BU2006-1243

DETENTION REPORT

SSM HEALTHCARE

Prepared For:

Lillibridge

Prepared By:

Pickett, Ray and Silver, Inc.
333 Mid Rivers Mall Drive
St. Peters, MO 63376

October 2006
Revised December 2006

Detention Calculations:

This site is located is O'Fallon, Missouri on the West side of Highway K, in between Mexico Road and Veterans Memorial Parkway, South of Highway 70. This site is currently a healthcare facility, with an addition planned. The site is 3.10 acres. The detention will be handled with an on-site aboveground detention basin located to the southeast of the site.

The water shed was evaluated using the rational method for the post-developed conditions. Following are the criteria which were used to develop the models:

Pre-Developed:

2yr – 20 min
Q = (1.15)(2.04 AC) + (2.39)(1.06 AC) = **4.88 cfs**

15 yr – 20 min
Q = (1.87)(2.04 AC) + (3.85)(1.06 AC) = **7.90 cfs**

25 yr – 20 min
Q = (2.31)(2.04 AC) + (4.75)(1.06 AC) = **9.75 cfs**

100 yr – 20 min
Q = (2.95)(2.04 AC) + (6.08)(1.06 AC) = **12.46 cfs**

Post-developed:

* Flow Into Basin

2 yr – 20 min
(1.15)(0.64 AC) + (2.39)(2.16 AC) = **5.90 cfs**

15 yr – 20 min
(1.87)(0.64 AC) + (3.85)(2.16 AC) = **9.51 cfs**

25 yr – 20 min
(2.31)(0.64 AC) + (4.75)(2.16 AC) = **11.74 cfs**

100 yr – 20 min
(2.95)(0.64 AC) + (6.08)(2.16 AC) = **15.02 cfs**

* Bypass

2 yr – 20 min
(1.15)(0.30 AC) = **0.35 cfs**

15 yr – 20 min
(1.87)(0.30 AC) = **0.56 cfs**

25 yr – 20 min
(2.31)(0.30 AC) = **0.69 cfs**

100 yr – 20 min
(2.95)(0.30 AC) = **0.89 cfs**

Allowable Release Rate

2 yr – 20 min
= **4.53 cfs**

15 yr – 20 min
= **7.34 cfs**

25 yr – 20 min
= **9.06 cfs**

100 yr – 20 min
= **11.57 cfs**

Peak Outflow

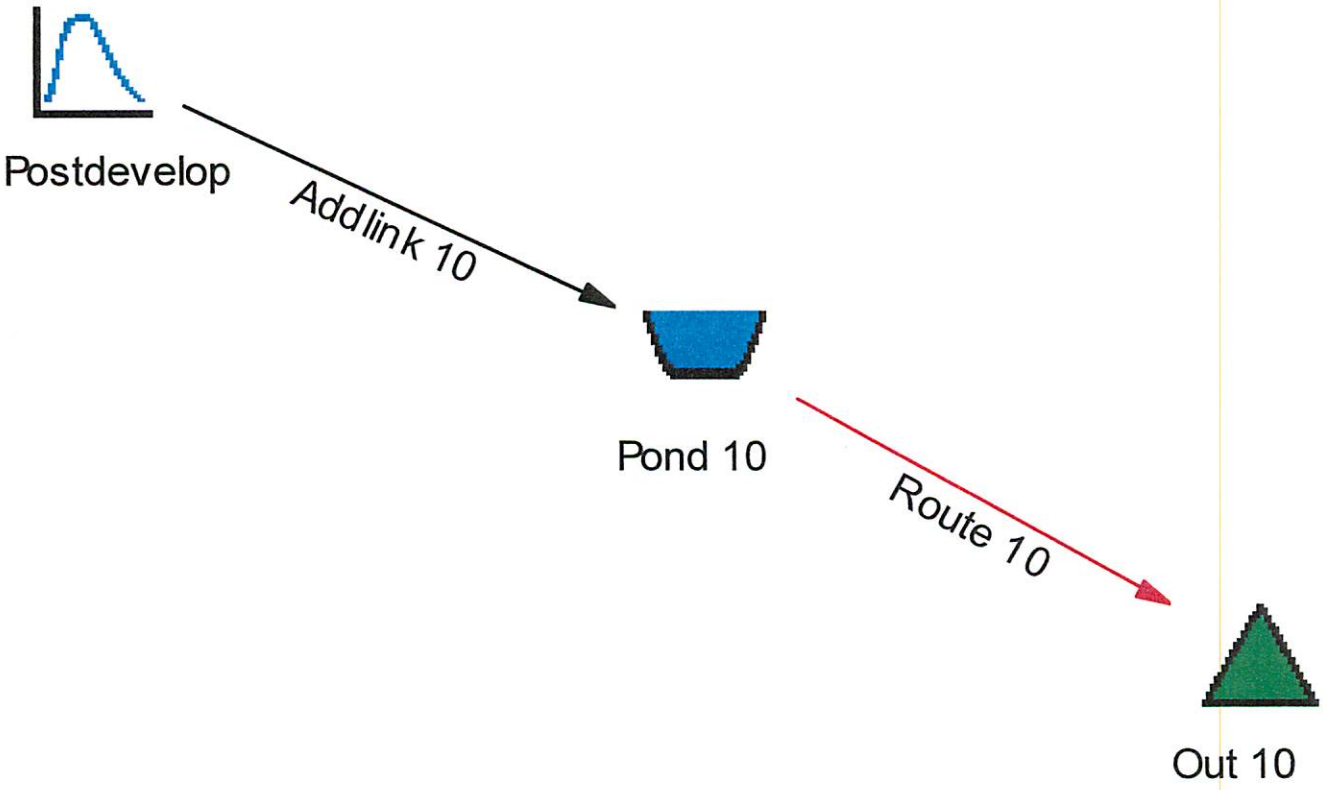
2 yr – 20 min
Q = 4.44 cfs

15 yr – 20 min
Q = 7.20 cfs

25 yr – 20 min
Q = 8.18 cfs

100 yr – 20 min
Q = 11.51 cfs

POSTDEVELOPED



12.14.06

JOB TITLE

Project Date: 10/5/2006
Project Engineer: Katie Lyons
Project Title: SSM Healthcare
Project Comments:

