

Summary of Watershed, Routing, and Precipitation Parameter Values - Input

Watershed	Area (sq mi)	Curve Number	Time of Conc. (hr)	Lag Time = 60% (Toc) (min)	Initial Abstraction (in)
SubBasin1	0.217	59.3	0.93	34	1.37
SubBasin2	0.617	67.9	1.31	47	0.94
SubBasin3	0.0842	62.7	0.43	16	1.19
SubBasin4	0.136	54.1	0.77	28	1.69
SubBasin5	0.0561	50.3	0.69	25	1.98
Total	1.110				

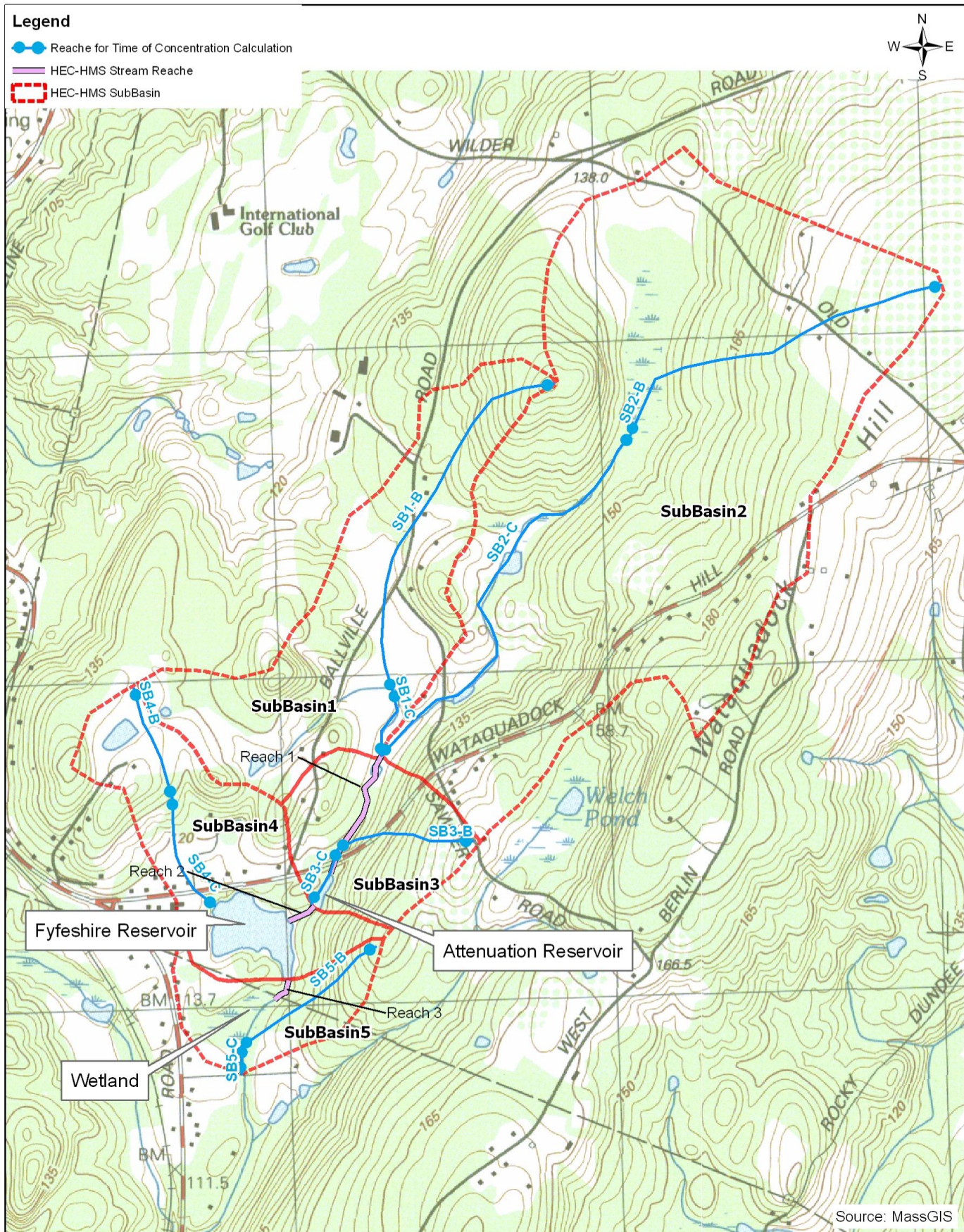
Kinematic Wave Reach Routing Parameters

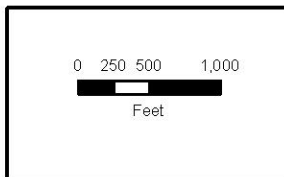
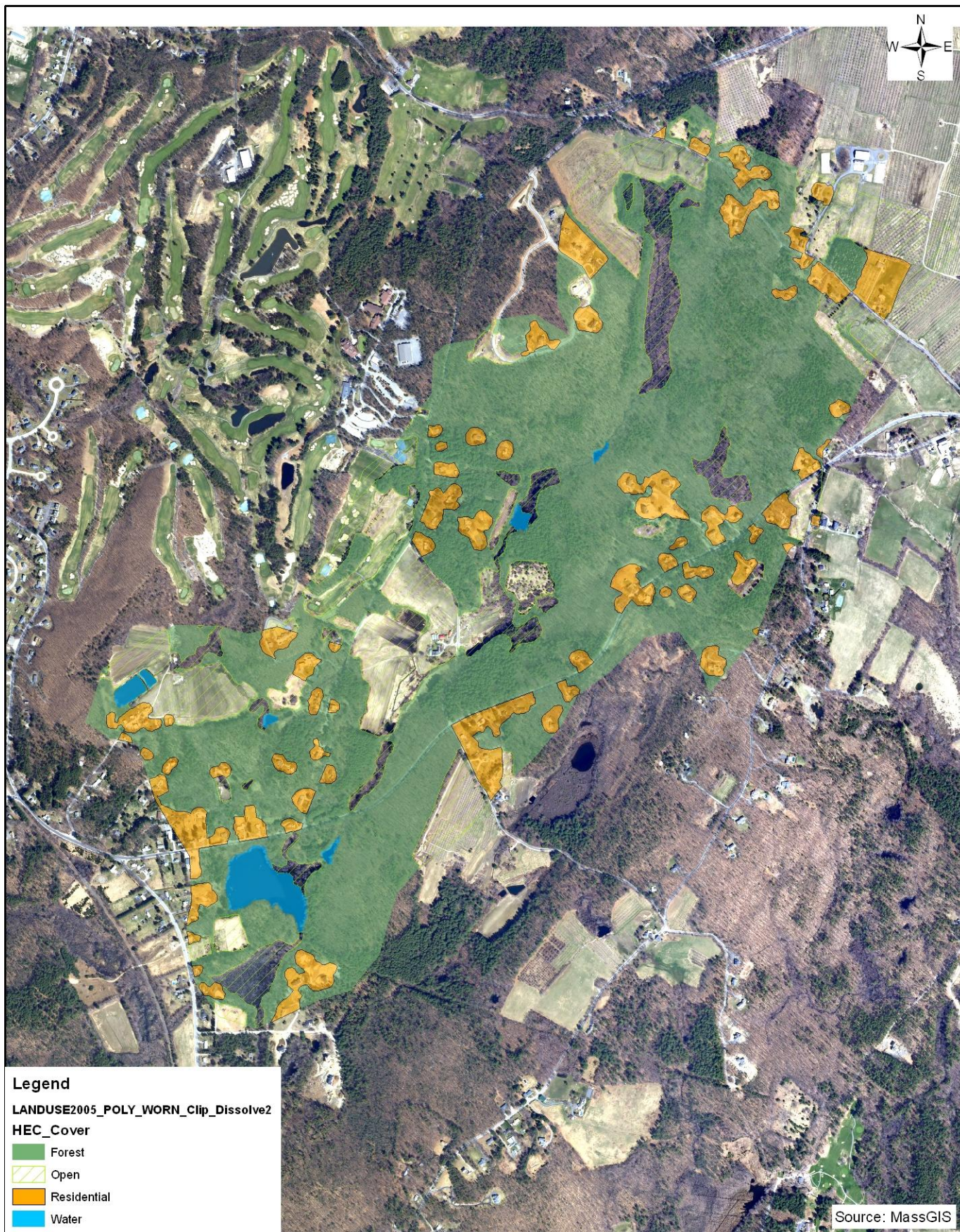
	REACH 1	REACH 2	REACH 3	
Lenght (ft)	1336	296	255	USGS 7.5 minute map tile 189906
slope (ft/ft)	0.007	0.051	0.005	USGS 7.5 minute map tile 189906
Manning's n	0.045	0.045	0.045	
Shape	Trapezoid	Trapezoid	Trapezoid	
Bottom width (ft)	4	4	4	from CAD file "Draft Survey.dwg"
Side slope	1:1	1:1	1:1	

