

Appendix – Channel Protection Volume

Fletcher Allen Inpatient Building Project

August 15, 2014

Subsection: Detention Time
Label: Micropool (IN)

Return Event: 1 years
Storm Event: TypeII 24hr (2.1 in)

Infiltration	
Infiltration Method (Computed)	No Infiltration

Approximate Detention Times	
Time to Centroid (Outflow)	26.365 hours
Time to Centroid (Inflow)	13.838 hours
Detention Time (Centroid to Centroid)	12.527 hours ✓

Centroid to Centroid needs to be between 11.5 and 12.9 hours

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
105A	Chitten 1yr	1	0.008	12.000	0.12
11	Chitten 1yr	1	0.052	11.950	0.84
110	Chitten 1yr	1	0.002	12.050	0.02
113	Chitten 1yr	1	0.028	11.950	0.49
116	Chitten 1yr	1	0.015	11.950	0.24
118	Chitten 1yr	1	0.037	12.050	0.52
12	Chitten 1yr	1	0.007	11.950	0.13
124A	Chitten 1yr	1	0.022	11.950	0.36
124B	Chitten 1yr	1	0.059	11.950	0.95
124C	Chitten 1yr	1	0.063	11.950	1.01
124D	Chitten 1yr	1	0.024	11.950	0.38
124E	Chitten 1yr	1	0.055	11.950	0.88
124F	Chitten 1yr	1	0.074	11.950	1.19
124G	Chitten 1yr	1	0.044	11.950	0.71
124H	Chitten 1yr	1	0.055	11.950	0.88
13	Chitten 1yr	1	0.068	11.950	1.22
134	Chitten 1yr	1	0.174	11.950	2.79
135	Chitten 1yr	1	0.055	12.000	0.91
138	Chitten 1yr	1	0.042	12.000	0.66
139	Chitten 1yr	1	0.074	12.050	1.10
14	Chitten 1yr	1	0.027	12.000	0.44
140	Chitten 1yr	1	0.063	12.050	0.94
141	Chitten 1yr	1	0.021	11.950	0.36
142	Chitten 1yr	1	0.021	12.050	0.30
143	Chitten 1yr	1	0.023	12.050	0.33
143A	Chitten 1yr	1	0.039	11.950	0.69
144	Chitten 1yr	1	0.039	15.600	0.05
145	Chitten 1yr	1	0.021	12.050	0.11
146	Chitten 1yr	1	0.158	11.950	2.79
147	Chitten 1yr	1	0.097	11.950	1.71
148	Chitten 1yr	1	0.063	11.950	1.12
149	Chitten 1yr	1	0.012	12.050	0.14
15	Chitten 1yr	1	0.025	12.200	0.25
150	Chitten 1yr	1	0.006	12.150	0.03
152	Chitten 1yr	1	0.156	12.000	2.59
16	Chitten 1yr	1	0.029	12.050	0.44
16A	Chitten 1yr	1	0.016	12.200	0.16
1A	Chitten 1yr	1	0.131	11.950	2.09
1B	Chitten 1yr	1	0.118	11.950	1.89
20	Chitten 1yr	1	0.055	12.050	0.77
24	Chitten 1yr	1	0.092	11.950	1.47
25	Chitten 1yr	1	0.084	12.250	0.79
27	Chitten 1yr	1	0.036	11.950	0.58
29	Chitten 1yr	1	0.094	12.000	1.47
31	Chitten 1yr	1	0.028	12.150	0.31

