# Part III Attachment III-C Appendix III-C.4

#### HYDROCAD MODEL OUTPUTS

Pescadito Environmental Resource Center

MSW No. 2374

Webb County, Texas

## PESCADITO ENVIRONMENTAL RESOURCE CENTER

March 2015

**Prepared for:** 

Rancho Viejo Waste Management, LLC
1116 Calle del Norte
Laredo, TX 78041

Prepared by:

CB&I Environmental and Infrastructure, Inc.



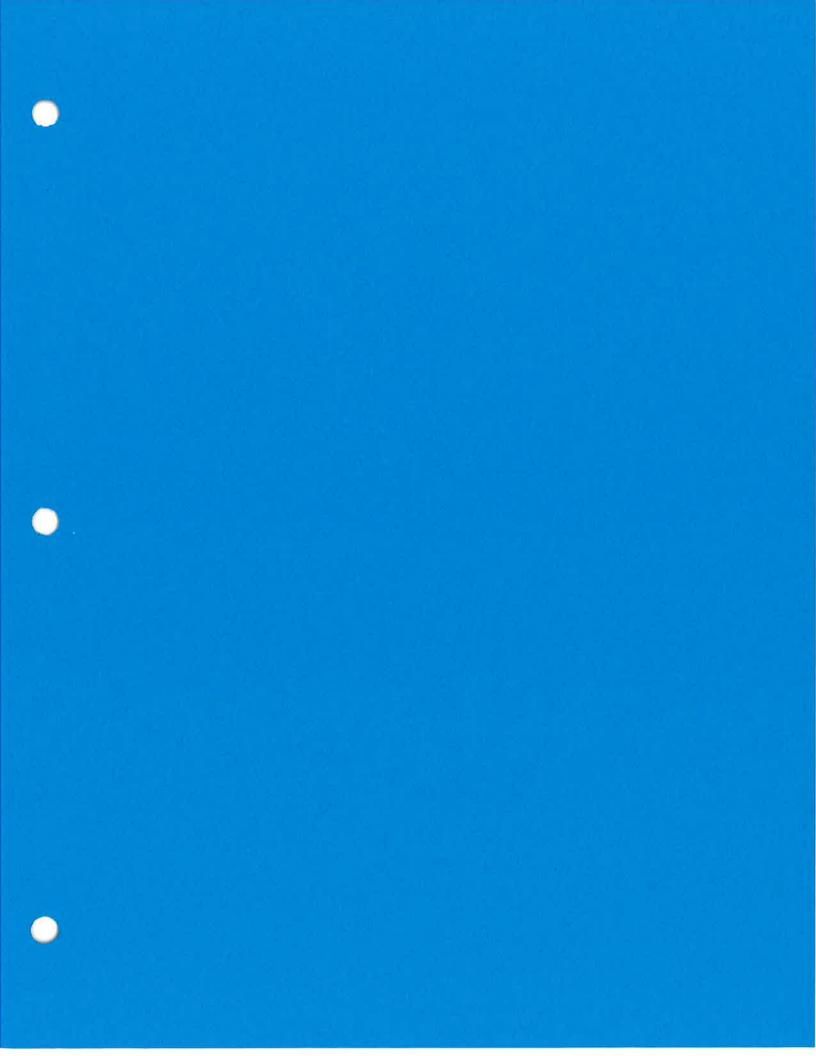
12005 Ford Rd, Suite 600 Dallas, TX 75234



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## **ATTACHMENT III-C**

## **APPENDIX III-C.4**

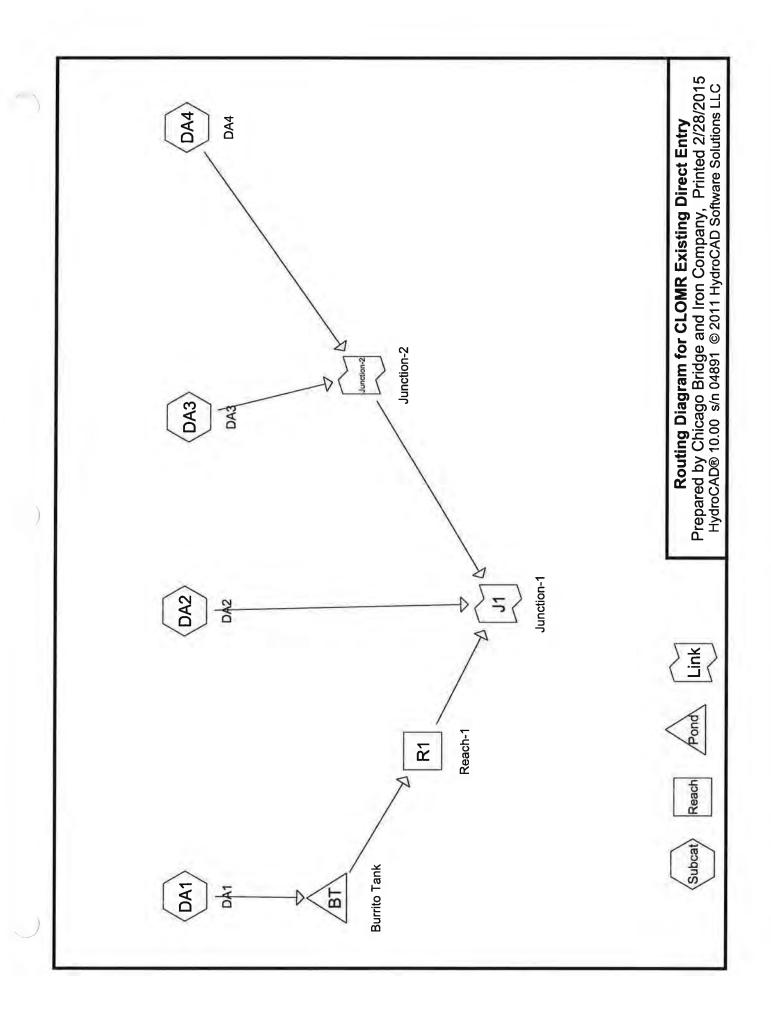
## HYDROCAD MODEL OUTPUT FILES

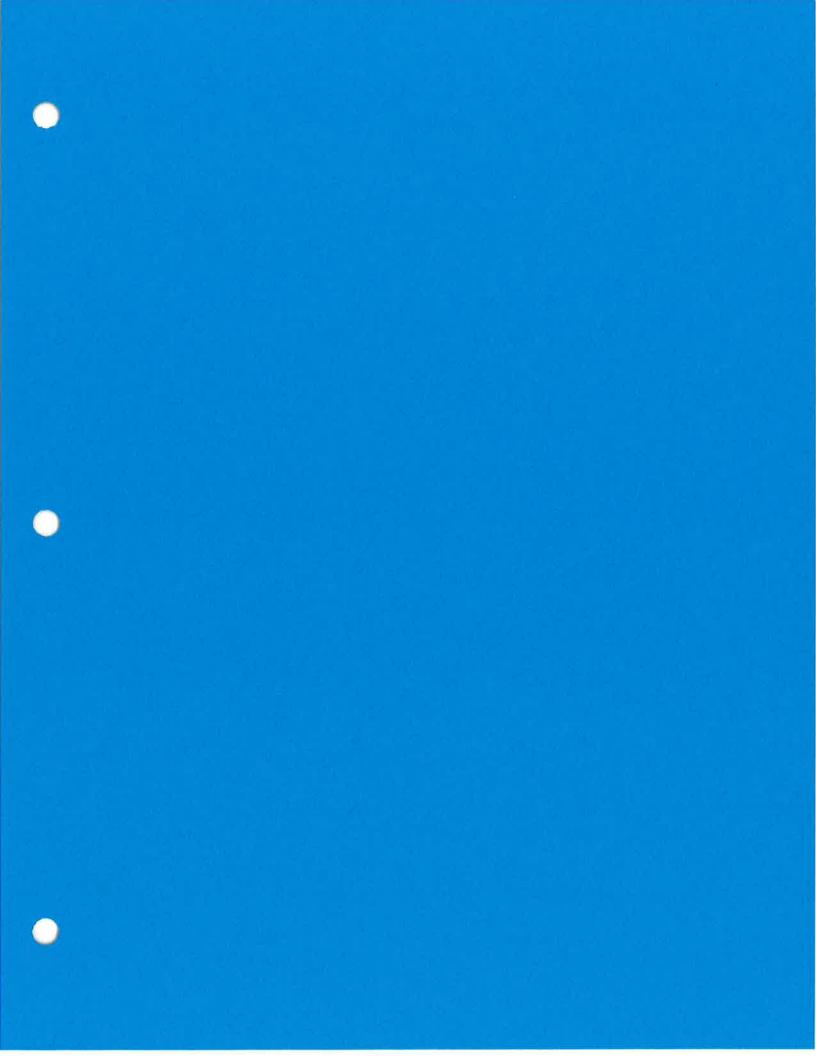
- 1. REGIONAL EXISTING CONDITIONS (PRE-CLOMR)
  - A. MODEL DIAGRAM
  - B. 100-YEAR, 24-HOUR RESULTS
  - C. 25-YEAR, 24-HOUR RESULTS

D.



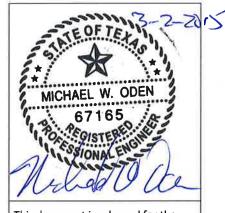






## HYDROCAD MODEL OUTPUT FILES

- 1. REGIONAL EXISTING CONDITIONS (PRE-CLOMR)
  - A. MODEL DIAGRAM
  - B. 100-YEAR, 24-HOUR RESULTS
  - C. 25-YEAR, 24-HOUR RESULTS





## **CLOMR Existing Direct Entry**

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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## **Summary for Subcatchment DA1: DA1**

Runoff = 7,899.97 cfs @ 14.82 hrs, Volume= 3

3,272.867 af, Depth= 5.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Area	(ac)	CN	Desc	cription			<u></u>
*	6,950	970	69					
	6,950	970		100.	00% Pervi	ious Area		
1	Tc (min)	Leng		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	205.2			4-3-3			Direct Entry,	

## **Summary for Subcatchment DA2: DA2**

Runoff = 1,687.61 cfs @ 13.10 hrs, Volume=

363.684 af, Depth= 5.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac)	CN I	Desc	ription			
*	772.	398	69					
	772.	398		100.0	00% Pervi	ous Area		
	Тс	Lengtl		ope	Velocity	Capacity	Description	
_	(min)	(feet	) (1	t/ft)	(ft/sec)	(cfs)		
	80.2						Direct Entry,	

## **Summary for Subcatchment DA3: DA3**

Runoff = 3,835.91 cfs @ 13.94 hrs, Volume= 1,262.365 af, Depth= 5.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac)	CN	Desc	cription			
*	2,948.	123	65					
	2,948.	123		100.	00% Pervi	ous Area		
	Тс	Lengt		Slope	Velocity	Capacity	Description	
_	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)		
	147.6						Direct Entry,	

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## **Summary for Subcatchment DA4: DA4**

Runoff = 3,819.68 cfs @ 15.24 hrs, Volume= 1,830.935 af, Depth> 5.52"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac)	CN	Desc	cription			
k	3,978.	626	68					
	3,978.	626		100.	00% Pervi	ous Area		
	Тс	Leng	jth	Slope	Velocity	Capacity	Description	
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		
	249.3						Direct Entry,	

### **Summary for Reach R1: Reach-1**

Inflow Area = 6,950.970 ac, 0.00% Impervious, Inflow Depth = 5.65" for 100-Year, 24-Hour event

Inflow = 7,720.42 cfs @ 15.04 hrs, Volume= 3,272.838 af

Outflow = 7,720.42 cfs @ 15.04 hrs, Volume= 3,272.838 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

## **Summary for Pond BT: Burrito Tank**

Inflow Area = 6,950.970 ac, 0.00% Impervious, Inflow Depth = 5.65" for 100-Year, 24-Hour event

Inflow = 7,899.97 cfs @ 14.82 hrs, Volume= 3,272.867 af

Outflow = 7,720.42 cfs @ 15.04 hrs, Volume= 3,272.838 af, Atten= 2%, Lag= 13.1 min

Primary = 7,720.42 cfs @ 15.04 hrs, Volume= 3,272.838 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 538.00' Surf.Area= 39.210 ac Storage= 81.585 af Peak Elev= 542.05' @ 15.04 hrs Surf.Area= 126.711 ac Storage= 387.422 af (305.837 af above start)

Plug-Flow detention time= 62.9 min calculated for 3,191.253 af (98% of inflow)

Center-of-Mass det. time= 39.1 min ( 1,043.6 - 1,004.5 )

Volume	Invert	Avail.Storage	Storag	ge Description				
#1	535.00'	728.575 af	Custo	om Stage Data	(Prismat	i <b>c)</b> Listed be	elow (Red	calc)
Elevation (feet)	Surf.Are (acres			Cum.Store (acre-feet)				
535.00	17.46	0.0	000	0.000				
536.00	22.43	30 19.9	945	19.945				
538.00	39.21	0 61.6	340	81.585				
540.00	68.11	0 107.3	320	188.905				
542.00	124.32	0 192.4	430	381.335				
544.00	222.92	0 347.2	240	728.575				

Device	Routing	Invert	Outlet Devices	
#1	Primary	538.00'	Special & User-Defined	

### **CLOMR Existing Direct Entry**

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Elev. (feet) 538.00 540.00 542.00 542.12 Disch. (cfs) 0.000 1,167.000 7,118.000 8,608.700

Primary OutFlow Max=7,720.34 cfs @ 15.04 hrs HW=542.05' (Free Discharge) 1=Special & User-Defined (Custom Controls 7,720.34 cfs)

### **Summary for Link J1: Junction-1**

Inflow Area = 14,650.117 ac, 0.00% Impervious, Inflow Depth = 5.51" for 100-Year, 24-Hour event

Inflow = 14,540.47 cfs @ 14.94 hrs, Volume= 6,729.821 af

Primary = 14,540.47 cfs @ 14.94 hrs, Volume= 6,729.821 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

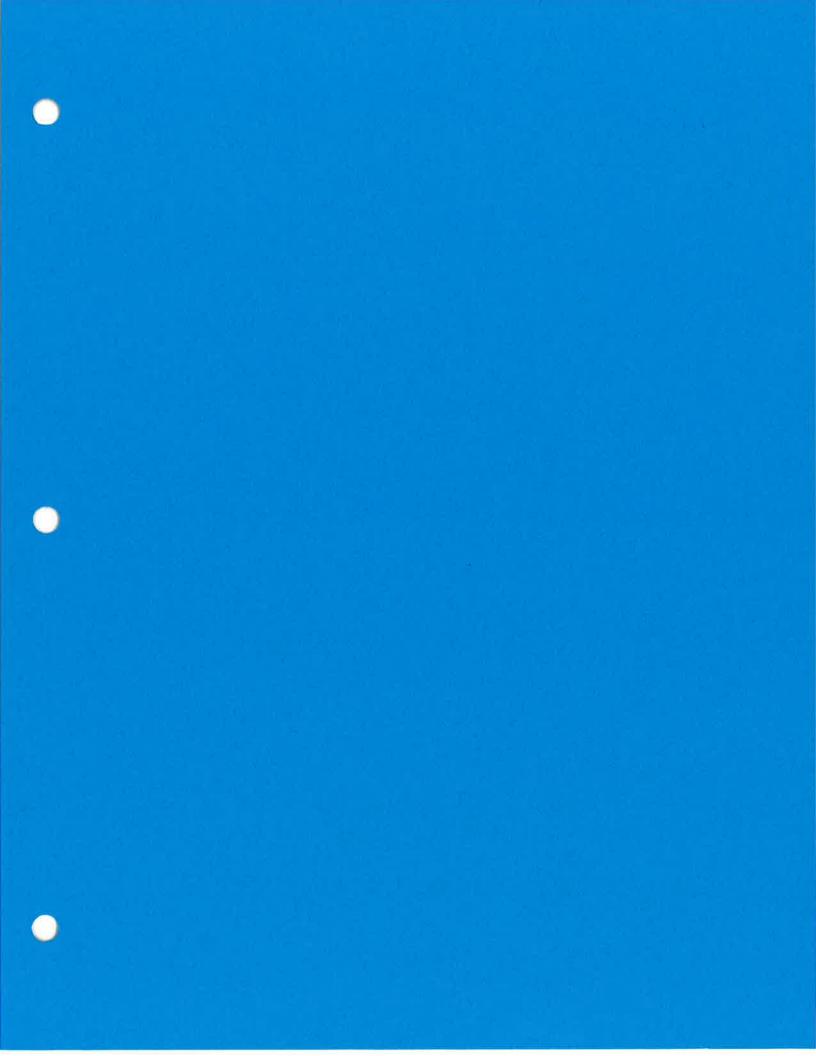
### **Summary for Link Junction-2: Junction-2**

Inflow Area = 6,926.749 ac, 0.00% Impervious, Inflow Depth > 5.36" for 100-Year, 24-Hour event

Inflow = 6,761.72 cfs @ 14.43 hrs, Volume= 3,093.299 af

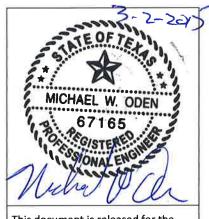
Primary = 6,761.72 cfs @ 14.43 hrs, Volume= 3,093.299 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs



## **HYDROCAD MODEL OUTPUT FILES**

- 1. REGIONAL EXISTING CONDITIONS (PRE-CLOMR)
  - A. MODEL DIAGRAM
  - B. 100-YEAR, 24-HOUR RESULTS
  - C. 25-YEAR, 24-HOUR RESULTS





### **CLOMR Existing Direct Entry**

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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### **Summary for Subcatchment DA1: DA1**

Runoff = 5,577.72 cfs @ 14.82 hrs, Volume= 2,323.852 af, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area	(ac)	CN	Desc	cription			
*	6,950.	970	69					_
	6,950.	970		100.	00% Pervi	ous Area		_
	Тс	Lengt		Slope	Velocity	Capacity	Description	
_	(min)	(feet	)	(ft/ft)	(ft/sec)	(cfs)		_
	205.2						Direct Entry,	

## **Summary for Subcatchment DA2: DA2**

Runoff = 1,194.90 cfs @ 13.10 hrs, Volume= 258.229 af, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area	(ac)	CN	Desc	cription					
*	772.	398	69							
	772.	398		100.	00% Pervi	ous Area				
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
-	80.2	*	•				Direct Entry.			_

## **Summary for Subcatchment DA3: DA3**

Runoff = 2,631.28 cfs @ 13.94 hrs, Volume= 877.893 af, Depth= 3.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

_	Area	(ac)	CN	Desc	cription			
*	2,948.	.123	65					
	2,948.	123		100.	00% Pervi	ous Area		
	Тс	Lengt	h S	Slope	Velocity	Capacity	Description	
	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)	· · · · · · · · · · · · · · · · · · ·	
	147.6						Direct Entry	

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## **Summary for Subcatchment DA4: DA4**

Runoff = 2,669.37 cfs @ 15.24 hrs, Volume= 1,293.536 af, Depth> 3.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

Area	(ac)	CN	Des	cription			
* 3,978	626	68					
3,978	.626		100.	00% Pervi	ious Area		
Тс	Leng	jth :	Slope	Velocity	Capacity	Description	
(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		
249.3						Direct Entry.	

## Summary for Reach R1: Reach-1

Inflow Area = 6,950.970 ac, 0.00% Impervious, Inflow Depth = 4.01" for 25-Year, 24-Hour event

Inflow = 5,325.73 cfs @ 15.23 hrs, Volume= 2,323.830 af

Outflow = 5,325.73 cfs @ 15.23 hrs, Volume= 2,323.830 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

## **Summary for Pond BT: Burrito Tank**

Inflow Area = 6,950.970 ac, 0.00% Impervious, Inflow Depth = 4.01" for 25-Year, 24-Hour event

Inflow = 5,577.72 cfs @ 14.82 hrs, Volume= 2,323.852 af

Outflow = 5,325.73 cfs @ 15.23 hrs, Volume= 2,323.830 af, Atten= 5%, Lag= 24.5 min

Primary = 5,325.73 cfs @ 15.23 hrs, Volume= 2,323.830 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Starting Elev= 538.00' Surf.Area= 39.210 ac Storage= 81.585 af

Peak Elev= 541.40' @ 15.23 hrs Surf.Area= 107.391 ac Storage= 311.550 af (229.965 af above start)

Plug-Flow detention time= 74.0 min calculated for 2,242.245 af (96% of inflow)

Center-of-Mass det. time= 42.4 min (1,056.8 - 1,014.4)

olume/	Invert	Avail.Storage	Storage	Description	
#1	535.00'	728.575 af	Custom	Stage Data	(Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.Are (acres			Cum.Store (acre-feet)	
535.00	17.46	0.0	000	0.000	
536.00	22.43	0 19.9	945	19.945	
538.00	39.21	0 61.6	340	81.585	
540.00	68.11	0 107.3	320	188.905	
542.00	124.32	0 192.4	130	381.335	
544.00	222.92	0 347.2	240	728.575	

Device	Routing	Invert	Outlet Devices	
#1	Primary	538.00'	Special & User-Defined	

### **CLOMR Existing Direct Entry**

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Elev. (feet) 538.00 540.00 542.00 542.12 Disch. (cfs) 0.000 1,167.000 7,118.000 8,608.700

Primary OutFlow Max=5,325.72 cfs @ 15.23 hrs HW=541.40' (Free Discharge) 1=Special & User-Defined (Custom Controls 5,325.72 cfs)

### **Summary for Link J1: Junction-1**

Inflow Area = 14,650.117 ac, 0.00% Impervious, Inflow Depth = 3.89" for 25-Year, 24-Hour event

Inflow = 10,046.73 cfs @ 14.95 hrs, Volume= 4,753.488 af

Primary = 10,046.73 cfs @ 14.95 hrs, Volume= 4,753.488 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

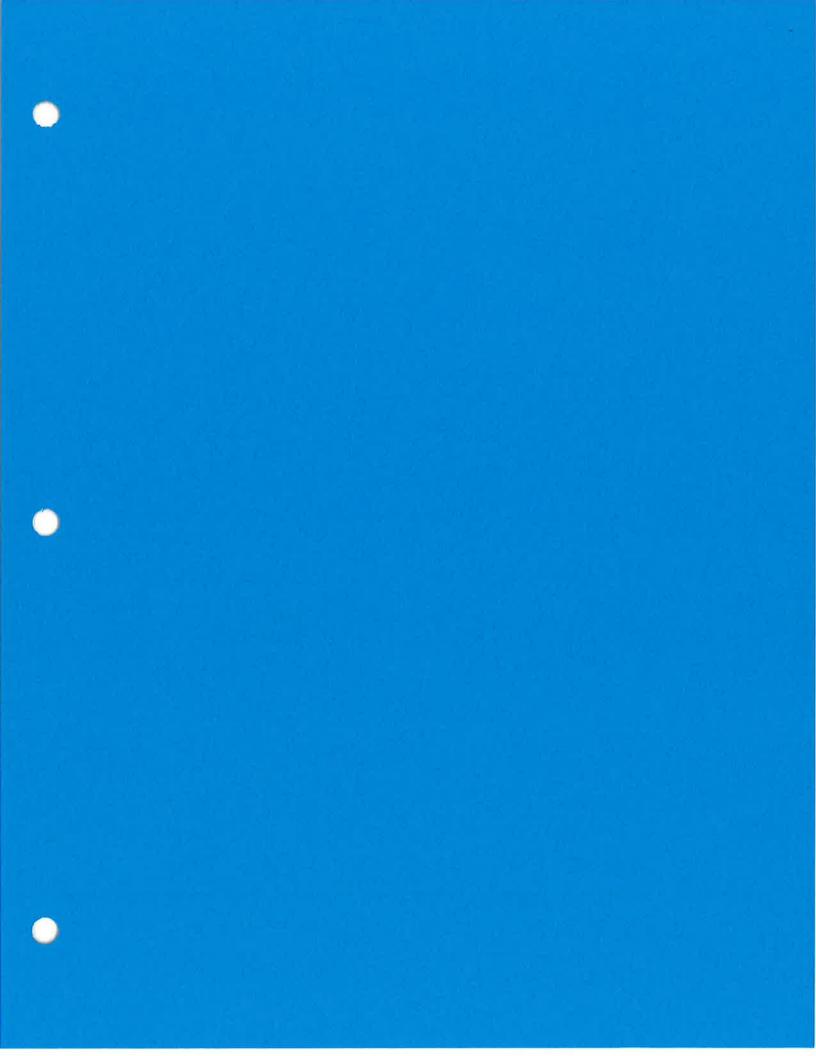
### **Summary for Link Junction-2: Junction-2**

Inflow Area = 6,926.749 ac, 0.00% Impervious, Inflow Depth > 3.76" for 25-Year, 24-Hour event

Inflow = 4,670.81 cfs @ 14.44 hrs, Volume= 2,171.429 af

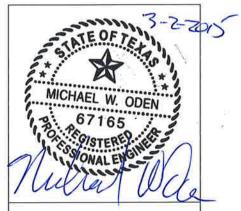
Primary = 4,670.81 cfs @ 14.44 hrs, Volume= 2,171.429 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

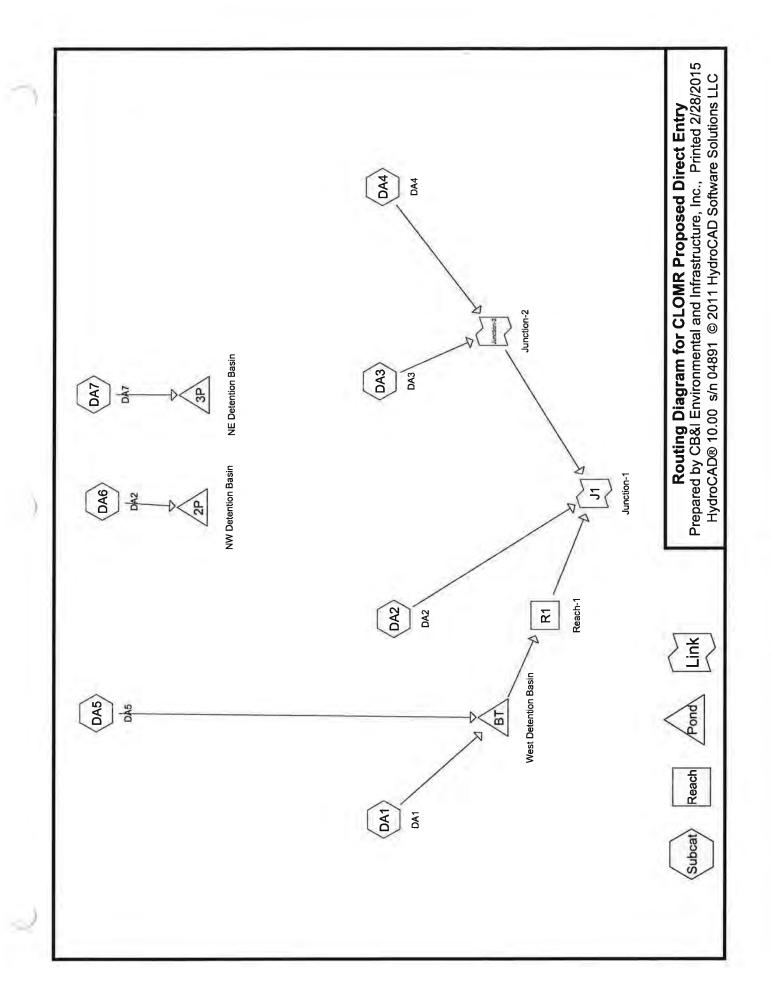


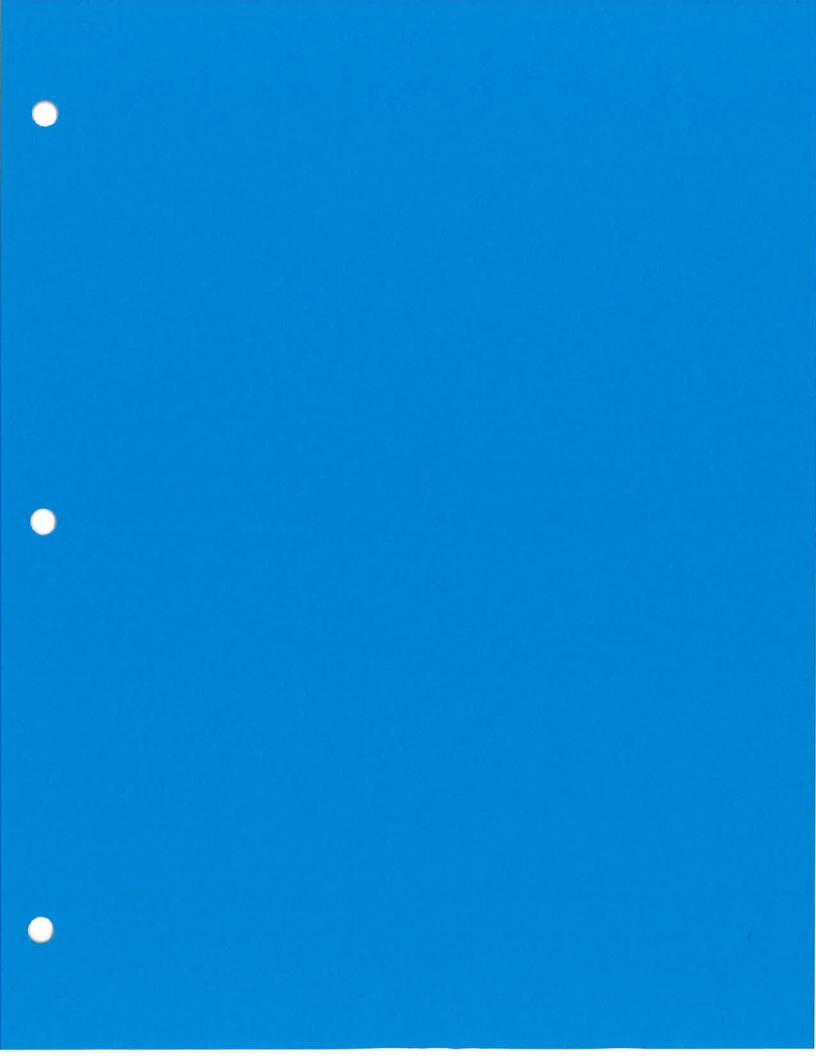
## HYDROCAD MODEL OUTPUT FILES

- 2. REGIONAL INTERMEDIATE CONDITIONS (POST-CLOMR)
  - A. MODEL DIAGRAM
  - B. 100-YEAR, 24-HOUR RESULTS
  - C. 25-YEAR, 24-HOUR RESULTS



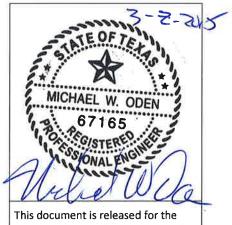






## **HYDROCAD MODEL OUTPUT FILES**

- 2. REGIONAL INTERMEDIATE CONDITIONS (POST-CLOMR)
  - A. MODEL DIAGRAM
  - B. 100-YEAR, 24-HOUR RESULTS
  - C. 25-YEAR, 24-HOUR RESULTS



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## **CLOMR Proposed Direct Entry**

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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## **Summary for Subcatchment DA1: DA1**

Runoff = 6,885.92 cfs @ 14.39 hrs, Volume= 2,522.438 af, Depth= 5.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Area	(ac)	CN	Desc	cription		
*	5,238.	870	70				
_	5,238.870 100.00% Pervious Area						
	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	172.8						Direct Entry,

## **Summary for Subcatchment DA2: DA2**

Runoff = 2,084.30 cfs @ 13.53 hrs, Volume= 556.965 af, Depth= 5.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac)	CN	Desc	cription		
	<b>†</b> 1,182.	892	69				
i	1,182.892 100.00% Pervious Area						
	Тс	Lengt	h S	Slope	Velocity	Capacity	Description
3	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	109.8						Direct Entry, 109.8

## **Summary for Subcatchment DA3: DA3**

Runoff = 4,709.99 cfs @ 13.94 hrs, Volume= 1,547.636 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

12	Area	(ac)	CN	Desc	cription		
*	3,526.	389	66				
	3,526.	389		100.	00% Pervi	ous Area	
		Lengt		Slope	Velocity	Capacity	Description
-	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)	
	147.6						Direct Entry,

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### **Summary for Subcatchment DA4: DA4**

Runoff = 3,819.89 cfs @ 15.23 hrs, Volume= 1,830.927 af, Depth> 5.52"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac)	CN	Desc	cription		
*	3,978.	608	68				
-	3,978.	608		100.	00% Pervi	ous Area	
_	Tc (min)	Lengt (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	249.3						Direct Entry,

### **Summary for Subcatchment DA5: DA5**

Runoff = 471.92 cfs @ 12.70 hrs, Volume= 78.776 af, Depth= 4.75"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac)	CN	Desc	cription		
*	198.	877	62				
	198.	877		100.	00% Pervi	ous Area	
	Tc (min)	Lengt (fee		lope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	52.2						Direct Entry,

## **Summary for Subcatchment DA6: DA2**

Runoff = 380.18 cfs @ 12.51 hrs, Volume= 51.712 af, Depth= 4.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac)	CN	Desc	cription		
*	134.	177	61				
	134.	177		100.	00% Pervi	ous Area	
	Тс	Lengt		Slope	•	Capacity	Description
	(min)	(feet	)	(ft/ft)	(ft/sec)	(cfs)	B: 4F 4
	35.1						Direct Entry.

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## **Summary for Subcatchment DA7: DA7**

Runoff = 1,024.74 cfs @ 12.68 hrs, Volume= 162.924 af, Depth= 5.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac)	CN	Desc	cription		
*	390.	234	64				
	390.	234		100.	00% Pervi	ous Area	
	Тс	Leng	th S	Slope	Velocity	Capacity	Description
-	(min)	(fee		(ft/ft)	(ft/sec)	(cfs)	<u>'</u>
_	47.8						Direct Entry.

## **Summary for Reach R1: Reach-1**

Inflow Area = 5,437.747 ac, 0.00% Impervious, Inflow Depth = 5.74" for 100-Year, 24-Hour event

Inflow = 5,960.38 cfs @ 15.04 hrs, Volume= 2,601.214 af

Outflow = 5,940.25 cfs @ 15.17 hrs, Volume= 2,601.088 af, Atten= 0%, Lag= 7.9 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.88 fps, Min. Travel Time= 10.2 min Avg. Velocity = 2.21 fps, Avg. Travel Time= 22.7 min

Peak Storage= 3,652,289 cf @ 15.17 hrs Average Depth at Peak Storage= 3.99' Bank-Full Depth= 5.00' Flow Area= 1,780.0 sf, Capacity= 9,903.65 cfs

106.00' x 5.00' deep channel, n= 0.030 Side Slope Z-value= 50.0 '/' Top Width= 606.00' Length= 3,000.0' Slope= 0.0030 '/' Inlet Invert= 542.00', Outlet Invert= 533.00'



## **Summary for Pond 2P: NW Detention Basin**

Inflow Area = 134.177 ac, 0.00% Impervious, Inflow Depth = 4.62" for 100-Year, 24-Hour event

Inflow = 380.18 cfs @ 12.51 hrs, Volume= 51.712 af

Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Peak Elev= 567.40' @ 25.98 hrs Surf.Area= 10.150 ac Storage= 51.712 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

#1	562.00'	57.880 af	Custom	Stage Data	(Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.Area (acres			Cum.Store acre-feet)	
562.00	9.020	0.0	000	0.000	
564.00	9.440	18.4	460	18.460	
566.00	9.850	19.2	290	37.750	
568.00	10.280	20.1	130	57.880	

#1 Primary 562.00' Special & User-Defined Elev. (feet) 562.00 568.00 Disch. (cfs) 0.000 0.000

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=562.00' (Free Discharge) 1=Special & User-Defined (Controls 0.00 cfs)

### **Summary for Pond 3P: NE Detention Basin**

Inflow Area = 390.234 ac, 0.00% Impervious, Inflow Depth = 5.01" for 100-Year, 24-Hour event

Inflow = 1.024.74 cfs @ 12.68 hrs, Volume= 162.924 af

Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 561.85' @ 26.67 hrs Surf.Area= 28.725 ac Storage= 162.924 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storag	e Description	
#1	556.00'	167.280 af	Custo	m Stage Data	(Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.Are			Cum.Store (acre-feet)	
556.00	26.99	0.0	000	0.000	
558.00	27.58	0 54.5	570	54.570	
560.00	28.18	0 55.7	760	110.330	
562.00	28.77	0 56.9	950	167.280	
Device R	outing	Invert Ou	tlet Dev	ices	

Device	Routing	Invert	Outlet Devices
#1	Primary	556.00'	556562
			Elev. (feet) 556.00 562.00
			Disch. (cfs) 0.000 0.000

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Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=556.00' (Free Discharge) 1=556562 (Controls 0.00 cfs)

### Summary for Pond BT: West Detention Basin

Inflow Area = 5,437.747 ac, 0.00% Impervious, Inflow Depth = 5.74" for 100-Year, 24-Hour event

Inflow = 6,977.36 cfs @ 14.39 hrs, Volume= 2,601.214 af

Outflow = 5,960.38 cfs @ 15.04 hrs, Volume= 2,601.214 af, Atten= 15%, Lag= 39.1 min

= 5,960.38 cfs @ 15.04 hrs, Volume= Primary 2,601.214 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 547.57' @ 15.04 hrs Surf.Area= 118.164 ac Storage= 348.911 af

Plug-Flow detention time= 34.9 min calculated for 2,600.492 af (100% of inflow)

Center-of-Mass det. time= 34.9 min (1,004.3 - 969.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	542.00'	401.600 af	Custom Stage Data (Prismatic)Listed below (Recalc)	

Elevation	Surf.Area	Inc.Store	Cum.Store		
(feet)	(acres)	(acre-feet)	(acre-feet)		
542.00	14.400	0.000	0.000		
544.00	37.000	51.400	51.400		
546.00	94.200	131.200	182.600		
548.00	124.800	219.000	401.600		

Invert Outlet Devices Routing Device #1 542.00' Special & User-Defined Primary

Elev. (feet) 542.00 544.00 546.00 548.00

Disch. (cfs) 0.000 1,273.000 3,600.000 6,614.000

Primary OutFlow Max=5,960.38 cfs @ 15.04 hrs HW=547.57' (Free Discharge)

1=Special & User-Defined (Custom Controls 5,960.38 cfs)

## **Summary for Link J1: Junction-1**

Inflow Area = 14,125.636 ac, 0.00% Impervious, Inflow Depth = 5.55" for 100-Year, 24-Hour event Inflow = 14,083.77 cfs @ 14.59 hrs, Volume= 6,536.616 af

= 14,083.77 cfs @ 14.59 hrs, Volume= Primary 6,536.616 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

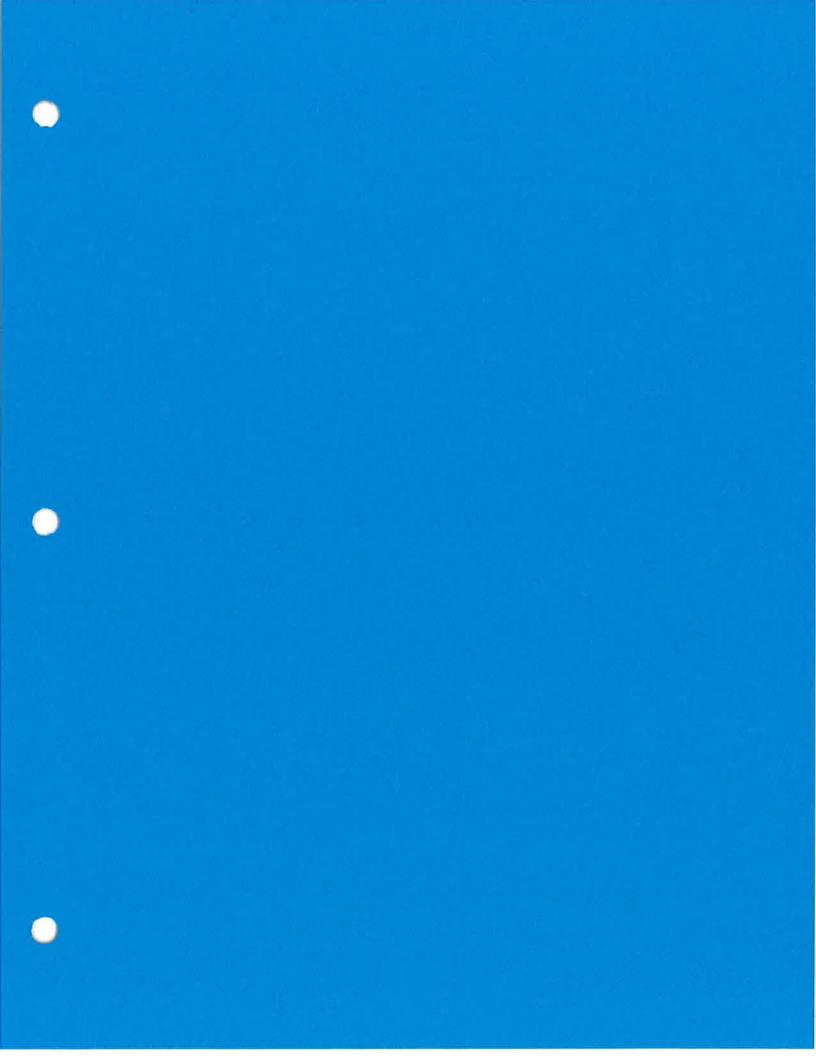
## **Summary for Link Junction-2: Junction-2**

Inflow Area = 7,504.997 ac, 0.00% Impervious, Inflow Depth = 5.40" for 100-Year, 24-Hour event

7,557.51 cfs @ 14.40 hrs, Volume= 3,378.563 af Inflow

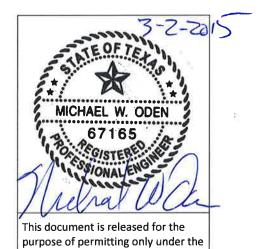
Primary = 7,557.51 cfs @ 14.40 hrs, Volume= 3.378.563 af. Atten= 0%. Lag= 0.0 min

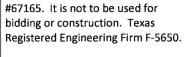
Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs



## **HYDROCAD MODEL OUTPUT FILES**

- 2. REGIONAL INTERMEDIATE CONDITIONS (POST-CLOMR)
  - A. MODEL DIAGRAM
  - B. 100-YEAR, 24-HOUR RESULTS
  - C. 25-YEAR, 24-HOUR RESULTS





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## **CLOMR Proposed Direct Entry**

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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## **Summary for Subcatchment DA1: DA1**

Runoff = 4,896.53 cfs @ 14.39 hrs, Volume= 1,799.803 af, Depth= 4.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

Area	a (ac)	CN	Desc	cription		
5,238	3.870	70				
5,238	3.870		100.	00% Pervi	ous Area	
To	Leng	gth	Slope	Velocity	Capacity	Description
(min)	(fe	et)	(ft/ft)	(ft/sec)	(cfs)	
172.8						Direct Entry.

### **Summary for Subcatchment DA2: DA2**

Runoff = 1,475.85 cfs @ 13.53 hrs, Volume= 395.465 af, Depth= 4.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area	(ac)	CN	Desc	cription			
*	1,182.	892	69					
	1,182.	892		100.	00% Pervi	ous Area		
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	109.8						Direct Entry, 109.8	

## **Summary for Subcatchment DA3: DA3**

Runoff = 3,254.49 cfs @ 13.94 hrs, Volume= 1,082.099 af, Depth= 3.68"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

ä	Area	(ac)	CN	Desc	cription			
*	3,526.	389	66					
	3,526.	389		100.	00% Pervi	ous Area		
	Тс	Leng		Slope	Velocity	Capacity		
_	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)		
	147.6						Direct Entry,	

## **CLOMR Proposed Direct Entry**

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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## **Summary for Subcatchment DA4: DA4**

Runoff

2,669.42 cfs @ 15.23 hrs, Volume=

1,293.530 af, Depth> 3.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area	(ac)	CN	Desc	cription			
•	3,978	.608	68					
	3,978	.608		100.	00% Pervi	ous Area		
	Тс	Lengt	th S	Slope	Velocity	Capacity	Description	
	(min)	(fee	t)	(ft/ft)	(ft/sec)	(cfs)		
	249.3	- F					Direct Entry,	

### **Summary for Subcatchment DA5: DA5**

Runoff =

317.73 cfs @ 12.70 hrs, Volume=

53.856 af, Depth= 3.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

d	Area	(ac)	CN	Desc	cription			
*	198	.877	62					
	198	.877		100.	00% Pervi	ous Area		
	Tc (min)	Leng (fee		Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	52.2						Direct Entry,	

## **Summary for Subcatchment DA6: DA2**

Runoff

255.01 cfs @ 12.51 hrs, Volume=

35.140 af, Depth= 3.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area	(ac)	CN	Desc	cription			
*	134.	177	61					
	134.	177		100.	00% Pervi	ous Area		
	Тс	Leng				Capacity	Description	
	(min)	(fee	et)	(ft/ft)	(ft/sec)	(cfs)		
	35.1						Direct Entry,	

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### **Summary for Subcatchment DA7: DA7**

Runoff = 703.60 cfs @ 12.69 hrs, Volume= 112.678 af, Depth= 3.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area	(ac)	CN	Desc	cription		
2	390	.234	64				
	390	.234		100.	00% Pervi	ous Area	
		-				Capacity	Description
	(min)	(fee	τ)	(ft/ft)	(ft/sec)	(cfs)	
	47.8						Direct Entry.