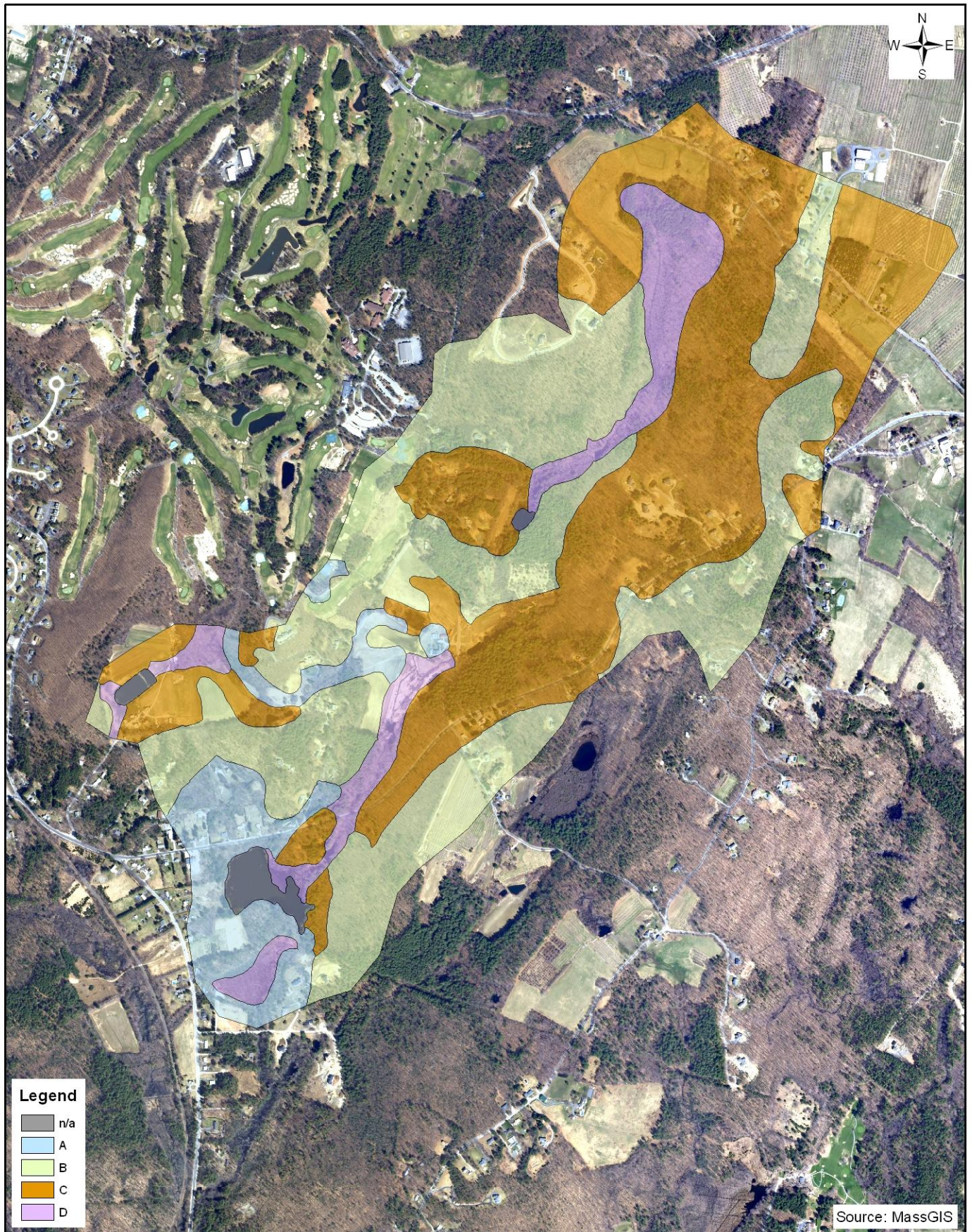
Precipitation Input - from TP-40

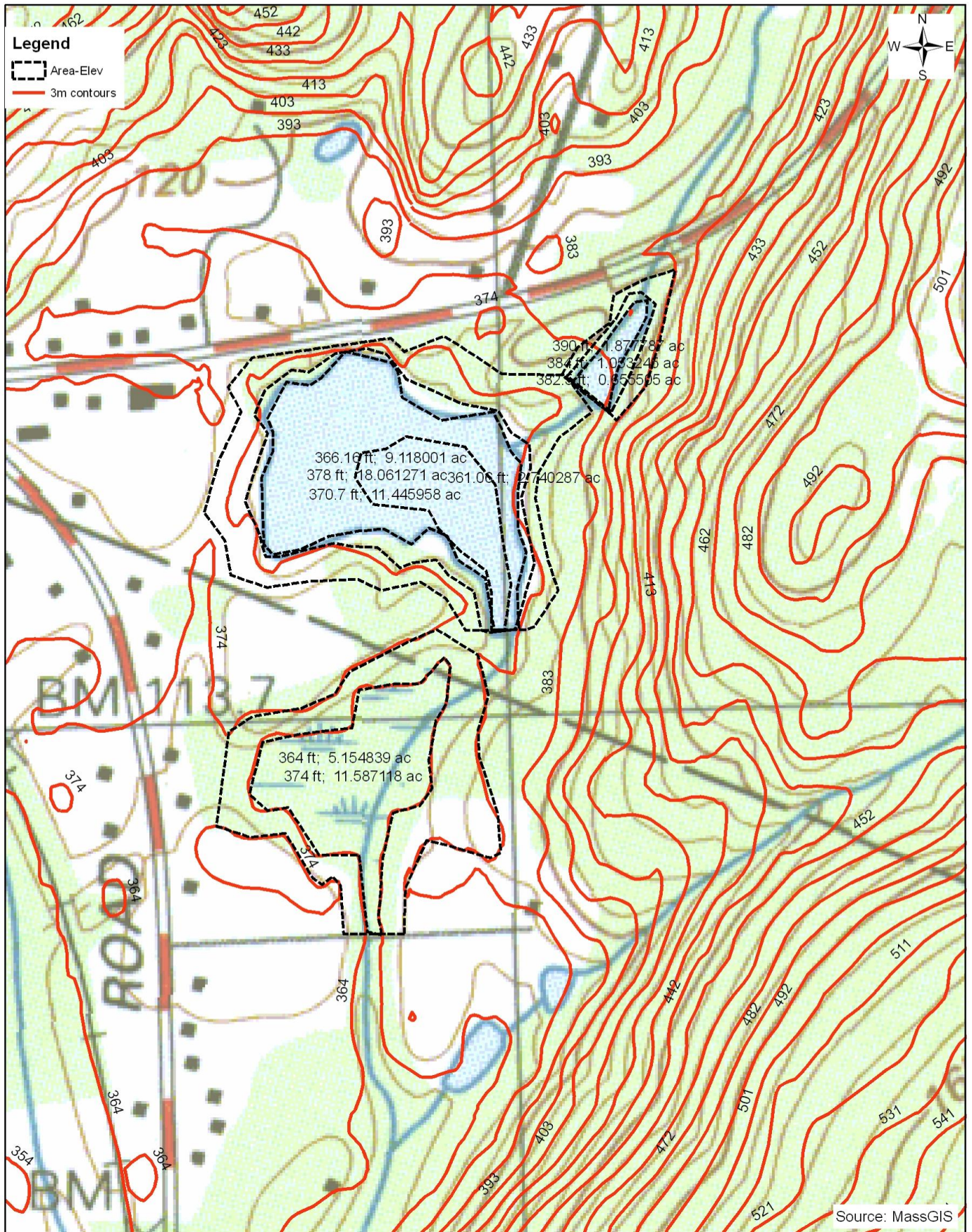
SCS Storm - Type III

Frequency	Depth (in)
2-year	3.1
5-year	4.0
10-year	4.5
25-year	5.2
50-year	6.0
100-year	6.6



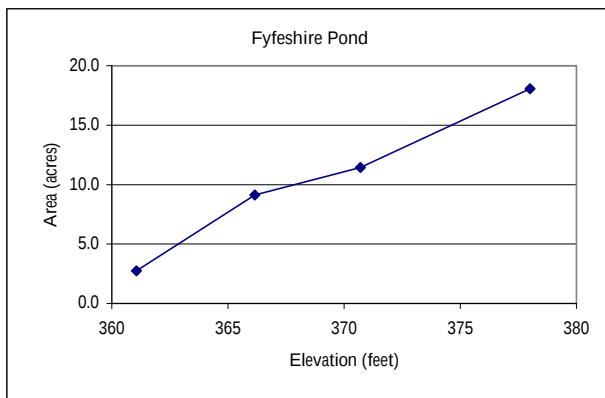






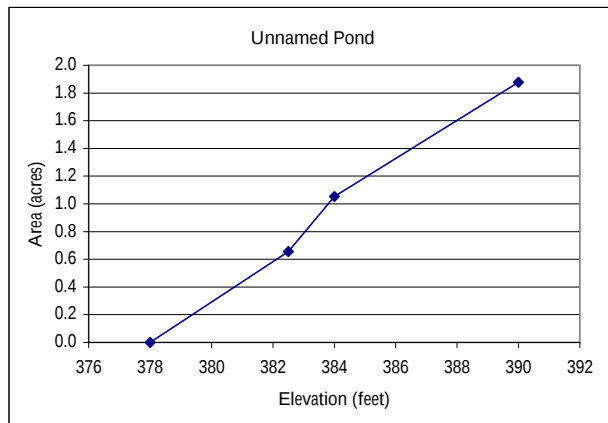
Reservoir Input Data

Fyfeshire Pond - Input		
Initial Condition		Elev = 366.16 ft
Spillway Parameter	Value	Source
Method	Broad-crested	
Elevation ft	366.16	F&O Survey
Length ft	11.1	F&O Survey
Coefficient	3.32	Brater & King. Handbook of Hydraulics, 5th Ed. P 5-46.
Dam Top 1 (Main)	Value	Source
Method	Level Overflow	
Elevation ft	370.70	F&O Survey
Length ft	78	
Coefficient	2.65	Brater & King. Handbook of Hydraulics, 5th Ed. P 5-46.
Dam Top 2 (Side Channel)	Value	Source
Method	Level Overflow	
Elevation ft	369.44	F&O Survey
Length ft	15	F&O Survey - length to fill channel to 370.7 ft (Top of Dam)
Coefficient	2.0	Brater & King. Handbook of Hydraulics, 5th Ed. P 5-46.
Storage-Area Function		Source: USGS 7.5 minute map tile 189906 and Elevation Contours (1:5,000) tile hp3076a1
Elevation (ft)	Area (ac)	Notes
361.06	2.7	bottom of pond
366.16	9.1	spillway
370.7	11.4	top of dam
378	18.1	



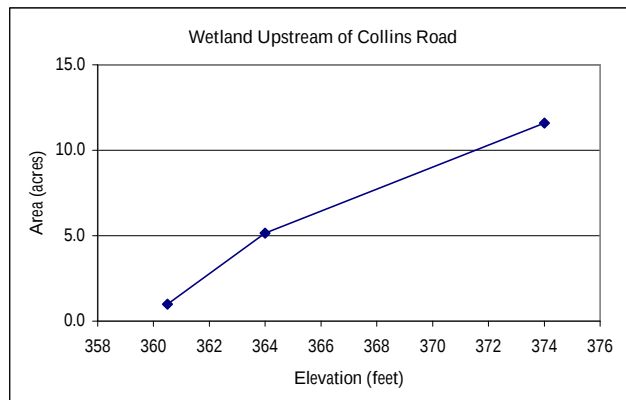
Reservoir Input Data - Unnamed Pond Upstream of Fyfeshire

Attenuation Pond - Input		
Initial Condition		Inflow = Outflow
Spillway 1 Parameter	Value	Source
Method	Broad-crested	
Elevation ft	382.5	USGS 7.5 minute map tile 189906
Length ft	3.5	USGS 7.5 minute map tile 189906
Coefficient	3.32	Brater & King. Handbook of Hydraulics, 5th Ed. P 5-46.
Dam Top		
Method	Level Overflow	
Elevation ft	384	USGS 7.5 minute map tile 189906
Length ft	75	USGS 7.5 minute map tile 189906
Coefficient	2.65	Brater & King. Handbook of Hydraulics, 5th Ed. P 5-46.
Storage-Area Function		
		Source: USGS 7.5 minute map tile 189906 and Elevation Contours (1:5,000) tile hp3076a1
Elevation (ft)	Area (ac)	Notes
378	0.0	
382.5	0.7	spillway
384	1.1	top of dam
390	1.9	



Reservoir Input Data - Wetland Upstream of Collins Road

Collins Road - Input		
Initial Condition Elev = 360.5 ft		
<i>Dam Top</i>	<i>Value</i>	<i>Source</i>
Method	Level Overflow	
Elevation ft	365.5	Field observation
Length ft	200	long - no abutment
Coefficient	2.70	Brater & King. Handbook of Hydraulics, 5th Ed. P 5-46.
<i>Outlet Parameter</i>	<i>Value</i>	<i>Source</i>
Method	Culvert	
Shape	Circular	Field observation
Chart	1: Concrete Pipe Culvert	Field observation
Scale	3: Groove and entrance, pipe projecting from fill	Field observation
Length ft	26	Field observation
Diameter ft	2.5	Field observation
Inlet Elevation ft	360.5	USGS 7.5 minute map tile 189906
Entrance Coefficient	0.9	Table 17.6, Civil Engineering Reference Manual, Lindeburg, 11th Ed.
Outlet Elevation ft	360	2% grade
Exit Coefficient	0.62	Table 17.5, Civil Engineering Reference Manual, Lindeburg, 11th Ed.
Manning's n	0.013	Concrete
Storage-Area Function		Source: USGS 7.5 minute map tile 189906 and Elevation Contours (1:5,000) tile hp3076a1
Elevation (ft)	Area (ac)	Notes
360.5	1.0	Culvert
364	5.2	Top of Road
374	11.6	



