

Summary for Subcatchment SC10:

Runoff = 0.12 cfs @ 12.10 hrs, Volume= 436 cf, Depth> 0.70"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 2-yr Rainfall=3.23"

A	rea (sf)	CN I	Description		
	3,560	98 I	Paved park	ing, HSG A	N Contraction of the second seco
	3,900	39 >	>75% Ġras	s cover, Go	bod, HSG A
	7,460	67 \	Neighted A	verage	
	3,900	Ę	52.28% Pe	rvious Area	
	3,560	4	17.72% Imp	pervious Ar	ea
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
3.7	36	0.0300	0.16		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.23"
0.2	17	0.0300	1.14		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.23"
0.3	55	0.0300	3.52		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
1.8					Direct Entry, Minimum Tc
6.0	108	Total			

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Summary for Subcatchment SC11:

Runoff 0.14 cfs @ 12.09 hrs, Volume= 455 cf, Depth> 1.23" =

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 2-yr Rainfall=3.23"

A	rea (sf)	CN E	Description		
	2,855	98 F	Paved park	ing, HSG A	N Contraction of the second seco
	1,575	39 >	•75% Gras	s cover, Go	bod, HSG A
	4,430	77 V	Veighted A	verage	
	1,575	3	85.55% Pei	rvious Area	
	2,855	6	64.45% Imp	pervious Ar	ea
			-		
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1.6	17	0.0500	0.17		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.23"
0.4	34	0.0300	1.31		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.23"
0.2	39	0.0300	3.52		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
3.8					Direct Entry, Minimum Tc
6.0	90	Total			

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Summary for Subcatchment SC12:

Runoff 0.13 cfs @ 12.09 hrs, Volume= 423 cf, Depth> 1.17" =

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 2-yr Rainfall=3.23"

A	rea (sf)	CN [Description		
	2,735	98 F	Paved park	ing, HSG A	N Contraction of the second seco
	1,595	39 >	>75% Ġras	s cover, Go	bod, HSG A
	4,330	76 \	Neighted A	verage	
	1,595	3	36.84% Pe	rvious Area	
	2,735	6	63.16% Imp	pervious Ar	ea
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
0.9	25	0.0500	0.45		Sheet Flow,
					Fallow n= 0.050 P2= 3.23"
0.3	25	0.0300	1.23		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.23"
0.3	72	0.0300	3.52		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
4.5					Direct Entry, Minimum Tc
6.0	122	Total			

Summary for Subcatchment SC13: 1872 Building

Runoff 0.26 cfs @ 12.08 hrs, Volume= 911 cf, Depth> 2.99" =

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 2-yr Rainfall=3.23"

A	rea (sf)	CN	Description					
	3,650	98	Roofs, HSG	βA				
	3,650 100.00% Impervious Area							
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
6.0					Direct Entry, Minimum Tc			
Summary for Subcatchment SC14								

Summary for Subcatchment 5014:

Runoff = 0.03 cfs @ 12.10 hrs, Volume= 96 cf, Depth> 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 2-yr Rainfall=3.23"

Type III 24-hr 2-yr Rainfall=3.23" Printed 1/14/2020 Page 4

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A	rea (sf)	CN I	Description		
*	725	98 I	Existing As	phalt Parkir	ng Areas
	640	39 :	>75% Gras	s cover, Go	ood, HSG A
	1,365	70	Neighted A	verage	
	640	4	46.89% Pei	vious Area	
	725	ę	53.11% Imp	pervious Are	ea
Тс	l enath	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1.1	23	0.0300	0.36		Sheet Flow,
					Fallow n= 0.050 P2= 3.23"
0.2	16	0.0300	1.13		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.23"
4.7					Direct Entry, Minimum Tc
6.0	39	Total			
			0		Cubestelement CO4F
			Sun	imary for	Subcatchment SC15:
Runoff	=	0.05 c	fs @ 12.1	0 hrs, Volu	me= 175 cf, Depth> 0.95"
Dupoff b		2 20 ma	thad UU-C	CC Time	$S_{non-0.00.24.00}$ bro. $dt = 0.01$ bro.
Type III 2	y 303 11 24_hr 2_v	r Rainfa	1100, UH-3 11=3 23"	scs, rimes	Span- 0.00-24.00 ms, dt- 0.01 ms
rype m z	∠-∓-111 Z-y	i i taima	1-0.20		
A	rea (sf)	CN I	Description		
*	1,245	98 I	Existing As	phalt Parkir	ng Areas
	975	39 :	>75% Gras	s cover, Go	ood, HSG A
	2,220	72	Neighted A	verage	
	975	4	43.92% Pei	vious Area	
	1,245	ł	56.08% Imp	pervious Are	ea
Тс	Length	Slone	Velocity	Canacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Description
0.8	17	0 0300	0 34	(010)	Sheet Flow
0.0		0.0000	0.04		Fallow $n=0.050$ P2= 3.23"
0.1	9	0.0300	1.00		Sheet Flow,
	-				Smooth surfaces n= 0.011 P2= 3.23"
5.1					Direct Entry, Minimum Tc
6.0	26	Total			

Summary for Subcatchment SC16: 1980 Building & New Addition

Runoff	=	0.82 cfs @	12 09 hrs	Volume=	2 578 cf	Denth>	2 28"
Nulloii	_	0.02 crs(w)	12.091115,	volume-	2,37000,	Depuir	2.20