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MASTER DESIGN STORM SUMMARY

Hydrograph Queue Only Network

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method
Hydrograph File Import Option Used For 1 node(s)

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID		Type	Return Event	HYG Vol cu.ft	Trun	Qpeak min	Qpeak cfs	Max WSEL ft	Max Pond Storage cu.ft
*OUT 10		JCT	2	7080		21.00	4.44		
*OUT 10		JCT	15	11412		21.00	7.20		
*OUT 10		JCT	25	14088		21.00	8.18		
*OUT 10		JCT	100	18024		21.00	11.51		
POND 10	IN	POND	2	7080		5.00	5.90		
POND 10	IN	POND	15	11412		5.00	9.51		
POND 10	IN	POND	25	14088		5.00	11.74		
POND 10	IN	POND	100	18024		5.00	15.02		
POND 10	OUT	POND	2	7080		21.00	4.44	556.78	2392
POND 10	OUT	POND	15	11412		21.00	7.20	557.98	4604
POND 10	OUT	POND	25	14088		21.00	8.18	558.62	6159
POND 10	OUT	POND	100	18024		21.00	11.51	559.40	8444
POSTDEVELOP		HYG	2	7080		5.00	5.90		
POSTDEVELOP		HYG	15	11412		5.00	9.51		
POSTDEVELOP		HYG	25	14088		5.00	11.74		
POSTDEVELOP		HYG	100	18024		5.00	15.02		

HYG file =
HYG ID = 2YR-20MIN
HYG Tag = 2YR

Peak Discharge =	5.90 cfs
Time to Peak =	5.00 min
HYG Volume =	7080 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	1.18	2.36	3.54	4.72
5.00	5.90	5.90	5.90	5.90	5.90
10.00	5.90	5.90	5.90	5.90	5.90
15.00	5.90	5.90	5.90	5.90	5.90
20.00	5.90	4.72	3.54	2.36	1.18
25.00	.00				

HYG file =
HYG ID = 15YR-20MIN
HYG Tag = 15YR

Peak Discharge =	9.51 cfs
Time to Peak =	5.00 min
HYG Volume =	11412 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	1.90	3.80	5.71	7.61
5.00	9.51	9.51	9.51	9.51	9.51
10.00	9.51	9.51	9.51	9.51	9.51
15.00	9.51	9.51	9.51	9.51	9.51
20.00	9.51	7.61	5.71	3.80	1.90
25.00	.00				

HYG file =
HYG ID = 25YR-20MIN
HYG Tag = 25YR

Peak Discharge =	11.74 cfs
Time to Peak =	5.00 min
HYG Volume =	14088 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	2.35	4.70	7.04	9.39
5.00	11.74	11.74	11.74	11.74	11.74
10.00	11.74	11.74	11.74	11.74	11.74
15.00	11.74	11.74	11.74	11.74	11.74
20.00	11.74	9.39	7.04	4.70	2.35
25.00	.00				

HYG file =
HYG ID = 100YR-20MIN
HYG Tag = 100YR

Peak Discharge =	15.02 cfs
Time to Peak =	5.00 min
HYG Volume =	18024 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	3.00	6.01	9.01	12.02
5.00	15.02	15.02	15.02	15.02	15.02
10.00	15.02	15.02	15.02	15.02	15.02
15.00	15.02	15.02	15.02	15.02	15.02
20.00	15.02	12.02	9.01	6.01	3.00
25.00	.00				

TIME vs. ELEVATION (ft)

Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	553.63	553.88	554.10	554.33	554.61
5.00	554.92	555.19	555.41	555.59	555.75
10.00	555.88	556.00	556.11	556.22	556.31
15.00	556.39	556.47	556.55	556.62	556.68
20.00	556.75	556.78	556.77	556.71	556.60
25.00	556.44	556.25	556.04	555.83	555.61
30.00	555.38	555.13	554.88	554.62	554.36
35.00	554.12	553.95	553.81	553.68	553.63
40.00	553.63				

TIME vs. ELEVATION (ft)

Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	553.63	553.96	554.26	554.63	555.05
5.00	555.49	555.87	556.18	556.44	556.67
10.00	556.88	557.05	557.21	557.34	557.45
15.00	557.55	557.64	557.72	557.80	557.87
20.00	557.94	557.98	557.96	557.90	557.78
25.00	557.61	557.42	557.23	557.04	556.86
30.00	556.68	556.50	556.31	556.11	555.90
35.00	555.68	555.45	555.21	554.96	554.70
40.00	554.44	554.19	554.00	553.86	553.73
45.00	553.64	553.63			

TIME vs. ELEVATION (ft)

Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	553.63	553.99	554.36	554.81	555.29
5.00	555.79	556.22	556.58	556.88	557.13
10.00	557.34	557.52	557.68	557.82	557.95
15.00	558.07	558.18	558.28	558.38	558.47
20.00	558.56	558.62	558.62	558.56	558.46
25.00	558.30	558.11	557.91	557.72	557.52
30.00	557.32	557.14	556.95	556.78	556.59
35.00	556.41	556.21	556.01	555.79	555.57
40.00	555.34	555.09	554.83	554.57	554.31
45.00	554.09	553.93	553.79	553.67	553.63

TIME vs. ELEVATION (ft)

Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	553.63	554.04	554.50	555.04	555.61
5.00	556.18	556.68	557.08	557.40	557.67
10.00	557.90	558.11	558.30	558.47	558.63
15.00	558.78	558.92	559.05	559.17	559.27
20.00	559.36	559.40	559.38	559.32	559.21
25.00	559.06	558.88	558.69	558.51	558.32
30.00	558.13	557.93	557.74	557.54	557.34
35.00	557.15	556.97	556.80	556.61	556.43
40.00	556.23	556.03	555.82	555.59	555.36
45.00	555.12	554.86	554.60	554.34	554.11
50.00	553.94	553.80	553.68	553.63	553.63

TIME vs. VOLUME (cu.ft)