Runoff Curve Number Calculation

Reference: Natural Resources Conservation Service, Urban Hydrology for Small Watersheds, Technical Release 55, June 1986.

$$CN(\text{weighted}) = \frac{\sum CN \times \text{area}}{\text{total area}}$$

Curve Numbers by Cover Type (from TR-55 Table 2-2a and 2-2c)

Cover Description	Hydrologic Soil Group			
	A	B	C	D
Woods, good condition	30	55	70	77
Open Space, good condition	39	61	74	80
Residential (1-acre)	51	68	79	84

Land Area in Acres by Category

	Cover Description	Hydrologic Soil Group				Total Area by Land Use
		A	B	C	D	
SubBasin1	Woods, good condition	7.2	50.8	14.5	2.0	74.5
	Open Space, good condition	9.1	29.6	10.3	4.8	53.7
	Residential (1-acre)	0.4	6.6	3.6	0.0	10.6
	Total Area by HSG	16.6	87.1	28.4	6.8	
	Total Area (ac)					
	Composite Curve Number					
SubBasin2	Woods, good condition	0.0	105.9	155.9	20.5	282.3
	Open Space, good condition	0.4	13.5	65.1	15.4	94.3
	Residential (1-acre)	0.0	16.9	34.5	0.0	51.3
	Total Area by HSG	0.4	136.2	255.5	35.9	
	Total Area (ac)					
	Composite Curve Number					
SubBasin3	Woods, good condition	1.6	19.8	12.4	5.3	39.1
	Open Space, good condition	0.0	9.9	0.0	2.8	12.7
	Residential (1-acre)	0.3	1.4	0.0	0.0	1.7
	Total Area by HSG	1.9	31.1	12.4	8.1	
	Total Area (ac)					
	Composite Curve Number					
SubBasin4	Woods, good condition	18.9	23.2	6.2	2.0	50.3
	Open Space, good condition	2.1	0.5	8.6	2.8	13.9
	Residential (1-acre)	8.0	2.9	2.2	0.3	13.4
	Total Area by HSG	29.0	26.6	17.0	5.0	
	Total Area (ac)					
	Composite Curve Number					
SubBasin5	Woods, good condition	9.3	10.0	0.7	0.6	20.5
	Open Space, good condition	5.0	0.0	0.0	4.5	9.5
	Residential (1-acre)	4.4	1.4	0.0	0.2	5.9
	Total Area by HSG	18.6	11.4	0.7	5.3	
	Total Area (ac)					
	Composite Curve Number					

Summary of Composite Curve Numbers

Watershed	Curve Number
SubBasin1	59.3
SubBasin2	67.9
SubBasin3	62.7
SubBasin4	54.1
SubBasin5	50.3

Imperviousness accounted for in CN

Initial Abstraction Equation 2-4

Watershed	Ia
SubBasin1	1.37
SubBasin2	0.94
SubBasin3	1.19
SubBasin4	1.69
SubBasin5	1.98

$$Ia = 0.2S$$

$$S = \frac{1000}{CN} - 10$$

Time of Concentration (Tc) Calculation

Source: TR-55

		SubBasin1	SubBasin2	SubBasin3	SubBasin4	SubBasin5
Sheet Flow (Applicable to Tc only)	Segment ID	SB1-A	SB2-A	SB3-A	SB4-A	SB5-A
1. Surface description (Table 3-1)		light woods	light woods	light woods	dense grass	light woods
2. Manning's roughness coeff., n (Table 3-1)		0.4	0.4	0.4	0.24	0.4
3. Flow length, L (total L < 100 ft)	ft	100	100	100	100	100
4. Two-year 24-hour rainfall, P2	in	3.1	3.1	3.1	3.1	3.1
5. Land slope, s	ft/ft	0.020	0.020	0.040	0.005	0.015
6. $T_t = 0.007 (nL)^{0.8} / P_2^{0.5} / s^{0.4}$ Compute Tt	hr	0.36	0.36	0.28	0.42	0.41
Shallow Concentrated Flow	Segment ID	SB1-B	SB2-B	SB3-B	SB4-B	SB5-B
7. Surface description (paved or unpaved)		unpaved	unpaved	unpaved	unpaved	unpaved
8. Flow length, L	ft	3864	3649	1391	1165	1681
9. Watercourse slope, s	ft/ft	0.020	0.020	0.040	0.005	0.015
10. Average velocity, V (Figure 3-1)	ft/s	2.2	2.2	3.2	1.1	1.9
11. $T_t = L/3600V$ Compute Tt	hr	0.49	0.46	0.12	0.29	0.25
Open Channel Flow	Segment ID	SB1-C	SB2-C	SB3-C	SB4-C	SB5-C
12. Cross sectional flow area, a	ft ²	r = 2/3 mid-channel depth				
13. Wetted perimeter, Pw	ft					
14. Hydraulic radius, r = a/Pw Compute r	ft	0.50	0.50	0.67	1.00	1.00
15. Channel Slope, s	ft/ft	0.014	0.015	0.033	0.037	0.004
16. Manning's Roughness Coeff., n		0.045	0.045	0.045	0.045	0.045
17. $V = 1.49 r^{2/3} s^{1/2} / n$ Compute V	ft/s	2.47	2.56	4.58	6.34	1.98
18. Flow length, L	ft	712	4501	610	1230	280
19. $T_t = L/3600V$ Compute Tt	hr	0.08	0.49	0.04	0.05	0.04
20. Watershed or subarea Tc		0.93	1.31	0.43	0.77	0.69

GIS Source Data

FID	Shape *	FID_CN	LANDUSE	HEC_Cover	FID_soils	hydgrp	Acres	FID_SubBas	Id	SqMiles	SubBasin
2	Polygon	0	1	Forest	1	A	7.2	3	0	0.011194	SubBasin1
22	Polygon	4	2	Open	1	A	9.1	3	0	0.014185	SubBasin1
38	Polygon	8	3	Residential	1	A	0.4	3	0	0.000577	SubBasin1
7	Polygon	1	1	Forest	2	B	50.8	3	0	0.079441	SubBasin1
25	Polygon	5	2	Open	2	B	29.6	3	0	0.046223	SubBasin1
43	Polygon	9	3	Residential	2	B	6.6	3	0	0.010381	SubBasin1
12	Polygon	2	1	Forest	3	C	14.5	3	0	0.022637	SubBasin1
29	Polygon	6	2	Open	3	C	10.3	3	0	0.0161	SubBasin1
47	Polygon	10	3	Residential	3	C	3.6	3	0	0.005679	SubBasin1
17	Polygon	3	1	Forest	4	D	2.0	3	0	0.003106	SubBasin1
34	Polygon	7	2	Open	4	D	4.8	3	0	0.007445	SubBasin1
19	Polygon	4	2	Open	1	A	0.4	0	0	0.000583	SubBasin2
4	Polygon	1	1	Forest	2	B	105.9	0	0	0.16542	SubBasin2
23	Polygon	5	2	Open	2	B	13.5	0	0	0.021016	SubBasin2
40	Polygon	9	3	Residential	2	B	16.9	0	0	0.026329	SubBasin2
9	Polygon	2	1	Forest	3	C	155.9	0	0	0.243618	SubBasin2
27	Polygon	6	2	Open	3	C	65.1	0	0	0.101708	SubBasin2
45	Polygon	10	3	Residential	3	C	34.5	0	0	0.053845	SubBasin2
14	Polygon	3	1	Forest	4	D	20.5	0	0	0.032011	SubBasin2
31	Polygon	7	2	Open	4	D	15.4	0	0	0.024089	SubBasin2
3	Polygon	0	1	Forest	1	A	1.6	4	0	0.002484	SubBasin3
39	Polygon	8	3	Residential	1	A	0.3	4	0	0.000415	SubBasin3
8	Polygon	1	1	Forest	2	B	19.8	4	0	0.030941	SubBasin3
26	Polygon	5	2	Open	2	B	9.9	4	0	0.015414	SubBasin3
44	Polygon	9	3	Residential	2	B	1.4	4	0	0.002235	SubBasin3
13	Polygon	2	1	Forest	3	C	12.4	4	0	0.019394	SubBasin3
30	Polygon	6	2	Open	3	C	0.0	4	0	0.000012	SubBasin3
18	Polygon	3	1	Forest	4	D	5.3	4	0	0.008209	SubBasin3
35	Polygon	7	2	Open	4	D	2.8	4	0	0.004379	SubBasin3
1	Polygon	0	1	Forest	1	A	18.9	2	0	0.029523	SubBasin4
21	Polygon	4	2	Open	1	A	2.1	2	0	0.003205	SubBasin4
37	Polygon	8	3	Residential	1	A	8.0	2	0	0.012545	SubBasin4
6	Polygon	1	1	Forest	2	B	23.2	2	0	0.036308	SubBasin4
24	Polygon	5	2	Open	2	B	0.5	2	0	0.000728	SubBasin4
42	Polygon	9	3	Residential	2	B	2.9	2	0	0.004517	SubBasin4
11	Polygon	2	1	Forest	3	C	6.2	2	0	0.009658	SubBasin4
28	Polygon	6	2	Open	3	C	8.6	2	0	0.013467	SubBasin4
46	Polygon	10	3	Residential	3	C	2.2	2	0	0.003499	SubBasin4
16	Polygon	3	1	Forest	4	D	2.0	2	0	0.003056	SubBasin4
33	Polygon	7	2	Open	4	D	2.8	2	0	0.004357	SubBasin4
49	Polygon	11	3	Residential	4	D	0.3	2	0	0.000405	SubBasin4
0	Polygon	0	1	Forest	1	A	9.3	1	0	0.014454	SubBasin5
20	Polygon	4	2	Open	1	A	5.0	1	0	0.00776	SubBasin5
36	Polygon	8	3	Residential	1	A	4.4	1	0	0.006823	SubBasin5
5	Polygon	1	1	Forest	2	B	10.0	1	0	0.015625	SubBasin5
41	Polygon	9	3	Residential	2	B	1.4	1	0	0.002179	SubBasin5
10	Polygon	2	1	Forest	3	C	0.7	1	0	0.001023	SubBasin5
15	Polygon	3	1	Forest	4	D	0.6	1	0	0.000943	SubBasin5
32	Polygon	7	2	Open	4	D	4.5	1	0	0.007043	SubBasin5
48	Polygon	11	3	Residential	4	D	0.2	1	0	0.000274	SubBasin5

Existing Conditions Results - Peak Storm Flows and Time of Peak

2 YR STORM			
Element	Drainage Area (MI2)	Peak Discharge (CFS) 2 YR STORM	Time of Peak
Subbasin-1	0.217	14.7	01Jan2009, 12:52
Subbasin-2	0.617	93	01Jan2009, 13:00
Reach-1	0.834	107.2	01Jan2009, 13:03
Subbasin-3	0.0842	12.7	01Jan2009, 12:26
Attenuation Pond	0.9182	111.1	01Jan2009, 13:07
Reach-2	0.9182	111.1	01Jan2009, 13:07
Subbasin-4	0.136	3.8	01Jan2009, 12:54
Fyfeshire Pond	1.0542	38.2	01Jan2009, 15:18
Reach-3	1.0542	38.2	01Jan2009, 15:19
Subbasin-5	0.0561	0.6	01Jan2009, 14:01
CollinsRd	1.1103	25.3	01Jan2009, 19:09

5 YR STORM			
Element	Drainage Area (MI2)	Peak Discharge (CFS) 5 YR STORM	Time of Peak
Subbasin-1	0.217	39.9	01Jan2009, 12:46
Subbasin-2	0.617	181.7	01Jan2009, 12:57
Reach-1	0.834	218.9	01Jan2009, 12:57
Subbasin-3	0.0842	29.9	01Jan2009, 12:22
Attenuation Pond	0.9182	228.7	01Jan2009, 13:00
Reach-2	0.9182	228.7	01Jan2009, 13:00
Subbasin-4	0.136	15.4	01Jan2009, 12:43
Fyfeshire Pond	1.0542	92.2	01Jan2009, 14:24
Reach-3	1.0542	92.2	01Jan2009, 14:25
Subbasin-5	0.0561	3.6	01Jan2009, 12:44
CollinsRd	1.1103	42.3	01Jan2009, 19:03

10 YR STORM			
Element	Drainage Area (MI2)	Peak Discharge (CFS) 10 YR STORM	Time of Peak
Subbasin-1	0.217	57.7	01Jan2009, 12:45
Subbasin-2	0.617	237.4	01Jan2009, 12:56
Reach-1	0.834	290.9	01Jan2009, 12:56
Subbasin-3	0.0842	41.3	01Jan2009, 12:21
Attenuation Pond	0.9182	304.4	01Jan2009, 12:58
Reach-2	0.9182	304.4	01Jan2009, 12:58
Subbasin-4	0.136	24.8	01Jan2009, 12:41
Fyfeshire Pond	1.0542	133.2	01Jan2009, 14:10
Reach-3	1.0542	133.2	01Jan2009, 14:11
Subbasin-5	0.0561	6.6	01Jan2009, 12:40
CollinsRd	1.1103	88.2	01Jan2009, 16:35

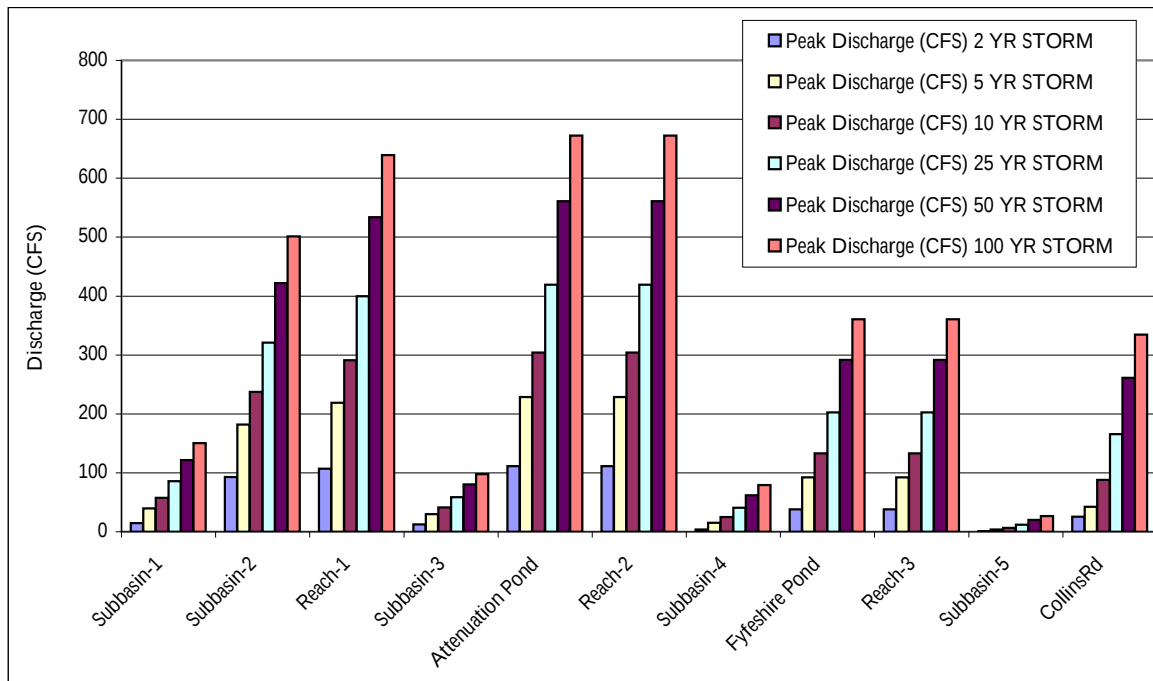
Existing Conditions Results - Peak Storm Flows and Time of Peak