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
32	Chitten 1yr	1	0.025	11.950	0.45
33	Chitten 1yr	1	0.018	11.950	0.29
34	Chitten 1yr	1	0.088	12.000	1.42
35	Chitten 1yr	1	0.004	11.950	0.07
36	Chitten 1yr	1	0.072	11.950	1.16
36A	Chitten 1yr	1	0.004	11.950	0.07
38	Chitten 1yr	1	0.019	12.000	0.30
41	Chitten 1yr	1	0.067	11.950	1.07
41.5	Chitten 1yr	1	0.067	11.950	1.07
44	Chitten 1yr	1	0.010	12.150	0.11
45	Chitten 1yr	1	0.159	11.950	2.55
46	Chitten 1yr	1	0.039	11.950	0.70
47	Chitten 1yr	1	0.028	11.950	0.51
49	Chitten 1yr	1	0.065	11.950	1.15
61	Chitten 1yr	1	0.034	11.950	0.54
65	Chitten 1yr	1	0.013	12.000	0.21
65B	Chitten 1yr	1	0.107	11.950	1.92
65C	Chitten 1yr	1	0.004	11.950	0.06
66	Chitten 1yr	1	0.051	11.950	0.82
67	Chitten 1yr	1	0.007	11.950	0.13
73	Chitten 1yr	1	0.003	12.100	0.04
74A	Chitten 1yr	1	0.030	11.950	0.55
74B	Chitten 1yr	1	0.013	11.950	0.24
75	Chitten 1yr	1	0.029	12.050	0.40
76	Chitten 1yr	1	0.015	11.950	0.27
77	Chitten 1yr	1	0.021	12.050	0.32
77A	Chitten 1yr	1	0.023	12.000	0.38
78	Chitten 1yr	1	0.059	12.050	0.87
79	Chitten 1yr	1	0.012	12.050	0.17
80	Chitten 1yr	1	0.004	12.050	0.03
81	Chitten 1yr	1	0.022	11.950	0.35
82	Chitten 1yr	1	0.037	11.950	0.66
83	Chitten 1yr	1	0.009	11.950	0.16
84	Chitten 1yr	1	0.012	12.050	0.15
95	Chitten 1yr	1	0.001	12.150	0.00
96	Chitten 1yr	1	0.009	11.950	0.17
99B	Chitten 1yr	1	0.023	12.150	0.21
COM1	Chitten 1yr	1	0.013	11.950	0.23
COM10	Chitten 1yr	1	0.044	11.950	0.79
COM11	Chitten 1yr	1	0.046	11.950	0.84
COM12	Chitten 1yr	1	0.090	11.950	1.44
COM13	Chitten 1yr	1	0.056	11.950	1.01
COM14	Chitten 1yr	1	0.086	12.100	1.13
COM15	Chitten 1yr	1	0.088	11.950	1.50
COM16	Chitten 1yr	1	0.012	12.000	0.19

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
COM17	Chitten 1yr	1	0.089	12.050	1.33
COM2	Chitten 1yr	1	0.029	11.950	0.51
COM3	Chitten 1yr	1	0.021	12.000	0.35
COM4	Chitten 1yr	1	0.100	12.000	1.60
COM5	Chitten 1yr	1	0.071	11.950	1.19
COM7	Chitten 1yr	1	0.063	11.950	1.13
COM8	Chitten 1yr	1	0.032	11.950	0.58
COM9	Chitten 1yr	1	0.047	12.050	0.67
Centennial1	Chitten 1yr	1	0.085	11.950	1.43
Centennial2	Chitten 1yr	1	0.084	11.950	1.52
FAHC-1	Chitten 1yr	1	0.073	11.950	1.30
FAHC-10	Chitten 1yr	1	0.045	12.000	0.75
FAHC-10A	Chitten 1yr	1	0.041	11.950	0.71
FAHC-11	Chitten 1yr	1	0.173	11.950	2.77
FAHC-12	Chitten 1yr	1	0.155	11.950	2.49
FAHC-13	Chitten 1yr	1	0.049	11.950	0.82
FAHC-14	Chitten 1yr	1	0.130	11.950	2.30
FAHC-15	Chitten 1yr	1	0.041	11.950	0.74
FAHC-16	Chitten 1yr	1	0.046	11.950	0.82
FAHC-17	Chitten 1yr	1	0.065	11.950	1.06
FAHC-18	Chitten 1yr	1	0.059	12.000	0.95
FAHC-18A	Chitten 1yr	1	0.024	11.950	0.42
FAHC-19	Chitten 1yr	1	0.070	11.950	1.25
FAHC-2	Chitten 1yr	1	0.044	11.950	0.80
FAHC-20	Chitten 1yr	1	0.080	11.950	1.28
FAHC-21	Chitten 1yr	1	0.017	11.950	0.28
FAHC-22	Chitten 1yr	1	0.015	11.950	0.24
FAHC-3	Chitten 1yr	1	0.077	11.950	1.34
FAHC-4	Chitten 1yr	1	0.027	11.950	0.43
FAHC-5	Chitten 1yr	1	0.095	11.950	1.69
FAHC-6	Chitten 1yr	1	0.187	12.050	2.61
FAHC-7	Chitten 1yr	1	0.053	12.050	0.71
FAHC-8	Chitten 1yr	1	0.060	12.000	0.93
FAHC-9	Chitten 1yr	1	0.146	12.000	2.26
PERK1	Chitten 1yr	1	0.029	11.950	0.52
STEM	Chitten 1yr	1	0.232	11.950	4.17
UCOM6	Chitten 1yr	1	0.062	11.950	1.11