Output Time increment = 1.00 min

Time min	Time on left represents time for first value in each row.				
.00	0	21	82	173	301
5.00	473	657	825	980	1125
10.00	1261	1391	1514	1632	1744
15.00	1853	1957	2057	2154	2248
20.00	2339	2392	2374	2286	2132
25.00	1913	1668	1433	1209	996
30.00	798	615	449	304	183
35.00	91	35	10	1	0
40.00	0				

TIME vs. VOLUME (cu.ft)

Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	0	38	143	313	559
5.00	889	1250	1592	1919	2233
10.00	2536	2821	3080	3311	3518
15.00	3711	3892	4062	4222	4375
20.00	4521	4604	4572	4430	4183
25.00	3838	3459	3112	2800	2515
30.00	2247	1990	1742	1504	1276
35.00	1060	857	669	498	346
40.00	217	116	50	17	4
45.00	0	0			

TIME vs. VOLUME (cu.ft)

Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	0	48	185	407	732
5.00	1165	1642	2098	2536	2949
10.00	3320	3656	3969	4266	4547
15.00	4816	5074	5321	5559	5789
20.00	6011	6157	6159	6022	5752
25.00	5352	4899	4463	4048	3655
30.00	3289	2957	2659	2384	2122
35.00	1869	1626	1392	1170	960
40.00	765	584	422	281	164
45.00	80	31	8	1	0

TIME vs. VOLUME (cu.ft)

Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	0	64	246	551	995
5.00	1585	2237	2856	3425	3944
10.00	4434	4901	5348	5778	6195
15.00	6597	6989	7370	7728	8044
20.00	8309	8444	8391	8184	7848
25.00	7387	6867	6363	5873	5401
30.00	4945	4507	4090	3695	3325
35.00	2989	2689	2413	2150	1896
40.00	1651	1417	1193	982	784
45.00	603	438	294	175	86
50.00	33	9	1	0	0

Elevation (ft)	Planimeter (sq.in)	Area (sq.ft)	A1+A2+sqr(A1*A2) (sq.ft)	Volume (cu.ft)	Volume Sum (cu.ft)
553.63	-----	16	0	0	0
554.00	-----	320	408	50	50
556.00	-----	1092	2003	1335	1386
558.00	-----	2247	4905	3270	4656
560.00	-----	3637	8743	5828	10484
561.00	-----	4417	12062	4021	14505

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 553.63 ft
Increment = .10 ft
Max. Elev.= 561.00 ft

****
OUTLET CONNECTIVITY
****

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Weir-Rectangular	LW	--->	TW	553.630	554.130
Orifice-Area	LO	--->	TW	554.130	561.000
Weir-Rectangular	UW	--->	TW	556.800	557.300
Orifice-Area	UO	--->	TW	557.300	561.000
Weir-Rectangular	OF	--->	TW	559.070	561.000

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID = LW
Structure Type = Weir-Rectangular

# of Openings	=	1
Crest Elev.	=	553.63 ft
Weir Length	=	1.08 ft
Weir Coeff.	=	3.000000

Weir TW effects (Use adjustment equation)

Structure ID = LO
Structure Type = Orifice-Area

# of Openings	=	1
Invert Elev.	=	553.63 ft
Area	=	.5415 sq.ft
Top of Orifice	=	554.13 ft
Datum Elev.	=	553.88 ft
Orifice Coeff.	=	.600

Structure ID = UW
Structure Type = Weir-Rectangular

# of Openings	=	1
Crest Elev.	=	556.80 ft
Weir Length	=	.83 ft
Weir Coeff.	=	3.000000

Weir TW effects (Use adjustment equation)

OUTLET STRUCTURE INPUT DATA

Structure ID = UO
Structure Type = Orifice-Area

# of Openings = 1
Invert Elev. = 556.80 ft
Area = .4165 sq.ft
Top of Orifice = 557.30 ft
Datum Elev. = 557.05 ft
Orifice Coeff. = .600

Structure ID = OF
Structure Type = Weir-Rectangular

# of Openings = 1
Crest Elev. = 559.07 ft
Weir Length = 4.00 ft
Weir Coeff. = 3.000000

Weir TW effects (Use adjustment equation)

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...
Maximum Iterations= 40
Min. TW tolerance = .01 ft
Max. TW tolerance = .01 ft
Min. HW tolerance = .01 ft
Max. HW tolerance = .01 ft
Min. Q tolerance = .00 cfs
Max. Q tolerance = .00 cfs

LEVEL POOL ROUTING DATA

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 2
Outflow HYG file = NONE STORED - POND 10 OUT 2

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	553.63 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
553.63	.00	0	16	.00	.00	.00
553.73	.10	4	60	.00	.10	.22
553.83	.29	13	132	.00	.29	.72
553.93	.53	31	233	.00	.53	1.57
554.03	.82	60	328	.00	.82	2.82
554.13	1.30	94	356	.00	1.30	4.44
554.23	1.54	131	385	.00	1.54	5.92
554.33	1.75	171	416	.00	1.75	7.46
554.43	1.93	214	447	.00	1.93	9.08
554.53	2.10	261	480	.00	2.10	10.79
554.63	2.26	310	514	.00	2.26	12.61
554.73	2.40	364	549	.00	2.40	14.52
554.83	2.54	420	585	.00	2.54	16.55
554.93	2.67	481	622	.00	2.67	18.69
555.03	2.79	545	660	.00	2.79	20.95
555.13	2.91	613	700	.00	2.91	23.33
555.23	3.03	685	740	.00	3.03	25.85
555.33	3.14	761	782	.00	3.14	28.50
555.43	3.24	841	825	.00	3.24	31.28
555.53	3.35	926	869	.00	3.35	34.21

LEVEL POOL ROUTING DATA

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 2
Outflow HYG file = NONE STORED - POND 10 OUT 2

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration.

INITIAL CONDITIONS

Starting WS Elev	=	553.63 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
555.63	3.45	1015	915	.00	3.45	37.28
555.73	3.54	1109	961	.00	3.54	40.50
555.83	3.64	1207	1009	.00	3.64	43.88
555.93	3.73	1310	1057	.00	3.73	47.41
556.03	3.82	1419	1106	.00	3.82	51.11
556.13	3.91	1532	1155	.00	3.91	54.97
556.23	4.00	1650	1204	.00	4.00	58.98
556.33	4.08	1773	1254	.00	4.08	63.16
556.43	4.16	1900	1306	.00	4.16	67.51
556.53	4.24	2034	1358	.00	4.24	72.03
556.63	4.32	2172	1411	.00	4.32	76.73
556.73	4.40	2316	1466	.00	4.40	81.60
556.80	4.45	2420	1505	.00	4.45	85.12
556.83	4.49	2465	1521	.00	4.49	86.67
556.93	4.67	2620	1578	.00	4.67	92.01
557.03	4.90	2781	1635	.00	4.90	97.60
557.13	5.17	2947	1694	.00	5.17	103.42
557.23	5.47	3120	1754	.00	5.47	109.46
557.33	5.90	3298	1814	.00	5.90	115.84
557.43	6.15	3483	1876	.00	6.15	122.23

LEVEL POOL ROUTING DATA

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 2
Outflow HYG file = NONE STORED - POND 10 OUT 2

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 553.63 ft
Starting Volume = 0 cu.ft
Starting Outflow = .00 cfs
Starting Infiltr. = .00 cfs
Starting Total Qout= .00 cfs
Time Increment = 1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
557.53	6.37	3673	1939	.00	6.37	128.81
557.63	6.57	3870	2002	.00	6.57	135.58
557.73	6.77	4074	2067	.00	6.77	142.56
557.83	6.95	4284	2133	.00	6.95	149.74
557.93	7.13	4500	2200	.00	7.13	157.14
558.03	7.29	4724	2265	.00	7.29	164.75
558.13	7.46	4953	2327	.00	7.46	172.57
558.23	7.61	5189	2390	.00	7.61	180.58
558.33	7.77	5431	2453	.00	7.77	188.81
558.43	7.91	5680	2518	.00	7.91	197.24
558.53	8.06	5935	2583	.00	8.06	205.89
558.63	8.20	6196	2649	.00	8.20	214.75
558.73	8.34	6465	2716	.00	8.34	223.83
558.83	8.47	6740	2783	.00	8.47	233.13
558.93	8.61	7021	2852	.00	8.61	242.65
559.03	8.74	7310	2921	.00	8.74	252.41
559.07	8.79	7427	2949	.00	8.79	256.37
559.13	9.04	7606	2991	.00	9.04	262.56
559.23	9.76	7908	3062	.00	9.76	273.37
559.33	10.70	8218	3134	.00	10.70	284.64

LEVEL POOL ROUTING DATA

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 2
Outflow HYG file = NONE STORED - POND 10 OUT 2

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	553.63 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
559.43	11.82	8535	3207	.00	11.82	296.33
559.53	13.10	8860	3280	.00	13.10	308.42
559.63	14.50	9191	3355	.00	14.50	320.88
559.73	16.02	9531	3430	.00	16.02	333.70
559.83	17.65	9877	3506	.00	17.65	346.90
559.93	19.38	10232	3583	.00	19.38	360.44
560.03	21.21	10594	3659	.00	21.21	374.34
560.13	23.13	10964	3734	.00	23.13	388.58
560.23	25.13	11341	3810	.00	25.13	403.16
560.33	27.22	11726	3886	.00	27.22	418.07
560.43	29.39	12118	3963	.00	29.39	433.32
560.53	31.63	12518	4041	.00	31.63	448.91
560.63	33.95	12926	4120	.00	33.95	464.82
560.73	36.33	13342	4199	.00	36.33	481.07
560.83	38.79	13766	4279	.00	38.79	497.66
560.93	41.31	14198	4360	.00	41.31	514.57
561.00	43.11	14505	4417	.00	43.11	526.62

LEVEL POOL ROUTING SUMMARY

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 2
Outflow HYG file = NONE STORED - POND 10 OUT 2

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	553.63 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	5.90 cfs	at	5.00 min
Peak Outflow	=	4.44 cfs	at	21.00 min
Peak Elevation	=	556.78 ft		
Peak Storage	=	2392 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	0
+ HYG Vol IN	=	7080
- Infiltration	=	0
- HYG Vol OUT	=	7080
- Retained Vol	=	0
Unrouted Vol	= -	cu.ft (.000% of Inflow Volume)

POND ROUTED TOTAL OUTFLOW HYG...
HYG file =
HYG ID = POND 10 OUT
HYG Tag = 2

Peak Discharge =	4.44 cfs
Time to Peak =	21.00 min
HYG Volume =	7080 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	.42	1.13	1.75	2.23
5.00	2.65	2.99	3.22	3.41	3.56
10.00	3.69	3.80	3.90	3.98	4.06
15.00	4.13	4.20	4.26	4.31	4.36
20.00	4.41	4.44	4.43	4.38	4.30
25.00	4.17	4.01	3.83	3.64	3.43
30.00	3.19	2.92	2.60	2.24	1.80
35.00	1.26	.58	.25	.05	.00
40.00	.00				

LEVEL POOL ROUTING SUMMARY

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 15
Outflow HYG file = NONE STORED - POND 10 OUT 15

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	553.63 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	9.51 cfs	at	5.00 min
Peak Outflow	=	7.20 cfs	at	21.00 min
Peak Elevation	=	557.98 ft		
Peak Storage	=	4604 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	0
+ HYG Vol IN	=	11412
- Infiltration	=	0
- HYG Vol OUT	=	11412
- Retained Vol	=	0
Unrouted Vol	= -	cu.ft (.000% of Inflow Volume)

POND ROUTED TOTAL OUTFLOW HYG...
HYG file =
HYG ID = POND 10 OUT
HYG Tag = 15

Peak Discharge =	7.20 cfs
Time to Peak =	21.00 min
HYG Volume =	11412 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	.61	1.60	2.26	2.82
5.00	3.30	3.68	3.95	4.17	4.36
10.00	4.57	4.97	5.41	5.92	6.19
15.00	6.41	6.59	6.76	6.90	7.02
20.00	7.14	7.20	7.18	7.07	6.86
25.00	6.54	6.12	5.46	4.93	4.55
30.00	4.36	4.22	4.06	3.89	3.70
35.00	3.49	3.27	3.00	2.71	2.36
40.00	1.94	1.44	.73	.36	.11
45.00	.01	.00			