25 YR STORM			
Element	Drainage Area (MI2)	Peak Discharge (CFS) 25 YR STORM	Time of Peak
Subbasin-1	0.217	86	01Jan2009, 12:43
Subbasin-2	0.617	320.8	01Jan2009, 12:55
Reach-1	0.834	400	01Jan2009, 12:54
Subbasin-3	0.0842	58.8	01Jan2009, 12:20
Attenuation Pond	0.9182	419.5	01Jan2009, 12:56
Reach-2	0.9182	419.5	01Jan2009, 12:56
Subbasin-4	0.136	40.7	01Jan2009, 12:38
Fyfeshire Pond	1.0542	202.5	01Jan2009, 13:57
Reach-3	1.0542	202.5	01Jan2009, 13:58
Subbasin-5	0.0561	12.1	01Jan2009, 12:37
CollinsRd	1.1103	165.6	01Jan2009, 15:10

50 YR STORM			
Element	Drainage Area (MI2)	Peak Discharge (CFS) 50 YR STORM	Time of Peak
Subbasin-1	0.217	121.8	01Jan2009, 12:42
Subbasin-2	0.617	422	01Jan2009, 12:54
Reach-1	0.834	533.9	01Jan2009, 12:53
Subbasin-3	0.0842	80.6	01Jan2009, 12:20
Attenuation Pond	0.9182	561.1	01Jan2009, 12:54
Reach-2	0.9182	561	01Jan2009, 12:54
Subbasin-4	0.136	61.9	01Jan2009, 12:37
Fyfeshire Pond	1.0542	291.6	01Jan2009, 13:45
Reach-3	1.0542	291.6	01Jan2009, 13:45
Subbasin-5	0.0561	20	01Jan2009, 12:35
CollinsRd	1.1103	261.3	01Jan2009, 14:28

100 YR STORM			
Element	Drainage Area (MI2)	Peak Discharge (CFS) 100 YR STORM	Time of Peak
Subbasin-1	0.217	150.6	01Jan2009, 12:41
Subbasin-2	0.617	501.1	01Jan2009, 12:53
Reach-1	0.834	639.2	01Jan2009, 12:52
Subbasin-3	0.0842	97.7	01Jan2009, 12:19
Attenuation Pond	0.9182	672.6	01Jan2009, 12:53
Reach-2	0.9182	672.5	01Jan2009, 12:53
Subbasin-4	0.136	79.5	01Jan2009, 12:36
Fyfeshire Pond	1.0542	360.4	01Jan2009, 13:38
Reach-3	1.0542	360.4	01Jan2009, 13:38
Subbasin-5	0.0561	26.7	01Jan2009, 12:34
CollinsRd	1.1103	334.8	01Jan2009, 14:10

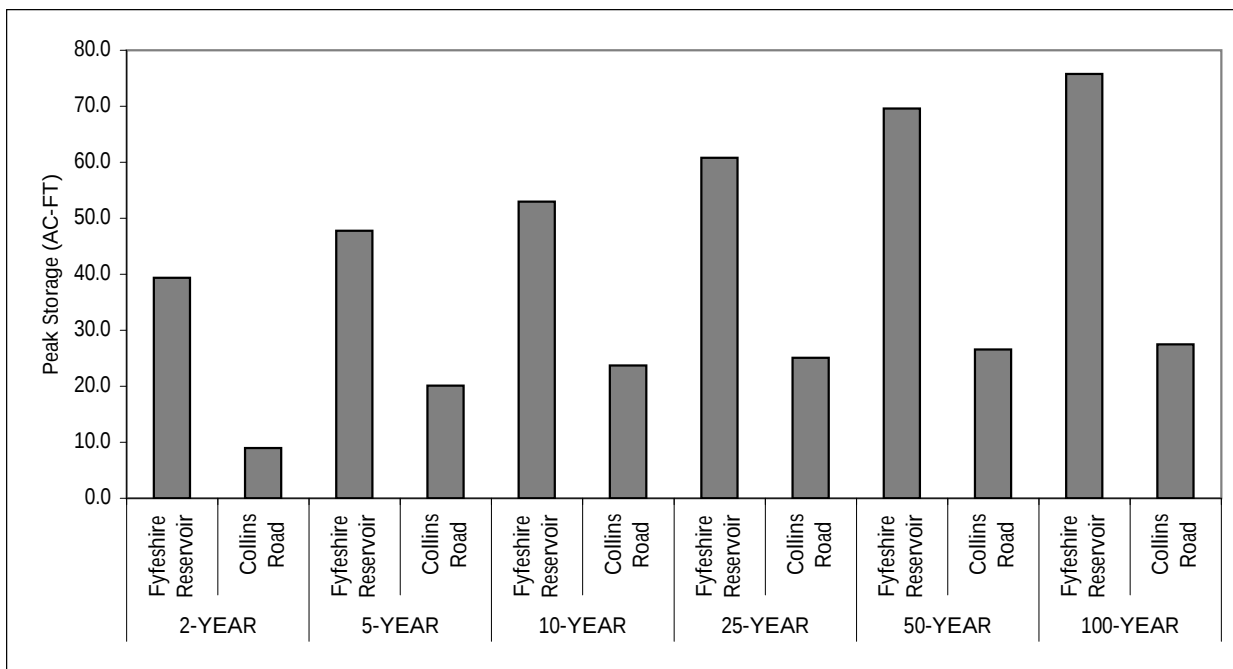
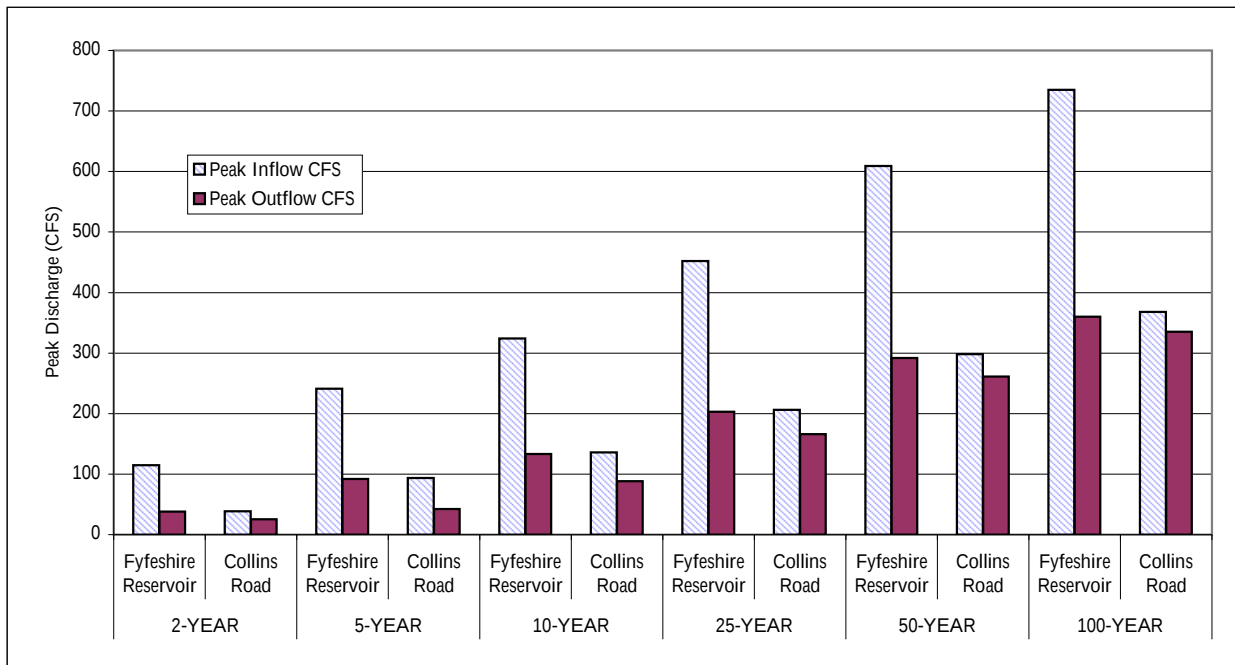
Existing Conditions Results - Peak Storm Discharges at Model Elements



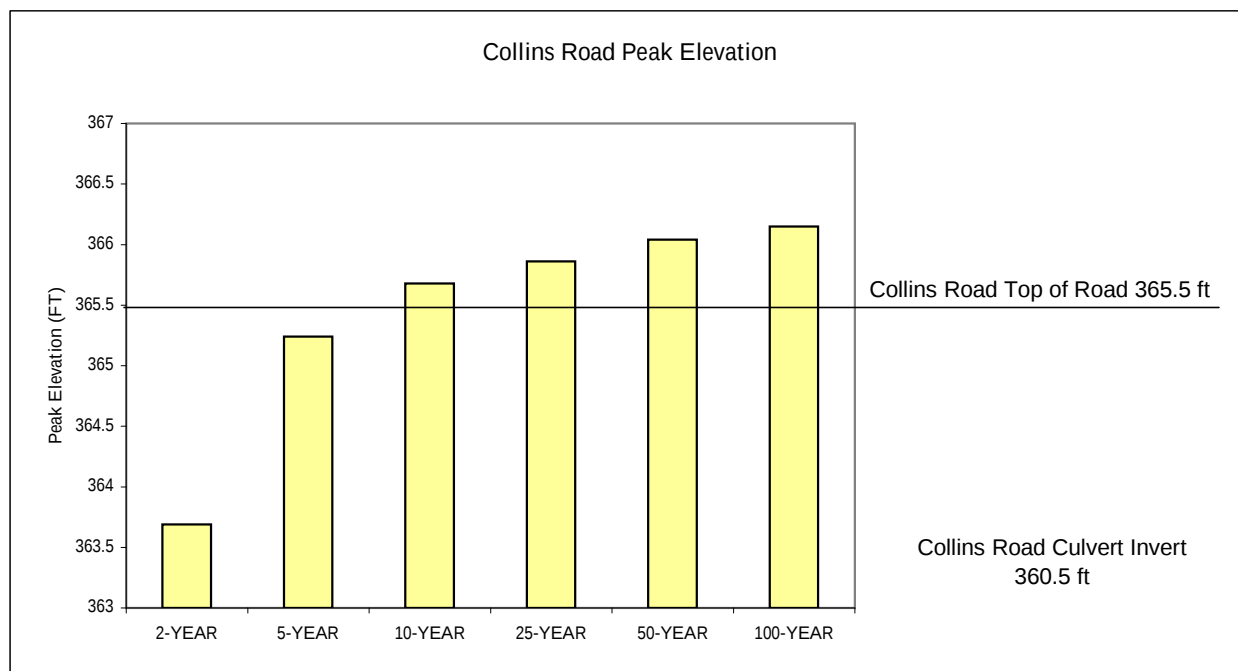
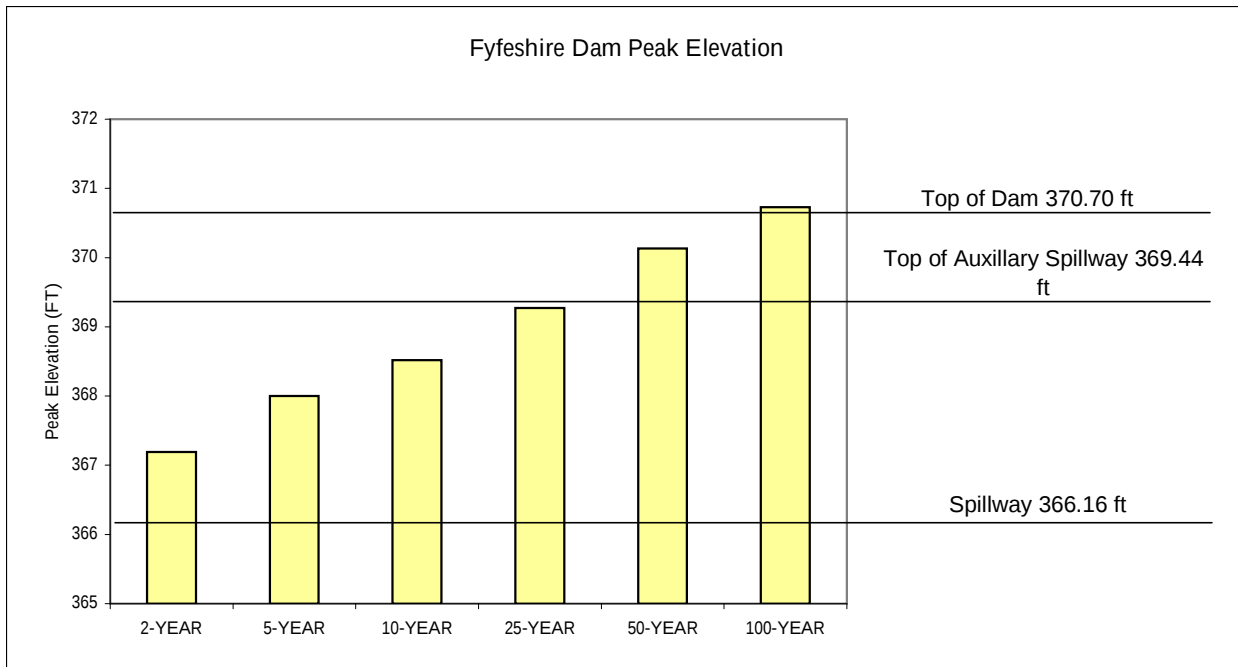
Existing Conditions Results - Peak Storm Flows and Pond Elevation

		Peak Inflow	Peak Outflow	Peak Storage	Dam/Road Top?	Peak Elevation
Return Period	Element	CFS	CFS	AC-FT	no	FT
2-YEAR	Fyfeshire Reservoir	115	38.2	39.4	no	367.19
	Collins Road	38.8	25.3	9.0	no	363.69
5-YEAR	Fyfeshire Reservoir	241	92.2	47.8	no	368.00
	Collins Road	93.8	42.3	20.1	no	365.24
10-YEAR	Fyfeshire Reservoir	324	133	53.0	no	368.52
	Collins Road	136	88.2	23.7	YES	365.68
25-YEAR	Fyfeshire Reservoir	452	203	60.8	no	369.27
	Collins Road	206	166	25.1	YES	365.86
50-YEAR	Fyfeshire Reservoir	609	292	69.6	no	370.13
	Collins Road	298	261	26.6	YES	366.04
100-YEAR	Fyfeshire Reservoir	735	360	75.8	YES	370.73
	Collins Road	368	335	27.5	YES	366.15

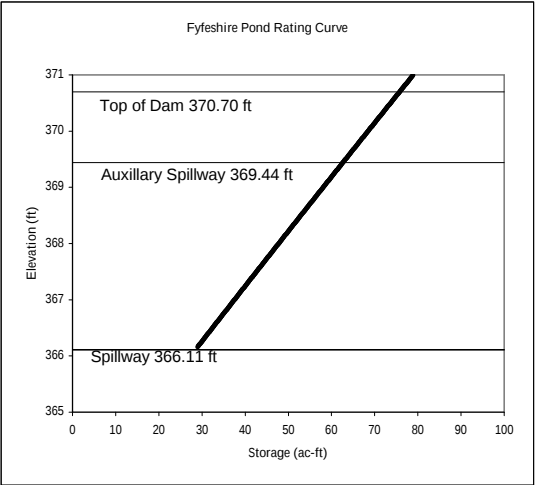
Existing Conditions Results - Peak Storm Flows and Pond Elevation



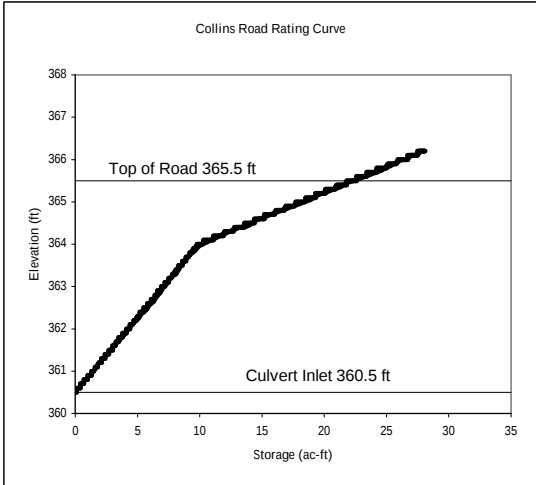
Existing Conditions Results - Peak Storm Flows and Pond Elevation



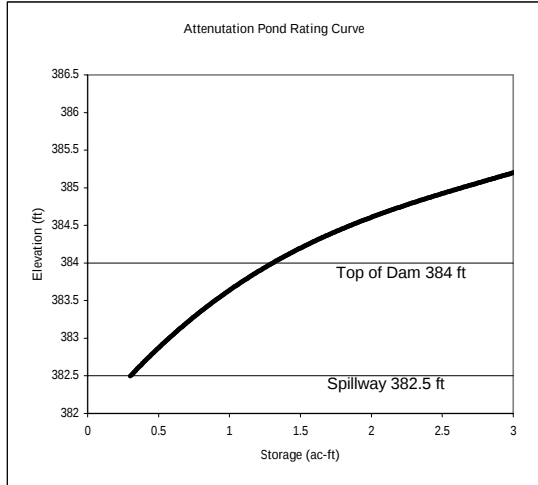
Fyfeshire Pond
Elevation-Storage Rating Curve



Collins Road
Elevation-Storage Rating Curve



Attenuation Pond
Elevation-Storage Rating Curve



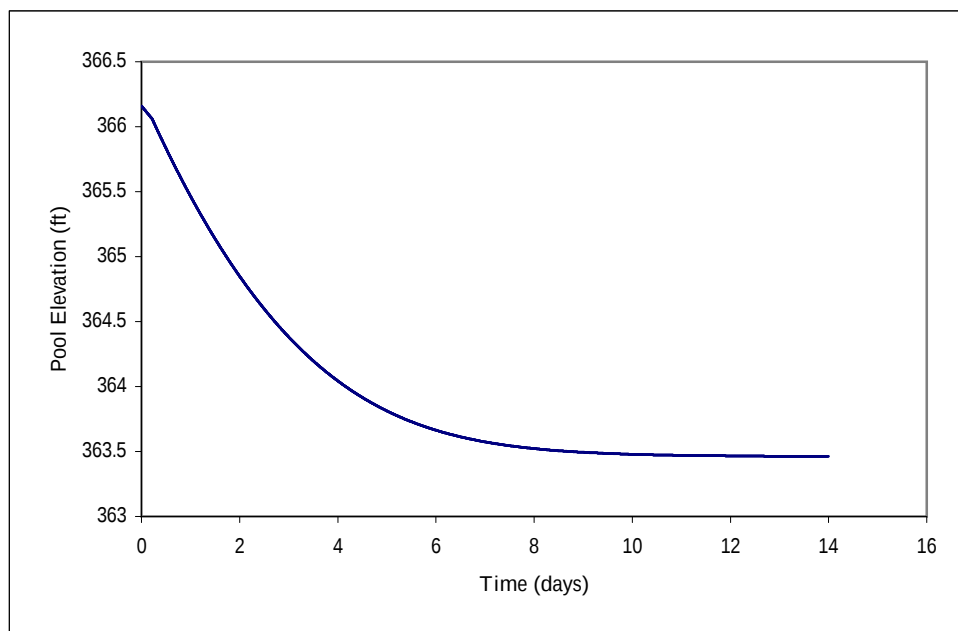
Alternative Evaluation - Low Level Outlet Sizing

MODEL RESULTS

Choose outlet diameter to draw down the pond from spillway elevation (366.16 ft +/-) to 363.16 ft +/- within a week.

<i>Outlet Parameter</i>	<i>Value</i>	<i>Source</i>
Method	Orifice	
Center Elevation ft	363.66	Install pipe at bottom (363.16 ft)
Area ft2	0.35	8" diameter
Coefficient	0.72	reentrant tube, Civil Engineering Reference Manual, Lindeburg, 11th Ed. pg 17-17.
Precipitation	None	-
Constant Monthly Baseflow	1.11 CFS	USGS StreamStats

RESULTS



Result - 8-inch is sufficient pipe diameter

Alternative Evaluation - Raise Dam Crest

MODEL - Raise dam crest height to provide 1 ft freeboard in 100-yr storm

Neglect influence of natural auxiliary spillway on outlet capacity

INPUT

Dam Top 1 (Main)	Value	Source
Method	Level Overflow	
Elevation ft	371.70	Provides 1 ft of freeboard in 100-yr storm
Length ft	78	
Coefficient	2.65	Brater & King. Handbook of Hydraulics, 5th Ed. P 5-46.
Spillway Characteristics	Same as Existing Conditions	-

RESULTS

Parameter	100-Year Storm Result
Peak Inflow, CFS	734.8
Peak Outflow, CFS	372.0
Peak Storage, Ac-Ft	77.2
Freeboard, ft	1.00
Peak Elevation, ft	370.7

Result - Raising the dam crest to 371.1 would provide sufficient capacity and freeboard for SDF

Alternative Evaluation - Dam Removal

MODEL - Remove Fyfeshire Dam Element

RESULTS

Design Criteria

Return Period	Element	Peak Flow, CFS
2-YEAR	Former Dam Location	115
10-YEAR	Former Dam Location	324
100-YEAR	Former Dam Location	735

Collins Road Comparison

		Peak Inflow	Peak Outflow	% Increase	Peak Storage	Overtop Road?	Peak Elevation	Elevation Increase
Return Period	Element	CFS	CFS		AC-FT		FT	
2-YEAR	Existing	38.8	25.3		9.0	no	363.69	
	Dam Removed	115	32	26%	11.7	no	364.22	0.53
10-YEAR	Existing	136	88.2		23.7	YES	365.68	
	Dam Removed	329	172	95%	25.3	YES	365.88	0.2
100-YEAR	Existing	368	335		27.5	YES	366.15	
	Dam Removed	755	693	107%	31.3	YES	366.62	0.47