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
ADDS9.5	Chitten 1yr	1	0.063	11.950	1.01
AIK1	Chitten 1yr	1	0.186	12.050	2.44

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
AIKEN1	Chitten 1yr	1	0.058	11.950	0.95
AUD1	Chitten 1yr	1	0.029	12.050	0.40
BAIL1	Chitten 1yr	1	1.045	12.050	13.90
BAIL2	Chitten 1yr	1	1.035	12.050	13.80
BEN1	Chitten 1yr	1	0.110	11.950	1.98
BEN2	Chitten 1yr	1	0.123	11.950	2.16
BEN3	Chitten 1yr	1	0.013	12.000	0.21
BEN3B	Chitten 1yr	1	0.013	12.000	0.21
BEN4	Chitten 1yr	1	0.126	11.950	2.19
BEN5	Chitten 1yr	1	0.126	11.950	2.19
BH1	Chitten 1yr	1	0.221	12.050	2.90
BIL2	Chitten 1yr	1	0.037	11.950	0.66
BIL3	Chitten 1yr	1	0.055	12.050	0.77
BIL4	Chitten 1yr	1	0.055	12.050	0.77
BILO1	Chitten 1yr	1	0.021	11.950	0.36
BILO2	Chitten 1yr	1	0.084	12.000	1.24
BILO3	Chitten 1yr	1	0.063	12.050	0.94
BILO4	Chitten 1yr	1	0.221	12.000	3.28
BILO5	Chitten 1yr	1	0.021	12.050	0.30
BILO6	Chitten 1yr	1	0.116	12.000	1.75
BOOTH1	Chitten 1yr	1	0.149	11.950	2.38
BUCK1	Chitten 1yr	1	2.785	11.950	26.68
BUCK2	Chitten 1yr	1	2.893	11.950	28.10
BUCK2A	Chitten 1yr	1	0.108	11.950	1.55
BUCK3	Chitten 1yr	1	2.917	12.000	28.18
BUCK3A	Chitten 1yr	1	0.023	12.150	0.21
BURGESS1	Chitten 1yr	1	0.037	12.050	0.52
CASE2	Chitten 1yr	1	0.158	11.950	2.79
CASE4	Chitten 1yr	1	0.158	11.950	2.79
CENT4A	Chitten 1yr	1	7.062	12.250	94.40
COCHESTER4A	Chitten 1yr	1	0.149	11.950	2.38
COLCHESTER1	Chitten 1yr	1	4.559	12.050	50.43
COLCHESTER2	Chitten 1yr	1	4.559	12.050	50.43
COLCHESTER3	Chitten 1yr	1	4.497	12.000	50.84
COLCHESTER4	Chitten 1yr	1	4.348	12.000	48.98
COOK1	Chitten 1yr	1	0.025	12.200	0.25
COOK1A	Chitten 1yr	1	0.121	12.000	0.96
COOK3	Chitten 1yr	1	0.016	12.200	0.16
COOK4	Chitten 1yr	1	0.092	11.950	1.47
COOK5	Chitten 1yr	1	0.029	12.050	0.44
CULV1	Chitten 1yr	1	0.047	12.050	0.67
Cent2	Chitten 1yr	1	7.062	12.300	90.21
DEAD1	Chitten 1yr	1	0.174	11.950	2.79
DS1.0	Chitten 1yr	1	0.041	11.950	0.74
DS1.5	Chitten 1yr	1	0.015	11.950	0.24

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
DS1.7	Chitten 1yr	1	0.015	11.950	0.24
DS1T	Chitten 1yr	1	0.702	11.950	10.58
DS2.10	Chitten 1yr	1	0.024	11.950	0.42
DS2.9	Chitten 1yr	1	0.886	11.950	13.57
DS2T	Chitten 1yr	1	0.139	11.950	2.23
DS3.15	Chitten 1yr	1	0.546	11.950	8.06
DS3.17	Chitten 1yr	1	0.460	12.000	6.68
DS4.18	Chitten 1yr	1	0.060	12.000	0.93
DS7.4	Chitten 1yr	1	0.144	11.950	2.51
DS8.1	Chitten 1yr	1	0.125	11.950	2.13
DS8.32	Chitten 1yr	1	0.015	11.950	0.24
DS9.11	Chitten 1yr	1	0.095	11.950	1.69
DS9.13	Chitten 1yr	1	0.049	11.950	0.82
DS9.15	Chitten 1yr	1	0.221	11.950	3.87
DS9.16	Chitten 1yr	1	0.052	11.950	0.84
DS9.2	Chitten 1yr	1	0.405	11.950	5.56
DS9.20	Chitten 1yr	1	0.143	11.950	2.53
DS9.25	Chitten 1yr	1	0.027	11.950	0.43
DS9.3	Chitten 1yr	1	0.250	12.000	3.34
DS9.34	Chitten 1yr	1	0.073	11.950	1.30
DS9.40	Chitten 1yr	1	0.187	12.050	2.61
EAST4	Chitten 1yr	1	0.039	11.950	0.69
EAST5	Chitten 1yr	1	0.055	12.000	0.91
EAST6A	Chitten 1yr	1	0.281	12.050	4.11
EAST6C	Chitten 1yr	1	0.023	12.050	0.33
EAST8	Chitten 1yr	1	4.732	12.050	50.19
EAST9	Chitten 1yr	1	4.559	12.050	50.17
East1	Chitten 1yr	1	6.399	12.000	89.45
East3	Chitten 1yr	1	0.375	12.000	5.63
East6	Chitten 1yr	1	5.795	12.100	61.21
East7	Chitten 1yr	1	5.795	12.050	61.74
East7A	Chitten 1yr	1	5.795	12.050	63.09
FLEM1	Chitten 1yr	1	0.188	11.950	2.71
FLEM2	Chitten 1yr	1	0.179	12.000	2.55
FLETCHER1	Chitten 1yr	1	0.129	11.950	2.07
FLETCHER2	Chitten 1yr	1	0.129	11.950	2.07
Foulball	Chitten 1yr	1	6.978	12.150	101.26
GARAGE1	Chitten 1yr	1	0.061	11.950	1.06
HEAT1	Chitten 1yr	1	0.094	12.000	1.47
HEAT3	Chitten 1yr	1	0.079	11.950	1.37
HOME1	Chitten 1yr	1	0.335	12.050	3.74
HOME2	Chitten 1yr	1	0.058	11.950	0.95
HOWE1	Chitten 1yr	1	0.028	12.150	0.31
HOWE2	Chitten 1yr	1	1.350	12.000	17.51
HOWE3	Chitten 1yr	1	0.266	11.950	4.43

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
HOWE3A	Chitten 1yr	1	1.311	12.000	16.88
HOWE4	Chitten 1yr	1	0.079	11.950	1.37
HOWE5	Chitten 1yr	1	0.079	11.950	1.37
INT1	Chitten 1yr	1	1.057	11.950	16.56
INT2	Chitten 1yr	1	3.106	12.000	30.89
INT3	Chitten 1yr	1	1.243	11.950	19.81
INT5	Chitten 1yr	1	3.106	12.000	30.89
IRA1	Chitten 1yr	1	0.150	12.000	2.08
IRA2	Chitten 1yr	1	0.126	12.000	1.74
LAF1	Chitten 1yr	1	0.036	11.950	0.58
LAF2	Chitten 1yr	1	0.036	11.950	0.58
LAF3	Chitten 1yr	1	0.036	11.950	0.58
LIB1	Chitten 1yr	1	0.021	12.050	0.32
LIB2	Chitten 1yr	1	0.045	12.000	0.70
LIB3	Chitten 1yr	1	0.491	11.950	7.89
LIB5	Chitten 1yr	1	0.088	12.000	1.42
LIB6	Chitten 1yr	1	0.059	12.050	0.87
LIB7	Chitten 1yr	1	0.209	11.950	3.45
LIFE1	Chitten 1yr	1	0.170	11.950	2.74
Lot1	Chitten 1yr	1	6.893	12.150	112.41
MARSH1	Chitten 1yr	1	0.512	12.050	6.17
MARSH2	Chitten 1yr	1	0.042	11.950	0.64
MARSH3	Chitten 1yr	1	0.470	12.050	5.70
MARSH5	Chitten 1yr	1	0.008	12.000	0.12
MARSH5A	Chitten 1yr	1	0.008	12.000	0.12
MC1	Chitten 1yr	1	0.784	11.950	11.85
MC12	Chitten 1yr	1	0.250	12.000	3.34
MC3	Chitten 1yr	1	0.273	11.950	4.71
MC4	Chitten 1yr	1	0.273	11.950	4.71
MC5	Chitten 1yr	1	0.273	11.950	4.71
MC6	Chitten 1yr	1	0.273	11.950	4.71
MC7	Chitten 1yr	1	0.130	11.950	2.30
MC8	Chitten 1yr	1	0.666	11.950	9.96
MCHVLOT1	Chitten 1yr	1	1.062	11.950	16.43
MCHVLOT2	Chitten 1yr	1	1.062	11.950	16.43
MCHVLOT2A	Chitten 1yr	1	1.062	11.950	16.43
MCHVLOT6B	Chitten 1yr	1	0.065	11.950	1.06
NORWAY1	Chitten 1yr	1	0.063	11.950	1.12
NORWAY2	Chitten 1yr	1	0.069	11.950	1.12
Norway3	Chitten 1yr	1	6.577	12.100	78.48
Norway4	Chitten 1yr	1	6.893	12.100	123.11
OLDMARY1	Chitten 1yr	1	0.827	11.950	12.71
OLDMARY2	Chitten 1yr	1	0.702	11.950	10.58
OVAL2	Chitten 1yr	1	0.186	12.000	2.44
OVAL5	Chitten 1yr	1	0.086	12.100	1.13