LEVEL POOL ROUTING SUMMARY

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 25
Outflow HYG file = NONE STORED - POND 10 OUT 25

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	553.63 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	11.74 cfs	at	5.00 min
Peak Outflow	=	8.18 cfs	at	21.00 min
Peak Elevation	=	558.62 ft		
Peak Storage	=	6159 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	0
+ HYG Vol IN	=	14088
- Infiltration	=	0
- HYG Vol OUT	=	14088
- Retained Vol	=	0
Unrouted Vol	= -	cu.ft (.000% of Inflow Volume)

POND ROUTED TOTAL OUTFLOW HYG...
HYG file =
HYG ID = POND 10 OUT
HYG Tag = 25

Peak Discharge =	8.18 cfs
Time to Peak =	21.00 min
HYG Volume =	14088 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	.71	1.81	2.51	3.10
5.00	3.60	3.99	4.28	4.57	5.18
10.00	5.93	6.35	6.67	6.94	7.16
15.00	7.36	7.54	7.70	7.84	7.98
20.00	8.10	8.18	8.18	8.11	7.96
25.00	7.72	7.42	7.10	6.74	6.35
30.00	5.88	5.19	4.73	4.44	4.29
35.00	4.14	3.98	3.80	3.60	3.39
40.00	3.14	2.86	2.54	2.16	1.71
45.00	1.10	.53	.21	.04	.00

LEVEL POOL ROUTING SUMMARY

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 100
Outflow HYG file = NONE STORED - POND 10 OUT 100

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	553.63 ft
Starting Volume	=	0 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	15.02 cfs	at	5.00 min
Peak Outflow	=	11.51 cfs	at	21.00 min
Peak Elevation	=	559.40 ft		
Peak Storage	=	8444 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	0
+ HYG Vol IN	=	18024
- Infiltration	=	0
- HYG Vol OUT	=	18024
- Retained Vol	=	0
Unrouted Vol	= -	cu.ft (.000% of Inflow Volume)

POND ROUTED TOTAL OUTFLOW HYG...
HYG file =
HYG ID = POND 10 OUT
HYG Tag = 100

Peak Discharge =	11.51 cfs
Time to Peak =	21.00 min
HYG Volume =	18024 cu.ft

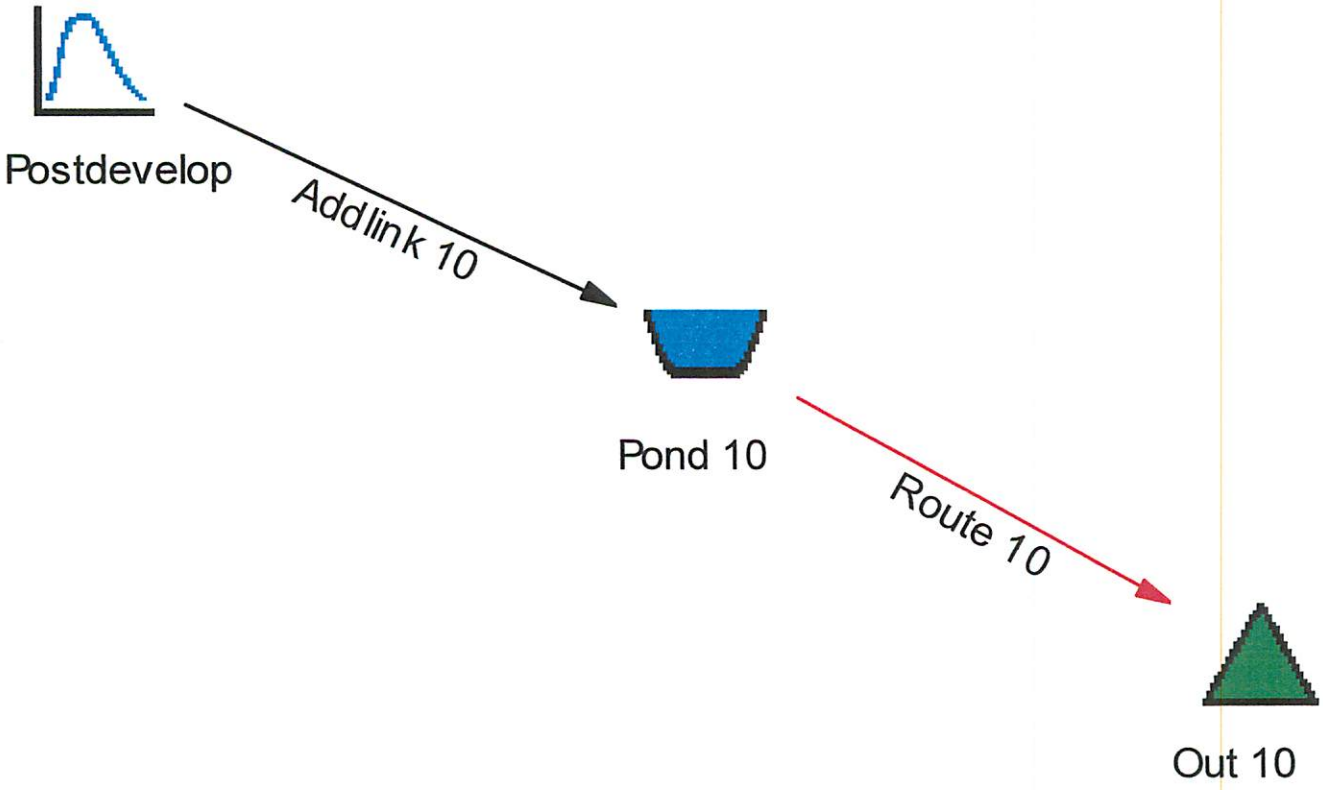
HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	.87	2.05	2.81	3.43
5.00	3.95	4.36	5.03	6.07	6.64
10.00	7.07	7.42	7.71	7.97	8.20
15.00	8.40	8.59	8.76	9.33	10.17
20.00	11.03	11.51	11.32	10.60	9.61
25.00	8.77	8.53	8.29	8.02	7.75
30.00	7.45	7.13	6.78	6.39	5.94
35.00	5.25	4.77	4.45	4.31	4.16
40.00	4.00	3.82	3.63	3.41	3.17
45.00	2.90	2.58	2.21	1.77	1.20
50.00	.56	.23	.05	.00	.00