## **Summary for Reach R1: Reach-1**

Inflow Area = 5,437.747 ac, 0.00% Impervious, Inflow Depth = 4.09" for 25-Year, 24-Hour event

Inflow = 4,306.67 cfs @ 15.03 hrs, Volume= 1,853.659 af

Outflow = 4,287.68 cfs @ 15.17 hrs, Volume= 1,853.544 af, Atten= 0%, Lag= 8.6 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.48 fps, Min. Travel Time= 11.2 min

Avg. Velocity = 2.03 fps, Avg. Travel Time= 24.7 min

Peak Storage= 2,868,645 cf @ 15.17 hrs Average Depth at Peak Storage= 3.44'

Bank-Full Depth= 5.00' Flow Area= 1,780.0 sf, Capacity= 9,903.65 cfs

 $106.00' \times 5.00'$  deep channel, n= 0.030

Side Slope Z-value= 50.0 '/' Top Width= 606.00'

Length= 3,000.0' Slope= 0.0030 '/'

Inlet Invert= 542.00'. Outlet Invert= 533.00'



## **Summary for Pond 2P: NW Detention Basin**

Inflow Area = 134.177 ac, 0.00% Impervious, Inflow Depth = 3.14" for 25-Year, 24-Hour event

Inflow = 255.01 cfs @ 12.51 hrs, Volume= 35.140 af

Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

### **CLOMR Proposed Direct Entry**

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Elev= 565.73' @ 25.98 hrs Surf.Area= 9.796 ac Storage= 35.140 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage	Description		
#1	562.00'	57.880 af	Custom	Stage Data	(Prismatic)Listed below (Recalc)	
Elevation (feet)	Surf.Are (acres			Cum.Store acre-feet)		
562.00	9.02	0.0	000	0.000		
564.00	9.44	.0 18.4	160	18.460		
566.00	9.85	0 19.2	290	37.750		
568.00	10.28	0 20.1	130	57.880		

Device	Routing	Invert	Outlet Devices
#1	Primary	562.00'	Special & User-Defined
			Elev. (feet) 562.00 568.00
			Disch. (cfs) 0.000 0.000

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=562.00' (Free Discharge) 1=Special & User-Defined (Controls 0.00 cfs)

### **Summary for Pond 3P: NE Detention Basin**

Inflow Area = 390.234 ac, 0.00% Impervious, Inflow Depth = 3.46" for 25-Year, 24-Hour event

Inflow = 703.60 cfs @ 12.69 hrs, Volume= 112.678 af

Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 560.08' @ 26.67 hrs Surf.Area= 28.205 ac Storage= 112.678 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	556.00'	167.280 af	Custom Stage Data (Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.Are (acres		
556.00	26.99	0.0	000 0.000
558.00	27.580		570 54.570
560.00	28.18	0 55.7	760 110.330
562.00	28.77	0 56.9	950 167.280

Device	Routing	Invert	Outlet Devices
#1	Primary	556.00'	556562
			Elev. (feet) 556.00 562.00
			Disch. (cfs) 0.000 0.000

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**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=556.00' (Free Discharge) 1=556562 (Controls 0.00 cfs)

## **Summary for Pond BT: West Detention Basin**

Inflow Area = 5,437.747 ac, 0.00% Impervious, Inflow Depth = 4.09" for 25-Year, 24-Hour event

Inflow = 4,962.34 cfs @ 14.39 hrs, Volume= 1,853.659 af

Outflow = 4,306.67 cfs @ 15.03 hrs, Volume= 1,853.659 af, Atten= 13%, Lag= 38.4 min

Primary = 4,306.67 cfs @ 15.03 hrs, Volume= 1,853.659 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 546.47' @ 15.03 hrs Surf.Area= 101.375 ac Storage= 228.455 af

Plug-Flow detention time= 31.7 min calculated for 1,853.144 af (100% of inflow)

Center-of-Mass det. time= 31.7 min ( 1.010.9 - 979.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	542.00'	401.600 af	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(acres)	(acre-feet)	(acre-feet)
542.00	14.400	0.000	0.000
544.00	37.000	51.400	51.400
546.00	94.200	131.200	182.600
548.00	124.800	219.000	401.600

Device	Routing	Invert	Outlet Devices
#1	Drimany	5/2 00'	Special & User-Defined

Elev. (feet) 542.00 544.00 546.00 548.00

Disch. (cfs) 0.000 1,273.000 3,600.000 6,614.000

Primary OutFlow Max=4,306.67 cfs @ 15.03 hrs HW=546.47' (Free Discharge) 1=Special & User-Defined (Custom Controls 4,306.67 cfs)

## **Summary for Link J1: Junction-1**

Inflow Area = 14,125.636 ac, 0.00% Impervious, Inflow Depth > 3.93" for 25-Year, 24-Hour event

Inflow = 9,953.70 cfs @ 14.67 hrs, Volume= 4,624.639 af

Primary = 9,953.70 cfs @ 14.67 hrs, Volume= 4,624.639 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

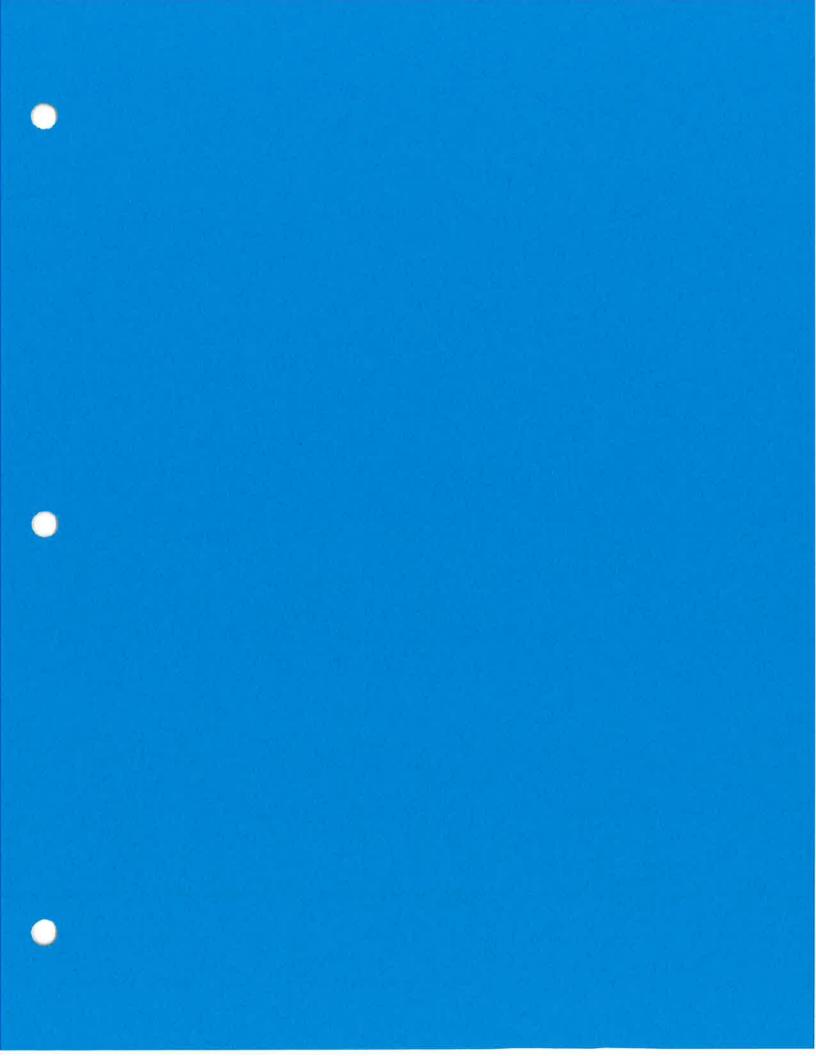
## **Summary for Link Junction-2: Junction-2**

Inflow Area = 7,504.997 ac, 0.00% Impervious, Inflow Depth > 3.80" for 25-Year, 24-Hour event

Inflow = 5,240.76 cfs @ 14.41 hrs, Volume= 2,375.630 af

Primary = 5,240.76 cfs @ 14.41 hrs, Volume= 2,375.630 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

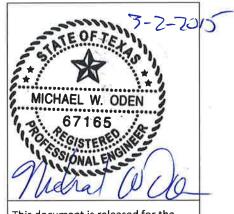


### **ATTACHMENT III-C**

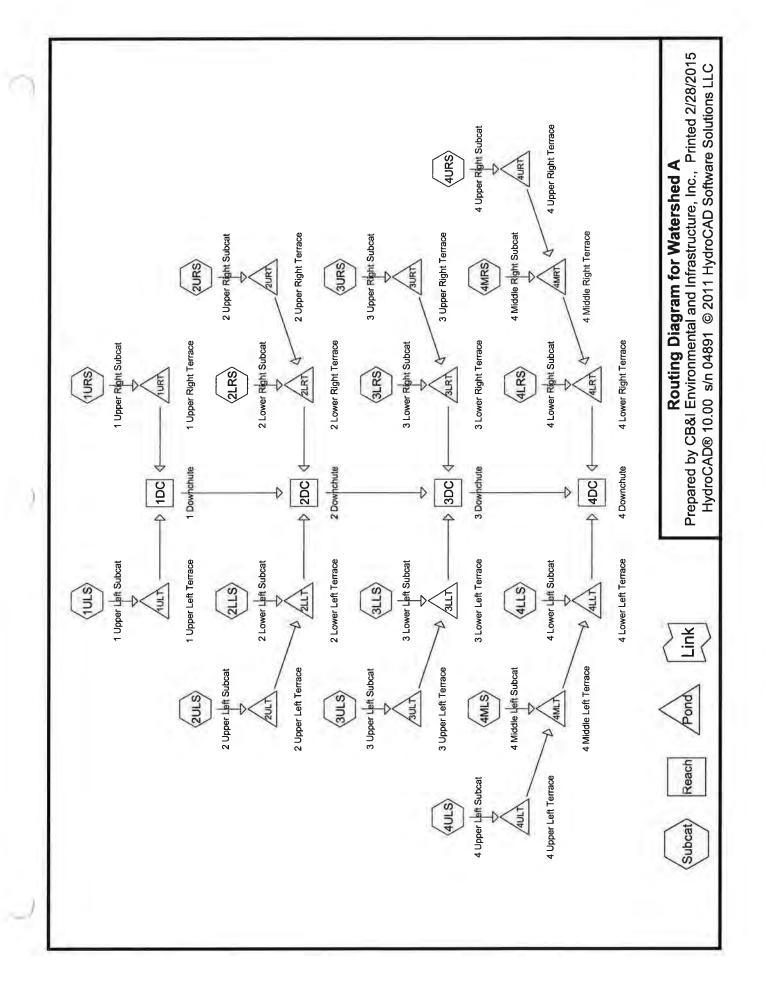
#### **APPENDIX III-C.4**

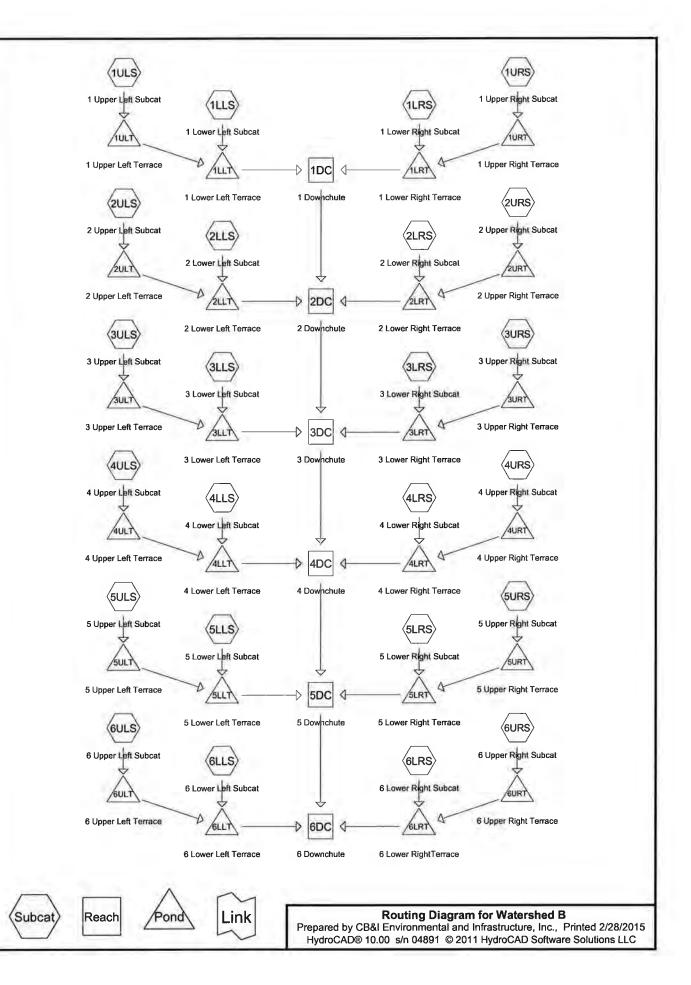
## HYDROCAD MODEL OUTPUT FILES

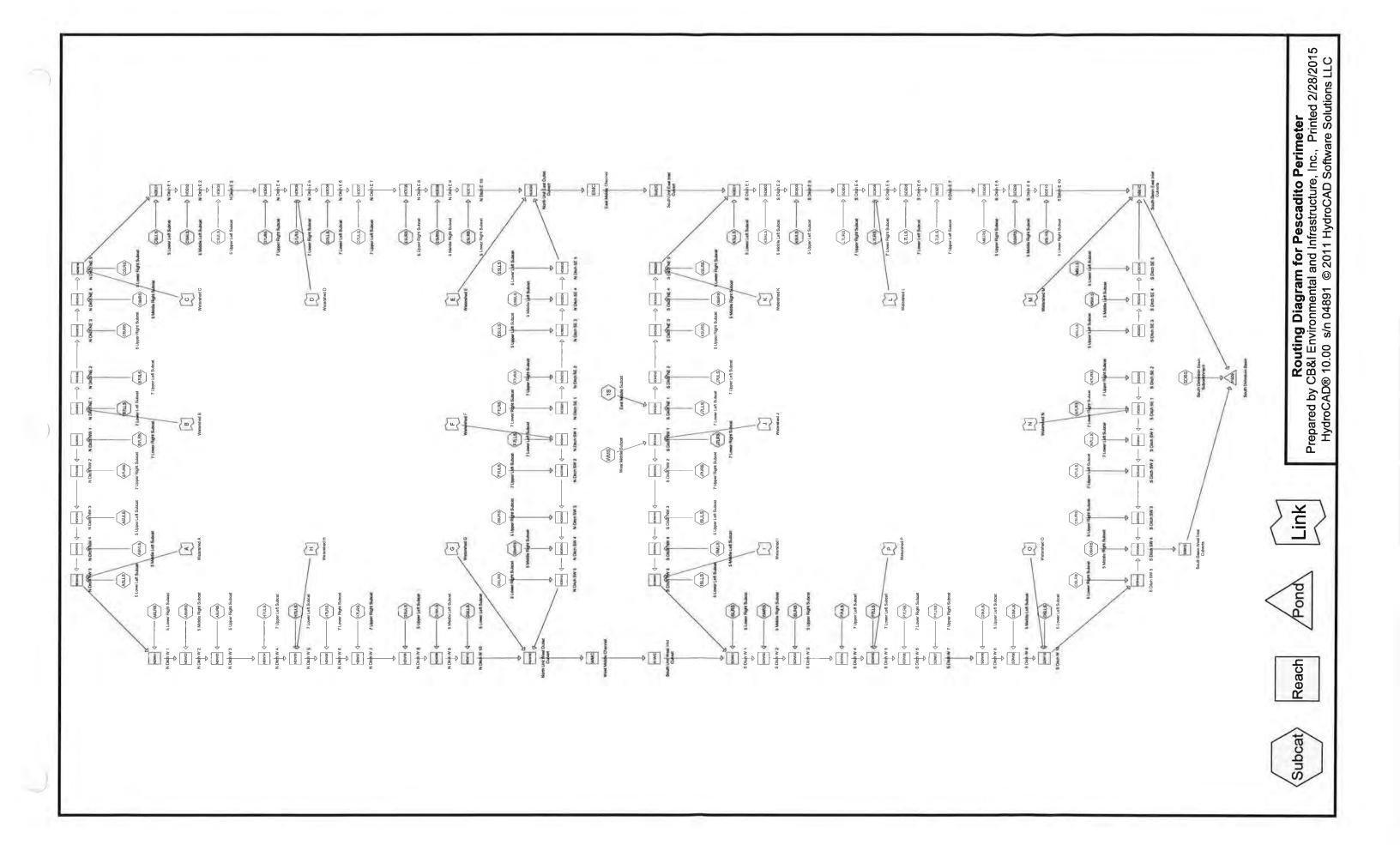
- 3. PROPOSED CONDITIONS (POST-DEVELOPMENT)
  - A. MODEL DIAGRAMS
  - B. LANDFILL WATERSHED A (TYPICAL OF WATERSHEDS C, E, G, J, K, M, AND O)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - C. LANDFILL WATERSHED B (TYPICAL OF WATERSHEDS D, F, J, L, N, AND P)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - D. LANDFILL PERIMETER DITCH, CULVERT, AND BASIN SYSTEM
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - E. REGIONAL STORMWATER CONDITIONS
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)

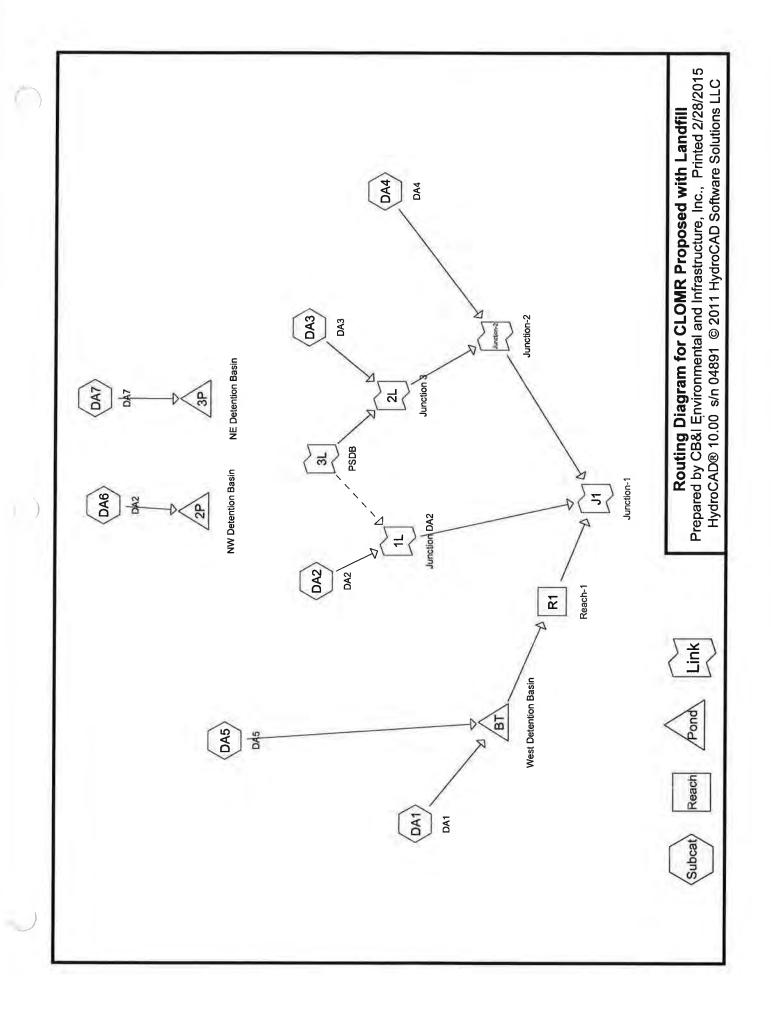


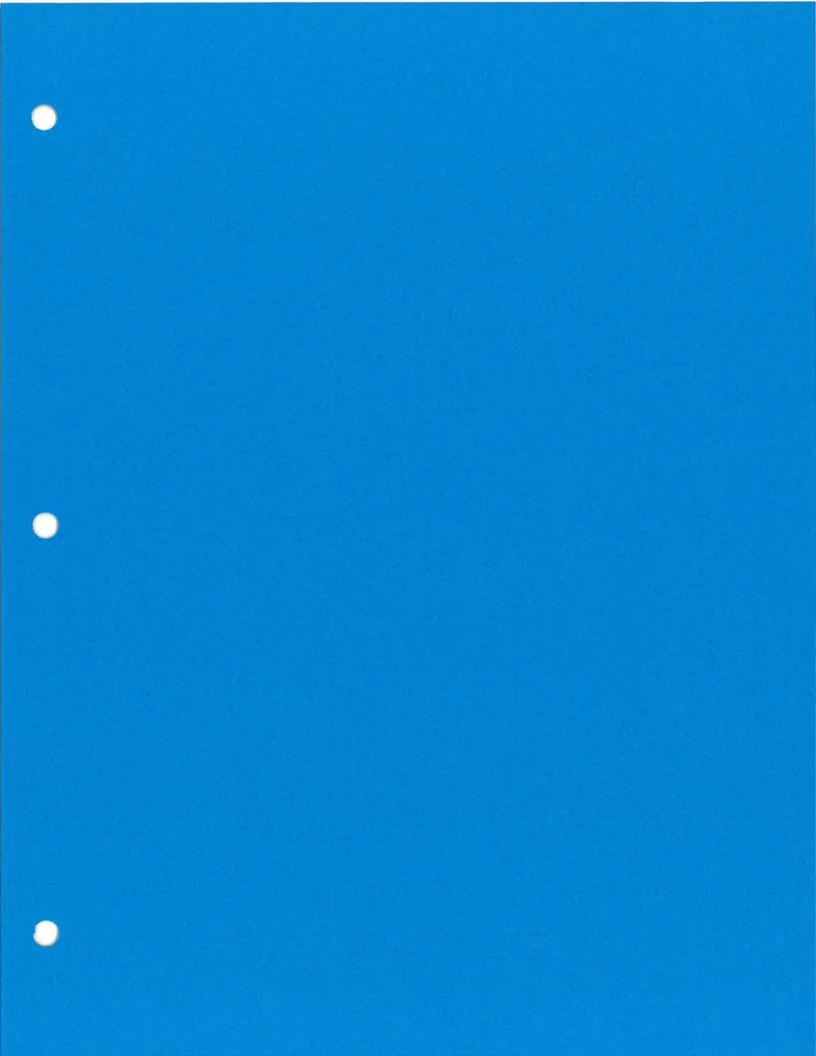








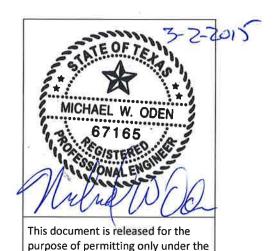




# ATTACHMENT III-C APPENDIX III-C.4

## HYDROCAD MODEL OUTPUT FILES

- 3. PROPOSED CONDITIONS (POST-DEVELOPMENT)
  - A. MODEL DIAGRAMS
  - B. LANDFILL WATERSHED A (TYPICAL OF WATERSHEDS C, E, G, J, K, M, & O)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - C. LANDFILL WATERSHED B (TYPICAL OF WATERSHEDS D, F, J, L, N, & P)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - D. LANDFILL PERIMETER DITCH, CULVERT, & BASIN SYSTEM
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - E. REGIONAL STORMWATER CONDITIONS
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)



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Page 1

### Summary for Subcatchment 1ULS: 1 Upper Left Subcat

Runoff

11.87 cfs @ 12.08 hrs, Volume=

0.923 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

-	Α	rea (sf)	CN I	Description			
*		56,548	92				
		56,548	•	100.00% Pe	ervious Are	a	
	Tc (min)	Length (feet)	Slope (ft/ft)	,	Capacity (cfs)	Description	
-	5.9	206	0.2500		(CIS)	Sheet Flow,	
	3.0		2.2000	0.00		n= 0.150 P2= 3.75"	

### **Summary for Subcatchment 1URS: 1 Upper Right Subcat**

Runoff

11.70 cfs @ 12.08 hrs, Volume=

0.910 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

-	Α	rea (sf)	CN	Description			
*		55,761	92				
		55,761		100.00% P	ervious Are	a	
		Length				Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 2LLS: 2 Lower Left Subcat

Runoff

4.88 cfs @ 12.08 hrs, Volume=

0.380 af, Depth= 8.53"

	Α	rea (sf)	CN [	Description			
*		23,267	92				
		23,267	1	100.00% P	ervious Are	a	
		Length	Slope	•		Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

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## Summary for Subcatchment 2LRS: 2 Lower Right Subcat

Runoff

4.75 cfs @ 12.08 hrs, Volume=

0.370 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Α	rea (sf)	CN E	escription			
*		22,657	92				
7		22,657	1	00.00% Pe	ervious Are	a	
	Тс		Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0.150 P2= 3.75"	

#### Summary for Subcatchment 2ULS: 2 Upper Left Subcat

Runoff

16.38 cfs @ 12.08 hrs, Volume=

1.273 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN E	Description			
*		78,032	92				
		78,032	1	00.00% Pe	ervious Are	a	
	Tc	_	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
71	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

# Summary for Subcatchment 2URS: 2 Upper Right Subcat

Runoff

16.08 cfs @ 12.08 hrs, Volume=

1.250 af, Depth= 8.53"

_	A	rea (sf)	CN E	Description		
*		76,616	92			
		76,616	1	00.00% P	ervious Are	a
	Тс		Slope	,	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.9	206	0.2500	0.58	<del></del>	Sheet Flow, n= 0.150 P2= 3.75"

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### Summary for Subcatchment 3LLS: 3 Lower Left Subcat

Runoff

14.64 cfs @ 12.08 hrs, Volume=

1.139 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Д	rea (sf)	CN I	Description			
*		69,770	92				
		69,770	•	100.00% Pe	ervious Are	a	
	Tc	Length	Slope	•	Capacity	Description	
	(min)	(feet)	(ft/ft)		(cfs)	Object Floor	
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

### Summary for Subcatchment 3LRS: 3 Lower Right Subcat

Runoff

14.26 cfs @ 12.08 hrs, Volume=

1.109 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN I	Description			
*		67,944	92				
		67,944	•	100.00% P	ervious Are	a	
	Тс	Length	Slope		Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 3ULS: 3 Upper Left Subcat

Runoff

16.38 cfs @ 12.08 hrs, Volume=

1.274 af, Depth= 8.53"

	A	rea (sf)	CN [	Description			
*		78,072	92				
		78,072		100.00% Pe	ervious Are	ea	
	Tc	- 3	Slope	•	Capacity	Description	
-	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	0. 45	_
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

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## **Summary for Subcatchment 3URS: 3 Upper Right Subcat**

Runoff = 16.07 cfs @ 12.08 hrs, Volume=

1.250 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	76,595	92				
	76,595		100.00% P	ervious Are	а	
-	Γc Length	Slope	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft	) (ft/sec)	(cfs)		
5	.9 206	0.2500	0.58		Sheet Flow,	
					n= 0.150 P2= 3.75"	

## Summary for Subcatchment 4LLS: 4 Lower Left Subcat

Runoff = 4.88 cfs @ 12.08 hrs, Volume=

0.379 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	_A	rea (sf)	CN [	Description			
*		23,248	92				
		23,248	•	100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
(m	in)_	(feet)	(ft/ft)	(ft/sec)	(cfs)		
Ę	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 4LRS: 4 Lower Right Subcat

Runoff = 4.75 cfs @ 12.08 hrs, Volume= 0.369 af, Depth= 8.53"

_	Area (sf	CN	<u>D</u>	escription			
*	22,641	92					
	22,641		1	00.00% Pe	ervious Are	a	
	Γc Lengt	h Slo	ре	Velocity	Capacity	Description	
(mi	n) (fee	t) (fi	t/ft)	(ft/sec)	(cfs)		
5	.9 20	6 0.25	500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 4MLS: 4 Middle Left Subcat

Runoff

19.52 cfs @ 12.08 hrs, Volume=

1.518 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN	<b>Description</b>			
*		93,016	92				
		93,016		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## **Summary for Subcatchment 4MRS: 4 Middle Right Subcat**

Runoff = 19.01 cfs @ 12.08 hrs, Volume=

1.478 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

1	Α	rea (sf)	CN	<b>Description</b>			
*		90,584	92				
		90,584		100.00% Pe	ervious Are	а	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 4ULS: 4 Upper Left Subcat

Runoff = 16.39 cfs @ 12.08 hrs, Volume=

1.275 af, Depth= 8.53"

	Area (sf)	CN [	Description			
*	78,096	92				
	78,096	1	00.00% P	ervious Are	a	
T	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
5.9	206	0.2500	0.58		Sheet Flow,	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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## Summary for Subcatchment 4URS: 4 Upper Right Subcat

Runoff

16.07 cfs @ 12.08 hrs, Volume=

1.249 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN I	Description				
*		76,557	92					
	76,557 100.00% Pervious Area							
	Тс	Length	Slope	Velocity	Capacity	Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	5.9	206	0.2500	0.58		Sheet Flow,		
						n= 0.150 P2= 3.75"		

## **Summary for Reach 1DC: 1 Downchute**

Inflow Area = 2.578 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 2.50 cfs @ 12.77 hrs, Volume= 1.833 af

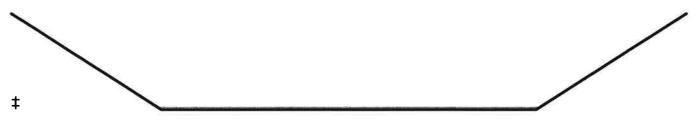
Outflow = 2.50 cfs @ 12.79 hrs, Volume= 1.833 af, Atten= 0%, Lag= 1.1 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.74 fps, Min. Travel Time= 1.9 min Avg. Velocity = 1.82 fps, Avg. Travel Time= 2.9 min

Peak Storage= 292 cf @ 12.79 hrs Average Depth at Peak Storage= 0.06' Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 999.73 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 320.0' Slope= 0.1800 '/' Inlet Invert= -2.00', Outlet Invert= -59.60'



## **Summary for Reach 2DC: 2 Downchute**

Inflow Area = 7.183 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 5.10 cfs @ 13.63 hrs, Volume= 5.106 af

Outflow = 5.10 cfs @ 13.65 hrs, Volume= 5.106 af, Atten= 0%, Lag= 1.0 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.64 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 2.58 fps, Avg. Travel Time= 2.1 min

Peak Storage= 448 cf @ 13.65 hrs

Average Depth at Peak Storage= 0.09'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 999.73 cfs

15.00' x 2.00' deep channel, n= 0.035

Side Slope Z-value= 3.0 '/' Top Width= 27.00'

Length= 320.0' Slope= 0.1800 '/'

Inlet Invert= -2.00', Outlet Invert= -59.60'



#### **Summary for Reach 3DC: 3 Downchute**

Inflow Area = 13.895 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 9.42 cfs @ 13.93 hrs, Volume= 9.878 af

Outflow = 9.42 cfs @ 13.94 hrs, Volume= 9.878 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.61 fps, Min. Travel Time= 1.2 min Avg. Velocity = 3.01 fps, Avg. Travel Time= 1.8 min

Peak Storage= 654 cf @ 13.94 hrs

Average Depth at Peak Storage= 0.13'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 999.73 cfs

15.00' x 2.00' deep channel, n= 0.035

Side Slope Z-value= 3.0 '/' Top Width= 27.00'

Length= 320.0' Slope= 0.1800 '/'

Inlet Invert= -2.00', Outlet Invert= -59.60'



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## **Summary for Reach 4DC: 4 Downchute**

Inflow Area = 22.714 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 16.02 cfs @ 12.83 hrs, Volume= 16.147 af

Outflow = 16.01 cfs @ 12.84 hrs, Volume= 16.147 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.65 fps, Min. Travel Time= 1.1 min Avg. Velocity = 3.59 fps, Avg. Travel Time= 1.7 min

Peak Storage= 1,063 cf @ 12.84 hrs Average Depth at Peak Storage= 0.18'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 999.73 cfs

15.00' x 2.00' deep channel, n= 0.035

Side Slope Z-value= 3.0 '/' Top Width= 27.00'

Length= 375.0' Slope= 0.1800 '/'

Inlet Invert= -2.00', Outlet Invert= -69.50'



## **Summary for Pond 1ULT: 1 Upper Left Terrace**

Inflow Area = 1.298 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 11.87 cfs @ 12.08 hrs, Volume= 0.923 af

Outflow = 1.25 cfs @ 12.78 hrs, Volume= 0.923 af, Atten= 89%, Lag= 41.8 min

Primary = 1.25 cfs @ 12.78 hrs, Volume= 0.923 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.05' @ 12.78 hrs Surf.Area= 10,536 sf Storage= 16,057 cf

Plug-Flow detention time= 114.7 min calculated for 0.923 af (100% of inflow)

Center-of-Mass det. time= 114.7 min ( 879.3 - 764.6 )

0.00'

#2

**Primary** 

Volume #1		<u>vert</u> ).00'	Avail.Sto 38,1	rage 80 cf		Description Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.A (sc	rea <sub>I</sub> -ft)		.Store c-feet)	Cum.Store (cubic-feet)	
0.0 4.7		16,2	0 247	3	0 88,180	0 38,180	
Device	Routin	g	Invert	Outle	et Devices		
#1	Primar	у	4.00'		tom Weir/0 d (feet) 0.0	Orifice, Cv= 2.	.62 (C= 3.28)

Width (feet) 38.00 42.90

6.0" Round Culvert

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L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.25 cfs @ 12.78 hrs HW=3.05' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)
-2=Culvert (Inlet Controls 1.25 cfs @ 6.36 fps)

### **Summary for Pond 1URT: 1 Upper Right Terrace**

n= 0.012, Flow Area= 0.20 sf

Inflow Area = 1.280 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 11.70 cfs @ 12.08 hrs, Volume= 0.910 af

Outflow = 1.25 cfs @ 12.76 hrs, Volume= 0.910 af, Atten= 89%, Lag= 40.9 min

Primary = 1.25 cfs @ 12.76 hrs, Volume= 0.910 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.05' @ 12.76 hrs Surf.Area= 10,330 sf Storage= 15,737 cf

Plug-Flow detention time= 112.0 min calculated for 0.910 af (100% of inflow)

Center-of-Mass det. time= 112.0 min (876.5 - 764.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	37,450 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Cum.Store	Inc.Store	Surf.Area	Elevation
(cubic-feet)	(cubic-feet)	(sq-ft)	(feet)
0	0	0	0.00
37,450	37,450	15,936	4.70

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	•		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.25 cfs @ 12.76 hrs HW=3.05' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.25 cfs @ 6.36 fps)

# **Summary for Pond 2LLT: 2 Lower Left Terrace**

Inflow Area = 2.326 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 6.07 cfs @ 12.08 hrs, Volume= 1.653 af

Outflow = 1.37 cfs @ 16.60 hrs, Volume= 1.653 af, Atten= 77%, Lag= 271.0 min

Primary = 1.37 cfs @ 16.60 hrs, Volume= 1.653 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Peak Elev= 3.63' @ 16.60 hrs Surf.Area= 7,483 sf Storage= 13,587 cf

Plug-Flow detention time= 117.4 min calculated for 1.653 af (100% of inflow)

Center-of-Mass det. time= 117.4 min (1,007.4 - 890.1)

Volume	Inv	ert Avail.Sto	rage Storage	Description			
#1	0.0	00' 22,7	57 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)		
Elevation (fee	et) 00	Surf.Area (sq-ft) 0 9,684	Inc.Store (cubic-feet) 0 22,757	Cum.Store (cubic-feet) 0 22,757			
Device	Routing	Invert	Outlet Devices				
#1	Primary	4.00'	Custom Weir/ Head (feet) 0. Width (feet) 3		62 (C= 3.28)		
#2	Primary	0.00'	6.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf				

Primary OutFlow Max=1.37 cfs @ 16.60 hrs HW=3.63' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.37 cfs @ 6.99 fps)

# **Summary for Pond 2LRT: 2 Lower Right Terrace**

Inflow Area = 2.279 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 5.94 cfs @ 12.08 hrs, Volume= 1.620 af

Outflow = 1.37 cfs @ 16.49 hrs, Volume= 1.620 af, Atten= 77%, Lag= 264.6 min

Primary = 1.37 cfs @ 16.49 hrs, Volume= 1.620 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.62' @ 16.49 hrs Surf.Area= 7,265 sf Storage= 13,155 cf

Plug-Flow detention time= 113.4 min calculated for 1.620 af (100% of inflow)

Center-of-Mass det. time= 113.4 min (1,000.1 - 886.7)

Volume	Inv	ert Avail.S	torage	Storage	e Description	
#1	0.	00' 22	161 cf	Custon	n Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation (fee	et)	Surf.Area (sq-ft)		c.Store	Cum.Store (cubic-feet)	
0.0 4.7		0 9,430	2	0 22,161	0 22,161	
Device	Routing	Inve	t Outl	et Device	es	
#1	Primary	4.00	Hea	d (feet)	<b>r/Orifice, Cv= 2.</b> 0.00 0.70 38.00 42.90	62 (C= 3.28)

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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#2 Primary 0.00' **6.0" Round Culvert** 

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

n= 0.012. Flow Area= 0.20 sf

Primary OutFlow Max=1.37 cfs @ 16.49 hrs HW=3.62' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.37 cfs @ 6.98 fps)

## Summary for Pond 2ULT: 2 Upper Left Terrace

Inflow Area = 1.791 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

16.38 cfs @ 12.08 hrs, Volume= Inflow = 1.273 af

Outflow 1.39 cfs @ 12.99 hrs, Volume= 1.273 af, Atten= 91%, Lag= 54.5 min =

1.39 cfs @ 12.99 hrs, Volume= Primary 1.273 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 3.74' @ 12.99 hrs Surf.Area= 12,923 sf Storage= 24,157 cf

Plug-Flow detention time= 162.9 min calculated for 1.273 af (100% of inflow)

Center-of-Mass det. time= 162.9 min (927.5 - 764.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	38,180 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
0.00	0	0	0
4.70	16,247	38,180	38,180

Device	Routing	Invert	Outlet Devices			
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)			
	-		Head (feet) 0.00 0.70			
			Width (feet) 38.00 42.90			
#2	Primary	0.00'	6.0" Round Culvert			
	-		L= 30.0' CPP, projecting, no headwall, Ke= 0.900			
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900			
			n= 0.012, Flow Area= 0.20 sf			

Primary OutFlow Max=1.39 cfs @ 12.99 hrs HW=3.74' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.39 cfs @ 7.10 fps)

#### Summary for Pond 2URT: 2 Upper Right Terrace

Inflow Area = 1.759 ac. 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

16.08 cfs @ 12.08 hrs, Volume= 1.250 af Inflow

Outflow 1.39 cfs @ 12.98 hrs, Volume= 1.250 af, Atten= 91%, Lag= 53.6 min =

1.39 cfs @ 12.98 hrs, Volume= Primary 1.250 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Peak Elev= 3.73' @ 12.98 hrs Surf.Area= 12,638 sf Storage= 23,552 cf

Plug-Flow detention time= 158.3 min calculated for 1.250 af (100% of inflow)

Center-of-Mass det. time= 158.3 min ( 922.9 - 764.6 )

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	0.0	00' 37,4	50 cf Custom	Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0		0	0	07.450	
4.	70	15,936	37,450	37,450	
Device	Routing	Invert	Outlet Devices	S	
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.70 Width (feet) 38.00 42.90		
#2	Primary	0.00'	6.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf		

Primary OutFlow Max=1.39 cfs @ 12.98 hrs HW=3.73' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.39 cfs @ 7.09 fps)

## **Summary for Pond 3LLT: 3 Lower Left Terrace**

Inflow Area = 3.394 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.83 cfs @ 12.08 hrs, Volume= 2.413 af

Outflow = 2.18 cfs @ 13.93 hrs, Volume= 2.413 af, Atten= 86%, Lag= 110.8 min

Primary = 2.18 cfs @ 13.93 hrs, Volume= 2.413 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.03' @ 13.93 hrs Surf.Area= 16,598 sf Storage= 33,432 cf

Plug-Flow detention time= 258.2 min calculated for 2.412 af (100% of inflow)

Center-of-Mass det. time= 258.3 min (1,108.9 - 850.6)

Volume	lı	nvert	Avail.Sto	rage	Storage	Description	
#1		0.00'	45,5	05 cf	Custom	Stage Data (P	Prismatic)Listed below (Recalc)
Elevation (fee		Surf./	Area sq-ft)	Inc.s (cubic-	Store -feet)	Cum.Store (cubic-feet)	
0.0	00		0		0	0	
4.7	70	19	,364	45	5,505	45,505	
Device	Routin	ng	Invert	Outle	t Device:	S	
#1	Prima	ry	4.00'	Head	(feet) 0	/Orifice, Cv= 2 .00 0.70 38.00 42.90	2.62 (C= 3.28)

Watershed A Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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#2 Primary 0.00' 6.0" Round Culvert

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012. Flow Area= 0.20 sf

Primary OutFlow Max=2.05 cfs @ 13.93 hrs HW=4.03' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.60 cfs @ 0.55 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.39 fps)

#### **Summary for Pond 3LRT: 3 Lower Right Terrace**

Inflow Area = 3.318 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.45 cfs @ 12.08 hrs, Volume= 2.359 af

Outflow = 2.15 cfs @ 13.95 hrs, Volume= 2.359 af, Atten= 86%, Lag= 111.9 min

Primary = 2.15 cfs @ 13.95 hrs, Volume= 2.359 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 4.03' @ 13.95 hrs Surf.Area= 16,157 sf Storage= 32,535 cf

Plug-Flow detention time= 251.6 min calculated for 2.359 af (100% of inflow)

Center-of-Mass det. time= 251.6 min ( 1,100.0 - 848.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	44,312 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
0.00	0	0	0
4.70	18,856	44,312	44,312

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	_		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012. Flow Area= 0.20 sf

Primary OutFlow Max=2.01 cfs @ 13.95 hrs HW=4.03' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.56 cfs @ 0.54 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.39 fps)

# **Summary for Pond 3ULT: 3 Upper Left Terrace**

Inflow Area = 1.792 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 16.38 cfs @ 12.08 hrs, Volume= 1.274 af

Outflow = 1.39 cfs @ 12.99 hrs, Volume= 1.274 af, Atten= 91%, Lag= 54.5 min

Primary = 1.39 cfs @ 12.99 hrs, Volume= 1.274 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Peak Elev= 3.74' @ 12.99 hrs Surf.Area= 12,927 sf Storage= 24,172 cf

Plug-Flow detention time= 163.0 min calculated for 1.274 af (100% of inflow)

Center-of-Mass det. time= 163.0 min ( 927.6 - 764.6 )

Volume	Inv	ert Avail.Sto	rage Storage	e Description	
#1	0.	00' 38,1	80 cf Custor	m Stage Data (Prismatic)Listed below (Recalc)	
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 16,247	0 38,180	0 38,180	
Device	Routing	Invert	Outlet Device	ces	
#1	Primary	4.00'	Head (feet)		
#2	Primary	0.00'	Width (feet) 38.00 42.90 6.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf		

Primary OutFlow Max=1.39 cfs @ 12.99 hrs HW=3.74' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.39 cfs @ 7.10 fps)

## **Summary for Pond 3URT: 3 Upper Right Terrace**

Inflow Area = 1.758 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow 16.07 cfs @ 12.08 hrs, Volume= 1.250 af

Outflow 1.39 cfs @ 12.97 hrs, Volume= 1.250 af, Atten= 91%, Lag= 53.6 min =

1.39 cfs @ 12.97 hrs, Volume= Primary 1.250 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.73' @ 12.97 hrs Surf.Area= 12,636 sf Storage= 23,544 cf

Plug-Flow detention time= 158.3 min calculated for 1.250 af (100% of inflow)

Center-of-Mass det. time= 158.3 min ( 922.8 - 764.6 )

Volume	Inv	ert Avail.St	orage Stora	age Description	
#1	0.	00' 37,4	150 cf <b>Cust</b>	om Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)		
0.0	00	0	C	0	
4.7	70	15,936	37,450	37,450	
Device	Routing	Invert	Outlet Dev	rices	
#1	Primary	4.00'	Head (feet	Veir/Orifice, Cv= 2 i) 0.00 0.70 t) 38.00 42.90	.62 (C= 3.28)

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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#2 Primary

0.00' **6.0" Round Culvert** 

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.39 cfs @ 12.97 hrs HW=3.73' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.39 cfs @ 7.09 fps)

## **Summary for Pond 4LLT: 4 Lower Left Terrace**

Inflow Area = 4.462 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 7.42 cfs @ 12.44 hrs, Volume= 3.172 af

Outflow = 4.13 cfs @ 12.83 hrs, Volume= 3.172 af, Atten= 44%, Lag= 23.2 min

Primary = 4.13 cfs @ 12.83 hrs, Volume= 3.172 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.08' @ 12.83 hrs Surf.Area= 8,392 sf Storage= 17,101 cf

Plug-Flow detention time= 130.8 min calculated for 3.172 af (100% of inflow)

Center-of-Mass det. time= 130.8 min (1,166.9 - 1,036.1)

Volume	Invert_	Avail.Storage	Storage Description
#1	0.00'	22,746 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	9,679	22,746	22,746

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	•		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=4.04 cfs @ 12.83 hrs HW=4.08' (Free Discharge)

—1=Custom Weir/Orifice (Weir Controls 2.58 cfs @ 0.90 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.43 fps)

# Summary for Pond 4LRT: 4 Lower Right Terrace

Inflow Area = 4.357 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 7.20 cfs @ 12.44 hrs, Volume= 3.097 af

Outflow = 4.02 cfs @ 12.83 hrs, Volume= 3.097 af, Atten= 44%, Lag= 23.5 min

Primary = 4.02 cfs @ 12.83 hrs, Volume= 3.097 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Voluma

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Peak Elev= 4.07' @ 12.83 hrs Surf.Area= 8,168 sf Storage= 16,635 cf

Plug-Flow detention time= 127.7 min calculated for 3.097 af (100% of inflow)

Avail Storage Storage Description

Center-of-Mass det. time= 127.7 min (1,157.1 - 1,029.4)

Invert

volume	II I	ven Avail.Si	orage Storage	Description	
#1	C	.00' 22,	151 cf Custon	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0	00	0	0	0	
4.7	70	9,426	22,151	22,151	
Device	Routing	nver	Outlet Device	es	
#1	Primar	4.00	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.70 Width (feet) 38.00 42.90		
#2	#2 Primary 0.00'		6.0" Round L= 30.0' CP Inlet / Outlet I	<b>Culvert</b> P, projecting, no	headwall, Ke= 0.900 60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=3.92 cfs @ 12.83 hrs HW=4.07' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 2.46 cfs @ 0.88 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.43 fps)

# **Summary for Pond 4MLT: 4 Middle Left Terrace**

Inflow Area = 3.928 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 20.71 cfs @ 12.08 hrs, Volume= 2.793 af

Outflow = 6.18 cfs @ 12.46 hrs, Volume= 2.793 af, Atten= 70%, Lag= 22.4 min

Primary = 6.18 cfs @ 12.46 hrs, Volume= 2.793 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.11' @ 12.46 hrs Surf.Area= 16,937 sf Storage= 34,812 cf

Plug-Flow detention time= 234.0 min calculated for 2.793 af (100% of inflow)

Center-of-Mass det. time= 234.0 min ( 1,073.0 - 839.0 )

Volume	In	vert	Avail.S	Storage	Storage D	Description		
#1	C	.00'	45	5,505 cf	Custom	Stage Data (Pr	rismatic)Listed below (Reca	alc)
Elevation (fee			Area sq-ft)		.Store :-feet)	Cum.Store (cubic-feet)		
0.0 4.		19	0 9,364	4	0 5,505	0 45,505		
Device	Routing	9	Inve	ert Outle	et Devices			
#1	Primar	У	4.0		om Weir/ed (feet) 0.0	Orifice, Cv= 2.0	62 (C= 3.28)	

Width (feet) 38.00 42.90

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50" Watershed A

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#2 Primary 0.00' 6.0" Round Culvert

> L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=6.09 cfs @ 12.46 hrs HW=4.11' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 4.63 cfs @ 1.09 fps)

-2=Culvert (Inlet Controls 1.47 cfs @ 7.47 fps)

#### Summary for Pond 4MRT: 4 Middle Right Terrace

3.837 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event Inflow Area =

20.20 cfs @ 12.08 hrs, Volume= Inflow 2.728 af

6.00 cfs @ 12.46 hrs, Volume= 2.728 af, Atten= 70%, Lag= 22.6 min Outflow =

6.00 cfs @ 12.46 hrs, Volume= 2.728 af Primary

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.11' @ 12.46 hrs Surf.Area= 16,481 sf Storage= 33,854 cf

Plug-Flow detention time= 228.3 min calculated for 2.728 af (100% of inflow)

Center-of-Mass det. time= 228.3 min (1,065.3 - 837.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	44,312 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	18,856	44,312	44,312

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
	-		Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	-		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012 Flow Area= 0.20 sf

Primary OutFlow Max=5.92 cfs @ 12.46 hrs HW=4.11' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 4.46 cfs @ 1.07 fps)

-2=Culvert (Inlet Controls 1.47 cfs @ 7.47 fps)

## **Summary for Pond 4ULT: 4 Upper Left Terrace**

1,793 ac. 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event Inflow Area =

16.39 cfs @ 12.08 hrs, Volume= 1.275 af Inflow

Outflow = 1.39 cfs @ 12.99 hrs, Volume= 1.275 af, Atten= 91%, Lag= 54.5 min

Primary = 1.39 cfs @ 12.99 hrs, Volume=

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Peak Elev= 3.74' @ 12.99 hrs Surf.Area= 12,930 sf Storage= 24,182 cf

Plug-Flow detention time= 163.1 min calculated for 1.275 af (100% of inflow)

Center-of-Mass det. time= 163.0 min ( 927.6 - 764.6 )

Volume	Inv	ert Avail.Sto	orage Storage	e Description	
#1	0.0	00' 38,1	80 cf Custor	n Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 16,247	0 38,180	0 38,180	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	4.00'	Custom Wei Head (feet) Width (feet)		62 (C= 3.28)
#2	Primary	0.00'	6.0" Round L= 30.0' CP Inlet / Outlet	Culvert P, projecting, no	headwall, Ke= 0.900 .60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.39 cfs @ 12.99 hrs HW=3.74' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.39 cfs @ 7.10 fps)

# **Summary for Pond 4URT: 4 Upper Right Terrace**

Inflow Area = 1.758 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 16.07 cfs @ 12.08 hrs, Volume= 1.249 af

Outflow = 1.39 cfs @ 12.97 hrs, Volume= 1.249 af, Atten= 91%, Lag= 53.6 min

Primary = 1.39 cfs @ 12.97 hrs, Volume= 1.249 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.73' @ 12.97 hrs Surf.Area= 12,632 sf Storage= 23,529 cf

Plug-Flow detention time= 158.2 min calculated for 1.249 af (100% of inflow)

Center-of-Mass det. time= 158.2 min ( 922.7 - 764.6 )

Volume	lr	nvert	Avail.Sto	rage	Storage	Description		
#1		0.00'	37,4	50 cf	Custom	Stage Data (P	rismatic)Listed be	low (Recalc)
Elevation (fee		Surf	Area sq-ft)		Store -feet)	Cum.Store (cubic-feet)		
0.0 4.		15	0 5,936	3	0 7,450	0 37,450		
Device	Routin	g	Invert	Outle	t Device	s		
#1	Primai	У	4.00'	Head	(feet) 0	/Orifice, Cv= 2 0.00 0.70 0.88.00 42.90	.62 (C= 3.28)	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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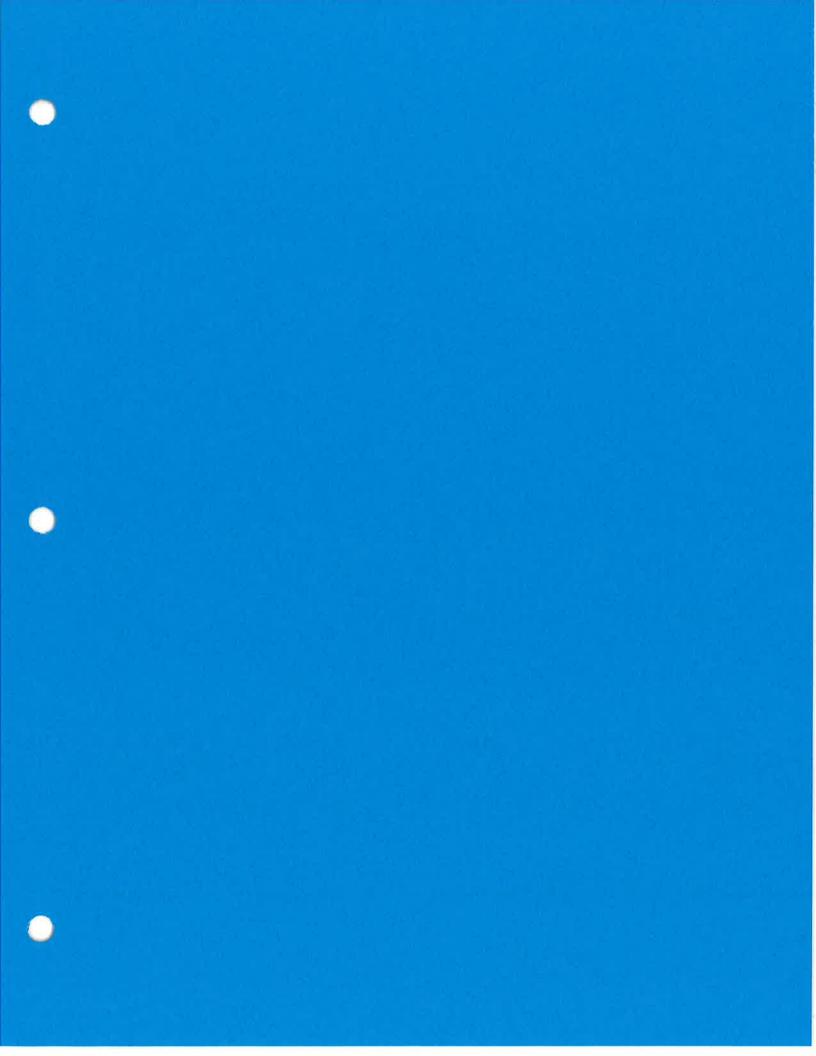
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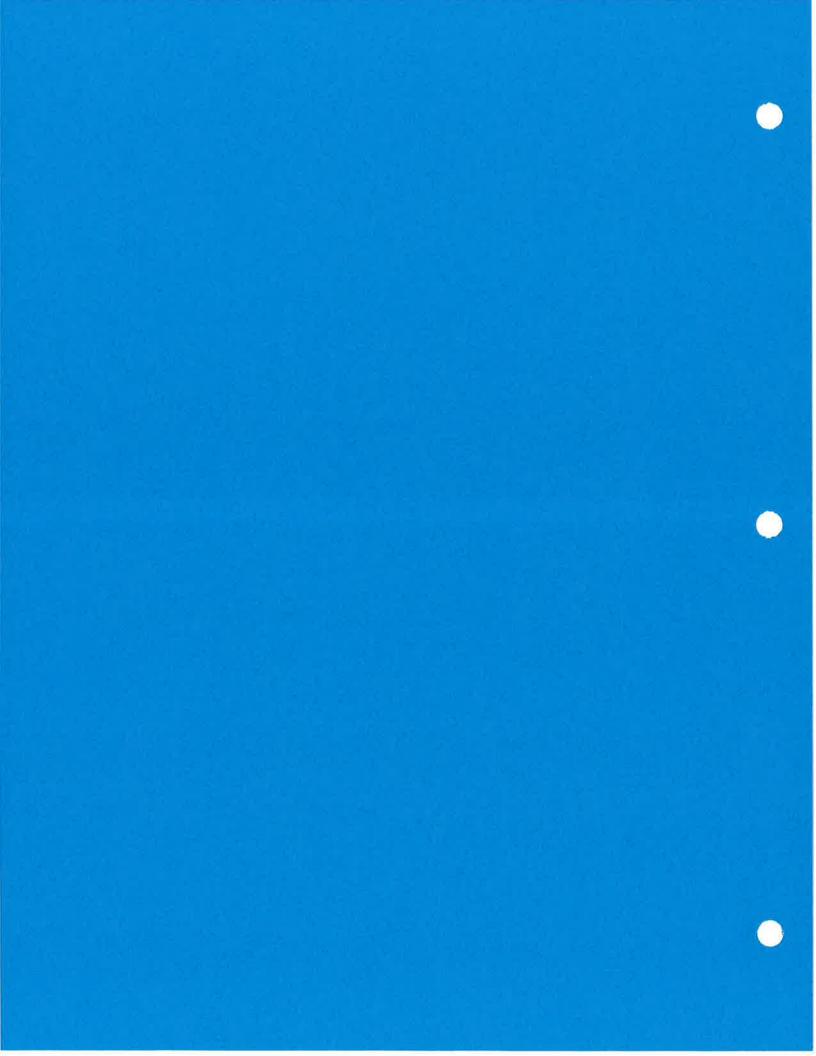
#2 Primary 0.00' **6.0" Round Culvert** 

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.39 cfs @ 12.97 hrs HW=3.73' (Free Discharge) -1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.39 cfs @ 7.09 fps)

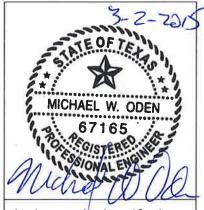




# ATTACHMENT III-C APPENDIX III-C.4

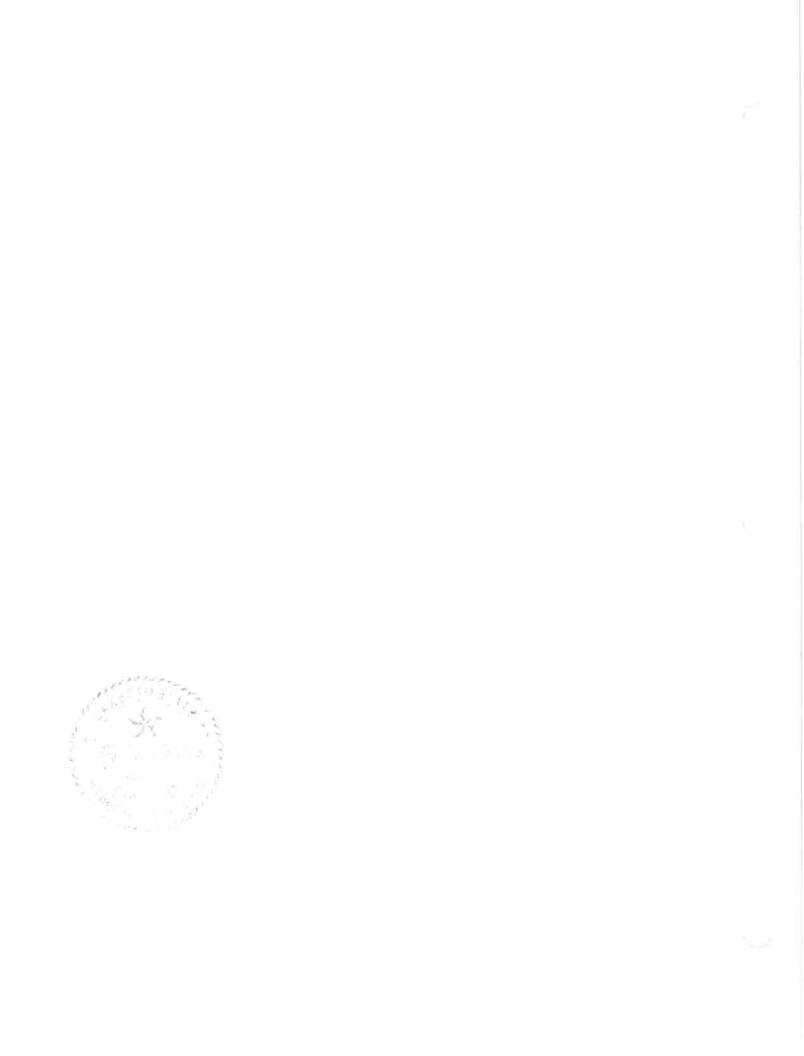
#### HYDROCAD MODEL OUTPUT FILES

- 3. PROPOSED CONDITIONS (POST-DEVELOPMENT)
  - A. MODEL DIAGRAMS
  - B. LANDFILL WATERSHED A (TYPICAL OF WATERSHEDS C, E, G, J, K, M, & O)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - C. LANDFILL WATERSHED B (TYPICAL OF WATERSHEDS D, F, J, L, N, & P)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - D. LANDFILL PERIMETER DITCH, CULVERT, & BASIN SYSTEM
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - E. REGIONAL STORMWATER CONDITIONS
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)



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## **Summary for Subcatchment 1ULS: 1 Upper Left Subcat**

Runoff = 9.38 cfs @ 1

9.38 cfs @ 12.08 hrs, Volume=

0.719 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN [	Description			
*		56,548	92				
		56,548	•	100.00% P	ervious Are	a	
	Тс	Length	Slope	,	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

#### Summary for Subcatchment 1URS: 1 Upper Right Subcat

Runoff = 9.25 cfs @ 12.08 hrs, Volume=

0.709 af. Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

-	Α	rea (sf)	CN	Description			
*		55,761	92				
-		55,761	,	100.00% Pe	ervious Are	a	
	Тс	-	Slope	•	Capacity	Description	
	(min) (feet) (f			(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

# Summary for Subcatchment 2LLS: 2 Lower Left Subcat

Runoff =

3.86 cfs @ 12.08 hrs, Volume=

0.296 af, Depth= 6.65"

	A	rea (sf)	CN E	Description			
*		23,267	92				
		23,267	1	00.00% Pe	ervious Are	а	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
,==	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

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## Summary for Subcatchment 2LRS: 2 Lower Right Subcat

Runoff

3.76 cfs @ 12.08 hrs, Volume=

0.288 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

_	Α	rea (sf)	CN E	Description			
*		22,657	92	7:			
		22,657	1	100.00% Pe	ervious Are	a	
	Тс	Length	Slope		Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## **Summary for Subcatchment 2ULS: 2 Upper Left Subcat**

Runoff

12.94 cfs @ 12.08 hrs, Volume=

0.992 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN [	Description			
*		78,032	92				
		78,032	•	100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0 150 P2= 3 75"	

# **Summary for Subcatchment 2URS: 2 Upper Right Subcat**

Runoff

12.70 cfs @ 12.08 hrs, Volume=

0.974 af, Depth= 6.65"

_	A	rea (sf)	CN I	Description			
*		76,616	92				
		76,616	•	100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
,	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

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## Summary for Subcatchment 3LLS: 3 Lower Left Subcat

Runoff

11.57 cfs @ 12.08 hrs, Volume=

0.887 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

_	A	rea (sf)	CN	Description			
*		69,770	92				
		69,770		100.00% Pe	ervious Are	a	
		Length	Slope	•	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

### Summary for Subcatchment 3LRS: 3 Lower Right Subcat

Runoff

11.27 cfs @ 12.08 hrs, Volume=

0.864 af. Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN	Description			
*		67,944	92				
		67,944		100.00% P	ervious Are	a	
	Тс	_	Slope	•	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

# Summary for Subcatchment 3ULS: 3 Upper Left Subcat

Runoff

12.94 cfs @ 12.08 hrs, Volume=

0.993 af, Depth= 6.65"

	A	rea (sf)	CN E	<b>Description</b>			
*		78,072	92				
		78,072	1	00.00% Pe	ervious Are	a	
			Slope		Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

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## Summary for Subcatchment 3URS: 3 Upper Right Subcat

Runoff

12.70 cfs @ 12.08 hrs, Volume=

0.974 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

1	Α	rea (sf)	CN I	Description			
*		76,595	92				
		76,595		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
L	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

#### Summary for Subcatchment 4LLS: 4 Lower Left Subcat

Runoff

3.85 cfs @ 12.08 hrs, Volume=

0.296 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN [	Description	,		
*		23,248	92				
		23,248	•	100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 4LRS: 4 Lower Right Subcat

Runoff

3.75 cfs @ 12.08 hrs, Volume=

0.288 af, Depth= 6.65"

_	A	rea (sf)	CN [	Description			
*		22,641	92				
		22,641		100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	<u> </u>	
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0 150 P2= 3 75"	

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#### Summary for Subcatchment 4MLS: 4 Middle Left Subcat

Runoff

15.42 cfs @ 12.08 hrs, Volume=

1.183 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN I	Description			
*		93,016	92				
		93,016	•	100.00% P	ervious Are	a	
	Тс	Length	Slope	•		Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
-	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0.150 P2= 3.75"	

### **Summary for Subcatchment 4MRS: 4 Middle Right Subcat**

Runoff

15.02 cfs @ 12.08 hrs, Volume=

1.152 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN	Description			
9		90,584	92				
		90,584		100.00% Pe	ervious Area	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
-	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		=
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

# Summary for Subcatchment 4ULS: 4 Upper Left Subcat

Runoff

12.95 cfs @ 12.08 hrs, Volume=

0.993 af, Depth= 6.65"

	A	rea (sf)	CN I	Description			
*		78,096	92				
		78,096	•	100.00% P	ervious Are	a	
	Tc (min)	Length (feet)	Slope (ft/ft)	•	Capacity (cfs)	Description	
0	5.9	206	0.2500		(013)	Sheet Flow,	
	3.0	200	0.2000	0.00		n= 0.150 P2= 3.75"	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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## Summary for Subcatchment 4URS: 4 Upper Right Subcat

Runoff = 12.69 cfs @ 12.08 hrs, Volume= 0.974 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Aı	rea (sf)	CN	Description			
*		76,557	92				
		76,557		100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
(m	in)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0.150 P2= 3.75"	

#### **Summary for Reach 1DC: 1 Downchute**

Inflow Area = 2.578 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 2.30 cfs @ 12.64 hrs, Volume= 1.428 af

Outflow = 2.30 cfs @ 12.66 hrs, Volume= 1.428 af, Atten= 0%, Lag= 1.6 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.66 fps, Min. Travel Time= 2.0 min Avg. Velocity = 1.71 fps, Avg. Travel Time= 3.1 min

Peak Storage= 276 cf @ 12.66 hrs Average Depth at Peak Storage= 0.06' Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 999.73 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 320.0' Slope= 0.1800 '/' Inlet Invert= -2.00', Outlet Invert= -59.60'



## **Summary for Reach 2DC: 2 Downchute**

Inflow Area = 7.183 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 4.69 cfs @ 13.28 hrs, Volume= 3.979 af

Outflow = 4.69 cfs @ 13.30 hrs, Volume= 3.979 af, Atten= 0%, Lag= 0.8 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.52 fps, Min. Travel Time= 1.5 min Avg. Velocity = 2.37 fps, Avg. Travel Time= 2.2 min

Peak Storage= 426 cf @ 13.30 hrs Average Depth at Peak Storage= 0.09' Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 999.73 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 320.0' Slope= 0.1800 '/' Inlet Invert= -2.00', Outlet Invert= -59.60'



#### **Summary for Reach 3DC: 3 Downchute**

Inflow Area = 13.895 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 7.39 cfs @ 13.83 hrs, Volume= 7.697 af

Outflow = 7.39 cfs @ 13.85 hrs, Volume= 7.697 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.20 fps, Min. Travel Time= 1.3 min Avg. Velocity = 2.84 fps, Avg. Travel Time= 1.9 min

Peak Storage= 563 cf @ 13.85 hrs Average Depth at Peak Storage= 0.11' Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 999.73 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 320.0' Slope= 0.1800 '/' Inlet Invert= -2.00', Outlet Invert= -59.60'



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## **Summary for Reach 4DC: 4 Downchute**

Inflow Area = 22.714 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.44 cfs @ 16.12 hrs, Volume= 12.583 af

Outflow = 10.44 cfs @ 16.14 hrs, Volume= 12.583 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.79 fps, Min. Travel Time= 1.3 min Avg. Velocity = 3.35 fps, Avg. Travel Time= 1.9 min

Peak Storage= 817 cf @ 16.14 hrs Average Depth at Peak Storage= 0.14'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 999.73 cfs

15.00' x 2.00' deep channel, n = 0.035

Side Slope Z-value= 3.0 '/' Top Width= 27.00'

Length= 375.0' Slope= 0.1800 '/'

Inlet Invert= -2.00', Outlet Invert= -69.50'



## Summary for Pond 1ULT: 1 Upper Left Terrace

Inflow Area = 1.298 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 9.38 cfs @ 12.08 hrs, Volume= 0.719 af

Outflow = 1.15 cfs @ 12.64 hrs, Volume= 0.719 af, Atten= 88%, Lag= 33.6 min

Primary = 1.15 cfs @ 12.64 hrs, Volume= 0.719 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 2.62' @ 12.64 hrs Surf.Area= 9,053 sf Storage= 11,855 cf

Plug-Flow detention time= 89.7 min calculated for 0.719 af (100% of inflow)

Center-of-Mass det. time= 89.6 min ( 860.0 - 770.4 )

Volume	Inve	ert Avai	I.Storage	Storage I	Description	
#1	0.0	00'	38,180 cf	Custom	Stage Data (Pri	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)		:.Store c-feet)	Cum.Store (cubic-feet)	
0.0	00	0		0	0	
4.7	70	16,247	3	38,180	38,180	
Device	Routing	In	vert Outl	et Devices		
#1	Primary	Δ	OO' Cue	tom Weir	Orifice Cy= 26	32 (C= 3 28)

	110000119	1111011	Catter Bortoco
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert

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L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.15 cfs @ 12.64 hrs HW=2.62' (Free Discharge)
1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.15 cfs @ 5.85 fps)

### **Summary for Pond 1URT: 1 Upper Right Terrace**

Inflow Area = 1.280 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 9.25 cfs @ 12.08 hrs, Volume= 0.709 af

Outflow = 1.15 cfs @ 12.63 hrs, Volume= 0.709 af, Atten= 88%, Lag= 33.1 min

Primary = 1.15 cfs @ 12.63 hrs, Volume= 0.709 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 2.62' @ 12.63 hrs Surf.Area= 8,876 sf Storage= 11,618 cf

Plug-Flow detention time= 87.5 min calculated for 0.709 af (100% of inflow)

Center-of-Mass det. time= 87.5 min ( 857.8 - 770.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	37,450 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	15,936	37,450	37,450

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
	•		Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012. Flow Area= 0.20 sf

Primary OutFlow Max=1.15 cfs @ 12.63 hrs HW=2.62' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.15 cfs @ 5.85 fps)

# **Summary for Pond 2LLT: 2 Lower Left Terrace**

Inflow Area = 2.326 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 4.95 cfs @ 12.08 hrs, Volume= 1.288 af

Outflow = 1.27 cfs @ 15.82 hrs, Volume= 1.288 af, Atten= 74%, Lag= 224.3 min

Primary = 1.27 cfs @ 15.82 hrs, Volume= 1.288 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Volume

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Peak Elev= 3.13' @ 15.82 hrs Surf.Area= 6,451 sf Storage= 10,097 cf

Plug-Flow detention time= 92.0 min calculated for 1.288 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 92.0 min ( 960.0 - 868.0 )

Invert

#1	0.	00' 22,7	757 cf Custom	Stage Data (Pri	smatic)Listed below (Recalc)	
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
0.0	00	0	0	0		
4.	70	9,684	22,757	22,757		
Device	Routing	Invert	Outlet Devices	<b>S</b>		
#1	Primary	4.00'	Custom Weir/ Head (feet) 0. Width (feet) 3		22 (C= 3.28)	
#2	#2 Primary 0.00'		6.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf			

Primary OutFlow Max=1.27 cfs @ 15.82 hrs HW=3.13' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.27 cfs @ 6.45 fps)

## **Summary for Pond 2LRT: 2 Lower Right Terrace**

Inflow Area = 2.279 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 4.85 cfs @ 12.08 hrs, Volume= 1.263 af

Outflow = 1.26 cfs @ 15.75 hrs, Volume= 1.263 af, Atten= 74%, Lag= 219.7 min

Primary = 1.26 cfs @ 15.75 hrs, Volume= 1.263 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.12' @ 15.75 hrs Surf.Area= 6,262 sf Storage= 9,771 cf

Plug-Flow detention time= 88.7 min calculated for 1.263 af (100% of inflow)

Center-of-Mass det. time= 88.7 min ( 954.2 - 865.4 )

Volume	lnv	ert Avail.	Storage	Storage	Description	
#1	0.0	00' 22	1,161 cf	Custor	n Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)		c.Store ic-feet)	Cum.Store (cubic-feet)	
0.0		0		0	0	
4.7	O	9,430	Ž	22,161	22,161	
Device	Routing	Inve	rt Out	let Device	es	
#1	Primary	4.0			r/Orifice, Cv= 2.	62 (C= 3.28)
				` '	0.00 0.70	
			vvia	ın (reet)	38.00 42.90	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

#### Watershed A

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#2 Primary 0.00' **6.0** 

0.00' 6.0" Round Culvert

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.26 cfs @ 15.75 hrs HW=3.12' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.26 cfs @ 6.44 fps)

### Summary for Pond 2ULT: 2 Upper Left Terrace

Inflow Area = 1.791 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.94 cfs @ 12.08 hrs, Volume= 0.992 af

Outflow = 1.28 cfs @ 12.85 hrs, Volume= 0.992 af, Atten= 90%, Lag= 45.9 min

Primary = 1.28 cfs @ 12.85 hrs, Volume= 0.992 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.21' @ 12.85 hrs Surf.Area= 11,099 sf Storage= 17,817 cf

Plug-Flow detention time= 126.8 min calculated for 0.992 af (100% of inflow)

Center-of-Mass det. time= 126.8 min (897.1 - 770.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	0.00'	38,180 cf	Custom Stage Data (Prismatic)Listed below (Recalc)	
Elevation	Surf.Aı	rea Inc	Store Cum Store	

Cum.Store (cubic-feet)	Inc.Store (cubic-feet)	Surf.Area (sq-ft)	Elevation (feet)
0	0	0	0.00
38,180	38,180	16,247	4.70

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
	-		Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	,		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.28 cfs @ 12.85 hrs HW=3.21' (Free Discharge)

—1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.28 cfs @ 6.54 fps)

#### **Summary for Pond 2URT: 2 Upper Right Terrace**

Inflow Area = 1.759 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.70 cfs @ 12.08 hrs, Volume= 0.974 af

Outflow = 1.28 cfs @ 12.83 hrs, Volume= 0.974 af, Atten= 90%, Lag= 44.9 min

Primary = 1.28 cfs @ 12.83 hrs, Volume= 0.974 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Peak Elev= 3.20' @ 12.83 hrs Surf.Area= 10,853 sf Storage= 17,369 cf

Plug-Flow detention time= 123.2 min calculated for 0.974 af (100% of inflow)

Center-of-Mass det. time= 123.2 min ( 893.5 - 770.4 )

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	0.0	00' 37,4	50 cf Custon	n Stage Data (Pri	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7	-	0 15,936	0 37,450	0 37,450	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	4.00'	Custom Wein Head (feet) ( Width (feet) (		2 (C= 3.28)
#2	Primary	0.00'	6.0" Round ( L= 30.0' CPI Inlet / Outlet I	<b>Culvert</b> P, projecting, no h	neadwall, Ke= 0.900 60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.28 cfs @ 12.83 hrs HW=3.20' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.28 cfs @ 6.53 fps)

# Summary for Pond 3LLT: 3 Lower Left Terrace

Inflow Area = 3.394 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event 12.66 cfs @ 12.08 hrs, Volume= 1.880 af

Outflow = 1.39 cfs @ 16.48 hrs, Volume= 1.880 af, Atten= 89%, Lag= 263.5 min

Primary = 1.39 cfs @ 16.48 hrs, Volume= 1.880 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.72' @ 16.48 hrs Surf.Area= 15,314 sf Storage= 28,462 cf

Plug-Flow detention time= 235.9 min calculated for 1.880 af (100% of inflow)

Center-of-Mass det. time= 235.9 min (1,073.2 - 837.3)

Volume	Inv	ert Avail.St	orage Storag	e Description	
#1	0.	00' 45,	505 cf Custo	m Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0	00	0	0	0	
4.7	70	19,364	45,505	45,505	
Device	Routing	Invert	Outlet Device	ces	
#1	Primary	4.00	Head (feet)	eir/Orifice, Cv= 2 0.00 0.70 38.00 42.90	62 (C= 3.28)

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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#2 Primary

0.00' **6.0" Round Culvert** 

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.39 cfs @ 16.48 hrs HW=3.72' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.39 cfs @ 7.08 fps)

### **Summary for Pond 3LRT: 3 Lower Right Terrace**

Inflow Area = 3.318 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.36 cfs @ 12.08 hrs, Volume= 1.838 af

Outflow = 1.39 cfs @ 16.37 hrs, Volume= 1.838 af, Atten= 89%, Lag= 257.0 min

Primary = 1.39 cfs @ 16.37 hrs, Volume= 1.838 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 3.70' @ 16.37 hrs Surf.Area= 14,862 sf Storage= 27,530 cf

Plug-Flow detention time= 228.0 min calculated for 1.838 af (100% of inflow)

Center-of-Mass det. time= 228.0 min ( 1,063.7 - 835.6 )

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	44,312 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
0.00	0	0	0
4.70	18,856	44,312	44,312

Outlet Devices				

Primary OutFlow Max=1.39 cfs @ 16.37 hrs HW=3.70' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.39 cfs @ 7.07 fps)

#### **Summary for Pond 3ULT: 3 Upper Left Terrace**

Inflow Area = 1.792 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.94 cfs @ 12.08 hrs, Volume= 0.993 af

Outflow = 1.28 cfs @ 12.85 hrs, Volume= 0.993 af, Atten= 90%, Lag= 45.9 min

Primary = 1.28 cfs @ 12.85 hrs, Volume= 0.993 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Volume \_\_\_

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Peak Elev= 3.21' @ 12.85 hrs Surf.Area= 11,102 sf Storage= 17,828 cf

Plug-Flow detention time= 126.9 min calculated for 0.993 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 126.8 min ( 897.2 - 770.4 )

Invert

#1	0.	00' 38,1	80 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevati		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
	00 70	0 16,247	0 38,180	0 38,180	
Device	Routing	Invert	Outlet Devices		
#1	Primary	4.00'	Custom Weir/ Head (feet) 0. Width (feet) 3		62 (C= 3.28)
#2	Primary	0.00'	6.0" Round C L= 30.0' CPP Inlet / Outlet In	culvert , projecting, no	headwall, Ke= 0.900 60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.28 cfs @ 12.85 hrs HW=3.21' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.28 cfs @ 6.54 fps)

# **Summary for Pond 3URT: 3 Upper Right Terrace**

Inflow Area = 1.758 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.70 cfs @ 12.08 hrs, Volume= 0.974 af

Outflow = 1.28 cfs @ 12.83 hrs, Volume= 0.974 af, Atten= 90%, Lag= 44.9 min

Primary = 1.28 cfs @ 12.83 hrs, Volume= 0.974 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.20' @ 12.83 hrs Surf.Area= 10,851 sf Storage= 17,363 cf

Plug-Flow detention time= 123.2 min calculated for 0.974 af (100% of inflow)

Center-of-Mass det. time= 123.1 min (893.5 - 770.4)

Volume	Inv	ert Avai	.Storage	Storage	Description	
#1	0.	00' :	37,450 cf	Custom	Stage Data (Pris	smatic)Listed below (Recalc)
Elevatio	-	Surf.Area (sq-ft)		c.Store ic-feet)	Cum.Store (cubic-feet)	
0.0	0	0		0	0	
4.7	0	15,936	;	37,450	37,450	
Device	Routing	lnv	ert Out	let Devices		
#1	Primary	4.		tom Weir/	Orifice, Cv= 2.6	2 (C= 3.28)

Head (feet) 0.00 0.70 Width (feet) 38.00 42.90

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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#2 Primary 0.00' 6.0" Round Culvert

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012. Flow Area= 0.20 sf

Primary OutFlow Max=1.28 cfs @ 12.83 hrs HW=3.20' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.28 cfs @ 6.53 fps)

### **Summary for Pond 4LLT: 4 Lower Left Terrace**

Inflow Area = 4.462 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow 5.07 cfs @ 12.08 hrs, Volume= 2.472 af

Outflow = 1.71 cfs @ 16.05 hrs, Volume= 2.472 af, Atten= 66%, Lag= 238.2 min

1.71 cfs @ 16.05 hrs, Volume= Primary 2.472 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 4.01' @ 16.05 hrs Surf.Area= 8,259 sf Storage= 16,560 cf

Plug-Flow detention time= 143.1 min calculated for 2.471 af (100% of inflow)

Center-of-Mass det. time= 143.1 min ( 1,188.3 - 1,045.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	22,746 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
0.00	0	0	0
4.70	9,679	22,746	22,746

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
	-		Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0 012 Flow Area= 0 20 sf

Primary OutFlow Max=1.58 cfs @ 16.05 hrs HW=4.01' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.13 cfs @ 0.33 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

## Summary for Pond 4LRT: 4 Lower Right Terrace

0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event Inflow Area = 4.357 ac.

Inflow 4.97 cfs @ 12.08 hrs, Volume= 2.414 af

Outflow = 1.65 cfs @ 16.21 hrs, Volume= 2.414 af, Atten= 67%, Lag= 247.5 min

1.65 cfs @ 16.21 hrs, Volume= Primary

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Peak Elev= 4.01' @ 16.21 hrs Surf.Area= 8,038 sf Storage= 16,107 cf

Plug-Flow detention time= 139.2 min calculated for 2.413 af (100% of inflow)

Center-of-Mass det. time= 139.2 min (1,177.3 - 1,038.1)

Volume	lnv	ert Avail.Sto	rage S	torage	Description	
#1	0.0	00' 22,1	51 cf <b>C</b>	uston	n Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation		Surf.Area	Inc.S	ore	Cum.Store	
(fee	et)	(sq-ft)	(cubic-f	eet)	(cubic-feet)	
0.0	00	0		0	0	
4.7	70	9,426	22,	151	22,151	
Device	Routing	Invert	Outlet	Device	<b>9</b> S	
#1	Primary	4.00'	Custo	n Wei	r/Orifice, Cv= 2.	62 (C= 3.28)
			Head (	feet) (	0.00 0.70	
			Width (	feet)	38.00 42.90	
#2	Primary	0.00'	6.0" R	ound	Culvert	
						headwall, Ke= 0.900
						60' S= 0.0200 '/' Cc= 0.900
			$n = 0.0^{\circ}$	12, Fk	ow Area= 0.20 sf	

Primary OutFlow Max=1.53 cfs @ 16.21 hrs HW=4.01' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.09 cfs @ 0.29 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

## **Summary for Pond 4MLT: 4 Middle Left Terrace**

Inflow Area = 3.928 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow 16.52 cfs @ 12.08 hrs, Volume= 2.176 af

Outflow = 2.11 cfs @ 13.92 hrs, Volume= 2.176 af. Atten= 87%, Lag= 110.1 min

2.11 cfs @ 13.92 hrs, Volume= Primary 2.176 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.03' @ 13.92 hrs Surf.Area= 16,587 sf Storage= 33,388 cf

Plug-Flow detention time= 254.3 min calculated for 2.176 af (100% of inflow)

Center-of-Mass det. time= 254.3 min (1,082.6 - 828.3)

Volume	Ir	vert	Avail.Sto	rage	Storag	e Description	
#1	(	0.00'	45,50	05 cf	Custo	m Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.A	rea <sub>I</sub> -ft)	Inc. (cubic	Store -feet)	Cum.Store (cubic-feet)	
0.0	00		0		0	0	
4.7	70	19,	364	4	5,505	45,505	
Device	Routin	g	Invert	Outle	t Devic	es	
#1	Primar	y	4.00'			eir/Orifice, Cv= 2.	.62 (C= 3.28)
					` '	0.00 0.70	
				Width	ı (teet)	38.00 42.90	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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#2 Primary 0.00' 6.0" Round Culvert

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.97 cfs @ 13.92 hrs HW=4.03' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.52 cfs @ 0.53 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.39 fps)

### Summary for Pond 4MRT: 4 Middle Right Terrace

inflow Area = 3.837 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 16.11 cfs @ 12.08 hrs. Volume= 2.126 af

Outflow 2.07 cfs @ 13.95 hrs, Volume= 2.126 af, Atten= 87%, Lag= 111.8 min =

Primary 2.07 cfs @ 13.95 hrs, Volume= 2.126 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 4.02' @ 13.95 hrs Surf.Area= 16,145 sf Storage= 32,488 cf

Plug-Flow detention time= 247.7 min calculated for 2.126 af (100% of inflow)

Center-of-Mass det. time= 247.7 min ( 1,074.4 - 826.7 )

<u>Volume</u>	Invert	Avail.Storage	Storage Description
#1	0.00'	44.312 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
0.00	0	0	0
4.70	18,856	44,312	44,312

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
	•		Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	-		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.92 cfs @ 13.95 hrs HW=4.02' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.47 cfs @ 0.51 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.39 fps)

### Summary for Pond 4ULT: 4 Upper Left Terrace

1.793 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event Inflow Area =

Inflow = 12.95 cfs @ 12.08 hrs. Volume= 0.993 af

1.28 cfs @ 12.85 hrs, Volume= Outflow = 0.993 af, Atten= 90%, Lag= 46.0 min

1.28 cfs @ 12.85 hrs, Volume= Primary 0.993 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Volume

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Peak Elev= 3.21' @ 12.85 hrs Surf.Area= 11,104 sf Storage= 17,835 cf

Plug-Flow detention time= 126.9 min calculated for 0.993 af (100% of inflow)

Avail Storage Storage Description

Center-of-Mass det. time= 126.9 min (897.2 - 770.4)

Invert

volume	IIIV	en Avaii.Sto	rage Storage	Description	
#1	0.0	00' 38,1	80 cf Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0	00	0	0	0	
4.7		16,247	38,180	38,180	
Device	Routing	Invert	Outlet Devices		
#1	Primary	4.00'	Custom Weir/ Head (feet) 0. Width (feet) 3		62 (C= 3.28)
#2	Primary	0.00'	6.0" Round C L= 30.0' CPP Inlet / Outlet In	<b>culvert</b> , projecting, no	headwall, Ke= 0.900 60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.28 cfs @ 12.85 hrs HW=3.21' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.28 cfs @ 6.54 fps)

# Summary for Pond 4URT: 4 Upper Right Terrace

Inflow Area = 1.758 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.69 cfs @ 12.08 hrs, Volume= 0.974 af

Outflow = 1.28 cfs @ 12.83 hrs, Volume= 0.974 af, Atten= 90%, Lag= 44.8 min

Primary = 1.28 cfs @ 12.83 hrs, Volume= 0.974 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.20' @ 12.83 hrs Surf.Area= 10,847 sf Storage= 17,352 cf

Plug-Flow detention time= 123.1 min calculated for 0.973 af (100% of inflow)

Center-of-Mass det. time= 123.1 min (893.4 - 770.4)

Volume	lnv	ert Ava	il.Storage	Storage	Description	
#1	0.	00'	37,450 cf	Custom	Stage Data (Pri	smatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)		c.Store c-feet)	Cum.Store (cubic-feet)	
0.0		0		0	0	
4.7	0	15,936		37,450	37,450	
Device	Routing	Ir	nvert Outl	et Device	S	
#1	Primary			tom Weir d (feet) 0	/Orifice, Cv= 2.6 .00 0.70	2 (C= 3.28)

Width (feet) 38.00 42.90

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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#2 Primary

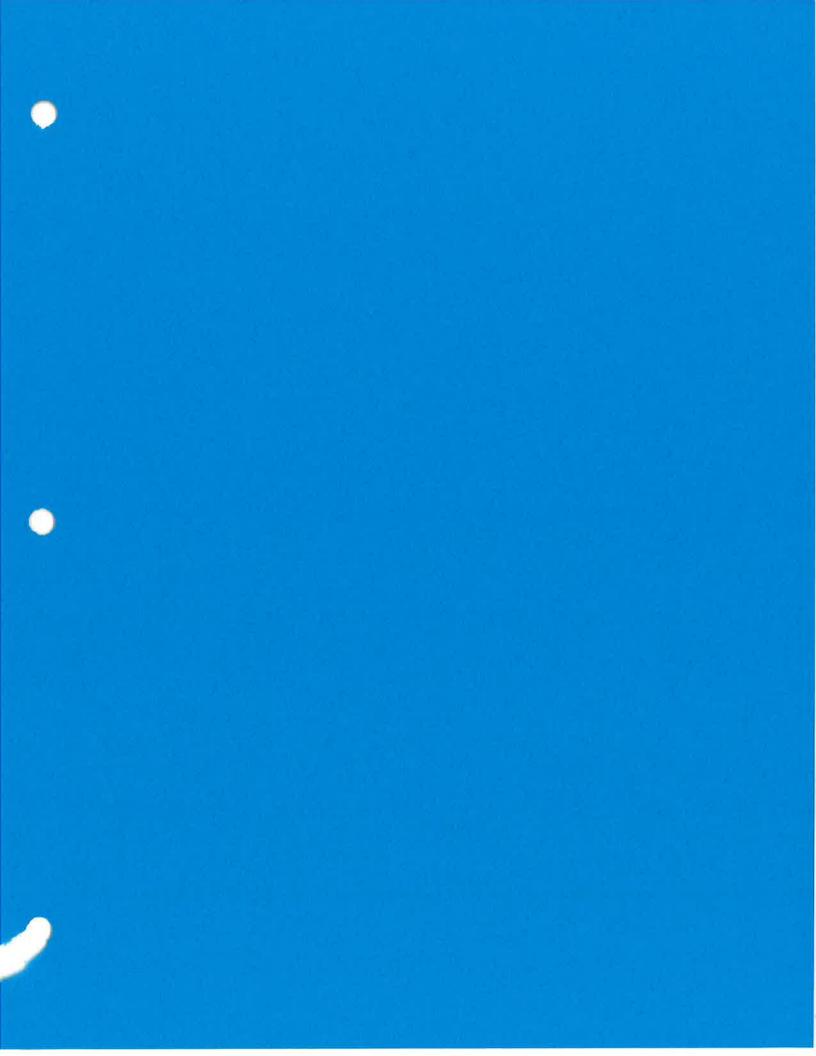
0.00' **6.0" Round Culvert** 

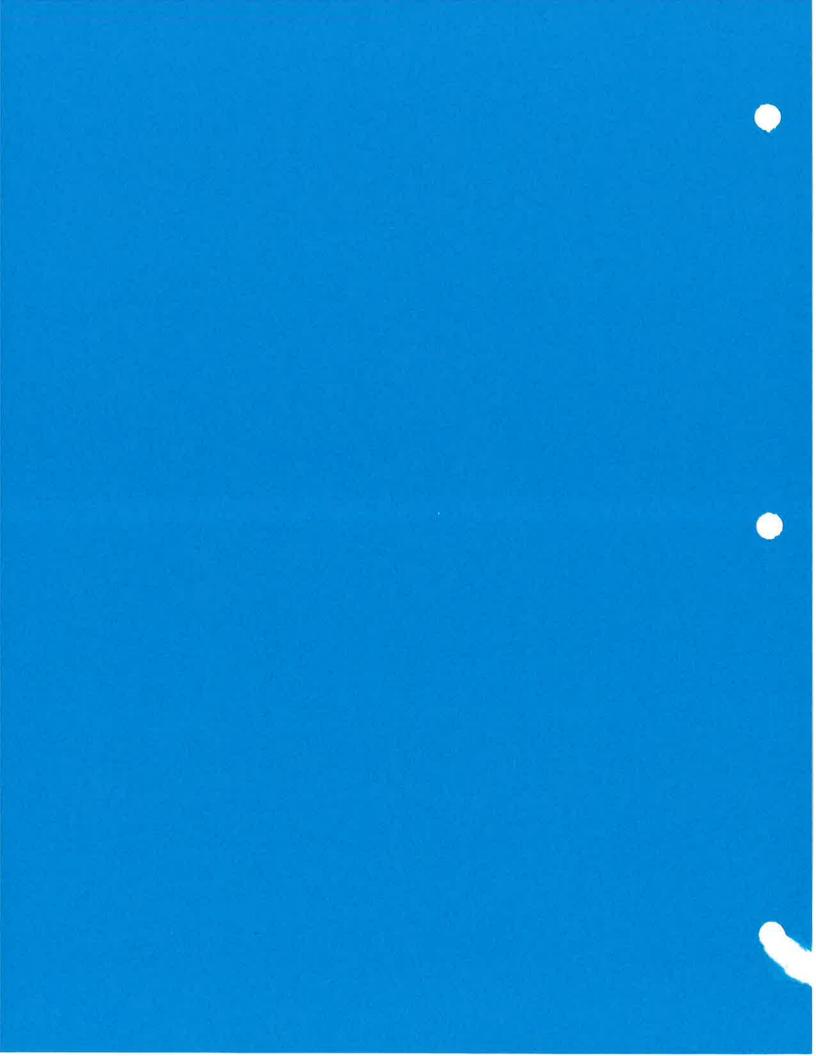
L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.28 cfs @ 12.83 hrs HW=3.20' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

2=Culvert (Inlet Controls 1.28 cfs @ 6.53 fps)





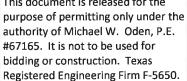
# ATTACHMENT III-C

### **APPENDIX III-C.4**

## HYDROCAD MODEL OUTPUT FILES

- 3. PROPOSED CONDITIONS (POST-DEVELOPMENT)
  - A. MODEL DIAGRAMS
  - B. LANDFILL WATERSHED A (TYPICAL OF WATERSHEDS C, E, G, J, K, M, & O)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - C. LANDFILL WATERSHED B (TYPICAL OF WATERSHEDS D, F, J, L, N, & P)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - D. LANDFILL PERIMETER DITCH, CULVERT, & BASIN SYSTEM
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - E. REGIONAL STORMWATER CONDITIONS
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)









### **Summary for Subcatchment 1LLS: 1 Lower Left Subcat**

Runoff = 23.86 cfs @ 12.22 hrs, Volume=

2.546 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN [	Description			
*	1	56,035	92				
	1	56,035	1	100.00% Pe	ervious Are	а	
	Tc (min)	Length (feet)	Slope (ft/ft)	•	Capacity (cfs)	Description	
	14.0	300	0.0600	0.36		Sheet Flow, n= 0.150 P2= 3.75"	
	2.8	284	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
	16.8	584	Total				

### **Summary for Subcatchment 1LRS: 1 Lower Right Subcat**

Runoff = 25.33 cfs @ 12.22 hrs, Volume=

2.704 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN E	Description			
*	1	65,671	92				
	1	65,671	1	00.00% Pe	ervious Are	a	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	14.0	300	0.0600	0.36		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	
	2.8	284	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
	16.8	584	Total				

# **Summary for Subcatchment 1ULS: 1 Upper Left Subcat**

Runoff = 6.58 cfs @ 12.17 hrs, Volume= 0.646 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	39,558	92		
	39,558		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
13.4	284	0.0600	0.35		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment 1URS: 1 Upper Right Subcat

Runoff

7.49 cfs @ 12.18 hrs, Volume=

0.748 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN I	Description			
*		45,863	92				
		45,863	•	100.00% P	ervious Are	а	
(	Tc min)	Length (feet)	Slope (ft/ft)	•	Capacity (cfs)	Description	
	14.0	300	0.0600	0.36		Sheet Flow, n= 0.150 P2= 3.75"	
	0.1	13	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
	14.1	313	Total		_		

### **Summary for Subcatchment 2LLS: 2 Lower Left Subcat**

Runoff

14.42 cfs @ 12.08 hrs, Volume=

1.121 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	Description			
*		68,705	92				
		68,705		100.00% P	ervious Are	а	
	Tc	•	Slope	,	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 2LRS: 2 Lower Right Subcat

Runoff 14.42 cfs @ 12.08 hrs, Volume=

1.122 af, Depth= 8.53"

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	Area (sf)	CN	Description			
*	68,723	92				
	68,723		100.00% P	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
5.	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment 2ULS: 2 Upper Left Subcat**

Runoff = 16.20 cfs @ 12.08 hrs, Volume=

1.259 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	77,174	92				
	77,174		100.00% P	ervious Are	a	
-	Γc Length	Slope	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft	) (ft/sec)	(cfs)		
5	.9 206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## **Summary for Subcatchment 2URS: 2 Upper Right Subcat**

Runoff = 15.82 cfs @ 12.08 hrs, Volume=

1.230 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	75,365	92				
	75,365		100.00% P	ervious Are	a	
1	c Length	Slope	e Velocity	Capacity	Description	
(mii	n) (feet)	(ft/ft	) (ft/sec)	(cfs)	·	
5	9 206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 3LLS: 3 Lower Left Subcat

Runoff = 14.44 cfs @ 12.08 hrs, Volume=

1.123 af, Depth= 8.53"

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	A	rea (sf)	CN I	Description			
*		68,795	92				
		68,795	•	100.00% Pe	ervious Are	a	
-	Тс	Length	Slope	Velocity	Capacity	Description	
_ (mi	n)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
5	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment 3LRS: 3 Lower Right Subcat

Runoff = 14.44 cfs @ 12.08 hrs, Volume=

1.123 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	68,813	92				
	68,813		100.00% P	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
5.	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## **Summary for Subcatchment 3ULS: 3 Upper Left Subcat**

Runoff = 14.45 cfs @ 12.08 hrs, Volume=

1.124 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	Description			
*		68,849	92				
	68,849			100.00% Pe	ervious Are	a	
	Тс	Length	Slope	e Velocity	Capacity	Description	
(n	nin)	(feet)	(ft/ft	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0.150 P2= 3.75"	

# Summary for Subcatchment 3URS: 3 Upper Right Subcat

Runoff = 14.46 cfs @ 12.08 hrs, Volume=

1.124 af, Depth= 8.53"

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	Area (sf)	CN	Description			
*	68,891	92				
	68,891		100.00% Pe	ervious Are	а	
T	c Length	Slope	e Velocity	Capacity	Description	
(min	) (feet)	(ft/ft	(ft/sec)	(cfs)		
5.9	9 206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment 4LLS: 4 Lower Left Subcat**

Runoff =

14.46 cfs @ 12.08 hrs, Volume=

1.125 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

		rea (sf)	CN	Description			
*		68,909	92				
	68,909						
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
Ī	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 4LRS: 4 Lower Right Subcat

Runoff =

14.37 cfs @ 12.08 hrs, Volume=

1.117 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	Description			
*		68,465	92				
	68,465			100.00% P	ervious Are	a	
	Тс	Length	Slope	e Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment 4ULS: 4 Upper Left Subcat**

Runoff = 14.45 cfs @ 12.08 hrs, Volume=

1.123 af, Depth= 8.53"

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	A	rea (sf)	CN I	Description			
*		68,836	92				
,		68,836		100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
_(	min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment 4URS: 4 Upper Right Subcat

Runoff = 14.37 cfs @ 12.08 hrs, Volume=

1.118 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	Description			
*		68,481	92				
		68,481		100.00% P	ervious Are	а	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## **Summary for Subcatchment 5LLS: 5 Lower Left Subcat**

Runoff = 14.49 cfs @ 12.08 hrs, Volume=

1.127 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN E	Description			
*		69,030	92				
		69,030	1	00.00% P	ervious Are	a	
	Тс	_	Slope		Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

# Summary for Subcatchment 5LRS: 5 Lower Right Subcat

Runoff = 14.34 cfs @ 12.08 hrs, Volume=

1.115 af, Depth= 8.53"

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	Α	rea (sf)	CN E	Description			
*		68,343	92				
		68,343	1	00.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
-	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0.150 P2= 3.75"	

### **Summary for Subcatchment 5ULS: 5 Upper Left Subcat**

Runoff = 14.44 cfs @ 12.08 hrs, Volume=

1.123 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN I	Description			
*		68,798	92				
	68,798			100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 5URS: 5 Upper Right Subcat

Runoff = 14.36 cfs @ 12.08 hrs, Volume=

1.117 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN I	Description			
*		68,437	92				
		68,437	•	100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0.150 P2= 3.75"	

# Summary for Subcatchment 6LLS: 6 Lower Left Subcat

Runoff = 14.51 cfs @ 12.08 hrs, Volume=

1.128 af, Depth= 8.53"

Watershed	1 B	į
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Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Area (sf)	CN	Description			
*	69,136	92				
	69,136		100.00% P	ervious Are	a	
Т	c Length	Slope	e Velocity	Capacity	Description	
(mir	n) (feet)	(ft/ft)	(ft/sec)	(cfs)		
5.	9 206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 6LRS: 6 Lower Right Subcat

Runoff = 14.24 cfs @ 12.08 hrs, Volume=

1.107 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	67,849	92				
	67,849		100.00% P	ervious Are	a	
٦	c Length	Slope	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft	(ft/sec)	(cfs)	·	
5	.9 206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 6ULS: 6 Upper Left Subcat

Runoff = 14.44 cfs @ 12.08 hrs, Volume=

1.123 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	68,794	92				
	68,794		100.00% Pe	ervious Are	a	
Т		Slope	•	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
5.	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 6URS: 6 Upper Right Subcat

Runoff = 14.36 cfs @ 12.08 hrs, Volume=

1.117 af, Depth= 8.53"

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Area (	sf)	CN I	Description			
*	68,4	28	92				
	68,4	28		100.00% P	ervious Are	a	
1	c Ler	ngth	Slope	Velocity	Capacity	Description	
(mii	n) (f	eet)	(ft/ft)	(ft/sec)	(cfs)	<u> </u>	
5	9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Reach 1DC: 1 Downchute**

Inflow Area = 9.346 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 49.93 cfs @ 12.26 hrs, Volume= 6.644 af

Outflow = 49.92 cfs @ 12.26 hrs, Volume= 6.644 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.61 fps, Min. Travel Time= 0.3 min Avg. Velocity = 2.88 fps, Avg. Travel Time= 1.2 min

Peak Storage= 1,039 cf @ 12.26 hrs Average Depth at Peak Storage= 0.33'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00'

Length= 200.0' Slope= 0.2500 '/'

Inlet Invert= -2.00', Outlet Invert= -52.00'



# **Summary for Reach 2DC: 2 Downchute**

Inflow Area = 16.003 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 52.76 cfs @ 12.26 hrs, Volume= 11.376 af

Outflow = 52.75 cfs @ 12.27 hrs, Volume= 11.376 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.81 fps, Min. Travel Time= 0.3 min Avg. Velocity = 3.53 fps, Avg. Travel Time= 0.9 min

Peak Storage= 1,075 cf @ 12.27 hrs

Average Depth at Peak Storage= 0.34'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf. Capacity= 1,178.19 cfs

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -2.00', Outlet Invert= -52.00'



### Summary for Reach 3DC: 3 Downchute

Inflow Area = 22.324 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 55.59 cfs @ 12.27 hrs, Volume= 15.870 af

Outflow = 55.58 cfs @ 12.27 hrs, Volume= 15.870 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.00 fps, Min. Travel Time= 0.3 min Avg. Velocity = 4.03 fps, Avg. Travel Time= 0.8 min

Peak Storage= 1,111 cf @ 12.27 hrs Average Depth at Peak Storage= 0.35'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -2.00', Outlet Invert= -52.00'



# **Summary for Reach 4DC: 4 Downchute**

Inflow Area = 28.630 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 62.05 cfs @ 12.44 hrs, Volume= 20.353 af

Outflow = 62.04 cfs @ 12.44 hrs, Volume= 20.353 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.42 fps, Min. Travel Time= 0.3 min Avg. Velocity = 4.43 fps, Avg. Travel Time= 0.8 min

Peak Storage= 1,191 cf @ 12.44 hrs Average Depth at Peak Storage= 0.37'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50" re. Inc. Printed 2/28/2015

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15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -2.00', Outlet Invert= -52.00'



### **Summary for Reach 5DC: 5 Downchute**

Inflow Area = 34.934 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 70.58 cfs @ 12.45 hrs, Volume= 24.835 af

Outflow = 70.57 cfs @ 12.45 hrs, Volume= 24.835 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 10.92 fps, Min. Travel Time= 0.3 min Avg. Velocity = 4.78 fps, Avg. Travel Time= 0.7 min

Peak Storage= 1,293 cf @ 12.45 hrs Average Depth at Peak Storage= 0.40'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -2.00', Outlet Invert= -52.00'



## Summary for Reach 6DC: 6 Downchute

Inflow Area = 41.229 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 79.07 cfs @ 12.46 hrs, Volume= 29.310 af

Outflow = 79.06 cfs @ 12.46 hrs, Volume= 29.310 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 11.38 fps, Min. Travel Time= 0.3 min Avg. Velocity = 5.09 fps, Avg. Travel Time= 0.7 min

Peak Storage= 1,389 cf @ 12.46 hrs Average Depth at Peak Storage= 0.43' Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs Prepared by CB&I Environmental and Infrastructure, Inc.

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15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -2.00', Outlet Invert= -52.00'



### **Summary for Pond 1LLT: 1 Lower Left Terrace**

Inflow Area = 4.490 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 24.91 cfs @ 12.22 hrs, Volume= 3.192 af

Outflow = 24.15 cfs @ 12.26 hrs, Volume= 3.192 af, Atten= 3%, Lag= 2.4 min

Primary = 24.15 cfs @ 12.26 hrs, Volume= 3.192 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.32' @ 12.26 hrs Surf.Area= 13,155 sf Storage= 28,389 cf

Plug-Flow detention time= 118.6 min calculated for 3.192 af (100% of inflow)

Center-of-Mass det. time= 118.6 min ( 906.0 - 787.4 )

Volume	<u> </u>	vert Avail.St	orage Storage	Description	
#1	0	.00' 33,	666 cf Custom	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0	00	0	0	0	
4.7	70	14,326	33,666	33,666	
Device	Routing	lnver	t Outlet Device	s	
#1	Primary	4.00	' Custom Wei	r/Orifice, Cv= 2.	62 (C= 3.28)
***	-		Head (feet) (	38.00 42.90	
#2	Primary	/ 0.00	' 6.0" Round	Culvert	

L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=24.12 cfs @ 12.26 hrs HW=4.32' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 22.61 cfs @ 1.83 fps)

2=Culvert (Inlet Controls 1.51 cfs @ 7.66 fps)

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### **Summary for Pond 1LRT: 1 Lower Right Terrace**

Inflow Area = 4.856 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 26.41 cfs @ 12.22 hrs, Volume= 3.452 af

Outflow = 25.78 cfs @ 12.26 hrs, Volume= 3.452 af, Atten= 2%, Lag= 2.0 min

Primary = 25.78 cfs @ 12.26 hrs, Volume= 3.452 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.33' @ 12.26 hrs Surf.Area= 13,186 sf Storage= 28,552 cf

Plug-Flow detention time= 117.0 min calculated for 3.451 af (100% of inflow)

Center-of-Mass det. time= 117.0 min ( 908.4 - 791.4 )

Volume	Inv	ert Avail.Sto	rage Storage	Description		
#1	0.0	00' 33,6	29 cf Custom	9 cf Custom Stage Data (Prismatic)Listed below (Reca		
(fee	Elevation Surf.Area (feet) (sq-ft)  0.00 0 4.70 14,310		Inc.Store (cubic-feet) 0 33,629	Cum.Store (cubic-feet) 0 33,629		
4.	70	14,310	33,029	33,029		
Device	Routing	Invert	Outlet Devices	5		
#1	Primary	4.00'	Custom Weir Head (feet) 0 Width (feet) 3		62 (C= 3.28)	
#2	#2 Primary 0.00'		6.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf			

Primary OutFlow Max=25.75 cfs @ 12.26 hrs HW=4.33' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 24.24 cfs @ 1.87 fps)

-2=Culvert (Inlet Controls 1.51 cfs @ 7.68 fps)

# **Summary for Pond 1ULT: 1 Upper Left Terrace**

Inflow Area = 0.908 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 6.58 cfs @ 12.17 hrs, Volume= 0.646 af

Outflow = 1.19 cfs @ 12.73 hrs, Volume= 0.646 af, Atten= 82%, Lag= 33.6 min

Primary = 1.19 cfs @ 12.73 hrs, Volume= 0.646 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 2.80' @ 12.73 hrs Surf.Area= 6,917 sf Storage= 9,673 cf

Plug-Flow detention time= 66.0 min calculated for 0.645 af (100% of inflow)

Center-of-Mass det. time= 66.0 min (837.5 - 771.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	27,319 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	11,625	27,319	27,319

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	-		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.19 cfs @ 12.73 hrs HW=2.80' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.19 cfs @ 6.07 fps)

## **Summary for Pond 1URT: 1 Upper Right Terrace**

Inflow Area = 1.053 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 7.49 cfs @ 12.18 hrs, Volume= 0.748 af

Outflow = 1.24 cfs @ 12.80 hrs, Volume= 0.748 af, Atten= 83%, Lag= 37.0 min

Primary = 1.24 cfs @ 12.80 hrs, Volume= 0.748 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.01' @ 12.80 hrs Surf.Area= 7,822 sf Storage= 11,788 cf

Plug-Flow detention time= 79.5 min calculated for 0.748 af (100% of inflow)

Center-of-Mass det. time= 79.5 min (851.6 - 772.2)

Volume	Inv	ert Avail.S	torage	Storage D	escription		
#1	0.	00' 28	,661 cf	Custom S	Stage Data (Pi	rismatic)Listed below (Recalc)	
Elevation (fee		Surf.Area (sq-ft)		c.Store c-feet)	Cum.Store (cubic-feet)		
0.0	-	0		0	0		
4.7	70	12,196	2	28,661	28,661		
Device	Routing	Inve	rt Outl	et Devices			
#1	Primary	4.0	Hea	tom Weir/C d (feet) 0.0 th (feet) 38		62 (C= 3.28)	
#2	Primary	0.0	o' <b>6.0"</b>	Round Co	ulvert	headwall, Ke= 0.900	

n= 0.012, Flow Area= 0.20 sf

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.24 cfs @ 12.80 hrs HW=3.01' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.24 cfs @ 6.32 fps)

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### **Summary for Pond 2LLT: 2 Lower Left Terrace**

Inflow Area = 3.349 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.55 cfs @ 12.08 hrs, Volume= 2.381 af

Outflow = 4.49 cfs @ 12.48 hrs, Volume= 2.381 af, Atten= 71%, Lag= 24.1 min

Primary = 4.49 cfs @ 12.48 hrs, Volume= 2.381 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.08' @ 12.48 hrs Surf.Area= 12,427 sf Storage= 25,368 cf

Plug-Flow detention time= 183.9 min calculated for 2.380 af (100% of inflow)

Center-of-Mass det. time= 183.9 min (1,041.4 - 857.5)

Volume	Inv	ert Avail.Ste	orage Storage	Description	
#1	0.	00' 33,6	317 cf Custom	n Stage Data (Pi	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0	00	0	0	0	
4.7	70	14,305	33,617	33,617	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	4.00'	Custom Wei	/Orifice, Cv= 2.	62 (C= 3.28)
			Head (feet) (	38.00 42.90	
#2	Primary	0.00'	6.0" Round	Culvert	

Primary OutFlow Max=4.44 cfs @ 12.48 hrs HW=4.08' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 2.98 cfs @ 0.94 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.44 fps)

# Summary for Pond 2LRT: 2 Lower Right Terrace

L= 30.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Inflow Area = 3.308 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.54 cfs @ 12.08 hrs, Volume= 2.351 af

Outflow = 4.39 cfs @ 12.49 hrs, Volume= 2.351 af, Atten= 72%, Lag= 24.5 min

n= 0.012, Flow Area= 0.20 sf

Primary = 4.39 cfs @ 12.49 hrs, Volume= 2.351 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.08' @ 12.49 hrs Surf.Area= 12,444 sf Storage= 25,390 cf

Plug-Flow detention time= 184.0 min calculated for 2.351 af (100% of inflow)

Center-of-Mass det. time= 184.1 min ( 1,038.6 - 854.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,680 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,332	33,680	33,680

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012. Flow Area= 0.20 sf

**Primary OutFlow** Max=4.33 cfs @ 12.49 hrs HW=4.08' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 2.87 cfs @ 0.93 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.44 fps)

### **Summary for Pond 2ULT: 2 Upper Left Terrace**

Inflow Area = 1.772 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow 16.20 cfs @ 12.08 hrs, Volume= 1.259 af

Outflow 1.32 cfs @ 13.03 hrs, Volume= 1.259 af, Atten= 92%, Lag= 56.6 min

Primary 1.32 cfs @ 13.03 hrs, Volume= 1.259 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs. dt= 0.01 hrs. Peak Elev= 3.40' @ 13.03 hrs Surf.Area= 14,332 sf Storage= 24,362 cf

Plug-Flow detention time= 175.8 min calculated for 1.259 af (100% of inflow)

Center-of-Mass det. time= 175.7 min ( 940.3 - 764.6 )

Volume	In	vert Avail.St	orage S	Storage [	Description	
#1	0	.00' 46,5	565 cf (	Custom	Stage Data (Pris	matic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.S (cubic-		Cum.Store (cubic-feet)	
0.0	00	0		0	0	
4.	70	19,815	46	,565	46,565	
Device	Routing	Invert	Outlet	Devices		
#1	Primary	4.00'	Head	(feet) 0.0	<b>Orifice, Cv= 2.62</b> 00	(C= 3.28)
#2	Primary	0.00	<b>6.0" F</b> L= 30.	<b>Round C</b> 0' CPP	ulvert , projecting, no he	eadwall, Ke= 0.900 ' S= 0.0200 '/' Cc= 0.900

n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.32 cfs @ 13.03 hrs HW=3.40' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.32 cfs @ 6.75 fps)

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### **Summary for Pond 2URT: 2 Upper Right Terrace**

Inflow Area = 1.730 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.82 cfs @ 12.08 hrs, Volume= 1.230 af

Outflow = 1.31 cfs @ 13.01 hrs, Volume= 1.230 af, Atten= 92%, Lag= 55.9 min

Primary = 1.31 cfs @ 13.01 hrs, Volume= 1.230 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.34' @ 13.01 hrs Surf.Area= 14,184 sf Storage= 23,669 cf

Plug-Flow detention time= 172.0 min calculated for 1.230 af (100% of inflow)

Center-of-Mass det. time= 171.9 min ( 936.5 - 764.6 )

Volume	inv	ert Avail.Sto	orage Storage	Description	
#1	0.0	00' 46,9	44 cf Custom	Stage Data (Prismatic)Listed belo	ow (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 19,976	0 46,944	0 46,944	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	4.00'	Custom Weir Head (feet) 0 Width (feet) 3		
#2	Primary	0.00'	6.0" Round ( L= 30.0' CPF		

Primary OutFlow Max=1.31 cfs @ 13.01 hrs HW=3.34' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

2=Culvert (Inlet Controls 1.31 cfs @ 6.68 fps)

## **Summary for Pond 3LLT: 3 Lower Left Terrace**

Inflow Area = 3.160 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.61 cfs @ 12.08 hrs, Volume= 2.246 af

Outflow = 4.58 cfs @ 12.48 hrs, Volume= 2.246 af, Atten= 71%, Lag= 23.9 min

n= 0.012, Flow Area= 0.20 sf

Primary = 4.58 cfs @ 12.48 hrs, Volume= 2.246 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.08' @ 12.48 hrs Surf.Area= 12,411 sf Storage= 25,347 cf

Plug-Flow detention time= 177.3 min calculated for 2.246 af (100% of inflow)

Center-of-Mass det. time= 177.3 min (1,009.0 - 831.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	0.00'	33,558 cf	Custom Stage Data (Prismatic)Listed below (Recalc)	

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,280	33,558	33,558

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=4.55 cfs @ 12.48 hrs HW=4.08' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 3.09 cfs @ 0.95 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.44 fps)

### **Summary for Pond 3LRT: 3 Lower Right Terrace**

Inflow Area = 3.161 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.62 cfs @ 12.08 hrs, Volume= 2.247 af

Outflow = 4.51 cfs @ 12.49 hrs, Volume= 2.247 af, Atten= 71%, Lag= 24.3 min

Primary = 4.51 cfs @ 12.49 hrs, Volume= 2.247 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.08' @ 12.49 hrs Surf.Area= 12,470 sf Storage= 25,460 cf

Plug-Flow detention time= 178.4 min calculated for 2.247 af (100% of inflow)

Center-of-Mass det. time= 178.4 min ( 1,010.3 - 831.8 )

Volume	ln\	<u>rert Avail.Sto</u>	rage Storage	e Description
#1	0.	00' 33,7	32 cf Custon	m Stage Data (Prismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.0	00	0	0	0
4.	70	14,354	33,732	33,732
Device	Routing	Invert	Outlet Device	es
#1	Primary	4.00'	Head (feet)	ir/Orifice, Cv= 2.62 (C= 3.28) 0.00 0.70 38.00 42.90
#2	Primary	0.00'	6.0" Round L= 30.0' CP Inlet / Outlet	

Primary OutFlow Max=4.47 cfs @ 12.49 hrs HW=4.08' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 3.00 cfs @ 0.94 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.44 fps)

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### **Summary for Pond 3ULT: 3 Upper Left Terrace**

Inflow Area = 1.581 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 14.45 cfs @ 12.08 hrs, Volume= 1.124 af

Outflow = 1.38 cfs @ 12.88 hrs, Volume= 1.124 af, Atten= 90%, Lag= 48.1 min

Primary = 1.38 cfs @ 12.88 hrs, Volume= 1.124 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.65' @ 12.88 hrs Surf.Area= 11,117 sf Storage= 20,310 cf

Plug-Flow detention time= 134.2 min calculated for 1.123 af (100% of inflow)

Center-of-Mass det. time= 134.1 min (898.7 - 764.6)

Volume	Inv	ert Avail.Sto	orage Storag	ge Description	
#1	0.	00' 33,6	03 cf Custo	om Stage Data (Prismatic)Listed below (Recalc)	
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 14,299	0 33,603	0 33,603	
Device	Routing	Invert	Outlet Devi	ices	
#1	Primary	4.00'	Head (feet)	<b>/eir/Orifice, Cv= 2.62 (C= 3.28)</b> ) 0.00 0.70 ) 38.00 42.90	
#2	Primary	0.00'	6.0" Round L= 30.0' C	•	

Primary OutFlow Max=1.38 cfs @ 12.88 hrs HW=3.65' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.38 cfs @ 7.01 fps)

## **Summary for Pond 3URT: 3 Upper Right Terrace**

n= 0.012, Flow Area= 0.20 sf

Inflow Area = 1.582 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 14.46 cfs @ 12.08 hrs, Volume= 1.124 af

Outflow = 1.38 cfs @ 12.88 hrs, Volume= 1.124 af, Atten= 90%, Lag= 48.1 min

Primary = 1.38 cfs @ 12.88 hrs, Volume= 1.124 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.65' @ 12.88 hrs Surf.Area= 11,140 sf Storage= 20,333 cf

Plug-Flow detention time= 134.4 min calculated for 1.124 af (100% of inflow)

Center-of-Mass det. time= 134.4 min (899.0 - 764.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,704 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,342	33,704	33,704

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
	-		Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	•		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.38 cfs @ 12.88 hrs HW=3.65' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.38 cfs @ 7.01 fps)

## **Summary for Pond 4LLT: 4 Lower Left Terrace**

Inflow Area = 3.162 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.64 cfs @ 12.08 hrs, Volume= 2.248 af

Outflow = 4.64 cfs @ 12.48 hrs, Volume= 2.248 af, Atten= 70%, Lag= 23.7 min

Primary = 4.64 cfs @ 12.48 hrs, Volume= 2.248 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.09' @ 12.48 hrs Surf.Area= 12,396 sf Storage= 25,323 cf

Plug-Flow detention time= 176.9 min calculated for 2.247 af (100% of inflow)

Center-of-Mass det. time= 176.9 min ( 1,008.5 - 831.6 )

Volume	In	vert	Avail.Sto	rage Storage	Description		
#1	(	.00' 33,5		09 cf Custom	Custom Stage Data (Prismatic)Listed below (Recalc)		
Elevation (fee		Surf.Area (sq-ft)		Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
0.0	00	0		0	0		
4.	70	14,259		33,509	33,509		
Device	Routin	g	Invert	Outlet Devices	5		
#1	Primary		4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.70 Width (feet) 38.00 42.90		62 (C= 3.28)	
#2	Primary		0.00'	6.0" Round C	Our (leet) 36.00 42.90  Our Round Culvert  30.0' CPP, projecting, no headwall, Ke= 0.900		

n= 0.012, Flow Area= 0.20 sf

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=4.61 cfs @ 12.48 hrs HW=4.09' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 3.15 cfs @ 0.96 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.44 fps)

#2

**Primary** 

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## Summary for Pond 4LRT: 4 Lower Right Terrace

Inflow Area = 3.144 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.54 cfs @ 12.08 hrs, Volume= 2.235 af

Outflow = 4.38 cfs @ 12.50 hrs, Volume= 2.235 af, Atten= 72%, Lag= 24.8 min

Primary = 4.38 cfs @ 12.50 hrs, Volume= 2.235 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.08' @ 12.50 hrs Surf.Area= 12,481 sf Storage= 25,464 cf

Plug-Flow detention time= 179.0 min calculated for 2.234 af (100% of inflow)

Center-of-Mass det. time= 179.0 min ( 1,010.3 - 831.3 )

Volume	Inv	ert Avail.St	orage Storag	e Description	
#1	0.	00' 33,7	784 cf Custo	m Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0	00	0	0	0	
4.7	70	14,376	33,784	33,784	
Device	Routing	Invert	Outlet Devic	es	
#1	Primary	4.00'	<b>Custom We</b>	ir/Orifice, Cv= 2.	62 (C= 3.28)
			Head (feet)	0.00 0.70	
			Width (feet)	38.00 42.90	

n= 0.012, Flow Area= 0.20 sf

6.0" Round Culvert

Primary OutFlow Max=4.31 cfs @ 12.50 hrs HW=4.08' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 2.85 cfs @ 0.93 fps)

0.00'

-2=Culvert (Inlet Controls 1.46 cfs @ 7.44 fps)

# **Summary for Pond 4ULT: 4 Upper Left Terrace**

L= 30.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Inflow Area = 1.580 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 14.45 cfs @ 12.08 hrs, Volume= 1.123 af

Outflow = 1.38 cfs @ 12.88 hrs, Volume= 1.123 af, Atten= 90%, Lag= 48.1 min

Primary = 1.38 cfs @ 12.88 hrs, Volume= 1.123 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.65' @ 12.88 hrs Surf.Area= 11,113 sf Storage= 20,305 cf

Plug-Flow detention time= 134.1 min calculated for 1.123 af (100% of inflow)

Center-of-Mass det. time= 134.1 min (898.7 - 764.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,591 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,294	33,591	33,591

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	-		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.38 cfs @ 12.88 hrs HW=3.65' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.38 cfs @ 7.01 fps)

## Summary for Pond 4URT: 4 Upper Right Terrace

Inflow Area = 1.572 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

14.37 cfs @ 12.08 hrs, Volume= Inflow 1.118 af

Outflow 1.37 cfs @ 12.88 hrs, Volume= 1.118 af, Atten= 90%, Lag= 47.9 min

1.37 cfs @ 12.88 hrs, Volume= Primary 1.118 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.64' @ 12.88 hrs Surf.Area= 11,097 sf Storage= 20,179 cf

Plug-Flow detention time= 133.5 min calculated for 1.117 af (100% of inflow)

Center-of-Mass det. time= 133.5 min ( 898.1 - 764.6 )

Volume	Inv	vert Avail.Sto	orage Storage	Description	
#1	0.	00' 33,6	99 cf Custom	Stage Data (Pris	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 14,340	0 33,699	0 33,699	
Device	Routing	Invert	Outlet Device	s	
#1	Primary	4.00'	Custom Wein Head (feet) 0 Width (feet) 3		2 (C= 3.28)
#2	Primary	0.00'	6.0" Round ( L= 30.0' CPI Inlet / Outlet I	<b>Culvert</b> P, projecting, no h	eadwall, Ke= 0.900 0' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.37 cfs @ 12.88 hrs HW=3.64' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.37 cfs @ 7.00 fps)

Volume

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#### **Summary for Pond 5LLT: 5 Lower Left Terrace**

Inflow Area = 3.164 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.66 cfs @ 12.08 hrs, Volume= 2.249 af

Outflow = 4.69 cfs @ 12.47 hrs, Volume= 2.249 af, Atten= 70%, Lag= 23.5 min

Primary = 4.69 cfs @ 12.47 hrs, Volume= 2.249 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.09' @ 12.47 hrs Surf.Area= 12,381 sf Storage= 25,300 cf

Plug-Flow detention time= 176.4 min calculated for 2.249 af (100% of inflow)

Avail Storage Storage Description

Center-of-Mass det. time= 176.5 min ( 1,007.9 - 831.5 )

Invert

VOIUITIE	11.14	ert Avaii.ott	rage Storage	Description	
#1	0.	00' 33,4	59 cf Custom	Stage Data (Pris	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 14,238	0 33,459	0 33,459	
Device	Routing	Invert	Outlet Devices	5	
#1	Primary	4.00'	Custom Weir Head (feet) 0 Width (feet) 3		2 (C= 3.28)
#2	Primary	0.00'	6.0" Round ( L= 30.0' CPF	Culvert P, projecting, no he	eadwall, Ke= 0.900 0' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=4.67 cfs @ 12.47 hrs HW=4.09' (Free Discharge)

T-1=Custom Weir/Orifice (Weir Controls 3.21 cfs @ 0.96 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.45 fps)

## **Summary for Pond 5LRT: 5 Lower Right Terrace**

Inflow Area = 3.140 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.52 cfs @ 12.08 hrs, Volume= 2.232 af

Outflow = 4.32 cfs @ 12.50 hrs, Volume= 2.232 af, Atten= 72%, Lag= 25.0 min

n= 0.012, Flow Area= 0.20 sf

Primary = 4.32 cfs @ 12.50 hrs, Volume= 2.232 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.08' @ 12.50 hrs Surf.Area= 12,496 sf Storage= 25,487 cf

Plug-Flow detention time= 179.4 min calculated for 2.232 af (100% of inflow)

Center-of-Mass det. time= 179.4 min ( 1,010.7 - 831.3 )

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,835 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,398	33,835	33,835

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	-		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=4.25 cfs @ 12.50 hrs HW=4.08' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 2.79 cfs @ 0.92 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.44 fps)

## **Summary for Pond 5ULT: 5 Upper Left Terrace**

Inflow Area = 1.579 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 14.44 cfs @ 12.08 hrs, Volume= 1.123 af

Outflow = 1.38 cfs @ 12.88 hrs, Volume= 1.123 af, Atten= 90%, Lag= 48.0 min

Primary = 1.38 cfs @ 12.88 hrs, Volume= 1.123 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.65' @ 12.88 hrs Surf.Area= 11,107 sf Storage= 20,289 cf

Plug-Flow detention time= 134.0 min calculated for 1.122 af (100% of inflow)

Center-of-Mass det. time= 134.0 min (898.6 - 764.6)

Volume	Inv	ert Avail.S	torage	Storage D	escription	
#1	0.	00' 33	579 cf	Custom S	tage Data (Pı	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)		c.Store c-feet)	Cum.Store (cubic-feet)	
0.0 4.		0 14,289	;	0 33,579	0 33,579	
Device	Routing	Inve	t Outl	et Devices		
#1	Primary	4.00	Hea	tom Weir/C d (feet) 0.0 th (feet) 38.		62 (C= 3.28)
#2	Primary	0.00		Round Cu 30.0' CPP,		headwall, Ke= 0.900

n= 0.012, Flow Area= 0.20 sf

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.38 cfs @ 12.88 hrs HW=3.65' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.38 cfs @ 7.01 fps)

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## **Summary for Pond 5URT: 5 Upper Right Terrace**

Inflow Area = 1.571 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 14.36 cfs @ 12.08 hrs, Volume= 1.117 af

Outflow = 1.37 cfs @ 12.88 hrs, Volume= 1.117 af, Atten= 90%, Lag= 47.9 min

Primary = 1.37 cfs @ 12.88 hrs, Volume= 1.117 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.64' @ 12.88 hrs Surf.Area= 11,091 sf Storage= 20,162 cf

Plug-Flow detention time= 133.4 min calculated for 1.117 af (100% of inflow)

Center-of-Mass det. time= 133.4 min ( 898.0 - 764.6 )

Volume	ln\	ert Ava	ail.Storage	Storage D	Description	
#1	0.	00'	33,694 cf	Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)		c.Store pic-feet)	Cum.Store (cubic-feet)	
0.0	00	0		0	0	
4.7	70	14,338		33,694	33,694	
Device	Routing	lı	nvert Ou	tlet Devices		
#1	Primary		4.00' Cu	stom Weir/	Orifice, Cv= 2.0	62 (C= 3.28)

#1 Primary

4.00' Custom Weir/Orifice, Cv= 2.62 (C= 3.28)

Head (feet) 0.00 0.70

Width (feet) 38.00 42.90

#2 Primary

0.00' 6.0" Round Culvert

L= 30.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.37 cfs @ 12.88 hrs HW=3.64' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.37 cfs @ 6.99 fps)

# **Summary for Pond 6LLT: 6 Lower Left Terrace**

Inflow Area = 3.166 ac. 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.69 cfs @ 12.08 hrs, Volume= 2.251 af

Outflow = 4.74 cfs @ 12.47 hrs, Volume= 2.251 af, Atten= 70%, Lag= 23.3 min

Primary = 4.74 cfs @ 12.47 hrs. Volume= 2.251 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.09' @ 12.47 hrs Surf.Area= 12,366 sf Storage= 25,275 cf

Plug-Flow detention time= 176.0 min calculated for 2.250 af (100% of inflow)

Center-of-Mass det. time= 176.0 min (1,007.4 - 831.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,410 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,217	33,410	33,410

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=4.73 cfs @ 12.47 hrs HW=4.09' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 3.27 cfs @ 0.97 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.45 fps)

## Summary for Pond 6LRT: 6 Lower RightTerrace

Inflow Area = 3.128 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.41 cfs @ 12.08 hrs, Volume= 2.224 af

Outflow = 4.15 cfs @ 12.51 hrs, Volume= 2.224 af, Atten= 73%, Lag= 25.7 min

Primary = 4.15 cfs @ 12.51 hrs, Volume= 2.224 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.08' @ 12.51 hrs Surf.Area= 12,506 sf Storage= 25,485 cf

Plug-Flow detention time= 180.2 min calculated for 2.223 af (100% of inflow)

Center-of-Mass det. time= 180.2 min (1,011.7 - 831.5)

Volume	Inve	ert Avail	l.Storage	Storage	Description	
#1	0.0	0'	33,889 cf	Custon	n Stage Data (Pr	rismatic)Listed below (Recalc)
Elevation (feet		Surf.Area (sq-ft)		.Store c-feet)	Cum.Store (cubic-feet)	
0.00	)	0		0	0	
4.70	)	14,421	3	3,889	33,889	
Device	Routing	Inv	vert Outle	et Device	es	
#1	Primary	4.	.00' Cus	tom Wei	r/Orifice, Cv= 2.	62 (C= 3.28)
	•				0.00 0.7Ó	` ,
			\\/idt	h (foot)	38 00 42 00	

Width (feet) 38.00 42.90

#2 Primary

0.00' 6.0" Round Culvert

L= 30.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=4.07 cfs @ 12.51 hrs HW=4.08' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 2.61 cfs @ 0.90 fps)

-2=Culvert (Inlet Controls 1.46 cfs @ 7.44 fps)

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## **Summary for Pond 6ULT: 6 Upper Left Terrace**

Inflow Area = 1.579 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 14.44 cfs @ 12.08 hrs, Volume= 1.123 af

Outflow = 1.38 cfs @ 12.88 hrs, Volume= 1.123 af, Atten= 90%, Lag= 48.0 min

Primary = 1.38 cfs @ 12.88 hrs, Volume= 1.123 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.65' @ 12.88 hrs Surf.Area= 11,105 sf Storage= 20,287 cf

Plug-Flow detention time= 134.0 min calculated for 1.123 af (100% of inflow)

Center-of-Mass det. time= 133.9 min ( 898.5 - 764.6 )

Volume	In	vert Ava	ail.Storage	Storage D	escription	
#1	0	.00'	33,567 cf	Custom S	Stage Data (Pris	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)		c.Store c-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 14,284	3	0 33,567	0 33,567	
Device	Routing	ı lı	nvert Outl	et Devices		
#1	Primary	,		tom Weir/C	Orifice, Cv= 2.6	2 (C= 3.28)

Head (feet) 0.00 0.70
Width (feet) 38.00 42.90

#2 Primary

0.00'

6.0" Round Culvert

L= 30.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.38 cfs @ 12.88 hrs HW=3.65' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.38 cfs @ 7.01 fps)

# **Summary for Pond 6URT: 6 Upper Right Terrace**

Inflow Area = 1.571 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 14.36 cfs @ 12.08 hrs, Volume= 1.117 af

Outflow = 1.37 cfs @ 12.88 hrs, Volume= 1.117 af, Atten= 90%, Lag= 47.9 min

Primary = 1.37 cfs @ 12.88 hrs, Volume= 1.117 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.64' @ 12.88 hrs Surf.Area= 11,089 sf Storage= 20,158 cf

Plug-Flow detention time= 133.4 min calculated for 1.116 af (100% of inflow)

Center-of-Mass det. time= 133.4 min (898.0 - 764.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,690 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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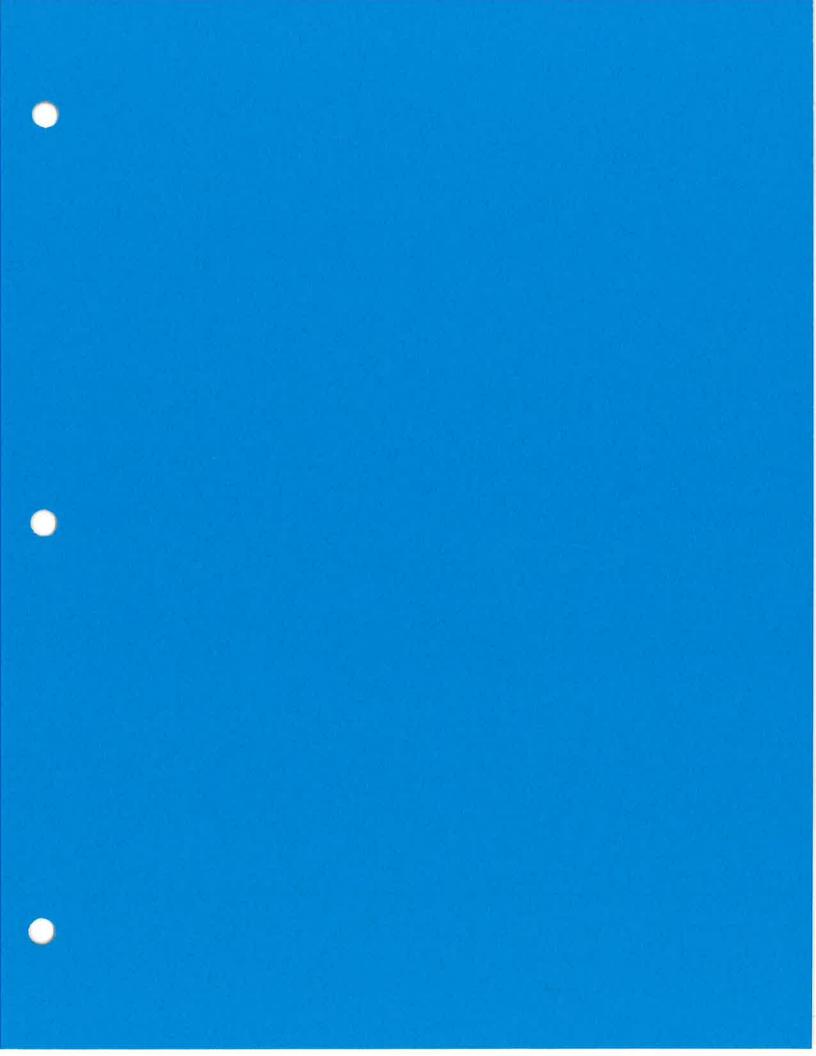
Cum.Store (cubic-feet)	Inc.Store (cubic-feet)	Surf.Area (sq-ft)	Elevation (feet)	
0	0	0	0.00	
33 690	33,690	14.336	4.70	

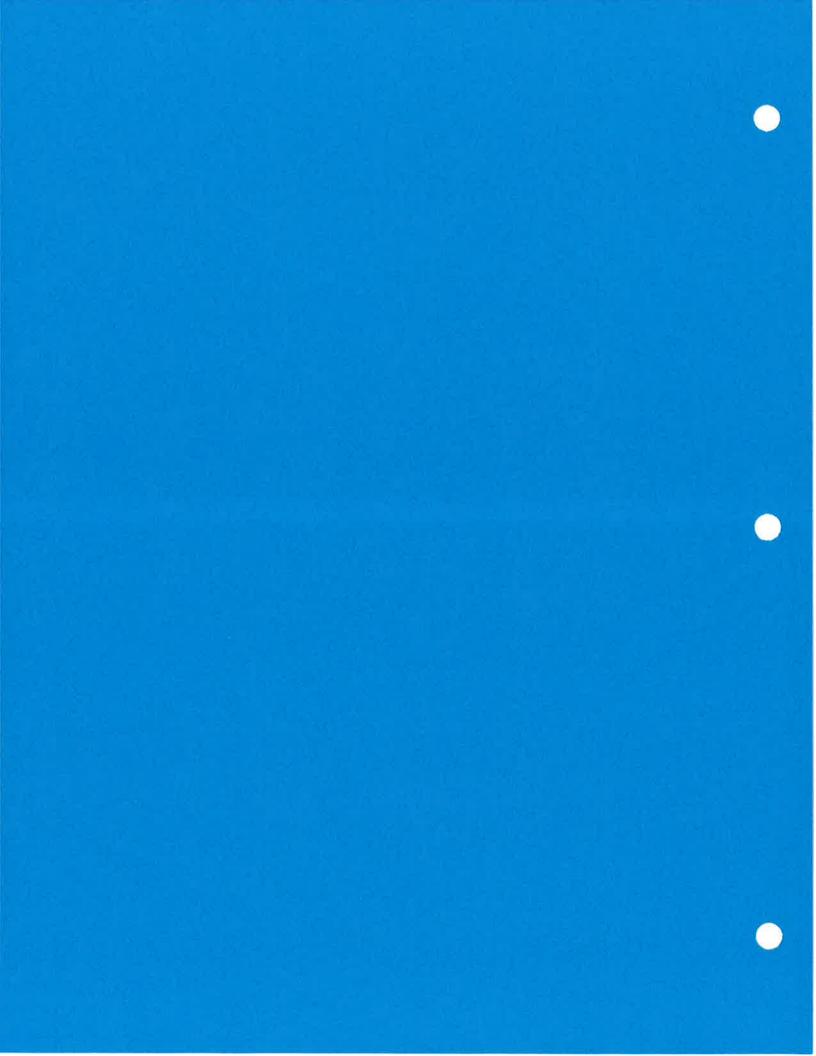
Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
	-		Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.37 cfs @ 12.88 hrs HW=3.64' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

2=Culvert (Inlet Controls 1.37 cfs @ 6.99 fps)

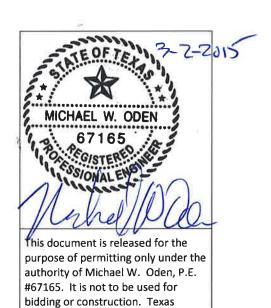




# ATTACHMENT III-C APPENDIX III-C.4

#### HYDROCAD MODEL OUTPUT FILES

- 3. PROPOSED CONDITIONS (POST-DEVELOPMENT)
  - A. MODEL DIAGRAMS
  - B. LANDFILL WATERSHED A (TYPICAL OF WATERSHEDS C, E, G, J, K, M, & O)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - C. LANDFILL WATERSHED B (TYPICAL OF WATERSHEDS D, F, J, L, N, & P)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - D. LANDFILL PERIMETER DITCH, CULVERT, & BASIN SYSTEM
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - E. REGIONAL STORMWATER CONDITIONS
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)



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## **Summary for Subcatchment 1LLS: 1 Lower Left Subcat**

Runoff

18.84 cfs @ 12.22 hrs, Volume=

1.984 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN	<u>Description</u>				
*	1	56,035	92					
	1	56,035	,	100.00% Pervious Area				
	Tc (min)	Length (feet)	Slope (ft/ft)	•	Capacity (cfs)	Description		
	14.0	300	0.0600	0.36		Sheet Flow, n= 0.150 P2= 3.75"		
	2.8	284	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		
	16.8	584	Total					

## **Summary for Subcatchment 1LRS: 1 Lower Right Subcat**

Runoff

20.00 cfs @ 12.22 hrs, Volume=

2.107 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN D	escription			
*	1	65,671	92				
	165,671 100.00% Pervious Area					a	
(m	Tc nin)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
1	4.0	300	0.0600	0.36		Sheet Flow, n= 0.150 P2= 3.75"	
	2.8	284	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
1	6.8	584	Total	·			

# Summary for Subcatchment 1ULS: 1 Upper Left Subcat

Runoff

5.19 cfs @ 12.18 hrs, Volume=

0.503 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	39,558	92		
	39,558		100.00% Pervious Area	

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Тс	Length				Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
13.4	284	0.0600	0.35		Sheet Flow, n= 0 150 P2= 3 75"	

## **Summary for Subcatchment 1URS: 1 Upper Right Subcat**

Runoff = 5.91 cfs @ 12.18 hrs, Volume=

0.583 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

_	A	rea (sf)	CN	Description			
*		45,863	92				
		45,863		100.00% P	ervious Are	а	•
	Tc (min)	Length (feet)	Slope (ft/ft)	•	Capacity (cfs)	Description	
	14.0	300	0.0600	0.36		Sheet Flow, n= 0.150 P2= 3.75"	
	0.1	13	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
	14.1	313	Total				

## **Summary for Subcatchment 2LLS: 2 Lower Left Subcat**

Runoff = 11.39 cfs @ 12.08 hrs, Volume=

0.874 af. Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN	Description			
*		68,705	92				
		68,705		100.00% P	ervious Are	a	
	Tc (min)	Length (feet)	Slope (ft/ft)	•	Capacity (cfs)	Description	
	5.9	206	0.2500		(OlO)	Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 2LRS: 2 Lower Right Subcat

Runoff = 11.39 cfs @ 12.08 hrs, Volume= 0.874 af, Depth= 6.65"

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	Α	rea (sf)	CN E	Description			
*		68,723	92				
		68,723	1	00.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0.150 P2= 3.75"	

## **Summary for Subcatchment 2ULS: 2 Upper Left Subcat**

Runoff = 12.80 cfs @ 12.08 hrs, Volume=

0.981 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN E	Description			
*		77,174	92				
		77,174	1	00.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
=	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 2URS: 2 Upper Right Subcat

Runoff = 12.50 cfs @ 12.08 hrs, Volume=

0.958 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN [	Description		
*		75,365	92			
		75,365	1	100.00% Pe	ervious Are	ea
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.9	206	0.2500	0.58		Sheet Flow,
						n= 0 150 P2= 3 75"

# Summary for Subcatchment 3LLS: 3 Lower Left Subcat

Runoff = 11.41 cfs @ 12.08 hrs, Volume=

0.875 af, Depth= 6.65"

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Α	rea (sf)	CN	Description			
*		68,795	92				
		68,795		100.00% P	ervious Are	а	
	Tc	Length	Slope	•	Capacity	Description	
_	(min)	(feet)	(ft/ft)		(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 3LRS: 3 Lower Right Subcat

Runoff 11.41 cfs @ 12.08 hrs, Volume= 0.875 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN I	Description			
*		68,813	92				
		68,813		100.00% Pe	ervious Are	a	
	Тс	Length	Slope	•	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

## Summary for Subcatchment 3ULS: 3 Upper Left Subcat

Runoff 11.42 cfs @ 12.08 hrs, Volume=

0.876 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN [	Description			
*		68,849	92				
		68,849	1	00.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
_(	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·	
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 3URS: 3 Upper Right Subcat

Runoff 11.42 cfs @ 12.08 hrs, Volume=

0.876 af, Depth= 6.65"

V	V	-1	_	rs	h	_	a	D
v	v	aı	е	rs	n	e	п	п

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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_	Δ	rea (sf)	CN	Description			
*		68,891	92				
		68,891		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

#### Summary for Subcatchment 4LLS: 4 Lower Left Subcat

Runoff

11.43 cfs @ 12.08 hrs, Volume=

0.876 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN I	Description			
*		68,909	92				
		68,909	•	100.00% P	ervious Are	а	
	Тс	Length	Slope	Velocity	Capacity	Description	
(	min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 4LRS: 4 Lower Right Subcat

Runoff

11.35 cfs @ 12.08 hrs, Volume=

0.871 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN	Description			
*		68,465	92				
		68,465		100.00% P	ervious Are	a	
	Тс	Length	Slope	e Velocity	Capacity	Description	
(r	min)	(feet)	(ft/ft)	) (ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0 150 P2= 3 75"	

# Summary for Subcatchment 4ULS: 4 Upper Left Subcat

Runoff

11.41 cfs @ 12.08 hrs, Volume=

0.875 af, Depth= 6.65"

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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_	Α	rea (sf)	CN E	<b>Description</b>			
*		68,836	92				
		68,836	1	00.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow,	
						n= 0.150 P2= 3.75"	

## Summary for Subcatchment 4URS: 4 Upper Right Subcat

Runoff

11.35 cfs @ 12.08 hrs, Volume=

0.871 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN [	Description			
*		68,481	92				
		68,481	1	00.00% Pe	ervious Are	a	
	Tc	Length	Slope	,	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## **Summary for Subcatchment 5LLS: 5 Lower Left Subcat**

Runoff

11.45 cfs @ 12.08 hrs, Volume=

0.878 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

* 69,030 92 69,030 100.00% Pervious Area  Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)		Area (sf)	CN I	Description			
Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs)	*	69,030	92				
(min) (feet) (ft/ft) (ft/sec) (cfs)		69,030		100.00% Pe	ervious Are	a	
		•		-		Description	
5.0 000 0.000 0.50 <b>0.</b> 00 <b>0.</b> 00 <b>0.</b> 00 <b>0.</b> 00	(mi	n) (feet)	(ft/ft)	(ft/sec)	(cfs)		
5.9 206 0.2500 0.58 <b>Sheet Flow,</b> n= 0.150 P2= 3.75"	5	.9 206	0.2500	0.58		Sheet Flow,	

# Summary for Subcatchment 5LRS: 5 Lower Right Subcat

Runoff

11.33 cfs @ 12.08 hrs, Volume=

0.869 af, Depth= 6.65"

		-	_	_
W	ata.	rsh	$\sim$	
ww			CU	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Α	rea (sf)	CN	Description			
*		68,343	92				
		68,343		100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
10	5.9	206	0.2500	0.58		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

#### Summary for Subcatchment 5ULS: 5 Upper Left Subcat

Runoff = 11.41 cfs @ 12.08 hrs, Volume=

0.875 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	68,798	92				
	68,798		100.00% P	ervious Are	a	
-	c Length	Slope	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft	) (ft/sec)	(cfs)	•	
5	.9 206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## Summary for Subcatchment 5URS: 5 Upper Right Subcat

Runoff = 11.35 cfs @ 12.08 hrs, Volume=

0.870 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	68,437	92				
	68,437		100.00% Pe	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
5.	9 206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	*

# Summary for Subcatchment 6LLS: 6 Lower Left Subcat

Runoff = 11.46 cfs @ 12.08 hrs, Volume=

0.879 af, Depth= 6.65"

Watershed B	W	late	rshe	d R
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Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Area (sf)	CN	Description	
*	69,136	92		
	69,136		100.00% Pervious Area	

	69,136	1	100.00% Pervious Area		a	
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	-

## Summary for Subcatchment 6LRS: 6 Lower Right Subcat

Runoff = 11.25 cfs @ 12.08 hrs, Volume= 0.863 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN	Description			
*		67,849	92				
		67,849		100.00% P	ervious Are	a	
	Тс	Length	Slope		Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 6ULS: 6 Upper Left Subcat

Runoff = 11.41 cfs @ 12.08 hrs, Volume= 0.875 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN	Description			
*		68,794	92				
		68,794		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
(n	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment 6URS: 6 Upper Right Subcat

Runoff = 11.35 cfs @ 12.08 hrs, Volume= 0.870 af, Depth= 6.65"

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Area (sf)	CN I	Description			
*	68,428	92				
	68,428	•	100.00% P	ervious Are	a	
Т	Length	Slope	Velocity	Capacity	Description	
_ (min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
5.9	206	0.2500	0.58		Sheet Flow, n= 0.150 P2= 3.75"	

## **Summary for Reach 1DC: 1 Downchute**

Inflow Area = 9.346 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 35.72 cfs @ 12.31 hrs, Volume= 5.178 af

Outflow = 35.70 cfs @ 12.32 hrs, Volume= 5.178 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.48 fps, Min. Travel Time= 0.4 min Avg. Velocity = 2.74 fps, Avg. Travel Time= 1.2 min

Peak Storage= 842 cf @ 12.32 hrs Average Depth at Peak Storage= 0.27'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -2.00', Outlet Invert= -52.00'



# **Summary for Reach 2DC: 2 Downchute**

Inflow Area = 16.003 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 38.36 cfs @ 12.32 hrs, Volume= 8.865 af

Outflow = 38.35 cfs @ 12.32 hrs, Volume= 8.865 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.71 fps, Min. Travel Time= 0.4 min Avg. Velocity = 3.36 fps, Avg. Travel Time= 1.0 min

Peak Storage= 881 cf @ 12.32 hrs Average Depth at Peak Storage= 0.28'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -52.00', Outlet Invert= -52.00'



#### **Summary for Reach 3DC: 3 Downchute**

Inflow Area = 22.324 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 41.02 cfs @ 12.32 hrs, Volume= 12.367 af

Outflow = 41.00 cfs @ 12.33 hrs, Volume= 12.367 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.93 fps, Min. Travel Time= 0.4 min Avg. Velocity = 3.82 fps, Avg. Travel Time= 0.9 min

Peak Storage= 918 cf @ 12.33 hrs Average Depth at Peak Storage= 0.29'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -52.00', Outlet Invert= -52.00'



# **Summary for Reach 4DC: 4 Downchute**

Inflow Area = 28.630 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 43.67 cfs @ 12.33 hrs, Volume= 15.860 af

Outflow = 43.66 cfs @ 12.33 hrs, Volume= 15.860 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.14 fps, Min. Travel Time= 0.4 min Avg. Velocity = 4.20 fps, Avg. Travel Time= 0.8 min

Peak Storage= 955 cf @ 12.33 hrs Average Depth at Peak Storage= 0.30' Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -2.00', Outlet Invert= -52.00'



#### **Summary for Reach 5DC: 5 Downchute**

Inflow Area = 34.934 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 46.33 cfs @ 12.33 hrs, Volume= 19.353 af

Outflow = 46.31 cfs @ 12.34 hrs, Volume= 19.353 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.35 fps, Min. Travel Time= 0.4 min Avg. Velocity = 4.52 fps, Avg. Travel Time= 0.7 min

Peak Storage= 991 cf @ 12.34 hrs Average Depth at Peak Storage= 0.31'

Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs

15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -52.00', Outlet Invert= -52.00'



## Summary for Reach 6DC: 6 Downchute

Inflow Area = 41.229 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 48.99 cfs @ 12.34 hrs, Volume= 22.840 af

Outflow = 48.98 cfs @ 12.34 hrs, Volume= 22.840 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.54 fps, Min. Travel Time= 0.3 min Avg. Velocity = 4.81 fps, Avg. Travel Time= 0.7 min

Peak Storage= 1,026 cf @ 12.34 hrs Average Depth at Peak Storage= 0.32' Bank-Full Depth= 2.00' Flow Area= 42.0 sf, Capacity= 1,178.19 cfs Prepared by CB&I Environmental and Infrastructure, Inc. HydroCAD® 10.00 s/n 04891 © 2011 HydroCAD Software Solutions LLC

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15.00' x 2.00' deep channel, n= 0.035 Side Slope Z-value= 3.0 '/' Top Width= 27.00' Length= 200.0' Slope= 0.2500 '/' Inlet Invert= -2.00', Outlet Invert= -52.00'



#### **Summary for Pond 1LLT: 1 Lower Left Terrace**

Inflow Area = 4.490 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 19.80 cfs @ 12.22 hrs, Volume= 2.487 af

Outflow = 16.92 cfs @ 12.32 hrs, Volume= 2.487 af, Atten= 15%, Lag= 6.1 min

Primary = 16.92 cfs @ 12.32 hrs, Volume= 2.487 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.25' @ 12.32 hrs Surf.Area= 12,940 sf Storage= 27,466 cf

Plug-Flow detention time= 130.7 min calculated for 2.487 af (100% of inflow)

Center-of-Mass det. time= 130.7 min ( 921.0 - 790.3 )

Volume	Invert	Avail.Sto	rage Storage D	Description	
#1	0.00'	33,6	66 cf Custom	Stage Data (Prisr	natic)Listed below (Recalc)
Elevation (feet)	Su	rf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.00 4.70		0 14,326	0 33,666	0 33,666	
Device Ro	uting	Invert	Outlet Devices		
44 D.J.		4 001	A	0 0 0 0	10 000

DCAICC	Routing	IIIVGIL	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
	•		L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf
			···

Primary OutFlow Max=16.86 cfs @ 12.32 hrs HW=4.25' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 15.37 cfs @ 1.61 fps)

-2=Culvert (Inlet Controls 1.49 cfs @ 7.60 fps)

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## **Summary for Pond 1LRT: 1 Lower Right Terrace**

Inflow Area = 4.856 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 20.99 cfs @ 12.22 hrs, Volume= 2.690 af

Outflow = 18.94 cfs @ 12.30 hrs, Volume= 2.690 af, Atten= 10%, Lag= 4.7 min

Primary = 18.94 cfs @ 12.30 hrs, Volume= 2.690 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.27' @ 12.30 hrs Surf.Area= 12,989 sf Storage= 27,705 cf

Plug-Flow detention time= 128.6 min calculated for 2.690 af (100% of inflow)

Center-of-Mass det. time= 128.6 min ( 922.0 - 793.3 )

Volume	Inv	ert Avail.St	orage Storage	e Description	
#1	0.	00' 33,6	629 cf Custo	n Stage Data (Prismatic)Listed I	below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0	00	0	0	0	
4.7	70	14,310	33,629	33,629	
Device	Routing	Invert	Outlet Device	es	
#1	Primary	4.00'	Head (feet)	ir/Orifice, Cv= 2.62 (C= 3.28) 0.00 0.70 38.00 42.90	
#2	Primary	0.00	<b>6.0" Round</b> L= 30.0' CF		

Primary OutFlow Max=18.89 cfs @ 12.30 hrs HW=4.27' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 17.40 cfs @ 1.68 fps)

-2=Culvert (Inlet Controls 1.50 cfs @ 7.62 fps)

# **Summary for Pond 1ULT: 1 Upper Left Terrace**

Inflow Area = 0.908 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

n= 0.012, Flow Area= 0.20 sf

Inflow = 5.19 cfs @ 12.18 hrs, Volume= 0.503 af

Outflow = 1.09 cfs @ 12.68 hrs, Volume= 0.503 af, Atten= 79%, Lag= 30.6 min

Primary = 1.09 cfs @ 12.68 hrs, Volume= 0.503 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 2.39' @ 12.68 hrs Surf.Area= 5,915 sf Storage= 7,072 cf

Plug-Flow detention time= 51.5 min calculated for 0.503 af (100% of inflow)

Center-of-Mass det. time= 51.5 min (828.8 - 777.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	27,319 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	11,625	27,319	27,319

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.09 cfs @ 12.68 hrs HW=2.39' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.09 cfs @ 5.56 fps)

## Summary for Pond 1URT: 1 Upper Right Terrace

Inflow Area = 1.053 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 5.91 cfs @ 12.18 hrs, Volume= 0.583 af

Outflow = 1.14 cfs @ 12.74 hrs, Volume= 0.583 af, Atten= 81%, Lag= 33.1 min

Primary = 1.14 cfs @ 12.74 hrs, Volume= 0.583 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 2.58' @ 12.74 hrs Surf.Area= 6,696 sf Storage= 8,639 cf

Plug-Flow detention time= 61.9 min calculated for 0.583 af (100% of inflow)

Center-of-Mass det. time= 61.9 min ( 839.9 - 778.0 )

Volume	Inv	ert Avail.Sto	rage Storage	Description	
#1	0.	00' 28,6	61 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0		0	0	0	
4.7	70	12,196	28,661	28,661	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	4.00'	Custom Wein Head (feet) 0 Width (feet) 3		62 (C= 3.28)
#2	Primary	0.00'	6.0" Round	Culvert	headwall, Ke= 0.900

n= 0.012, Flow Area= 0.20 sf

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.14 cfs @ 12.74 hrs HW=2.58' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.14 cfs @ 5.80 fps)

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## **Summary for Pond 2LLT: 2 Lower Left Terrace**

Inflow Area = 3.349 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.43 cfs @ 12.08 hrs, Volume= 1.855 af

Outflow = 1.70 cfs @ 14.53 hrs, Volume= 1.855 af, Atten= 86%, Lag= 147.1 min

Primary = 1.70 cfs @ 14.53 hrs, Volume= 1.855 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.53 hrs Surf.Area= 12,204 sf Storage= 24,467 cf

Plug-Flow detention time= 193.9 min calculated for 1.855 af (100% of inflow)

Avail Storage Storage Description

Center-of-Mass det. time= 193.9 min ( 1,036.9 - 843.0 )

Invest

volume	Inv	eri Avali.Si	orage Storage	Description	
#1	0.0	00' 33,6	17 cf Custom	Stage Data (Pris	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 14,305	0 33,617	0 33,617	
Device	Routing	Invert	Outlet Device	s	
#1	Primary	4.00'	Custom Weir Head (feet) 0 Width (feet) 3		2 (C= 3.28)
#2	Primary	0.00'	6.0" Round ( L= 30.0' CPF	Culvert <sup>o</sup> , projecting, no h	neadwall, Ke= 0.900 0' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.57 cfs @ 14.53 hrs HW=4.01' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.12 cfs @ 0.32 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

# **Summary for Pond 2LRT: 2 Lower Right Terrace**

Inflow Area = 3.308 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.42 cfs @ 12.08 hrs, Volume= 1.832 af

Outflow = 1.65 cfs @ 14.69 hrs, Volume= 1.832 af, Atten= 87%, Lag= 156.5 min

n= 0.012, Flow Area= 0.20 sf

Primary = 1.65 cfs @ 14.69 hrs, Volume= 1.832 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.69 hrs Surf.Area= 12,222 sf Storage= 24,493 cf

Plug-Flow detention time= 193.9 min calculated for 1.832 af (100% of inflow)

Center-of-Mass det. time= 193.9 min (1,034.5 - 840.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,680 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

4.70

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Elevation	Surf.Area	Inc.Store	Cum.Store
(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
0.00	0	0	0

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
	_		Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

33,680

Primary OutFlow Max=1.54 cfs @ 14.69 hrs HW=4.01' (Free Discharge)

33,680

1=Custom Weir/Orifice (Weir Controls 0.09 cfs @ 0.29 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

14,332

## **Summary for Pond 2ULT: 2 Upper Left Terrace**

Inflow Area = 1.772 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.80 cfs @ 12.08 hrs, Volume= 0.981 af

Outflow = 1.22 cfs @ 12.89 hrs, Volume= 0.981 af, Atten= 90%, Lag= 48.4 min

Primary = 1.22 cfs @ 12.89 hrs, Volume= 0.981 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 2.92' @ 12.89 hrs Surf.Area= 12,317 sf Storage= 17,992 cf

Plug-Flow detention time= 137.3 min calculated for 0.981 af (100% of inflow)

Center-of-Mass det. time= 137.2 min ( 907.6 - 770.4 )

volume	In	vert Avail.S	torage Sto	rage Description	
#1	C	).00' 46,	565 cf <b>Cu</b> s	stom Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Stor (cubic-fee		
0.0	00	0		0 0	
4.7	70	19,815	46,56	46,565	
Device	Routing	g Inver	t Outlet De	evices	
#1	Primar	y 4.00	Head (fee	Weir/Orifice, Cv= 2 et) 0.00 0.70 et) 38.00 42.90	.62 (C= 3.28)
#2	Primar	y 0.00	' <b>6.0" Ròu</b> L= 30.0' Inlet / Ou	und Culvert CPP, projecting, no	headwall, Ke= 0.900 .60' S= 0.0200 '/' Cc= 0.900 f

Primary OutFlow Max=1.22 cfs @ 12.89 hrs HW=2.92' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.22 cfs @ 6.21 fps)

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## **Summary for Pond 2URT: 2 Upper Right Terrace**

Inflow Area = 1.730 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.50 cfs @ 12.08 hrs, Volume= 0.958 af

Outflow = 1.21 cfs @ 12.88 hrs, Volume= 0.958 af, Atten= 90%, Lag= 47.6 min

Primary = 1.21 cfs @ 12.88 hrs, Volume= 0.958 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 2.87' @ 12.88 hrs Surf.Area= 12,189 sf Storage= 17,479 cf

Plug-Flow detention time= 134.3 min calculated for 0.958 af (100% of inflow)

Center-of-Mass det. time= 134.3 min ( 904.7 - 770.4 )

Volume	Inve	ert Avail.Sto	rage Storage	Description	
#1	0.0	00' 46,9	44 cf Custom	Stage Data (Pi	ismatic)Listed below (Recalc)
Elevation (feet)		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.00		0	0	0	
4.70		19,976	46,944	46,944	
Device F	Routing	Invert	Outlet Devices	<b>.</b>	
#1 F	Primary	4.00'	Custom Weir/	Orifice, Cv= 2.	62 (C= 3.28)
			Head (feet) 0.	00 0.70	
			Width (feet) 3	8.00 42.90	

#2 Primary 0.00' **6.0" Round Culvert**L= 30.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.21 cfs @ 12.88 hrs HW=2.87' (Free Discharge)

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.21 cfs @ 6.15 fps)

# **Summary for Pond 3LLT: 3 Lower Left Terrace**

Inflow Area = 3.160 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.49 cfs @ 12.08 hrs, Volume= 1.750 af

Outflow = 1.76 cfs @ 14.31 hrs, Volume= 1.750 af, Atten= 86%, Lag= 133.4 min

Primary = 1.76 cfs @ 14.31 hrs, Volume= 1.750 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.31 hrs Surf.Area= 12,190 sf Storage= 24,454 cf

Plug-Flow detention time= 188.0 min calculated for 1.750 af (100% of inflow)

Center-of-Mass det. time= 188.0 min ( 1,010.5 - 822.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,558 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,280	33,558	33,558

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.61 cfs @ 14.31 hrs HW=4.01' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 0.17 cfs @ 0.36 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

## **Summary for Pond 3LRT: 3 Lower Right Terrace**

Inflow Area = 3.161 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.49 cfs @ 12.08 hrs, Volume= 1.751 af

Outflow = 1.74 cfs @ 14.38 hrs, Volume= 1.751 af, Atten= 86%, Lag= 137.8 min

Primary = 1.74 cfs @ 14.38 hrs, Volume= 1.751 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.38 hrs Surf.Area= 12,251 sf Storage= 24,574 cf

Plug-Flow detention time= 189.2 min calculated for 1.751 af (100% of inflow)

Center-of-Mass det. time= 189.1 min (1,011.8 - 822.6)

Volume	Inv	ert Avail.St	orage Storage	Description	
#1	0.	00' 33,7	732 cf Custom	Stage Data (Pris	smatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0 4.7		0 14,354	0 33,732	0 33,732	
Device	Routing	Invert	Outlet Device	S	
#1	Primary	4.00'	Custom Weir Head (feet) 0 Width (feet) 3		2 (C= 3.28)
#2	Primary	0.00	6.0" Round ( L= 30.0' CPF Inlet / Outlet I	Culvert <sup>o</sup> , projecting, no h	eadwall, Ke= 0.900 0' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.60 cfs @ 14.38 hrs HW=4.01' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.15 cfs @ 0.35 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

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## **Summary for Pond 3ULT: 3 Upper Left Terrace**

Inflow Area = 1.581 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 11.42 cfs @ 12.08 hrs, Volume= 0.876 af

Outflow = 1.27 cfs @ 12.73 hrs, Volume= 0.876 af, Atten= 89%, Lag= 38.7 min

Primary = 1.27 cfs @ 12.73 hrs, Volume= 0.876 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.14' @ 12.73 hrs Surf.Area= 9,544 sf Storage= 14,971 cf

Plug-Flow detention time= 104.3 min calculated for 0.875 af (100% of inflow)

Center-of-Mass det. time= 104.3 min (874.7 - 770.4)

Volume	Inv	<u>rert Avail.Sto</u>	orage	Storage I	Description	
#1	0.	00' 33,6	03 cf	Custom	Stage Data (P	rismatic)Listed below (Recalc)
Elevatio		Surf.Area (sq-ft)	Inc.: (cubic	Store -feet)	Cum.Store (cubic-feet)	
0.0	00	0		0	0	
4.7	70	14,299	33	3,603	33,603	
Device	Routing	Invert	Outle	t Devices		
#1	Primary	4.00'	Custo	om Weir/	Orifice, Cv= 2.	.62 (C= 3.28)
	•		Head	(feet) 0.	00 0.70	•
			Width	(feet) 38	8.00 42.90	
#2	Primary	0.00'	6.0"	Round C	ulvert	
			L= 30	.0' CPP	, projecting, no	headwall, Ke= 0.900

Primary OutFlow Max=1.27 cfs @ 12.73 hrs HW=3.14' (Free Discharge)

—1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.27 cfs @ 6.46 fps)

#### **Summary for Pond 3URT: 3 Upper Right Terrace**

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Inflow Area = 1.582 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

n= 0.012, Flow Area= 0.20 sf

Inflow = 11.42 cfs @ 12.08 hrs, Volume= 0.876 af

Outflow = 1.27 cfs @ 12.73 hrs, Volume= 0.876 af, Atten= 89%, Lag= 38.7 min

Primary = 1.27 cfs @ 12.73 hrs, Volume= 0.876 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.13' @ 12.73 hrs Surf.Area= 9,564 sf Storage= 14,988 cf

Plug-Flow detention time= 104.5 min calculated for 0.876 af (100% of inflow)

Center-of-Mass det. time= 104.5 min (874.9 - 770.4)

Volume	Invert	Avail.Storage	Storage Description	į
#1	0.00'	33,704 cf	Custom Stage Data (Prismatic)Listed below (Recalc)	

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,342	33,704	33,704

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.27 cfs @ 12.73 hrs HW=3.13' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.27 cfs @ 6.46 fps)

## **Summary for Pond 4LLT: 4 Lower Left Terrace**

Inflow Area = 3.162 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.50 cfs @ 12.08 hrs, Volume= 1.752 af

Outflow = 1.77 cfs @ 14.26 hrs, Volume= 1.752 af, Atten= 86%, Lag= 130.5 min

Primary = 1.77 cfs @ 14.26 hrs, Volume= 1.752 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.26 hrs Surf.Area= 12,173 sf Storage= 24,423 cf

Plug-Flow detention time= 187.6 min calculated for 1.752 af (100% of inflow)

Center-of-Mass det. time= 187.6 min (1,010.1 - 822.5)

Volume	Inv	ert Avail.Sto	orage Storage Description
#1	0.0	00' 33,5	09 cf Custom Stage Data (Prismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store Cum.Store (cubic-feet) (cubic-feet)
0.0		0	0 0
4.7	70	14,259	33,509 33,509
Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.70 Width (feet) 38.00 42.90
#2	Primary	0.00'	· ·

n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.62 cfs @ 14.26 hrs HW=4.01' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.17 cfs @ 0.37 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

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## Summary for Pond 4LRT: 4 Lower Right Terrace

Inflow Area = 3.144 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.43 cfs @ 12.08 hrs, Volume= 1.742 af

Outflow = 1.71 cfs (a) 14.51 hrs, Volume= 1.742 af, Atten= 86%, Lag= 145.6 min

Primary = 1.71 cfs @ 14.51 hrs, Volume= 1.742 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.51 hrs Surf.Area= 12,266 sf Storage= 24,596 cf

Plug-Flow detention time= 189.5 min calculated for 1.742 af (100% of inflow)

Center-of-Mass det. time= 189.5 min (1,011.8 - 822.3)

Volume	Invert A	vail.Storage	e Storage Description	
#1	0.00'	33,784 cf	f Custom Stage Data (Prismatic)Listed below (Recalc)	- 4
Elevation (feet)	Surf.Are (sq-f	-	nc.Store Cum.Store bic-feet) (cubic-feet)	

(feet)	(sq-ft)	(cubic-feet)	(cubic-feet)
0.00	0	0	0
4.70	14,376	33,784	33,784

Device	Routing	Invert	Outlet Devices			
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)			
	-		Head (feet) 0.00 0.70			
			Width (feet) 38.00 42.90			
#2	Primary	0.00'	6.0" Round Culvert			
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900			
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900			
			n= 0.012 Flow Area= 0.20 sf			

Primary OutFlow Max=1.58 cfs @ 14.51 hrs HW=4.01' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 0.13 cfs @ 0.33 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

# **Summary for Pond 4ULT: 4 Upper Left Terrace**

Inflow Area = 1.580 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 11.41 cfs @ 12.08 hrs, Volume= 0.875 af

Outflow = 1.27 cfs @ 12.73 hrs, Volume= 0.875 af, Atten= 89%, Lag= 38.7 min

Primary = 1.27 cfs @ 12.73 hrs, Volume= 0.875 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.14' @ 12.73 hrs Surf.Area= 9,541 sf Storage= 14,967 cf

Plug-Flow detention time= 104.3 min calculated for 0.875 af (100% of inflow)

Center-of-Mass det. time= 104.3 min (874.6 - 770.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,591 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,294	33,591	33,591

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.27 cfs @ 12.73 hrs HW=3.14' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.27 cfs @ 6.46 fps)

## **Summary for Pond 4URT: 4 Upper Right Terrace**

Inflow Area = 1.572 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 11.35 cfs @ 12.08 hrs, Volume= 0.871 af

Outflow = 1.27 cfs @ 12.72 hrs, Volume= 0.871 af, Atten= 89%, Lag= 38.5 min

Primary = 1.27 cfs @ 12.72 hrs, Volume= 0.871 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.12' @ 12.72 hrs Surf.Area= 9,527 sf Storage= 14,875 cf

Plug-Flow detention time= 103.8 min calculated for 0.871 af (100% of inflow)

Center-of-Mass det. time= 103.8 min (874.2 - 770.4)

Volume		ert Avail.Sto			
#1	0.	00' 33,6	99 cf Custom S	itage Data (Pı	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
0.0	00	0	0	0	
4.7	70	14,340	33,699	33,699	
Device	Routing	Invert	Outlet Devices		
#1	Primary	4.00'	Custom Weir/C Head (feet) 0.0 Width (feet) 38.	0 0.70	62 (C= 3.28)
#2	Primary	0.00'	6.0" Round Culvert L= 30.0' CPP, projecting, no headwall. Ke= 0.900		

n= 0.012, Flow Area= 0.20 sf

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.27 cfs @ 12.72 hrs HW=3.12' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.27 cfs @ 6.44 fps)

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## **Summary for Pond 5LLT: 5 Lower Left Terrace**

Inflow Area = 3.164 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 12.52 cfs @ 12.08 hrs, Volume= 1.753 af

Outflow = 1.78 cfs @ 14.21 hrs, Volume= 1.753 af, Atten= 86%, Lag= 127.4 min

Primary = 1.78 cfs @ 14.21 hrs, Volume= 1.753 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.21 hrs Surf.Area= 12,157 sf Storage= 24,392 cf

Plug-Flow detention time= 187.2 min calculated for 1.753 af (100% of inflow)

Center-of-Mass det. time= 187.2 min (1,009.6 - 822.4)

Volume	Inv	vert Avail.Sto	orage Sto	rage Descri	iption		_
#1	0.	.00' 33,4	59 cf <b>Cus</b>	stom Stage	Data (Pris	matic)Listed below (Recalc)	
Elevatio		Surf.Area (sq-ft)	Inc.Stor		ım.Store bic-feet)		
0.0	00	0		0	0		
4.7	70	14,238	33,45	9	33,459		
Device	Routing	Invert	Outlet De	evices			
#1	Primary	4.00'			e, Cv= 2.62	(C= 3.28)	
			•	et) 0.00 0.			
				et) 38.00 4			
#2	Primary	0.00'		and Culver			
			L=30.0	CPP, proje	ecting, no h	eadwall, Ke= 0.900	

Primary OutFlow Max=1.63 cfs @ 14.21 hrs HW=4.01' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.18 cfs @ 0.37 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

## **Summary for Pond 5LRT: 5 Lower Right Terrace**

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Inflow Area = 3.140 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

n= 0.012, Flow Area= 0.20 sf

Inflow = 12.41 cfs @ 12.08 hrs, Volume= 1.739 af

Outflow = 1.70 cfs @ 14.57 hrs, Volume= 1.739 af, Atten= 86%, Lag= 149.1 min

Primary = 1.70 cfs @ 14.57 hrs, Volume= 1.739 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.57 hrs Surf.Area= 12,284 sf Storage= 24,628 cf

Plug-Flow detention time= 189.9 min calculated for 1.739 af (100% of inflow)

Center-of-Mass det. time= 189.9 min (1,012.2 - 822.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,835 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

Volume

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,398	33,835	33,835

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.57 cfs @ 14.57 hrs HW=4.01' (Free Discharge)

1=Custom Weir/Orifice (Weir Controls 0.12 cfs @ 0.32 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

## **Summary for Pond 5ULT: 5 Upper Left Terrace**

Inflow Area = 1.579 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 11.41 cfs @ 12.08 hrs, Volume= 0.875 af

Outflow = 1.27 cfs @ 12.73 hrs, Volume= 0.875 af, Atten= 89%, Lag= 38.6 min

Primary = 1.27 cfs @ 12.73 hrs, Volume= 0.875 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.14' @ 12.73 hrs Surf.Area= 9,536 sf Storage= 14,956 cf

Plug-Flow detention time= 104.2 min calculated for 0.875 af (100% of inflow)

Avail.Storage Storage Description

Center-of-Mass det. time= 104.2 min (874.5 - 770.4)

Invert

#1	0.	.00' 33,5	79 cf Custom	Stage Data (Pi	rismatic)Listed below (Recalc)	
Elevation (fee		Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)		
0.0 4.		0 14,289	0 33,579	0 33,579		
Device	Routing	Invert	Outlet Devices	6		
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.70 Width (feet) 38.00 42.90			
#2	Primary	0.00'	6.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf			

Primary OutFlow Max=1.27 cfs @ 12.73 hrs HW=3.14' (Free Discharge)

1=Custom Weir/Orifice ( Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.27 cfs @ 6.46 fps)

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### **Summary for Pond 5URT: 5 Upper Right Terrace**

Inflow Area = 1.571 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 11.35 cfs @ 12.08 hrs, Volume= 0.870 af

Outflow = 1.26 cfs @ 12.72 hrs, Volume= 0.870 af, Atten= 89%, Lag= 38.5 min

Primary = 1.26 cfs @ 12.72 hrs, Volume= 0.870 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.12' @ 12.72 hrs Surf.Area= 9,523 sf Storage= 14,862 cf

Plug-Flow detention time= 103.8 min calculated for 0.870 af (100% of inflow)

Center-of-Mass det. time= 103.7 min (874.1 - 770.4)

Volume	Inv	ert Avail.Sto	orage S	Storage	Description	
#1	0.	00' 33,6	94 cf <b>C</b>	Custom	Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.S (cubic-f		Cum.Store (cubic-feet)	
0.0		0 14,338	33,	0 694	0 33,694	
Device	Routing	Invert	Outlet	Devices	5	
#1	Primary	4.00'	Head (	(feet) 0.	Orifice, Cv= 2.6 00 0.70 8.00 42.90	62 (C= 3.28)
#2	Primary	0.00'	6.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900			

Primary OutFlow Max=1.26 cfs @ 12.72 hrs HW=3.12' (Free Discharge)

1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.26 cfs @ 6.44 fps)

### **Summary for Pond 6LLT: 6 Lower Left Terrace**

Inflow Area = 3.166 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

n= 0.012, Flow Area= 0.20 sf

Inflow = 12.54 cfs @ 12.08 hrs, Volume= 1.754 af

Outflow = 1.79 cfs @ 14.16 hrs, Volume= 1.754 af, Atten= 86%, Lag= 124.4 min

Primary = 1.79 cfs @ 14.16 hrs, Volume= 1.754 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.16 hrs Surf.Area= 12,140 sf Storage= 24,361 cf

Plug-Flow detention time= 186.9 min calculated for 1.754 af (100% of inflow)

Center-of-Mass det. time= 186.8 min (1,009.2 - 822.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,410 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	0	0	0
4.70	14,217	33,410	33,410

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012 Flow Area= 0.20 sf

Primary OutFlow Max=1.64 cfs @ 14.16 hrs HW=4.01' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.19 cfs @ 0.38 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

### **Summary for Pond 6LRT: 6 Lower RightTerrace**

3.128 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event 12.33 cfs @ 12.08 hrs, Volume= 1.733 af Inflow Area =

Inflow

Outflow = 1.66 cfs @ 14.73 hrs, Volume= 1.733 af, Atten= 87%, Lag= 159.0 min

1.733 af Primary 1.66 cfs @ 14.73 hrs, Volume=

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 4.01' @ 14.73 hrs Surf.Area= 12.299 sf Storage= 24.649 cf

Plug-Flow detention time= 190.4 min calculated for 1.733 af (100% of inflow)

Center-of-Mass det. time= 190.4 min (1,012.9 - 822.4)

Volume	ln	vert Avai	I.Storage	Storage D	escription		
#1	C	.00'	33,889 cf	Custom S	ismatic)Listed below (Recalc)		
Elevation (fee		Surf.Area (sq-ft)		.Store c-feet)	Cum.Store (cubic-feet)		
0.0	00	0		0	0		
4.7	70	14,421	3	3,889	33,889		
Device	Routing	g In	vert Outle	et Devices			
#1	Primar	y 4	.00' Cust	tom Weir/C	Orifice, Cv= 2.6	62 (C= 3.28)	
				d (feet) 0.0			
"0	ъ.			Width (feet) 38.00 42.90			
#2	Primar	y U		6.0" Round Culvert			
			L= 3	U.U. CPP,	projecting, no	headwall, Ke= 0.900	

n= 0.012, Flow Area= 0.20 sf

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Primary OutFlow Max=1.54 cfs @ 14.73 hrs HW=4.01' (Free Discharge)

-1=Custom Weir/Orifice (Weir Controls 0.10 cfs @ 0.30 fps)

-2=Culvert (Inlet Controls 1.45 cfs @ 7.37 fps)

#2

Primary

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### **Summary for Pond 6ULT: 6 Upper Left Terrace**

Inflow Area = 1.579 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 11.41 cfs @ 12.08 hrs, Volume= 0.875 af

Outflow = 1.27 cfs @ 12.73 hrs, Volume= 0.875 af, Atten= 89%, Lag= 38.6 min

Primary = 1.27 cfs @ 12.73 hrs, Volume= 0.875 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.14' @ 12.73 hrs Surf.Area= 9,534 sf Storage= 14,954 cf

Plug-Flow detention time= 104.2 min calculated for 0.875 af (100% of inflow)

Center-of-Mass det. time= 104.1 min (874.5 - 770.4)

Volume	In	vert Avail.S	Storage	Storage	Description	
#1	C	.00' 33	,567 cf	Custom	n Stage Data (Pr	ismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)		c.Store c-feet)	Cum.Store (cubic-feet)	
0.0		0 14,284	;	0 33,567	0 33,567	
Device	Routing	g Inve	rt Outl	et Device	s	
#1	Primar	4.0	Hea	d (feet) C	r/Orifice, Cv= 2.0 0.00 0.70 38.00 42.90	62 (C= 3.28)

6.0" Round Culvert

Primary OutFlow Max=1.27 cfs @ 12.73 hrs HW=3.14' (Free Discharge)

0.00'

-1=Custom Weir/Orifice (Controls 0.00 cfs)

-2=Culvert (Inlet Controls 1.27 cfs @ 6.46 fps)

# **Summary for Pond 6URT: 6 Upper Right Terrace**

L= 30.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900

Inflow Area = 1.571 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

n= 0.012, Flow Area= 0.20 sf

Inflow = 11.35 cfs @ 12.08 hrs, Volume= 0.870 af

Outflow = 1.26 cfs @ 12.72 hrs, Volume= 0.870 af, Atten= 89%, Lag= 38.5 min

Primary = 1.26 cfs @ 12.72 hrs, Volume= 0.870 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 3.12' @ 12.72 hrs Surf.Area= 9,521 sf Storage= 14,859 cf

Plug-Flow detention time= 103.7 min calculated for 0.870 af (100% of inflow)

Center-of-Mass det. time= 103.7 min (874.1 - 770.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	33,690 cf	Custom Stage Data (Prismatic)Listed below (Recalc)

#### Watershed B

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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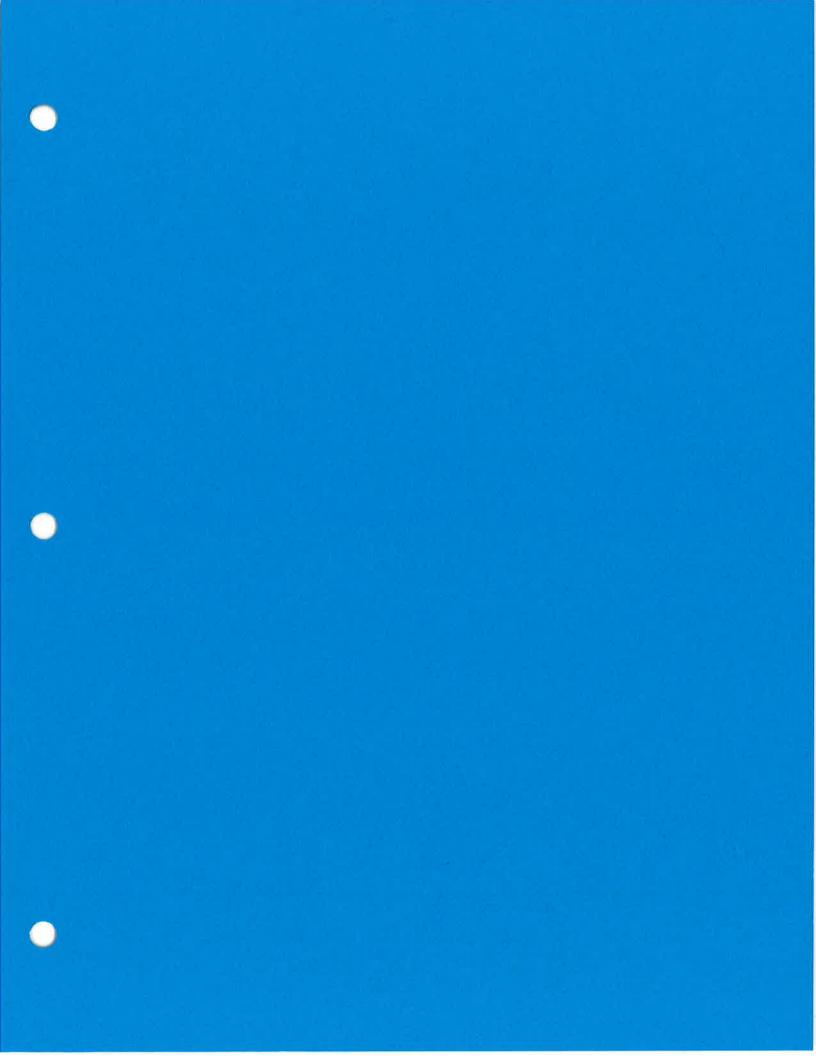
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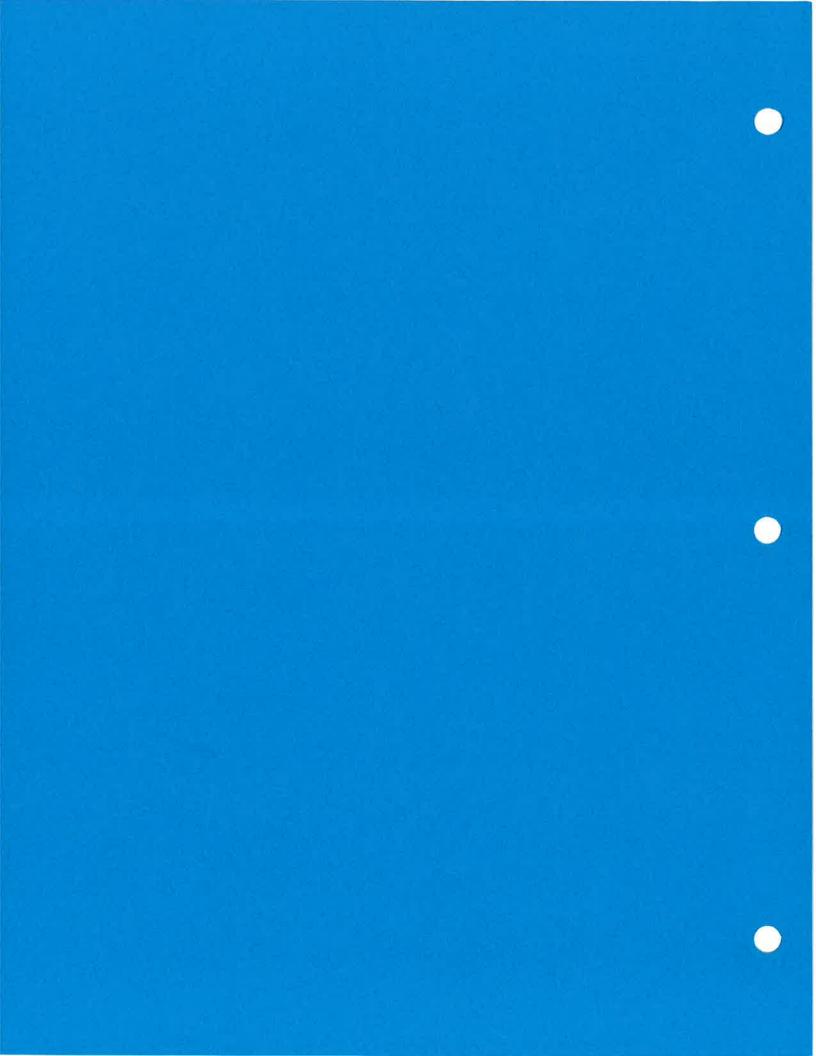
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Elevation	Surf.Area	Inc.Store	Cum.Store (cubic-feet)
(feet)	(sq-ft)	(cubic-feet)	
0.00	0	0	0
4.70	14,336	33,690	33,690

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28)
			Head (feet) 0.00 0.70
			Width (feet) 38.00 42.90
#2	Primary	0.00'	6.0" Round Culvert
			L= 30.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 0.00' / -0.60' S= 0.0200 '/' Cc= 0.900
			n= 0.012, Flow Area= 0.20 sf

Primary OutFlow Max=1.26 cfs @ 12.72 hrs HW=3.12' (Free Discharge)
1=Custom Weir/Orifice ( Controls 0.00 cfs)
2=Culvert (Inlet Controls 1.26 cfs @ 6.44 fps)



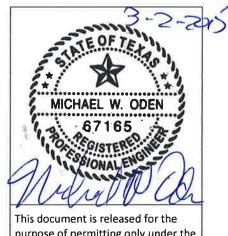


# ATTACHMENT III-C

**APPENDIX III-C.4** 

#### HYDROCAD MODEL OUTPUT FILES

- 3. PROPOSED CONDITIONS (POST-DEVELOPMENT)
  - A. MODEL DIAGRAMS
  - B. LANDFILL WATERSHED A (TYPICAL OF WATERSHEDS C, E, G, J, K, M, & O)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - C. LANDFILL WATERSHED B (TYPICAL OF WATERSHEDS D, F, J, L, N, & P)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - D. LANDFILL PERIMETER DITCH, CULVERT, & BASIN SYSTEM
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - E. REGIONAL STORMWATER CONDITIONS
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)



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#### **Summary for Subcatchment 1S: East Middle Subcat**

Runoff 90.32 cfs @ 12.61 hrs, Volume=

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15.064 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN [	Description			
*	9	23,072	92				
	923,072			100.00% Pe	ervious Are	a	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	36.5	300	0.0055	0.14	- Hill St	Sheet Flow, Grass: Short n= 0.150 P2= 3.75"	
	9.1	282	0.0055	0.52		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
	45.6	582	Total				

#### Summary for Subcatchment A5LLS: 5 Lowe Left Subcat

Runoff 16.44 cfs @ 12.09 hrs, Volume= 1.306 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	<b>Description</b>				
*		80,011	92					
_		80,011	2	100.00% Pervious Area				
	Тс		Slope	•	Capacity	Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"		

# Summary for Subcatchment A5LRS: 5 Lower Right Subcat

16.63 cfs @ 12.09 hrs, Volume= Runoff 1.321 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	80,953	92		
	80,953		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	•	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment A5MLS: 5 Middle Left Subcat

Runoff =

23.96 cfs @ 12.09 hrs, Volume=

1.903 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description	V.		
*	116,616	92				
	116,616		100.00% Pe	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment A5MRS: 5 Middle Right Subcat

Runoff

25.16 cfs @ 12.09 hrs, Volume=

1.998 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	\rea (sf)	CN I	Description			
	122,444	92				
	122,444	,	100.00% P	ervious Are	a	
Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment A5ULS: 5 Upper Left Subcat

Runoff = 22.25 cfs @ 12.09 hrs, Volume=

1.767 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	108,278	92		
	108,278		100.00% Pervious Area	

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment A5URS: 5 Upper Right Subcat

Runoff = 24.28 cfs @ 12.09 hrs, Volume= 1.928 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	118,162	92				
	118,162		100.00% P	ervious Are	a	
Т			•	Capacity	Description	
(min	) (feet)	(ft/ft	) (ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment B7LLS: 7 Lower Left Subcat**

Runoff = 17.21 cfs @ 12.09 hrs, Volume= 1.367 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	83,779	92				
	83,779		100.00% P	ervious Are	a	
Т	c Length	Slope	e Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft	) (ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow,	
					n= 0 150 P2= 3 75"	

# Summary for Subcatchment B7LRS: 7 Lower Right Subcat

Runoff = 16.78 cfs @ 12.09 hrs, Volume= 1.332 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	81,647	92		
	81,647		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)		Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment B7ULS: 7 Upper Left Subcat

Runoff

19.34 cfs @ 12.09 hrs, Volume=

1.536 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	Description			
*		94,137	92				
ī		94,137		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment B7URS: 7 Upper Right Subcat

Runoff

19.14 cfs @ 12.09 hrs, Volume=

1.520 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

Area (sf)	CN	Description			
93,145	92				
93,145 100.00% Pervious Area					
c Length	Slope	e Velocity	Capacity	Description	
n) (feet)	(ft/ft	(ft/sec)	(cfs)		
5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	
r	93,145 93,145 Fc Length n) (feet)	93,145 92 93,145 Fc Length Slope n) (feet) (ft/ft	93,145 92 93,145 100.00% Portion (feet) (ft/ft) (ft/sec)	93,145 92 93,145 100.00% Pervious Are  To Length Slope Velocity Capacity n) (feet) (ft/ft) (ft/sec) (cfs)	93,145 92 93,145 100.00% Pervious Area  To Length Slope Velocity Capacity Description n) (feet) (ft/ft) (ft/sec) (cfs)  .5 232 0.2500 0.60 Sheet Flow,

# Summary for Subcatchment C5LLS: 5 Lower Left Subcat

Runoff

15.35 cfs @ 12.09 hrs, Volume=

1.219 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	74,693	92		
	74,693		100.00% Pervious Area	_

_			
Pesca	dita	Peri	meter

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment C5LRS: 5 Lower Right Subcat

Runoff = 15.25 cfs @ 12.09 hrs, Volume=

1.211 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN I	Description			
*	74,225	92				
	74,225	•	100.00% P	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment C5MLS: 5 Middle Left Subcat

Runoff = 23.23 cfs @ 12.09 hrs, Volume=

1.845 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN I	Description			
*	113,067	92				
	113,067	•	100.00% P	ervious Are	ea	
T	Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment C5MRS: 5 Middle Right Subcat

Runoff = 22.45 cfs @ 12.09 hrs, Volume= 1.783 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	109,253	92		
	109,253		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment C5ULS: 5 Upper Left Subcat

Runoff

22.92 cfs @ 12.09 hrs, Volume=

1.821 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN I	Description			
*	1	11,570	92				
	1	11,570	•	100.00% P	ervious Are	a	
	Tc	Length	Slope	,	Capacity	Description	
-	(min) 6.5	(feet) 232	(ft/ft) 0.2500		(cfs)	Sheet Flow,	
	0.5	232	0.2300	0.00		n= 0.150 P2= 3.75"	

### Summary for Subcatchment C5URS: 5 Upper Right Subcat

Runoff

21.51 cfs @ 12.09 hrs, Volume=

1.709 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN I	Description			
*	1	04,706	92				
	1	04,706		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
(r	min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment D7LLS: 7 Lower Left Subcat**

Runoff

17.18 cfs @ 12.09 hrs, Volume=

1.365 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	83,617	92		
	83,617		100.00% Pervious Area	

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment D7LRS: 7 Lower Right Subcat

Runoff = 16.99 cfs @ 12.09 hrs, Volume=

1.350 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	82,704	92				
	82,704		100.00% P	ervious Are	а	
Т	c Length	Slope	Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment D7ULS: 7 Upper Left Subcat

Runoff = 18.66 cfs @ 12.09 hrs, Volume=

1.482 af, Depth≈ 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Area (sf)	CN	Description			
*	90,839	92				
	90,839		100.00% P	ervious Are	a	
Т	c Length	Slope	e Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

# Summary for Subcatchment D7URS: 7 Upper Right Subcat

Runoff = 18.19 cfs @ 12.09 hrs, Volume= 1.445 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	88,514	92		
	88,514		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)		Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment E5LLS: 5 Lower Left Subcat**

Runoff =

18.89 cfs @ 12.09 hrs, Volume=

1.500 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	Description			
*		91,942	92				
	91,942		12 100.00% Pe		rvious Area		
	Тс	Length	Slope	Velocity	Capacity	Description	
_(	min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment E5LRS: 5 Lower Right Subcat

Runoff

18.89 cfs @ 12.09 hrs, Volume=

1.500 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	91,941	92				
	91,941		100.00% P	ervious Are	а	
-	Γc Length	Slop	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/f	t) (ft/sec)	(cfs)		
6	.5 232	0.250	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment E5MLS: 5 Middle Left Subcat

Runoff = 25.58 cfs @ 12.09 hrs, Volume=

2.032 af, Depth= 8.53"

_	Area (sf)	CN	Description	
*	124,489	92		
	124,489		100.00% Pervious Area	

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment E5MRS: 5 Middle Right Subcat

Runoff = 25.58 cfs @ 12.09 hrs, Volume= 2.032 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN [	Description					
*	1	24,482	92						
	124,482		•	100.00% Pervious Area					
	Тс	Length	Slope	Velocity	Capacity	Description			
(n	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"			

#### **Summary for Subcatchment E5ULS: 5 Upper Left Subcat**

Runoff = 24.07 cfs @ 12.09 hrs, Volume= 1.912 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN [	Description				
*	1	17,133	92					
	117,133		100.00% Pervious Area					
	Тс	Length	Slope	Velocity	Capacity	Description		
(m	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"		

# Summary for Subcatchment E5URS: 5 Upper Right Subcat

Runoff = 24.48 cfs @ 12.09 hrs, Volume= 1.945 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	119,156	92		
	119,156		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment F7LLS: 7 Lower Left Subcat**

Runoff

18.74 cfs @ 12.09 hrs, Volume=

1.488 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	Description			
*		91,194	92				
		91,194		100.00% P	ervious Are	a	
,	Tc	Length	Slope	•	Capacity	Description	
_	min)	(feet)	(ft/ft		(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment F7LRS: 7 Lower Right Subcat

Runoff

18.70 cfs @ 12.09 hrs, Volume=

1.485 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

-	A	rea (sf)	CN I	Description			
*		91,012	92				
		91,012	•	100.00% Pervious Area			
		Length		Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment F7ULS: 7 Upper Left Subcat

Runoff

20.92 cfs @ 12.09 hrs, Volume=

1.662 af, Depth= 8.53"

_	Area (sf)	CN	Description	
*	101,812	92		
	101,812		100.00% Pervious Area	

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment F7URS: 7 Upper Right Subcat**

Runoff = 20.58 cfs @ 12.09 hrs, Volume= 1.635 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	100,155	92				
	100,155		100.00% P	ervious Are	a	
1	c Length	Slope	Velocity	Capacity	Description	
(mii	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6	5 232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

### **Summary for Subcatchment G5LLS: 5 Lower Left Subcat**

Runoff = 19.16 cfs @ 12.09 hrs, Volume= 1.522 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN	Description			
*		93,236	92				
		93,236		100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·	
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment G5LRS: 5 Lower Right Subcat

Runoff = 19.15 cfs @ 12.09 hrs, Volume= 1.521 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	93,186	92		
	93,186		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Tc	Length	Slope	Velocity	Capacity	Description	
4	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

### Summary for Subcatchment G5MLS: 5 Middle Left Subcat

Runoff

25.34 cfs @ 12.09 hrs, Volume=

2.013 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	123,329	92				
	123,329		100.00% P	ervious Are	а	
1	c Length	Slope	e Velocity	Capacity	Description	
(mii	) (feet)	(ft/ft	(ft/sec)	(cfs)		
6	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment G5MRS: 5 Middle Right Subcat**

Runoff

25.20 cfs @ 12.09 hrs, Volume=

2.002 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	122,673	92				
	122,673		100.00% P	ervious Are	а	
-	Γc Length	Slope	Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6	.5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment G5ULS: 5 Upper Left Subcat

Runoff

24.78 cfs @ 12.09 hrs, Volume=

1.969 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	120,624	92		
	120,624		100.00% Pervious Area	

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Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	

### **Summary for Subcatchment G5URS: 5 Upper Right Subcat**

Runoff = 24.27 cfs @ 12.09 hrs, Volume=

1.928 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN [	Description			
*	1	18,133	92				
	1	18,133	1	00.00% Pe	ervious Are	ea	
		Length	Slope	•	Capacity	Description	
(r	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0 150 P2= 3 75"	

### Summary for Subcatchment H7LLS: 7 Lower Left Subcat

Runoff = 17.79 cfs @ 12.09 hrs, Volume=

1.413 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN	<u>Description</u>			
*		86,611	92				
		86,611		100.00% P	ervious Are	a	
	Tc	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment H7LRS: 7 Lower Right Subcat

Runoff = 17.84 cfs @ 12.09 hrs, Volume=

1.417 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	86,831	92		
	86,831		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment H7ULS: 7 Upper Left Subcat

Runoff = 18.8

18.88 cfs @ 12.09 hrs, Volume=

1.499 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	91,880	92				
	91,880		100.00% P	ervious Are	a	
7	c Length	Slope	Velocity	Capacity	Description	
(mii	n) (feet)	(ft/ft)	(ft/sec)	(cfs)	·	
6	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment H7URS: 7 Upper Right Subcat

Runoff

19.52 cfs @ 12.09 hrs, Volume=

1.550 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	94,995	92				
	94,995		100.00% P	ervious Are	а	
-	c Length	Slope	Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft)	(ft/sec)	(cfs)	•	
6	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment I5LLS: 5 Lower Left Subcat**

Runoff = 15.40 cfs @ 12.09 hrs, Volume=

1.223 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	74,969	92		
	74,969		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60	8 7	Sheet Flow, n= 0.150 P2= 3.75"	

#### Summary for Subcatchment I5LRS: 5 Lower Right Subcat

Runoff = 15.51 cfs @ 12.09 hrs, Volume=

1.232 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Α	rea (sf)	CN I	Description			
*		75,490	92				
		75,490		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment I5MLS: 5 Middle Left Subcat**

Runoff = 22.84 cfs @ 12.09 hrs, Volume=

1.814 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

/	Area (sf)	CN I	Description			
•	111,152	92				
	111,152		100.00% P	ervious Are	a	
Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment I5MRS: 5 Middle Right Subcat

Runoff = 23.71 cfs @ 12.09 hrs, Volume= 1.883 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	115,402	92		
	115,402		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment I5ULS: 5 Upper Left Subcat

Runoff

21.70 cfs @ 12.09 hrs, Volume=

1.723 af. Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN I	Description			
*	1	05,593	92				
	1	05,593	•	100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	•	
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment I5URS: 5 Upper Right Subcat**

Runoff

23.27 cfs @ 12.09 hrs, Volume=

1.848 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Ar	rea (sf)	CN [	Description			
*	1	13,254	92				
	1	13,254	1	100.00% Pe	ervious Are	эа	
-	Тс	Length	Slope	Velocity	Capacity	Description	
_(mi	n)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6	.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment J7LLS: 7 Lower Left Subcat

Runoff

14.98 cfs @ 12.09 hrs, Volume=

1.190 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	72,907	92		
	72,907		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·	
-	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

#### Summary for Subcatchment J7LRS: 7 Lower Right Subcat

Runoff = 14.99 cfs @ 12.09 hrs, Volume=

1.191 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN [	Description			
*		72,963	92				
		72,963	1	00.00% Pe	ervious Are	а	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

### Summary for Subcatchment J7ULS: 7 Upper Left Subcat

Runoff = 16.55 cfs @ 12.09 hrs, Volume=

1.315 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

0	Α	rea (sf)	CN	Description			
*		80,571	92				
3		80,571		100.00% Pe	ervious Are	а	
	Тс	Length	Slope			Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

# Summary for Subcatchment J7URS: 7 Upper Right Subcat

Runoff = 16.81 cfs @ 12.09 hrs, Volume=

1.335 af, Depth= 8.53"

_	Area (sf)	CN	Description	_	
*	81,800	92			
-	81,800		100.00% Pervious Area		

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment K5LLS: 5 Lower Left Subcat

Runoff

14.89 cfs @ 12.09 hrs, Volume=

1.183 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description				
*	72,472	92					
	72,472		100.00% Pervious Area				
-	C Length	Slope	e Velocity	Capacity	Description		
(mi	n) (feet)	(ft/ft	(ft/sec)	(cfs)	•		
6	.5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"		

### Summary for Subcatchment K5LRS: 5 Lower Right Subcat

Runoff

14.94 cfs @ 12.09 hrs, Volume=

1.186 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	A	rea (sf)	CN	Description					
*		72,691	92						
	72,691 10			100.00% P	100.00% Pervious Area				
	Тс	Length	Slope	e Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)				
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"			

# Summary for Subcatchment K5MLS: 5 Middle Left Subcat

Runoff

23.24 cfs @ 12.09 hrs, Volume=

1.846 af, Depth= 8.53"

_	Area (sf)	CN	Description	
*	113,132	92		
	113,132		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Тс	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.5	232	0.2500	0.60		Sheet Flow,

n= 0.150 P2= 3.75"

#### Summary for Subcatchment K5MRS: 5 Middle Right Subcat

Runoff = 22.27 cfs @ 12.09 hrs, Volume=

1.769 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN	<b>Description</b>			
*	1	08,397	92				
	1	08,397		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
(n	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment K5ULS: 5 Upper Left Subcat

Runoff = 23.32 cfs @ 12.09 hrs, Volume=

1.852 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	113,507	92				
	113,507		100.00% Pe	ervious Are	a	
T	Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)	•	
6.	232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

# **Summary for Subcatchment K5URS: 5 Upper Right Subcat**

Runoff = 22.01 cfs @ 12.09 hrs, Volume= 1.748 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	107,103	92		
	107,103		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment L7LLS: 7 Lower Left Subcat

Runoff = 22.12 cfs @ 12.09 hrs, Volume=

1.757 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Ar	ea (sf)	CN	Description			
*	10	07,663	92				
	10	07,663		100.00% P	ervious Are	а	
٦	Гс	Length	Slope	Velocity	Capacity	Description	
(mi	n)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6	.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment L7LRS: 7 Lower Right Subcat

Runoff = 21.85 cfs @ 12.09 hrs, Volume=

1.736 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	106,367	92				
	106,367		100.00% P	ervious Are	a	
	c Length		Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment L7ULS: 7 Upper Left Subcat

Runoff = 25.00 cfs @ 12.09 hrs, Volume= 1.986 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	121,664	92		
	121,664		100.00% Pervious Area	

Pescadito P	erimeter
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Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Тс	Length	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
-	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

### Summary for Subcatchment L7URS: 7 Upper Right Subcat

Runoff = 23.86 cfs @ 12.09 hrs, Volume=

1.895 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN I	Description			
*	116,121	92				
	116,121		100.00% Pe	ervious Are	a	
	c Length	•		Capacity	Description	
(mi	n) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6	5 232	0.2500	0.60		Sheet Flow,	-
					n= 0.150 P2= 3.75"	

### Summary for Subcatchment M5LLS: 5 Lower Left Subcat

Runoff = 19.06 cfs @ 12.09 hrs, Volume=

1.514 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Α	rea (sf)	CN I	Description				
*		92,764	92					
	92,764 100.00% Pervious Area							
		Length		•	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"		

# Summary for Subcatchment M5LRS: 5 Lower Right Subcat

Runoff = 19.06 cfs @ 12.09 hrs, Volume= 1.514 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	92,764	92		- 6
92,764			100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment M5MLS: 5 Middle Left Subcat

Runoff

25.84 cfs @ 12.09 hrs, Volume=

2.053 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN I	Description			
*	125,780	92				
	125,780	•	100.00% P	ervious Are	a	
	c Length	Slope	•	Capacity	Description	
_(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment M5MRS: 5 Middle Right Subcat**

Runoff

25.84 cfs @ 12.09 hrs, Volume=

2.053 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	A	rea (sf)	CN [	Description			
*	1	25,777	92				
	1	25,777		100.00% P	ervious Are	a	
	Тс		Slope	*	Capacity	Description	
4	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment M5ULS: 5 Upper Left Subcat

Runoff

25.30 cfs @ 12.09 hrs, Volume=

2.010 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	123,162	92		
	123,162		100.00% Pervious Area	

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
-	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

### **Summary for Subcatchment M5URS: 5 Upper Right Subcat**

Runoff = 24.88 cfs @ 12.09 hrs, Volume=

1.977 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description				
*	121,111	92					
	121,111		121,111 100.00% Pervious Area				
6	Γc Length	Slope	e Velocity	Capacity	Description		
(mi	n) (feet)	(ft/ft	(ft/sec)	(cfs)	•		
6	.5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"		

### Summary for Subcatchment N7LLS: 7 Lower Left Subcat

Runoff = 18.18 cfs @ 12.09 hrs, Volume=

1.444 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	88,465	92				
	88,465		100.00% P	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment N7LRS: 7 Lower Right Subcat

Runoff = 17.96 cfs @ 12.09 hrs, Volume= 1.427 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	87,436	92		
	87,436		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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		Length				Description	
4	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

### Summary for Subcatchment N7ULS: 7 Upper Left Subcat

Runoff =

19.87 cfs @ 12.09 hrs, Volume=

1.578 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Α	rea (sf)	CN I	Description			
*		96,720	92				
		96,720	•	100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·	
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment N7URS: 7 Upper Right Subcat**

Runoff

18.79 cfs @ 12.09 hrs, Volume=

1.493 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

2	A	rea (sf)	CN	Description			
*		91,459	92				
		91,459 100.00% Pervious A				)a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	· ·	
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment O5LLS: 5 Lower Left Subcat**

Runoff = 1

19.83 cfs @ 12.09 hrs, Volume=

1.575 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	96,506	92		
	96,506		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
-	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

#### Summary for Subcatchment O5LRS: 5 Lower Right Subcat

Runoff = 19.92 cfs @ 12.09 hrs, Volume=

1.582 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	96,933	92				
	96,933		100.00% P	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment O5MLS: 5 Middle Left Subcat

Runoff = 27.14 cfs @ 12.09 hrs, Volume= 2.156 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	132,089	92				
	132,089		100.00% P	ervious Are	а	
Т	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment O5MRS: 5 Middle Right Subcat

Runoff = 27.82 cfs @ 12.09 hrs, Volume= 2.209 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	135,387	92		
	135,387		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment O5ULS: 5 Upper Left Subcat**

Runoff =

24.96 cfs @ 12.09 hrs, Volume=

1.983 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area (sf)	CN	Description			
*	121,507	92				
	121,507		100.00% P	ervious Are	a	
Т	Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)	·	
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment O5URS: 5 Upper Right Subcat**

Runoff

26.77 cfs @ 12.09 hrs, Volume=

2.127 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN E	Description			
*	1	30,312	92				
	1	30,312	1	00.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0 150 P2= 3 75"	

# **Summary for Subcatchment P7LLS: 7 Lower Left Subcat**

Runoff = 21.84 cm

21.84 cfs @ 12.09 hrs, Volume=

1.734 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	106,276	92		
	106,276		100.00% Pervious Area	

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Tc	Length	Slope	Velocity	Capacity	Description	
 (min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		_
6.5	232	0.2500	0.60		Sheet Flow,	_
					n= 0.150 P2= 3.75"	

### **Summary for Subcatchment P7LRS: 7 Lower Right Subcat**

Runoff = 21.89 cfs @ 12.09 hrs, Volume=

1.739 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Α	rea (sf)	CN [	Description			
*	1	06,561	92				e.
	1	06,561	100.00% Pervious Area				
		Length	Slope	•	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

### Summary for Subcatchment P7ULS: 7 Upper Left Subcat

Runoff = 23.63 cfs @ 12.09 hrs, Volume=

1.877 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Α	rea (sf)	CN [	Description				
*	1	15,032	92					
	115,032 100.00% Pervious Area							
	Тс	Length	Slope	Velocity	Capacity	Description		
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"		

# Summary for Subcatchment P7URS: 7 Upper Right Subcat

Runoff = 24.69 cfs @ 12.09 hrs, Volume= 1.961 af, Depth= 8.53"

	Area (sf)	CN	Description	
*	120,174	92		
	120,174		100.00% Pervious Area	

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Тс	Length	Slope	Velocity	Capacity	Description	
-	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

### **Summary for Subcatchment SDBS: South Detention Basin Subcatchment**

Runoff

= 522.30 cfs @ 12.03 hrs, Volume=

37.539 af, Depth= 9.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

-	Α	rea (sf)	CN I	Description					
*	1,8	06,527	98						
*	3	40,655	92						
	2,1	47,182	97 ١	Veighted A	verage				
	3	40,655	•	15.87% Pervious Area					
	1,806,527		8	84.13% Impervious Area					
		Length	Slope		Capacity	Description			
-	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	2.4	60	0.2000	0.42		Sheet Flow,			
						Grass: Short	n= 0.150	P2= 3.75"	

### **Summary for Subcatchment WMS: West Middle Subcat**

Runoff

64.44 cfs @ 12.48 hrs, Volume=

9.782 af, Depth= 8.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

<u></u>	Area (sf)		CN E	escription			
*	599,417		92				
	599,417		100.00% Pervious Area			a	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
3.	34.2	300	0.0065	0.15		Sheet Flow,	
	3.6	121	0.0065	0.56		Grass: Short n= 0.150 P2= 3.75"  Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
0.	37.8	421	Total			,	

# **Summary for Reach EMC: East Middle Channel**

Inflow Area = 163.583 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 256.41 cfs @ 12.52 hrs, Volume= 116.275 af

Outflow = 255.73 cfs @ 12.58 hrs, Volume= 116.268 af, Atten= 0%, Lag= 3.4 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Max. Velocity= 3.99 fps, Min. Travel Time= 2.2 min

Avg. Velocity = 1.90 fps, Avg. Travel Time= 4.5 min

Peak Storage= 33.203 cf @ 12.54 hrs Average Depth at Peak Storage= 2.55' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.07 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 517.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.55'



#### Summary for Reach NDE01: N Ditch E 1

75.474 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event 105.98 cfs @ 12.55 hrs, Volume= 53.654 af Inflow Area =

Inflow

105.44 cfs @ 12.61 hrs, Volume= 53.654 af, Atten= 1%, Lag= 4.0 min Outflow

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.09 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 1.49 fps, Avg. Travel Time= 4.8 min

Peak Storage= 14,779 cf @ 12.57 hrs Average Depth at Peak Storage= 1.60'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 633.98 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 432.7' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.30'



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#### Summary for Reach NDE02: N Ditch E 2

Inflow Area = 78.070 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 108.63 cfs @ 12.61 hrs, Volume= 55.499 af

Outflow = 108.25 cfs @ 12.67 hrs, Volume= 55.499 af, Atten= 0%, Lag= 3.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.11 fps, Min. Travel Time= 2.3 min Avg. Velocity = 1.51 fps, Avg. Travel Time= 4.7 min

Peak Storage= 14,897 cf @ 12.63 hrs Average Depth at Peak Storage= 1.62'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.62 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 428.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



## Summary for Reach NDE03: N Ditch E 3

Inflow Area = 80.631 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 113.41 cfs @ 12.39 hrs, Volume= 57.320 af

Outflow = 113.11 cfs @ 12.45 hrs, Volume= 57.320 af, Atten= 0%, Lag= 3.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.15 fps, Min. Travel Time= 2.0 min Avg. Velocity = 1.52 fps, Avg. Travel Time= 4.1 min

Peak Storage= 13,326 cf @ 12.41 hrs Average Depth at Peak Storage= 1.66'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.75 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 370.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.11'



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#### Summary for Reach NDE04: N Ditch E 4

Inflow Area = 82.663 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow 118.14 cfs @ 12.43 hrs. Volume= 58.764 af

Outflow 117.98 cfs @ 12.47 hrs, Volume= 58.764 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.19 fps, Min. Travel Time= 1.5 min Avg. Velocity = 1.53 fps, Avg. Travel Time= 3.1 min

Peak Storage= 10,637 cf @ 12.45 hrs Average Depth at Peak Storage= 1.70'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.71 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 287.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.86'

Summary for Reach NDE05: N Ditch E 5

118,284 ac. 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event Inflow Area =

181.27 cfs @ 12.49 hrs, Volume= 84.086 af Inflow

180.68 cfs @ 12.53 hrs, Volume= 84.086 af, Atten= 0%, Lag= 2.3 min Outflow

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.61 fps, Min. Travel Time= 1.3 min Avg. Velocity = 1.71 fps, Avg. Travel Time= 2.8 min

Peak Storage= 14,333 cf @ 12.51 hrs Average Depth at Peak Storage= 2.13'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 633.59 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 286.6' Slope= 0.0030 '/' inlet Invert= 0.00', Outlet Invert= -0.86'

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#### Summary for Reach NDE06: N Ditch E 6

Inflow Area = 120.203 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 184.00 cfs @ 12.53 hrs, Volume= 85.450 af

Outflow = 183.49 cfs @ 12.56 hrs, Volume= 85.450 af, Atten= 0%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.63 fps, Min. Travel Time= 1.3 min

Avg. Velocity = 1.72 fps, Avg. Travel Time= 2.8 min

Peak Storage= 14,477 cf @ 12.54 hrs Average Depth at Peak Storage= 2.14'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.81 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 286.4' Slope= 0.0030 '/'

‡

Inlet Invert= 0.00', Outlet Invert= -0.86'



## Summary for Reach NDE07: N Ditch E 7

Inflow Area = 122.289 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 186.55 cfs @ 12.56 hrs, Volume= 86.932 af

Outflow = 186.12 cfs @ 12.60 hrs, Volume= 86.931 af, Atten= 0%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.65 fps, Min. Travel Time= 1.3 min

Avg. Velocity = 1.73 fps, Avg. Travel Time= 2.8 min

Peak Storage= 14,549 cf @ 12.57 hrs

Average Depth at Peak Storage= 2.16'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 635.03 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 285.3' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.86'



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#### Summary for Reach NDE08: N Ditch E 8

125.024 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event Inflow Area =

Inflow 189.63 cfs @ 12.59 hrs, Volume= 88.876 af

88.874 af, Atten= 0%, Lag= 2.8 min Outflow 189.11 cfs @ 12.64 hrs, Volume=

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.66 fps, Min. Travel Time= 1.7 min Avg. Velocity = 1.73 fps, Avg. Travel Time= 3.6 min

Peak Storage= 19,307 cf @ 12.61 hrs Average Depth at Peak Storage= 2.18'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.29 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value 4.0 '/' Top Width 47.00' Length= 373.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'

# Summary for Reach NDE09: N Ditch E 9

127.882 ac. 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event Inflow Area =

195.38 cfs @ 12.45 hrs, Volume= Inflow 90.905 af

194.45 cfs @ 12.51 hrs, Volume= 90.901 af, Atten= 0%, Lag= 3.5 min Outflow

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.69 fps. Min. Travel Time= 1.9 min

Avg. Velocity = 1.75 fps, Avg. Travel Time= 4.1 min

Peak Storage= 22,461 cf @ 12.47 hrs

Average Depth at Peak Storage= 2.21'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.79 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 426.3' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.28'

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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#### Summary for Reach NDE10: N Ditch E 10

Inflow Area = 129.992 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 198.53 cfs @ 12.50 hrs, Volume= 92.402 af

Outflow = 197.49 cfs @ 12.56 hrs, Volume= 92.396 af, Atten= 1%, Lag= 3.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.70 fps, Min. Travel Time= 2.1 min Avg. Velocity = 1.75 fps, Avg. Travel Time= 4.5 min

Peak Storage= 25,288 cf @ 12.53 hrs Average Depth at Peak Storage= 2.23'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.94 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 474.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.42'



## Summary for Reach NDNE01: N Ditch NE 1

Inflow Area = 43.153 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 83.47 cfs @ 12.46 hrs, Volume= 30.677 af

Outflow = 82.57 cfs @ 12.52 hrs, Volume= 30.677 af, Atten= 1%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.87 fps, Min. Travel Time= 2.0 min Avg. Velocity = 1.32 fps, Avg. Travel Time= 4.4 min

Peak Storage= 9,988 cf @ 12.48 hrs Average Depth at Peak Storage= 1.40'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.58 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 346.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.04'



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#### Summary for Reach NDNE02: N Ditch NE 2

Inflow Area = 45.314 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 86.58 cfs @ 12.51 hrs, Volume= 32.213 af

Outflow = 85.84 cfs @ 12.57 hrs, Volume= 32.213 af, Atten= 1%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.90 fps, Min. Travel Time= 2.0 min Avg. Velocity = 1.32 fps, Avg. Travel Time= 4.4 min

Peak Storage= 10,187 cf @ 12.53 hrs Average Depth at Peak Storage= 1.43' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.99 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 343.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.03'



## Summary for Reach NDNE03: N Ditch NE 3

Inflow Area = 47.717 ac. 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 89.36 cfs @ 12.56 hrs, Volume= 33.922 af

Outflow = 88.69 cfs @ 12.62 hrs, Volume= 33.922 af, Atten= 1%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.93 fps, Min. Travel Time= 2.2 min Avg. Velocity = 1.31 fps, Avg. Travel Time= 4.8 min

Peak Storage= 11,447 cf @ 12.58 hrs Average Depth at Peak Storage= 1.45'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.77 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 378.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.14'



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#### Summary for Reach NDNE04: N Ditch NE 4

Inflow Area = 50.226 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 91.71 cfs @ 12.61 hrs, Volume= 35.705 af

Outflow = 91.14 cfs @ 12.68 hrs, Volume= 35.705 af, Atten= 1%, Lag= 3.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 2.96 fps, Min. Travel Time = 2.5 min Avg. Velocity = 1.30 fps, Avg. Travel Time = 5.6 min

Peak Storage= 13,537 cf @ 12.64 hrs Average Depth at Peak Storage= 1.48'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.24 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 439.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.32'



## Summary for Reach NDNE05: N Ditch NE 5

Inflow Area = 73.759 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 103.99 cfs @ 12.49 hrs, Volume= 52.435 af

Outflow = 103.59 cfs @ 12.76 hrs, Volume= 52.435 af, Atten= 0%, Lag= 16.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.07 fps, Min. Travel Time= 2.4 min Avg. Velocity = 1.48 fps, Avg. Travel Time= 5.0 min

Peak Storage= 14,956 cf @ 12.72 hrs Average Depth at Peak Storage= 1.58'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.61 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 443.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'



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#### Summary for Reach NDNW01: N Ditch NW 1

Inflow Area = 1.874 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 16.78 cfs @ 12.09 hrs, Volume= 1.332 af

Outflow = 15.79 cfs @ 12.17 hrs, Volume= 1.332 af, Atten= 6%, Lag= 4.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.92 fps, Min. Travel Time= 3.0 min Avg. Velocity = 0.53 fps, Avg. Travel Time= 10.7 min

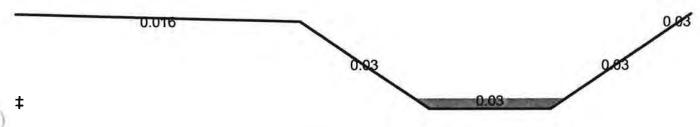
Peak Storage= 2,799 cf @ 12.12 hrs Average Depth at Peak Storage= 0.48'

Bank-Full Depth= 4.35' Flow Area= 146.8 sf, Capacity= 962.27 cfs

Custom cross-section. Length= 340.7' Slope= 0.0046 '/'

Flow calculated by Manning's Subdivision method

Inlet Invert= 0.00', Outlet Invert= -1.57'



Offset	Elevation	Chan.Depth	n	Description	
(feet)	(feet)	(feet)			
0.00	0.00	0.00			
35.00	-0.35	0.35	0.016		
51.00	-4.35	4.35	0.030		
66.00	-4.35	4.35	0.030		
82.00	-0.35	0.35	0.030		
83.40	0.00	0.00	0.030		

	Depth	End Area	Perim.	Storage	Discharge
	(feet)	(sq-ft)	(feet)	(cubic-feet)	(cfs)
7	0.00	0.0	15.0	0	0.00
	4.00	124.0	48.0	42,247	785.26
	4.35	146.8	84.4	50,022	962.27

# Summary for Reach NDNW02: N Ditch NW 2

Inflow Area = 4.013 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 31.63 cfs @ 12.12 hrs, Volume= 2.853 af

Outflow = 30.82 cfs @ 12.19 hrs, Volume= 2.853 af, Atten= 3%, Lag= 3.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.42 fps, Min. Travel Time= 2.4 min Avg. Velocity = 0.65 fps, Avg. Travel Time= 8.8 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 4,361 cf @ 12.15 hrs Average Depth at Peak Storage= 0.71'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 785.70 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 342.4' Slope= 0.0046 '/' Inlet Invert= 0.00', Outlet Invert= -1.58'



## Summary for Reach NDNW03: N Ditch NW 3

Inflow Area = 6.498 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 47.02 cfs @ 12.14 hrs, Volume= 4.620 af

Outflow = 46.15 cfs @ 12.21 hrs, Volume= 4.620 af, Atten= 2%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.76 fps, Min. Travel Time= 2.4 min Avg. Velocity = 0.75 fps, Avg. Travel Time= 8.7 min

Peak Storage= 6,537 cf @ 12.17 hrs Average Depth at Peak Storage= 0.90'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 784.47 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 391.3' Slope= 0.0046 '/' Inlet Invert= 0.00', Outlet Invert= -1.80'



## Summary for Reach NDNW04: N Ditch NW 4

Inflow Area = 9.176 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 61.41 cfs @ 12.16 hrs, Volume= 6.523 af

Outflow = 60.46 cfs @ 12.24 hrs, Volume= 6.523 af, Atten= 2%, Lag= 4.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.01 fps, Min. Travel Time= 2.6 min

Avg. Velocity = 0.83 fps, Avg. Travel Time= 9.4 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 9,349 cf @ 12.20 hrs Average Depth at Peak Storage= 1.05'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 784.06 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 465.7' Slope= 0.0046 '/' Inlet Invert= 0.00', Outlet Invert= -2.14'



#### Summary for Reach NDNW05: N Ditch NW 5

Inflow Area = 33.726 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 78.64 cfs @ 12.22 hrs, Volume= 23.975 af

Outflow = 77.99 cfs @ 12.29 hrs, Volume= 23.975 af, Atten= 1%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.26 fps, Min. Travel Time= 2.4 min Avg. Velocity = 1.34 fps, Avg. Travel Time= 5.9 min

Peak Storage= 11,321 cf @ 12.25 hrs Average Depth at Peak Storage= 1.21'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 784.48 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 473.9' Slope= 0.0046 '/' Inlet Invert= 0.00', Outlet Invert= -2.18'



## Summary for Reach NDSE01: N Ditch SE 1

Inflow Area = 2.089 ac. 0.00% Impervious. Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 18.70 cfs @ 12.09 hrs, Volume= 1.485 af

Outflow = 17.55 cfs @ 12.17 hrs, Volume= 1.485 af, Atten= 6%, Lag= 4.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 1.74 fps, Min. Travel Time = 3.0 min Avg. Velocity = 0.46 fps, Avg. Travel Time = 11.5 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 3,200 cf @ 12.12 hrs Average Depth at Peak Storage= 0.58'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.88 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 316.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.95'



#### Summary for Reach NDSE02: N Ditch SE 2

Inflow Area = 4.389 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 34.33 cfs @ 12.13 hrs, Volume= 3.120 af

Outflow = 33.41 cfs @ 12.19 hrs, Volume= 3.120 af, Atten= 3%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.15 fps, Min. Travel Time= 2.4 min Avg. Velocity = 0.57 fps, Avg. Travel Time= 9.2 min

Peak Storage= 4,902 cf @ 12.15 hrs Average Depth at Peak Storage= 0.84'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.18 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 316.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.95'



## Summary for Reach NDSE03: N Ditch SE 3

Inflow Area = 7.078 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 50.55 cfs @ 12.14 hrs, Volume= 5.031 af

Outflow = 49.54 cfs @ 12.22 hrs, Volume= 5.031 af, Atten= 2%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.44 fps, Min. Travel Time= 2.5 min

Avg. Velocity = 0.66 fps, Avg. Travel Time= 9.3 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 7,449 cf @ 12.17 hrs Average Depth at Peak Storage= 1.06'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.97 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 367.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.10'



#### Summary for Reach NDSE04: N Ditch SE 4

Inflow Area = 9.935 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 65.24 cfs @ 12.17 hrs, Volume= 7.063 af

Outflow = 64.25 cfs @ 12.25 hrs, Volume= 7.063 af, Atten= 2%, Lag= 4.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.65 fps, Min. Travel Time= 2.7 min Avg. Velocity = 0.72 fps, Avg. Travel Time= 9.8 min

Peak Storage= 10,324 cf @ 12.20 hrs Average Depth at Peak Storage= 1.22

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.79 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 426.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.28'



# Summary for Reach NDSE05: N Ditch SE 5

Inflow Area = 12.046 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 73.75 cfs @ 12.23 hrs, Volume= 8.564 af

Outflow = 72.88 cfs @ 12.31 hrs, Volume= 8.564 af, Atten= 1%, Lag= 5.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 2.76 fps, Min. Travel Time = 2.9 min Avg. Velocity = 0.76 fps, Avg. Travel Time = 10.5 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 12,538 cf @ 12.26 hrs Average Depth at Peak Storage= 1.31'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.94 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 474.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.42'



#### Summary for Reach NDSW01: N Ditch SW 1

Inflow Area = 40.393 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 76.60 cfs @ 12.47 hrs, Volume= 28.715 af

Outflow = 75.97 cfs @ 12.52 hrs, Volume= 28.715 af, Atten= 1%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.14 fps, Min. Travel Time= 1.7 min Avg. Velocity = 1.48 fps, Avg. Travel Time= 3.6 min

Peak Storage= 7,648 cf @ 12.49 hrs Average Depth at Peak Storage= 1.22'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 750.26 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 316.1' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'



## Summary for Reach NDSW02: N Ditch SW 2

Inflow Area = 42.731 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 80.24 cfs @ 12.51 hrs, Volume= 30.377 af

Outflow = 79.68 cfs @ 12.56 hrs, Volume= 30.377 af, Atten= 1%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.18 fps, Min. Travel Time= 1.7 min

Avg. Velocity = 1.48 fps. Avg. Travel Time= 3.6 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 7,991 cf @ 12.53 hrs Average Depth at Peak Storage= 1.25'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 749.29 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 319.3' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.34'



#### Summary for Reach NDSW03: N Ditch SW 3

Inflow Area = 45.443 ac. 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 85.51 cfs @ 12.34 hrs, Volume= 32.305 af

Outflow = 84.99 cfs @ 12.40 hrs, Volume= 32.305 af, Atten= 1%, Lag= 3.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.25 fps, Min. Travel Time= 1.9 min Avg. Velocity = 1.48 fps, Avg. Travel Time= 4.1 min

Peak Storage= 9,554 cf @ 12.36 hrs Average Depth at Peak Storage= 1.30' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 748.85 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 365.0' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.53'



## Summary for Reach NDSW04: N Ditch SW 4

Inflow Area = 48.259 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 93.11 cfs @ 12.38 hrs, Volume= 34.307 af

Outflow = 92.52 cfs @ 12.44 hrs, Volume= 34.307 af, Atten= 1%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.33 fps, Min. Travel Time= 2.1 min Avg. Velocity = 1.48 fps, Avg. Travel Time= 4.6 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 11,403 cf @ 12.41 hrs Average Depth at Peak Storage= 1.36'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 748.60 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 410.6' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.72'



#### Summary for Reach NDSW05: N Ditch SW 5

Inflow Area = 50.398 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 97.84 cfs @ 12.43 hrs, Volume= 35.827 af

Outflow = 97.25 cfs @ 12.49 hrs, Volume= 35.827 af, Atten= 1%, Lag= 3.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.39 fps, Min. Travel Time= 2.3 min Avg. Velocity = 1.47 fps, Avg. Travel Time= 5.3 min

Peak Storage= 13,431 cf @ 12.46 hrs Average Depth at Peak Storage= 1.39'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 750.43 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 468.0' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.97'



## Summary for Reach NDW01: N Ditch W 1

Inflow Area = 35.584 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 85.17 cfs @ 12.28 hrs, Volume= 25.297 af

Outflow = 84.46 cfs @ 12.35 hrs, Volume= 25.296 af, Atten= 1%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.89 fps, Min. Travel Time= 2.7 min

Avg. Velocity = 1.18 fps, Avg. Travel Time= 6.5 min

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Peak Storage= 13,480 cf @ 12.31 hrs Average Depth at Peak Storage= 1.42'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.24 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 460.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.38'



#### Summary for Reach NDW02: N Ditch W 2

Inflow Area = 38.395 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 93.66 cfs @ 12.34 hrs, Volume= 27.295 af

Outflow = 93.11 cfs @ 12.41 hrs, Volume= 27.294 af, Atten= 1%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.97 fps, Min. Travel Time= 2.5 min Avg. Velocity = 1.21 fps, Avg. Travel Time= 6.3 min

Peak Storage= 14,161 cf @ 12.36 hrs Average Depth at Peak Storage= 1.49'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.17 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 452.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.36'



## Summary for Reach NDW03: N Ditch W 3

Inflow Area = 41.108 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 100.75 cfs @ 12.39 hrs, Volume= 29.223 af

Outflow = 100.54 cfs @ 12.43 hrs, Volume= 29.222 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.04 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 1.23 fps, Avg. Travel Time= 3.9 min

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Peak Storage= 9,586 cf @ 12.41 hrs
Average Depth at Peak Storage= 1.56'
Pank Full Depth= 4.00' Flow Area= 124.0

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.52 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 290.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.87'



#### Summary for Reach NDW04: N Ditch W 4

Inflow Area = 43.217 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 106.00 cfs @ 12.42 hrs, Volume= 30.722 af

Outflow = 105.84 cfs @ 12.46 hrs, Volume= 30.721 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.09 fps, Min. Travel Time= 1.6 min Avg. Velocity = 1.24 fps, Avg. Travel Time= 3.9 min

Peak Storage= 9,937 cf @ 12.43 hrs Average Depth at Peak Storage= 1.60'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.52 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 290.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.87'



## Summary for Reach NDW05: N Ditch W 5

Inflow Area = 79.292 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 170.05 cfs @ 12.49 hrs, Volume= 56.366 af

Outflow = 169.42 cfs @ 12.52 hrs, Volume= 56.364 af, Atten= 0%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.55 fps, Min. Travel Time= 1.4 min Avg. Velocity = 1.51 fps, Avg. Travel Time= 3.2 min

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Peak Storage= 13,915 cf @ 12.50 hrs Average Depth at Peak Storage= 2.05' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 635.18 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 291.8' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.88'



## Summary for Reach NDW06: N Ditch W 6

Inflow Area = 81.285 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 172.95 cfs @ 12.52 hrs, Volume= 57.781 af

Outflow = 172.41 cfs @ 12.56 hrs, Volume= 57.779 af, Atten= 0%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.57 fps, Min. Travel Time= 1.3 min

Avg. Velocity = 1.52 fps, Avg. Travel Time= 3.2 min

Peak Storage= 13,936 cf @ 12.54 hrs Average Depth at Peak Storage= 2.07'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 635.05 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 288.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.87'



## Summary for Reach NDW07: N Ditch W 7

Inflow Area = 83.466 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 175.68 cfs @ 12.55 hrs, Volume= 59.329 af

Outflow = 175.22 cfs @ 12.59 hrs, Volume= 59.327 af, Atten= 0%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.58 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 1.53 fps, Avg. Travel Time= 3.2 min

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Peak Storage= 14,197 cf @ 12.57 hrs Average Depth at Peak Storage= 2.09'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.41 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 290.1' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.87'



#### Summary for Reach NDW08: N Ditch W 8

Inflow Area = 86.235 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 178.83 cfs @ 12.59 hrs, Volume= 61.295 af

Outflow = 178.32 cfs @ 12.63 hrs, Volume= 61.291 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.60 fps, Min. Travel Time= 1.7 min Avg. Velocity = 1.54 fps, Avg. Travel Time= 4.0 min

Peak Storage= 18,230 cf @ 12.61 hrs Average Depth at Peak Storage= 2.11'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.71 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 367.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.10'



## Summary for Reach NDW09: N Ditch W 9

Inflow Area = 89.066 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 184.45 cfs @ 12.45 hrs, Volume= 63.304 af

Outflow = 183.73 cfs @ 12.51 hrs, Volume= 63.298 af, Atten= 0%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.64 fps, Min. Travel Time= 1.9 min

Avg. Velocity = 1.56 fps, Avg. Travel Time= 4.4 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 20,648 cf @ 12.48 hrs
Average Depth at Peak Storage= 2.14'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.68 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 408.5' Slope= 0.0030 '/' Inlet Invert= 0.00'. Outlet Invert= -1.23'



#### Summary for Reach NDW10: N Ditch W 10

Inflow Area = 91.207 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 187.85 cfs @ 12.50 hrs, Volume= 64.819 af

Outflow = 187.00 cfs @ 12.56 hrs, Volume= 64.812 af, Atten= 0%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.65 fps, Min. Travel Time= 2.1 min Avg. Velocity = 1.57 fps, Avg. Travel Time= 5.0 min

Peak Storage= 23,845 cf @ 12.53 hrs Average Depth at Peak Storage= 2.16'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.24 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 465.6' Slope= 0.0030 '/' Inlet Invert= 0.00'. Outlet Invert= -1.40'



## **Summary for Reach NUEOC: North Unit East Outlet Culvert**

Inflow Area = 163.583 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 256.44 cfs @ 12.52 hrs, Volume= 116.276 af

Outflow = 256.41 cfs @ 12.52 hrs, Volume= 116.275 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.97 fps, Min. Travel Time= 0.1 min Avg. Velocity = 3.81 fps, Avg. Travel Time= 0.3 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 2,002 cf @ 12.52 hrs Average Depth at Peak Storage= 1.91'

Bank-Full Depth= 2.50' Flow Area= 37.5 sf, Capacity= 266.32 cfs

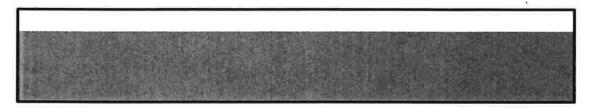
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180.0" W x 30.0" H Box Pipe

n = 0.012

Length= 70.0' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.21'



## Summary for Reach NUWOC: North Unit West Outlet Culvert

Inflow Area =

162.732 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

115.659 af

Inflow Outflow 292.42 cfs @ 12.54 hrs, Volume=

292.38 cfs @ 12.54 hrs, Volume=

115.659 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 9.38 fps, Min. Travel Time= 0.1 min Avg. Velocity = 3.79 fps, Avg. Travel Time= 0.3 min

Peak Storage= 2,182 cf @ 12.54 hrs Average Depth at Peak Storage= 2.08'

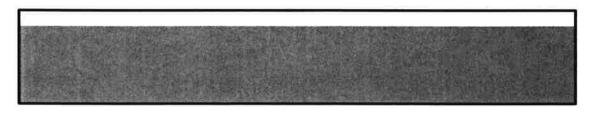
Bank-Full Depth= 2.50' Flow Area= 37.5 sf, Capacity= 266.32 cfs

180.0" W x 30.0" H Box Pipe

n = 0.012

Length= 70.0' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.21'



## Summary for Reach SBEIC: South Basin East Inlet Culverts

Inflow Area =

320.503 ac, 0.00% Impervious, Inflow Depth > 8.50" for 100-Year, 24-Hour event

Inflow

495.56 cfs @ 12.75 hrs, Volume=

227.125 af

495.53 cfs @ 12.76 hrs, Volume= Outflow

227.123 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 20.91 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 8.92 fps, Avg. Travel Time= 0.2 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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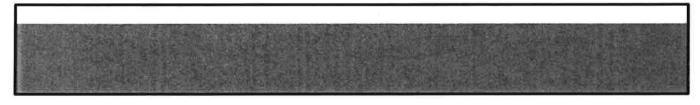
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Peak Storage= 2,417 cf @ 12.76 hrs Average Depth at Peak Storage= 1.58'

Bank-Full Depth= 2.00' Flow Area= 30.0 sf, Capacity= 483.32 cfs

180.0" W x 24.0" H Box Pipe n= 0.012 Length= 102.0' Slope= 0.0200 '/' Inlet Invert= 0.00', Outlet Invert= -2.04'



#### **Summary for Reach SBWIC: South Basin West Inlet Culverts**

Inflow Area = 388.088 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 593.38 cfs @ 12.78 hrs, Volume= 275.715 af

Outflow = 593.35 cfs @ 12.79 hrs, Volume= 275.714 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 22.28 fps, Min. Travel Time= 0.1 min Avg. Velocity = 9.51 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1,811 cf @ 12.78 hrs Average Depth at Peak Storage= 1.78' Bank-Full Depth= 2.00' Flow Area= 30.0 sf, Capacity= 483.32 cfs

180.0" W x 24.0" H Box Pipe n= 0.012 Length= 68.0' Slope= 0.0200 '/' Inlet Invert= 0.00', Outlet Invert= -1.36'



## Summary for Reach SDE01: S Ditch E 1

Inflow Area = 219.049 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 357.24 cfs @ 12.61 hrs, Volume= 155.698 af

Outflow = 356.85 cfs @ 12.65 hrs, Volume= 155.692 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.38 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 2.08 fps, Avg. Travel Time= 3.4 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 34,919 cf @ 12.62 hrs Average Depth at Peak Storage= 3.01'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.62 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 428.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



## Summary for Reach SDE02: S Ditch E 2

Inflow Area = 221.646 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 361.27 cfs @ 12.43 hrs, Volume= 157.538 af

Outflow = 360.57 cfs @ 12.48 hrs, Volume= 157.531 af, Atten= 0%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.39 fps, Min. Travel Time= 1.7 min Avg. Velocity = 2.09 fps, Avg. Travel Time= 3.5 min

Peak Storage= 36,049 cf @ 12.46 hrs Average Depth at Peak Storage= 3.03'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.31 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 438.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.32'



## Summary for Reach SDE03: S Ditch E 3

Inflow Area = 224.252 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 366.12 cfs @ 12.48 hrs, Volume= 159.384 af

Outflow = 365.56 cfs @ 12.52 hrs, Volume= 159.378 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.40 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 2.09 fps, Avg. Travel Time= 3.1 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 31,827 cf @ 12.50 hrs Average Depth at Peak Storage= 3.05' Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 633.54 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 383.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.15'

‡

## Summary for Reach SDE04: S Ditch E 4

Inflow Area = 226.917 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 370.43 cfs @ 12.51 hrs, Volume= 161.273 af

Outflow = 369.84 cfs @ 12.56 hrs, Volume= 161.266 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.42 fps, Min. Travel Time= 1.5 min Avg. Velocity = 2.10 fps, Avg. Travel Time= 3.1 min

Peak Storage= 32,327 cf @ 12.53 hrs

Average Depth at Peak Storage= 3.07'
Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.90 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 386.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.16'



## Summary for Reach SDE05: S Ditch E 5

Inflow Area = 277.567 ac. 0.00% Impervious, Inflow Depth > 8.50" for 100-Year, 24-Hour event

Inflow = 457.90 cfs @ 12.51 hrs, Volume= 196.713 af

Outflow = 457.04 cfs @ 12.55 hrs, Volume= 196.697 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.67 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 2.27 fps, Avg. Travel Time= 2.9 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 37,908 cf @ 12.53 hrs Average Depth at Peak Storage= 3.41'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.67 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 387.7' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.16'



## Summary for Reach SDE06: S Ditch E 6

Inflow Area = 280.038 ac, 0.00% Impervious, Inflow Depth > 8.50" for 100-Year, 24-Hour event

Inflow = 460.89 cfs @ 12.55 hrs, Volume= 198.454 af

Outflow = 460.05 cfs @ 12.59 hrs, Volume= 198.437 af, Atten= 0%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.69 fps, Min. Travel Time= 1.4 min Avg. Velocity = 2.27 fps, Avg. Travel Time= 2.8 min

Peak Storage= 37,781 cf @ 12.57 hrs Average Depth at Peak Storage= 3.42'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.56 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 385.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.16'



## Summary for Reach SDE07: S Ditch E 7

Inflow Area = 282.832 ac, 0.00% Impervious, Inflow Depth > 8.50" for 100-Year, 24-Hour event

Inflow = 463.73 cfs @ 12.59 hrs, Volume= 200.422 af

Outflow = 462.92 cfs @ 12.63 hrs, Volume= 200.405 af, Atten= 0%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.70 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 2.28 fps, Avg. Travel Time= 2.8 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 38,061 cf @ 12.60 hrs Average Depth at Peak Storage= 3.43'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.90 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 386.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.16'

#

## Summary for Reach SDE08: S Ditch E 8

Inflow Area = 285.612 ac, 0.00% Impervious, Inflow Depth > 8.50" for 100-Year, 24-Hour event

Inflow = 466.20 cfs @ 12.62 hrs, Volume= 202.382 af

Outflow = 465.45 cfs @ 12.66 hrs, Volume= 202.364 af, Atten= 0%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 4.71 fps, Min. Travel Time = 1.3 min Avg. Velocity = 2.28 fps, Avg. Travel Time = 2.8 min

Peak Storage= 37,480 cf @ 12.64 hrs Average Depth at Peak Storage= 3.44'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.35 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 379.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.14'



## Summary for Reach SDE09: S Ditch E 9

Inflow Area = 288.499 ac, 0.00% Impervious, Inflow Depth > 8.50" for 100-Year, 24-Hour event

Inflow = 468.63 cfs @ 12.66 hrs, Volume= 204.417 af

Outflow = 467.68 cfs @ 12.71 hrs, Volume= 204.397 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.71 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 2.29 fps, Avg. Travel Time= 3.1 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 42,768 cf @ 12.68 hrs Average Depth at Peak Storage= 3.45'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.22 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 430.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



#### Summary for Reach SDE10: S Ditch E 10

Inflow Area = 290.629 ac, 0.00% Impervious, Inflow Depth > 8.50" for 100-Year, 24-Hour event

Inflow = 469.90 cfs @ 12.71 hrs, Volume= 205.911 af

Outflow = 468.81 cfs @ 12.76 hrs, Volume= 205.888 af, Atten= 0%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.71 fps, Min. Travel Time= 1.7 min Avg. Velocity = 2.29 fps, Avg. Travel Time= 3.5 min

Peak Storage= 47,652 cf @ 12.73 hrs Average Depth at Peak Storage= 3.46'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.43 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 478.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



## Summary for Reach SDNE01: S Ditch NE 1

Inflow Area = 22.865 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 92.38 cfs @ 12.61 hrs, Volume= 16.254 af

Outflow = 92.30 cfs @ 12.64 hrs, Volume= 16.254 af, Atten= 0%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.96 fps, Min. Travel Time= 1.7 min

Avg. Velocity = 1.00 fps, Avg. Travel Time= 5.0 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 9,276 cf @ 12.61 hrs Average Depth at Peak Storage= 1.49' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.52 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 297.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.89'



#### Summary for Reach SDNE02: S Ditch NE 2

Inflow Area = 24.714 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 94.43 cfs @ 12.63 hrs, Volume= 17.569 af

Outflow = 94.37 cfs @ 12.67 hrs, Volume= 17.569 af, Atten= 0%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.99 fps, Min. Travel Time= 1.7 min Avg. Velocity = 1.01 fps, Avg. Travel Time= 4.9 min

Peak Storage= 9,374 cf @ 12.65 hrs Average Depth at Peak Storage= 1.50'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.70 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 296.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.89'



## Summary for Reach SDNE03: S Ditch NE 3

Inflow Area = 27.173 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 97.06 cfs @ 12.66 hrs, Volume= 19.317 af

Outflow = 96.94 cfs @ 12.72 hrs, Volume= 19.317 af, Atten= 0%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.01 fps, Min. Travel Time= 2.2 min Avg. Velocity = 1.02 fps, Avg. Travel Time= 6.5 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 12,684 cf @ 12.69 hrs Average Depth at Peak Storage= 1.53'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.30 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 393.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.18'



#### Summary for Reach SDNE04: S Ditch NE 4

Inflow Area = 29.661 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 99.50 cfs @ 12.72 hrs, Volume= 21.086 af

Outflow = 99.32 cfs @ 12.79 hrs, Volume= 21.086 af, Atten= 0%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.03 fps, Min. Travel Time= 2.5 min Avg. Velocity = 1.02 fps, Avg. Travel Time= 7.3 min

Peak Storage= 14,602 cf @ 12.74 hrs Average Depth at Peak Storage= 1.55'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.33 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 445.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'



## Summary for Reach SDNE05: S Ditch NE 5

Inflow Area = 53.802 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 114.15 cfs @ 12.79 hrs. Volume= 38.247 af

Outflow = 113.93 cfs @ 12.88 hrs, Volume= 38.247 af, Atten= 0%, Lag= 5.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.16 fps. Min. Travel Time= 2.3 min

Avg. Velocity = 1.30 fps, Avg. Travel Time= 5.7 min

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Peak Storage= 15,988 cf @ 12.84 hrs Average Depth at Peak Storage= 1.67

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.61 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 443.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'



## Summary for Reach SDNW01: S Ditch NW 1

Inflow Area = 50.513 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 133.06 cfs @ 12.49 hrs, Volume= 35.909 af

Outflow = 132.45 cfs @ 12.53 hrs, Volume= 35.909 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.49 fps, Min. Travel Time= 1.4 min Avg. Velocity = 1.48 fps, Avg. Travel Time= 3.3 min

Peak Storage= 11,223 cf @ 12.51 hrs Average Depth at Peak Storage= 1.73'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 685.83 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 295.8' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.04'



# Summary for Reach SDNW02: S Ditch NW 2

Inflow Area = 52.391 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 135.69 cfs @ 12.53 hrs, Volume= 37.244 af

Outflow = 135.13 cfs @ 12.57 hrs, Volume= 37.244 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.51 fps, Min. Travel Time= 1.4 min Avg. Velocity = 1.47 fps, Avg. Travel Time= 3.4 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 11,451 cf @ 12.54 hrs Average Depth at Peak Storage= 1.75'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 684.33 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 297.1' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.04'



## Summary for Reach SDNW03: S Ditch NW 3

Inflow Area = 54.815 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 138.64 cfs @ 12.56 hrs, Volume= 38.967 af

Outflow = 137.92 cfs @ 12.61 hrs, Volume= 38.967 af, Atten= 1%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.53 fps, Min. Travel Time= 1.8 min Avg. Velocity = 1.46 fps, Avg. Travel Time= 4.4 min

Peak Storage= 14,896 cf @ 12.58 hrs Average Depth at Peak Storage= 1.77'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 685.49 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 381.5' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.34'



## Summary for Reach SDNW04: S Ditch NW 4

Inflow Area = 57.366 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 141.02 cfs @ 12.61 hrs, Volume= 40.781 af

Outflow = 140.23 cfs @ 12.67 hrs, Volume= 40.781 af, Atten= 1%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.55 fps, Min. Travel Time= 2.1 min

Avg. Velocity = 1.44 fps, Avg. Travel Time= 5.2 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 17,622 cf @ 12.63 hrs
Average Depth at Peak Storage= 1.79'
Bank-Full Depth= 4.00' Flow Area= 124.0 sf Car

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 684.44 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 445.5' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.56'



#### Summary for Reach SDNW05: S Ditch NW 5

Inflow Area = 81.220 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 152.79 cfs @ 12.67 hrs, Volume= 57.738 af

Outflow = 152.14 cfs @ 12.73 hrs, Volume= 57.738 af, Atten= 0%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.63 fps, Min. Travel Time= 2.0 min Avg. Velocity = 1.58 fps, Avg. Travel Time= 4.7 min

Peak Storage= 18,700 cf @ 12.69 hrs Average Depth at Peak Storage= 1.87' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 683.98 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 446.1' Slope= 0.0035 '/' Inlet Invert= 0.00'. Outlet Invert= -1.56'



## Summary for Reach SDSE01: S Ditch SE 1

Inflow Area = 37.432 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 69.11 cfs @ 12.27 hrs, Volume= 26.610 af

Outflow = 68.53 cfs @ 12.31 hrs, Volume= 26.610 af, Atten= 1%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.25 fps, Min. Travel Time= 1.5 min Avg. Velocity = 1.57 fps, Avg. Travel Time= 3.0 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 5,967 cf @ 12.29 hrs Average Depth at Peak Storage= 1.09'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 825.64 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 282.6' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.44'



#### Summary for Reach SDSE02: S Ditch SE 2

Inflow Area = 2.100 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 18.79 cfs @ 12.09 hrs, Volume= 1.493 af

Outflow = 18.07 cfs @ 12.15 hrs, Volume= 1.493 af, Atten= 4%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.08 fps, Min. Travel Time= 2.2 min Avg. Velocity = 0.56 fps, Avg. Travel Time= 8.4 min

Peak Storage= 2,430 cf @ 12.11 hrs Average Depth at Peak Storage= 0.51'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 826.44 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 280.1' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



## Summary for Reach SDSE03: S Ditch SE 3

Inflow Area = 2.827 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 25.30 cfs @ 12.09 hrs. Volume= 2.010 af

Outflow = 23.46 cfs @ 12.18 hrs, Volume= 2.010 af, Atten= 7%, Lag= 5.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.91 fps, Min. Travel Time= 3.3 min

Avg. Velocity = 0.50 fps, Avg. Travel Time= 12.8 min

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Peak Storage= 4,712 cf @ 12.12 hrs Average Depth at Peak Storage= 0.69' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.05 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 383.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.15'



#### Summary for Reach SDSE04: S Ditch SE 4

Inflow Area = 5.715 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 43.60 cfs @ 12.13 hrs, Volume= 4.063 af

Outflow = 42.01 cfs @ 12.22 hrs, Volume= 4.063 af, Atten= 4%, Lag= 5.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.32 fps, Min. Travel Time= 3.1 min Avg. Velocity = 0.61 fps, Avg. Travel Time= 11.7 min

Peak Storage= 7,804 cf @ 12.17 hrs Average Depth at Peak Storage= 0.96'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.15 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 430.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



## Summary for Reach SDSE05: S Ditch SE 5

Inflow Area = 7.844 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 53.02 cfs @ 12.19 hrs, Volume= 5.577 af

Outflow = 51.93 cfs @ 12.28 hrs, Volume= 5.577 af, Atten= 2%, Lag= 5.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 2.48 fps, Min. Travel Time = 3.2 min Avg. Velocity = 0.67 fps, Avg. Travel Time = 12.0 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 10,023 cf @ 12.23 hrs Average Depth at Peak Storage= 1.08'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.43 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 478.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



## Summary for Reach SDSW01: S Ditch SW 1

Inflow Area = 39.463 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 75.84 cfs @ 12.31 hrs, Volume= 28.054 af

Outflow = 75.31 cfs @ 12.35 hrs, Volume= 28.054 af, Atten= 1%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.35 fps, Min. Travel Time= 1.4 min Avg. Velocity = 1.58 fps, Avg. Travel Time= 3.0 min

Peak Storage= 6,298 cf @ 12.33 hrs Average Depth at Peak Storage= 1.15'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 826.73 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 279.9' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



## Summary for Reach SDSW02: S Ditch SW 2

Inflow Area = 41.683 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 82.56 cfs @ 12.34 hrs, Volume= 29.632 af

Outflow = 82.07 cfs @ 12.38 hrs, Volume= 29.632 af, Atten= 1%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.44 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 1.58 fps, Avg. Travel Time= 3.0 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 6,691 cf @ 12.36 hrs Average Depth at Peak Storage= 1.20' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 826.29 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 280.2' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



#### **Summary for Reach SDSW03: S Ditch SW 3**

Inflow Area = 44.675 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 95.29 cfs @ 12.16 hrs, Volume= 31.759 af

Outflow = 94.53 cfs @ 12.21 hrs, Volume= 31.759 af, Atten= 1%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 3.59 fps, Min. Travel Time = 1.8 min Avg. Velocity = 1.58 fps, Avg. Travel Time = 4.0 min

Peak Storage= 9,937 cf @ 12.18 hrs Average Depth at Peak Storage= 1.30'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 825.21 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 377.2' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.92'



# Summary for Reach SDSW04: S Ditch SW 4

Inflow Area = 388.088 ac. 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 594.41 cfs @ 12.74 hrs, Volume= 275.733 af

Outflow = 593.38 cfs @ 12.78 hrs, Volume= 275.715 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.02 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 2.49 fps, Avg. Travel Time= 2.9 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 50,989 cf @ 12.76 hrs Average Depth at Peak Storage= 3.88' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.78 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 431.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



# Summary for Reach SDSW05: S Ditch SW 5

Inflow Area = 340.305 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 528.12 cfs @ 12.96 hrs, Volume= 241.783 af

Outflow = 527.68 cfs @ 13.01 hrs, Volume= 241.764 af, Atten= 0%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.86 fps, Min. Travel Time= 1.6 min Avg. Velocity = 2.40 fps, Avg. Travel Time= 3.3 min

Peak Storage= 51,904 cf @ 12.98 hrs Average Depth at Peak Storage= 3.66'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.63 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 478.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



# Summary for Reach SDW01: S Ditch W 1

Inflow Area = 245.685 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 437.06 cfs @ 12.57 hrs, Volume= 174.625 af

Outflow = 436.18 cfs @ 12.62 hrs, Volume= 174.618 af, Atten= 0%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.62 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 2.15 fps, Avg. Travel Time= 3.4 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 41,075 cf @ 12.59 hrs Average Depth at Peak Storage= 3.33' Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 632.59 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 434.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.30'



#### Summary for Reach SDW02: S Ditch W 2

Inflow Area = 248.334 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 439.34 cfs @ 12.62 hrs, Volume= 176.502 af

Outflow = 438.58 cfs @ 12.67 hrs, Volume= 176.493 af, Atten= 0%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Max. Velocity= 4.62 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 4.62 fps, Min. Travel Time= 1.6 min. Avg. Velocity = 2.16 fps, Avg. Travel Time= 3.4 min.

Peak Storage= 41,161 cf @ 12.64 hrs Average Depth at Peak Storage= 3.34' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.03 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 434.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.30'



# Summary for Reach SDW03: S Ditch W 3

Inflow Area = 250.934 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 441.42 cfs @ 12.67 hrs, Volume= 178.342 af

Outflow = 440.95 cfs @ 12.71 hrs, Volume= 178.334 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.63 fps, Min. Travel Time= 1.3 min Avg. Velocity = 2.16 fps, Avg. Travel Time= 2.9 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 35,560 cf @ 12.69 hrs Average Depth at Peak Storage= 3.35'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.29 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 373.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'



# Summary for Reach SDW04: S Ditch W 4

Inflow Area = 253.575 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 443.70 cfs @ 12.71 hrs, Volume= 180.211 af

Outflow = 443.27 cfs @ 12.75 hrs, Volume= 180.203 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.64 fps, Min. Travel Time= 1.3 min Avg. Velocity = 2.17 fps, Avg. Travel Time= 2.9 min

Peak Storage= 35,749 cf @ 12.73 hrs Average Depth at Peak Storage= 3.36'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.95 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 374.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'



# Summary for Reach SDW05: S Ditch W 5

Inflow Area = 302.781 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 501.41 cfs @ 12.72 hrs, Volume= 215.183 af

Outflow = 500.97 cfs @ 12.76 hrs, Volume= 215.173 af, Atten= 0%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.79 fps, Min. Travel Time= 1.3 min

Avg. Velocity = 2.30 fps, Avg. Travel Time= 2.7 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 39,543 cf @ 12.73 hrs Average Depth at Peak Storage= 3.57'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.32 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 378.1' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.13'



#### Summary for Reach SDW06: S Ditch W 6

Inflow Area = 305.227 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 503.41 cfs @ 12.75 hrs, Volume= 216.912 af

Outflow = 503.02 cfs @ 12.79 hrs, Volume= 216.902 af, Atten= 0%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.80 fps, Min. Travel Time= 1.3 min Avg. Velocity = 2.31 fps, Avg. Travel Time= 2.7 min

Peak Storage= 38,771 cf @ 12.77 hrs Average Depth at Peak Storage= 3.58' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.43 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 370.1' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.11'



# Summary for Reach SDW07: S Ditch W 7

Inflow Area = 307.986 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 505.67 cfs @ 12.79 hrs, Volume= 218.863 af

Outflow = 505.29 cfs @ 12.83 hrs, Volume= 218.852 af, Atten= 0%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.80 fps, Min. Travel Time= 1.3 min

Avg. Velocity = 2.31 fps, Avg. Travel Time= 2.7 min

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Peak Storage= 39,417 cf @ 12.81 hrs Average Depth at Peak Storage= 3.59' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.44 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 374.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'



# Summary for Reach SDW08: S Ditch W 8

Inflow Area = 310.775 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 508.18 cfs @ 12.58 hrs, Volume= 220.835 af

Outflow = 507.54 cfs @ 12.86 hrs, Volume= 220.823 af, Atten= 0%, Lag= 17.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.81 fps, Min. Travel Time= 1.3 min Avg. Velocity = 2.32 fps, Avg. Travel Time= 2.7 min

Peak Storage= 39,329 cf @ 12.84 hrs Average Depth at Peak Storage= 3.59'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.72 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 373.1' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'



# Summary for Reach SDW09: S Ditch W 9

Inflow Area = 313.808 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 510.93 cfs @ 12.62 hrs, Volume= 222.979 af

Outflow = 509.81 cfs @ 12.91 hrs, Volume= 222.964 af, Atten= 0%, Lag= 17.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.82 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 2.33 fps, Avg. Travel Time= 3.2 min

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Peak Storage= 46,906 cf @ 12.88 hrs Average Depth at Peak Storage= 3.60' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.47 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 443.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'



# Summary for Reach SDW10: S Ditch W 10

Inflow Area = 338.080 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 526.82 cfs @ 12.91 hrs, Volume= 240.218 af

Outflow = 526.31 cfs @ 12.96 hrs, Volume= 240.201 af, Atten= 0%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.86 fps, Min. Travel Time= 1.7 min

Avg. Velocity = 2.40 fps, Avg. Travel Time= 3.4 min

Peak Storage= 53,037 cf @ 12.93 hrs Average Depth at Peak Storage= 3.65'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.58 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 489.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.47'



# Summary for Reach SUEIC: South Unit East Inlet Culvert

Inflow Area = 163.583 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow = 255.73 cfs @ 12.58 hrs, Volume= 116.268 af

Outflow = 255.70 cfs @ 12.58 hrs, Volume= 116.268 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.96 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 3.82 fps, Avg. Travel Time= 0.3 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 1,998 cf @ 12.58 hrs Average Depth at Peak Storage= 1.90'

Bank-Full Depth= 2.50' Flow Area= 37.5 sf, Capacity= 266.32 cfs

180.0" W x 30.0" H Box Pipe

n = 0.012

Length= 70.0' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.21'



# Summary for Reach SUWIC: South Unit West Inlet Culvert

Inflow Area =

162.732 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

115.656 af

Inflow Outflow 292.19 cfs @ 12.56 hrs, Volume=

292.15 cfs @ 12.56 hrs, Volume=

115.655 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs. dt= 0.01 hrs

Max. Velocity= 9.38 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 3.80 fps, Avg. Travel Time= 0.3 min

Peak Storage= 2,180 cf @ 12.56 hrs Average Depth at Peak Storage= 2.08'

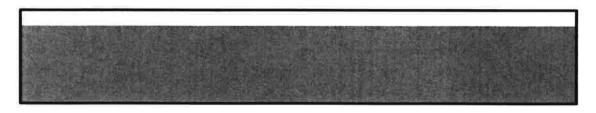
Bank-Full Depth= 2.50' Flow Area= 37.5 sf, Capacity= 266.32 cfs

180.0" W x 30.0" H Box Pipe

n = 0.012

Length= 70.0' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.21'



# **Summary for Reach WMC: West Middle Channel**

Inflow Area =

162.732 ac, 0.00% Impervious, Inflow Depth > 8.53" for 100-Year, 24-Hour event

Inflow Outflow

292.38 cfs @ 12.54 hrs, Volume= 292.19 cfs @ 12.56 hrs, Volume=

115.659 af

115.656 af, Atten= 0%, Lag= 1.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.15 fps, Min. Travel Time= 0.7 min

Avg. Velocity = 1.91 fps, Avg. Travel Time= 1.6 min

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Peak Storage= 13,021 cf @ 12.55 hrs Average Depth at Peak Storage= 2.72' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 636.36 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 185.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.56'



# **Summary for Pond PSDB: South Detention Basin**

Inflow Area = 757.883 ac, 5.47% Impervious, Inflow Depth > 8.56" for 100-Year, 24-Hour event

Inflow = 1,133.72 cfs @ 12.77 hrs, Volume= 540.376 af

Outflow = 522.10 cfs @ 14.34 hrs, Volume= 524.052 af, Atten= 54%, Lag= 94.1 min

Primary = 522.10 cfs @ 14.34 hrs, Volume= 524.052 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 538.40' @ 14.34 hrs Surf.Area= 1,917,397 sf Storage= 6,322,376 cf

Plug-Flow detention time= 204.5 min calculated for 523.907 af (97% of inflow)

Center-of-Mass det. time= 179.1 min (1,154.1 - 975.0)

Volume	In	vert Avail.Sto	orage Sto	rage Description	
#1	535	.00' 7,487,3	20 cf <b>Cu</b>	stom Stage Data (P	rismatic)Listed below (Recalc)
Elevation (fee		Surf.Area (sq-ft)	Inc.Stor		
535.0	00	1,806,527		0 0	
539.0	00	1,937,133	7,487,32	7,487,320	
Device	Routing	nvert	Outlet De	evices	
#1	Primary	535.00'		x 24.0" H Box Cul	
				•	onform to fill, Ke= 0.700
			Inlet / Ou	tlet Invert= 535.00' /	534.40' S= 0.0060 '/' Cc= 0.900
			n= 0.012	Concrete pipe, finis	shed, Flow Area= 20.00 sf

Primary OutFlow Max=522.10 cfs @ 14.34 hrs HW=538.40' (Free Discharge)
1=Culvert (Inlet Controls 522.10 cfs @ 6.53 fps)

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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C

#### Summary for Link A: Watershed A

Inflow Area = 22.714 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 16.01 cfs @ 12.84 hrs, Volume= 16.147 af

Primary = 16.01 cfs @ 12.84 hrs, Volume= 16.147 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link B: Watershed B

Inflow Area = 41.229 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 79.06 cfs @ 12.46 hrs, Volume= 29.310 af

Primary = 79.06 cfs @ 12.46 hrs, Volume= 29.310 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

#### Summary for Link C: Watershed C

Inflow Area = 21.830 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.75 cfs @ 12.86 hrs, Volume= 15.519 af

Primary = 15.75 cfs @ 12.86 hrs, Volume= 15.519 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link D: Watershed D

Inflow Area = 33.722 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 59.87 cfs @ 12.50 hrs, Volume= 23.973 af

Primary = 59.87 cfs @ 12.50 hrs, Volume= 23.973 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link E: Watershed E

Inflow Area = 21.544 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.52 cfs @ 12.86 hrs, Volume= 15.316 af

Primary = 15.52 cfs @ 12.86 hrs, Volume= 15.316 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow. Time Span= 0.00-36.00 hrs. dt= 0.01 hrs.

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\H

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#### Summary for Link F: Watershed F

Inflow Area = 38.300 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 72.02 cfs @ 12.48 hrs, Volume= 27.227 af

Primary = 72.02 cfs @ 12.48 hrs, Volume= 27.227 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow. Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link G: Watershed G

Inflow Area = 21.128 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.87 cfs @ 12.99 hrs, Volume= 15.020 af

Primary = 15.87 cfs @ 12.99 hrs, Volume= 15.020 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link H: Watershed H

Inflow Area = 34.086 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 60.80 cfs @ 12.50 hrs, Volume= 24.232 af

Primary = 60.80 cfs @ 12.50 hrs, Volume= 24.232 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link I: Watershed I

Inflow Area = 22.132 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.19 cfs @ 12.96 hrs, Volume= 15.733 af

Primary = 15.19 cfs @ 12.96 hrs, Volume= 15.733 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link J: Watershed J

Inflow Area = 35.077 ac. 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 65.26 cfs @ 12.49 hrs, Volume= 24.936 af

Primary = 65.26 cfs @ 12.49 hrs, Volume= 24.936 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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C

#### Summary for Link K: Watershed K

Inflow Area = 22.472 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.22 cfs @ 12.96 hrs, Volume= 15.975 af

Primary = 15.22 cfs @ 12.96 hrs, Volume= 15.975 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link L: Watershed L

Inflow Area = 48.208 ac, 0.00% Impervious, Inflow Depth > 8.39" for 100-Year, 24-Hour event

Inflow = 95.59 cfs @ 12.43 hrs, Volume= 33.711 af

Primary = 95.59 cfs @ 12.43 hrs, Volume= 33.711 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link M: Watershed M

Inflow Area = 22.029 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.16 cfs @ 12.95 hrs, Volume= 15.660 af

Primary = 15.16 cfs @ 12.95 hrs, Volume= 15.660 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs. dt= 0.01 hrs.

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link N: Watershed N

Inflow Area = 33.325 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 58.49 cfs @ 12.51 hrs, Volume= 23.690 af

Primary = 58.49 cfs @ 12.51 hrs, Volume= 23.690 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs. dt= 0.01 hrs.

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

# Summary for Link O: Watershed O

Inflow Area = 22.056 ac, 0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow = 15.24 cfs @ 12.95 hrs. Volume= 15.680 af

Primary = 15.24 cfs @ 12.95 hrs, Volume= 15.680 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\H

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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#### Summary for Link P: Watershed P

Inflow Area =

46.766 ac.

0.00% Impervious, Inflow Depth = 8.53" for 100-Year, 24-Hour event

Inflow

**Primary** 

93.79 cfs @ 12.44 hrs, Volume= 93.79 cfs @ 12.44 hrs, Volume=

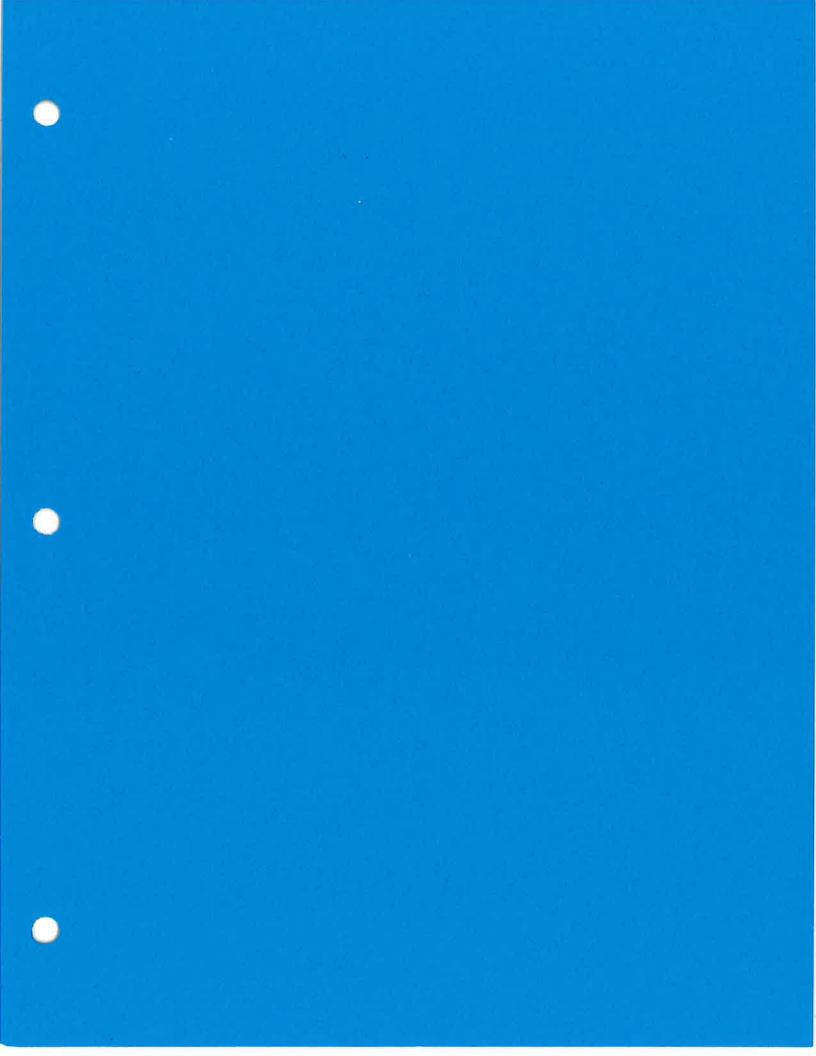
33.246 af

33.246 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC

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# ATTACHMENT III-C APPENDIX III-C.4

# HYDROCAD MODEL OUTPUT FILES

- 3. PROPOSED CONDITIONS (POST-DEVELOPMENT)
  - A. MODEL DIAGRAMS
  - B. LANDFILL WATERSHED A (TYPICAL OF WATERSHEDS C, E, G, J, K, M, & O)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - C. LANDFILL WATERSHED B (TYPICAL OF WATERSHEDS D, F, J, L, N, & P)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - D. LANDFILL PERIMETER DITCH, CULVERT, & BASIN SYSTEM
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - E. REGIONAL STORMWATER CONDITIONS
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)



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#### **Summary for Subcatchment 1S: East Middle Subcat**

Runoff

71.28 cfs @ 12.61 hrs, Volume=

11.739 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN [	Description			
*	g	23,072	92				
	g	23,072	•	100.00% Pe	ervious Are	a	
	Tc (min)	Length (feet)	Slope (ft/ft)		Capacity (cfs)	Description	
	36.5	300	0.0055	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 3.75"	
	9.1	282	0.0055	0.52		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
Ε	45.6	582	Total			**************************************	

#### Summary for Subcatchment A5LLS: 5 Lowe Left Subcat

Runoff :

12.99 cfs @ 12.09 hrs, Volume=

1.018 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	80,011	92				
	80,011		100.00% P	ervious Are	a	
7	c Length	Slope	Velocity	Capacity	Description	
(mir	n) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment A5LRS: 5 Lower Right Subcat

Runoff

13.14 cfs @ 12.09 hrs, Volume=

1.030 af, Depth= 6.65"

_	Area (sf)	CN	Description	
*	80,953	92		
	80,953		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Length		-		Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

# **Summary for Subcatchment A5MLS: 5 Middle Left Subcat**

Runoff

18.93 cfs @ 12.09 hrs, Volume=

1.483 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (s	sf)	CN I	Description			
*	116,6	16	92				
	116,6	16	•	100.00% Pe	ervious Are	a	
Т	c Len	gth	Slope	Velocity	Capacity	Description	
(mir	1) (fe	et)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 2	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment A5MRS: 5 Middle Right Subcat

Runoff

19.87 cfs @ 12.09 hrs, Volume=

1.557 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN E	Description			
*	1	22,444	92				
	1	22,444	1	00.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment A5ULS: 5 Upper Left Subcat

Runoff

17.58 cfs @ 12.09 hrs, Volume=

1.377 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	108,278	92		
	108,278		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment A5URS: 5 Upper Right Subcat

Runoff = 19.18 cfs @ 12.09 hrs, Volume=

1.503 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN	Description			
*	1	18,162	92				
	1	18,162		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

#### Summary for Subcatchment B7LLS: 7 Lower Left Subcat

Runoff = 13.60 cfs @ 12.09 hrs, Volume=

1.065 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	83,779	92				
	83,779		100.00% P	ervious Are	a	
٦	c Length	Slope	Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6	.5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment B7LRS: 7 Lower Right Subcat

Runoff = 13.25 cfs @ 12.09 hrs, Volume= 1

1.038 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	81,647	92		
	81,647		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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ì	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

#### Summary for Subcatchment B7ULS: 7 Upper Left Subcat

Runoff = 15.28 cfs @ 12.09 hrs, Volume=

1.197 af. Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	94,137	92				
	94,137		100.00% P	ervious Are	a	
7	Γc Length	Slop	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/f	t) (ft/sec)	(cfs)		
6	.5 232	0.250	0.60		Sheet Flow, n= 0.150 P2= 3.75"	_

# Summary for Subcatchment B7URS: 7 Upper Right Subcat

Runoff = 15.12 cfs @ 12.09 hrs, Volume=

1.185 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	А	rea (sf)	CN	Description			
*		93,145	92				
		93,145		100.00% Pe	ervious Are	a	
	Tc	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	<u> </u>

# Summary for Subcatchment C5LLS: 5 Lower Left Subcat

Runoff = 12.12 cfs @ 12.09 hrs, Volume=

0.950 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	74,693	92		
	74,693		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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- 2	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment C5LRS: 5 Lower Right Subcat

Runoff = 12.05 cfs

12.05 cfs @ 12.09 hrs, Volume=

0.944 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	74,225	92				
	74,225		100.00% P	ervious Are	a	
Т	c Length	Slope	e Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment C5MLS: 5 Middle Left Subcat**

Runoff = 18.35 cfs @ 12.09 hrs, Volume=

1.438 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

P	rea (sf)	CN [	Description			
*	113,067	92				
	113,067	•	00.00% P	ervious Are	a	
Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment C5MRS: 5 Middle Right Subcat

Runoff = 17.73 cfs @ 12.09 hrs, Volume=

1.389 af, Depth= 6.65"

100	Area (sf)	CN	Description	
*	109,253	92		
	109,253		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

# Summary for Subcatchment C5ULS: 5 Upper Left Subcat

Runoff =

18.11 cfs @ 12.09 hrs, Volume=

1.419 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Ar	ea (sf)	CN	Description			
*	1	11,570	92				
	1	11,570		100.00% P	ervious Are	а	
(mi		Length (feet)	Slope (ft/ft)	•	Capacity (cfs)	Description	
	.5	232	0.2500		(CIS)	Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment C5URS: 5 Upper Right Subcat

Runoff

17.00 cfs @ 12.09 hrs, Volume=

1.332 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN I	Description			
*	1	04,706	92				
	104,706		,	100.00% Pervious Area			
	Тс		Slope		Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment D7LLS: 7 Lower Left Subcat**

Runoff =

13.57 cfs @ 12.09 hrs, Volume=

1.063 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	83,617	92		
	83,617		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment D7LRS: 7 Lower Right Subcat

Runoff = 13.42 cfs @ 12.09 hrs, Volume=

1.052 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	82,704	92				
	82,704		100.00% P	ervious Are	a	
	Tc Length	Slope	e Velocity	Capacity	Description	
(m	in) (feet)	(ft/ft	) (ft/sec)	(cfs)		
(	6.5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment D7ULS: 7 Upper Left Subcat

Runoff = 14.74 cfs @ 12.09 hrs, Volume=

1.155 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	90,839	92				
	90,839		100.00% P	ervious Are	а	
Т	c Length	Slope	e Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment D7URS: 7 Upper Right Subcat

Runoff = 14.37 cfs @ 12.09 hrs, Volume= 1.126 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	88,514	92		
	88,514		100.00% Pervious Area	

232 0.2500

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·	

0.60

Sheet Flow,

n= 0.150 P2= 3.75"

#### Summary for Subcatchment E5LLS: 5 Lower Left Subcat

Runoff

6.5

14.92 cfs @ 12.09 hrs, Volume=

1.169 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN [	Description					
*		91,942	92						
	91,942 100.00% Pervious Area								
	Тс	Length	Slope	•	Capacity	Description			
	(min) (feet)		n) (feet) (ft/ft) (ft/sec)		(cfs)				
	6.5	232	0.2500	0.60		Sheet Flow,			
			20			n= 0.150 P2= 3.75"			

#### Summary for Subcatchment E5LRS: 5 Lower Right Subcat

Runoff

14.92 cfs @ 12.09 hrs, Volume=

1.169 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN E	<b>Description</b>		
*		91,941	92			
		91,941	1	00.00% Pe	ervious Are	a
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"

# Summary for Subcatchment E5MLS: 5 Middle Left Subcat

Runoff

20.21 cfs @ 12.09 hrs, Volume=

1.583 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	124,489	92		
,,	124,489		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	•	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5		0.2500		10.07	Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment E5MRS: 5 Middle Right Subcat

Runoff = 20.21 cfs @ 12.09 hrs, Volume=

1.583 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	124,482	92				
Т	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment E5ULS: 5 Upper Left Subcat**

Runoff = 19.01 cfs @ 12.09 hrs, Volume=

1.490 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

4	A	rea (sf)	CN	Description			
*	1	17,133	92				
Ī	1	17,133		100.00% P	ervious Are	a	
	Тс	Length	Slope	,	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

# Summary for Subcatchment E5URS: 5 Upper Right Subcat

Runoff = 19.34 cfs @ 12.09 hrs, Volume= 1.515 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	119,156	92		
1 1	119,156		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
_	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

# Summary for Subcatchment F7LLS: 7 Lower Left Subcat

Runoff

14.80 cfs @ 12.09 hrs, Volume=

1.160 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN [	Description			Ti .
*		91,194	92				
-		91,194	,	100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
(	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

# Summary for Subcatchment F7LRS: 7 Lower Right Subcat

Runoff

14.77 cfs @ 12.09 hrs, Volume=

1.157 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN [	Description			
*		91,012	92				
	Тс	Length	Slope	Velocity	Capacity	Description	
-	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment F7ULS: 7 Upper Left Subcat

Runoff

16.53 cfs @ 12.09 hrs, Volume=

1.295 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	101,812	92		
	101,812		100.00% Pervious Area	

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.5	232	0.2500	0.60		Sheet Flow,
					n= 0.150 P2= 3.75"

# Summary for Subcatchment F7URS: 7 Upper Right Subcat

Runoff =

16.26 cfs @ 12.09 hrs, Volume=

1.274 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	100,155	92				
	100,155		100.00% P	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment G5LLS: 5 Lower Left Subcat**

Runoff

15.13 cfs @ 12.09 hrs, Volume=

1.186 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
t .	93,236	92				
	93,236		100.00% P	ervious Are	ea	
To	Length	Slope	e Velocity	Capacity	Description	
(min	(feet)	(ft/ft	) (ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

# **Summary for Subcatchment G5LRS: 5 Lower Right Subcat**

Runoff = 15.13 cfs @

15.13 cfs @ 12.09 hrs, Volume=

1.185 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	93,186	92		
	93,186		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
-	(mm)	(reer)	(IVIL)	(Insec)	(CIS)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

# Summary for Subcatchment G5MLS: 5 Middle Left Subcat

Runoff = 20.02 cfs @ 12.09 hrs, Volume=

1.568 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN	Description			
*	1	23,329	92				
	123,329			100.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
(	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·	
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0 150 P2= 3 75"	

# Summary for Subcatchment G5MRS: 5 Middle Right Subcat

Runoff = 19.91 cfs @ 12.09 hrs, Volume=

1.560 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN [	Description			
*	1	22,673	92				
	1	122,673 100.00% Pervious A			ervious Are	rea	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
-	6.5	232	0.2500	0.60	(CIS)	Sheet Flow,	
	0.5	232	0.2300	0.00		n= 0.150 P2= 3.75"	

# Summary for Subcatchment G5ULS: 5 Upper Left Subcat

Runoff = 19.58 cfs @ 12.09 hrs, Volume= 1.534 af, Depth= 6.65"

_	Area (sf)	CN	Description	
*	120,624	92		
	120,624		100.00% Pervious Area	

Docca	dita	Perimeter	
resca	aito	renneter	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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T min)		Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6	.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment G5URS: 5 Upper Right Subcat

Runoff = 19.17 cfs @ 12.09 hrs, Volume=

1.502 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (st	f)	CN [	Description			
*	118,13	3	92				
	118,13	3	•	00.00% Pe	ervious Are	a	
٠.	Γc Leng	th	Slope	Velocity	Capacity	Description	
(mi	n) (fee	et)	(ft/ft)	(ft/sec)	(cfs)		
6	.5 23	32	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment H7LLS: 7 Lower Left Subcat

Runoff = 14.06 cfs @ 12.09 hrs, Volume=

1.101 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

/	Area (sf)	CN [	Description			
*	86,611	92				
	86,611	•	100.00% P	ervious Are	a	
Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment H7LRS: 7 Lower Right Subcat

Runoff = 14.09 cfs @ 12.09 hrs, Volume= 1.104 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	86,831	92		
	86,831		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

# Summary for Subcatchment H7ULS: 7 Upper Left Subcat

Runoff = 14.91 cfs @ 12.09 hrs, Volume=

1.168 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Are	a (sf)	CN I	Description			
*	9	1,880	92				
	9	1,880		100.00% P	ervious Are	a	
,		_ength	Slope	-	Capacity	Description	
(r	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment H7URS: 7 Upper Right Subcat

Runoff = 15.42 cfs @ 12.09 hrs, Volume=

1.208 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN	Description					
*		94,995	92						
		94,995		100.00% Pervious Area					
	Тс	Length	Slope	Velocity	Capacity	Description			
_(m	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·			
	6.5	232	0.2500	0.60	7	Sheet Flow,			
						n= 0.150 P2= 3.75"			

# Summary for Subcatchment I5LLS: 5 Lower Left Subcat

Runoff = 12.17 cfs @ 12.09 hrs, Volume= 0.95

0.953 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	74,969	92		
	74,969		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	
					n= 0 150 P2= 3 75"	

#### Summary for Subcatchment I5LRS: 5 Lower Right Subcat

Runoff

12.25 cfs @ 12.09 hrs, Volume=

0.960 af. Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN [	Description			
*		75,490	92				
		75,490	1	00.00% Pe	ervious Are	а	•
	Тс	Length	Slope	Velocity	Capacity	Description	
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	-

# Summary for Subcatchment I5MLS: 5 Middle Left Subcat

Runoff

18.04 cfs @ 12.09 hrs, Volume=

1.414 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN [	Description			
*	1	11,152	92				
	1	11,152	1	00.00% Pe	ervious Are	a	
		Length	Slope	•	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0 150 P2= 3 75"	

# Summary for Subcatchment I5MRS: 5 Middle Right Subcat

Runoff

18.73 cfs @ 12.09 hrs, Volume=

1.468 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	115,402	92		
	115,402		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment I5ULS: 5 Upper Left Subcat**

Runoff = 17.14 cfs @ 12.09 hrs, Volume=

1.343 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN I	Description			
ł.	105,593	92				
	105,593	•	100.00% P	ervious Are	a	
To	Length	Slope	Velocity	Capacity	Description	
(min	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment I5URS: 5 Upper Right Subcat**

Runoff = 18.38 cfs @ 12.09 hrs, Volume=

1.440 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN I	Description			
*	113,254	92				
	113,254		100.00% P	ervious Are	a	
To	Length	Slope	Velocity	Capacity	Description	
(min	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment J7LLS: 7 Lower Left Subcat

Runoff = 11.83 cfs @ 12.09 hrs, Volume=

0.927 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	72,907	92		
	72,907		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

# Summary for Subcatchment J7LRS: 7 Lower Right Subcat

Runoff

11.84 cfs @ 12.09 hrs, Volume=

0.928 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	72,963	92				
	72,963		100.00% P	ervious Are	a	
1	c Length	Slope	Velocity	Capacity	Description	
(mii	i) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment J7ULS: 7 Upper Left Subcat

Runoff

13.08 cfs @ 12.09 hrs, Volume=

1.025 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	80,571	92				
	80,571		100.00% P	ervious Are	a	
Т			Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment J7URS: 7 Upper Right Subcat

Runoff

13.28 cfs @ 12.09 hrs, Volume=

1.040 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	81,800	92		
	81,800		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment K5LLS: 5 Lower Left Subcat**

Runoff = 11.76 cfs @ 12.09 hrs, Volume=

0.922 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	72,472	92				
	72,472		100.00% P	ervious Are	а	
7	c Length	Slope	Velocity	Capacity	Description	
(mii	n) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment K5LRS: 5 Lower Right Subcat

Runoff = 11.80 cfs @ 12.09 hrs, Volume=

0.924 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Aı	rea (sf)	CN	Description			
*		72,691	92				
		72,691		100.00% P	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
(r	nin)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

# Summary for Subcatchment K5MLS: 5 Middle Left Subcat

Runoff = 18.36 cfs @ 12.09 hrs, Volume= 1.439 af, Depth= 6.65"

_	Area (sf)	CN	Description	
*	113,132	92		
	113,132		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Tc	Length	Slope	Velocity	Capacity	Description	
L	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

# Summary for Subcatchment K5MRS: 5 Middle Right Subcat

Runoff = 17.59 cfs @ 12.09 hrs, Volume=

1.379 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	108,397	92				
	108,397		100.00% P	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment K5ULS: 5 Upper Left Subcat

Runoff = 18.42 cfs @ 12.09 hrs, Volume=

1.444 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

Δ	rea (sf)	CN [	Description			
	13,507	92				
	113,507		00.00% Pe	ervious Are	а	
	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment K5URS: 5 Upper Right Subcat

Runoff = 17.38 cfs @ 12.09 hrs, Volume= 1.362 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	107,103	92		
	107,103		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# **Summary for Subcatchment L7LLS: 7 Lower Left Subcat**

Runoff = 17.48 cfs @ 12.09 hrs, Volume=

1.369 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	107,663	92				
	107,663		100.00% P	ervious Are	a	
Т	c Length	Slope	Velocity	Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)	·	
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment L7LRS: 7 Lower Right Subcat

Runoff = 17.27 cfs @ 12.09 hrs, Volume=

1.353 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	106,367	92				
	106,367		100.00% P	ervious Are	a	
-	c Length	Slope	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft)	(ft/sec)	(cfs)	•	
6	.5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment L7ULS: 7 Upper Left Subcat

Runoff = 19.75 cfs @ 12.09 hrs, Volume= 1.8

1.547 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	121,664	92		
	121,664		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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	Tc (min)	Length (feet)	•	•	Capacity (cfs)	Description	
•	6.5		0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment L7URS: 7 Upper Right Subcat**

Runoff = 18.85 cfs @

18.85 cfs @ 12.09 hrs, Volume=

1.477 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	116,121	92				
	116,121		100.00% P	ervious Are	a	
-	Гс Length	Slope	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/ft	) (ft/sec)	(cfs)		
6	.5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment M5LLS: 5 Lower Left Subcat

Runoff

15.06 cfs @ 12.09 hrs, Volume=

1.180 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Ar	ea (sf)	CN	Description				
*	9	2,764	92					
	9	2,764	100.00% Pervious Area					
	Тс	Length	Slope	Velocity	Capacity	Description		
(mi	in)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6	5.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"		

## Summary for Subcatchment M5LRS: 5 Lower Right Subcat

Runoff = 15.06 cfs @ 12.09 hrs, Volume=

1.180 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	92,764	92		
	92,764		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

#### Summary for Subcatchment M5MLS: 5 Middle Left Subcat

Runoff = 20.42 cfs @ 12.09 hrs, Volume=

1.600 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN D	Description			
*	1	25,780	92				
	125,780		1	00.00% Pe	ervious Are	a	
	Тс	Length	Slope	Velocity	Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·	
	6.5	232	0.2500	0.60		Sheet Flow,	
						n= 0.150 P2= 3.75"	

### Summary for Subcatchment M5MRS: 5 Middle Right Subcat

Runoff = 20.42 cfs @ 12.09 hrs, Volume=

1.600 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN	<u>Description</u>					
*	1	25,777	92						
	125,777			100.00% Pervious Area					
		Length	•	Velocity	Capacity	Description			
<u>(m</u>	in)_	(feet)	(ft/ft)	(ft/sec)	(cfs)				
(	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"			

## Summary for Subcatchment M5ULS: 5 Upper Left Subcat

Runoff = 19.99 cfs @ 12.09 hrs, Volume=

1.566 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	123,162	92		
	123,162		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60	Sheet Flow,		
					n= 0.150 P2= 3.75"	

### **Summary for Subcatchment M5URS: 5 Upper Right Subcat**

Runoff = 19.66 cfs @ 12.09 hrs, Volume=

1.540 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description				
*	121,111	92					
	121,111	100.00% Pervious Area					
Т	c Length	Slope	e Velocity	Capacity	Description		
(mir	) (feet)	(ft/ft	) (ft/sec)	(cfs)			
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"		

### **Summary for Subcatchment N7LLS: 7 Lower Left Subcat**

Runoff = 14.36 cfs @ 12.09 hrs, Volume=

1.125 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

A	rea (sf)	CN L	Description			
	88,465	92				
	88,465	1	100.00% Pe			
Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

# Summary for Subcatchment N7LRS: 7 Lower Right Subcat

Runoff = 14.19 cfs @ 12.09 hrs, Volume= 1

1.112 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	87,436	92		
	87,436		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Тс	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

### Summary for Subcatchment N7ULS: 7 Upper Left Subcat

Runoff = 15.70 cfs @ 12.09 hrs, Volume=

1.230 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

12	Α	rea (sf)	CN I	Description			
*		96,720	92				
		96,720		100.00% Pe			
	Тс		Slope		Capacity	Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### **Summary for Subcatchment N7URS: 7 Upper Right Subcat**

Runoff = 14.85 cfs @ 12.09 hrs, Volume=

1.163 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description					
*	91,459	92						
	91,459		100.00% Pervious Area					
Т	c Length	Slope	e Velocity	Capacity	Description			
(mir	) (feet)	(ft/ft	(ft/sec)	(cfs)				
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"			

## **Summary for Subcatchment O5LLS: 5 Lower Left Subcat**

Runoff = 15.66 cfs @ 12.09 hrs, Volume= 1.227 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	96,506	92		
	96,506		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment O5LRS: 5 Lower Right Subcat

Runoff

15.73 cfs @ 12.09 hrs, Volume=

1.233 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	96,933	92				
	96,933	-	a			
Т	c Length	Slope	Velocity	Capacity	Description	
(min	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow,	
					n= 0.150 P2= 3.75"	

### Summary for Subcatchment O5MLS: 5 Middle Left Subcat

Runoff

21.44 cfs @ 12.09 hrs, Volume=

1.680 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Α	rea (sf)	CN I	Description				
*	1	32,089	92					
	1	32,089	100.00% Pervious Area					
	Тс	Length	Slope	Velocity	Capacity	Description		
(	min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	·		
	6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"		

## **Summary for Subcatchment O5MRS: 5 Middle Right Subcat**

Runoff

21.98 cfs @ 12.09 hrs, Volume=

1.722 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	135,387	92		
	135,387		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Тс	Length			Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		37
6.5	232	0.2500	0.60		Sheet Flow,	71
					n= 0.150 P2= 3.75"	

### Summary for Subcatchment O5ULS: 5 Upper Left Subcat

Runoff = 19.72 cfs @ 12.09 hrs, Volume= 1.545 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	121,507	92				
	121,507					
	Гс Length	n Slop	e Velocity	Capacity	Description	
(mi	n) (feet)	(ft/f	t) (ft/sec)	(cfs)	·	
6	.5 232	0.250	0.60		Sheet Flow,	
					n= 0 150 P2= 3 75"	

### Summary for Subcatchment O5URS: 5 Upper Right Subcat

Runoff = 21.15 cfs @ 12.09 hrs, Volume= 1.657 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	A	rea (sf)	CN [	Description			
*	1	30,312	92				
	1	30,312	1				
		Length	Slope	,		Description	
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	_	
	6.5	232	0.2500	0.60		<b>Sheet Flow,</b> n= 0.150 P2= 3.75"	

## **Summary for Subcatchment P7LLS: 7 Lower Left Subcat**

Runoff = 17.25 cfs @ 12.09 hrs, Volume= 1.352 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	106,276	92		
	106,276		100.00% Pervious Area	

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5		0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment P7LRS: 7 Lower Right Subcat

Runoff =

17.30 cfs @ 12.09 hrs, Volume=

1.355 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN	Description			
*	106,561	92				
	106,561		100.00% P	ervious Are	a	
T	Length	Slope	Velocity	Capacity	Description	
(min	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment P7ULS: 7 Upper Left Subcat

Runoff

18.67 cfs @ 12.09 hrs, Volume=

1.463 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN I	Description			
*	115,032	92				
	115,032	•	100.00% Pe	ervious Are	ea	
	c Length	Slope		Capacity	Description	
(mir	) (feet)	(ft/ft)	(ft/sec)	(cfs)		
6.	5 232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

# Summary for Subcatchment P7URS: 7 Upper Right Subcat

Runoff =

19.51 cfs @ 12.09 hrs, Volume=

1.528 af, Depth= 6.65"

	Area (sf)	CN	Description	
*	120,174	92		
	120,174		100.00% Pervious Area	

Area (sf)

CN

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.5	232	0.2500	0.60		Sheet Flow, n= 0.150 P2= 3.75"	

### Summary for Subcatchment SDBS: South Detention Basin Subcatchment

Runoff = 416.99 cfs @ 12.03 hrs, Volume=

29.744 af, Depth= 7.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	Area (sf)	CN I	Description		
* /	,806,527	98			
*	340,655	92			
	2,147,182 340,655 ,806,527	•		verage rvious Area pervious Ar	
T (mir	c Length ) (feet)	Slope (ft/ft)	and the second s	Capacity (cfs)	Description
2.	4 60	0.2000	0.42	137	Sheet Flow, Grass: Short n= 0.150 P2= 3.75"

# **Summary for Subcatchment WMS: West Middle Subcat**

Runoff = 50.85 cfs @ 12.48 hrs, Volume=

Description

7.623 af, Depth= 6.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

	11 001 (01)	011	200011P0011			
k	599,417	92				
	599,417	•	100.00% P	ervious Are	а	
To (min)		Slope (ft/ft)		Capacity (cfs)	Description	
34.2	300	0.0065	0.15		Sheet Flow, Grass: Short n= 0.150 P2= 3.75"	
3.6	121	0.0065	0.56		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	
37.8	421	Total				

## **Summary for Reach EMC: East Middle Channel**

Inflow Area = 163.583 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 198.75 cfs @ 12.38 hrs, Volume= 90.618 af

Outflow = 198.17 cfs @ 12.45 hrs, Volume= 90.615 af, Atten= 0%, Lag= 4.2 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.71 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 1.72 fps, Avg. Travel Time= 5.0 min

Peak Storage= 27,653 cf @ 12.41 hrs

Average Depth at Peak Storage= 2.23'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.07 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 517.4' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.55'



### Summary for Reach NDE01: N Ditch E 1

Inflow Area = 75.474 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 79.17 cfs @ 12.32 hrs, Volume= 41.811 af

Outflow = 78.71 cfs @ 12.39 hrs, Volume= 41.811 af, Atten= 1%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.83 fps, Min. Travel Time= 2.6 min

Avg. Velocity = 1.36 fps, Avg. Travel Time= 5.3 min

Peak Storage= 12,054 cf @ 12.34 hrs

Average Depth at Peak Storage= 1.36'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.98 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value 4.0 '/' Top Width 47.00'

Length= 432.7' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.30'



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### Summary for Reach NDE02: N Ditch E 2

Inflow Area = 78.070 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 84.84 cfs @ 12.37 hrs, Volume= 43.248 af

Outflow = 84.46 cfs @ 12.44 hrs, Volume= 43.248 af, Atten= 0%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.89 fps, Min. Travel Time= 2.5 min

Avg. Velocity = 1.36 fps, Avg. Travel Time= 5.2 min

Peak Storage= 12,526 cf @ 12.40 hrs

Average Depth at Peak Storage= 1.41'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.62 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value 4.0 '/' Top Width 47.00'

Length= 428.5' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.29'



### Summary for Reach NDE03: N Ditch E 3

Inflow Area = 80.631 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 89.63 cfs @ 12.42 hrs, Volume= 44.667 af

Outflow = 89.38 cfs @ 12.48 hrs, Volume= 44.667 af, Atten= 0%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.93 fps. Min. Travel Time= 2.1 min

Avg. Velocity = 1.37 fps, Avg. Travel Time= 4.5 min

Peak Storage= 11,302 cf @ 12.44 hrs

Average Depth at Peak Storage= 1.46'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.75 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 370.9' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.11'



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### Summary for Reach NDE04: N Ditch E 4

Inflow Area = 82.663 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 92.95 cfs @ 12.46 hrs, Volume= 45.793 af

Outflow = 92.82 cfs @ 12.51 hrs, Volume= 45.793 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.97 fps, Min. Travel Time= 1.6 min Avg. Velocity = 1.38 fps, Avg. Travel Time= 3.5 min

Peak Storage= 8,991 cf @ 12.48 hrs Average Depth at Peak Storage= 1.49' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.71 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 287.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.86'

### Summary for Reach NDE05: N Ditch E 5

Inflow Area = 118.284 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 131.47 cfs @ 12.42 hrs, Volume= 65.526 af

Outflow = 131.29 cfs @ 12.46 hrs, Volume= 65.526 af, Atten= 0%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.29 fps, Min. Travel Time= 1.5 min Avg. Velocity = 1.55 fps, Avg. Travel Time= 3.1 min

Peak Storage= 11,426 cf @ 12.44 hrs Average Depth at Peak Storage= 1.80'

#

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.59 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 286.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.86'

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### Summary for Reach NDE06: N Ditch E 6

Inflow Area = 120.203 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 134.81 cfs @ 12.45 hrs, Volume= 66.589 af

Outflow = 134.57 cfs @ 12.50 hrs, Volume= 66.589 af, Atten= 0%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.32 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 1.56 fps, Avg. Travel Time= 3.1 min

Peak Storage= 11,617 cf @ 12.47 hrs

Average Depth at Peak Storage= 1.82'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.81 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 286.4' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.86'



### Summary for Reach NDE07: N Ditch E 7

Inflow Area = 122.289 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 137.92 cfs @ 12.49 hrs, Volume= 67.744 af

Outflow = 137.65 cfs @ 12.53 hrs, Volume= 67.744 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.34 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 1.56 fps, Avg. Travel Time= 3.0 min

Peak Storage= 11,743 cf @ 12.51 hrs

Average Depth at Peak Storage= 1.84'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 635.03 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 285.3' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.86'



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### Summary for Reach NDE08: N Ditch E 8

Inflow Area = 125.024 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 141.44 cfs @ 12.52 hrs, Volume= 69.260 af

Outflow = 140.93 cfs @ 12.58 hrs, Volume= 69.259 af, Atten= 0%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.36 fps, Min. Travel Time= 1.9 min Avg. Velocity = 1.57 fps, Avg. Travel Time= 4.0 min

Peak Storage= 15,665 cf @ 12.55 hrs Average Depth at Peak Storage= 1.87'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.29 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 373.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'

‡

### Summary for Reach NDE09: N Ditch E 9

Inflow Area = 127.882 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 144.10 cfs @ 12.57 hrs, Volume= 70.842 af

Outflow = 143.52 cfs @ 12.63 hrs, Volume= 70.842 af, Atten= 0%, Lag= 3.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.38 fps, Min. Travel Time= 2.1 min Avg. Velocity = 1.58 fps, Avg. Travel Time= 4.5 min

Peak Storage= 18,098 cf @ 12.60 hrs Average Depth at Peak Storage= 1.88'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.79 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 426.3' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.28'

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#### Summary for Reach NDE10: N Ditch E 10

Inflow Area = 129.992 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 145.48 cfs @ 12.63 hrs, Volume= 72.011 af

Outflow = 144.93 cfs @ 12.70 hrs, Volume= 72.010 af, Atten= 0%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.39 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 1.59 fps, Avg. Travel Time= 5.0 min

Peak Storage= 20,288 cf @ 12.66 hrs

Average Depth at Peak Storage= 1.89'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.94 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 474.2' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.42'



### Summary for Reach NDNE01: N Ditch NE 1

Inflow Area = 43.153 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 54.08 cfs @ 12.33 hrs, Volume= 23.905 af

Outflow = 52.84 cfs @ 12.41 hrs, Volume= 23.905 af, Atten= 2%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.50 fps. Min. Travel Time= 2.3 min

Avg. Velocity = 1.25 fps, Avg. Travel Time= 4.6 min

Peak Storage= 7,341 cf @ 12.37 hrs

Average Depth at Peak Storage= 1.09'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 633.58 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 346.6' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.04'



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### Summary for Reach NDNE02: N Ditch NE 2

Inflow Area = 45.314 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 57.55 cfs @ 12.40 hrs, Volume= 25.103 af

Outflow = 56.51 cfs @ 12.47 hrs, Volume= 25.103 af, Atten= 2%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.55 fps, Min. Travel Time= 2.3 min Avg. Velocity = 1.24 fps, Avg. Travel Time= 4.6 min

Peak Storage= 7,632 cf @ 12.43 hrs Average Depth at Peak Storage= 1.14'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.99 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 343.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.03'



### Summary for Reach NDNE03: N Ditch NE 3

Inflow Area = 47.717 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 60.74 cfs @ 12.47 hrs, Volume= 26.434 af

Outflow = 59.69 cfs @ 12.54 hrs, Volume= 26.434 af, Atten= 2%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.60 fps, Min. Travel Time= 2.4 min Avg. Velocity = 1.24 fps, Avg. Travel Time= 5.1 min

Peak Storage= 8,703 cf @ 12.50 hrs Average Depth at Peak Storage= 1.17'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.77 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 378.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.14'



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#### Summary for Reach NDNE04: N Ditch NE 4

Inflow Area = 50.226 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 63.03 cfs @ 12.53 hrs, Volume= 27.824 af

Outflow = 61.89 cfs @ 12.61 hrs, Volume= 27.824 af, Atten= 2%, Lag= 4.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.62 fps, Min. Travel Time= 2.8 min

Avg. Velocity = 1.23 fps, Avg. Travel Time= 6.0 min

Peak Storage= 10,355 cf @ 12.56 hrs

Average Depth at Peak Storage= 1.19'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.24 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 439.0' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.32'



### Summary for Reach NDNE05: N Ditch NE 5

Inflow Area = 73.759 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 74.96 cfs @ 12.25 hrs. Volume= 40.861 af

Outflow = 74.43 cfs @ 12.33 hrs, Volume= 40.861 af, Atten= 1%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.78 fps, Min. Travel Time= 2.7 min

Avg. Velocity = 1.39 fps, Avg. Travel Time= 5.3 min

Peak Storage= 11,881 cf @ 12.28 hrs

Average Depth at Peak Storage= 1.32'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.61 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00'

Length= 443.2' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.33'



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### Summary for Reach NDNW01: N Ditch NW 1

Inflow Area = 1.874 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 13.25 cfs @ 12.09 hrs, Volume= 1.038 af

Outflow = 12.37 cfs @ 12.18 hrs, Volume= 1.038 af, Atten= 7%, Lag= 5.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.77 fps, Min. Travel Time= 3.2 min Avg. Velocity = 0.50 fps, Avg. Travel Time= 11.3 min

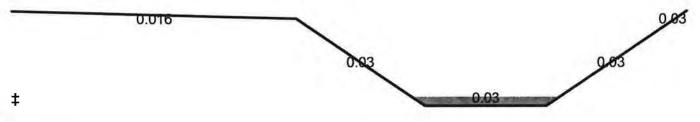
Peak Storage= 2,390 cf @ 12.12 hrs Average Depth at Peak Storage= 0.42'

Bank-Full Depth= 4.35' Flow Area= 146.8 sf, Capacity= 962.27 cfs

Custom cross-section, Length= 340.7' Slope= 0.0046 '/'

Flow calculated by Manning's Subdivision method

Inlet Invert= 0.00', Outlet Invert= -1.57'



Offset	Elevation	Chan.Depth	n	Description	
(feet)	(feet)	(feet)			
0.00	0.00	0.00			
35.00	-0.35	0.35	0.016		
51.00	-4.35	4.35	0.030		
66.00	-4.35	4.35	0.030		
82.00	-0.35	0.35	0.030		
83.40	0.00	0.00	0.030		

Depth	End Area	Perim.	Storage	Discharge
(feet)	(sq-ft)	(feet)	(cubic-feet)	(cfs)
0.00	0.0	15.0	0	0.00
4.00	124.0	48.0	42,247	785.26
4.35	146.8	84.4	50,022	962.27

# Summary for Reach NDNW02: N Ditch NW 2

Inflow Area = 4.013 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 24.52 cfs @ 12.13 hrs, Volume= 2.223 af

Outflow = 23.86 cfs @ 12.20 hrs, Volume= 2.223 af, Atten= 3%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.22 fps, Min. Travel Time= 2.6 min

Avg. Velocity = 0.60 fps, Avg. Travel Time= 9.5 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 3,682 cf @ 12.16 hrs Average Depth at Peak Storage= 0.62'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 785.70 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 342.4' Slope= 0.0046 '/' Inlet Invert= 0.00', Outlet Invert= -1.58'



### Summary for Reach NDNW03: N Ditch NW 3

Inflow Area = 6.498 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 36.25 cfs @ 12.14 hrs, Volume= 3.600 af

Outflow = 35.52 cfs @ 12.22 hrs, Volume= 3.600 af, Atten= 2%, Lag= 4.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.54 fps, Min. Travel Time= 2.6 min Avg. Velocity = 0.69 fps, Avg. Travel Time= 9.4 min

Peak Storage= 5,484 cf @ 12.18 hrs Average Depth at Peak Storage= 0.77'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 784.47 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 391.3' Slope= 0.0046 '/' Inlet Invert= 0.00', Outlet Invert= -1.80'



## Summary for Reach NDNW04: N Ditch NW 4

Inflow Area = 9.176 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 47.12 cfs @ 12.17 hrs, Volume= 5.083 af

Outflow = 46.38 cfs @ 12.25 hrs, Volume= 5.083 af, Atten= 2%, Lag= 5.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.77 fps, Min. Travel Time= 2.8 min Avg. Velocity = 0.76 fps, Avg. Travel Time= 10.2 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 7,809 cf @ 12.20 hrs Average Depth at Peak Storage= 0.90' Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 784.06 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 465.7' Slope= 0.0046 '/' Inlet Invert= 0.00', Outlet Invert= -2.14'



#### Summary for Reach NDNW05: N Ditch NW 5

Inflow Area = 33.726 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 61.82 cfs @ 12.23 hrs, Volume= 18.683 af

Outflow = 61.31 cfs @ 12.31 hrs, Volume= 18.683 af, Atten= 1%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.03 fps, Min. Travel Time= 2.6 min Avg. Velocity = 1.24 fps, Avg. Travel Time= 6.4 min

Peak Storage= 9,600 cf @ 12.27 hrs Average Depth at Peak Storage= 1.05' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 784.48 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 473.9' Slope= 0.0046 '/' Inlet Invert= 0.00'. Outlet Invert= -2.18'



## Summary for Reach NDSE01: N Ditch SE 1

Inflow Area = 2.089 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 14.77 cfs @ 12.09 hrs, Volume= 1.157 af

Outflow = 13.73 cfs @ 12.18 hrs, Volume= 1.157 af, Atten= 7%, Lag= 5.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.59 fps, Min. Travel Time= 3.3 min Avg. Velocity = 0.43 fps, Avg. Travel Time= 12.3 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 2,728 cf @ 12.12 hrs Average Depth at Peak Storage= 0.51'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.88 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 316.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.95'



#### Summary for Reach NDSE02: N Ditch SE 2

Inflow Area = 4.389 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 26.61 cfs @ 12.13 hrs, Volume= 2.431 af

Outflow = 25.85 cfs @ 12.20 hrs, Volume= 2.431 af, Atten= 3%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.98 fps, Min. Travel Time= 2.7 min Avg. Velocity = 0.53 fps, Avg. Travel Time= 9.9 min

Peak Storage= 4,130 cf @ 12.16 hrs Average Depth at Peak Storage= 0.73'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.18 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 316.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.95'



# Summary for Reach NDSE03: N Ditch SE 3

Inflow Area = 7.078 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 38.95 cfs @ 12.14 hrs, Volume= 3.921 af

Outflow = 38.11 cfs @ 12.23 hrs, Volume= 3.921 af, Atten= 2%, Lag= 4.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 2.25 fps, Min. Travel Time = 2.7 min Avg. Velocity = 0.61 fps, Avg. Travel Time = 10.0 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 6,235 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.91'

Park Full Depth = 4.00', Flow Area = 124.0 cf

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.97 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 367.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.10'



#### Summary for Reach NDSE04: N Ditch SE 4

Inflow Area = 9.935 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 50.04 cfs @ 12.17 hrs, Volume= 5.504 af

Outflow = 49.29 cfs @ 12.26 hrs, Volume= 5.504 af, Atten= 1%, Lag= 5.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.44 fps, Min. Travel Time= 2.9 min

Avg. Velocity = 0.67 fps, Avg. Travel Time= 10.6 min

Peak Storage= 8,608 cf @ 12.21 hrs Average Depth at Peak Storage= 1.05' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.79 cfs

15.00' x 4.00' deep channel, n= 0.030

Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 426.3' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -1.28'



# Summary for Reach NDSE05: N Ditch SE 5

Inflow Area = 12.046 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 56.50 cfs @ 12.24 hrs, Volume= 6.673 af

Outflow = 55.81 cfs @ 12.33 hrs, Volume= 6.673 af, Atten= 1%, Lag= 5.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.54 fps, Min. Travel Time= 3.1 min

Avg. Velocity = 0.70 fps, Avg. Travel Time= 11.3 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 10,433 cf @ 12.28 hrs Average Depth at Peak Storage= 1.13'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.94 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 474.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.42'



### Summary for Reach NDSW01: N Ditch SW 1

Inflow Area = 40.393 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 52.26 cfs @ 12.33 hrs, Volume= 22.377 af

Outflow = 51.42 cfs @ 12.39 hrs, Volume= 22.377 af, Atten= 2%, Lag= 3.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.78 fps, Min. Travel Time= 1.9 min Avg. Velocity = 1.40 fps, Avg. Travel Time= 3.8 min

Peak Storage= 5,857 cf @ 12.36 hrs Average Depth at Peak Storage= 0.98'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 750.26 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 316.1' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'



# Summary for Reach NDSW02: N Ditch SW 2

Inflow Area = 42.731 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 56.75 cfs @ 12.39 hrs, Volume= 23.672 af

Outflow = 55.98 cfs @ 12.44 hrs, Volume= 23.672 af, Atten= 1%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.85 fps, Min. Travel Time= 1.9 min Avg. Velocity = 1.40 fps, Avg. Travel Time= 3.8 min Pescadito Perimeter Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 6,273 cf @ 12.41 hrs Average Depth at Peak Storage= 1.03' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 749.29 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 319.3' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.34'



#### Summary for Reach NDSW03: N Ditch SW 3

Inflow Area = 45.443 ac. 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 61.25 cfs @ 12.44 hrs, Volume= 25.174 af

Outflow = 60.34 cfs @ 12.50 hrs, Volume= 25.174 af, Atten= 1%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.92 fps, Min. Travel Time= 2.1 min Avg. Velocity = 1.40 fps, Avg. Travel Time= 4.3 min

Peak Storage= 7,552 cf @ 12.47 hrs Average Depth at Peak Storage= 1.07' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 748.85 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 365.0' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.53'



## Summary for Reach NDSW04: N Ditch SW 4

Inflow Area = 48.259 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 69.33 cfs @ 12.17 hrs, Volume= 26.734 af

Outflow = 68.54 cfs @ 12.23 hrs, Volume= 26.734 af, Atten= 1%, Lag= 3.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.04 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 1.40 fps, Avg. Travel Time= 4.9 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 9,270 cf @ 12.19 hrs
Average Depth at Peak Storage= 1.15'
Bank Full Depth= 4.00' Flow Area 124.0 st

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 748.60 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 410.6' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.72'



#### Summary for Reach NDSW05: N Ditch SW 5

Inflow Area = 50.398 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 76.57 cfs @ 12.22 hrs, Volume= 27.919 af

Outflow = 75.85 cfs @ 12.29 hrs, Volume= 27.919 af, Atten= 1%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.14 fps, Min. Travel Time= 2.5 min Avg. Velocity = 1.38 fps, Avg. Travel Time= 5.6 min

Peak Storage= 11,308 cf @ 12.24 hrs Average Depth at Peak Storage= 1.22'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 750.43 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 468.0' Slope= 0.0042 '/' Inlet Invert= 0.00', Outlet Invert= -1.97'



## Summary for Reach NDW01: N Ditch W 1

Inflow Area = 35.584 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 66.72 cfs @ 12.30 hrs, Volume= 19.713 af

Outflow = 66.16 cfs @ 12.38 hrs, Volume= 19.713 af, Atten= 1%, Lag= 4.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.68 fps, Min. Travel Time= 2.9 min Avg. Velocity = 1.07 fps, Avg. Travel Time= 7.2 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 11,382 cf @ 12.33 hrs Average Depth at Peak Storage= 1.24'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.24 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 460.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.38'



### Summary for Reach NDW02: N Ditch W 2

Inflow Area = 38.395 ac. 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 73.02 cfs @ 12.36 hrs, Volume= 21.270 af

Outflow = 72.57 cfs @ 12.43 hrs, Volume= 21.270 af, Atten= 1%, Lag= 4.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.76 fps, Min. Travel Time= 2.7 min Avg. Velocity = 1.09 fps, Avg. Travel Time= 6.9 min

Peak Storage= 11,910 cf @ 12.39 hrs Average Depth at Peak Storage= 1.30' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.17 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 452.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.36'



## Summary for Reach NDW03: N Ditch W 3

Inflow Area = 41.108 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 78.17 cfs @ 12.41 hrs, Volume= 22.773 af

Outflow = 78.01 cfs @ 12.46 hrs, Volume= 22.773 af, Atten= 0%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.82 fps, Min. Travel Time= 1.7 min Avg. Velocity = 1.11 fps, Avg. Travel Time= 4.4 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 8,032 cf @ 12.43 hrs Average Depth at Peak Storage= 1.36' Bank-Full Depth= 4.00' Flow Area= 124.0 sf Ca

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.52 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 290.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.87'



### Summary for Reach NDW04: N Ditch W 4

Inflow Area = 43.217 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 81.96 cfs @ 12.44 hrs, Volume= 23.941 af

Outflow = 81.83 cfs @ 12.49 hrs, Volume= 23.941 af, Atten= 0%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.86 fps, Min. Travel Time= 1.7 min Avg. Velocity = 1.12 fps, Avg. Travel Time= 4.3 min

Peak Storage= 8,303 cf @ 12.46 hrs Average Depth at Peak Storage= 1.39

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.52 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 290.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.87'



## Summary for Reach NDW05: N Ditch W 5

Inflow Area = 79.292 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 120.72 cfs @ 12.43 hrs, Volume= 43.925 af

Outflow = 120.49 cfs @ 12.48 hrs, Volume= 43.925 af, Atten= 0%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.22 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 1.37 fps, Avg. Travel Time= 3.6 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 10,932 cf @ 12.45 hrs Average Depth at Peak Storage= 1.71' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 635.18 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 291.8' Slope= 0.0030 '/' Inlet Invert= 0.00'. Outlet Invert= -0.88'



#### Summary for Reach NDW06: N Ditch W 6

Inflow Area = 81.285 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 123.98 cfs @ 12.47 hrs, Volume= 45.029 af

Outflow = 123.73 cfs @ 12.51 hrs, Volume= 45.029 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.24 fps, Min. Travel Time= 1.5 min Avg. Velocity = 1.38 fps, Avg. Travel Time= 3.5 min

Peak Storage= 11,017 cf @ 12.48 hrs Average Depth at Peak Storage= 1.74'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 635.05 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 288.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.87'



# Summary for Reach NDW07: N Ditch W 7

Inflow Area = 83.466 ac. 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 127.06 cfs @ 12.50 hrs, Volume= 46.237 af

Outflow = 126.80 cfs @ 12.54 hrs, Volume= 46.237 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 3.26 fps, Min. Travel Time = 1.5 min Avg. Velocity = 1.39 fps, Avg. Travel Time = 3.5 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 11,289 cf @ 12.52 hrs Average Depth at Peak Storage= 1.76'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.41 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 290.1' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.87'



#### Summary for Reach NDW08: N Ditch W 8

Inflow Area = 86.235 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 130.45 cfs @ 12.53 hrs, Volume= 47.771 af

Outflow = 130.08 cfs @ 12.58 hrs, Volume= 47.770 af, Atten= 0%, Lag= 3.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.28 fps, Min. Travel Time= 1.9 min Avg. Velocity = 1.40 fps, Avg. Travel Time= 4.4 min

Peak Storage= 14,574 cf @ 12.55 hrs Average Depth at Peak Storage= 1.79'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.71 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 367.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.10'



# Summary for Reach NDW09: N Ditch W 9

Inflow Area = 89.066 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 133.13 cfs @ 12.58 hrs, Volume= 49.339 af

Outflow = 132.77 cfs @ 12.63 hrs, Volume= 49.337 af, Atten= 0%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.31 fps, Min. Travel Time= 2.1 min

Avg. Velocity = 1.41 fps, Avg. Travel Time= 4.8 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 16,396 cf @ 12.60 hrs Average Depth at Peak Storage= 1.81'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.68 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 408.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.23'



#### **Summary for Reach NDW10: N Ditch W 10**

Inflow Area = 91.207 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 134.75 cfs @ 12.63 hrs, Volume= 50.522 af

Outflow = 134.38 cfs @ 12.69 hrs, Volume= 50.519 af, Atten= 0%, Lag= 3.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 3.32 fps, Min. Travel Time = 2.3 min Avg. Velocity = 1.42 fps, Avg. Travel Time = 5.5 min

Peak Storage= 18,856 cf @ 12.66 hrs Average Depth at Peak Storage= 1.82' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.24 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 465.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.40'



## Summary for Reach NUEOC: North Unit East Outlet Culvert

Inflow Area = 163.583 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 198.76 cfs @ 12.37 hrs, Volume= 90.618 af

Outflow = 198.75 cfs @ 12.38 hrs, Volume= 90.618 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.20 fps, Min. Travel Time= 0.1 min Avg. Velocity = 3.41 fps, Avg. Travel Time= 0.3 min

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Peak Storage= 1,697 cf @ 12.38 hrs Average Depth at Peak Storage= 1.62'

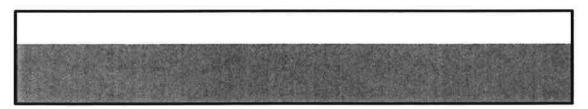
Bank-Full Depth= 2.50' Flow Area= 37.5 sf, Capacity= 266.32 cfs

180.0" W x 30.0" H Box Pipe

n = 0.012

Length= 70.0' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.21'



### Summary for Reach NUWOC: North Unit West Outlet Culvert

Inflow Area =

162.732 ac,

0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

90.143 af

Inflow Outflow

208.06 cfs @ 12.65 hrs, Volume= 208.04 cfs @ 12.65 hrs, Volume=

90.142 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.33 fps, Min. Travel Time= 0.1 min Avg. Velocity = 3.40 fps, Avg. Travel Time= 0.3 min

Peak Storage= 1,747 cf @ 12.65 hrs Average Depth at Peak Storage= 1.66'

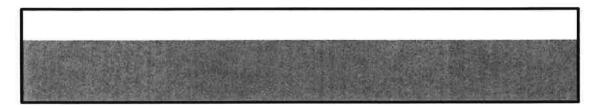
Bank-Full Depth= 2.50' Flow Area= 37.5 sf, Capacity= 266.32 cfs

180.0" W x 30.0" H Box Pipe

n = 0.012

Length= 70.0' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.21'



## Summary for Reach SBEIC: South Basin East Inlet Culverts

Inflow Area =

320.503 ac, 0.00% Impervious, Inflow Depth > 6.63" for 25-Year, 24-Hour event

Inflow

361.31 cfs @ 12.82 hrs, Volume=

177.194 af

Outflow

361.30 cfs @ 12.82 hrs, Volume=

177.193 af. Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 18.67 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 8.02 fps, Avg. Travel Time= 0.2 min

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Peak Storage= 1,974 cf @ 12.82 hrs Average Depth at Peak Storage= 1.29'

Bank-Full Depth= 2.00' Flow Area= 30.0 sf, Capacity= 483.32 cfs

180.0" W x 24.0" H Box Pipe n = 0.012

Length= 102.0' Slope= 0.0200 '/'

Inlet Invert= 0.00', Outlet Invert= -2.04'

# Summary for Reach SBWIC: South Basin West Inlet Culverts

388.088 ac, 0.00% Impervious, Inflow Depth > 6.64" for 25-Year, 24-Hour event Inflow Area =

214.899 af 428.34 cfs @ 12.82 hrs, Volume= Inflow

428.32 cfs @ 12.83 hrs, Volume= 214.898 af, Atten= 0%, Lag= 0.1 min Outflow

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 19.85 fps, Min. Travel Time= 0.1 min Avg. Velocity = 8.53 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1,467 cf @ 12.82 hrs Average Depth at Peak Storage= 1.44'

Bank-Full Depth= 2.00' Flow Area= 30.0 sf, Capacity= 483.32 cfs

180.0" W x 24.0" H Box Pipe n = 0.012

Length= 68.0' Slope= 0.0200 '/'

Inlet Invert= 0.00', Outlet Invert= -1.36'

## Summary for Reach SDE01: S Ditch E 1

219.049 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event Inflow Area =

279.31 cfs @ 12.42 hrs, Volume= 121.341 af Inflow

278.87 cfs @ 12.47 hrs, Volume= 121.338 af, Atten= 0%, Lag= 3.2 min Outflow

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.09 fps, Min. Travel Time= 1.7 min

Avg. Velocity = 1.89 fps, Avg. Travel Time= 3.8 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 29,215 cf @ 12.44 hrs Average Depth at Peak Storage= 2.66' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.62 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 428.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



### Summary for Reach SDE02: S Ditch E 2

Inflow Area = 221.646 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 283.50 cfs @ 12.46 hrs, Volume= 122.776 af

Outflow = 282.99 cfs @ 12.52 hrs, Volume= 122.772 af, Atten= 0%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.11 fps, Min. Travel Time= 1.8 min Avg. Velocity = 1.89 fps, Avg. Travel Time= 3.9 min

Peak Storage= 30,253 cf @ 12.49 hrs Average Depth at Peak Storage= 2.68'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.31 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 438.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.32'



## Summary for Reach SDE03: S Ditch E 3

Inflow Area = 224.252 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 286.86 cfs @ 12.51 hrs, Volume= 124.215 af

Outflow = 286.44 cfs @ 12.55 hrs, Volume= 124.211 af, Atten= 0%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.12 fps, Min. Travel Time= 1.6 min Avg. Velocity = 1.90 fps, Avg. Travel Time= 3.4 min **Pescadito Perimeter** Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 26,677 cf @ 12.53 hrs Average Depth at Peak Storage = 2.70' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.54 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 383.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.15'



#### Summary for Reach SDE04: S Ditch E 4

226.917 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event Inflow Area =

Inflow 289.74 cfs @ 12.55 hrs, Volume= 125.688 af

125.683 af, Atten= 0%, Lag= 2.8 min Outflow 289.30 cfs @ 12.59 hrs, Volume=

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.13 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 1.90 fps, Avg. Travel Time= 3.4 min

Peak Storage= 27,062 cf @ 12.57 hrs Average Depth at Peak Storage= 2.71'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.90 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 386.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.16'



## Summary for Reach SDE05: S Ditch E 5

277.567 ac, 0.00% Impervious, Inflow Depth > 6.64" for 25-Year, 24-Hour event Inflow Area =

333.22 cfs @ 12.56 hrs, Volume= 153.496 af Inflow

153.483 af, Atten= 0%, Lag= 2.7 min Outflow 332.71 cfs @ 12.60 hrs, Volume=

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.29 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 2.06 fps, Avg. Travel Time= 3.1 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 30,099 cf @ 12.58 hrs
Average Depth at Peak Storage= 2.91'

Rank Full Doubt= 4.00' Flow Area= 124.0 sf. Car

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.67 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 387.7' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.16'



#### Summary for Reach SDE06: S Ditch E 6

Inflow Area = 280.038 ac, 0.00% Impervious, Inflow Depth > 6.64" for 25-Year, 24-Hour event

Inflow = 335.17 cfs @ 12.60 hrs, Volume= 154.852 af

Outflow = 334.71 cfs @ 12.64 hrs, Volume= 154.838 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.30 fps, Min. Travel Time= 1.5 min Avg. Velocity = 2.07 fps, Avg. Travel Time= 3.1 min

Peak Storage= 29,985 cf @ 12.62 hrs Average Depth at Peak Storage= 2.92'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.56 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 385.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.16'



## Summary for Reach SDE07: S Ditch E 7

Inflow Area = 282.832 ac, 0.00% Impervious, Inflow Depth > 6.64" for 25-Year, 24-Hour event

Inflow = 337.22 cfs @ 12.64 hrs, Volume= 156.386 af

Outflow = 336.78 cfs @ 12.69 hrs, Volume= 156.372 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.31 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 2.08 fps, Avg. Travel Time= 3.1 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 30,205 cf @ 12.66 hrs Average Depth at Peak Storage= 2.93' Bank-Full Depth= 4.00' Flow Area= 124.0 sf C

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.90 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 386.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.16'

#

### Summary for Reach SDE08: S Ditch E 8

Inflow Area = 285.612 ac, 0.00% Impervious, Inflow Depth > 6.63" for 25-Year, 24-Hour event

Inflow = 339.14 cfs @ 12.69 hrs, Volume= 157.912 af

Outflow = 338.72 cfs @ 12.73 hrs, Volume= 157.899 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.32 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 2.08 fps, Avg. Travel Time= 3.0 min

Peak Storage= 29,750 cf @ 12.70 hrs Average Depth at Peak Storage= 2.94'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 634.35 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 379.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.14'



## Summary for Reach SDE09: S Ditch E 9

Inflow Area = 288.499 ac, 0.00% Impervious, Inflow Depth > 6.63" for 25-Year, 24-Hour event

Inflow = 341.06 cfs @ 12.73 hrs, Volume= 159.498 af

Outflow = 340.55 cfs @ 12.78 hrs, Volume= 159.483 af, Atten= 0%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.32 fps, Min. Travel Time= 1.7 min

Avg. Velocity = 2.08 fps, Avg. Travel Time= 3.4 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 33,960 cf @ 12.75 hrs Average Depth at Peak Storage= 2.95'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.22 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 430.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



### Summary for Reach SDE10: S Ditch E 10

Inflow Area = 290.629 ac, 0.00% Impervious, Inflow Depth > 6.63" for 25-Year, 24-Hour event

Inflow = 342.20 cfs @ 12.78 hrs, Volume= 160.662 af

Outflow = 341.61 cfs @ 12.83 hrs, Volume= 160.645 af, Atten= 0%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.32 fps, Min. Travel Time= 1.8 min Avg. Velocity = 2.09 fps, Avg. Travel Time= 3.8 min

Peak Storage= 37,857 cf @ 12.80 hrs Average Depth at Peak Storage= 2.95'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.43 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 478.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



## **Summary for Reach SDNE01: S Ditch NE 1**

Inflow Area = 22.865 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 72.92 cfs @ 12.61 hrs, Volume= 12.666 af

Outflow = 72.85 cfs @ 12.65 hrs, Volume= 12.666 af, Atten= 0%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.76 fps, Min. Travel Time= 1.8 min Avg. Velocity = 0.92 fps, Avg. Travel Time= 5.4 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 7,868 cf @ 12.62 hrs Average Depth at Peak Storage= 1.31' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.52 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 297.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.89'



#### Summary for Reach SDNE02: S Ditch NE 2

Inflow Area = 24.714 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 74.51 cfs @ 12.64 hrs, Volume= 13.691 af

Outflow = 74.45 cfs @ 12.68 hrs, Volume= 13.691 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.78 fps, Min. Travel Time= 1.8 min Avg. Velocity = 0.93 fps, Avg. Travel Time= 5.3 min

Peak Storage= 7,949 cf @ 12.65 hrs Average Depth at Peak Storage= 1.32' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.70 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 296.5' Slope= 0.0030 '/' Inlet Invert= 0.00'. Outlet Invert= -0.89'



## Summary for Reach SDNE03: S Ditch NE 3

Inflow Area = 27.173 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 76.56 cfs @ 12.68 hrs, Volume= 15.053 af

Outflow = 76.44 cfs @ 12.74 hrs, Volume= 15.053 af, Atten= 0%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.80 fps, Min. Travel Time= 2.3 min Avg. Velocity = 0.94 fps, Avg. Travel Time= 7.0 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 10,751 cf @ 12.70 hrs Average Depth at Peak Storage= 1.34'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.30 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 393.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.18'



## Summary for Reach SDNE04: S Ditch NE 4

Inflow Area = 29.661 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 78.44 cfs @ 12.73 hrs, Volume= 16.432 af

Outflow = 78.27 cfs @ 12.80 hrs, Volume= 16.432 af, Atten= 0%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.82 fps, Min. Travel Time= 2.6 min Avg. Velocity = 0.94 fps, Avg. Travel Time= 7.9 min

Peak Storage= 12,370 cf @ 12.76 hrs Average Depth at Peak Storage= 1.36'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.33 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 445.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'



# Summary for Reach SDNE05: S Ditch NE 5

Inflow Area = 53.802 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 89.31 cfs @ 12.80 hrs, Volume= 29.805 af

Outflow = 89.15 cfs @ 12.87 hrs, Volume= 29.805 af, Atten= 0%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.93 fps, Min. Travel Time= 2.5 min Avg. Velocity = 1.20 fps, Avg. Travel Time= 6.1 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 13,467 cf @ 12.83 hrs Average Depth at Peak Storage= 1.46'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.61 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 443.2' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'



#### Summary for Reach SDNW01: S Ditch NW 1

Inflow Area = 50.513 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 90.94 cfs @ 12.41 hrs, Volume= 27.983 af

Outflow = 90.68 cfs @ 12.46 hrs, Volume= 27.983 af, Atten= 0%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.12 fps, Min. Travel Time= 1.6 min Avg. Velocity = 1.41 fps, Avg. Travel Time= 3.5 min

Peak Storage= 8,608 cf @ 12.44 hrs Average Depth at Peak Storage= 1.41' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 685.83 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 295.8' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.04'



# Summary for Reach SDNW02: S Ditch NW 2

Inflow Area = 52.391 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 94.11 cfs @ 12.45 hrs, Volume= 29.023 af

Outflow = 93.76 cfs @ 12.50 hrs, Volume= 29.023 af, Atten= 0%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.14 fps, Min. Travel Time= 1.6 min Avg. Velocity = 1.39 fps, Avg. Travel Time= 3.6 min

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Peak Storage= 8,863 cf @ 12.48 hrs
Average Depth at Peak Storage= 1.44'

Bank-Full Depth= 4,00', Flow Area= 124.0 cf. (

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 684.33 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 297.1' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.04'



## Summary for Reach SDNW03: S Ditch NW 3

Inflow Area = 54.815 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 97.55 cfs @ 12.49 hrs, Volume= 30.366 af

Outflow = 96.90 cfs @ 12.56 hrs, Volume= 30.366 af, Atten= 1%, Lag= 3.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.18 fps, Min. Travel Time= 2.0 min Avg. Velocity = 1.38 fps, Avg. Travel Time= 4.6 min

Peak Storage= 11,631 cf @ 12.52 hrs Average Depth at Peak Storage= 1.46'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 685.49 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 381.5' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.34'



# Summary for Reach SDNW04: S Ditch NW 4

Inflow Area = 57.366 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 100.00 cfs @ 12.55 hrs, Volume= 31.779 af

Outflow = 99.18 cfs @ 12.62 hrs, Volume= 31.779 af, Atten= 1%, Lag= 4.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.20 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 1.36 fps, Avg. Travel Time= 5.5 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 13,819 cf @ 12.58 hrs Average Depth at Peak Storage= 1.48'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 684.44 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 445.5' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.56'



## Summary for Reach SDNW05: S Ditch NW 5

Inflow Area = 81.220 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 110.50 cfs @ 12.62 hrs, Volume= 44.993 af

Outflow = 109.83 cfs @ 12.69 hrs, Volume= 44.993 af, Atten= 1%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.30 fps, Min. Travel Time= 2.3 min Avg. Velocity = 1.47 fps, Avg. Travel Time= 5.1 min

Peak Storage= 14,867 cf @ 12.65 hrs Average Depth at Peak Storage= 1.57' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 683.98 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 446.1' Slope= 0.0035 '/' Inlet Invert= 0.00', Outlet Invert= -1.56'



# Summary for Reach SDSE01: S Ditch SE 1

Inflow Area = 37.432 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 47.57 cfs @ 12.38 hrs, Volume= 20.736 af

Outflow = 46.98 cfs @ 12.43 hrs, Volume= 20.736 af, Atten= 1%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.88 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 1.48 fps, Avg. Travel Time= 3.2 min

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Peak Storage= 4,618 cf @ 12.40 hrs Average Depth at Peak Storage= 0.88' Bank-Full Depth= 4.00' Flow Area= 124.0 sf. Capacity= 825.64 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 282.6' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.44'



#### **Summary for Reach SDSE02: S Ditch SE 2**

Inflow Area = 2.100 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 14.85 cfs @ 12.09 hrs, Volume= 1.163 af

Outflow = 14.20 cfs @ 12.16 hrs, Volume= 1.163 af, Atten= 4%, Lag= 4.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 1.91 fps, Min. Travel Time= 2.4 min Avg. Velocity = 0.53 fps, Avg. Travel Time= 8.9 min

Peak Storage= 2,078 cf @ 12.12 hrs Average Depth at Peak Storage= 0.44' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 826.44 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 280.1' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



# Summary for Reach SDSE03: S Ditch SE 3

Inflow Area = 2.827 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 19.99 cfs @ 12.09 hrs, Volume= 1.566 af

Outflow = 18.38 cfs @ 12.19 hrs, Volume= 1.566 af, Atten= 8%, Lag= 5.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs. dt= 0.01 hrs

Max. Velocity= 1.76 fps, Min. Travel Time= 3.6 min Avg. Velocity = 0.46 fps, Avg. Travel Time= 13.8 min

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Peak Storage= 4,008 cf @ 12.13 hrs Average Depth at Peak Storage= 0.60'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.05 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 383.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.15'



#### Summary for Reach SDSE04: S Ditch SE 4

Inflow Area = 5.715 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 33.73 cfs @ 12.13 hrs, Volume= 3.166 af

Outflow = 32.45 cfs @ 12.23 hrs, Volume= 3.166 af, Atten= 4%, Lag= 5.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.13 fps, Min. Travel Time= 3.4 min

Avg. Velocity = 0.57 fps, Avg. Travel Time= 12.6 min

Peak Storage= 6,558 cf @ 12.17 hrs Average Depth at Peak Storage= 0.83'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.15 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 430.5' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



# Summary for Reach SDSE05: S Ditch SE 5

Inflow Area = 7.844 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 40.74 cfs @ 12.20 hrs, Volume= 4.346 af

Outflow = 39.91 cfs @ 12.30 hrs, Volume= 4.346 af, Atten= 2%, Lag= 5.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.28 fps, Min. Travel Time= 3.5 min

Avg. Velocity = 0.62 fps, Avg. Travel Time= 12.9 min

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Peak Storage= 8,379 cf @ 12.24 hrs
Average Depth at Peak Storage= 0.93'

Bank Full Dooth= 4.00' Flow Area= 124.0 cf

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.43 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 478.3' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



#### Summary for Reach SDSW01: S Ditch SW 1

Inflow Area = 39.463 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 51.34 cfs @ 12.15 hrs, Volume= 21.861 af

Outflow = 50.93 cfs @ 12.19 hrs, Volume= 21.861 af, Atten= 1%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 2.96 fps, Min. Travel Time= 1.6 min Avg. Velocity = 1.49 fps, Avg. Travel Time= 3.1 min

Peak Storage= 4,826 cf @ 12.16 hrs Average Depth at Peak Storage= 0.92'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 826.73 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 279.9' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



# Summary for Reach SDSW02: S Ditch SW 2

Inflow Area = 41.683 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 61.70 cfs @ 12.16 hrs, Volume= 23.091 af

Outflow = 61.35 cfs @ 12.20 hrs, Volume= 23.091 af, Atten= 1%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.14 fps, Min. Travel Time= 1.5 min Avg. Velocity = 1.49 fps, Avg. Travel Time= 3.1 min

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Peak Storage= 5,482 cf @ 12.18 hrs Average Depth at Peak Storage= 1.02' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 826.29 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 280.2' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



#### Summary for Reach SDSW03: S Ditch SW 3

Inflow Area = 44.675 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 75.27 cfs @ 12.16 hrs, Volume= 24.749 af

Outflow = 74.70 cfs @ 12.22 hrs, Volume= 24.749 af, Atten= 1%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.34 fps, Min. Travel Time= 1.9 min

Avg. Velocity = 1.49 fps, Avg. Travel Time= 4.2 min

Peak Storage= 8,449 cf @ 12.19 hrs Average Depth at Peak Storage= 1.14'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 825.21 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 377.2' Slope= 0.0051 '/' Inlet Invert= 0.00', Outlet Invert= -1.92'



# Summary for Reach SDSW04: S Ditch SW 4

Inflow Area = 388.088 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 428.89 cfs @ 12.78 hrs, Volume= 214.909 af

Outflow = 428.34 cfs @ 12.82 hrs, Volume= 214.899 af, Atten= 0%, Lag= 2.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.59 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 2.26 fps, Avg. Travel Time= 3.2 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 40,191 cf @ 12.80 hrs Average Depth at Peak Storage= 3.30'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.78 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 431.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.29'



#### Summary for Reach SDSW05: S Ditch SW 5

Inflow Area = 340.305 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 386.33 cfs @ 12.75 hrs, Volume= 188.449 af

Outflow = 385.58 cfs @ 12.80 hrs, Volume= 188.439 af, Atten= 0%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.46 fps, Min. Travel Time= 1.8 min Avg. Velocity = 2.18 fps, Avg. Travel Time= 3.7 min

Peak Storage= 41,297 cf @ 12.77 hrs Average Depth at Peak Storage= 3.14' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.63 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 478.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.43'



# Summary for Reach SDW01: S Ditch W 1

Inflow Area = 245.685 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 319.18 cfs @ 12.68 hrs, Volume= 136.094 af

Outflow = 318.36 cfs @ 12.73 hrs, Volume= 136.089 af, Atten= 0%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity = 4.23 fps, Min. Travel Time = 1.7 min Avg. Velocity = 1.95 fps, Avg. Travel Time = 3.7 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 32,682 cf @ 12.70 hrs Average Depth at Peak Storage= 2.85'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.59 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 434.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.30'

\*

## Summary for Reach SDW02: S Ditch W 2

Inflow Area = 248.334 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 320.50 cfs @ 12.73 hrs, Volume= 137.557 af

Outflow = 319.73 cfs @ 12.78 hrs, Volume= 137.551 af, Atten= 0%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.24 fps, Min. Travel Time= 1.7 min Avg. Velocity = 1.96 fps, Avg. Travel Time= 3.7 min

Peak Storage= 32,722 cf @ 12.75 hrs Average Depth at Peak Storage= 2.85'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.03 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 434.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.30'

‡

# Summary for Reach SDW03: S Ditch W 3

Inflow Area = 250.934 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 321.73 cfs @ 12.78 hrs, Volume= 138.992 af

Outflow = 321.16 cfs @ 12.82 hrs, Volume= 138.987 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.25 fps, Min. Travel Time= 1.5 min

Avg. Velocity = 1.96 fps, Avg. Travel Time= 3.2 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 28,252 cf @ 12.80 hrs Average Depth at Peak Storage= 2.86'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.29 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 373.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'



## Summary for Reach SDW04: S Ditch W 4

Inflow Area = 253.575 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 323.12 cfs @ 12.82 hrs, Volume= 140.449 af

Outflow = 322.57 cfs @ 12.87 hrs, Volume= 140.444 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.25 fps, Min. Travel Time= 1.5 min Avg. Velocity = 1.97 fps, Avg. Travel Time= 3.2 min

Peak Storage= 28,383 cf @ 12.84 hrs Average Depth at Peak Storage= 2.87'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.95 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 374.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'



# Summary for Reach SDW05: S Ditch W 5

Inflow Area = 302.781 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 365.10 cfs @ 12.49 hrs, Volume= 167.703 af

Outflow = 364.45 cfs @ 12.54 hrs, Volume= 167.697 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.39 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 2.09 fps, Avg. Travel Time= 3.0 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 31,371 cf @ 12.51 hrs Average Depth at Peak Storage= 3.05'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.32 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 378.1' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.13'

**‡** 

#### Summary for Reach SDW06: S Ditch W 6

Inflow Area = 305.227 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 367.72 cfs @ 12.53 hrs, Volume= 169.052 af

Outflow = 367.11 cfs @ 12.57 hrs, Volume= 169.047 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.41 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 2.10 fps, Avg. Travel Time= 2.9 min

Peak Storage= 30,829 cf @ 12.55 hrs Average Depth at Peak Storage= 3.06'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.43 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 370.1' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.11'

‡

# Summary for Reach SDW07: S Ditch W 7

Inflow Area = 307.986 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 370.19 cfs @ 12.57 hrs, Volume= 170.575 af

Outflow = 369.60 cfs @ 12.61 hrs, Volume= 170.569 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.41 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 2.10 fps, Avg. Travel Time= 3.0 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 31,393 cf @ 12.59 hrs Average Depth at Peak Storage= 3.07'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 632.44 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 374.6' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'



#### Summary for Reach SDW08: S Ditch W 8

Inflow Area = 310.775 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 372.31 cfs @ 12.61 hrs, Volume= 172.114 af

Outflow = 371.76 cfs @ 12.65 hrs, Volume= 172.108 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.42 fps, Min. Travel Time= 1.4 min Avg. Velocity = 2.11 fps, Avg. Travel Time= 2.9 min

Peak Storage= 31,355 cf @ 12.63 hrs Average Depth at Peak Storage= 3.08'

Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.72 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 373.1' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.12'



# Summary for Reach SDW09: S Ditch W 9

Inflow Area = 313.808 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 374.48 cfs @ 12.65 hrs, Volume= 173.788 af

Outflow = 373.76 cfs @ 12.70 hrs, Volume= 173.780 af, Atten= 0%, Lag= 2.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.43 fps, Min. Travel Time= 1.7 min Avg. Velocity = 2.11 fps, Avg. Travel Time= 3.5 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 37,417 cf @ 12.67 hrs Average Depth at Peak Storage= 3.09' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.47 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 443.4' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.33'

#

#### Summary for Reach SDW10: S Ditch W 10

Inflow Area = 338.080 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 385.37 cfs @ 12.70 hrs, Volume= 187.226 af

Outflow = 384.56 cfs @ 12.75 hrs, Volume= 187.216 af, Atten= 0%, Lag= 3.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.46 fps, Min. Travel Time= 1.8 min

Avg. Velocity = 2.18 fps, Avg. Travel Time= 3.7 min

Peak Storage= 42,198 cf @ 12.72 hrs Average Depth at Peak Storage= 3.13' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 633.58 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 489.9' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -1.47'

‡

# Summary for Reach SUEIC: South Unit East Inlet Culvert

Inflow Area = 163.583 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event

Inflow = 198.17 cfs @ 12.45 hrs, Volume= 90.615 af

Outflow = 198.16 cfs @ 12.45 hrs, Volume= 90.614 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.19 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 3.42 fps, Avg. Travel Time= 0.3 min

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Peak Storage= 1,693 cf @ 12.45 hrs Average Depth at Peak Storage= 1.61'

Bank-Full Depth= 2.50' Flow Area= 37.5 sf, Capacity= 266.32 cfs

180.0" W x 30.0" H Box Pipe n = 0.012Length= 70.0' Slope= 0.0030 '/'

Inlet Invert= 0.00', Outlet Invert= -0.21'

# Summary for Reach SUWIC: South Unit West Inlet Culvert

162.732 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event Inflow Area =

Inflow 207.92 cfs @ 12.68 hrs, Volume= 90.141 af

Outflow 207.89 cfs @ 12.68 hrs, Volume= 90.140 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 8.33 fps, Min. Travel Time= 0.1 min Avg. Velocity = 3.41 fps, Avg. Travel Time= 0.3 min

Peak Storage= 1,747 cf @ 12.68 hrs Average Depth at Peak Storage= 1.66'

Bank-Full Depth= 2.50' Flow Area= 37.5 sf, Capacity= 266.32 cfs

180.0" W x 30.0" H Box Pipe n = 0.012Length= 70.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.21'

# **Summary for Reach WMC: West Middle Channel**

162.732 ac, 0.00% Impervious, Inflow Depth > 6.65" for 25-Year, 24-Hour event Inflow Area =

208.04 cfs @ 12.65 hrs, Volume= Inflow 90.142 af

Outflow 207.92 cfs @ 12.68 hrs, Volume= 90.141 af, Atten= 0%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 3.77 fps, Min. Travel Time= 0.8 min

Avg. Velocity = 1.73 fps, Avg. Travel Time= 1.8 min

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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Peak Storage= 10,196 cf @ 12.66 hrs Average Depth at Peak Storage= 2.28' Bank-Full Depth= 4.00' Flow Area= 124.0 sf, Capacity= 636.36 cfs

15.00' x 4.00' deep channel, n= 0.030 Side Slope Z-value= 4.0 '/' Top Width= 47.00' Length= 185.0' Slope= 0.0030 '/' Inlet Invert= 0.00', Outlet Invert= -0.56'



## **Summary for Pond PSDB: South Detention Basin**

Inflow Area = 757.883 ac, 5.47% Impervious, Inflow Depth > 6.68" for 25-Year, 24-Hour event

Inflow = 824.61 cfs @ 12.82 hrs, Volume= 421.836 af

Outflow = 415.74 cfs @ 14.18 hrs, Volume= 408.382 af, Atten= 50%, Lag= 81.8 min

Primary = 415.74 cfs @ 14.18 hrs, Volume= 408.382 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 537.55' @ 14.18 hrs Surf.Area= 1,889,929 sf Storage= 4,720,920 cf

Plug-Flow detention time= 207.0 min calculated for 408.269 af (97% of inflow)

Center-of-Mass det. time= 182.4 min (1,160.8 - 978.4)

Volume Invert Avail.Stora		rage S	Storage D	escription		
#1	535.0	00' 7,487,32	20 cf	0 cf Custom Stage Data (Prisma		rismatic)Listed below (Recalc)
Elevation (feet)		Surf.Area (sq-ft)	Inc.S (cubic-	Store feet)	Cum.Store (cubic-feet)	
535.00	)	1,806,527		0	0	
539.00	)	1,937,133	7,487	,320	7,487,320	
Device I	Routing	Invert	Outlet	Devices		
#1 1	Primary	535.00'	120.0	" W x 24.0	" H Box Cul	vert X 4.00
					•	onform to fill, Ke= 0.700
						534.40' S= 0.0060 '/' Cc= 0.900
			n= 0.0	012 Concr	ete pipe, finis	hed, Flow Area= 20.00 sf

Primary OutFlow Max=415.75 cfs @ 14.18 hrs HW=537.55' (Free Discharge)
—1=Culvert (Inlet Controls 415.75 cfs @ 5.20 fps)

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CA

## Summary for Link A: Watershed A

Inflow Area = 22.714 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.44 cfs @ 16.14 hrs, Volume= 12.583 af

Primary = 10.44 cfs @ 16.14 hrs, Volume= 12.583 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroCF

## Summary for Link B: Watershed B

Inflow Area = 41.229 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 48.98 cfs @ 12.34 hrs, Volume= 22.840 af

Primary = 48.98 cfs @ 12.34 hrs, Volume= 22.840 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC/F

#### Summary for Link C: Watershed C

Inflow Area = 21.830 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.17 cfs @ 14.65 hrs, Volume= 12.093 af

Primary = 10.17 cfs @ 14.65 hrs, Volume= 12.093 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC/F

## Summary for Link D: Watershed D

Inflow Area = 33.722 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 37.12 cfs @ 12.40 hrs, Volume= 18.681 af

Primary = 37.12 cfs @ 12.40 hrs, Volume= 18.681 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroCF

## Summary for Link E: Watershed E

Inflow Area = 21.544 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.09 cfs @ 14.82 hrs, Volume= 11.935 af

Primary = 10.09 cfs @ 14.82 hrs, Volume= 11.935 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\Hy

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## Summary for Link F: Watershed F

Inflow Area = 38.300 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 46.68 cfs @ 12.34 hrs, Volume= 21.217 af

Primary = 46.68 cfs @ 12.34 hrs, Volume= 21.217 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC/F

## Summary for Link G: Watershed G

Inflow Area = 21.128 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.07 cfs @ 14.86 hrs, Volume= 11.704 af

Primary = 10.07 cfs @ 14.86 hrs, Volume= 11.704 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroCF

## Summary for Link H: Watershed H

Inflow Area = 34.086 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 36.05 cfs @ 12.41 hrs, Volume= 18.883 af

Primary = 36.05 cfs @ 12.41 hrs, Volume= 18.883 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC/

# Summary for Link I: Watershed I

Inflow Area = 22.132 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.08 cfs @ 14.92 hrs, Volume= 12.261 af

Primary = 10.08 cfs @ 14.92 hrs, Volume= 12.261 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC/F

# Summary for Link J: Watershed J

Inflow Area = 35.077 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 38.93 cfs @ 12.38 hrs, Volume= 19.432 af

Primary = 38.93 cfs @ 12.38 hrs, Volume= 19.432 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroC/F

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## **Summary for Link K: Watershed K**

Inflow Area = 22.472 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.26 cfs @ 16.05 hrs, Volume= 12.449 af

Primary = 10.26 cfs @ 16.05 hrs, Volume= 12.449 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HvdroCF

## Summary for Link L: Watershed L

Inflow Area = 48.208 ac, 0.00% Impervious, Inflow Depth > 6.59" for 25-Year, 24-Hour event

Inflow = 61.30 cfs @ 12.30 hrs, Volume= 26.461 af

Primary = 61.30 cfs @ 12.30 hrs, Volume= 26.461 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroCF

## Summary for Link M: Watershed M

Inflow Area = 22.029 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.11 cfs @ 14.95 hrs, Volume= 12.204 af

Primary = 10.11 cfs @ 14.95 hrs, Volume= 12.204 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroCF

# Summary for Link N: Watershed N

Inflow Area = 33.325 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 36.87 cfs @ 12.39 hrs, Volume= 18.461 af

Primary = 36.87 cfs @ 12.39 hrs, Volume= 18.461 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroCF

# Summary for Link O: Watershed O

Inflow Area = 22.056 ac, 0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow = 10.16 cfs @ 16.09 hrs, Volume= 12.219 af

Primary = 10.16 cfs @ 16.09 hrs, Volume= 12.219 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\Hy

Type III 24-hr 25-Year, 24-Hour Rainfall=7.60"

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#### Summary for Link P: Watershed P

Inflow Area = 46.766 ac,

0.00% Impervious, Inflow Depth = 6.65" for 25-Year, 24-Hour event

Inflow

60.62 cfs @ 12.30 hrs, Volume=

25.907 af

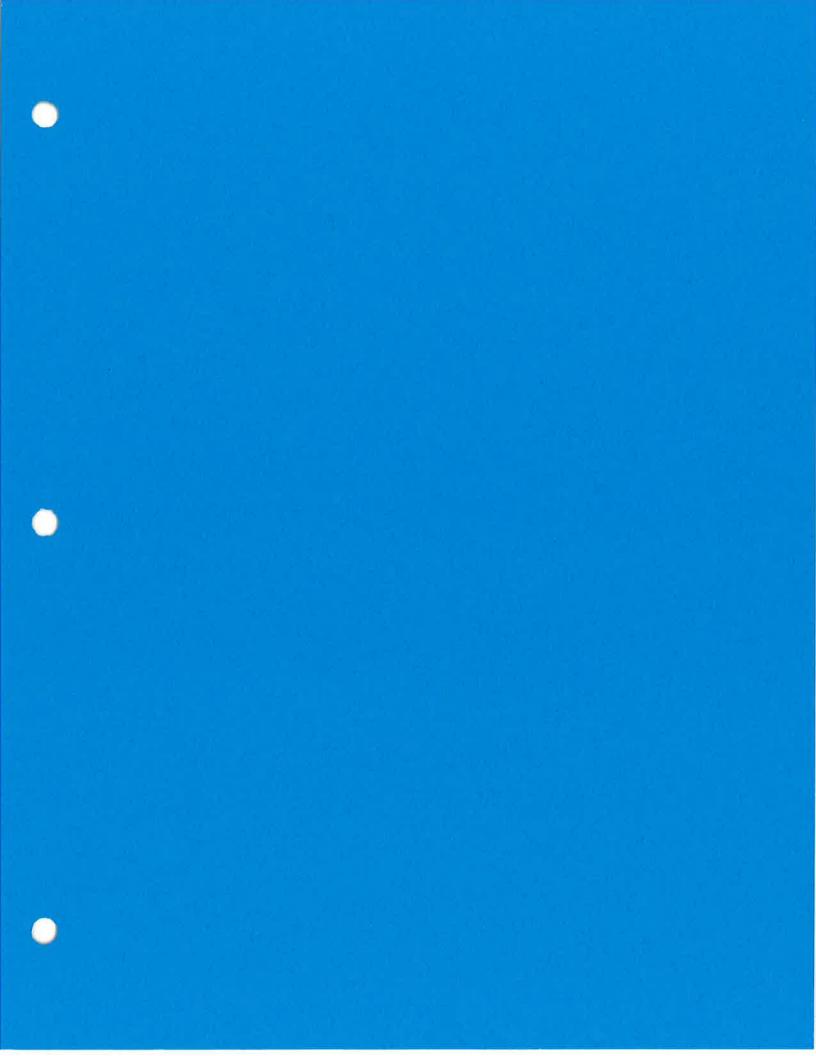
Primary

60.62 cfs @ 12.30 hrs, Volume=

25.907 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

25-Year, 24-Hour Outflow Imported from T:\Projects\2013\Pescadito Landfill\Design\Stormwater (Plan B)\HydroCF

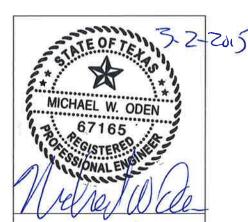


#### **ATTACHMENT III-C**

#### APPENDIX III-C.4

## HYDROCAD MODEL OUTPUT FILES

- 3. PROPOSED CONDITIONS (POST-DEVELOPMENT)
  - A. MODEL DIAGRAMS
  - B. LANDFILL WATERSHED A (TYPICAL OF WATERSHEDS C, E, G, J, K, M, & O)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - C. LANDFILL WATERSHED B (TYPICAL OF WATERSHEDS D, F, J, L, N, & P)
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - D. LANDFILL PERIMETER DITCH, CULVERT, & BASIN SYSTEM
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)
    - II. 25-YEAR, 24 HOUR (NON-ADJUSTED 7.6 INCHES)
  - E. REGIONAL STORMWATER CONDITIONS
    - I. 100-YEAR, 24 HOUR (ADJUSTED RAINFALL 9.5 INCHES)



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## **Summary for Subcatchment DA1: DA1**

Runoff = 7,102.40 cfs @ 14.13 hrs, Volume= 2,522.438 af, Depth= 5.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac) C	N Des	cription		
	* 5,238.	870 7	<b>'</b> 0			
	5,238.	870	100.	00% Pervi	ous Area	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	8.4	300	0.0476	0.60		Sheet Flow, n= 0.070 P2= 3.75"
	6.4	1,000	0.0260	2.60		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
	150.4	26,167	0.0035	2.90	46.39	Channel Flow, Area= 16.0 sf Perim= 12.9' r= 1.24' n= 0.035
-	165.2	27.467	Total	·	•	

#### **Summary for Subcatchment DA2: DA2**

Runoff = 1,078.25 cfs @ 13.72 hrs, Volume= 313.693 af, Depth= 5.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

	Area	(ac) C	N Desc	cription		
- 9	* 666.	226 6	39			
	666.	226	100.	00% Pervi	ous Area	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
•	31.8	300	0.0017	0.16		Sheet Flow, n= 0.070 P2= 3.75"
	13.6	1,400	0.0114	1.72		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
	79.4	11,204	0.0023	2.35	37.61	Channel Flow, Area= 16.0 sf Perim= 12.9' r= 1.24' n= 0.035
	124.8	12,904	Total			

## **Summary for Subcatchment DA3: DA3**

Runoff = 4,328.66 cfs @ 13.96 hrs, Volume= 1,377.257 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Area	(ac) C	N Des	cription					
	* 3,138.169 66								
	3,138.	169	100.	00% Pervi	ous Area				
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
,	11.8	300	0.0200	0.42		Sheet Flow, n= 0.070 P2= 3.75"			
	6.5	1,000	0.0250	2.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps			
	122.8	23,409	0.0042	3.18	50.82	Channel Flow, Area= 16.0 sf Perim= 12.9' r= 1.24' n= 0.035			
	141 2	24 709	Total						

## **Summary for Subcatchment DA4: DA4**

Runoff = 3,652.24 cfs @ 15.10 hrs, Volume= 1,703.596 af, Depth= 5.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

Area	<u>(ac) C</u>	N Desc	cription		
* 3,978.	608 6	35			
3,978.	608	100.	00% Pervi	ous Area	
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	300	0.0167	0.39	, ,	Sheet Flow, n= 0.070 P2= 3.75"
10.7	1,400	0.0183	2.18		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
215.0	35,759	0.0032	2.77	44.36	Channel Flow, Area= 16.0 sf Perim= 12.9' r= 1.24' n= 0.035
238 4	37 459	Total			

# **Summary for Subcatchment DA5: DA5**

Runoff = 483.89 cfs @ 12.68 hrs, Volume= 78.776 af, Depth= 4.75"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

·-	Area (ac)	CN	Description	
*	198.877	62		
-	198.877		100.00% Pervious Area	

#### **CLOMR Proposed with Landfill**

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
	15.6	300	0.0100	0.32	2 32	Sheet Flow, n= 0.070 P2= 3.75"
	9.2	1,200	0.0183	2.18		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
	24.8	5,523	0.0058	3.71	29.71	Channel Flow, Area= 8.0 sf Perim= 6.5' r= 1.23' n= 0.035
•	49.6	7 023	Total			1100 11

#### **Summary for Subcatchment DA6: DA2**

Runoff = 387.83 cfs @ 12.47 hrs, Volume=

51.712 af, Depth= 4.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

_	Area	<u>(ac) C</u>	N Desc	cription		
*	134.	177 6	31	~		
	134.	177	100.	00% Pervi	ous Area	
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
-	13.9	300	0.0133	0.36		Sheet Flow, n= 0.070 P2= 3.75"
	9.1	1,000	0.0130	1.84		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
_	10.6	2,773	0.0087	4.37	34.96	Channel Flow, Area= 8.0 sf Perim= 6.9' r= 1.16' n= 0.035
	33.6	4,073	Total			

# **Summary for Subcatchment DA7: DA7**

Runoff = 1,043.63 cfs @ 12.66 hrs, Volume=

162.924 af, Depth= 5.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

-	Area (ac)	CN	Description
*	390.234	64	
-	390.234		100.00% Pervious Area

**CLOMR Proposed with Landfill** 

Type III 24-hr 100-Year, 24-Hour Rainfall=9.50"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	300	0.0133	0.36		Sheet Flow, n= 0.070 P2= 3.75"
10.2	1,400	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
22.0	4,119	0.0041	3.12	24.98	Channel Flow, Area= 8.0 sf Perim= 6.5' r= 1.23' n= 0.035
46.2	5,819	Total			7.100 0.001 10.1111 0.00

#### **Summary for Reach R1: Reach-1**

Inflow Area = 5,437.747 ac, 0.00% Impervious, Inflow Depth = 5.74" for 100-Year, 24-Hour event

Inflow = 6,075.47 cfs @ 14.90 hrs, Volume= 2,601.214 af

Outflow = 6,053.22 cfs @ 15.02 hrs, Volume= 2,601.105 af, Atten= 0%, Lag= 7.6 min

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.90 fps, Min. Travel Time= 10.2 min

Avg. Velocity = 2.20 fps, Avg. Travel Time= 22.8 min

Peak Storage= 3,703,678 cf @ 15.02 hrs

Average Depth at Peak Storage= 4.02'

Bank-Full Depth= 5.00' Flow Area= 1,780.0 sf, Capacity= 9,903.65 cfs

106.00' x 5.00' deep channel, n= 0.030

Side Slope Z-value= 50.0 '/' Top Width= 606.00'

Length= 3,000.0' Slope= 0.0030 '/'

Inlet Invert= 542.00', Outlet Invert= 533.00'

‡

## **Summary for Pond 2P: NW Detention Basin**

Inflow Area = 134.177 ac, 0.00% Impervious, Inflow Depth = 4.62" for 100-Year, 24-Hour event

Inflow = 387.83 cfs @ 12.47 hrs, Volume= 51.712 af

Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs Peak Elev= 567.40' @ 25.91 hrs Surf.Area= 10.150 ac Storage= 51.712 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

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Volume	Invert A	vail.Storage	Storage Description
#1	562.00'	57.880 af	Custom Stage Data (Prismatic)Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Sto (acre-fe	
562.00	9.020	0.0	000 0.000
564.00	9.440	18.4	460 18.460
566.00	9.850	19.2	290 37.750
568.00	10.280	20.1	130 57.880
Device R	outing	Invert Out	utlet Devices
#1 Pi	rimary	•	pecial & User-Defined ev. (feet) 562.00 568.00

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=562.00' (Free Discharge) 1=Special & User-Defined (Controls 0.00 cfs)

#### **Summary for Pond 3P: NE Detention Basin**

Inflow Area = 390.234 ac, 0.00% Impervious, Inflow Depth = 5.01" for 100-Year, 24-Hour event

Inflow = 1,043.63 cfs @ 12.66 hrs, Volume= 162.924 af

Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

Disch. (cfs) 0.000 0.000

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 561.85' @ 26.59 hrs Surf.Area= 28.725 ac Storage= 162.924 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert A	vail.Storage	Storage Description
#1	556.00'	167.280 af	Custom Stage Data (Prismatic)Listed below (Recalc)
Elevation	Surf.Area	Inc.Sto	
(feet)	(acres)	(acre-fee	
556.00 558.00	26.990 27.580	0.0 54.5	
560.00	28.180	55.7	
562.00	28.770	56.9	
Davidson Di	4:	In cont	Let Design
Device Ro	outing	Invert Out	let Devices

#1 Primary 556.00' **556562**Elev. (feet) 556.00 562.00
Disch. (cfs) 0.000 0.000

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=556.00' (Free Discharge) **1=556562** (Controls 0.00 cfs)

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#### **Summary for Pond BT: West Detention Basin**

Inflow Area = 5,437.747 ac, 0.00% Impervious, Inflow Depth = 5.74" for 100-Year, 24-Hour event

Inflow = 7,204.91 cfs @ 14.13 hrs, Volume= 2,601.214 af

Outflow = 6,075.47 cfs @ 14.90 hrs, Volume= 2,601.214 af, Atten= 16%, Lag= 46.0 min

Primary = 6,075.47 cfs @ 14.90 hrs, Volume= 2,601.214 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 547.64' @ 14.90 hrs Surf.Area= 119.332 ac Storage= 357.979 af

Plug-Flow detention time= 35.0 min calculated for 2,601.214 af (100% of inflow)

Center-of-Mass det. time= 35.0 min ( 996.6 - 961.6 )

Invert	Avail.Storage	Storage	Description	
542.00'	401.600 af	Custom	Stage Data	a (Prismatic)Listed below (Recalc)
14.40	0.0	000	0.000	
37.00	00 51.4	400	51.400	
94.20	00 131.2	200	182.600	
124.80	00 219.0	000	401.600	
	542.00' Surf.Are (acre 14.40 37.00 94.20	542.00'       401.600 af         Surf.Area (acres)       Inc.St (acre-fe         14.400       0.0         37.000       51.4         94.200       131.2	542.00'       401.600 af       Custom         Surf.Area (acres)       Inc.Store (acre-feet)         14.400       0.000         37.000       51.400         94.200       131.200	Surf.Area (acres)         Inc.Store (acre-feet)         Cum.Store (acre-feet)           14.400         0.000         0.000           37.000         51.400         51.400           94.200         131.200         182.600

Device	Routing	Invert	Outlet Devices
#1	Primary	542.00'	<b>Special &amp; User-Defined</b> Elev. (feet) 542.00 544.00 546.00 548.00 Disch. (cfs) 0.000 1,273.000 3,600.000 6,614.000

Primary OutFlow Max=6,075.44 cfs @ 14.90 hrs HW=547.64' (Free Discharge)
1=Special & User-Defined (Custom Controls 6,075.44 cfs)

# **Summary for Link 1L: Junction DA2**

Inflow Area = 666.226 ac, 0.00% Impervious, Inflow Depth > 10.37" for 100-Year, 24-Hour event

Inflow = 1,333.46 cfs @ 13.72 hrs, Volume= 575.719 af

Primary = 1,333.46 cfs @ 13.72 hrs, Volume= 575.719 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

# Summary for Link 2L: Junction 3

Inflow Area = 3,896.052 ac, 1.06% Impervious, Inflow Depth > 5.05" for 100-Year, 24-Hour event

Inflow = 4,587.88 cfs @ 13.96 hrs, Volume= 1,639.283 af

Primary = 4,587.88 cfs @ 13.96 hrs, Volume= 1,639.283 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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## **Summary for Link 3L: PSDB**

Inflow Area = 757.883 ac, 5.47% Impervious, Inflow Depth > 8.30" for 100-Year, 24-Hour event

Inflow = 522.10 cfs @ 14.34 hrs, Volume= 524.052 af

Primary = 261.05 cfs @ 14.34 hrs, Volume= 262.026 af, Atten= 50%, Lag= 0.0 min

Secondary = 261.05 cfs @ 14.34 hrs, Volume= 262.026 af

Primary outflow = Inflow x 0.50, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

100-Year, 24-Hour Primary Outflow Imported from Pescadito Perimeter~Pond PSDB.hce

#### **Summary for Link J1: Junction-1**

Inflow Area = 13,978.633 ac, 0.30% Impervious, Inflow Depth > 5.60" for 100-Year, 24-Hour event

Inflow = 13,954.68 cfs @ 14.56 hrs, Volume= 6,519.703 af

Primary = 13,954.68 cfs @ 14.56 hrs, Volume= 6,519.703 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

#### **Summary for Link Junction-2: Junction-2**

Inflow Area = 7,874.660 ac, 0.53% Impervious, Inflow Depth > 5.09" for 100-Year, 24-Hour event

Inflow = 7,332.64 cfs @ 14.29 hrs, Volume= 3,342.879 af

Primary = 7,332.64 cfs @ 14.29 hrs, Volume= 3,342.879 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs