An Employee-Owned Company



January 27, 2022

Andrew Bevilacqua, P.E. Town Engineer Town of North Haven 18 Church Street North Haven, CT 06473

Re: Planning and Zoning Comments #P21-29 & #P212-29A 48 Giles Avenue

Dear Mr. Bevilacqua:

Below is a summary of our response to your latest comments:

• 1. Adjust TC for post development: we adjusted the proposed overall TC from 17.8 to 12.3 (to be below the existing 12.8) This resulted in a minor increase in CFS for 2-yr event and maintained reduction in CFS for the remainder of the design storms. See table below:

	PEAK FLOW (CFS)									
STORM	EXISTING (GRASS)	EXISTING (GRAVEL)	PROPOSED	PROPOSED CHANGE VS GRASS	PROPOSED CHANGE VS GRAVEL					
2 YEAR	5.07	9.78	10.11	+5.04	+0.33					
10 YEAR	12.09	18.33	16.53	+4.44	-1.8					
25 YEAR	15.51	22.22	19.34	+3.83	-2.88					
100 YEAR	22.74	30.25	24.94	+2.2	-5.31					

- 3. Inspection and Maintenance plan: see attached "Site Operations and Maintenance Plan"
- 10. Revise sheet GU-1 perforated pipe: see attached revised plan GU-1
- 11. Provide construction details: see attached plan DN-3



# Area Listing (all nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
8.649	61	>75% Grass cover, Good, HSG B (1, 3S)
4.972	98	Paved parking & roofs (1, 3S)
13.621	75	TOTAL AREA

# Soil Listing (all nodes)

Area	Soil	Subcatchment
(acres)	Group	Numbers
0.000	HSG A	
8.649	HSG B	1, 3S
0.000	HSG C	
0.000	HSG D	
4.972	Other	1, 3S
13.621		TOTAL AREA

# Ground Covers (all nodes)

HSG-A	HSG-B	HSG-C	HSG-D	Other	Total	Ground	Subcatchment
 (acres)	(acres)	(acres)	(acres)	(acres)	(acres)	Cover	Numbers
 0.000	8.649	0.000	0.000	0.000	8.649	>75% Grass cover, Good	1, 3S
0.000	0.000	0.000	0.000	4.972	4.972	Paved parking & roofs	1, 3S
0.000	8.649	0.000	0.000	4.972	13.621	TOTAL AREA	

07c2352 Existing-NEW	Type III 24-hr	2-Year Raiı	nfall=3.40"
Prepared by {enter your company name here}		Printed	12/1/2021
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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Existing	Runoff Area=296,670 sf 22.88% Impervious Runoff Depth>0.81" Flow Length=369' Tc=12.8 min CN=69 Runoff=5.07 cfs 0.457 af
Subcatchment3S: Existing	Runoff Area=296,670 sf 50.13% Impervious Runoff Depth>1.44" Flow Length=369' Tc=12.8 min CN=80 Runoff=9.78 cfs 0.816 af
Reach 2R: POI-1	Inflow=5.07 cfs 0.457 af Outflow=5.07 cfs 0.457 af
Reach 4R: ex alt	Inflow=9.78 cfs 0.816 af Outflow=9.78 cfs 0.816 af

Total Runoff Area = 13.621 acRunoff Volume = 1.273 afAverage Runoff Depth = 1.12"63.50% Pervious = 8.649 ac36.50% Impervious = 4.972 ac

## **Summary for Subcatchment 1: Existing**

Runoff = 5.07 cfs @ 12.20 hrs, Volume= 0.457 af, Depth> 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.40"

_	Ar	rea (sf)	CN [	Description			
67,880 98 Paved parking & roofs							
	2	28,790	61 >	>75% Ġras	s cover, Go	bod, HSG B	
	2	96,670	69 V	Veighted A	verage		
	2	28,790	7	7.12% Pe	vious Area		
		67,880	2	22.88% Imp	pervious Ar	ea	
	_				<b>-</b>		
	TC	Length	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.6	160	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	1.0	151	0.0265	2.62		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.2	58	0.0369	3.90		Shallow Concentrated Flow, C-D	
_						Paved Kv= 20.3 fps	
	12.8	369	Total				

## Subcatchment 1: Existing



## Summary for Subcatchment 3S: Existing

Runoff = 9.78 cfs @ 12.18 hrs, Volume= 0.816 af, Depth> 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.40"

_	Ar	rea (sf)	CN I	Description			
148,715 98 Paved parking & roofs							
_	14	47,955	61 >	>75% Ġras	s cover, Go	bod, HSG B	
	2	96,670	80 \	Neighted A	verage		
	14	47,955	4	19.87% Pei	vious Area		
	14	48,715	Ę	50.13% Imp	pervious Ar	ea	
	_						
	Tc	Length	Slope	Velocity	Capacity	Description	
-	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.6	160	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	1.0	151	0.0265	2.62		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.2	58	0.0369	3.90		Shallow Concentrated Flow, C-D	
-						Paved Kv= 20.3 fps	
	12.8	369	Total				

#### Subcatchment 3S: Existing



# Summary for Reach 2R: POI-1

Inflow Ar	rea =	6.811 ac, 22.88% Impervious, Inf	low Depth > 0.81"	for 2-Year event
Inflow	=	5.07 cfs @ 12.20 hrs, Volume=	0.457 af	
Outflow	=	5.07 cfs @ 12.20 hrs, Volume=	0.457 af, Atte	en= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



#### Reach 2R: POI-1

# Summary for Reach 4R: ex alt

Inflow A	rea =	6.811 ac, 50.1	3% Impervious,	Inflow Depth > 1	.44" for 2-Year event
Inflow	=	9.78 cfs @ 12.	18 hrs, Volume	e= 0.816 af	
Outflow	=	9.78 cfs @ 12.	18 hrs, Volume	e= 0.816 af	, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



#### Reach 4R: ex alt

07c2352 Existing-NEW	Type III 24-hr 10-Year Rainfall=5.00"
Prepared by {enter your company	name here} Printed 12/1/2021
HydroCAD® 10.00-26 s/n 01334 © 202	0 HydroCAD Software Solutions LLC Page 10
Time spa	n=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by S	CS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-	Ind+Trans method - Pond routing by Stor-Ind method
Subcatchment1: Existing	
	Flow Length= $369^\circ$ Tc=12.8 min CN=69 Runoff=12.09 cts 1.018 at
Subcatchment3S: Existing	Runoff Area=296,670 sf 50.13% Impervious Runoff Depth>2.70"
5	Flow Length=369' Tc=12.8 min CN=80 Runoff=18.33 cfs 1.530 af
Reach 2R <sup>.</sup> POI-1	Inflow=12.09 cfs_1.018 af
	Outflow=12.09 cfs 1.018 af
Reach 4R: ex alt	Inflow=18.33 cfs 1.530 af
	Outflow=18.33 cfs 1.530 af

Total Runoff Area = 13.621 acRunoff Volume = 2.549 afAverage Runoff Depth = 2.25"63.50% Pervious = 8.649 ac36.50% Impervious = 4.972 ac

## **Summary for Subcatchment 1: Existing**

Runoff = 12.09 cfs @ 12.19 hrs, Volume= 1.018 af, Depth> 1.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.00"

_	Ar	rea (sf)	CN [	Description			
67,880 98 Paved parking & roofs							
	2	28,790	61 >	>75% Ġras	s cover, Go	ood, HSG B	
	2	96,670	69 \	Veighted A	verage		
	2	28,790	7	7.12% Per	vious Area		
		67,880	2	22.88% Imp	pervious Ar	ea	
	_				_		
	Tc	Length	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.6	160	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	1.0	151	0.0265	2.62		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.2	58	0.0369	3.90		Shallow Concentrated Flow, C-D	
-						Paved Kv= 20.3 fps	
	12.8	369	Total				

## Subcatchment 1: Existing



## Summary for Subcatchment 3S: Existing

Runoff 18.33 cfs @ 12.18 hrs, Volume= 1.530 af, Depth> 2.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.00"

	Ar	rea (sf)	CN	Description			
	1	48,715	98	Paved park	ing & roofs		
	1	47,955	61	>75% Ġras	s cover, Go	ood, HSG B	
296,670 80			80	Weighted A	verage		
	1	47,955		49.87% Pe	rvious Area		
148,715 50.13% Impervious /					pervious Ar	ea	
	_						
	Tc	Length	Slope	e Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.6	160	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	1.0	151	0.0265	2.62		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.2	58	0.0369	3.90		Shallow Concentrated Flow, C-D	
						Paved Kv= 20.3 fps	
	12.8	369	Total				

## Subcatchment 3S: Existing



# Summary for Reach 2R: POI-1

Inflow /	Area	=	6.811 ac, 2	2.88% Impervious	s, Inflow Depth >	1.79	)" for 10-Ye	ear event
Inflow		=	12.09 cfs @	12.19 hrs, Volum	ne= 1.018	af		
Outflov	N	=	12.09 cfs @	12.19 hrs, Volun	ne= 1.018	af, A	Atten= 0%, L	ag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



## Reach 2R: POI-1

# Summary for Reach 4R: ex alt

Inflow /	Area =	=	6.811 ac, 5	50.13% Impe	ervious,	Inflow Depth >	2.7	70" for 10-Y	'ear event
Inflow	=		18.33 cfs @	12.18 hrs,	Volume	= 1.530	) af		
Outflov	v =		18.33 cfs @	12.18 hrs,	Volume	= 1.530	) af,	Atten= 0%, L	_ag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



#### Reach 4R: ex alt

07c2352 Existing-NEW	Type III 24-	Type III 24-hr 25-Year Rainfall=5.70"				
Prepared by {enter your company r	name here}	Printed 12/1/2021				
HydroCAD® 10.00-26 s/n 01334 © 2020	HydroCAD Software Solutions LLC	Page 15				
Time spar Runoff by S0 Reach routing by Stor-I	n=5.00-20.00 hrs, dt=0.05 hrs, 301 points CS TR-20 method, UH=SCS, Weighted-C nd+Trans method - Pond routing by Sto	N r-Ind method				
Subcatchment1: Existing	Runoff Area=296,670 sf 22.88% Imp Flow Length=369' Tc=12.8 min CN=69	ervious Runoff Depth>2.28" 9 Runoff=15.51 cfs 1.297 af				
Subcatchment3S: Existing	Runoff Area=296,670 sf 50.13% Imp Flow Length=369' Tc=12.8 min CN=80	ervious Runoff Depth>3.28" ) Runoff=22.22 cfs 1.863 af				
Reach 2R: POI-1		Inflow=15.51 cfs 1.297 af Outflow=15.51 cfs 1.297 af				
Reach 4R: ex alt		Inflow=22.22 cfs 1.863 af				

Inflow=22.22 cfs 1.863 af Outflow=22.22 cfs 1.863 af

Total Runoff Area = 13.621 acRunoff Volume = 3.159 afAverage Runoff Depth = 2.78"63.50% Pervious = 8.649 ac36.50% Impervious = 4.972 ac

## **Summary for Subcatchment 1: Existing**

Runoff = 15.51 cfs @ 12.19 hrs, Volume= 1.297 af, Depth> 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=5.70"

_	Ar	rea (sf)	CN I	Description			
		67,880	98	Paved park			
_	2	ood, HSG B					
296,670 69			69	Weighted A	verage		
	2	28,790	-	77.12% Pei	rvious Area		
67,880			:	22.88% Imp	pervious Ar	ea	
	_						
	Tc	Length	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.6	160	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	1.0	151	0.0265	2.62		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.2	58	0.0369	3.90		Shallow Concentrated Flow, C-D	
_						Paved Kv= 20.3 fps	
	12.8	369	Total				

## Subcatchment 1: Existing



## Summary for Subcatchment 3S: Existing

Runoff = 22.22 cfs @ 12.18 hrs, Volume= 1.863 af, Depth> 3.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=5.70"

_	Ar	rea (sf)	CN [	Description					
148,715 98 Paved parking & ro									
_	14	47,955	61 >	>75% Ġras	s cover, Go	ood, HSG B			
296,670 80			80 \	Neighted A	verage				
	14	47,955	2	49.87% Pervious Area					
148,715			Ę	50.13% Imp	pervious Are	ea			
	_				<b>-</b>				
	Tc	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	11.6	160	0.0312	0.23		Sheet Flow, A-B			
						Grass: Short n= 0.150 P2= 3.40"			
	1.0	151	0.0265	2.62		Shallow Concentrated Flow, B-C			
						Unpaved Kv= 16.1 fps			
	0.2	58	0.0369	3.90		Shallow Concentrated Flow, C-D			
_						Paved Kv= 20.3 fps			
	12.8	369	Total						

#### Subcatchment 3S: Existing



# Summary for Reach 2R: POI-1

Inflow /	Area =		6.811 ac, 2	22.88% Impe	ervious,	Inflow Dept	:h > 2	.28" for	25-Yea	ar event
Inflow	=	1	15.51 cfs @	12.19 hrs,	Volume	= 1.	297 af			
Outflov	v =	1	15.51 cfs @	12.19 hrs,	Volume	= 1.	297 af	Atten=	0%, La	g= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



# Reach 2R: POI-1

# Summary for Reach 4R: ex alt

Inflow /	Area	=	6.811 ac, 5	50.13% Impe	ervious,	Inflow Dept	th > 3.2	28" for	25-Year event
Inflow	=	=	22.22 cfs @	12.18 hrs,	Volume	= 1.	.863 af		
Outflov	v =	=	22.22 cfs @	12.18 hrs,	Volume	= 1.	.863 af,	Atten= 0	%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



#### Reach 4R: ex alt

07c2352 Existing-NEW	7	ype III 24-hr	100-Year Rai	nfall=7.10"
Prepared by {enter your company name	here}		Printed	12/1/2021
HydroCAD® 10.00-26 s/n 01334 © 2020 Hydr	oCAD Software Solutions	s LLC		Page 20
Time span=5.00 Runoff by SCS TF Reach routing by Stor-Ind+T	0-20.00 hrs, dt=0.05 hrs R-20 method, UH=SCS rans method - Pond re	s, 301 points , Weighted-CN outing by Stor-	l Ind method	
Subcatchment1: Existing	Runoff Area=296,670 sf	22.88% Impe	vious Runoff D	epth>3.33"

ouscalemient I. Existing	Flow Length= $369'$ Tc= $12.8$ min CN= $69$ Runoff= $22.74$ cfs $1.892$ af
Subcatchment3S: Existing	Runoff Area=296,670 sf 50.13% Impervious Runoff Depth>4.49" Flow Length=369' Tc=12.8 min CN=80 Runoff=30.25 cfs 2.549 af
Reach 2R: POI-1	Inflow=22.74 cfs 1.892 af Outflow=22.74 cfs 1.892 af
Reach 4R: ex alt	Inflow=30.25 cfs 2.549 af Outflow=30.25 cfs 2.549 af

Total Runoff Area = 13.621 acRunoff Volume = 4.440 afAverage Runoff Depth = 3.91"63.50% Pervious = 8.649 ac36.50% Impervious = 4.972 ac

## Summary for Subcatchment 1: Existing

Runoff 22.74 cfs @ 12.18 hrs, Volume= 1.892 af, Depth> 3.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=7.10"

_	Ar	rea (sf)	CN I	Description			
	(	67,880	98 I	Paved park	ing & roofs		
_	2	ood, HSG B					
296,670 69			69 V	Weighted A	verage		
	2	28,790	-	77.12% Pei	vious Area		
67,880				22.88% Imp	pervious Are	ea	
	_						
	TC	Length	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.6	160	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	1.0	151	0.0265	2.62		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.2	58	0.0369	3.90		Shallow Concentrated Flow, C-D	
_						Paved Kv= 20.3 fps	
	12.8	369	Total				

## Subcatchment 1: Existing



## Summary for Subcatchment 3S: Existing

Runoff = 30.25 cfs @ 12.17 hrs, Volume= 2.549 af, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=7.10"

_	Ar	rea (sf)	CN [	Description			
148,715 98 Paved parking & roofs							
147,955 61 >75% Grass cover, Goo						ood, HSG B	
	2	96,670	80 V	Veighted A	verage		
	1	47,955	2	9.87% Pei	vious Area		
148,715		5	50.13% Imp	pervious Ar	ea		
	_						
	Tc	Length	Slope	Velocity	Capacity	Description	
-	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.6	160	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	1.0	151	0.0265	2.62		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.2	58	0.0369	3.90		Shallow Concentrated Flow, C-D	
_						Paved Kv= 20.3 fps	
	12.8	369	Total				

#### Subcatchment 3S: Existing



# Summary for Reach 2R: POI-1

Inflow A	Area	=	6.811 ac, 2	2.88% Impe	ervious,	Inflow Depth >	3.3	33" for 100-Year event
Inflow		=	22.74 cfs @	12.18 hrs,	Volume	= 1.892	2 af	
Outflov	V	=	22.74 cfs @	12.18 hrs,	Volume	= 1.892	2 af,	Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



## Reach 2R: POI-1

# Summary for Reach 4R: ex alt

Inflow A	rea =	6.811 ac, 5	50.13% Impervious,	Inflow Depth > 4	.49" for 100-Year event
Inflow	=	30.25 cfs @	12.17 hrs, Volume	= 2.549 af	
Outflow	=	30.25 cfs @	12.17 hrs, Volume	= 2.549 af	, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



#### Reach 4R: ex alt



## Area Listing (all nodes)

Area	CN	Description	
(acres)		(subcatchment-numbers)	
4.258	98	(3S, B, C, D, E, F)	
2.683	74	>75% Grass cover, Good, HSG C (3S, B, C, D, E, F)	
6.940	89	TOTAL AREA	

# Soil Listing (all nodes)

Area	Soil	Subcatchment
(acres)	Group	Numbers
0.000	HSG A	
0.000	HSG B	
2.683	HSG C	3S, B, C, D, E, F
0.000	HSG D	
4.258	Other	3S, B, C, D, E, F
6.940		TOTAL AREA

**07c2352 Proposed-NEW** Prepared by {enter your company name here} HydroCAD® 10.00-21 s/n 01334 © 2018 HydroCAD Software Solutions LLC

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# Ground Covers (all nodes)

HSG-A	HSG-B	HSG-C	HSG-D	Other	Total	Ground	Subcatchment
 (acres)	(acres)	(acres)	(acres)	(acres)	(acres)	Cover	Numbers
0.000	0.000	0.000	0.000	4.258	4.258		3S, B,
							C, D, E,
							F
0.000	0.000	2.683	0.000	0.000	2.683	>75% Grass cover, Good	3S, B,
							C, D, E,
							F
0.000	0.000	2.683	0.000	4.258	6.940	TOTAL AREA	

Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment3S: AREAA	Runoff Area=89,620 sf 28.40% Impervious Runoff Depth>1.51" Flow Length=340' Tc=12.3 min CN=81 Runoff=3.16 cfs 0.258 af
SubcatchmentB: AREAB	Runoff Area=10,575 sf 75.61% Impervious Runoff Depth>2.40" Tc=5.0 min CN=92 Runoff=0.71 cfs 0.049 af
SubcatchmentC: AREAC	Runoff Area=14,414 sf 55.43% Impervious Runoff Depth>1.96" Tc=5.0 min CN=87 Runoff=0.81 cfs 0.054 af
SubcatchmentD: AREAD	Runoff Area=31,369 sf 87.60% Impervious Runoff Depth>2.70" Tc=5.0 min CN=95 Runoff=2.27 cfs 0.162 af
SubcatchmentE: AREAE	Runoff Area=75,577 sf 71.94% Impervious Runoff Depth>2.31" Tc=5.0 min CN=91 Runoff=4.91 cfs 0.334 af
SubcatchmentF: AREAF	Runoff Area=80,759 sf 76.99% Impervious Runoff Depth>2.40" Tc=5.0 min CN=92 Runoff=5.41 cfs 0.371 af
Reach 2R: POI-1	Inflow=10.11 cfs 0.840 af Outflow=10.11 cfs 0.840 af
Pond 1P: prop swale	Peak Elev=12.38' Storage=16,141 cf Inflow=5.41 cfs 0.371 af Outflow=0.00 cfs 0.000 af
Pond 2P: Pipe Storage	Peak Elev=18.36' Storage=1,521 cf Inflow=1.52 cfs 0.103 af Outflow=0.74 cfs 0.086 af
Link 1L: (new Link)	Inflow=1.52 cfs 0.103 af Primary=1.52 cfs 0.103 af

Total Runoff Area = 6.940 ac Runoff Volume = 1.227 af Average Runoff Depth = 2.12" 38.65% Pervious = 2.683 ac 61.35% Impervious = 4.258 ac

## Summary for Subcatchment 3S: AREA A

Runoff = 3.16 cfs @ 12.17 hrs, Volume= 0.258 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.40"

	Ai	rea (sf)	CN I	Description			
		64,169	74 >	>75% Gras	s cover, Go	ood, HSG C	
*		25,451	98				
		89,620	81 \	Neighted A	verage		
		64,169	-	71.60% Pei	rvious Area		
		25,451	2	28.40% Imp	pervious Ar	ea	
	Тс	Length	Slope	Velocity	Capacity	Description	
(	min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.2	153	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	0.7	129	0.0388	3.17		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.4	58	0.0179	2.72		Shallow Concentrated Flow, C-D	
						Paved Kv= 20.3 fps	
	12.3	340	Total				

## Subcatchment 3S: AREA A



### Summary for Subcatchment B: AREA B

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.71 cfs @ 12.07 hrs, Volume= 0.049 af, Depth> 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description						
*	7,996	98							
	2,579	74	>75% Gras	s cover, Go	bod, HSG C				
	10,575	92	Weighted Average						
	2,579		24.39% Pervious Area						
	7,996		75.61% Impervious Area						
Т	: Lenath	Slon	e Velocitv	Canacity	Description				
(min	) (feet)	(ft/f	i) (ft/sec)	(cfs)					
5.0	)				Direct Entry, Minimum				

#### Subcatchment B: AREA B



## Summary for Subcatchment C: AREA C

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.81 cfs @ 12.08 hrs, Volume= 0.054 af, Depth> 1.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description						
*	7,989	98							
	6,425	74	>75% Gras	s cover, Go	ood, HSG C				
	14,414	87	Weighted A	Neighted Average					
	6,425		44.57% Per	44.57% Pervious Area					
	7,989		55.43% Imp	pervious Are	rea				
- (mi	Tc Length	Slop	e Velocity	Capacity	Description				
		(101	(10360)	(013)					
5	0.0				Direct Entry,				

## Subcatchment C: AREA C



## Summary for Subcatchment D: AREA D

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.27 cfs @ 12.07 hrs, Volume= 0.162 af, Depth> 2.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description						
*	27,479	98							
	3,890	74	>75% Gras	s cover, Go	ood, HSG C				
	31,369	95	Weighted Average						
	3,890		12.40% Pervious Area						
	27,479 87.60% Impervious Are				rea				
(m	Tc Length in) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description				
5	5.0				Direct Entry,				

## Subcatchment D: AREA D



## Summary for Subcatchment E: AREA E

[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.91 cfs @ 12.07 hrs, Volume= 0.334 af, Depth> 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description							
*	54,371	98								
	21,206	74	>75% Gras	>75% Grass cover, Good, HSG C						
	75,577	91	Weighted Average							
	21,206		28.06% Pervious Area							
	54,371		71.94% Imp	pervious Ar	ea					
(m	Tc Length in) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description					
5	5.0				Direct Entry, Minimum					

## Subcatchment E: AREA E



## Summary for Subcatchment F: AREA F

[49] Hint: Tc<2dt may require smaller dt

Runoff = 5.41 cfs @ 12.07 hrs, Volume= 0.371 af, Depth> 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Rainfall=3.40"

	Area (sf)	CN	Description						
*	62,177	98							
	18,582	74	>75% Gras	>75% Grass cover, Good, HSG C					
	80,759	92	Weighted Average						
	18,582		23.01% Pervious Area						
	62,177		76.99% Imp	pervious Ar	ea				
- (mi	Гс Length n) (feet)	Slop (ft/f	e Velocity ) (ft/sec)	Capacity (cfs)	Description				
5	.0				Direct Entry, Minimum				

## Subcatchment F: AREA F


## Summary for Reach 2R: POI-1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area	a =	6.940 ac, 6	1.35% Impe	ervious,	Inflow D	)epth >	1.45"	for 2-Y	ear event	t
Inflow	=	10.11 cfs @	12.09 hrs,	Volume	=	0.840 a	af			
Outflow	=	10.11 cfs @	12.09 hrs,	Volume	=	0.840 a	af, At	ten= 0%,	Lag= 0.0	min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs



#### Reach 2R: POI-1

#### Summary for Pond 1P: prop swale

Inflow Area	ı =	1.854 ac, 7	6.99% Imperviou	us, Inflow D	)epth >	2.40"	for 2-Year	r event
Inflow	=	5.41 cfs @	12.07 hrs, Volu	me=	0.371 a	af		
Outflow	=	0.00 cfs @	0.00 hrs, Volu	me=	0.000 a	af, Atte	n= 100%,	Lag= 0.0 min
Primary	=	0.00 cfs @	0.00 hrs, Volu	me=	0.000 a	af		

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 12.38' @ 20.00 hrs Surf.Area= 5,971 sf Storage= 16,141 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow) Center-of-Mass det. time= (not calculated: no outflow)

Volume	Inv	vert	Avail.Sto	rage	Storage	Description				
#1	6	.00'	28,17	76 cf	Custom	Stage Data (P	rismatic)Listed below (Recalc)			
Elevatio (fee	on et)	Surf. (s	Area sq-ft)	Inc (cubio	.Store c-feet)	Cum.Store (cubic-feet)				
6.0	00		540		0	0				
8.0	00	1	,482		2,022	2,022				
10.0	00	2	2,580		4,062	6,084				
12.0	00	5	5,330		7,910	13,994				
13.0	00	7	7,017		6,174	20,168				
14.(	00	ç	9,000		8,009	28,176				
Device	Routing	)	Invert	Outle	et Device	S				
#1	Primary	/	13.00'	<b>20.0</b> Head Coef	<b>' long (P</b> d (feet) 0 f. (English	rofile 1) Broad .49 0.98 1.48 n) 2.92 3.37 3	I-Crested Rectangular Weir			
Drimon										

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=6.00' (Free Discharge) —1=Broad-Crested Rectangular Weir( Controls 0.00 cfs)

#### 07c2352 Proposed-NEW

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# Pond 1P: prop swale

## Summary for Pond 2P: Pipe Storage

Inflow Area	=	0.574 ac, 6	3.97% Impe	ervious,	Inflow Depth	> 2.15'	for 2-Yea	ar event
Inflow	=	1.52 cfs @	12.07 hrs,	Volume	= 0.10	)3 af		
Outflow	=	0.74 cfs @	12.23 hrs,	Volume	= 0.08	36 af, At	tten= 52%,	Lag= 9.5 min
Primary	=	0.74 cfs @	12.23 hrs,	Volume	= 0.08	36 af		

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 18.36' @ 12.23 hrs Surf.Area= 1,615 sf Storage= 1,521 cf

Plug-Flow detention time= 88.1 min calculated for 0.086 af (84% of inflow) Center-of-Mass det. time= 42.9 min (816.2 - 773.3)

Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	2,283 cf	<b>36.0" Round Pipe Storage</b> Inside #2
#2	16.50'	2,317 cf	<b>5.00'W x 323.00'L x 5.00'H Prismatoid</b> 8,075 cf Overall - 2,283 cf Embedded = 5,792 cf x 40.0% Voids
		4,600 cf	Total Available Storage
Device	Routing	Invert Out	let Devices
#1	Primary	17.50' <b>6.0</b> '	Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.73 cfs @ 12.23 hrs HW=18.35' (Free Discharge) ↓ 1=Orifice/Grate (Orifice Controls 0.73 cfs @ 3.74 fps)

## Pond 2P: Pipe Storage



# Summary for Link 1L: (new Link)

Inflow A	rea =	0.574 ac, 63.	.97% Impervious,	Inflow Depth > 2	.15" for 2-Year event
Inflow	=	1.52 cfs @ 1	2.07 hrs, Volume	= 0.103 af	
Primary	=	1.52 cfs @ 1	2.07 hrs, Volume	= 0.103 af	, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs



## Link 1L: (new Link)

Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment3S: AREAA	Runoff Area=89,620 sf 28.40% Impervious Runoff Depth>2.79" Flow Length=340' Tc=12.3 min CN=81 Runoff=5.82 cfs 0.478 af
SubcatchmentB: AREAB	Runoff Area=10,575 sf 75.61% Impervious Runoff Depth>3.88" Tc=5.0 min CN=92 Runoff=1.11 cfs 0.078 af
SubcatchmentC: AREAC	Runoff Area=14,414 sf 55.43% Impervious Runoff Depth>3.36" Tc=5.0 min CN=87 Runoff=1.37 cfs 0.093 af
SubcatchmentD: AREAD	Runoff Area=31,369 sf 87.60% Impervious Runoff Depth>4.20" Tc=5.0 min CN=95 Runoff=3.45 cfs 0.252 af
SubcatchmentE: AREAE	Runoff Area=75,577 sf 71.94% Impervious Runoff Depth>3.77" Tc=5.0 min CN=91 Runoff=7.80 cfs 0.545 af
SubcatchmentF: AREAF	Runoff Area=80,759 sf 76.99% Impervious Runoff Depth>3.88" Tc=5.0 min CN=92 Runoff=8.49 cfs 0.599 af
Reach 2R: POI-1	Inflow=16.53 cfs 1.564 af Outflow=16.53 cfs 1.564 af
Pond 1P: prop swale	Peak Elev=13.04' Storage=20,454 cf Inflow=8.49 cfs 0.599 af Outflow=0.48 cfs 0.134 af
Pond 2P: Pipe Storage	Peak Elev=18.96' Storage=2,247 cf Inflow=2.48 cfs 0.171 af Outflow=1.04 cfs 0.154 af
Link 1L: (new Link)	Inflow=2.48 cfs 0.171 af Primary=2.48 cfs 0.171 af

Total Runoff Area = 6.940 ac Runoff Volume = 2.045 af Average Runoff Depth = 3.54" 38.65% Pervious = 2.683 ac 61.35% Impervious = 4.258 ac

## Summary for Subcatchment 3S: AREA A

Runoff = 5.82 cfs @ 12.17 hrs, Volume= 0.478 af, Depth> 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.00"

	Ai	rea (sf)	CN I	Description			
		64,169	74 >	>75% Gras	s cover, Go	ood, HSG C	
*		25,451	98			·	
		89,620	81 \	Neighted A	verage		
		64,169	-	71.60% Pei	vious Area		
25,451 28.40% Impervious Are						ea	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	11.2	153	0.0312	0.23		Sheet Flow, A-B	
						Grass: Short n= 0.150 P2= 3.40"	
	0.7	129	0.0388	3.17		Shallow Concentrated Flow, B-C	
						Unpaved Kv= 16.1 fps	
	0.4	58	0.0179	2.72		Shallow Concentrated Flow, C-D	
						Paved Kv= 20.3 fps	
	12.3	340	Total				

## Subcatchment 3S: AREA A



#### Summary for Subcatchment B: AREA B

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.11 cfs @ 12.07 hrs, Volume= 0.078 af, Depth> 3.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description					
*	7,996	98						
	2,579	74	>75% Gras	s cover, Go	ood, HSG C			
	10,575	92	Weighted A	verage				
	2,579	2,579 24.39% Pervious Area						
	7,996	rea						
	<b>-</b>	01		<b>o</b> ''				
	Ic Length	n Slop	e Velocity	Capacity	Description			
<u>(m</u>	nin) (feet)	) (ft/i	t) (ft/sec)	(cfs)				
į	5.0				Direct Entry, Minimum			

### Subcatchment B: AREA B



#### Summary for Subcatchment C: AREA C

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.37 cfs @ 12.07 hrs, Volume= 0.093 af, Depth> 3.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description				
*	7,989	98					
	6,425	74	>75% Gras	s cover, Go	Good, HSG C		
	14,414	87	Weighted A	verage			
	6,425 44.57% Pervious Area						
	7,989		55.43% Imp	pervious Ar	rea		
٦ miı)	c Length n) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description		
5	.0				Direct Entry,		

## Subcatchment C: AREA C



### Summary for Subcatchment D: AREA D

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.45 cfs @ 12.07 hrs, Volume= 0.252 af, Depth> 4.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description		
*	27,479	98			
	3,890	74	>75% Gras	s cover, Go	ood, HSG C
	31,369	95	Weighted A	verage	
3,890 12.40% Pervious Area					
27,479 87.60% Impervious Are					rea
(m	Tc Length in) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description
5	5.0				Direct Entry,

#### Subcatchment D: AREA D



#### Summary for Subcatchment E: AREA E

[49] Hint: Tc<2dt may require smaller dt

Runoff = 7.80 cfs @ 12.07 hrs, Volume= 0.545 af, Depth> 3.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description			
*	54,371	98				
	21,206	74	>75% Gras	s cover, Go	bod, HSG C	
	75,577	91	Weighted A	verage		
	21,206	l				
	54,371		71.94% lmp	pervious Ar	ea	
- (mi	Tc Length n) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description	
5	0.0				Direct Entry, Minimum	

### Subcatchment E: AREA E



#### Summary for Subcatchment F: AREA F

[49] Hint: Tc<2dt may require smaller dt

Runoff = 8.49 cfs @ 12.07 hrs, Volume= 0.599 af, Depth> 3.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Rainfall=5.00"

	Area (sf)	CN	Description						
*	62,177	98							
	18,582	74	>75% Gras	s cover, Go	bod, HSG C				
	80,759	92	Weighted A	Neighted Average					
	18,582	23.01% Pervious Area							
	62,177		76.99% Imp	pervious Ar	ea				
(n	Tc Length nin) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description				
	5.0				Direct Entry, Minimum				

### Subcatchment F: AREA F



## Summary for Reach 2R: POI-1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area	a =	6.940 ac, 6	1.35% Impe	ervious,	Inflow D	epth > 2	2.70"	for 10-	Year eve	ent
Inflow	=	16.53 cfs @	12.09 hrs,	Volume	=	1.564 a	f			
Outflow	=	16.53 cfs @	12.09 hrs,	Volume	=	1.564 a	f, Atte	n= 0%,	Lag= 0.	0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs



#### Reach 2R: POI-1

#### Summary for Pond 1P: prop swale

Inflow Area	ı =	1.854 ac, 7	6.99% Impervio	ous, Inflow De	epth > 3.8	8" for 10-Y	ear event
Inflow	=	8.49 cfs @	12.07 hrs, Vol	ume=	0.599 af		
Outflow	=	0.48 cfs @	13.90 hrs, Vol	ume=	0.134 af, <i>i</i>	Atten= 94%,	Lag= 109.5 min
Primary	=	0.48 cfs @	13.90 hrs, Vol	ume=	0.134 af		

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 13.04' @ 13.90 hrs Surf.Area= 7,098 sf Storage= 20,454 cf

Plug-Flow detention time= 360.4 min calculated for 0.134 af (22% of inflow) Center-of-Mass det. time= 204.6 min (957.1 - 752.5)

Volume	In	vert	Avail.Sto	rage	Storage	Description	
#1	6	6.00'	28,1	76 cf	Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio (fee	on et)	Sur	f.Area (sq-ft)	Inc (cubi	.Store c-feet)	Cum.Store (cubic-feet)	
6.00			540		0	0	
8.0	00		1,482		2,022	2,022	
10.0	00		2,580		4,062	6,084	
12.0	00		5,330		7,910	13,994	
13.0	00	7,017		6,174	20,168		
14.(	00		9,000		8,009	28,176	
Device	Routin	g	Invert	Outl	et Device:	S	
#1	Primary 13.00' 20.0' long (Profile 1) Broad-Crested Rectangular Weir Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59						-Crested Rectangular Weir

**Primary OutFlow** Max=0.48 cfs @ 13.90 hrs HW=13.04' (Free Discharge) **1=Broad-Crested Rectangular Weir** (Weir Controls 0.48 cfs @ 0.59 fps)

#### 07c2352 Proposed-NEW

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## Summary for Pond 2P: Pipe Storage

Inflow Area	=	0.574 ac, 6	3.97% Impe	rvious,	Inflow	Depth >	3.58"	for 1	0-Year e	vent
Inflow	=	2.48 cfs @	12.07 hrs,	Volume	=	0.171	af			
Outflow	=	1.04 cfs @	12.27 hrs,	Volume	=	0.154	af, Atte	n= 58	8%, Lag=	12.0 min
Primary	=	1.04 cfs @	12.27 hrs,	Volume	=	0.154	af			

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 18.96' @ 12.27 hrs Surf.Area= 1,615 sf Storage= 2,247 cf

Plug-Flow detention time= 72.0 min calculated for 0.154 af (90% of inflow) Center-of-Mass det. time= 40.0 min (801.4 - 761.4)

Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	2,283 cf	<b>36.0" Round Pipe Storage</b> Inside #2 L= 323.0'
#2	16.50'	2,317 cf	<b>5.00'W x 323.00'L x 5.00'H Prismatoid</b> 8,075 cf Overall - 2,283 cf Embedded = 5,792 cf x 40.0% Voids
		4,600 cf	Total Available Storage
Device	Routing	Invert Out	let Devices
#1	Primary	17.50' <b>6.0</b> '	Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=1.04 cfs @ 12.27 hrs HW=18.95' (Free Discharge) ↓ 1=Orifice/Grate (Orifice Controls 1.04 cfs @ 5.28 fps)

## Pond 2P: Pipe Storage



## Summary for Link 1L: (new Link)

Inflow Are	a =	0.574 ac, 6	3.97% Impervious,	Inflow Depth >	3.58"	for 10-1	ear event
Inflow	=	2.48 cfs @	12.07 hrs, Volume	= 0.171	af		
Primary	=	2.48 cfs @	12.07 hrs, Volume	= 0.171	af, Atte	en= 0%,	Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs



## Link 1L: (new Link)

Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment3S: AREAA	Runoff Area=89,620 sf 28.40% Impervious Runoff Depth>3.38" Flow Length=340' Tc=12.3 min CN=81 Runoff=7.03 cfs 0.579 af
SubcatchmentB: AREAB	Runoff Area=10,575 sf   75.61% Impervious   Runoff Depth>4.53" Tc=5.0 min   CN=92   Runoff=1.29 cfs   0.092 af
SubcatchmentC: AREAC	Runoff Area=14,414 sf 55.43% Impervious Runoff Depth>3.99" Tc=5.0 min CN=87 Runoff=1.61 cfs 0.110 af
SubcatchmentD: AREAD	Runoff Area=31,369 sf 87.60% Impervious Runoff Depth>4.87" Tc=5.0 min CN=95 Runoff=3.96 cfs 0.292 af
SubcatchmentE: AREAE	Runoff Area=75,577 sf 71.94% Impervious Runoff Depth>4.42" Tc=5.0 min CN=91 Runoff=9.06 cfs 0.639 af
SubcatchmentF: AREAF	Runoff Area=80,759 sf   76.99% Impervious   Runoff Depth>4.53" Tc=5.0 min   CN=92   Runoff=9.82 cfs   0.700 af
Reach 2R: POI-1	Inflow=19.34 cfs 1.930 af Outflow=19.34 cfs 1.930 af
Pond 1P: prop swale	Peak Elev=13.07' Storage=20,676 cf Inflow=9.82 cfs 0.700 af Outflow=1.24 cfs 0.235 af
Pond 2P: Pipe Storage	Peak Elev=19.24' Storage=2,588 cf Inflow=2.90 cfs 0.202 af Outflow=1.15 cfs 0.185 af
Link 1L: (new Link)	Inflow=2.90 cfs 0.202 af Primary=2.90 cfs 0.202 af

Total Runoff Area = 6.940 ac Runoff Volume = 2.412 af Average Runoff Depth = 4.17" 38.65% Pervious = 2.683 ac 61.35% Impervious = 4.258 ac

### Summary for Subcatchment 3S: AREA A

Runoff = 7.03 cfs @ 12.17 hrs, Volume= 0.579 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=5.70"

	Ai	rea (sf)	CN I	Description				
		64,169	74 >	>75% Gras	s cover, Go	ood, HSG C		
*		25,451	98					
		89,620	81 \	Neighted A	verage			
64,169		-	71.60% Pervious Area					
		25,451	2	28.40% Imp	pervious Ar	ea		
	Тс	Length	Slope	Velocity	Capacity	Description		
(	min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	11.2	153	0.0312	0.23		Sheet Flow, A-B		
						Grass: Short n= 0.150 P2= 3.40"		
	0.7	129	0.0388	3.17		Shallow Concentrated Flow, B-C		
						Unpaved Kv= 16.1 fps		
	0.4	58	0.0179	2.72		Shallow Concentrated Flow, C-D		
						Paved Kv= 20.3 fps		
	12.3	340	Total					

#### Subcatchment 3S: AREA A



### Summary for Subcatchment B: AREA B

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.29 cfs @ 12.07 hrs, Volume= 0.092 af, Depth> 4.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=5.70"

	Area (sf)	CN	Description					
*	7,996	98						
	2,579	74	>75% Gras	s cover, Go	ood, HSG C			
	10,575	92	Weighted Average					
	2,579		24.39% Pervious Area					
	7,996		75.61% Impervious Area					
-	<b>T</b> . 1		·	0	Description			
, .	IC Length	Siop	e velocity	Capacity	Description			
(mi	n) (feet)	(ft/f	i) (ft/sec)	(cfs)				
5	5.0				Direct Entry, Minimum			

## Subcatchment B: AREA B



### Summary for Subcatchment C: AREA C

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.61 cfs @ 12.07 hrs, Volume= 0.110 af, Depth> 3.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=5.70"

	Area (sf)	CN	Description						
*	7,989	98							
	6,425	74	>75% Gras	•75% Grass cover, Good, HSG C					
	14,414	87	Weighted A	Neighted Average					
	6,425		44.57% Pervious Area						
	7,989		55.43% Impervious Area						
To (min	c Length ) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description				
5.0	)				Direct Entry,				

## Subcatchment C: AREA C



#### Summary for Subcatchment D: AREA D

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.96 cfs @ 12.07 hrs, Volume= 0.292 af, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=5.70"

	Area (sf)	CN	Description						
*	27,479	98							
	3,890	74	>75% Gras	s cover, Go	ood, HSG C				
	31,369	95	Weighted A	Weighted Average					
	3,890		12.40% Pervious Area						
	27,479		87.60% Imp	ervious Are	rea				
(r	Tc Length nin) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description				
	5.0				Direct Entry,				

### Subcatchment D: AREA D



### Summary for Subcatchment E: AREA E

[49] Hint: Tc<2dt may require smaller dt

Runoff = 9.06 cfs @ 12.07 hrs, Volume= 0.639 af, Depth> 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=5.70"

	Area (sf)	CN	Description					
*	54,371	98						
	21,206	74	>75% Gras	s cover, Go	bod, HSG C			
	75,577	91	Weighted A	verage				
	21,206		28.06% Pervious Area					
	54,371		71.94% lmp	pervious Ar	ea			
- (mi	Tc Length n) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description			
5	0.0				Direct Entry, Minimum			

## Subcatchment E: AREA E



#### Summary for Subcatchment F: AREA F

[49] Hint: Tc<2dt may require smaller dt

Runoff = 9.82 cfs @ 12.07 hrs, Volume= 0.700 af, Depth> 4.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Rainfall=5.70"

	Area (sf)	CN	Description						
*	62,177	98							
	18,582	74	>75% Gras	s cover, Go	bod, HSG C				
	80,759	92	Weighted A	verage					
	18,582		23.01% Per	23.01% Pervious Area					
	62,177		76.99% Imp	pervious Are	ea				
(n	Tc Length nin) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description				
	5.0				Direct Entry, Minimum				

### Subcatchment F: AREA F



## Summary for Reach 2R: POI-1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area	a =	6.940 ac, 6	1.35% Imp	ervious,	Inflow De	pth > 3	.34" fo	r 25-`	Year e	vent
Inflow	=	19.34 cfs @	12.09 hrs,	Volume	=	1.930 at	F			
Outflow	=	19.34 cfs @	12.09 hrs,	Volume	=	1.930 at	f, Atten=	÷0%,	Lag=	0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs



#### Reach 2R: POI-1

## Summary for Pond 1P: prop swale

Inflow Area	ı =	1.854 ac, 7	76.99% Impe	ervious,	Inflow Depth >	4.53"	for 25-Y	ear event
Inflow	=	9.82 cfs @	12.07 hrs,	Volume	= 0.700	af		
Outflow	=	1.24 cfs @	12.62 hrs,	Volume	= 0.235	af, Att	ten= 87%,	Lag= 33.1 min
Primary	=	1.24 cfs @	12.62 hrs,	Volume	= 0.235	af		

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 13.07' @ 12.62 hrs Surf.Area= 7,159 sf Storage= 20,676 cf

Plug-Flow detention time= 268.2 min calculated for 0.235 af (34% of inflow) Center-of-Mass det. time= 146.7 min (895.5 - 748.8)

Volume	In	vert	Avail.Sto	rage	Storage	Description	
#1	6	.00'	28,17	76 cf	Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio (fee	on et)	Surf. (	.Area sq-ft)	Inc. (cubic	Store -feet)	Cum.Store (cubic-feet)	
6.0	00		540		0	0	
8.0	00		1,482		2,022	2,022	
10.0	00		2,580	4	4,062	6,084	
12.0	00	Ę	5,330	-	7,910	13,994	
13.0	00	7	7,017	(	6,174	20,168	
14.(	00	ç	9,000	8	3,009	28,176	
Device	Routing	g	Invert	Outle	t Device:	S	
#1	Primar	у	13.00'	<b>20.0'</b> Head Coef.	<b>long (P</b> (feet) 0 (English	rofile 1) Broad .49 0.98 1.48 n) 2.92 3.37 3	I-Crested Rectangular Weir

**Primary OutFlow** Max=1.10 cfs @ 12.62 hrs HW=13.07' (Free Discharge) **1=Broad-Crested Rectangular Weir** (Weir Controls 1.10 cfs @ 0.78 fps)

### 07c2352 Proposed-NEW

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## Summary for Pond 2P: Pipe Storage

Inflow Area	=	0.574 ac, 6	3.97% Impervic	ous, Inflow I	Depth >	4.22"	for 25-Y	ear event
Inflow	=	2.90 cfs @	12.07 hrs, Vol	ume=	0.202	af		
Outflow	=	1.15 cfs @	12.29 hrs, Vol	ume=	0.185	af, Atte	n= 60%,	Lag= 13.0 min
Primary	=	1.15 cfs @	12.29 hrs, Vol	ume=	0.185	af		-

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 19.24' @ 12.29 hrs Surf.Area= 1,615 sf Storage= 2,588 cf

Plug-Flow detention time= 68.3 min calculated for 0.185 af (92% of inflow) Center-of-Mass det. time= 39.4 min (796.9 - 757.5)

Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	2,283 cf	36.0" Round Pipe Storage Inside #2
			L= 323.0'
#2	16.50'	2,317 cf	5.00'W x 323.00'L x 5.00'H Prismatoid
			8,075 cf Overall - 2,283 cf Embedded = 5,792 cf x 40.0% Voids
		4,600 cf	Total Available Storage
Davias	Douting	Invert Out	let Devices
Device	Rouling	Invent Out	
#1	Primary	17.50' <b>6.0</b> "	Vert. Orifice/Grate C= 0.600

**Primary OutFlow** Max=1.15 cfs @ 12.29 hrs HW=19.23' (Free Discharge) **1=Orifice/Grate** (Orifice Controls 1.15 cfs @ 5.86 fps)

## Pond 2P: Pipe Storage



## Summary for Link 1L: (new Link)

Inflow Are	a =	0.574 ac, 6	3.97% Impervi	ious, Inflow I	Depth > 4.	22" for 25-	Year event
Inflow	=	2.90 cfs @	12.07 hrs, Vo	olume=	0.202 af		
Primary	=	2.90 cfs @	12.07 hrs, Vo	olume=	0.202 af,	Atten= 0%,	Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs



# Link 1L: (new Link)

Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points Runoff by SCS TR-20 method, UH=SCS, Weighted-CN Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment3S: AREAA	Runoff Area=89,620 sf 28.40% Impervious Runoff Depth>4.60" Flow Length=340' Tc=12.3 min CN=81 Runoff=9.46 cfs 0.789 af
SubcatchmentB: AREAB	Runoff Area=10,575 sf 75.61% Impervious Runoff Depth>5.85" Tc=5.0 min CN=92 Runoff=1.63 cfs 0.118 af
SubcatchmentC: AREAC	Runoff Area=14,414 sf 55.43% Impervious Runoff Depth>5.28" Tc=5.0 min CN=87 Runoff=2.09 cfs 0.145 af
SubcatchmentD: AREAD	Runoff Area=31,369 sf 87.60% Impervious Runoff Depth>6.20" Tc=5.0 min CN=95 Runoff=4.97 cfs 0.372 af
SubcatchmentE: AREAE	Runoff Area=75,577 sf 71.94% Impervious Runoff Depth>5.73" Tc=5.0 min CN=91 Runoff=11.55 cfs 0.829 af
SubcatchmentF: AREAF	Runoff Area=80,759 sf   76.99% Impervious   Runoff Depth>5.85" Tc=5.0 min   CN=92   Runoff=12.48 cfs  0.903 af
Reach 2R: POI-1	Inflow=24.94 cfs 2.674 af Outflow=24.94 cfs 2.674 af
Pond 1P: prop swale	Peak Elev=13.21' Storage=21,669 cf Inflow=12.48 cfs 0.903 af Outflow=5.55 cfs 0.438 af
Pond 2P: Pipe Storage	Peak Elev=19.85' Storage=3,312 cf Inflow=3.73 cfs 0.264 af Outflow=1.37 cfs 0.246 af
Link 1L: (new Link)	Inflow=3.73 cfs 0.264 af Primary=3.73 cfs 0.264 af

Total Runoff Area = 6.940 ac Runoff Volume = 3.157 af Average Runoff Depth = 5.46" 38.65% Pervious = 2.683 ac 61.35% Impervious = 4.258 ac

## Summary for Subcatchment 3S: AREA A

Runoff = 9.46 cfs @ 12.17 hrs, Volume= 0.789 af, Depth> 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=7.10"

	Ai	rea (sf)	CN [	Description						
		64,169	74 >	75% Grass cover, Good, HSG C						
*		25,451	98							
		89,620	81 V	Veighted A	verage					
		64,169	7	′1.60% Pei	rvious Area					
25,451 28.40% Impervious Area										
	Тс	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	11.2	153	0.0312	0.23		Sheet Flow, A-B				
						Grass: Short n= 0.150 P2= 3.40"				
	0.7	129	0.0388	3.17		Shallow Concentrated Flow, B-C				
						Unpaved Kv= 16.1 fps				
	0.4	58	0.0179	2.72		Shallow Concentrated Flow, C-D				
						Paved Kv= 20.3 fps				
	12.3	340	Total							

## Subcatchment 3S: AREA A



#### Summary for Subcatchment B: AREA B

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.63 cfs @ 12.07 hrs, Volume= 0.118 af, Depth> 5.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=7.10"

	Area (sf)	CN	Description						
*	7,996	98							
	2,579	74	>75% Gras	s cover, Go	ood, HSG C				
	10,575	92	Weighted A	verage					
	2,579		24.39% Per	24.39% Pervious Area					
	7,996		75.61% Impervious Area						
T (min	c Length ) (feet)	Slop (ft/fl	e Velocity ) (ft/sec)	Capacity (cfs)	Description				
5.	)		, , , , , ,	× /	Direct Entry, Minimum				

## Subcatchment B: AREA B



#### Summary for Subcatchment C: AREA C

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.09 cfs @ 12.07 hrs, Volume= 0.145 af, Depth> 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=7.10"

	Area (sf)	CN	Description						
*	7,989	98							
	6,425	74	>75% Gras	s cover, Go	ood, HSG C				
	14,414	87	Weighted A	Veighted Average					
	6,425		44.57% Per	14.57% Pervious Area					
	7,989		55.43% Imp	55.43% Impervious Area					
	Tc Length	Slop	e Velocity	Capacity	Description				
(m	nin) (feet)	(ft/f	t) (ft/sec)	(cfs)					
	5.0				Direct Entry,				

## Subcatchment C: AREA C



### Summary for Subcatchment D: AREA D

[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.97 cfs @ 12.07 hrs, Volume= 0.372 af, Depth> 6.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=7.10"

	Area (sf)	CN	Description					
*	27,479	98						
	3,890	74	>75% Grass cover, Good, HSG C					
	31,369	95	Weighted Average					
	3,890	3,890 12.40% Pervious Area						
	27,479	27,479 87.60% Impervious Are			rea			
(n	Tc Length nin) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description			
	5.0				Direct Entry,			

### Subcatchment D: AREA D



#### Summary for Subcatchment E: AREA E

[49] Hint: Tc<2dt may require smaller dt

Runoff = 11.55 cfs @ 12.07 hrs, Volume= 0.829 af, Depth> 5.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=7.10"

	Area (sf)	CN	Description					
*	54,371	98						
	21,206	74	>75% Grass cover, Good, HSG C					
	75,577	91	Weighted Average					
	21,206		28.06% Pervious Area					
	54,371		71.94% Impervious Area					
(m	Tc Length nin) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description			
	5.0	•	· · · ·		Direct Entry, Minimum			

## Subcatchment E: AREA E



#### Summary for Subcatchment F: AREA F

[49] Hint: Tc<2dt may require smaller dt

Runoff = 12.48 cfs @ 12.07 hrs, Volume= 0.903 af, Depth> 5.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 100-Year Rainfall=7.10"

	Area (sf)	CN	Description					
*	62,177	98						
	18,582	74	>75% Grass cover, Good, HSG C					
	80,759	92	Weighted Average					
18,582 23.01% Pervious Area					l			
62,177 76.99% Impervious Are			76.99% Imp	ervious Ar	ea			
(m	Tc Length nin) (feet)	Slop (ft/f	e Velocity t) (ft/sec)	Capacity (cfs)	Description			
į	5.0				Direct Entry, Minimum			

## Subcatchment F: AREA F


### Summary for Reach 2R: POI-1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area	a =	6.940 ac, 6	1.35% Imp	ervious,	Inflow D	epth >	4.62	?" for 1	00-Year	event
Inflow	=	24.94 cfs @	12.11 hrs,	Volume	=	2.674 a	af			
Outflow	=	24.94 cfs @	12.11 hrs,	Volume	=	2.674 a	af, A	Atten= 0%	%, Lag=	0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs



#### Reach 2R: POI-1

### Summary for Pond 1P: prop swale

Inflow Are	ea =	1.854 ac, 76	6.99% Impervious,	Inflow Depth >	5.85" for	100-Year event
Inflow	=	12.48 cfs @	12.07 hrs, Volume	e 0.903 a	af	
Outflow	=	5.55 cfs @	12.26 hrs, Volume	e= 0.438 a	af, Atten= 5	55%, Lag= 11.1 min
Primary	=	5.55 cfs @	12.26 hrs, Volume	e= 0.438 a	af	

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 13.21' @ 12.26 hrs Surf.Area= 7,429 sf Storage= 21,669 cf

Plug-Flow detention time= 196.7 min calculated for 0.438 af (48% of inflow) Center-of-Mass det. time= 101.6 min ( 844.6 - 743.0 )

Volume	In	vert	Avail.Sto	rage	Storage	Description	
#1	6	6.00'	28,17	76 cf	Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio (fee	on et)	Sur	f.Area (sq-ft)	Inc (cubio	.Store c-feet)	Cum.Store (cubic-feet)	
6.0	00		540		0	0	
8.0	00		1,482		2,022	2,022	
10.0	00		2,580		4,062	6,084	
12.0	00		5,330		7,910	13,994	
13.0	00		7,017		6,174	20,168	
14.(	00		9,000		8,009	28,176	
Device	Routin	g	Invert	Outle	et Devices	6	
#1	Primar	у	13.00'	<b>20.0</b> Hea Coet	<b>' long (P</b> d (feet) 0 f. (English	rofile 1) Broad .49 0.98 1.48 ) 2.92 3.37 3.	-Crested Rectangular Weir
			- 10 6	~			

**Primary OutFlow** Max=5.48 cfs @ 12.26 hrs HW=13.21' (Free Discharge) **1=Broad-Crested Rectangular Weir** (Weir Controls 5.48 cfs @ 1.33 fps)

### 07c2352 Proposed-NEW

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# Pond 1P: prop swale

### Summary for Pond 2P: Pipe Storage

Inflow Area	=	0.574 ac, 6	3.97% Imper	vious, Inflo	ow Depth >	5.52"	for 100-	Year event
Inflow	=	3.73 cfs @	12.07 hrs, \	/olume=	0.264	af		
Outflow	=	1.37 cfs @	12.32 hrs, \	/olume=	0.246	af, Atte	n= 63%,	Lag= 14.7 min
Primary	=	1.37 cfs @	12.32 hrs, \	/olume=	0.246	af		

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 19.85' @ 12.32 hrs Surf.Area= 1,615 sf Storage= 3,312 cf

Plug-Flow detention time= 62.6 min calculated for 0.246 af (93% of inflow) Center-of-Mass det. time= 38.7 min (790.0 - 751.3)

Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	2,283 cf	36.0" Round Pipe Storage Inside #2
			L= 323.0'
#2	16.50'	2,317 cf	5.00'W x 323.00'L x 5.00'H Prismatoid
			8,075 cf Overall - 2,283 cf Embedded = 5,792 cf x 40.0% Voids
		4,600 cf	Total Available Storage
Device	Routing	Invert Out	let Devices
#1	Drimony	17 50' <b>C 0'</b>	Vert Orifica/Crate C= 0.600
# I	Primary	17.30 <b>0.0</b>	vert. Orifice/Grate C- 0.000

**Primary OutFlow** Max=1.37 cfs @ 12.32 hrs HW=19.84' (Free Discharge) **1=Orifice/Grate** (Orifice Controls 1.37 cfs @ 6.97 fps)

### Pond 2P: Pipe Storage



### Summary for Link 1L: (new Link)

Inflow A	Area =	0.574 ac, 6	3.97% Impervious,	Inflow Depth > 5	.52" for 100-Year event
Inflow	=	3.73 cfs @	12.07 hrs, Volume	= 0.264 at	
Primary	/ =	3.73 cfs @	12.07 hrs, Volume	= 0.264 at	f, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs



## Link 1L: (new Link)