Index of Starting Page Numbers for ID Names

POSTDEVELOPED

LOW FLOW BLOCKED



12.14.06

Job File: \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\POSTDEVELOPED LFB 12.14.06.PPW
Rain Dir: \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\

JOB TITLE
==========

Project Date: 10/5/2006
Project Engineer: Katie Lyons
Project Title: SSM Healthcare
Project Comments:

********** POND ROUTING **********

MASTER DESIGN STORM SUMMARY

Hydrograph Queue Only Network

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method
Hydrograph File Import Option Used For 1 node(s)

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID		Type	Return Event	HYG Vol cu.ft	Trun	Qpeak min	Qpeak cfs	Max WSEL ft	Max Pond Storage cu.ft
*OUT 10		JCT	100	18014		20.00	14.34		
POND 10	IN	POND	100	18024		5.00	15.02		
POND 10	OUT	POND	100	18014		20.00	14.34	560.01	10509
POSTDEVELOP		HYG	100	18024		5.00	15.02		

HYG file =
HYG ID = 100YR-20MIN
HYG Tag = 100YR

Peak Discharge =	15.02 cfs
Time to Peak =	5.00 min
HYG Volume =	18024 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	3.00	6.01	9.01	12.02
5.00	15.02	15.02	15.02	15.02	15.02
10.00	15.02	15.02	15.02	15.02	15.02
15.00	15.02	15.02	15.02	15.02	15.02
20.00	15.02	12.02	9.01	6.01	3.00
25.00	.00				

TIME vs. ELEVATION (ft)

Time min	Output Time increment = 1.00 min Time on left represents time for first value in each row.				
.00	556.80	556.86	557.02	557.27	557.57
5.00	557.91	558.25	558.56	558.83	559.09
10.00	559.31	559.49	559.63	559.74	559.82
15.00	559.88	559.92	559.95	559.98	559.99
20.00	560.01	560.00	559.94	559.86	559.75
25.00	559.62	559.48	559.38	559.29	559.21
30.00	559.14	559.08	559.03	558.97	558.91
35.00	558.85	558.79	558.74	558.68	558.62
40.00	558.56	558.51	558.45	558.40	558.34
45.00	558.28	558.23	558.18	558.12	558.07
50.00	558.02	557.96	557.91	557.86	557.81
55.00	557.76	557.71	557.67	557.62	557.58
60.00	557.53	557.49	557.45	557.41	557.37
65.00	557.34	557.30	557.27	557.24	557.22
70.00	557.20	557.18	557.16	557.14	557.12
75.00	557.11	557.09	557.08	557.06	557.05
80.00	557.04	557.03	557.02	557.01	557.00
85.00	556.99	556.99	556.98	556.97	556.97
90.00	556.96	556.95	556.95	556.94	556.94
95.00	556.93	556.93	556.92	556.92	556.92
100.00	556.91	556.91	556.90	556.90	556.90
105.00	556.89	556.89	556.89	556.89	556.88
110.00	556.88	556.88	556.88	556.87	556.87
115.00	556.87	556.87	556.86	556.86	556.86
120.00	556.86	556.86	556.86	556.85	556.85
125.00	556.85	556.85	556.85	556.85	556.85
130.00	556.85	556.84	556.84	556.84	556.84
135.00	556.84	556.84	556.84	556.84	556.84
140.00	556.84	556.84	556.83	556.83	556.83
145.00	556.83	556.83	556.83	556.83	556.83
150.00	556.83	556.83	556.83	556.83	556.83
155.00	556.83	556.83	556.83	556.83	556.83
160.00	556.83	556.82	556.82	556.82	556.82
165.00	556.82	556.82	556.82	556.82	556.82
170.00	556.82	556.82	556.82	556.82	556.82
175.00	556.82	556.82	556.82	556.82	556.82
180.00	556.82	556.82	556.82	556.82	556.82
185.00	556.82	556.82	556.82	556.82	556.82
190.00	556.82	556.81	556.81	556.81	556.81
195.00	556.81	556.81	556.81	556.81	556.81
200.00	556.81	556.81	556.81	556.81	556.81
205.00	556.81	556.81	556.81	556.81	556.81
210.00	556.81	556.81	556.81	556.81	556.81

TIME vs. ELEVATION (ft)

Output Time increment = 1.00 min

Time min	Time on left represents time for first value in each row.				
215.00	556.81	556.81	556.81	556.81	556.81
220.00	556.81	556.81	556.81	556.81	556.81
225.00	556.81	556.81	556.81	556.81	556.81
230.00	556.81	556.81	556.81	556.81	556.81
235.00	556.81	556.81			

TIME vs. VOLUME (cu.ft)

Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	2420	2508	2770	3186	3749
5.00	4461	5241	6002	6750	7483
10.00	8162	8736	9197	9555	9829
15.00	10036	10192	10309	10396	10461
20.00	10509	10466	10278	9979	9596
25.00	9144	8711	8367	8086	7851
30.00	7648	7467	7295	7127	6962
35.00	6799	6639	6482	6326	6175
40.00	6025	5879	5735	5594	5456
45.00	5320	5189	5059	4934	4810
50.00	4691	4574	4461	4351	4244
55.00	4141	4042	3945	3853	3763
60.00	3679	3596	3519	3445	3375
65.00	3309	3248	3193	3145	3102
70.00	3062	3026	2993	2962	2934
75.00	2907	2882	2859	2838	2818
80.00	2800	2783	2766	2751	2736
85.00	2723	2710	2698	2686	2676
90.00	2666	2656	2648	2639	2631
95.00	2624	2617	2610	2603	2597
100.00	2591	2585	2580	2574	2569
105.00	2564	2560	2555	2551	2547
110.00	2543	2539	2535	2531	2528
115.00	2525	2522	2519	2516	2513
120.00	2510	2508	2505	2503	2501
125.00	2499	2497	2495	2493	2491
130.00	2489	2487	2486	2484	2483
135.00	2481	2480	2479	2477	2476
140.00	2475	2474	2473	2472	2471
145.00	2470	2469	2468	2467	2466
150.00	2465	2465	2464	2463	2462
155.00	2462	2461	2460	2459	2459
160.00	2458	2458	2457	2456	2456
165.00	2455	2454	2454	2453	2453
170.00	2452	2452	2451	2450	2450
175.00	2449	2449	2448	2448	2447
180.00	2447	2447	2446	2446	2445
185.00	2445	2444	2444	2443	2443
190.00	2443	2442	2442	2442	2441
195.00	2441	2440	2440	2440	2439
200.00	2439	2439	2438	2438	2438
205.00	2437	2437	2437	2437	2436
210.00	2436	2436	2436	2435	2435

TIME vs. VOLUME (cu.ft)

Time min	Output Time increment = 1.00 min Time on left represents time for first value in each row.				
215.00	2435	2434	2434	2434	2434
220.00	2433	2433	2433	2433	2433
225.00	2432	2432	2432	2432	2432
230.00	2431	2431	2431	2431	2431
235.00	2430	2430			

Elevation (ft)	Planimeter (sq.in)	Area (sq.ft)	A1+A2+sqr(A1*A2) (sq.ft)	Volume (cu.ft)	Volume Sum (cu.ft)
553.63	-----	16	0	0	0
554.00	-----	320	408	50	50
556.00	-----	1092	2003	1335	1386
558.00	-----	2247	4905	3270	4656
560.00	-----	3637	8743	5828	10484
561.00	-----	4417	12062	4021	14505

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 553.63 ft
Increment = .10 ft
Max. Elev.= 561.00 ft

****
OUTLET CONNECTIVITY
****

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Weir-Rectangular	UW	--->	TW	556.800	557.300
Orifice-Area	UO	--->	TW	557.300	561.000
Weir-Rectangular	OF	--->	TW	559.070	561.000

TW SETUP, DS Channel

OUTLET STRUCTURE INPUT DATA

Structure ID = UW
Structure Type = Weir-Rectangular

# of Openings	=	1
Crest Elev.	=	556.80 ft
Weir Length	=	.83 ft
Weir Coeff.	=	3.000000

Weir TW effects (Use adjustment equation)

Structure ID = UO
Structure Type = Orifice-Area

# of Openings	=	1
Invert Elev.	=	556.80 ft
Area	=	.4165 sq.ft
Top of Orifice	=	557.30 ft
Datum Elev.	=	557.05 ft
Orifice Coeff.	=	.600

Structure ID = OF
Structure Type = Weir-Rectangular

# of Openings	=	1
Crest Elev.	=	559.07 ft
Weir Length	=	4.00 ft
Weir Coeff.	=	3.000000

Weir TW effects (Use adjustment equation)

OUTLET STRUCTURE INPUT DATA

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...
Maximum Iterations= 40
Min. TW tolerance = .01 ft
Max. TW tolerance = .01 ft
Min. HW tolerance = .01 ft
Max. HW tolerance = .01 ft
Min. Q tolerance = .00 cfs
Max. Q tolerance = .00 cfs

LEVEL POOL ROUTING DATA

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 100
Outflow HYG file = NONE STORED - POND 10 OUT 100

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	556.80 ft
Starting Volume	=	2420 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
553.63	.00	0	16	.00	.00	.00
553.73	.00	4	60	.00	.00	.12
553.83	.00	13	132	.00	.00	.43
553.93	.00	31	233	.00	.00	1.03
554.03	.00	60	328	.00	.00	2.00
554.13	.00	94	356	.00	.00	3.14
554.23	.00	131	385	.00	.00	4.38
554.33	.00	171	416	.00	.00	5.71
554.43	.00	214	447	.00	.00	7.15
554.53	.00	261	480	.00	.00	8.69
554.63	.00	310	514	.00	.00	10.35
554.73	.00	364	549	.00	.00	12.12
554.83	.00	420	585	.00	.00	14.01
554.93	.00	481	622	.00	.00	16.02
555.03	.00	545	660	.00	.00	18.15
555.13	.00	613	700	.00	.00	20.42
555.23	.00	685	740	.00	.00	22.82
555.33	.00	761	782	.00	.00	25.36
555.43	.00	841	825	.00	.00	28.04
555.53	.00	926	869	.00	.00	30.86

LEVEL POOL ROUTING DATA

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 100
Outflow HYG file = NONE STORED - POND 10 OUT 100

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	556.80 ft
Starting Volume	=	2420 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
555.63	.00	1015	915	.00	.00	33.83
555.73	.00	1109	961	.00	.00	36.96
555.83	.00	1207	1009	.00	.00	40.24
555.93	.00	1310	1057	.00	.00	43.68
556.03	.00	1419	1106	.00	.00	47.29
556.13	.00	1532	1155	.00	.00	51.06
556.23	.00	1650	1204	.00	.00	54.99
556.33	.00	1773	1254	.00	.00	59.08
556.43	.00	1900	1306	.00	.00	63.35
556.53	.00	2034	1358	.00	.00	67.79
556.63	.00	2172	1411	.00	.00	72.40
556.73	.00	2316	1466	.00	.00	77.20
556.80	.00	2420	1505	.00	.00	80.66
556.83	.01	2465	1521	.00	.01	82.19
556.93	.12	2620	1578	.00	.12	87.46
557.03	.28	2781	1635	.00	.28	92.97
557.13	.47	2947	1694	.00	.47	98.72
557.23	.70	3120	1754	.00	.70	104.69
557.33	1.06	3298	1814	.00	1.06	111.00
557.43	1.24	3483	1876	.00	1.24	117.32

LEVEL POOL ROUTING DATA

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 100
Outflow HYG file = NONE STORED - POND 10 OUT 100

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev = 556.80 ft
Starting Volume = 2420 cu.ft
Starting Outflow = .00 cfs
Starting Infiltr. = .00 cfs
Starting Total Qout= .00 cfs
Time Increment = 1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
557.53	1.39	3673	1939	.00	1.39	123.83
557.63	1.53	3870	2002	.00	1.53	130.54
557.73	1.65	4074	2067	.00	1.65	137.44
557.83	1.77	4284	2133	.00	1.77	144.56
557.93	1.88	4500	2200	.00	1.88	151.89
558.03	1.98	4724	2265	.00	1.98	159.44
558.13	2.08	4953	2327	.00	2.08	167.19
558.23	2.18	5189	2390	.00	2.18	175.15
558.33	2.27	5431	2453	.00	2.27	183.31
558.43	2.35	5680	2518	.00	2.35	191.68
558.53	2.44	5935	2583	.00	2.44	200.27
558.63	2.52	6196	2649	.00	2.52	209.07
558.73	2.60	6465	2716	.00	2.60	218.09
558.83	2.67	6740	2783	.00	2.67	227.33
558.93	2.75	7021	2852	.00	2.75	236.79
559.03	2.82	7310	2921	.00	2.82	246.49
559.07	2.85	7427	2949	.00	2.85	250.43
559.13	3.07	7606	2991	.00	3.07	256.59
559.23	3.73	7908	3062	.00	3.73	267.34
559.33	4.62	8218	3134	.00	4.62	278.56

LEVEL POOL ROUTING DATA

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 100
Outflow HYG file = NONE STORED - POND 10 OUT 100

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	556.80 ft
Starting Volume	=	2420 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

Elevation ft	Outflow cfs	Storage cu.ft	Area sq.ft	Infilt. cfs	Q Total cfs	2S/t + O cfs
559.43	5.68	8535	3207	.00	5.68	290.19
559.53	6.90	8860	3280	.00	6.90	302.22
559.63	8.25	9191	3355	.00	8.25	314.63
559.73	9.72	9531	3430	.00	9.72	327.40
559.83	11.29	9877	3506	.00	11.29	340.54
559.93	12.97	10232	3583	.00	12.97	354.03
560.03	14.75	10594	3659	.00	14.75	367.88
560.13	16.61	10964	3734	.00	16.61	382.07
560.23	18.57	11341	3810	.00	18.57	396.59
560.33	20.60	11726	3886	.00	20.60	411.46
560.43	22.72	12118	3963	.00	22.72	426.65
560.53	24.91	12518	4041	.00	24.91	442.19
560.63	27.17	12926	4120	.00	27.17	458.05
560.73	29.51	13342	4199	.00	29.51	474.24
560.83	31.92	13766	4279	.00	31.92	490.79
560.93	34.39	14198	4360	.00	34.39	507.65
561.00	36.16	14505	4417	.00	36.16	519.66

LEVEL POOL ROUTING SUMMARY

HYG Dir = \\2serverprs\PondPack\Katie-jobs\SSM Healthcare\
Inflow HYG file = NONE STORED - POND 10 IN 100
Outflow HYG file = NONE STORED - POND 10 OUT 100

Pond Node Data = POND 10
Pond Volume Data = POND 10
Pond Outlet Data = OS 2

No Infiltration

INITIAL CONDITIONS

Starting WS Elev	=	556.80 ft
Starting Volume	=	2420 cu.ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	1.00 min

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	15.02 cfs	at	5.00 min
Peak Outflow	=	14.34 cfs	at	20.00 min
Peak Elevation	=	560.01 ft		
Peak Storage	=	10509 cu.ft		

MASS BALANCE (cu.ft)

+ Initial Vol	=	2420
+ HYG Vol IN	=	18024
- Infiltration	=	0
- HYG Vol OUT	=	18014
- Retained Vol	=	2430
Unrouted Vol	= -	cu.ft (.000% of Inflow Volume)

POND ROUTED TOTAL OUTFLOW HYG...
HYG file =
HYG ID = POND 10 OUT
HYG Tag = 100

Peak Discharge =	14.34 cfs
Time to Peak =	20.00 min
HYG Volume =	18014 cu.ft

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
.00	.00	.04	.26	.84	1.44
5.00	1.86	2.20	2.46	2.68	2.92
10.00	4.46	6.44	8.27	9.83	11.07
15.00	12.05	12.79	13.35	13.78	14.10
20.00	14.34	14.13	13.20	11.78	10.01
25.00	8.06	6.35	5.12	4.24	3.60
30.00	3.16	2.90	2.82	2.78	2.73
35.00	2.69	2.65	2.60	2.56	2.51
40.00	2.47	2.42	2.37	2.33	2.28
45.00	2.23	2.18	2.13	2.07	2.02
50.00	1.97	1.92	1.86	1.80	1.75
55.00	1.69	1.63	1.57	1.51	1.45
60.00	1.39	1.33	1.27	1.20	1.13
65.00	1.07	.96	.85	.76	.68
70.00	.63	.58	.54	.49	.46
75.00	.43	.40	.37	.34	.32
80.00	.30	.28	.26	.25	.23
85.00	.22	.21	.19	.18	.17
90.00	.16	.15	.14	.14	.13
95.00	.12	.12	.11	.11	.10
100.00	.10	.09	.09	.09	.08
105.00	.08	.08	.07	.07	.07
110.00	.07	.06	.06	.06	.06
115.00	.05	.05	.05	.05	.05
120.00	.04	.04	.04	.04	.04
125.00	.04	.03	.03	.03	.03
130.00	.03	.03	.03	.03	.02
135.00	.02	.02	.02	.02	.02
140.00	.02	.02	.02	.02	.02
145.00	.02	.02	.01	.01	.01
150.00	.01	.01	.01	.01	.01

HYDROGRAPH ORDINATES (cfs)
Output Time increment = 1.00 min
Time on left represents time for first value in each row.

Time min					
155.00	.01	.01	.01	.01	.01
160.00	.01	.01	.01	.01	.01
165.00	.01	.01	.01	.01	.01
170.00	.01	.01	.01	.01	.01
175.00	.01	.01	.01	.01	.01
180.00	.01	.01	.01	.01	.01
185.00	.01	.01	.01	.01	.01
190.00	.01	.01	.01	.01	.01
195.00	.01	.01	.01	.01	.01
200.00	.01	.01	.01	.01	.01
205.00	.01	.00	.00	.00	.00
210.00	.00	.00	.00	.00	.00
215.00	.00	.00	.00	.00	.00
220.00	.00	.00	.00	.00	.00
225.00	.00	.00	.00	.00	.00
230.00	.00	.00	.00	.00	.00
235.00	.00	.00			

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