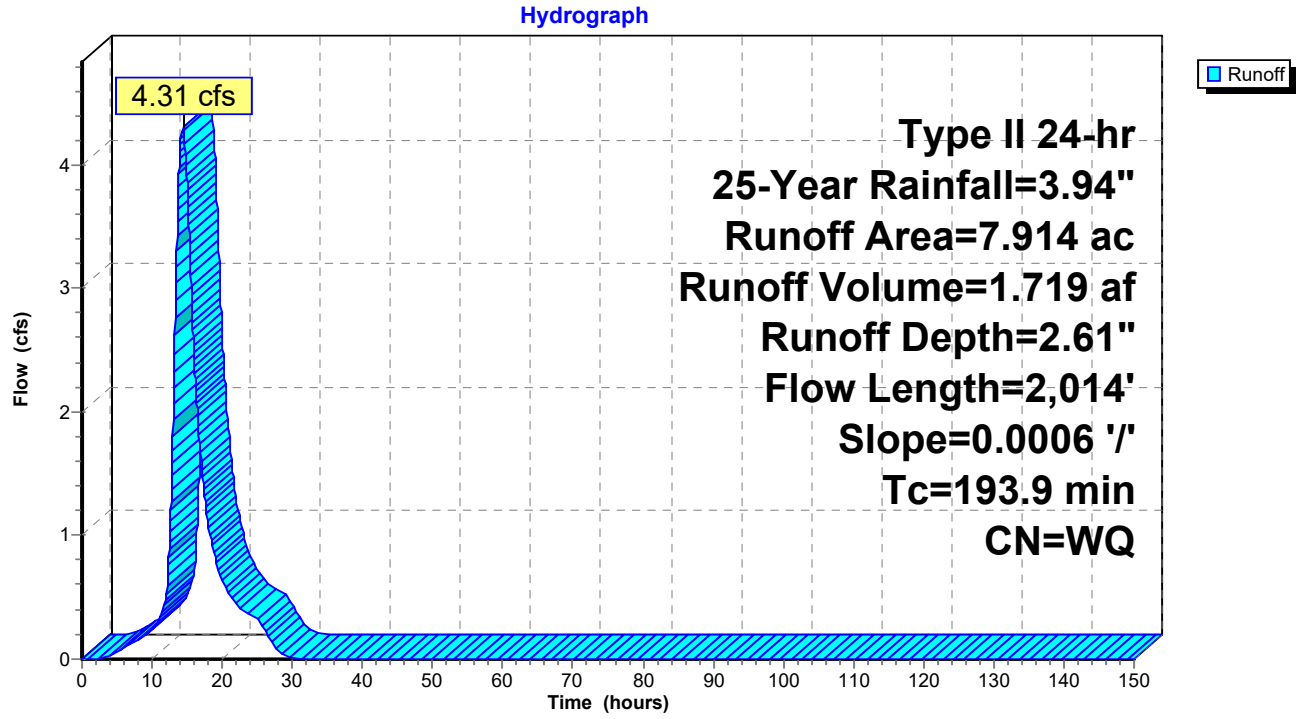
Runoff = 4.31 cfs @ 14.40 hrs, Volume= 1.719 af, Depth= 2.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-Year Rainfall=3.94"

Area (ac)	CN	Description
0.038	80	>75% Grass cover, Good, HSG D
0.356	80	>75% Grass cover, Good, HSG D
0.137	98	Paved Parking, HSG D
3.251	98	Paved Parking, HSG D
3.912	77	Woods, Good, HSG D
0.220	77	Woods, Good, HSG D
7.914		Weighted Average
4.526		57.19% Pervious Area
3.388		42.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
193.9	2,014	0.0006	0.17		**Lag/CN Method,** Contour Length= 190' Interval= 1'

Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep



Summary for Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Inflow Area = 7.914 ac, 42.81% Impervious, Inflow Depth = 2.61" for 25-Year event
Inflow = 4.31 cfs @ 14.40 hrs, Volume= 1.719 af
Outflow = 4.31 cfs @ 14.43 hrs, Volume= 1.719 af, Atten= 0%, Lag= 1.6 min
Primary = 0.31 cfs @ 14.43 hrs, Volume= 0.821 af
Secondary = 4.00 cfs @ 14.43 hrs, Volume= 0.898 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Peak Elev= 546.66' @ 14.43 hrs Surf.Area= 5,644 sf Storage= 18,335 cf

Plug-Flow detention time= 346.1 min calculated for 1.719 af (100% of inflow)
Center-of-Mass det. time= 346.6 min (1,303.8 - 957.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	540.50'	8,464 cf	**72.92'W x 77.40'L x 7.00'H Field A** 39,506 cf Overall - 11,293 cf Embedded = 28,213 cf x 30.0% Voids
#2A	542.75'	11,293 cf	**ADS_StormTech MC-3500 d +Cap** x 100 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 100 Chambers in 10 Rows Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf
		19,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	540.50'	**2.2" Vert. 2.2" orifice** C= 0.600
#2	Secondary	546.20'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.31 cfs @ 14.43 hrs HW=546.66' (Free Discharge)
↑—**1=2.2" orifice** (Orifice Controls 0.31 cfs @ 11.86 fps)

Secondary OutFlow Max=3.99 cfs @ 14.43 hrs HW=546.66' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 3.99 cfs @ 1.74 fps)

Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

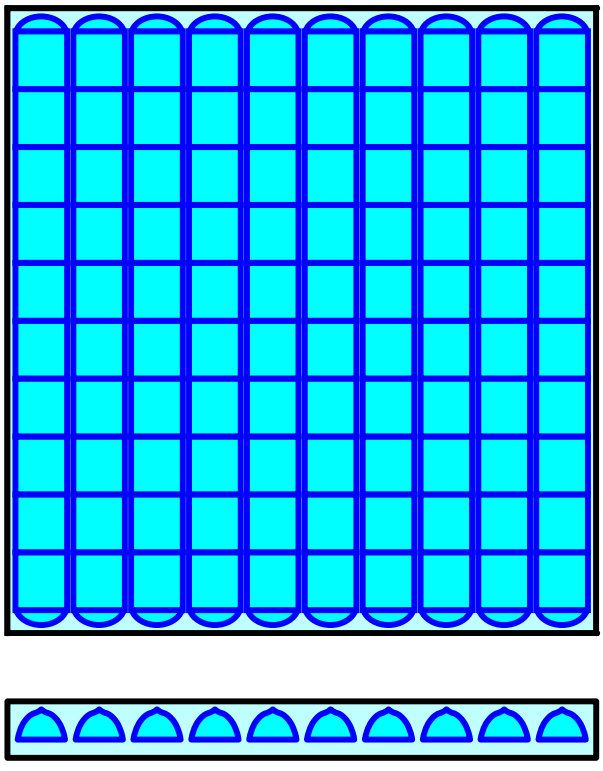
10 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 75.40' Row Length +12.0" End Stone x 2 = 77.40' Base Length
10 Rows x 77.0" Wide + 9.0" Spacing x 9 + 12.0" Side Stone x 2 = 72.92' Base Width
27.0" Base + 45.0" Chamber Height + 12.0" Cover = 7.00' Field Height

100 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 10 Rows = 11,293.2 cf Chamber Storage

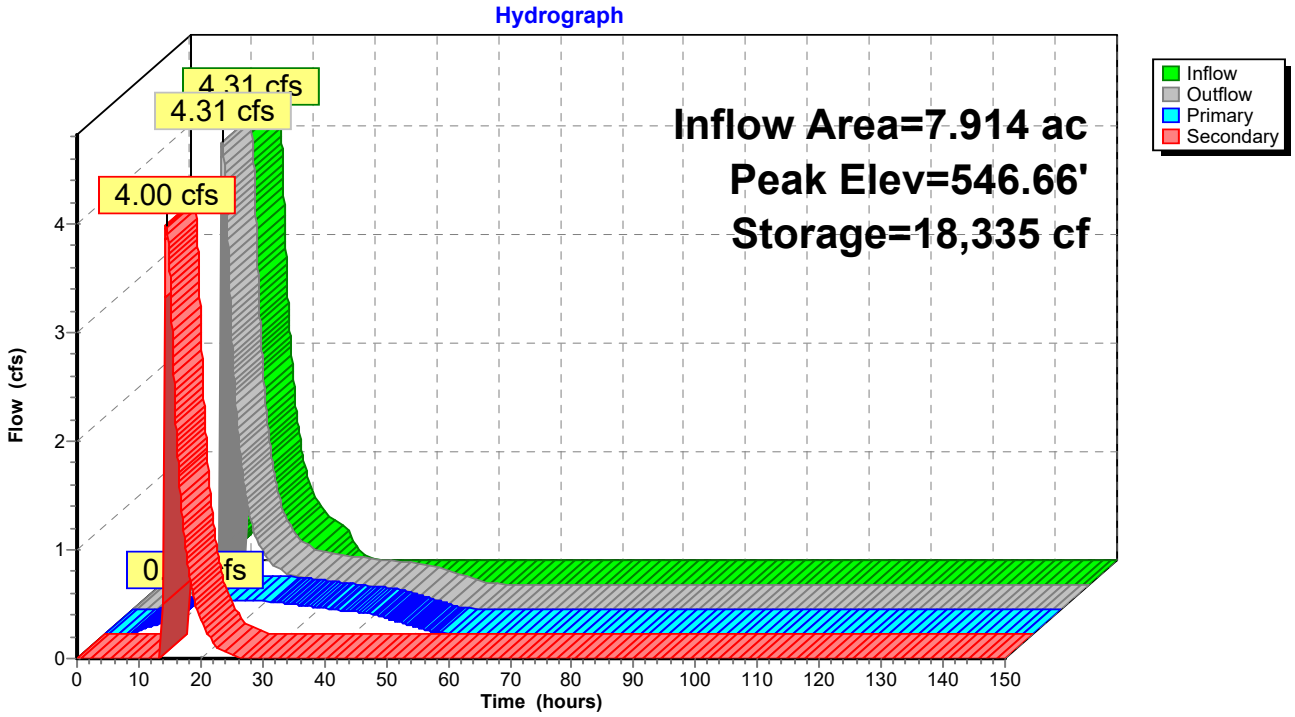
39,506.3 cf Field - 11,293.2 cf Chambers = 28,213.1 cf Stone x 30.0% Voids = 8,463.9 cf Stone Storage

Chamber Storage + Stone Storage = 19,757.1 cf = 0.454 af
Overall Storage Efficiency = 50.0%
Overall System Size = 77.40' x 72.92' x 7.00'

100 Chambers
1,463.2 cy Field
1,044.9 cy Stone



Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20



Time span=0.00-150.00 hrs, dt=0.05 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA_ChimneySweep: Subcat Runoff Area=7.914 ac 42.81% Impervious Runoff Depth=3.14"
Flow Length=2,014' Slope=0.0006 '/' Tc=193.9 min CN=WQ Runoff=5.21 cfs 2.069 af

Pond 34P: Chimney Sweep Sand Filter-MC Peak Elev=546.72' Storage=18,433 cf Inflow=5.21 cfs 2.069 af
Primary=0.31 cfs 0.840 af Secondary=4.89 cfs 1.229 af Outflow=5.21 cfs 2.069 af

Total Runoff Area = 7.914 ac Runoff Volume = 2.069 af Average Runoff Depth = 3.14"
57.19% Pervious = 4.526 ac 42.81% Impervious = 3.388 ac

Summary for Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep

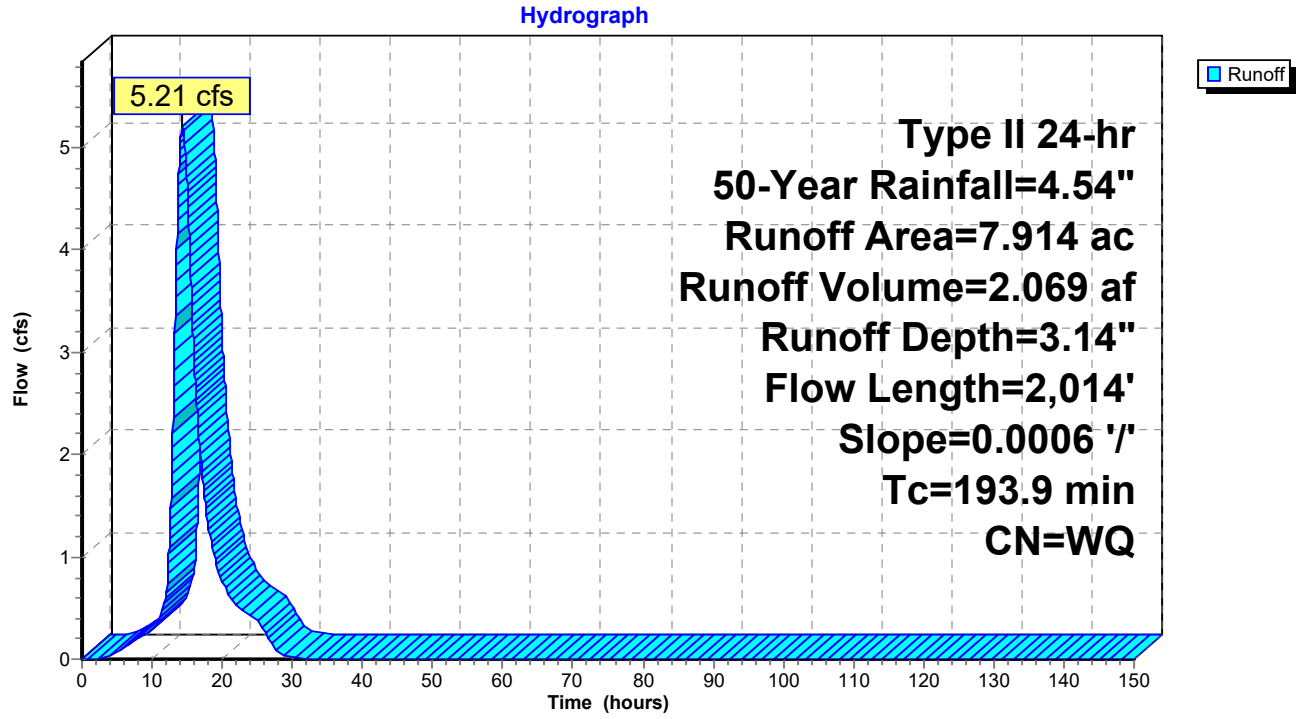
Runoff = 5.21 cfs @ 14.40 hrs, Volume= 2.069 af, Depth= 3.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-Year Rainfall=4.54"

Area (ac)	CN	Description
0.038	80	>75% Grass cover, Good, HSG D
0.356	80	>75% Grass cover, Good, HSG D
0.137	98	Paved Parking, HSG D
3.251	98	Paved Parking, HSG D
3.912	77	Woods, Good, HSG D
0.220	77	Woods, Good, HSG D
7.914		Weighted Average
4.526		57.19% Pervious Area
3.388		42.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
193.9	2,014	0.0006	0.17		**Lag/CN Method,** Contour Length= 190' Interval= 1'

Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep



Summary for Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Inflow Area = 7.914 ac, 42.81% Impervious, Inflow Depth = 3.14" for 50-Year event
Inflow = 5.21 cfs @ 14.40 hrs, Volume= 2.069 af
Outflow = 5.21 cfs @ 14.43 hrs, Volume= 2.069 af, Atten= 0%, Lag= 1.6 min
Primary = 0.31 cfs @ 14.43 hrs, Volume= 0.840 af
Secondary = 4.89 cfs @ 14.43 hrs, Volume= 1.229 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Peak Elev= 546.72' @ 14.43 hrs Surf.Area= 5,644 sf Storage= 18,433 cf

Plug-Flow detention time= 295.0 min calculated for 2.069 af (100% of inflow)
Center-of-Mass det. time= 295.6 min (1,250.3 - 954.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	540.50'	8,464 cf	**72.92'W x 77.40'L x 7.00'H Field A** 39,506 cf Overall - 11,293 cf Embedded = 28,213 cf x 30.0% Voids
#2A	542.75'	11,293 cf	**ADS_StormTech MC-3500 d +Cap** x 100 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 100 Chambers in 10 Rows Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf
		19,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	540.50'	**2.2" Vert. 2.2" orifice** C= 0.600
#2	Secondary	546.20'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.31 cfs @ 14.43 hrs HW=546.72' (Free Discharge)
↑—**1=2.2" orifice** (Orifice Controls 0.31 cfs @ 11.92 fps)

Secondary OutFlow Max=4.88 cfs @ 14.43 hrs HW=546.72' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 4.88 cfs @ 1.88 fps)

Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

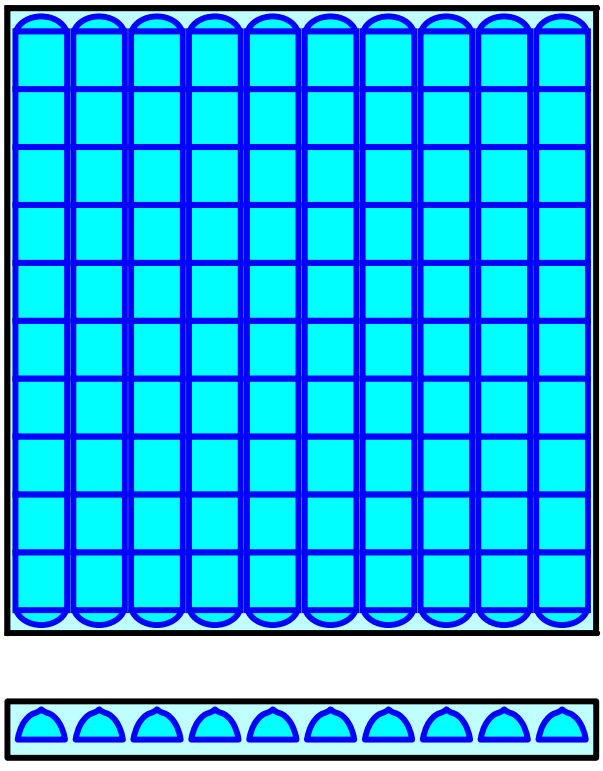
10 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 75.40' Row Length +12.0" End Stone x 2 = 77.40' Base Length
10 Rows x 77.0" Wide + 9.0" Spacing x 9 + 12.0" Side Stone x 2 = 72.92' Base Width
27.0" Base + 45.0" Chamber Height + 12.0" Cover = 7.00' Field Height

100 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 10 Rows = 11,293.2 cf Chamber Storage

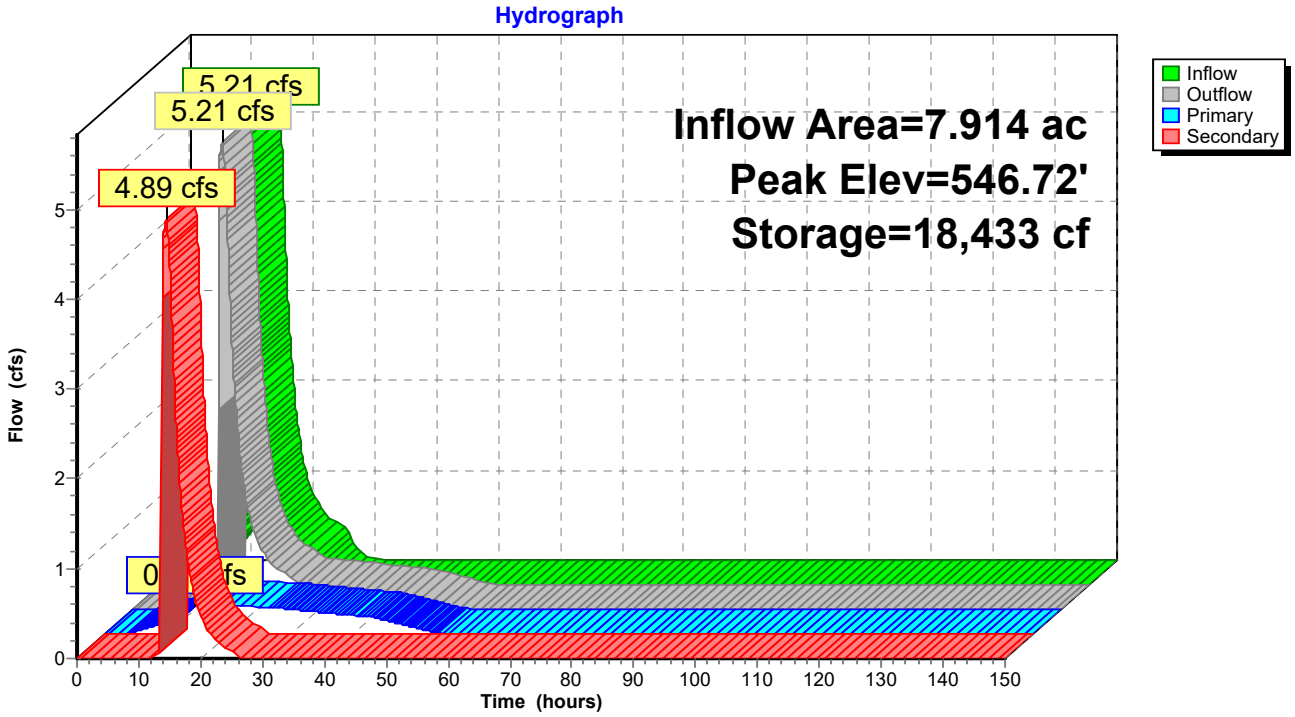
39,506.3 cf Field - 11,293.2 cf Chambers = 28,213.1 cf Stone x 30.0% Voids = 8,463.9 cf Stone Storage

Chamber Storage + Stone Storage = 19,757.1 cf = 0.454 af
Overall Storage Efficiency = 50.0%
Overall System Size = 77.40' x 72.92' x 7.00'

100 Chambers
1,463.2 cy Field
1,044.9 cy Stone



Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20



Time span=0.00-150.00 hrs, dt=0.05 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA_ChimneySweep: Subcat Runoff Area=7.914 ac 42.81% Impervious Runoff Depth=3.77"
Flow Length=2,014' Slope=0.0006 '/' Tc=193.9 min CN=WQ Runoff=6.28 cfs 2.487 af

Pond 34P: Chimney Sweep Sand Filter-MC Peak Elev=546.78' Storage=18,540 cf Inflow=6.28 cfs 2.487 af
Primary=0.32 cfs 0.859 af Secondary=5.96 cfs 1.628 af Outflow=6.27 cfs 2.487 af

Total Runoff Area = 7.914 ac Runoff Volume = 2.487 af Average Runoff Depth = 3.77"
57.19% Pervious = 4.526 ac 42.81% Impervious = 3.388 ac

Summary for Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep

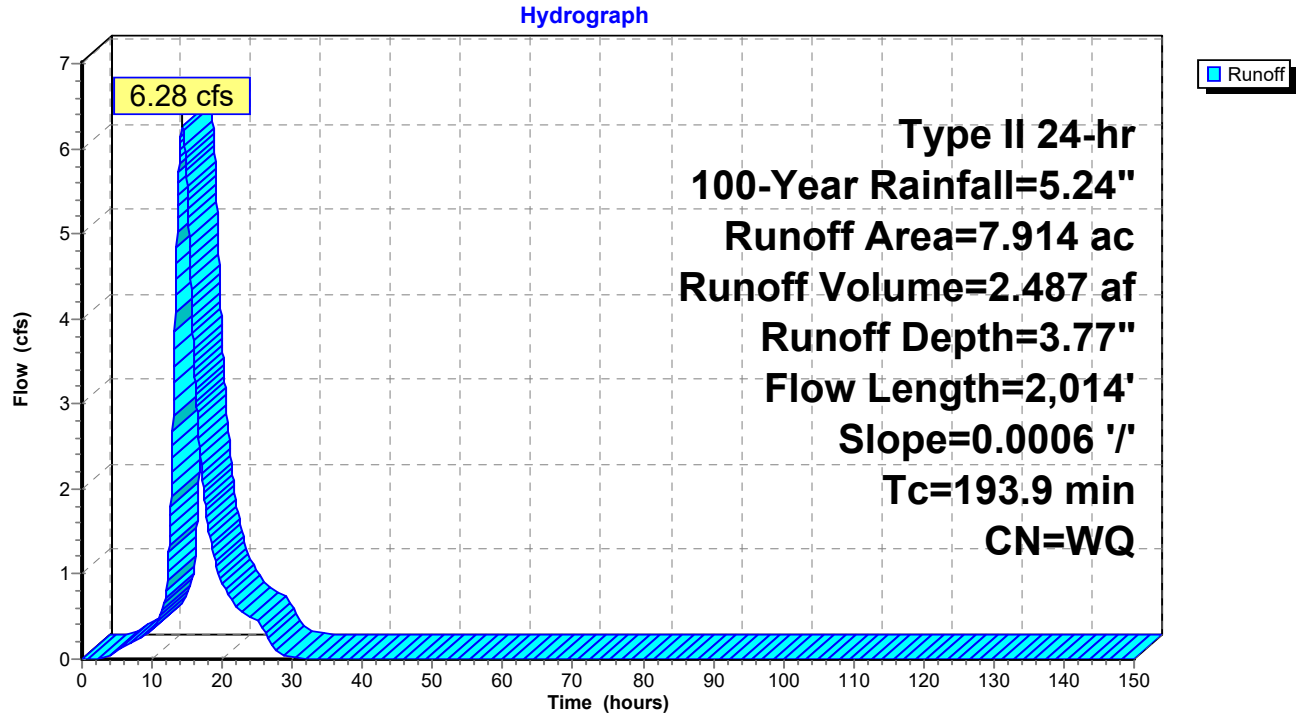
Runoff = 6.28 cfs @ 14.40 hrs, Volume= 2.487 af, Depth= 3.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=5.24"

Area (ac)	CN	Description
0.038	80	>75% Grass cover, Good, HSG D
0.356	80	>75% Grass cover, Good, HSG D
0.137	98	Paved Parking, HSG D
3.251	98	Paved Parking, HSG D
3.912	77	Woods, Good, HSG D
0.220	77	Woods, Good, HSG D
7.914		Weighted Average
4.526		57.19% Pervious Area
3.388		42.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
193.9	2,014	0.0006	0.17		**Lag/CN Method,** Contour Length= 190' Interval= 1'

Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep



Summary for Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Inflow Area = 7.914 ac, 42.81% Impervious, Inflow Depth = 3.77" for 100-Year event
Inflow = 6.28 cfs @ 14.40 hrs, Volume= 2.487 af
Outflow = 6.27 cfs @ 14.42 hrs, Volume= 2.487 af, Atten= 0%, Lag= 1.5 min
Primary = 0.32 cfs @ 14.42 hrs, Volume= 0.859 af
Secondary = 5.96 cfs @ 14.42 hrs, Volume= 1.628 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Peak Elev= 546.78' @ 14.42 hrs Surf.Area= 5,644 sf Storage= 18,540 cf

Plug-Flow detention time= 251.8 min calculated for 2.486 af (100% of inflow)
Center-of-Mass det. time= 252.3 min (1,204.4 - 952.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	540.50'	8,464 cf	**72.92'W x 77.40'L x 7.00'H Field A** 39,506 cf Overall - 11,293 cf Embedded = 28,213 cf x 30.0% Voids
#2A	542.75'	11,293 cf	**ADS_StormTech MC-3500 d +Cap** x 100 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 100 Chambers in 10 Rows Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf
		19,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	540.50'	**2.2" Vert. 2.2" orifice** C= 0.600
#2	Secondary	546.20'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.32 cfs @ 14.42 hrs HW=546.78' (Free Discharge)
↑—**1=2.2" orifice** (Orifice Controls 0.32 cfs @ 11.98 fps)

Secondary OutFlow Max=5.94 cfs @ 14.42 hrs HW=546.78' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 5.94 cfs @ 2.04 fps)

Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

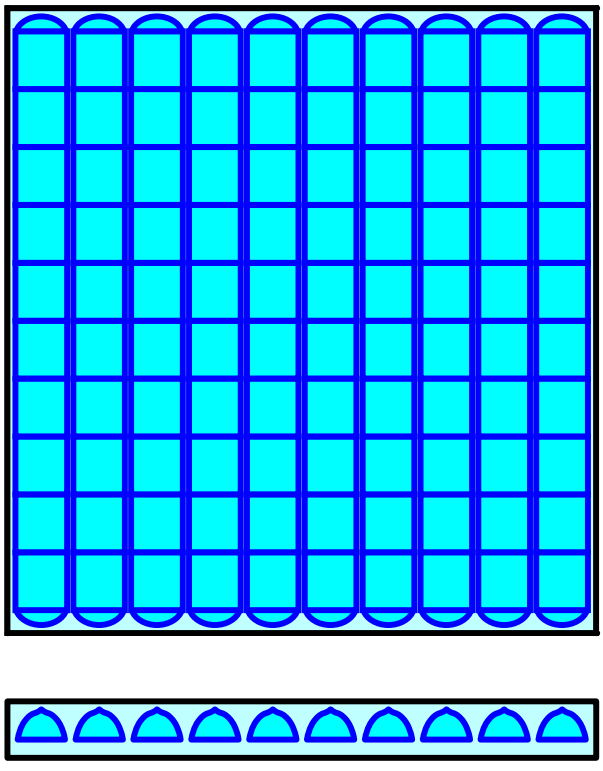
10 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 75.40' Row Length +12.0" End Stone x 2 = 77.40' Base Length
10 Rows x 77.0" Wide + 9.0" Spacing x 9 + 12.0" Side Stone x 2 = 72.92' Base Width
27.0" Base + 45.0" Chamber Height + 12.0" Cover = 7.00' Field Height

100 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 10 Rows = 11,293.2 cf Chamber Storage

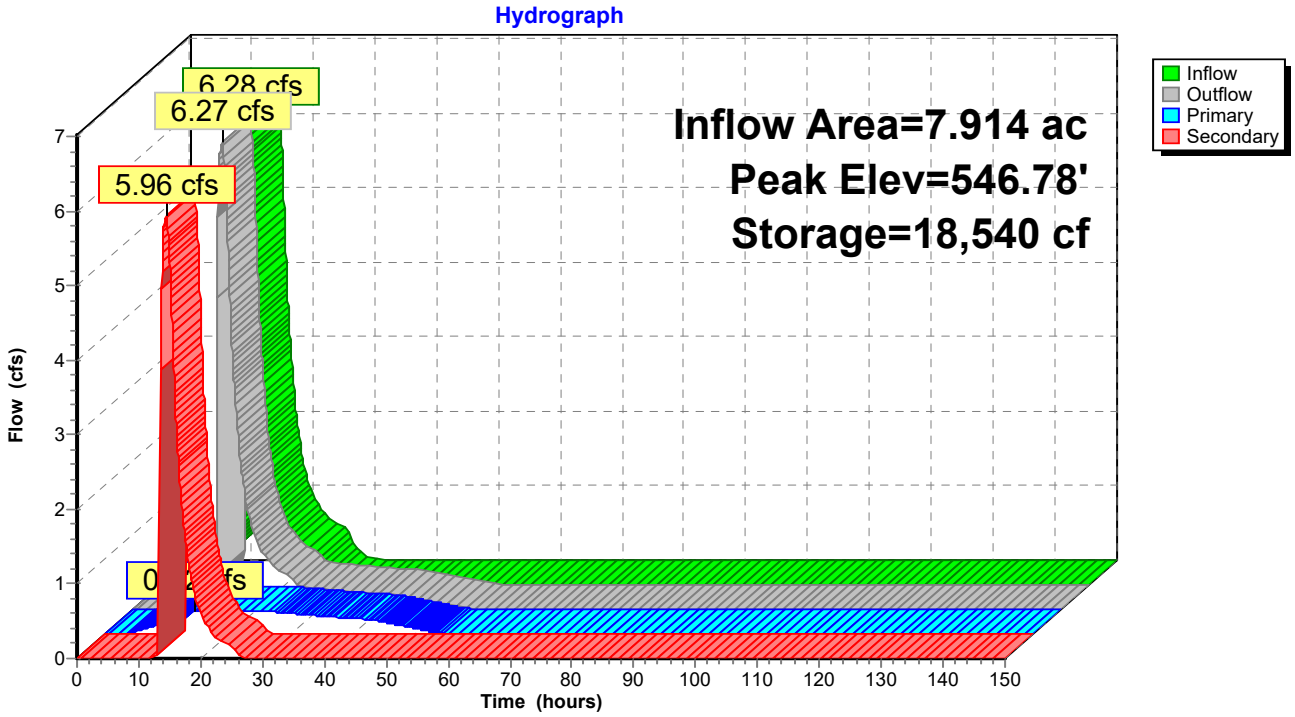
39,506.3 cf Field - 11,293.2 cf Chambers = 28,213.1 cf Stone x 30.0% Voids = 8,463.9 cf Stone Storage

Chamber Storage + Stone Storage = 19,757.1 cf = 0.454 af
Overall Storage Efficiency = 50.0%
Overall System Size = 77.40' x 72.92' x 7.00'

100 Chambers
1,463.2 cy Field
1,044.9 cy Stone



Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20



Time span=0.00-150.00 hrs, dt=0.05 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment DA_ChimneySweep: Subcat Runoff Area=7.914 ac 42.81% Impervious Runoff Depth=0.37"
Flow Length=2,014' Slope=0.0006 '/' Tc=193.9 min CN=WQ Runoff=0.60 cfs 0.243 af

Pond 34P: Chimney Sweep Sand Filter-MC Peak Elev=542.94' Storage=4,718 cf Inflow=0.60 cfs 0.243 af
Primary=0.19 cfs 0.243 af Secondary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.243 af

Total Runoff Area = 7.914 ac Runoff Volume = 0.243 af Average Runoff Depth = 0.37"
57.19% Pervious = 4.526 ac 42.81% Impervious = 3.388 ac

Summary for Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep

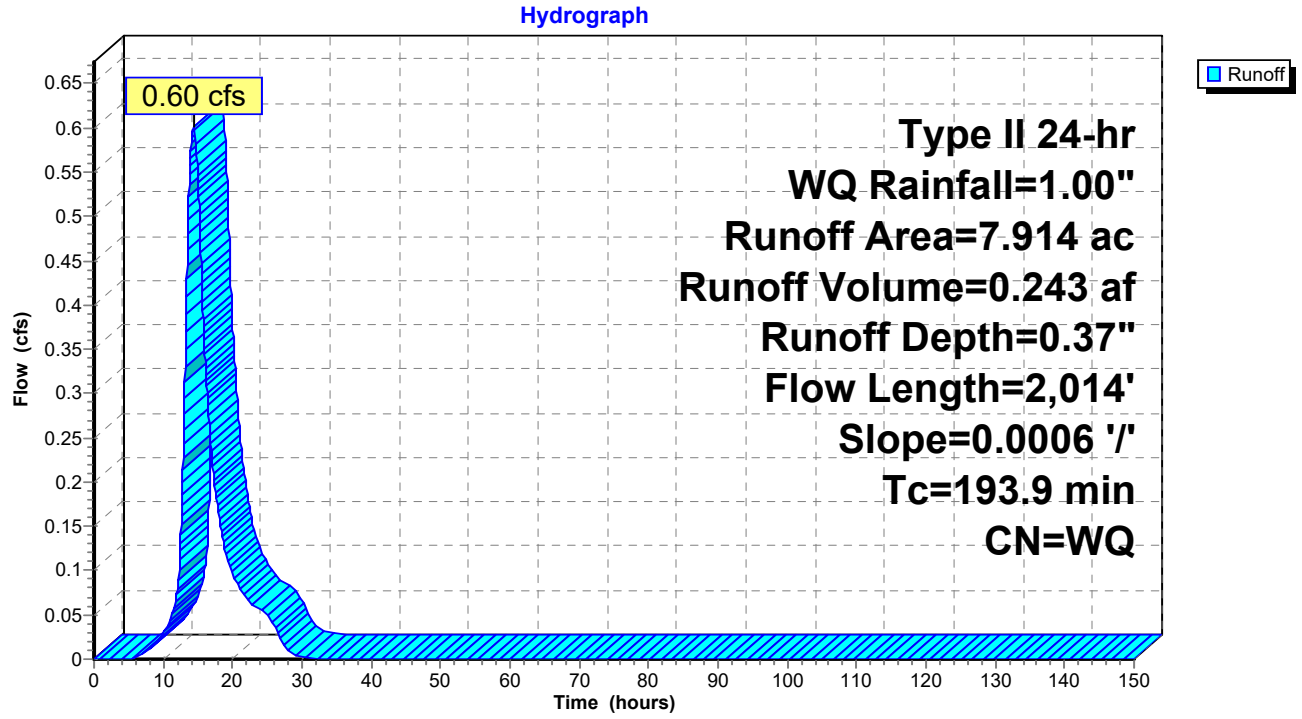
Runoff = 0.60 cfs @ 14.40 hrs, Volume= 0.243 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Type II 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
0.038	80	>75% Grass cover, Good, HSG D
0.356	80	>75% Grass cover, Good, HSG D
0.137	98	Paved Parking, HSG D
3.251	98	Paved Parking, HSG D
3.912	77	Woods, Good, HSG D
0.220	77	Woods, Good, HSG D
7.914		Weighted Average
4.526		57.19% Pervious Area
3.388		42.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
193.9	2,014	0.0006	0.17		**Lag/CN Method,** Contour Length= 190' Interval= 1'

Subcatchment DA_ChimneySweep: Subcat DA_ChimneySweep



Summary for Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20

Inflow Area = 7.914 ac, 42.81% Impervious, Inflow Depth = 0.37" for WQ event
Inflow = 0.60 cfs @ 14.40 hrs, Volume= 0.243 af
Outflow = 0.19 cfs @ 17.42 hrs, Volume= 0.243 af, Atten= 68%, Lag= 181.3 min
Primary = 0.19 cfs @ 17.42 hrs, Volume= 0.243 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-150.00 hrs, dt= 0.05 hrs
Peak Elev= 542.94' @ 17.42 hrs Surf.Area= 5,644 sf Storage= 4,718 cf

Plug-Flow detention time= 301.4 min calculated for 0.243 af (100% of inflow)
Center-of-Mass det. time= 300.5 min (1,275.7 - 975.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	540.50'	8,464 cf	**72.92'W x 77.40'L x 7.00'H Field A** 39,506 cf Overall - 11,293 cf Embedded = 28,213 cf x 30.0% Voids
#2A	542.75'	11,293 cf	**ADS_StormTech MC-3500 d +Cap** x 100 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 100 Chambers in 10 Rows Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf
		19,757 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	540.50'	**2.2" Vert. 2.2" orifice** C= 0.600
#2	Secondary	546.20'	**5.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.19 cfs @ 17.42 hrs HW=542.94' (Free Discharge)
↑—**1=2.2" orifice** (Orifice Controls 0.19 cfs @ 7.38 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=540.50' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-3500 d +Cap (ADS StormTech® MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 10 rows = 298.0 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

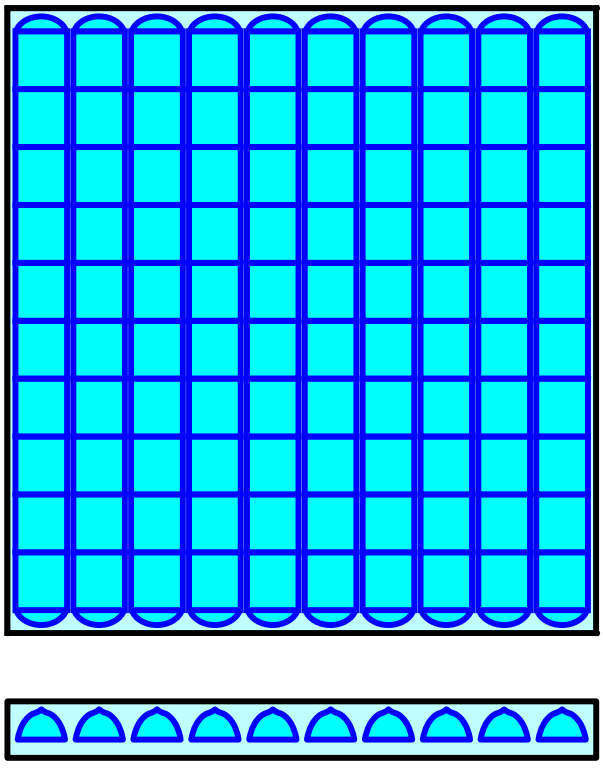
10 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 75.40' Row Length +12.0" End Stone x 2 = 77.40' Base Length
10 Rows x 77.0" Wide + 9.0" Spacing x 9 + 12.0" Side Stone x 2 = 72.92' Base Width
27.0" Base + 45.0" Chamber Height + 12.0" Cover = 7.00' Field Height

100 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 10 Rows = 11,293.2 cf Chamber Storage

39,506.3 cf Field - 11,293.2 cf Chambers = 28,213.1 cf Stone x 30.0% Voids = 8,463.9 cf Stone Storage

Chamber Storage + Stone Storage = 19,757.1 cf = 0.454 af
Overall Storage Efficiency = 50.0%
Overall System Size = 77.40' x 72.92' x 7.00'

100 Chambers
1,463.2 cy Field
1,044.9 cy Stone



Pond 34P: Chimney Sweep Sand Filter-MC 3500 - update 5-29-20