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
PAT1	Chitten 1yr	1	0.084	11.950	1.32
PERK1	Chitten 1yr	1	0.179	12.000	2.55
Pond Outlet	Chitten 1yr	1	7.436	14.350	4.79
ROW1	Chitten 1yr	1	0.209	11.950	3.45
ROW2	Chitten 1yr	1	0.044	11.950	0.79
ROW2A	Chitten 1yr	1	0.044	11.950	0.79
ROW2B	Chitten 1yr	1	0.013	11.950	0.24
ROW3	Chitten 1yr	1	0.008	11.950	0.14
ROW4	Chitten 1yr	1	0.004	11.950	0.07
ROW5	Chitten 1yr	1	0.004	11.950	0.07
ROW5A	Chitten 1yr	1	0.004	11.950	0.07
SD132	Chitten 1yr	1	0.055	11.950	0.88
SMITH4A	Chitten 1yr	1	0.061	11.950	0.96
STMH1	Chitten 1yr	1	0.037	12.050	0.52
TER2	Chitten 1yr	1	0.232	12.050	2.85
THTR1	Chitten 1yr	1	0.192	12.050	2.55
THTR2	Chitten 1yr	1	0.121	12.050	1.92
THTR5	Chitten 1yr	1	0.121	12.000	1.92
THTR7	Chitten 1yr	1	0.021	12.000	0.35
Ticket1	Chitten 1yr	1	0.156	12.000	2.59
Ticket2	Chitten 1yr	1	0.156	12.000	2.59
UCOM1	Chitten 1yr	1	0.303	12.000	4.75
UCOM11	Chitten 1yr	1	0.056	11.950	1.01
UCOM2	Chitten 1yr	1	0.270	12.000	4.30
UCOM5	Chitten 1yr	1	0.118	11.950	2.04
UNDER3	Chitten 1yr	1	0.008	12.000	0.12
UNDER4	Chitten 1yr	1	0.008	12.000	0.12
UNIVRD2	Chitten 1yr	1	0.012	12.050	0.14
UNIVRD3	Chitten 1yr	1	0.097	11.950	1.71
UNK2	Chitten 1yr	1	0.084	11.950	1.32
UNK6	Chitten 1yr	1	0.156	12.000	2.59
Univrd1	Chitten 1yr	1	6.508	12.100	79.32
WAT137	Chitten 1yr	1	0.037	12.050	0.52
WIL2	Chitten 1yr	1	0.025	11.950	0.45
WIL3	Chitten 1yr	1	2.535	12.000	33.87
WIL4	Chitten 1yr	1	0.075	11.950	1.35
WIL6A	Chitten 1yr	1	0.007	11.950	0.13
WIL7	Chitten 1yr	1	0.007	11.950	0.13
cent1	Chitten 1yr	1	7.062	12.300	90.21
cent4	Chitten 1yr	1	7.062	12.250	93.67
cent5	Chitten 1yr	1	7.062	12.200	100.64
univrd4	Chitten 1yr	1	6.399	12.050	84.75

Pond Summary

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Forebay (IN)	Chitten 1yr	1	7.436	12.300	91.21	(N/A)	(N/A)
Forebay (OUT)	Chitten 1yr	1	7.436	12.300	91.04	245.59	0.485
Micropool (IN)	Chitten 1yr	1	7.436	12.300	91.04	(N/A)	(N/A)
Micropool (OUT)	Chitten 1yr	1	7.436	14.350	4.79	241.78	6.133

Peak discharge = 4.79 cfs