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 2-yr Rainfall=3.23"

Type III 24-hr 2-yr Rainfall=3.23" Printed 1/14/2020 Page 5

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Area (sf)	CN	Description
715	98	Paved parking, HSG A
11,285	98	Roofs, HSG A
1,545	39	>75% Grass cover, Good, HSG A
13,545	91	Weighted Average
1,545		11.41% Pervious Area
12,000		88.59% Impervious Area
Tc Length	Slop	pe Velocity Capacity Description
(min) (feet)	(ft/	ft) (ft/sec) (cfs)

6.0

Direct Entry, Minimum Tc

Summary for Reach R1: CB9 to PDMH3

Inflow Area =	= 7,460 sf	, 47.72% Impervious,	Inflow Depth > (0.70" for 2-yr event
Inflow =	0.12 cfs @	12.10 hrs, Volume=	436 cf	
Outflow =	0.12 cfs @	12.11 hrs, Volume=	436 cf,	Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 2.32 fps, Min. Travel Time= 0.3 min Avg. Velocity = 0.98 fps, Avg. Travel Time= 0.8 min

Peak Storage= 2 cf @ 12.11 hrs Average Depth at Peak Storage= 0.12' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 45.0' Slope= 0.0133 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R2: CB10 to PDMH3

 Inflow Area =
 4,430 sf, 64.45% Impervious, Inflow Depth > 1.23" for 2-yr event

 Inflow =
 0.14 cfs @ 12.09 hrs, Volume=
 455 cf

 Outflow =
 0.14 cfs @ 12.09 hrs, Volume=
 455 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 4.70 fps, Min. Travel Time= 0.0 min Avg. Velocity = 1.82 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 12.09 hrs Average Depth at Peak Storage= 0.08' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 10.43 cfs

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12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 7.0' Slope= 0.0857 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R3: CB8 to PDMH3

Inflow A	rea =	4,330 sf	, 63.16% Ir	npervious,	Inflow Depth > 7	1.17"	for 2-yr e	event
Inflow	=	0.13 cfs @	12.09 hrs,	Volume=	423 cf		•	
Outflow	=	0.13 cfs @	12.10 hrs,	Volume=	422 cf,	Atten	= 0%, Lag	g= 0.3 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 2.19 fps, Min. Travel Time= 0.4 min Avg. Velocity = 0.84 fps, Avg. Travel Time= 1.2 min

Peak Storage= 3 cf @ 12.10 hrs Average Depth at Peak Storage= 0.13' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.62 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 58.0' Slope= 0.0103 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R4: PDMH3 to PVCB1

 Inflow Area =
 16,220 sf, 56.41% Impervious, Inflow Depth > 0.97" for 2-yr event

 Inflow =
 0.39 cfs @ 12.10 hrs, Volume=
 1,313 cf

 Outflow =
 0.39 cfs @ 12.10 hrs, Volume=
 1,313 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 3.10 fps, Min. Travel Time= 0.0 min Avg. Velocity = 1.20 fps, Avg. Travel Time= 0.1 min

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Peak Storage= 1 cf @ 12.10 hrs Average Depth at Peak Storage= 0.22' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.76 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 9.0' Slope= 0.0111 '/' Inlet Invert= 95.90', Outlet Invert= 95.80'



Summary for Reach R5: PVCB1 to CULTEC

 Inflow Area =
 16,220 sf, 56.41% Impervious, Inflow Depth > 0.97" for 2-yr event

 Inflow =
 0.39 cfs @ 12.10 hrs, Volume=
 1,313 cf

 Outflow =
 0.39 cfs @ 12.10 hrs, Volume=
 1,313 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 3.39 fps, Min. Travel Time= 0.0 min Avg. Velocity = 1.31 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.10 hrs Average Depth at Peak Storage= 0.21' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.26 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 7.0' Slope= 0.0143 '/' Inlet Invert= 95.70', Outlet Invert= 95.60'



Summary for Reach R6: PVCB2 to PDMH5

Inflow Are	a =	2,220 sf,	56.08% Impervious,	Inflow Depth > ().95" fo	r 2-yr event
Inflow	=	0.05 cfs @	12.10 hrs, Volume=	175 cf		-
Outflow	=	0.05 cfs @	12.10 hrs, Volume=	175 cf,	Atten= C	0%, Lag= 0.1 min

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 1.77 fps, Min. Travel Time= 0.1 min Avg. Velocity = 0.72 fps, Avg. Travel Time= 0.2 min

Peak Storage= 0 cf @ 12.10 hrs Average Depth at Peak Storage= 0.08' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.98 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 8.0' Slope= 0.0125 '/' Inlet Invert= 96.90', Outlet Invert= 96.80'



Summary for Reach R7: PDMH5 to PDMH4

Inflow Ar	rea =	15,765 sf,	84.02% Impervious,	Inflow Depth > 2.	10" for 2-yr event
Inflow	=	0.87 cfs @	12.09 hrs, Volume=	2,753 cf	-
Outflow	=	0.87 cfs @	12.09 hrs, Volume=	2,753 cf, 7	Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 3.93 fps, Min. Travel Time= 0.1 min Avg. Velocity = 1.33 fps, Avg. Travel Time= 0.4 min

Peak Storage= 8 cf @ 12.09 hrs Average Depth at Peak Storage= 0.33' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.81 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 35.0' Slope= 0.0114 '/' Inlet Invert= 96.70', Outlet Invert= 96.30'



Summary for Reach R8: PDMH4 to CULTEC

 Inflow Area =
 15,765 sf, 84.02% Impervious, Inflow Depth > 2.10" for 2-yr event

 Inflow =
 0.87 cfs @
 12.09 hrs, Volume=
 2,753 cf

 Outflow =
 0.87 cfs @
 12.09 hrs, Volume=
 2,753 cf, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 3.97 fps, Min. Travel Time= 0.2 min Avg. Velocity = 1.34 fps, Avg. Travel Time= 0.6 min

Peak Storage= 11 cf @ 12.09 hrs Average Depth at Peak Storage= 0.32' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.86 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 51.0' Slope= 0.0118 '/' Inlet Invert= 96.20', Outlet Invert= 95.60'



Summary for Reach R9: PDMH2 to PDMH1

 Inflow Area =
 35,635 sf, 73.09% Impervious, Inflow Depth > 1.60" for 2-yr event

 Inflow =
 1.31 cfs @ 12.14 hrs, Volume=
 4,752 cf

 Outflow =
 1.31 cfs @ 12.14 hrs, Volume=
 4,751 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 4.16 fps, Min. Travel Time= 0.2 min Avg. Velocity = 1.63 fps, Avg. Travel Time= 0.4 min

Peak Storage= 12 cf @ 12.14 hrs Average Depth at Peak Storage= 0.38' Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.54 cfs

15.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 39.0' Slope= 0.0103 '/' Inlet Invert= 94.40', Outlet Invert= 94.00'



Summary for Pond P1: CULTEC UNIT

Inflow Area	ı =	35,635 sf,	73.09% Impervious,	Inflow Depth > 1.	68" for 2-yr event
Inflow	=	1.52 cfs @	12.09 hrs, Volume=	4,977 cf	
Outflow	=	1.31 cfs @	12.14 hrs, Volume=	4,752 cf, 1	Atten= 14%, Lag= 2.9 min
Primary	=	1.31 cfs @	12.14 hrs, Volume=	4,752 cf	-

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Peak Elev= 95.53' @ 12.14 hrs Surf.Area= 863 sf Storage= 632 cf

Plug-Flow detention time= 48.8 min calculated for 4,750 cf (95% of inflow) Center-of-Mass det. time= 23.6 min (835.8 - 812.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	94.40'	689 cf	19.17'W x 45.00'L x 3.21'H Field A
			2,767 cf Overall - 1,044 cf Embedded = 1,723 cf x 40.0% Voids
#2A	94.90'	1,044 cf	Cultec R-280 x 24 Inside #1
			Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
			Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
			Row Length Adjustment= +1.00' x 6.07 sf x 4 rows
		1,733 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	94.90'	12.0" Round Culvert - R9 L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 94.90' / 94.52' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.30 cfs @ 12.14 hrs HW=95.53' TW=94.78' (Dynamic Tailwater) ←1=Culvert - R9 (Barrel Controls 1.30 cfs @ 3.55 fps)

Summary for Link DP#1: DMH64

Inflow /	Area	=	37,000 s [.]	f, 72.35% Ir	npervious,	Inflow Depth >	1.57"	for 2-	yr event
Inflow		=	1.33 cfs @	12.14 hrs,	Volume=	4,847 c	f		
Primar	y	=	1.33 cfs @	12.14 hrs,	Volume=	4,847 c	f, Atten	= 0%,	Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

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Summary for Subcatchment SC10:

Runoff 0.34 cfs @ 12.09 hrs, Volume= = 1,102 cf, Depth> 1.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 10-yr Rainfall=4.96"

A	rea (sf)	CN I	Description		
	3,560	98 I	Paved park	ing, HSG A	N Contraction of the second seco
	3,900	39 >	>75% Ġras	s cover, Go	bod, HSG A
	7,460	67 \	Neighted A	verage	
	3,900	Ę	52.28% Pe	rvious Area	
	3,560	4	17.72% Imp	pervious Ar	ea
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
3.7	36	0.0300	0.16		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.23"
0.2	17	0.0300	1.14		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.23"
0.3	55	0.0300	3.52		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
1.8					Direct Entry, Minimum Tc
6.0	108	Total			

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Summary for Subcatchment SC11:

Runoff 0.31 cfs @ 12.09 hrs, Volume= 955 cf, Depth> 2.59" =

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 10-yr Rainfall=4.96"

A	rea (sf)	CN E	Description		
	2,855	98 F	Paved park	ing, HSG A	
	1,575	39 >	•75% Ġras	s cover, Go	ood, HSG A
	4,430	77 V	Veighted A	verage	
	1,575	3	85.55% Pei	vious Area	
	2,855	6	64.45% Imp	pervious Ar	ea
			-		
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1.6	17	0.0500	0.17		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.23"
0.4	34	0.0300	1.31		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.23"
0.2	39	0.0300	3.52		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
3.8					Direct Entry, Minimum Tc
6.0	90	Total			

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Summary for Subcatchment SC12:

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 902 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 10-yr Rainfall=4.96"

A	rea (sf)	CN [Description		
	2,735	98 F	Paved park	ing, HSG A	N Contraction of the second seco
	1,595	39 >	>75% Ġras	s cover, Go	bod, HSG A
	4,330	76 \	Neighted A	verage	
	1,595	3	36.84% Pe	rvious Area	
	2,735	6	63.16% Imp	pervious Ar	ea
Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
0.9	25	0.0500	0.45		Sheet Flow,
					Fallow n= 0.050 P2= 3.23"
0.3	25	0.0300	1.23		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.23"
0.3	72	0.0300	3.52		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
4.5					Direct Entry, Minimum Tc
6.0	122	Total			

Summary for Subcatchment SC13: 1872 Building

Runoff = 0.41 cfs @ 12.08 hrs, Volume= 1,436 cf, Depth> 4.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 10-yr Rainfall=4.96"

Area	(sf)	CN	Description					
3,	650	98	Roofs, HSG	βA				
3,	650		100.00% Impervious Area					
Tc Le (min) (ength (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
6.0	Direct Entry, Minimum Tc							
Summary for Subcatchment SC14:								

Runoff =	0.07 cfs @	12.09 hrs,	Volume=	228 cf,	Depth>	2.00"
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Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 10-yr Rainfall=4.96"

Type III 24-hr 10-yr Rainfall=4.96" Printed 1/14/2020 Page 13

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A	rea (sf)	CN I	Description					
*	725	98 I	Existing As	phalt Parkir	ng Areas			
	640	39 :	>75% Gras	s cover, Go	bod, HSG A			
	1,365	70	Weighted A	verage				
	640	4	46.89% Pei	vious Area				
	725	ę	53.11% Imp	pervious Ar	ea			
Тс	l enath	Slope	Velocity	Canacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Decemption			
1.1	23	0.0300	0.36		Sheet Flow.			
					Fallow n= 0.050 P2= 3.23"			
0.2	16	0.0300	1.13		Sheet Flow,			
					Smooth surfaces n= 0.011 P2= 3.23"			
4.7					Direct Entry, Minimum Tc			
6.0	39	Total						
			•	-				
	Summary for Subcatchment SC15:							
Runoff	=	0.13 c	fs @ 12.0	9 hrs, Volu	me= 400 cf, Depth> 2.16"			
Dupoff b		2 20 ma	thad UU-C	CO Time	$S_{non-0.00.24.00}$ bro. $dt = 0.01$ bro.			
Type III (y 303 11 24_hr 10.	vr Rainf	unou, un-c all=4 96"	scs, rime,	Span- 0.00-24.00 hrs, dt- 0.01 hrs			
rype m z		yr rtann	un 4.00					
A	rea (sf)	CN I	Description					
*	1,245	98 I	Existing As	phalt Parkir	ng Areas			
	975	39 >	>75% Gras	s cover, Go	bod, HSG A			
	2,220	72	Weighted A	verage				
	975	4	43.92% Pei	vious Area				
	1,245	ł	56.08% Imp	pervious Ar	ea			
Тс	l enath	Slone	Velocity	Canacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Description			
0.8	17	0.0300	0.34	()	Sheet Flow.			
					Fallow n= 0.050 P2= 3.23"			
0.1	9	0.0300	1.00		Sheet Flow,			
					Smooth surfaces n= 0.011 P2= 3.23"			
5.1					Direct Entry, Minimum Tc			
6.0	26	Total						

Summary for Subcatchment SC16: 1980 Building & New Addition

Runoff	=	1 38 cfs @	12 08 hrs	Volume=	4 447 cf	Depth> 3 94"
1 turion		1.00 013 (0)	12.001113,	V Olume-	$-\tau, \tau \tau i \circ i,$	

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 10-yr Rainfall=4.96"

Type III 24-hr 10-yr Rainfall=4.96" Printed 1/14/2020 Page 14

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Area (sf)	CN	Description				
715	98	Paved parking, HSG A				
11,285	98	Roofs, HSG A				
1,545	39	>75% Grass cover, Good, HSG A				
13,545	91	91 Weighted Average				
1,545		11.41% Pervious Area				
12,000		88.59% Impervious Area				
Tc Length	Slop	be Velocity Capacity Description				
(min) (feet)	(ft/	ft) (ft/sec) (cfs)				

6.0

Direct Entry, Minimum Tc

Summary for Reach R1: CB9 to PDMH3

Inflow Are	ea =	7,460 sf, 4	47.72% Impervious,	Inflow Depth > 1.	.77" for 10-yr event
Inflow	=	0.34 cfs @ 1	2.09 hrs, Volume=	1,102 cf	-
Outflow	=	0.34 cfs @ 1	2.10 hrs, Volume=	1,102 cf,	Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 3.18 fps, Min. Travel Time= 0.2 min Avg. Velocity = 1.22 fps, Avg. Travel Time= 0.6 min

Peak Storage= 5 cf @ 12.10 hrs Average Depth at Peak Storage= 0.20' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 45.0' Slope= 0.0133 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R2: CB10 to PDMH3

 Inflow Area =
 4,430 sf, 64.45% Impervious, Inflow Depth > 2.59" for 10-yr event

 Inflow =
 0.31 cfs @ 12.09 hrs, Volume=
 955 cf

 Outflow =
 0.31 cfs @ 12.09 hrs, Volume=
 955 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 5.92 fps, Min. Travel Time= 0.0 min Avg. Velocity = 2.14 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 12.09 hrs Average Depth at Peak Storage= 0.12' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 10.43 cfs

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12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 7.0' Slope= 0.0857 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R3: CB8 to PDMH3

Inflow A	rea =	4,330 sf,	63.16% Impervious,	Inflow Depth > 2.	50" for 10-yr event
Inflow	=	0.29 cfs @	12.09 hrs, Volume=	902 cf	-
Outflow	=	0.29 cfs @	12.09 hrs, Volume=	902 cf,	Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 2.77 fps, Min. Travel Time= 0.3 min Avg. Velocity = 1.00 fps, Avg. Travel Time= 1.0 min

Peak Storage= 6 cf @ 12.09 hrs Average Depth at Peak Storage= 0.19' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.62 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 58.0' Slope= 0.0103 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R4: PDMH3 to PVCB1

 Inflow Area =
 16,220 sf, 56.41% Impervious, Inflow Depth > 2.19" for 10-yr event

 Inflow =
 0.94 cfs @
 12.09 hrs, Volume=
 2,958 cf

 Outflow =
 0.94 cfs @
 12.09 hrs, Volume=
 2,958 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 3.98 fps, Min. Travel Time= 0.0 min Avg. Velocity = 1.44 fps, Avg. Travel Time= 0.1 min

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Peak Storage= 2 cf @ 12.09 hrs Average Depth at Peak Storage= 0.34' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.76 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 9.0' Slope= 0.0111 '/' Inlet Invert= 95.90', Outlet Invert= 95.80'



Summary for Reach R5: PVCB1 to CULTEC

 Inflow Area =
 16,220 sf, 56.41% Impervious, Inflow Depth > 2.19" for 10-yr event

 Inflow =
 0.94 cfs @
 12.09 hrs, Volume=
 2,958 cf

 Outflow =
 0.94 cfs @
 12.09 hrs, Volume=
 2,958 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 4.35 fps, Min. Travel Time= 0.0 min Avg. Velocity = 1.57 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 12.09 hrs Average Depth at Peak Storage= 0.32' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.26 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 7.0' Slope= 0.0143 '/' Inlet Invert= 95.70', Outlet Invert= 95.60'



Summary for Reach R6: PVCB2 to PDMH5

Inflow A	Area	=	2,220 sf,	56.08% Imp	ervious,	Inflow Depth >	2.16"	for 10)-yr event
Inflow	=	=	0.13 cfs @	12.09 hrs, Vo	olume=	400 c	f		-
Outflow		=	0.13 cfs @	12.09 hrs, Vo	olume=	400 c	f, Atter	n= 0%,	Lag= 0.0 min

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Type III 24-hr 10-yr Rainfall=4.96" Printed 1/14/2020 Page 17

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 2.32 fps, Min. Travel Time= 0.1 min Avg. Velocity = 0.86 fps, Avg. Travel Time= 0.2 min

Peak Storage= 0 cf @ 12.09 hrs Average Depth at Peak Storage= 0.12' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.98 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 8.0' Slope= 0.0125 '/' Inlet Invert= 96.90', Outlet Invert= 96.80'



Summary for Reach R7: PDMH5 to PDMH4

 Inflow Area =
 15,765 sf, 84.02% Impervious, Inflow Depth > 3.69" for 10-yr event

 Inflow =
 1.50 cfs @ 12.09 hrs, Volume=
 4,847 cf

 Outflow =
 1.50 cfs @ 12.09 hrs, Volume=
 4,847 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 4.56 fps, Min. Travel Time= 0.1 min Avg. Velocity = 1.53 fps, Avg. Travel Time= 0.4 min

Peak Storage= 12 cf @ 12.09 hrs Average Depth at Peak Storage= 0.44' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.81 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 35.0' Slope= 0.0114 '/' Inlet Invert= 96.70', Outlet Invert= 96.30'



Summary for Reach R8: PDMH4 to CULTEC

 Inflow Area =
 15,765 sf, 84.02% Impervious, Inflow Depth > 3.69" for 10-yr event

 Inflow =
 1.50 cfs @ 12.09 hrs, Volume=
 4,847 cf

 Outflow =
 1.50 cfs @ 12.09 hrs, Volume=
 4,846 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 4.61 fps, Min. Travel Time= 0.2 min Avg. Velocity = 1.54 fps, Avg. Travel Time= 0.6 min

Peak Storage= 17 cf @ 12.09 hrs Average Depth at Peak Storage= 0.43' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.86 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 51.0' Slope= 0.0118 '/' Inlet Invert= 96.20', Outlet Invert= 95.60'



Summary for Reach R9: PDMH2 to PDMH1

 Inflow Area =
 35,635 sf, 73.09% Impervious, Inflow Depth > 3.03" for 10-yr event

 Inflow =
 2.51 cfs @ 12.13 hrs, Volume=
 9,000 cf

 Outflow =
 2.51 cfs @ 12.14 hrs, Volume=
 8,999 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 4.98 fps, Min. Travel Time= 0.1 min Avg. Velocity = 1.89 fps, Avg. Travel Time= 0.3 min

Peak Storage= 20 cf @ 12.14 hrs Average Depth at Peak Storage= 0.54' Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.54 cfs

15.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 39.0' Slope= 0.0103 '/' Inlet Invert= 94.40', Outlet Invert= 94.00'



Summary for Pond P1: CULTEC UNIT

Inflow Area	=	35,635 sf,	73.09% Impervious,	Inflow Depth > 3.12	I" for 10-yr event
Inflow	=	2.85 cfs @	12.09 hrs, Volume=	9,240 cf	-
Outflow	=	2.51 cfs @	12.13 hrs, Volume=	9,000 cf, At	ten= 12%, Lag= 2.6 min
Primary	=	2.51 cfs @	12.13 hrs, Volume=	9,000 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Peak Elev= 95.88' @ 12.13 hrs Surf.Area= 863 sf Storage= 870 cf

Plug-Flow detention time= 32.6 min calculated for 9,000 cf (97% of inflow) Center-of-Mass det. time= 17.2 min (817.5 - 800.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	94.40'	689 cf	19.17'W x 45.00'L x 3.21'H Field A
			2,767 cf Overall - 1,044 cf Embedded = 1,723 cf x 40.0% Voids
#2A	94.90'	1,044 cf	Cultec R-280 x 24 Inside #1
			Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
			Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
			Row Length Adjustment= +1.00' x 6.07 sf x 4 rows
		1,733 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	94.90'	12.0" Round Culvert - R9 L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 94.90' / 94.52' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
			0

Primary OutFlow Max=2.51 cfs @ 12.13 hrs HW=95.88' TW=94.94' (Dynamic Tailwater) ←1=Culvert - R9 (Barrel Controls 2.51 cfs @ 4.06 fps)

Summary for Link DP#1: DMH64

Inflow Ar	rea =	37,000 sf,	72.35% Imperviou	s, Inflow Depth >	2.99"	for 10-yr event
Inflow	=	2.57 cfs @	12.13 hrs, Volume	= 9,227 c	f	
Primary	=	2.57 cfs @	12.13 hrs, Volume	= 9,227 c	f, Atten	= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

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Summary for Subcatchment SC10:

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 3,184 cf, Depth> 5.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 100-yr Rainfall=9.19"

A	rea (sf)	CN E	Description						
	3,560	98 F	Paved parking, HSG A						
	3,900	39 >	•75% Ġras	s cover, Go	bod, HSG A				
	7,460	67 V	Veighted A	verage					
	3,900	5	52.28% Pei	rvious Area					
	3,560	4	17.72% Imp	pervious Ar	ea				
Тс	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
3.7	36	0.0300	0.16		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.23"				
0.2	17	0.0300	1.14		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.23"				
0.3	55	0.0300	3.52		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
1.8					Direct Entry, Minimum Tc				
6.0	108	Total							

108 10181

Summary for Subcatchment SC11:

Runoff = 0.75 cfs @ 12.09 hrs, Volume= 2,351 cf, Depth> 6.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 100-yr Rainfall=9.19"

A	rea (sf)	CN E	Description						
	2,855	98 F	Paved parking, HSG A						
	1,575	39 >	75% Gras	s cover, Go	ood, HSG A				
	4,430	77 V	Veighted A	verage					
	1,575	3	5.55% Pe	vious Area					
	2,855	6	4.45% Imp	pervious Ar	ea				
			-						
Тс	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
1.6	17	0.0500	0.17		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.23"				
0.4	34	0.0300	1.31		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.23"				
0.2	39	0.0300	3.52		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
3.8					Direct Entry, Minimum Tc				
6.0	90	Total							

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Summary for Subcatchment SC12:

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 2,254 cf, Depth> 6.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 100-yr Rainfall=9.19"

A	rea (sf)	CN D	Description						
	2,735	98 F	8 Paved parking, HSG A						
	1,595	39 >	·75% Ġras	s cover, Go	bod, HSG A				
	4,330	76 V	Veighted A	verage					
	1,595	3	6.84% Pe	rvious Area					
	2,735	6	3.16% Imp	pervious Ar	ea				
Тс	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
0.9	25	0.0500	0.45		Sheet Flow,				
					Fallow n= 0.050 P2= 3.23"				
0.3	25	0.0300	1.23		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.23"				
0.3	72	0.0300	3.52		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
4.5					Direct Entry, Minimum Tc				
6.0	122	Total							

Summary for Subcatchment SC13: 1872 Building

Runoff = 0.76 cfs @ 12.08 hrs, Volume= 2,720 cf, Depth> 8.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 100-yr Rainfall=9.19"

Ar	ea (sf)	CN	Description							
	3,650	98	Roofs, HSC	βA						
	3,650 100.00% Impervious Area									
Tc (min)	Length (feet)	Slop (ft/fl	e Velocity) (ft/sec)	Capacity (cfs)	Description					
6.0					Direct Entry, Minimum Tc					
	Summary for Subcatchment SC14:									

Runoff	=	0.20 cfs @	12.09 hrs,	Volume=	625 cf, Depth>	5.50"
			,		0_0 0., D 0p	

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 100-yr Rainfall=9.19"

6215 93 State Street-POST

5.1

6.0

26 Total

Type III 24-hr 100-yr Rainfall=9.19" Printed 1/14/2020 Page 22

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A	rea (sf)	CN E	Description		
*	725	98 E	Existing As	phalt Parkir	ng Areas
	640	39 >	•75% Gras	s cover, Go	bod, HSG A
	1,365	70 V	Veighted A	verage	
	640	4	6.89% Pei	rvious Area	
	725	5	53.11% Imp	pervious Ar	ea
Тс	Lenath	Slope	Velocitv	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	۲
1.1	23	0.0300	0.36		Sheet Flow,
					Fallow n= 0.050 P2= 3.23"
0.2	16	0.0300	1.13		Sheet Flow,
47					Smooth surfaces n= 0.011 P2= 3.23"
4.7	30	Total			
0.0		TOtal			
			Sum	mary for	r Subcatchment SC15:
			••••		
Runoff	=	0.34 cf	s@ 12.0	9 hrs, Volu	me= 1,063 cf, Depth> 5.75"
Runoff h	V SCS T	7- 20 met	hod UH=S	SCS Time !	Span= 0.00-24.00 brs_dt= 0.01 brs
	24-hr 10	0-vr Rain	fall=9.19"		opun - 0.00-24.00 m3, dt - 0.01 m3
51	-	- J			
ΑΑ	rea (sf)	CN [Description		
*	1,245	98 E	Existing As	phalt Parkir	ng Areas
	975	39 >	•75% Gras	s cover, Go	bod, HSG A
	2,220	72 V	Veighted A	verage	
	975	4	3.92% Pe	rvious Area	
	1,245	5	6.08% imp	pervious Ar	ea
Тс	l enath	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	· · · P · · · · ·
0.8	17	0.0300	0.34		Sheet Flow,
-					Fallow n= 0.050 P2= 3.23"
0.1	9	0.0300	1.00		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.23"

Summary for Subcatchment SC16: 1980 Building & New Addition

Direct Entry, Minimum Tc

D #		0.70 .4. 0	10.00 h		0 400 -5	
Runott	=	2.72 CTS (0)	12.08 nrs,	volume=	9,136 CT	, Deptn> 8.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 100-yr Rainfall=9.19"

Type III 24-hr 100-yr Rainfall=9.19" Printed 1/14/2020 Page 23

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Area (sf)	CN	Description
715	98	Paved parking, HSG A
11,285	98	Roofs, HSG A
1,545	39	>75% Grass cover, Good, HSG A
13,545	91	Weighted Average
1,545		11.41% Pervious Area
12,000		88.59% Impervious Area
Tc Length	Slop	pe Velocity Capacity Description
(min) (feet)	(ft/	ft) (ft/sec) (cfs)

6.0

Direct Entry, Minimum Tc

Summary for Reach R1: CB9 to PDMH3

Inflow Are	ea =	7,460 sf, 47.72% Impervious	, Inflow Depth > 5.12" for 100-yr event
Inflow	=	1.03 cfs @ 12.09 hrs, Volume=	3,184 cf
Outflow	=	1.03 cfs @ 12.09 hrs, Volume=	3,183 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 4.36 fps, Min. Travel Time= 0.2 min Avg. Velocity = 1.55 fps, Avg. Travel Time= 0.5 min

Peak Storage= 11 cf @ 12.09 hrs Average Depth at Peak Storage= 0.34' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.11 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 45.0' Slope= 0.0133 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R2: CB10 to PDMH3

 Inflow Area =
 4,430 sf, 64.45% Impervious, Inflow Depth > 6.37" for 100-yr event

 Inflow =
 0.75 cfs @ 12.09 hrs, Volume=
 2,351 cf

 Outflow =
 0.75 cfs @ 12.09 hrs, Volume=
 2,351 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 7.71 fps, Min. Travel Time= 0.0 min Avg. Velocity = 2.60 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.09 hrs Average Depth at Peak Storage= 0.18' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 10.43 cfs

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12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 7.0' Slope= 0.0857 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R3: CB8 to PDMH3

Inflow /	Area	ı =	4,330 st	f, 63.16% In	npervious,	Inflow Depth >	6.25'	' for 10	00-yr event
Inflow		=	0.72 cfs @	12.09 hrs,	Volume=	2,254 c	f		-
Outflov	v	=	0.72 cfs @	12.09 hrs,	Volume=	2,253 c	f, Atte	en= 0%,	Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 3.60 fps, Min. Travel Time= 0.3 min Avg. Velocity = 1.22 fps, Avg. Travel Time= 0.8 min

Peak Storage= 12 cf @ 12.09 hrs Average Depth at Peak Storage= 0.30' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.62 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 58.0' Slope= 0.0103 '/' Inlet Invert= 96.60', Outlet Invert= 96.00'



Summary for Reach R4: PDMH3 to PVCB1

 Inflow Area =
 16,220 sf, 56.41% Impervious, Inflow Depth > 5.76" for 100-yr event

 Inflow =
 2.50 cfs @ 12.09 hrs, Volume=
 7,788 cf

 Outflow =
 2.50 cfs @ 12.09 hrs, Volume=
 7,788 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 5.12 fps, Min. Travel Time= 0.0 min Avg. Velocity = 1.78 fps, Avg. Travel Time= 0.1 min

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Peak Storage= 4 cf @ 12.09 hrs Average Depth at Peak Storage= 0.60' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.76 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 9.0' Slope= 0.0111 '/' Inlet Invert= 95.90', Outlet Invert= 95.80'



Summary for Reach R5: PVCB1 to CULTEC

 Inflow Area =
 16,220 sf, 56.41% Impervious, Inflow Depth > 5.76" for 100-yr event

 Inflow =
 2.50 cfs @
 12.09 hrs, Volume=
 7,788 cf

 Outflow =
 2.50 cfs @
 12.09 hrs, Volume=
 7,787 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 5.64 fps, Min. Travel Time= 0.0 min Avg. Velocity = 1.95 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.09 hrs Average Depth at Peak Storage= 0.55' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.26 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 7.0' Slope= 0.0143 '/' Inlet Invert= 95.70', Outlet Invert= 95.60'



Summary for Reach R6: PVCB2 to PDMH5

Inflow A	rea :	=	2,220 sf,	56.08% In	npervious,	Inflow Depth >	5.75"	for 10	00-yr event
Inflow	=	:	0.34 cfs @	12.09 hrs,	Volume=	1,063 c	f		•
Outflow	=		0.34 cfs @	12.09 hrs,	Volume=	1,063 c	f, Atter	า= 0%,	Lag= 0.0 min

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 3.10 fps, Min. Travel Time= 0.0 min Avg. Velocity = 1.07 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.09 hrs Average Depth at Peak Storage= 0.20' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.98 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 8.0' Slope= 0.0125 '/' Inlet Invert= 96.90', Outlet Invert= 96.80'



Summary for Reach R7: PDMH5 to PDMH4

Inflow .	Area	a =	15,765 sf	,84.02% In	npervious,	Inflow Depth >	7.76"	for 10	00-yr event	
Inflow		=	3.06 cfs @	12.08 hrs,	Volume=	10,200 c	f		-	
Outflow	N	=	3.06 cfs @	12.09 hrs,	Volume=	10,199 c	f, Atte	en= 0%,	Lag= 0.1 n	nin

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 5.39 fps, Min. Travel Time= 0.1 min Avg. Velocity = 1.87 fps, Avg. Travel Time= 0.3 min

Peak Storage= 20 cf @ 12.09 hrs Average Depth at Peak Storage= 0.68' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.81 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 35.0' Slope= 0.0114 '/' Inlet Invert= 96.70', Outlet Invert= 96.30'



Summary for Reach R8: PDMH4 to CULTEC

 Inflow Area =
 15,765 sf, 84.02% Impervious, Inflow Depth > 7.76" for 100-yr event

 Inflow =
 3.06 cfs @
 12.09 hrs, Volume=
 10,199 cf

 Outflow =
 3.06 cfs @
 12.09 hrs, Volume=
 10,198 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 5.45 fps, Min. Travel Time= 0.2 min Avg. Velocity = 1.89 fps, Avg. Travel Time= 0.5 min

Peak Storage= 29 cf @ 12.09 hrs Average Depth at Peak Storage= 0.67' Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.86 cfs

12.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 51.0' Slope= 0.0118 '/' Inlet Invert= 96.20', Outlet Invert= 95.60'



Summary for Reach R9: PDMH2 to PDMH1

 Inflow Area =
 35,635 sf, 73.09% Impervious, Inflow Depth > 6.88" for 100-yr event

 Inflow =
 5.25 cfs @ 12.14 hrs, Volume=
 20,439 cf

 Outflow =
 5.25 cfs @ 12.14 hrs, Volume=
 20,438 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Max. Velocity= 5.93 fps, Min. Travel Time= 0.1 min Avg. Velocity = 2.27 fps, Avg. Travel Time= 0.3 min

Peak Storage= 35 cf @ 12.14 hrs Average Depth at Peak Storage= 0.85' Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.54 cfs

15.0" Round Pipe n= 0.013 Corrugated PE, smooth interior Length= 39.0' Slope= 0.0103 '/' Inlet Invert= 94.40', Outlet Invert= 94.00'



Summary for Pond P1: CULTEC UNIT

Inflow Area	a =	35,635 sf,	73.09% Impervious,	Inflow Depth > 6.9	7" for 100-yr event
Inflow	=	6.31 cfs @	12.09 hrs, Volume=	20,705 cf	
Outflow	=	5.25 cfs @	12.14 hrs, Volume=	20,439 cf, A	tten= 17%, Lag= 3.2 min
Primary	=	5.25 cfs @	12.14 hrs, Volume=	20,439 cf	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Peak Elev= 97.39' @ 12.14 hrs Surf.Area= 863 sf Storage= 1,658 cf

Plug-Flow detention time= 19.6 min calculated for 20,431 cf (99% of inflow) Center-of-Mass det. time= 11.6 min (795.4 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	94.40'	689 cf	19.17'W x 45.00'L x 3.21'H Field A
			2,767 cf Overall - 1,044 cf Embedded = 1,723 cf x 40.0% Voids
#2A	94.90'	1,044 cf	Cultec R-280 x 24 Inside #1
			Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf
			Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
			Row Length Adjustment= +1.00' x 6.07 sf x 4 rows
		1,733 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	94.90'	12.0" Round Culvert - R9 L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 94.90' / 94.52' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
			o

Primary OutFlow Max=5.25 cfs @ 12.14 hrs HW=97.39' TW=95.25' (Dynamic Tailwater) ←1=Culvert - R9 (Barrel Controls 5.25 cfs @ 6.68 fps)

Summary for Link DP#1: DMH64

Inflow /	Area	ı =	37,000 sf,	72.35% Impervious,	Inflow Depth >	6.83"	for 100-yr event
Inflow		=	5.42 cfs @	12.14 hrs, Volume=	21,063 ct	F	
Primary	у	=	5.42 cfs @	12.14 hrs, Volume=	21,063 c	f, Atten	= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs