



APPENDIX B

PCSM CALCULATIONS REPORT



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BIG BEAVER DATA CENTER

POST CONSTRUCTION STORMWATER MANAGEMENT REPORT

201 PENDALE ROAD, BIG BEAVER BOROUGH, PA

Job No. P25010482

Prepared for:

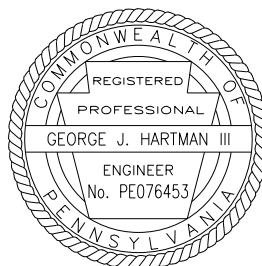
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BIG BEAVER DATA CENTER

POST CONSTRUCTION STORMWATER MANAGEMENT REPORT

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PROJECT DESCRIPTION

The site is 383.996 acres located in a mixed use area of Big Beaver Borough, Beaver County, Pennsylvania. The site is currently zoned I (Industrial) and is currently occupied by the Pittsburgh International Race Complex. The property is owned by Beaverun Founders Development, LLC. This project proposes to develop this site to consist of a data center with three (3) data center buildings with surrounding equipment areas, an electrical substation, and a switching station. The proposed development is inclusive of the necessary driveways, utilities, landscaping, and stormwater management controls necessary to support the development. Pertinent data characterizing the existing and proposed site conditions are shown on the accompanying Land Development Plans.

STORMWATER MANAGEMENT

The northern portions of the site drain to an Unnamed Tributary to Beaver River, which is an impaired (Category 5) stream in the Beaver watershed. The northwestern portion of the site drains to Jordan Run, an impaired (Category 5) stream in the Upper Ohio watershed. The Eastern portion of the site drains to an Unnamed Tributary to Beaver River, which is not impaired. The western and southern portions of the site drain to Unnamed Tributary to Stockman Run. All tributaries the site discharges to have a Chapter 93 classification of WWF (Warm Water Fishes).

The site drains to five study points. The on and off-site areas tributary to these discharge point has been delineated and hydrographs have been generated for the 1, 2, 5, 10, 25, 50, and 100-year design storms. The pre-development conditions were analyzed based on meadow and woods in good condition of the site prior to all development.

The rate reduction requirements for the site as set forth by Big Beaver Borough are as follows:

- 2 -year post-development flows reduced to at or below the 2-year pre-development flows
- 5-year post development flows reduced to at or below the 5-year pre-development flow
- 10-year post development flows reduced to at or below the 10-year pre-development flows
- 25-year post development flows reduced to at or below the 25-year pre-development flows

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- 10-year post development flows reduced to at or below the 10-year pre-development flows
- 25-year post development flows reduced to at or below the 25-year pre-development flows

- 50-year post development flows reduced to at or below the 50-year pre-development flows
- 100-year post development flows reduced to at or below the 100-year pre-development flows.

The post-development condition of the site maintains the same relative drainage pattern. There is an increase in the total impervious surface coverage with a resulting increase in runoff rates and volume. Therefore, six (6) aboveground infiltration basins, and three (3) underground infiltration trenches are proposed.

The areas tributary to the basins have been delineated and hydrographs have been generated for the 2, 5, 10, 25, 50, and 100-year design storms. These hydrographs have been routed through the basins and added to the hydrographs generated for any bypass areas to determine the total post-development discharge rate.

The following peak rate summaries are provided:

- Peak rate summary for the overall site showing compliance with the abovementioned rate reductions.
- Individual peak rate summaries at each study point showing compliance with meeting pre-development rates for the 2, 10, 25, 50 and 100-year storms for each receiving water.

The infiltration basins are designed to permanently hold the full volume of the 1.2", 2-Hr storm of the site draining to their respective study points for infiltration. This is intended to prevent thermal impact to downstream surface waters.

DESIGN METHODOLOGY

The SCS method was utilized for calculating the peak runoff rates and generating hydrographs for the pre- and post-development conditions as defined in the computer watershed software TR-55. The hydrographs were generated based on precipitation amounts consistent with the enclosed rainfall data per Ordinance Section 305 E.

To meet the Stormwater Management Ordinance water quality requirements, the required water quality volume is being controlled via basins 1, 2, 3, 4, 5, and 6.

The storm drainage system has been designed to intercept runoff at topographic low points and areas of significant runoff quantities and convey stormwater to the proposed

basins using the rational method. Conveyance design precipitation amounts are consistent with the enclosed rainfall data.

The proposed stormwater management program is in general compliance with applicable ordinances of Big Beaver Borough, Chapter 102 CG-1 Guidelines, and the Stormwater Management Act of 1978.

General Information

Instructions **General** Volume Rate Quality

Project Name: **Switch PIT 01-03**

Application Type: **PAG-02 NOI**

County: **Beaver**

Municipality: **Big Beaver Borough**

Project Type: **Other**

☒ New Project ☐ Minor / Major Amendment

Area: **383.996** acres
(In Watershed)

Total Earth Disturbance: **250.000** acres
(In Watershed)

No. of Post-Construction Points of Analysis: **5**

at: **001**

Point of Analysis (POA) No.	Total Drainage Area (DA) (acres)	Project Site DA (acres)	Existing Imp., Project Site DA (acres)	Proposed Imp., Project Site DA (acres)	Receiving Waters	Ch. 93 Class	Structural SCM(s)
001	46.730	46.730	22.670	23.960	Unnamed Tributary to Beaver River	WWF	Yes
002	5.400	5.400	0.000	0.000	Unnamed Tributary to Jordan Run	WWF	Yes
003A	30.700	30.700	9.940	20.600	Unnamed Tributary to Beaver River	WWF	Yes
003B	92.390	92.390	14.130	69.050	Unnamed Tributary to Beaver River	WWF	Yes

004	80.350	80.350	12.450	44.520	Unnamed Tributary to Stockman Run	WWF	Yes
Undetained Areas							

Totals: 255.570 255.570 59.190 158.130

Volume Management

Project: Switch PIT 01-03

Instructions General **Volume** Rate Quality

2-Year / 24-Hour Storm Event (NOAA Atlas 14): inches Alternative 2-Year / 24-Hour Storm Event **2.35** inches

Alternative Source: **Borough of Big Beaver SWM Ordinance**

Pre-Construction Conditions: No. Rows: **4** ☐ Exempt from Meadow in Good Condition ☒ Automatically Calculate CN, Ia, Runoff and Volume

Land Cover	Area (acres)	Soil Group	Outside LOD	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Pervious as Meadow	26.340	C	☐	71	0.817	0.42	40,005
Pervious as Meadow	42.800	D	☐	78	0.564	0.69	107,572
Woods (Good Condition)	71.140	C	☐	70	0.857	0.39	99,595
Woods (Good Condition)	115.580	D	☐	77	0.597	0.65	271,901
TOTAL (ACRES):		255.860				TOTAL (CF):	519,073

Post-Construction Conditions: No. Rows: **5**

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	15.340	C	71	0.817	0.42	23,298
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	24.920	D	78	0.564	0.69	62,633
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	21.780	C	74	0.703	0.53	41,571

Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	35.400	D	80	0.500	0.79	101,103
Impervious Areas: Industrial	158.130	D	98	0.041	2.12	1,217,866

TOTAL (ACRES): 255.570

TOTAL (CF): 1,446,471

NET CHANGE IN VOLUME TO MANAGE (CF): 927,398

Non-Structural SCM Volume Credits:

☒ Tree Planting Credit

Number of new deciduous trees that will be planted within disturbed area:

40

CREDIT (CF):

240

Number of new evergreen trees that will be planted within disturbed area:

95

CREDIT (CF):

950

☐ Other (attach calculations):

Description:

CREDIT (CF):

Structural SCM Volume Credits:

No. Structural SCMs:

9

Start SCM Numbering at:

1

POA No.	SCM No.	SCM Name	MRC?	Discharge	Incremental SCM DA (acres)	Total Vol. Routed to SCM (CF)	Off-Site Vol. Routed to SCM (CF)	Infiltration / Vegetated Area (SF)	Infil. Rate (in/hr)	Infil. Period (hrs)	Vegetated?	Media Depth (ft)	Stored Volume (CF)	Infiltration Credit (CF)	ET Credit (CF)
001	1	Infiltration Basin		Off-Site	32.380	225,117	0	112,742	0.72	34	Yes	2.0	117,092	190,149	34,968
004	2	Infiltration Basin		Off-Site	26.860	186,740	0	77,260	1.66	18	Yes	2.0	102,038	173,140	13,600
003B	3	Infiltration Basin		Off-Site	25.480	177,146	0	33,066	1.99	33	Yes	2.0	86,101	145,322	17,393
004	4	Infiltration Basin		Off-Site	30.370	211,143	0	88,997	2.49	12	Yes	2.0	116,799	199,442	11,701
003B	5	Infiltration Basin		Off-Site	55.360	384,883	0	70,882	0.475	48	Yes	2.0	209,060	122,484	37,284
003A	6	Infiltration Basin		Off-Site	27.030	187,922	0	33,990	2.49	27	Yes	2.0	87,170	163,342	17,879

004	7	Infiltration Trench		to SCM No. 8	5.240	9,737	0	2,112	0.5	48	No	5.0	4,224	3,802	
004	8	Infiltration Trench		to SCM No. 9	2.890	3,577	0	905	0.5	48	No	5.0	1,810	1,629	
004	9	Infiltration Trench		Off-Site	1.760	3,725	0	793	0.5	48	No	5.0	1,586	1,427	

Totals: 1,000,737 132,825

INFILTRATION & ET CREDITS - PROJECT SITE (CF): **1,133,561**

NET CHANGE IN VOLUME TO MANAGE (CF): **927,398**

TOTAL CREDITS (CF): **1,134,751**

Rate Control

Project: Switch PIT 01-03

Instructions

General

Volume

Rate

Quality

Precipitation Amounts:

NOAA 2-Year 24-Hour Storm Event (in):

NOAA 10-Year 24-Hour Storm Event (in):

NOAA 50-Year 24-Hour Storm Event (in):

NOAA 100-Year 24-Hour Storm Event (in):

Alternative 2-Year 24-Hour Storm Event (in):

2.35

Alternative 10-Year 24-Hour Storm Event (in):

2.87

Alternative 50-Year 24-Hour Storm Event (in):

4.4

Alternative 100-Year 24-Hour Storm Event (in):

4.91

☒ Report Summary of Peak Rates Only

Attach model input and output data or other calculations to support the rates reported below.

Peak Discharge Rates (cfs)			
	Pre-Construction	Post-Construction	Net Change
2-Year Storm:	141.12	122.48	-18.64
10-Year Storm:	234.19	188.54	-45.65
50-Year Storm:	558.20	399.36	-158.84
100-Year Storm:	676.17	470.54	-205.63

Rate Control Satisfied

Rate Control Satisfied

Rate Control Satisfied

Rate Control Satisfied

POA No.	SCM No.	SCM Name	MRC?	Inflow to SCM (cfs)				Outflow from SCM (cfs)			
				2-yr	10-yr	50-yr	100-yr	2-yr	10-yr	50-yr	100-yr
001	1	Infiltration Basin		56.80	75.20	130.20	148.20	18.10	24.30	46.40	56.20

004	2	Infiltration Basin		60.30	76.70	124.50	140.30	11.10	14.90	27.30	31.90
003B	3	Infiltration Basin		59.10	75.90	125.30	141.50	13.10	18.70	36.90	43.20
004	4	Infiltration Basin		74.70	95.10	154.40	174.10	22.50	29.70	50.50	59.20
003B	5	Infiltration Basin		137.90	172.20	272.10	305.40	12.00	16.60	30.80	35.90
003A	6	Infiltration Basin		59.90	77.00	126.90	143.30	8.60	12.30	24.80	29.20
004	7	Infiltration Trench									
004	8	Infiltration Trench									
004	9	Infiltration Trench									

Water Quality

Project: Switch PIT 01-03

PRINT

Instructions

General

Volume

Rate

Quality

Pre-Construction Pollutant Loads:

Land Cover (from Volume Worksheet)	Land Cover for Water Quality	Area (acres)	Soil Group	Runoff Volume (cf)	Pollutant Conc. (mg/L)			Pollutant Loads (lbs)		
					TSS	TP	TN	TSS	TP	TN
Pervious as Meadow	Grassland/Herbaceous	26.34	C	40,005	48.8	0.22	2.30	121.90	0.55	5.75
Pervious as Meadow	Grassland/Herbaceous	42.80	D	107,572	48.8	0.22	2.30	327.79	1.48	15.45
Woods (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	71.14	C	99,595	45.0	0.13	1.05	279.85	0.81	6.53
Woods (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	115.58	D	271,901	45.0	0.13	1.05	764.02	2.21	17.83
TOTAL (ACRES):		255.86			TOTALS:			1493.57	5.04	45.55

Post-Construction Pollutant Loads (without SCMs):

Land Cover (from Volume Worksheet)	Land Cover for Water Quality	Area (acres)	Soil Group	Runoff Volume (cf)	Pollutant Conc. (mg/L)			Pollutant Loads (lbs)		
					TSS	TP	TN	TSS	TP	TN
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	Grassland/Herbaceous	15.34	C	23,298	48.8	0.22	2.30	70.99	0.32	3.35

Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	Grassland/Herbaceous	24.92	D	62,633	48.8	0.22	2.30	190.86	0.86	9.00
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	21.78	C	41,571	78.0	0.25	1.25	202.47	0.65	3.24
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	35.40	D	101,103	78.0	0.25	1.25	492.42	1.58	7.89
Impervious Areas: Industrial	Industrial	158.13	D	1,217,866	81.0	0.24	2.01	6159.79	18.25	152.85

TOTAL (ACRES): 255.57

TOTALS: 7116.53 21.66 176.33

POLLUTANT LOAD REDUCTION REQUIREMENTS (LBS): **5622.96 16.62 130.78**

☒ **Characterize Undetained Areas (for Untreated Stormwater)**

No. Rows: **3**

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Industrial	9.230	D	98	0.041	2.12	71,086
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	20.660	D	78	0.564	0.69	51,926
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	12.750	C	71	0.817	0.42	19,364

42.640

Non-Structural SCM Water Quality Credits:

☒ Pervious Undetained Area Credit

TSS	TP	TN
54.31	0.20	1.54

☒ Other (attach calculations)

TSS	TP	TN
-----	----	----

Description:

Street Sweeping (SCP-7) Credit

344.86

0.50

0.45

Structural SCM Water Quality Credits:☒ Use default SCM Outflows and Median SCM Outflow Concentrations

POA No.	SCM No.	SCM Name	MRC?	SCM DA (acres)	Vol. Routed to SCM (CF)	Inf. & ET Credits (CF)	Capture & Buffer Credits (CF)	Outflow (CF)	Outflow Conc. (mg/L)			Pollutant Loads (lbs)		
									TSS	TP	TN	TSS	TP	TN
001	1	Infiltration Basin		32.38	225,117	225,117		0	10.00	0.24	0.96	0.00	0.00	0.00
005	2	Infiltration Basin		26.86	186,740	186,740		0	10.00	0.24	0.96	0.00	0.00	0.00
004	3	Infiltration Basin		25.48	177,146	162,715		14,431	10.00	0.24	0.96	9.01	0.22	0.87
005	4	Infiltration Basin		30.37	211,143	211,143		0	10.00	0.24	0.96	0.00	0.00	0.00
004	5	Infiltration Basin		55.36	384,883	159,768		225,115	10.00	0.24	0.96	140.57	3.37	13.49
003	6	Infiltration Basin		27.03	187,922	181,220		6,702	10.00	0.24	0.96	4.18	0.10	0.40
005	7	Infiltration Trench		5.24	9,737	3,802		5,935	-	-	-	-	-	-
005	8	Infiltration Trench		2.89	3,577	1,629		1,948	-	-	-	-	-	-
005	9	Infiltration Trench		1.76	3,725	1,427		2,298	22.00	0.10	2.38	3.16	0.01	0.34

POLLUTANT LOADS FROM STRUCTURAL SCM (TREATED) OUTFLOWS (LBS):**POLLUTANT LOADS FROM UNTREATED STORMWATER (LBS):****NON-STRUCTURAL SCM WATER QUALITY CREDITS (LBS):**

TSS	TP	TN
156.92	3.70	15.10
576.78	2.04	19.16
399.17	0.70	1.99

NET POLLUTANT LOADS FROM SITE, POST-CONSTRUCTION (LBS):	334.53	5.04	32.28
POLLUTANT LOADS FROM SITE, PRE-CONSTRUCTION (LBS):	1493.57	5.04	45.55

WATER QUALITY REQUIREMENT NOT SATISFIED

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further certify that the structure, function, and calculations contained in this spreadsheet have not been modified in comparison to the spreadsheet DEP has posted to its website or, if modifications were made, an explanation of the modifications made is attached to this spreadsheet.

GJH

Spreadsheet User Name

7/1/2026

Date

Street Sweeping Credits (SCP-7)																					
	Imp. Area (Ac)	Storm Depth	Runoff Volume (CF)	TSS % Reduction	TP % Reduction	TN % Reduction	EMC TSS (mg/L)	EMC TP (mg/L)	EMC TN (mg/L)	Mod. EMC TSS (mg/L)	Mod. EMC TP (mg/L)	Mod. EMC TN (mg/L)	Non-Reduced TSS	Non-Reduced TP	Non-Reduced TN	Reduced TSS	Reduced TP	Reduced TN	TSS Credit	TP Credit	TN Credit
Streets and Roads	10.51	2.35	89655.6	7.00%	4.00%	1.00%	142	0.320	3.000	132.060	0.307	2.970	794.96	1.79	16.79	739.32	1.72	16.63	55.65	0.07	0.17
Low-Traffic Parking	133.73	2.35	1140783.8	7.00%	4.00%	1.00%	58	0.150	0.390	53.940	0.144	0.386	4131.54	10.69	27.78	3842.34	10.26	27.50	289.21	0.43	0.28
Total	144.24	-	1230439.3	-	-	-	-	-	-	-	-	-	4926.51	12.48	44.58	4581.65	11.98	44.13	344.86	0.50	0.45

Study Point Analysis

DA 1 to SP 1								
	Area (Ac)	CN	Tc (Hrs)	2 Yr CFS	10 Yr CFS	25 Yr CFS	50 Yr CFS	100 Yr CFS
Existing	60.7	84	0.352	36.63	60.09	81.35	141.27	170.99
Proposed (w/o SWM)	46.73	88	0.24	73.83	99.91	121.84	178.83	204.9
Proposed (w/ SWM)	46.73	88	0.24	35.1	49.03	60.66	95.03	112.86

DA 2 to SP 2								
	Area (Ac)	CN	Tc (Hrs)	2 Yr CFS	10 Yr CFS	25 Yr CFS	50 Yr CFS	100 Yr CFS
Existing	9.3	74	0.157	6.31	10.37	14.09	24.63	29.89
Proposed (w/o SWM)	5.4	78	0.193	3.79	6.14	8.28	14.28	17.24
Proposed (w/ SWM)	5.4	78	0.193	3.79	6.14	8.28	14.28	17.24

DA 3A to SP 3A								
	Area (Ac)	CN	Tc (Hrs)	2 Yr CFS	10 Yr CFS	25 Yr CFS	50 Yr CFS	100 Yr CFS
Existing	24.22	85	0.325	13.86	22.89	31.07	54	65.34
Proposed (w/o SWM)	30.7	91	0.17	62	81.23	97.28	138.21	157.14
Proposed (w/ SWM)	30.7	91	0.17	10.72	16.59	21.87	36.16	43.09

DA 3B to SP 3B								
	Area (Ac)	CN	Tc (Hrs)	2 Yr CFS	10 Yr CFS	25 Yr CFS	50 Yr CFS	100 Yr CFS
Existing	81.76	79	0.413	40.42	67.24	91.45	160.31	193.86
Proposed (w/o SWM)	92.39	93	0.171	204.38	262.63	310.5	433.01	489.03
Proposed (w/ SWM)	92.39	93	0.171	32.47	49.85	64.26	103.37	121.2

DA 4 to SP 4								
	Area (Ac)	CN	Tc (Hrs)	2 Yr CFS	10 Yr CFS	25 Yr CFS	50 Yr CFS	100 Yr CFS
Existing	79.88	79	0.218	49.1	81.78	111.65	195.94	237.84
Proposed (w/o SWM)	80.35	89	0.193	142.59	190.7	231.06	335.05	382.76
Proposed (w/ SWM)	80.35	89	0.193	41.16	63.54	82.56	134	159.53

Total								
	Area (Ac)			2 Yr CFS	10 Yr CFS	25 Yr CFS	50 Yr CFS	100 Yr CFS
Existing	255.86			146.32	242.37	329.61	576.15	697.92
Proposed (w/o SWM)	255.57			486.59	640.61	768.96	1099.38	1251.07
Proposed (w/ SWM)	255.57			123.24	185.15	237.63	382.84	453.92

SP 1					
	2 YR	10 YR	25 YR	50 YR	100 YR
Unattenuated SP Flow	73.83	99.91	121.84	178.83	204.9
Unattenuated Pond 1 Flow	56.83	75.18	90.68	130.2	148.24
Attenuated Pond 1 Flow	18.1	24.3	29.5	46.4	56.2
Total Attenuated Flow	35.1	49.03	60.66	95.03	112.86

Total Attenuated Flow = (Unattenuated SP Flow - Unattenuated Pond Flow) + Attenuated Pond Flow

SP 2					
	2 YR	10 YR	25 YR	50 YR	100 YR
Unattenuated SP Flow	3.79	6.14	8.28	14.28	17.24
Unattenuated Pond Flow	N/A	N/A	N/A	N/A	N/A
Attenuated Pond Flow	N/A	N/A	N/A	N/A	N/A
Total Attenuated Flow	3.79	6.14	8.28	14.28	17.24

Total Attenuated Flow = (Unattenuated SP Flow - Unattenuated Pond Flow) + Attenuated Pond Flow

SP 3A					
	2 YR	10 YR	25 YR	50 YR	100 YR
Unattenuated SP Flow	62	81.23	97.28	138.21	157.14
Unattenuated Pond 6 Flow	59.88	76.94	91.01	126.85	143.25
Attenuated Pond 6 Flow	8.6	12.3	15.6	24.8	29.2
Total Attenuated Flow	10.72	16.59	21.87	36.16	43.09

Total Attenuated Flow = (Unattenuated SP Flow - Unattenuated Pond Flow) + Attenuated Pond Flow

SP 3B					
	2 YR	10 YR	25 YR	50 YR	100 YR
Unattenuated SP Flow	204.38	262.63	310.5	433.01	489.03
Unattenuated Pond 3 Flow	59.1	75.93	89.84	125.25	141.5
Attenuated Pond 3 Flow	13.1	18.7	23.7	36.9	43.2
Unattenuated Pond 5 Flow	137.91	172.15	200.5	272.09	305.43
Attenuated Pond 5 Flow	12	16.6	20.4	30.8	35.9
Total Attenuated Flow	32.47	49.85	64.26	103.37	121.2

Total Attenuated Flow = (Unattenuated SP Flow - Unattenuated Pond Flow) + Attenuated Pond Flow

SP 4					
	2 YR	10 YR	25 YR	50 YR	100 YR
Unattenuated SP Flow	142.59	190.7	231.06	335.05	382.76
Unattenuated Pond 2 Flow	60.29	76.68	90.2	124.46	140.27
Attenuated Pond 2 Flow	11.1	14.9	18	27.3	31.9
Unattenuated Pond 4 Flow	74.74	95.08	111.9	154.39	174.06
Attenuated Pond 4 Flow	22.5	29.7	35.6	50.5	59.2
Total Attenuated Flow	41.16	63.54	82.56	134	159.53

Total Attenuated Flow = (Unattenuated SP Flow - Unattenuated Pond Flow) + Attenuated Pond Flow

				Total		Proposed		Target									
Point of Investigation	Plan Label	Device Type	Land use	Construction Purpose	Drainage area (SF)	Impervious area (SF)	Percent Impervious	Rv	Pe	WQ (CF)	Media At (SF)	Ponding At (SF)	Ponding Depth	Media depth	Provided WQv (CF)	RCN	
1	POND #1	Pond	Industrial	Redevelopment	1,410,473	871,275	62%	0.606	1.20	85,467	112,742	117,092	1.00	0	117,092	89	
1	Not Captured	-	Industrial	Redevelopment	625,086	172,422	28%	0.298	1.20	18,643	-	-	-	-	-	81	
2	Not Captured	-	Industrial	Redevelopment	235,224	0	0%	0.050	1.20	1,176	-	-	-	-	-	74	
3A	POND #6	Pond	Industrial	Redevelopment	1,177,427	868,629	74%	0.714	1.20	84,064	33,990	38,742	2.25	0	87,170	92	
3A	Not Captured	-	Industrial	Redevelopment	159,865	28,707	18%	0.212	1.20	3,383	-	-	-	-	-	78	
3B	POND #3	Pond	Industrial	Redevelopment	1,109,909	810,265	73%	0.707	1.20	78,473	33,066	38,267	2.25	0	86,101	92	
3B	POND #5	Pond	Industrial	Redevelopment	2,411,482	2,151,596	89%	0.853	1.20	205,701	70,882	83,624	2.50	0	209,060	95	
3B	Not Captured	-	Industrial	Redevelopment	503,117	45,957	9%	0.132	1.20	6,652	-	-	-	-	-	76	
4	POND #2	Pond	Industrial	Redevelopment	1,170,022	934,673	80%	0.769	1.20	89,971	77,260	81,630	1.25	0	102,038	93	
4	POND #4	Pond	Industrial	Redevelopment	1,322,917	1,087,066	82%	0.790	1.20	104,451	88,997	93,439	1.25	0	116,799	94	
4	INFILTRATION TRENCH #1	Infiltration Trench	Industrial	Redevelopment	228,254	42,562	19%	0.218	1.20	4,972	2,112	-	-	5	4,224	78	
4	INFILTRATION TRENCH #2	Infiltration Trench	Industrial	Redevelopment	125,888	13,303	11%	0.145	1.20	1,827	905	-	-	5	1,810	77	
4	INFILTRATION TRENCH #3	Infiltration Trench	Industrial	Redevelopment	76,666	16,874	22%	0.248	1.20	1,902	793	-	-	5	1,586	79	
4	Not Captured	-	Industrial	Redevelopment	423,404	155,187	37%	0.380	1.20	16,084	-	-	-	-	-	83	
Total					10979733	7198516				702,765					725,879	1181	
POI 1					2035559	1043697				104111					117092		
POI 2					235224	0				1176					0		
POI 3					5361799	3905154				378273					382330		
POI 4					3347151	2249665				219206					226456		
Note- POI's 3A and 3B combined to POI 3 for thermal impact assessment, as they discharge to the same surface waters.																	

Note- POI's 3A and 3B combined to POI 3 for thermal impact assessment, as they discharge to the same surface waters.

						Total	Proposed	Target								
						2-Yr Storm										
						Total	Proposed	Target								
Point of Investigation	Plan Label	Device Type	Land use	Construction Purpose	Drainage area (SF)	Impervious area (SF)	Percent Impervious	Rv	Pe	WQ (CF)	Media At (SF)	Ponding At (SF)	Ponding Depth	Media depth	Provided Vol (CF)	RCN
1	POND #1	Pond	Industrial	Redevelopment	1,410,473	871,275	62%	0.606	2.35	167,373	112,742	117,092	2.00	0	234,184	89
1	Not Captured	-	Industrial	Redevelopment	625,086	172,422	28%	0.298	2.35	36,510	-	-	-	-	-	81
2	Not Captured	-	Industrial	Redevelopment	235,224	0	0%	0.050	2.35	2,303	-	-	-	-	-	74
3A	POND #6	Pond	Industrial	Redevelopment	1,177,427	868,629	74%	0.714	2.35	164,625	33,990	38,742	4.50	0	174,339	92
3A	Not Captured	-	Industrial	Redevelopment	159,865	28,707	18%	0.212	2.35	6,625	-	-	-	-	-	78
3B	POND #3	Pond	Industrial	Redevelopment	1,109,909	810,265	73%	0.707	2.35	153,677	33,066	38,267	4.25	0	162,635	92
3B	POND #5	Pond	Industrial	Redevelopment	2,411,482	2,151,596	89%	0.853	2.35	402,831	70,882	83,624	5.00	0	418,120	95
3B	Not Captured	-	Industrial	Redevelopment	503,117	45,957	9%	0.132	2.35	13,026	-	-	-	-	-	76
4	POND #2	Pond	Industrial	Redevelopment	1,170,022	934,673	80%	0.769	2.35	176,193	77,260	81,630	2.50	0	204,075	93
4	POND #4	Pond	Industrial	Redevelopment	1,322,917	1,087,066	82%	0.790	2.35	204,549	88,997	93,439	2.50	0	233,598	94
4	INFILTRATION TRENCH #1	Infiltration Trench	Industrial	Redevelopment	228,254	42,562	19%	0.218	2.35	9,737	2,112	-	-	5	4,224	78
4	INFILTRATION TRENCH #2	Infiltration Trench	Industrial	Redevelopment	125,888	13,303	11%	0.145	2.35	3,577	905	-	-	5	1,810	77
4	INFILTRATION TRENCH #3	Infiltration Trench	Industrial	Redevelopment	76,666	16,874	22%	0.248	2.35	3,725	793	-	-	5	1,586	79
4	Not Captured	-	Industrial	Redevelopment	423,404	155,187	37%	0.380	2.35	31,498	-	-	-	-	-	83
Total					10979733	7198516				1,376,248					1,434,570	1181
POI 1					2035559	1043697				203883					234184	
POI 2					235224	0				2303					0	
POI 3					5361799	3905154				740784					755094	
POI 4					3347151	2249665				429278					445293	
Note- POI's 3A and 3B combined to POI 3 for thermal impact assessment, as they discharge to the same surface waters.																

Note- POI's 3A and 3B combined to POI 3 for thermal impact assessment, as they discharge to the same surface waters.

POI Volume Analysis									
POI	Q(Existing, CFS)	DA (Existing, Ac)	Q(Proposed w/o SWM, CFS)	Q(Proposed w/ SWM, CFS)	DA (Proposed, Ac)	Existing Volume (CF)	Proposed Volume (CF)	Change in Volume (CF)	% Change
1	36.63	60.7	73.83	35.1	46.73	8071091	5954009	-2117081	-26.23%
2	6.31	9.3	3.79	3.79	5.4	213019	74292	-138728	-65.12%
3A	13.86	24.22	62	10.72	30.7	1218552	1194648	-23904	-1.96%
3B	40.42	81.76	204.38	32.47	92.39	11996203	10889649	-1106554	-9.22%
3(Total)	54.28	105.98	266.38	43.19	123.09	13214755	12084296	-1130459	-8.55%
4	49.1	79.88	142.59	41.16	80.35	14237252	12005158	-2232094	-15.68%

WinTR-55 Current Data Description

--- Identification Data ---

User: ET Date: 6/30/2026
 Project: Switch Pit 01-03 Units: English
 SubTitle: Existing SP Areal Units: Acres
 State: Pennsylvania
 County: Beaver
 Filename: S:\25010482 Pitt Race SOW\Project Documents\Engineering-Planning-Power and Energy\Design Calcul

--- Sub-Area Data ---

Name	Description	Reach	Area (ac)	RCN	Tc
SP1	NORTH	Outlet	60.7	75	.282
SP2	WEST	Outlet	9.3	74	.157
SP4	SOUTH	Outlet	79.88	74	.218
SP3A	EAST	Outlet	24.22	75	.311
SP3B	EAST	Outlet	81.76	75	.401

Total area: 255.86 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.35	2.5	2.87	3.3	4.4	4.91	1.97

Storm Data Source: User-provided custom storm data
 Rainfall Distribution Type: Type II
 Dimensionless Unit Hydrograph: <standard>

ET

Switch Pit 01-03
Existing SP
Beaver County, Pennsylvania

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.35	2.5	2.87	3.3	4.4	4.91	1.97

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ET

Switch Pit 01-03
Existing SP
Beaver County, Pennsylvania

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period				
	2-Yr (cfs)	10-Yr (cfs)	25-Yr (cfs)	50-Yr (cfs)	100-Yr (cfs)

SUBAREAS					
SP1	36.63	60.09	81.35	141.27	170.99
SP2	6.31	10.37	14.09	24.63	29.89
SP4	49.10	81.78	111.65	195.94	237.84
SP3A	13.86	22.89	31.07	54.00	65.34
SP3B	40.42	67.24	91.45	160.31	193.86
REACHES					
OUTLET	138.65	230.93	314.84	551.84	668.72

ET

Switch Pit 01-03
Existing SP
Beaver County, Pennsylvania

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period				
	2-Yr (cfs) (hr)	10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	50-Yr (cfs) (hr)	100-Yr (cfs) (hr)

SUBAREAS					
SP1	36.63 12.09	60.09 12.08	81.35 12.08	141.27 12.06	170.99 12.06
SP2	6.31 12.02	10.37 12.01	14.09 12.01	24.63 11.99	29.89 11.98
SP4	49.10 12.05	81.78 12.05	111.65 12.04	195.94 12.03	237.84 12.03
SP3A	13.86 12.11	22.89 12.10	31.07 12.09	54.00 12.09	65.34 12.08
SP3B	40.42 12.16	67.24 12.15	91.45 12.13	160.31 12.13	193.86 12.12
REACHES					
OUTLET	138.65	230.93	314.84	551.84	668.72

ET

Switch Pit 01-03
Existing SP
Beaver County, Pennsylvania

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
SP1	60.70	0.282	75	Outlet	NORTH
SP2	9.30	0.157	74	Outlet	WEST
SP4	79.88	0.218	74	Outlet	SOUTH
SP3A	24.22	0.311	75	Outlet	EAST
SP3B	81.76	0.401	75	Outlet	EAST

Total Area:	255.86 (ac)				

ET

Switch Pit 01-03
Existing SP
Beaver County, Pennsylvania

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)

SP1							
SHEET	100	0.0300	0.150				0.162
SHALLOW	1161	0.0482	0.050				0.091
SHALLOW	520	0.0962	0.050				0.029
						Time of Concentration	.282
							=====
SP2							
SHEET	100	0.0700	0.150				0.115
SHALLOW	801	0.1074	0.050				0.042
						Time of Concentration	.157
							=====
SP4							
SHEET	100	0.0500	0.150				0.132
SHALLOW	1018	0.0412	0.050				0.086
						Time of Concentration	.218
							=====
SP3A							
SHEET	100	0.0130	0.150				0.226
SHALLOW	581	0.0317	0.050				0.056
SHALLOW	453	0.0709	0.050				0.029
						Time of Concentration	.311
							=====
SP3B							
SHEET	100	0.0170	0.150				0.203
SHALLOW	1632	0.0257	0.050				0.175
SHALLOW	449	0.1156	0.050				0.023
						Time of Concentration	.401
							=====

ET

Switch Pit 01-03
Existing SP
Beaver County, Pennsylvania

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
SP1	Meadow -cont. grass (non grazed)		C	7.31	71
	Meadow -cont. grass (non grazed)		D	11.88	78
	Woods	(good)	C	15.82	70
	Woods	(good)	D	25.69	77
	Total Area / Weighted Curve Number			60.7 =====	75 ==
SP2	Woods	(good)	C	3.54	70
	Woods	(good)	D	5.76	77
	Total Area / Weighted Curve Number			9.3 =====	74 ==
SP4	Meadow -cont. grass (non grazed)		C	2.22	71
	Meadow -cont. grass (non grazed)		D	3.6	78
	Woods	(good)	C	28.22	70
	Woods	(good)	D	45.84	77
	Total Area / Weighted Curve Number			79.88 =====	74 ==
SP3A	Meadow -cont. grass (non grazed)		C	6.2	71
	Meadow -cont. grass (non grazed)		D	10.08	78
	Woods	(good)	C	3.02	70
	Woods	(good)	D	4.92	77
	Total Area / Weighted Curve Number			24.22 =====	75 ==
SP3B	Meadow -cont. grass (non grazed)		C	10.61	71
	Meadow -cont. grass (non grazed)		D	17.24	78
	Woods	(good)	C	20.54	70
	Woods	(good)	D	33.37	77
	Total Area / Weighted Curve Number			81.76 =====	75 ==

WinTR-55 Current Data Description

--- Identification Data ---

User: ET Date: 7/1/2026
 Project: Switch Pit 01-03 Units: English
 SubTitle: Proposed SP Analysis Areal Units: Acres
 State: Pennsylvania
 County: Beaver
 Filename: S:\25010482 Pitt Race SOW\Project Documents\Engineering-Planning-Power and Energy\Design Calcul

--- Sub-Area Data ---

Name	Description	Reach	Area (ac)	RCN	Tc
SP 1	North	Outlet	46.73	88	.24
SP 2	West	Outlet	5.4	75	.193
SP 3B	East	Outlet	92.39	93	.171
SP 4	South	Outlet	80.35	89	.193
SP 3A	East	Outlet	30.7	91	.17

Total area: 255.57 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.35	2.5	2.87	3.3	4.4	4.91	1.97

Storm Data Source: User-provided custom storm data
 Rainfall Distribution Type: Type II
 Dimensionless Unit Hydrograph: <standard>

ET

Switch Pit 01-03
Proposed SP Analysis
Beaver County, Pennsylvania

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.35	2.5	2.87	3.3	4.4	4.91	1.97

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ET

Switch Pit 01-03
Proposed SP Analysis
Beaver County, Pennsylvania

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period				
	2-Yr (cfs)	10-Yr (cfs)	25-Yr (cfs)	50-Yr (cfs)	100-Yr (cfs)

SUBAREAS					
SP 1	73.83	99.91	121.84	178.83	204.90
SP 2	3.79	6.14	8.28	14.28	17.24
SP 3B	204.38	262.63	310.50	433.01	489.03
SP 4	142.59	190.70	231.06	335.05	382.76
SP 3A	62.00	81.23	97.28	138.21	157.14
REACHES					
OUTLET	480.81	633.40	760.24	1087.30	1237.83

ET

Switch Pit 01-03
Proposed SP Analysis
Beaver County, Pennsylvania

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
SP 1	46.73	0.240	88	Outlet	North
SP 2	5.40	0.193	75	Outlet	West
SP 3B	92.39	0.171	93	Outlet	East
SP 4	80.35	0.193	89	Outlet	South
SP 3A	30.70	0.170	91	Outlet	East

Total Area:	255.57 (ac)				

Switch Pit 01-03
Proposed SP Analysis
Beaver County, Pennsylvania

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)

SP 1							
SHEET	100	0.0100	0.011				0.031
SHALLOW	530	0.0100	0.025				0.072
CHANNEL	3311	0.0050	0.013	3.55	4.72	6.713	0.137
					Time of Concentration		.24
							=====
SP 2							
SHEET	100	0.4000	0.150				0.057
SHALLOW	1370	0.0300	0.050				0.136
					Time of Concentration		.193
							=====
SP 3B							
SHEET	100	0.0220	0.011				0.023
SHALLOW	210	0.0220	0.025				0.019
CHANNEL	3111	0.0050	0.013	3.55	4.72	6.699	0.129
					Time of Concentration		.171
							=====
SP 4							
SHEET	100	0.4000	0.150				0.057
SHALLOW	1370	0.0300	0.050				0.136
					Time of Concentration		.193
							=====
SP 3A							
SHEET	100	0.0100	0.011				0.031
SHALLOW	110	0.0100	0.050				0.019
CHANNEL	1035	0.0050	0.013	3.55	4.72	6.686	0.043
CHANNEL	1300	0.0100	0.030	18.75	20.31	4.690	0.077
					Time of Concentration		.17
							=====

ET

Switch Pit 01-03
Proposed SP Analysis
Beaver County, Pennsylvania

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
SP 1	Open space; grass cover > 75% (good)	C	4.1	74
	Open space; grass cover > 75% (good)	D	6.67	80
	Paved parking lots, roofs, driveways	D	23.96	98
	Meadow -cont. grass (non grazed)	C	4.57	71
	Meadow -cont. grass (non grazed)	D	7.43	78
	Total Area / Weighted Curve Number		46.73 =====	88 ==
SP 2	Meadow -cont. grass (non grazed)	C	2.06	71
	Meadow -cont. grass (non grazed)	D	3.34	78
	Total Area / Weighted Curve Number		5.4 ===	75 ==
SP 3B	Open space; grass cover > 75% (good)	C	6.9	74
	Open space; grass cover > 75% (good)	D	11.22	80
	Paved parking lots, roofs, driveways	D	69.05	98
	Meadow -cont. grass (non grazed)	C	1.99	71
	Meadow -cont. grass (non grazed)	D	3.23	78
	Total Area / Weighted Curve Number		92.39 =====	93 ==
SP 4	Open space; grass cover > 75% (good)	C	8.74	74
	Open space; grass cover > 75% (good)	D	14.19	80
	Paved parking lots, roofs, driveways	D	44.52	98
	Meadow -cont. grass (non grazed)	C	4.91	71
	Meadow -cont. grass (non grazed)	D	7.99	78
	Total Area / Weighted Curve Number		80.35 =====	89 ==
SP 3A	Open space; grass cover > 75% (good)	C	2.04	74
	Open space; grass cover > 75% (good)	D	3.32	80
	Paved parking lots, roofs, driveways	D	20.6	98
	Meadow -cont. grass (non grazed)	C	1.81	71
	Meadow -cont. grass (non grazed)	D	2.93	78
	Total Area / Weighted Curve Number		30.7 =====	91 ==

Pond Computations and TR-20 Routing

WinTR-55 Current Data Description

--- Identification Data ---

User: ET Date: 7/1/2026
 Project: Switch Pit 01-03 Units: English
 SubTitle: Proposed Pond Analysis Areal Units: Acres
 State: Pennsylvania
 County: Beaver
 Filename: S:\25010482 Pitt Race SOW\Project Documents\Engineering-Planning-Power and Energy\Design Calcul

--- Sub-Area Data ---

Name	Description	Reach	Area (ac)	RCN	Tc
Pond 1	SP 1	Outlet	32.38	90	.24
Pond 2	SP 4	Outlet	26.86	94	.193
Pond 3	SP 3B	Outlet	25.48	93	.139
Pond 4	SP 4	Outlet	30.37	94	.129
Pond 5	SP 3B	Outlet	55.36	96	.171
Pond 6	SP 3A	Outlet	27.03	93	.17

Total area: 197.48 (ac)

--- Storm Data ---

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.35	2.5	2.87	3.3	4.4	4.91	1.97

Storm Data Source: User-provided custom storm data
 Rainfall Distribution Type: Type II
 Dimensionless Unit Hydrograph: <standard>

ET

Switch Pit 01-03
Proposed Pond Analysis
Beaver County, Pennsylvania

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.35	2.5	2.87	3.3	4.4	4.91	1.97

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ET

Switch Pit 01-03
Proposed Pond Analysis
Beaver County, Pennsylvania

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period				
	2-Yr (cfs)	10-Yr (cfs)	25-Yr (cfs)	50-Yr (cfs)	100-Yr (cfs)

SUBAREAS					
Pond 1	56.83	75.18	90.68	130.20	148.24
Pond 2	60.29	76.68	90.20	124.46	140.27
Pond 3	59.10	75.93	89.84	125.25	141.50
Pond 4	74.74	95.08	111.90	154.39	174.06
Pond 5	137.91	172.15	200.50	272.09	305.43
Pond 6	59.88	76.94	91.01	126.85	143.25
REACHES					
OUTLET	439.19	560.16	659.91	913.76	1031.04

ET

Switch Pit 01-03
Proposed Pond Analysis
Beaver County, Pennsylvania

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Pond 1	32.38	0.240	90	Outlet	SP 1
Pond 2	26.86	0.193	94	Outlet	SP 4
Pond 3	25.48	0.139	93	Outlet	SP 3B
Pond 4	30.37	0.129	94	Outlet	SP 4
Pond 5	55.36	0.171	96	Outlet	SP 3B
Pond 6	27.03	0.170	93	Outlet	SP 3A

Total Area: 197.48 (ac)

ET

Switch Pit 01-03
Proposed Pond Analysis
Beaver County, Pennsylvania

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)

Pond 1							
SHEET	100	0.0100	0.011				0.031
SHALLOW	530	0.0100	0.025				0.072
CHANNEL	3311	0.0050	0.013	3.55	4.72	6.713	0.137
Time of Concentration							.24
							=====
Pond 2							
SHEET	100	0.4000	0.150				0.057
SHALLOW	1370	0.0300	0.050				0.136
Time of Concentration							.193
							=====
Pond 3							
SHEET	100	0.1000	0.150				0.100
SHALLOW	125	0.1000	0.050				
CHANNEL	1013	0.0050	0.013	3.55	4.20	7.215	0.039
Time of Concentration							.139
							=====
Pond 4							
SHEET	100	0.0100	0.011				0.031
SHALLOW	144	0.0100	0.025				0.020
CHANNEL	1872	0.0050	0.013	3.55	4.72	6.667	0.078
Time of Concentration							.129
							=====
Pond 5							
SHEET	100	0.0220	0.011				0.023
SHALLOW	210	0.0220	0.025				0.019
CHANNEL	3111	0.0050	0.013	3.55	4.72	6.699	0.129
Time of Concentration							.171
							=====
Pond 6							
SHEET	100	0.0100	0.011				0.031
SHALLOW	110	0.0100	0.050				0.019
CHANNEL	1035	0.0050	0.013	3.55	4.72	6.686	0.043
CHANNEL	1300	0.0100	0.030	18.75	20.31	4.690	0.077
Time of Concentration							.17
							=====

ET

Switch Pit 01-03
Proposed Pond Analysis
Beaver County, Pennsylvania

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Pond 1	Open space; grass cover > 75% (good)	C	4.1	74
	Open space; grass cover > 75% (good)	D	6.67	80
	Paved parking lots, roofs, driveways	D	20	98
	Meadow -cont. grass (non grazed)	C	.62	71
	Meadow -cont. grass (non grazed)	D	.99	78
	Total Area / Weighted Curve Number		32.38 =====	90 ==
Pond 2	Open space; grass cover > 75% (good)	C	2.06	74
	Open space; grass cover > 75% (good)	D	3.34	80
	Paved parking lots, roofs, driveways	D	21.46	98
	Total Area / Weighted Curve Number		26.86 =====	94 ==
Pond 3	Open space; grass cover > 75% (good)	C	2.62	74
	Open space; grass cover > 75% (good)	D	4.26	80
	Paved parking lots, roofs, driveways	D	18.6	98
	Total Area / Weighted Curve Number		25.48 =====	93 ==
Pond 4	Open space; grass cover > 75% (good)	C	2.06	74
	Open space; grass cover > 75% (good)	D	3.35	80
	Paved parking lots, roofs, driveways	D	24.96	98
	Total Area / Weighted Curve Number		30.37 =====	94 ==
Pond 5	Open space; grass cover > 75% (good)	C	2.27	74
	Open space; grass cover > 75% (good)	D	3.7	80
	Paved parking lots, roofs, driveways	D	49.39	98
	Total Area / Weighted Curve Number		55.36 =====	96 ==
Pond 6	Open space; grass cover > 75% (good)	C	2.04	74
	Open space; grass cover > 75% (good)	D	3.32	80
	Paved parking lots, roofs, driveways	D	19.94	98
	Meadow -cont. grass (non grazed)	C	.64	71
	Meadow -cont. grass (non grazed)	D	1.09	78
	Total Area / Weighted Curve Number		27.03 =====	93 ==

SWM POND 1 ELEVATION STORAGE COMPUTATIONS

Project: Switch PIT 01-03
 Location: BEAVER COUNTY, PA
 Category: Stormwater Management
 Job No: 25010482

	By	Date
Computed		
Checked		

Elevation	Area	Average Area	Incremental Depth	Incremental Volume	Cumulative Volume	Cumulative Volume	Volume above WQ _v	Description
	sq-feet	sq-feet	feet	cu- feet	cu- feet	acre-feet	acre-feet	
68.00	112,742			0	0	0.0000		BOTTOM
		114,917	1.0					
69.00	117,092			114,917	114,917	2.6381	0.0000	WQV
		118,717	1.0					
70.00	120,342			118,717	233,634	5.3635	2.7254	
		122,361	1.0					
71.00	124,379			122,361	355,995	8.1725	5.5344	
		126,425	1.0					
72.00	128,471			126,425	482,420	11.0748	8.4367	
		130,546	1.0					
73.00	132,620			130,546	612,965	14.0717	11.4336	
		134,723	1.0					
74.00	136,826			134,723	747,688	17.1646	14.5264	
		138,957	1.0					
75.00	141,088			138,957	886,645	20.3546	17.7164	
		143,248	1.0					
76.00	145,407			143,248	1,029,893	23.6431	21.0049	

SWM POND 2 ELEVATION STORAGE COMPUTATIONS

Project: Switch PIT 01-03
 Location: BEAVER COUNTY, PA
 Category: Stormwater Management
 Job No: 25010482

	By	Date
Computed		
Checked		

Elevation	Area	Average Area	Incremental Depth	Incremental Volume	Cumulative Volume	Cumulative Volume	Volume above WQ _v	Description
	sq-feet	sq-feet	feet	cu- feet	cu- feet	acre-feet	acre-feet	
80.00	77,260			0	0	0.0000		BOTTOM
81.00	80,749	79,005	1.0	79,005	79,005	1.8137		
		81,190	0.25					
81.25	81,630			20,297	99,302	2.2797	0.0000	WQV
		82,076	0.25					
81.50	82,522	83,408	0.5	20,519	99,523	2.2847	0.0051	
82.00	84,294	86,095	1.0	41,704	141,227	3.2421	0.9625	
83.00	87,896	89,726	1.0	86,095	227,322	5.2186	2.9389	
84.00	91,555	93,413	1.0	89,726	317,048	7.2784	4.9988	
85.00	95,270	97,156	1.0	93,413	410,460	9.4229	7.1432	
86.00	99,042	100,957	1.0	97,156	507,616	11.6533	9.3736	
87.00	102,871	104,814	1.0	100,957	608,573	13.9709	11.6913	
88.00	106,756			104,814	713,386	16.3771	14.0974	

SWM POND 3 ELEVATION STORAGE COMPUTATIONS

Project: Switch PIT 01-03
 Location: BEAVER COUNTY, PA
 Category: Stormwater Management
 Job No: 25010482

	By	Date
Computed		
Checked		

Elevation	Area	Average Area	Incremental Depth	Incremental Volume	Cumulative Volume	Cumulative Volume	Volume above WQ _v	Description
	sq-feet	sq-feet	feet	cu- feet	cu- feet	acre-feet	acre-feet	
59.00	33,066			0	0	0.0000		BOTTOM
		33,849	1.0					
60.00	34,631			33,849	33,849	0.7771		
		35,968	1.0					
61.00	37,304			35,968	69,816	1.6028		
		38,641	0.25					
61.25	38,267			9,660	79,476	1.8245	0.0000	WQV
		39,910	0.25					
61.50	38,641			9,978	89,454	2.0536	0.2291	
		41,307	0.5					
62.00	39,977			20,653	110,107	2.5277	0.7032	
		40,765	1.0					
63.00	41,553			40,765	150,872	3.4635	1.6390	
		42,763	1.0					
64.00	43,973			42,763	193,635	4.4452	2.6207	
		45,212	1.0					
65.00	46,450			45,212	238,847	5.4832	3.6586	
		47,717	1.0					
66.00	48,983			47,717	286,563	6.5786	4.7541	
		50,278	1.0					
67.00	51,573			50,278	336,841	7.7328	5.9083	

SWM POND 4 ELEVATION STORAGE COMPUTATIONS

Project: Switch PIT 01-03
 Location: BEAVER COUNTY, PA
 Category: Stormwater Management
 Job No: 25010482

	By	Date
Computed		
Checked		

Elevation	Area	Average Area	Incremental Depth	Incremental Volume	Cumulative Volume	Cumulative Volume	Volume above WQ _v	Description
	sq-feet	sq-feet	feet	cu- feet	cu- feet	acre-feet	acre-feet	
73.00	88,997			0	0	0.0000		BOTTOM
		90,684	1.0					
74.00	92,370			90,684	90,684	2.0818		
		91,218	0.25					
74.25	93,439			22,805	113,488	2.6053	0.0000	WQ_v
		93,828	0.25					
74.50	94,217			23,457	114,141	2.6203	0.0150	
		95,141	0.5					
75.00	96,064			47,570	161,711	3.7124	1.1070	
		97,939	1.0					
76.00	99,814			97,939	259,650	5.9607	3.3554	
		101,718	1.0					
77.00	103,621			101,718	361,367	8.2959	5.6905	
		105,553	1.0					
78.00	107,484			105,553	466,920	10.7190	8.1137	
		109,444	1.0					
79.00	111,404			109,444	576,364	13.2315	10.6262	
		113,393	1.0					
80.00	115,381			113,393	689,756	15.8346	13.2293	
		117,398	1.0					
81.00	119,414			117,398	807,154	18.5297	15.9244	

SWM POND 5 ELEVATION STORAGE COMPUTATIONS

Project: Switch PIT 01-03
 Location: BEAVER COUNTY, PA
 Category: Stormwater Management
 Job No: 25010482

	By	Date
Computed		
Checked		

Elevation	Area	Average Area	Incremental Depth	Incremental Volume	Cumulative Volume	Cumulative Volume	Volume above WQ _v	Description
	sq-feet	sq-feet	feet	cu- feet	cu- feet	acre-feet	acre-feet	
68.00	70,882			0	0	0.0000		BOTTOM
		73,321	1.0					
69.00	75,759			73,321	73,321	1.6832		
		78,317	1.0					
70.00	80,874			78,317	151,637	3.4811		
		83,460	0.25					
70.25	82,249			20,865	172,502	3.9601		
		86,762	0.25					
70.50	83,624			21,690	194,192	4.4580	0.0000	WQV
		90,091	0.5					
71.00	86,046			45,046	239,238	5.4921	1.0341	
		88,660	1.0					
72.00	91,274			88,660	327,898	7.5275	3.0695	
		93,916	1.0					
73.00	96,558			93,916	421,814	9.6835	5.2255	
		99,229	1.0					
74.00	101,899			99,229	521,042	11.9615	7.5034	
		104,598	1.0					
75.00	107,297			104,598	625,640	14.3627	9.9047	
		110,024	1.0					
76.00	112,751			110,024	735,664	16.8885	12.4305	

SWM POND 6 ELEVATION STORAGE COMPUTATIONS

Project: Switch PIT 01-03
 Location: BEAVER COUNTY, PA
 Category: Stormwater Management
 Job No: 25010482

	By	Date
Computed		
Checked		

Elevation	Area	Average Area	Incremental Depth	Incremental Volume	Cumulative Volume	Cumulative Volume	Volume above WQ _v	Description
	sq-feet	sq-feet	feet	cu- feet	cu- feet	acre-feet	acre-feet	
50.00	33,990			0	0	0.0000		BOTTOM
		34,056	1.0					
51.00	34,122			34,056	34,056	0.7818		
		35,165	1.0					
52.00	36,208			35,165	69,221	1.5891		
		37,063	0.25					
52.25	38,742			9,266	78,487	1.8018	0.0000	WQV
		39,186	0.25					
52.50	37,919			9,796	88,283	2.0267	0.2249	
		40,485	0.5					
53.00	39,630			20,242	108,526	2.4914	0.6896	
		41,340	1.0					
54.00	43,051			41,340	149,866	3.4404	1.6386	
		43,567	1.0					
55.00	44,083			43,567	193,433	4.4406	2.6388	
		44,599	1.0					
56.00	45,115			44,599	238,032	5.4645	3.6627	
		46,299	1.0					
57.00	47,483			46,299	284,331	6.5273	4.7255	
		48,696	1.0					
58.00	49,908			48,696	333,026	7.6452	5.8434	

SP1

Switch Pit 01-03, pond #1

Free Flow Conditions

By Date
 ET 6/30/2026
 Computed Checked 6/30/2026

WEIR		EMERGENCY SPILLWAY	
Q = 3.1*LH ^{3/2}		Q = 3.1*LH ^{3/2}	
TRIAL INPUT		TRIAL INPUT	
Number of weirs =	0	Number of weirs =	0
Crest elevation =	69.00	Crest elevation =	75.00
WSEL =	70.28	WSEL =	70.28
TWEL =	69.00	TWEL =	69.00
Q, cfs =	5.05	Q, cfs =	230.00
kL =	0.008	kL =	0.008
kH =	0.003	kH =	0.003
C1 =	3.1	Ce =	3.1
Q/Q1 =	1	Q/Q1 =	1
TRIAL OUTPUT		TRIAL OUTPUT	
H1, ft. =	1.28	H1, ft. =	0.00
He, ft. =	1.283	He, ft. =	0.003
H2, ft. =	0.00	H2, ft. =	0.00
H2/H1 =	0.00	H2/H1 =	0.00
Le, ft. =	#DIV/0!	Le, ft. =	#DIV/0!
L, ft. =	#DIV/0!	L, ft. =	#DIV/0!
ACTUAL INPUT		ACTUAL INPUT	
Number of weirs =	1	Number of weirs =	0
Crest elevation =	69.0	Crest elevation =	75.00
WSEL =	70.28	WSEL =	70.28
TWEL =	69.0	TWEL =	69.00
L, ft. =	12.0	L, ft. =	24.00
kL =	0.008	kL =	0.008
kH =	0.003	kH =	0.003
Ce =	3.1	Ce =	3.1
Q/Q1 =	1	Q/Q1 =	1
ACTUAL OUTPUT		ACTUAL OUTPUT	
H1, ft. =	1.28	H1, ft. =	0.00
He, ft. =	1.283	He, ft. =	0.003
H2, ft. =	0.00	H2, ft. =	0.00
H2/H1 =	0.00	H2/H1 =	#DIV/0!
Le, ft. =	12.01	Le, ft. =	24.01
Q, cfs =	54.10	Q, cfs =	0.00

STAGE/DISCHARGE RELATIONSHIP								
WSEL ft	TWEL ft	ORIFICE		LOW WEIR			Q/Q1 cfs	Q1 cfs
		h ft	Qo cfs	H1 ft	H2 ft	H2/H1 ft		
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
69.00	68.00	-	0.00	0.00	0.00	-	1.00	0.01
70.00	68.00	-	0.00	1.00	0.00	0.00	1.00	37.39
71.00	68.00	-	0.00	2.00	0.00	0.00	1.00	105.52
72.00	68.00	-	0.00	3.00	0.00	0.00	1.00	193.72
73.00	68.00	-	0.00	4.00	0.00	0.00	1.00	298.13
74.00	68.00	-	0.00	5.00	0.00	0.00	1.00	416.56
75.00	68.00	-	0.00	6.00	0.00	0.00	1.00	547.50

SP1

Switch Pit 01-03, pond #2

Free Flow Conditions

By Date
 ET 6/30/2026
 Computed Checked 6/30/2026

LOW WEIR		EMERGENCY SPILLWAY	
Q = 3.1*LH3/2		Q = 3.1*LH3/2	
TRIAL INPUT		TRIAL INPUT	
Number of weirs =	0	Number of weirs =	1
Crest elevation =	81.25	Crest elevation =	88.00
WSEL =	83.49	WSEL =	83.49
TWEL =	81.25	TWEL =	81.25
Q, cfs =	5.05	Q, cfs =	230.00
kL =	0.008	kL =	0.008
kH =	0.003	kH =	0.003
C1 =	3.1	Ce =	3.1
Q/Q1 =	1	Q/Q1 =	1
TRIAL OUTPUT		TRIAL OUTPUT	
H1, ft. =	2.24	H1, ft. =	0.00
He, ft. =	2.243	He, ft. =	0.003
H2, ft. =	0.00	H2, ft. =	0.00
H2/H1 =	0.00	H2/H1 =	0.00
Le, ft. =	#DIV/0!	Le, ft. =	451527.56
L, ft. =	#DIV/0!	L, ft. =	451527.55
ACTUAL INPUT		ACTUAL INPUT	
Number of weirs =	1	Number of weirs =	0
Crest elevation =	81.25	Crest elevation =	88.00
WSEL =	83.49	WSEL =	83.49
TWEL =	81.25	TWEL =	81.25
L, ft. =	3.0	L, ft. =	8.00
kL =	0.008	kL =	0.008
kH =	0.003	kH =	0.003
Ce =	3.1	Ce =	3.1
Q/Q1 =	1	Q/Q1 =	1
ACTUAL OUTPUT		ACTUAL OUTPUT	
H1, ft. =	2.24	H1, ft. =	0.00
He, ft. =	2.243	He, ft. =	0.003
H2, ft. =	0.00	H2, ft. =	0.00
H2/H1 =	0.00	H2/H1 =	#DIV/0!
Le, ft. =	3.01	Le, ft. =	8.01
Q, cfs =	31.32	Q, cfs =	0.00

STAGE/DISCHARGE RELATIONSHIP								
WSEL ft	TWEL ft	ORIFICE		LOW WEIR			Q/Q1 cfs	Q1 cfs
		h ft	Qo cfs	H1 ft	H2 ft	H2/H1 ft		
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
81.25	81.25	-	0.00	0.00	0.00	-	1.00	0.00
81.50	81.25	-	0.00	0.25	0.00	0.00	1.00	1.19
82.00	81.25	-	0.00	0.75	0.00	0.00	1.00	6.09
83.00	81.25	-	0.00	1.75	0.00	0.00	1.00	21.64
84.00	81.25	-	0.00	2.75	0.00	0.00	1.00	42.59
85.00	81.25	-	0.00	3.75	0.00	0.00	1.00	67.80
86.00	81.25	-	0.00	4.75	0.00	0.00	1.00	96.63

SP1

Switch Pit 01-03, pond #3

Free Flow Conditions

By Date
 ET 6/30/2026
 Computed Checked 6/30/2026

----- LOW WEIR -----		----- EMERGENCY SPILLWAY -----	
Q = 3.1*LH3/2		Q = 3.1*LH3/2	
----- TRIAL INPUT -----		----- TRIAL INPUT -----	
Number of weirs =		0 Number of weirs =	1
Crest elevation =		61.25 Crest elevation =	68.00
WSEL =		64.88 WSEL =	64.88
TWEL =		61.25 TWEL =	61.25
Q, cfs =		5.05 Q, cfs =	230.00
kL =		0.008 kL =	0.008
kH =		0.003 kH =	0.003
C1 =		3.1 Ce =	3.1
Q/Q1=		1 Q/Q1 =	1
----- TRIAL OUTPUT -----			
H1, ft. =	3.63		
He, ft. =	3.633		
H2, ft. =	0.00		
H2/H1 =	0.00		
Le, ft. =	#DIV/0!		
L, ft. =	#DIV/0!		
----- ACTUAL INPUT -----		----- ACTUAL INPUT -----	
Number of weirs =	1	Number of weirs =	1
Crest elevation =	61.25	Crest elevation =	68.00
WSEL =	64.88	WSEL =	64.88
TWEL =	61.25	TWEL =	61.25
L, ft. =	2.0	L, ft. =	24.00
kL =	0.008	kL =	0.008
kH =	0.003	kH =	0.003
Ce =	3.1	Ce =	3.1
Q/Q1=	1	Q/Q1 =	1
----- ACTUAL OUTPUT -----		----- ACTUAL OUTPUT -----	
H1, ft. =	3.63	H1, ft. =	0.00
He, ft. =	3.633	He, ft. =	0.003
H2, ft. =	0.00	H2, ft. =	0.00
H2/H1 =	0.00	H2/H1 =	#DIV/0!
Le, ft. =	2.01	Le, ft. =	24.01
Q, cfs =	43.10	Q, cfs =	0.01

STAGE/DISCHARGE RELATIONSHIP								
WSEL ft	TWEL ft	ORIFICE		LOW WEIR			Q/Q1 cfs	Q1 cfs
		h ft	Qo cfs	H1 ft	H2 ft	H2/H1 ft		
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
61.25	61.25	-	0.00	0.00	0.00	-	1.00	0.00
62.00	61.25	-	0.00	0.75	0.00	0.00	1.00	4.07
63.00	61.25	-	0.00	1.75	0.00	0.00	1.00	14.45
64.00	61.25	-	0.00	2.75	0.00	0.00	1.00	28.43
65.00	61.25	-	0.00	3.75	0.00	0.00	1.00	45.26
66.00	61.25	-	0.00	4.75	0.00	0.00	1.00	64.50
67.00	61.25	-	0.00	5.75	0.00	0.00	1.00	85.89

SP1

Switch Pit 01-03, pond #4

Free Flow Conditions

By Date
 ET 6/30/2026
 Computed Checked 6/30/2026

LOW WEIR		EMERGENCY SPILLWAY	
Q = 3.1*LH ^{3/2}		Q = 3.1*LH ^{3/2}	
TRIAL INPUT		TRIAL INPUT	
Number of weirs =	0	Number of weirs =	1
Crest elevation =	74.25	Crest elevation =	80.00
WSEL =	76.18	WSEL =	76.18
TWEL =	74.25	TWEL =	74.25
Q, cfs =	5.05	Q, cfs =	230.00
kL =	0.008	kL =	0.008
kH =	0.003	kH =	0.003
C1 =	3.1	Ce =	3.1
Q/Q1 =	1	Q/Q1 =	1
TRIAL OUTPUT		TRIAL OUTPUT	
H1, ft. =	1.93	H1, ft. =	0.00
He, ft. =	1.933	He, ft. =	0.003
H2, ft. =	0.00	H2, ft. =	0.00
H2/H1 =	0.00	H2/H1 =	0.00
Le, ft. =	#DIV/0!	Le, ft. =	451527.56
L, ft. =	#DIV/0!	L, ft. =	451527.55
ACTUAL INPUT		ACTUAL INPUT	
Number of weirs =	1	Number of weirs =	1
Crest elevation =	74.25	Crest elevation =	80.00
WSEL =	76.18	WSEL =	76.18
TWEL =	74.25	TWEL =	74.25
L, ft. =	7.0	L, ft. =	26.00
kL =	0.008	kL =	0.008
kH =	0.003	kH =	0.003
Ce =	3.1	Ce =	3.1
Q/Q1 =	1	Q/Q1 =	1
ACTUAL OUTPUT		ACTUAL OUTPUT	
H1, ft. =	1.93	H1, ft. =	0.00
He, ft. =	1.933	He, ft. =	0.003
H2, ft. =	0.00	H2, ft. =	0.00
H2/H1 =	0.00	H2/H1 =	#DIV/0!
Le, ft. =	7.01	Le, ft. =	26.01
Q, cfs =	58.39	Q, cfs =	0.01

STAGE/DISCHARGE RELATIONSHIP								
WSEL ft	TWEL ft	ORIFICE		LOW WEIR			Q/Q1 cfs	Q1 cfs
		h ft	Qo cfs	H1 ft	H2 ft	H2/H1 ft		
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
74.25	74.25	-	0.00	0.00	0.00	-	1.00	0.00
74.50	74.25	-	0.00	0.25	0.00	0.00	1.00	2.76
75.00	74.25	-	0.00	0.75	0.00	0.00	1.00	14.20
76.00	74.25	-	0.00	1.75	0.00	0.00	1.00	50.42
77.00	74.25	-	0.00	2.75	0.00	0.00	1.00	99.24
78.00	74.25	-	0.00	3.75	0.00	0.00	1.00	157.95
79.00	74.25	-	0.00	4.75	0.00	0.00	1.00	225.12
80.00	74.25	-	1.00	5.75	0.00	0.00	2.00	599.55

SP1

Switch Pit 01-03, pond #5

Free Flow Conditions

Computed
Checked

By
ET

Date
6/30/2026
6/30/2026

LOW WEIR

$$Q = 3.1 \cdot LH^{3/2}$$

TRIAL INPUT

Number of weirs =	0
Crest elevation =	70.50
WSEL =	75.57
TWEL =	70.50
Q, cfs =	5.05
kL =	0.008
kH =	0.003
C1 =	3.1
Q/Q1=	1

TRIAL OUTPUT

H1, ft. =	5.07
He, ft. =	5.073
H2, ft. =	0.00
H2/H1 =	0.00
Le, ft. =	#DIV/0!
L, ft. =	#DIV/0!

ACTUAL INPUT

Number of weirs =	1
Crest elevation =	70.50
WSEL =	75.57
TWEL =	70.50
L, ft. =	1.0
kL =	0.008
kH =	0.003
Ce =	3.1
Q/Q1=	1

ACTUAL OUTPUT

H1, ft. =	5.07
He, ft. =	5.073
H2, ft. =	0.00
H2/H1 =	0.00
Le, ft. =	1.01
Q, cfs =	35.70

STAGE/DISCHARGE RELATIONSHIP								
WSEL ft	TWEL ft	ORIFICE		LOW WEIR			Q/Q1 cfs	Q1 cfs
		h ft	Qo cfs	H1 ft	H2 ft	H2/H1 ft		
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
70.50	70.50	-	0.00	0.00	0.00	#DIV/0!	1.00	0.00
71.00	70.50	-	0.00	0.50	0.00	0.00	1.00	1.11
72.00	70.50	-	0.00	1.50	0.00	0.00	1.00	5.76
73.00	70.50	-	0.00	2.50	0.00	0.00	1.00	12.37
74.00	70.50	-	0.00	3.50	0.00	0.00	1.00	20.49
75.00	70.50	-	0.00	4.50	0.00	0.00	1.00	29.86
76.00	70.50	-	0.00	5.50	0.00	0.00	1.00	40.34

SP1

Switch Pit 01-03, pond #6

Free Flow Conditions

Computed
Checked

By
ET

Date
6/30/2026
6/30/2026

LOW WEIR

$$Q = 3.1 \cdot LH^{3/2}$$

TRIAL INPUT

Number of weirs =	1
Crest elevation =	52.25
WSEL =	56.67
TWEL =	52.25
Q, cfs =	5.05
kL =	0.008
kH =	0.003
C1 =	3.1
Q/Q1 =	1

TRIAL OUTPUT

H1, ft. =	4.42
He, ft. =	4.423
H2, ft. =	0.00
H2/H1 =	0.00
Le, ft. =	0.18
L, ft. =	0.17

ACTUAL INPUT

Number of weirs =	1
Crest elevation =	52.25
WSEL =	56.67
TWEL =	52.25
L, ft. =	1.0
kL =	0.008
kH =	0.003
Ce =	3.1
Q/Q1 =	1

ACTUAL OUTPUT

H1, ft. =	4.42
He, ft. =	4.423
H2, ft. =	0.00
H2/H1 =	0.00
Le, ft. =	1.01
Q, cfs =	29.07

STAGE/DISCHARGE RELATIONSHIP								
WSEL ft	TWEL ft	ORIFICE		LOW WEIR			Q/Q1 cfs	Q1 cfs
		h ft	Qo cfs	H1 ft	H2 ft	H2/H1 ft		
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
52.25	52.25	-	0.00	0.00	0.00	-	1.00	0.00
52.50	52.25	-	0.00	0.25	0.00	0.00	1.00	0.40
53.00	52.25	-	0.00	0.75	0.00	0.00	1.00	2.04
54.00	52.25	-	0.00	1.75	0.00	0.00	1.00	7.25
55.00	52.25	-	0.00	2.75	0.00	0.00	1.00	14.27
56.00	52.25	-	0.00	3.75	0.00	0.00	1.00	22.72
57.00	52.25	-	0.00	4.75	0.00	0.00	1.00	32.38

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Switch PIT 01-03
Discharge Analysis

SUB-AREA:

Pond 1	Pond 1	0.0505938	90.	.24
Pond 4	Pond 4	0.0474531	94.	.129
Pond 2	Pond 2	0.0419688	94.	.193
Pond 3	Pond 3	0.0398125	93.	.139
Pond 5	Pond 5	0.0865000	96.	.171
Pond 6	Pond 6	0.0422344	93.	.17

STREAM REACH:

Pond 1	Outlet	100	
Pond 2	Outlet	200	
Pond 3	SP 3	300	
Pond 4	Outlet	400	
Pond 5	SP 3	500	
Pond 6	SP 3	600	
SP 3	Outlet	SP 3	1000.

STORM ANALYSIS:

100 Yr	4.91	TYPE II	2
50 Yr	4.4	TYPE II	2
25 Yr	3.3	TYPE II	2
10 Yr	2.87	TYPE II	2
2 Yr	2.35	TYPE II	2

STREAM CROSS SECTION:

SP 3	986.08		977.18		
	977.18	0.	0.	0.	.074
	979.48	290.5	10.58	9.2	.074

986.08	5441.	95.22	27.6	.074
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STRUCTURE RATING:

100	69.		
	69.	0.	0.
	70.	37.39	2.7254
	71.	105.52	5.5344
	72.	193.72	8.4367
	73.	298.13	11.4336
	74.	416.56	14.5264
	75.	547.50	17.7164
200	81.25		
	81.25	0.	0.
	81.5	1.19	.0051
	82.	6.09	.9625
	83.	21.64	2.9389
	84.	42.59	4.9988
	85.	67.80	7.1432
	86.	96.63	9.3736
300	61.25		
	61.25	0.	0.
	62.	4.07	.7032
	63.	14.45	1.6390
	64.	28.43	2.6207
	65.	45.26	3.6586
	66.	64.50	4.7541
	67.	85.89	5.9083
400	74.25		
	74.25	0.	0.
	75.	14.2	1.1070
	76.	50.42	3.3554
	77.	99.24	5.6905
	78.	157.95	8.1137
	79.	225.12	10.6262
	80.	599.55	13.2293
500	70.5		
	70.5	0.	0.
	71.	1.11	1.0341
	72.	5.76	3.0695
	73.	12.37	5.2255
	74.	20.49	7.5034
	75.	29.86	9.9047
	76.	40.34	12.4305
600	52.25		
	52.25	0.	0.
	53.	2.04	.6896
	54.	7.25	1.6386
	55.	14.27	2.6388
	56.	22.72	3.6627

57. 32.38 4.7255

GLOBAL OUTPUT:

1 .05 .1 NN N YN N

WinTR-20 Printed Page File End of Input Data List

Switch PIT 01-03
Discharge Analysis

Name of printed page file:
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STORM 100 Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
Pond 3	0.040	Upstream	4.109		11.95	141.5	3554.41
Pond 3	0.040	Downstream	4.099	64.88	12.15	43.2	1084.99
Pond 5	0.086	Upstream	4.443		11.97	305.4	3530.99
Pond 5	0.086	Downstream	4.422	75.57	12.45	35.9	414.48
Pond 6	0.042	Upstream	4.109		11.98	143.3	3392.21
Pond 6	0.042	Downstream	4.092	56.67	12.26	29.2	692.11
SP 3	0.169	Upstream	4.263	978.02	12.21	106.2	630.26
SP 3	0.169	Downstream	4.263	978.02	12.22	106.2	630.26
Pond 1	0.051	Upstream	3.789		12.03	148.2	2930.13
Pond 1	0.051	Downstream	3.785	70.28	12.23	56.2	1110.72
Pond 2	0.042	Upstream	4.218		11.99	140.3	3342.24
Pond 2	0.042	Downstream	4.218	83.49	12.26	31.9	761.18
Pond 4	0.047	Upstream	4.219		11.94	174.1	3668.23
Pond 4	0.047	Downstream	4.215	76.18	12.12	59.2	1247.63
OUTLET	0.309		4.171		12.20	250.5	811.83

STORM 50 Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
Pond 3	0.040	Upstream	3.609		11.95	125.3	3146.10
Pond 3	0.040	Downstream	3.599	64.51	12.15	36.9	927.95
Pond 5	0.086	Upstream	3.936		11.97	272.1	3145.57
Pond 5	0.086	Downstream	3.915	75.09	12.47	30.8	356.46
Pond 6	0.042	Upstream	3.609		11.98	126.9	3003.79
Pond 6	0.042	Downstream	3.592	56.21	12.27	24.8	586.37
SP 3	0.169	Upstream	3.759	977.90	12.22	90.7	538.13
SP 3	0.169	Downstream	3.759	977.90	12.22	90.7	538.13
Pond 1	0.051	Upstream	3.299		12.03	130.2	2573.55
Pond 1	0.051	Downstream	3.296	70.13	12.24	46.4	917.57
Pond 2	0.042	Upstream	3.716		11.99	124.5	2965.57
Pond 2	0.042	Downstream	3.716	83.27	12.27	27.3	650.12
Pond 4	0.047	Upstream	3.716		11.94	154.4	3253.75
Pond 4	0.047	Downstream	3.712	76.00	12.13	50.5	1064.74
OUTLET	0.309		3.670		12.22	212.7	689.23

STORM 25 Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
Pond 3	0.040	Upstream	2.541		11.95	89.9	2256.84
Pond 3	0.040	Downstream	2.530	63.66	12.17	23.7	594.09

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Switch PIT 01-03 Discharge Analysis

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
Pond 5	0.086	Upstream	2.847		11.98	200.5	2317.87
Pond 5	0.086	Downstream	2.826	73.99	12.52	20.4	235.91
Pond 6	0.042	Upstream	2.541		11.98	91.0	2155.17
Pond 6	0.042	Downstream	2.523	55.15	12.30	15.6	368.74
SP 3	0.169	Upstream	2.680	977.64	12.25	58.4	346.77
SP 3	0.169	Downstream	2.680	977.64	12.26	58.4	346.76
Pond 1	0.051	Upstream	2.260		12.03	90.7	1792.41
Pond 1	0.051	Downstream	2.257	69.79	12.27	29.5	583.17
Pond 2	0.042	Upstream	2.640		12.00	90.2	2149.11
Pond 2	0.042	Downstream	2.639	82.77	12.30	18.0	429.78
Pond 4	0.047	Upstream	2.640		11.95	111.9	2358.33
Pond 4	0.047	Downstream	2.636	75.59	12.13	35.6	749.40

OUTLET	0.309		2.598		12.22	139.8	453.21
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STORM 10 Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
Pond 3	0.040	Upstream	2.128		11.96	75.9	1907.22
Pond 3	0.040	Downstream	2.118	63.31	12.18	18.7	470.57
Pond 5	0.086	Upstream	2.424		11.98	172.2	1990.19
Pond 5	0.086	Downstream	2.402	73.52	12.55	16.6	192.09
Pond 6	0.042	Upstream	2.128		11.98	77.0	1822.00
Pond 6	0.042	Downstream	2.111	54.72	12.33	12.3	291.36
SP 3	0.169	Upstream	2.262	977.55	12.26	46.7	276.82
SP 3	0.169	Downstream	2.262	977.55	12.27	46.7	276.82
Pond 1	0.051	Upstream	1.864		12.03	75.2	1486.09
Pond 1	0.051	Downstream	1.860	69.65	12.27	24.3	480.26
Pond 2	0.042	Upstream	2.223		12.00	76.7	1827.10
Pond 2	0.042	Downstream	2.223	82.57	12.30	14.9	354.48
Pond 4	0.047	Upstream	2.223		11.94	95.1	2003.74
Pond 4	0.047	Downstream	2.219	75.43	12.13	29.7	625.15
OUTLET	0.309		2.184		12.24	114.0	369.52

STORM 2 Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
Pond 3	0.040	Upstream	1.637		11.96	59.1	1484.64
Pond 3	0.040	Downstream	1.626	62.87	12.19	13.1	327.90
Pond 5	0.086	Upstream	1.914		11.97	137.9	1594.39
Pond 5	0.086	Downstream	1.892	72.95	12.61	12.0	139.16
Pond 6	0.042	Upstream	1.637		11.98	59.9	1417.96
Pond 6	0.042	Downstream	1.619	54.19	12.38	8.6	203.34
SP 3	0.169	Upstream	1.761	977.44	12.31	33.0	195.95
SP 3	0.169	Downstream	1.761	977.44	12.32	33.0	195.95
Pond 1	0.051	Upstream	1.396		12.04	56.8	1123.26

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Switch PIT 01-03
Discharge Analysis

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	----- Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
Pond 1	0.051	Downstream	1.393	69.48	12.28	18.1	357.81

Pond 2	0.042	Upstream	1.725		12.00	60.3	1436.58
Pond 2	0.042	Downstream	1.724	82.32	12.32	11.1	264.36
Pond 4	0.047	Upstream	1.725		11.95	74.7	1575.21
Pond 4	0.047	Downstream	1.721	75.23	12.14	22.5	474.06
OUTLET	0.309		1.689		12.24	83.5	270.47



Switch PIT 01-03
Discharge Analysis

Area or Reach Identifier	Drainage Area (sq mi)	----- Peak Flow by Storm -----				
		100 Yr (cfs)	50 Yr (cfs)	25 Yr (cfs)	10 Yr (cfs)	2 Yr (cfs)
Pond 1	0.051	148.2	130.2	90.7	75.2	56.8
Pond 4	0.047	174.1	154.4	111.9	95.1	74.7
Pond 2	0.042	140.3	124.5	90.2	76.7	60.3
Pond 3	0.040	141.5	125.3	89.9	75.9	59.1
Pond 5	0.086	305.4	272.1	200.5	172.2	137.9
Pond 6	0.042	143.3	126.9	91.0	77.0	59.9
Pond 1	0.051	148.2	130.2	90.7	75.2	56.8
DOWNSTREAM		56.2	46.4	29.5	24.3	18.1
Pond 2	0.042	140.3	124.5	90.2	76.7	60.3
DOWNSTREAM		31.9	27.3	18.0	14.9	11.1
Pond 3	0.040	141.5	125.3	89.9	75.9	59.1
DOWNSTREAM		43.2	36.9	23.7	18.7	13.1
Pond 4	0.047	174.1	154.4	111.9	95.1	74.7
DOWNSTREAM		59.2	50.5	35.6	29.7	22.5
Pond 5	0.086	305.4	272.1	200.5	172.2	137.9
DOWNSTREAM		35.9	30.8	20.4	16.6	12.0
Pond 6	0.042	143.3	126.9	91.0	77.0	59.9
DOWNSTREAM		29.2	24.8	15.6	12.3	8.6
SP 3	0.169	106.2	90.7	58.4	46.7	33.0
DOWNSTREAM		106.2	90.7	58.4	46.7	33.0
OUTLET	0.309	250.5	212.7	139.8	114.0	83.5

Pipe Computations

PROJECT: Pitt Raceway
 JOB No: 25010483

COMPUTATIONS OF INLET TYPES

DATE: 7/1/2026
 REV DATE: COMP: ET

NUMBER	AREA (Ac.)	TC	I in/hr	R	Q cfs	STREET SLOPE	INLET TYPE	INLET CAP.	REMARKS			
									H	10 YR Ponding	% Capture	Spread
ST-1A2.1	0.57	5	4.91	0.85	2.38	LP	C	7.9	0.16	0.16	100%	5.85
ST-1A3.1	0.76	5	4.91	0.85	3.17	LP	C	7.9	0.19	0.19	100%	7.53
ST-1A5.1	0.65	5	4.91	0.85	2.71	LP	C	7.9	0.17	0.17	100%	6.58
ST-1A6.1	0.92	5	4.91	0.85	3.8	LP	C	7.9	0.22	0.22	100%	8.84
ST-1A7.1	1.01	5	4.91	0.85	4.22	LP	C	7.9	0.23	0.23	100%	9.54
ST-1A8.1	1.28	5	4.91	0.85	5.34	LP	C	7.9	0.27	0.27	100%	11.53
ST-1A10	0.29	5	4.91	0.85	1.21	2.3%	C	7.9	0.13	0.13	100%	4.40
ST-1A9	1.28	5	4.91	0.85	5.34	LP	C	7.9	0.27	0.27	100%	11.53
ST-1A8.2	0.84	5	4.91	0.85	3.5	4.0%	C	6.9	0.17	0.17	74%	6.60
ST-1A11	0.84	5	4.91	0.85	3.51	LP	C	7.9	0.21	0.21	100%	8.19
ST-1A11.1	1.33	5	4.91	0.85	5.6	LP	C	7.9	0.28	0.28	100%	11.88
ST-1A12	0.42	5	4.91	0.85	1.8	1.0%	C	7.9	0.17	0.17	100%	6.60
ST-1A12.1	1.36	5	4.91	0.85	5.7	LP	C	7.9	0.28	0.28	100%	12.09
ST-1A13	0.55	5	4.91	0.85	2.30	1.0%	C	7.9	0.19	0.19	99%	7.52
ST-1A13.1	1.30	5	4.91	0.85	5.43	LP	C	7.9	0.28	0.28	100%	11.67
ST-1A14.1	0.70	5	4.91	0.85	2.9	LP	C	7.9	0.18	0.18	100%	7.02
ST-1A15	1.28	5	4.91	0.85	5.3	1.0%	C	7.9	0.26	0.26	76%	11.11
ST-1A17	1.33	5	4.91	0.85	5.6	1.0%	C	7.9	0.27	0.27	75%	11.30
ST-1A18	0.81	5	4.91	0.85	3.4	1.0%	C	7.9	0.22	0.22	90%	9.03
ST-1A19.1	1.13	5	4.91	0.85	4.7	2.0%	C	7.9	0.22	0.22	72%	8.97
ST-1A20	0.60	5	4.91	0.85	2.5	LP	C	7.9	0.16	0.16	100%	6.13
ST-1A20.1	1.22	5	4.91	0.85	5.1	2.0%	C	7.9	0.23	0.23	70%	9.29
ST-1A21.1	1.28	5	4.91	0.85	5.3	2.0%	C	7.9	0.23	0.23	68%	9.50
ST-1A22	1.43	5	4.91	0.85	6.0	2.0%	C	7.9	0.24	0.24	65%	9.99
ST-1A23	1.06	5	4.91	0.85	4.4	2.0%	C	7.9	0.22	0.22	74%	8.71
ST-1A24	1.12	5	4.91	0.85	4.7	LP	C	7.9	0.25	0.25	100%	10.37
ST-3A3	0.86	5	4.91	0.85	3.6	LP	C	7.9	0.21	0.21	100%	8.36
ST-3A4	0.34	5	4.91	0.85	1.4	6.7%	C	7.9	0.11	0.11	98%	3.54
ST-3A2	0.35	5	4.91	0.85	1.5	2.2%	C	7.9	0.14	0.14	100%	4.90
ST-3A4.2	1.29	5	4.91	0.85	5.4	6.1%	C	7.9	0.19	0.19	57%	7.34
ST-3A2.2	0.87	5	4.91	0.85	3.6	LP	C	7.9	0.21	0.21	100%	8.44
ST-3A2.4	0.34	5	4.91	0.85	1.4	1.0%	C	7.9	0.16	0.16	100%	5.94
ST-3B2.1	0.7	5	4.91	0.85	2.9	LP	C	7.9	0.18	0.18	100%	7.02
ST-3A6	0.55	5	4.91	0.85	2.3	LP	C	7.9	0.15	0.15	100%	5.67
ST-3A5.1	0.7	5	4.91	0.85	2.9	LP	C	7.9	0.18	0.18	100%	7.02
ST-3A5.2	0.89	5	4.91	0.85	3.7	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-3A7	0.66	5	4.91	0.85	2.8	LP	C	7.9	0.18	0.18	100%	6.67
ST-3A7.1	0.75	5	4.91	0.85	3.1	LP	C	7.9	0.19	0.19	100%	7.45
ST-3A8	0.62	5	4.91	0.85	2.6	LP	C	7.9	0.17	0.17	100%	6.31
ST-3A7.2	0.83	5	4.91	0.85	3.5	LP	C	7.9	0.20	0.20	100%	8.11
ST-3B3	0.47	5	4.91	0.85	2.0	LP	C	7.9	0.14	0.14	100%	4.90
ST-3B4	0.36	5	4.91	0.85	1.5	LP	C	7.9	0.12	0.12	100%	3.76
ST-3B5	0.4	5	4.91	0.85	1.7	LP	C	7.9	0.13	0.13	100%	4.18
ST-3B6	0.23	5	4.91	0.85	1.0	LP	C	7.9	0.09	0.09	100%	2.25
ST-3B8	0.33	5	4.91	0.85	1.4	LP	C	7.9	0.11	0.11	100%	3.43
ST-4A3.3	0.89	5	4.91	0.85	3.7	2.0%	C	7.9	0.20	0.20	80%	8.02
ST-4A3.2	0.53	5	4.91	0.85	2.2	LP	C	7.9	0.15	0.15	100%	5.48
ST-4A3.5	0.81	5	4.91	0.85	3.4	LP	C	7.9	0.20	0.20	100%	7.95
ST-4A3.8	0.41	5	4.91	0.85	1.7	5.4%	C	7.9	0.13	0.13	95%	4.19
ST-4A2	1.3	5	4.91	0.85	5.4	LP	C	7.9	0.28	0.28	100%	11.67

PROJECT: Pitt Raceway
 JOB No: 25010483

COMPUTATIONS OF INLET TYPES

DATE: 7/1/2026
 REV DATE: COMP: ET

NUMBER	AREA (Ac.)	TC	I in/hr	R	Q cfs	STREET SLOPE	INLET TYPE	INLET CAP.	REMARKS			
									H	10 YR Ponding	% Capture	Spread
ST-4A4	0.82	5	4.91	0.85	3.4	LP	C	7.9	0.20	0.20	100%	8.03
ST-4A5	1.61	5	4.91	0.85	6.7	LP	M	7.9	0.32	0.32	100%	13.77
ST-4A6	1.58	5	4.91	0.85	6.6	LP	M	7.9	0.31	0.31	100%	13.58
ST-4A8	1.58	5	4.91	0.85	6.6	LP	M	7.9	0.31	0.31	100%	13.58
ST-4A9	1.58	5	4.91	0.85	6.6	LP	M	7.9	0.31	0.31	100%	13.58
ST-4A8.2	1.513	5	4.91	0.85	6.3	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-4A8.1	0.86	5	4.91	0.85	3.6	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-4B2	0.6	5	4.91	0.85	2.5	LP	C	7.9	0.16	0.16	100%	6.13
ST-4B2.1	1.28	5	4.91	0.85	5.3	LP	C	7.9	0.27	0.27	100%	11.53
ST-4B3	1.36	5	4.91	0.85	5.7	LP	C	7.9	0.28	0.28	100%	12.09
ST-4B5	0.41	5	4.91	0.85	1.7	LP	C	7.9	0.13	0.13	100%	4.29
ST-4B6	0.96	5	4.91	0.85	4.0	LP	C	7.9	0.22	0.22	100%	9.15
ST-4B7	1.58	5	4.91	0.85	6.6	LP	C	7.9	0.31	0.31	100%	13.58
ST-4B8.1	0.778	5	4.91	0.85	3.2	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-4B9	1.59	5	4.91	0.85	6.6	LP	M	7.9	0.31	0.31	100%	13.64
ST-4B10	1.59	5	4.91	0.85	6.6	LP	M	7.9	0.31	0.31	100%	13.64
ST-4B11	1.33	5	4.91	0.85	5.6	LP	M	7.9	0.28	0.28	100%	11.88
ST-4B10.1	1.67	5	4.91	0.85	7.0	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-4B3.3	0.82	5	4.91	0.85	3.4	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-4B3.4	0.25	5	4.91	0.85	1.0	2.0%	C	7.9	0.13	0.13	100%	4.19
ST-4B3.5	0.24	5	4.91	0.85	1.0	LP	C	7.9	0.09	0.09	100%	2.37
ST-5A2	0.25	5	4.91	0.85	1.0	LP	C	7.9	0.09	0.09	100%	2.50
ST-5A2.1	0.17	5	4.91	0.85	0.7	LP	C	7.9	0.07	0.07	100%	1.46
ST-5A4	0.3	5	4.91	0.85	1.3	2.7%	C	7.9	0.13	0.13	100%	4.27
ST-5B2	0.37	5	4.91	0.85	1.5	LP	C	7.9	0.12	0.12	100%	3.87
ST-5C2.2	0.65	5	4.91	0.85	2.7	LP	C	7.9	0.17	0.17	100%	6.58
ST-5C3	0.76	5	4.91	0.85	3.2	LP	C	7.9	0.19	0.19	100%	7.53
ST-5C5	1.79	5	4.91	0.85	7.5	LP	M	7.9	0.34	0.34	100%	14.94
ST-5C6	1.68	5	4.91	0.85	7.0	LP	M	7.9	0.33	0.33	100%	14.23
ST-5C7	1.81	5	4.91	0.85	7.6	LP	M	7.9	0.34	0.34	100%	15.06
ST-5C7.1	0.792	5	4.91	0.85	3.3	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-5C8	1.69	5	4.91	0.85	7.1	LP	M	7.9	0.33	0.33	100%	14.30
ST-5C7.2	1.7	5	4.91	0.85	7.1	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-5C2.4	0.72	5	4.91	0.85	3.0	LP	C	7.9	0.19	0.19	100%	7.19
ST-5C2.6	0.58	5	4.91	0.85	2.4	LP	C	7.9	0.16	0.16	100%	5.95
ST-5C2.7	0.93	5	4.91	0.85	3.9	LP	C	7.9	0.22	0.22	100%	8.92
ST-5C2.8	0.67	5	4.91	0.85	2.8	LP	C	7.9	0.18	0.18	100%	6.76
ST-5C2.9	0.72	5	4.91	0.85	3.0	LP	C	7.9	0.19	0.19	100%	7.19
ST-5C2.10	0.69	5	4.91	0.85	2.9	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-5C2.11	0.74	5	4.91	0.85	3.1	LP	C	7.9	0.19	0.19	100%	7.36
ST-5D3.1	0.95	5	4.91	0.85	4.0	LP	C	7.9	0.22	0.22	100%	9.07
ST-5D4.1	1.19	5	4.91	0.85	5.0	LP	C	7.9	0.26	0.26	100%	10.88
ST-5D3.2	1.47	5	4.91	0.85	6.1	LP	M	7.9	0.30	0.30	100%	12.84
ST-5D3.4	1.51	5	4.91	0.85	6.3	LP	M	7.9	0.30	0.30	100%	13.11
ST-5D3.5	1.58	5	4.91	0.85	6.6	LP	M	7.9	0.31	0.31	100%	13.58
ST-5D3.6	0.87	5	4.91	0.85	3.6	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-5D3.7	1.34	5	4.91	0.85	5.6	LP	M	7.9	0.28	0.28	100%	11.95
ST-5D3.9	1.53	5	4.91	0.85	6.4	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-5D2.2	0.19	5	4.91	0.85	0.8	LP	C	7.9	0.08	0.08	100%	1.73
ST-5D2.1	0.14	5	4.91	0.85	0.6	LP	C	7.9	0.06	0.06	100%	1.03

PROJECT: Pitt Raceway
 JOB No: 25010483

COMPUTATIONS OF INLET TYPES

DATE: 7/1/2026
 REV DATE: COMP: ET

NUMBER	AREA (Ac.)	TC	I in/hr	R	Q cfs	STREET SLOPE	INLET TYPE	INLET CAP.	REMARKS			
									H	10 YR Ponding	% Capture	Spread
ST-5D5.1	0.78	5	4.91	0.85	3.3	LP	C	7.9	0.20	0.20	100%	7.70
ST-5D6.1	1.32	5	4.91	0.85	5.5	LP	C	7.9	0.28	0.28	100%	11.81
ST-6A2	0.66	5	4.91	0.85	2.8	10.0%	C	7.9	0.13	0.13	74%	4.60
ST-6B2	1.95	5	4.91	0.85	8.1	6.9%	C	7.9	0.22	0.22	45%	8.67
ST-6B3	0.85	5	4.91	0.85	3.5	6.1%	C	7.9	0.16	0.16	70%	5.98
ST-6C2	0.41	5	4.91	0.85	1.7	10.0%	C	7.9	0.11	0.11	91%	3.51
ST-6C2.1	0.43	5	4.91	0.85	1.8	6.9%	C	7.9	0.12	0.12	92%	4.02
ST-6C7	1.61	5	4.91	0.85	6.7	LP	C	7.9	0.32	0.32	100%	13.77
ST-6C5.1	2.19	5	4.91	0.85	9.1	LP	C	7.9	0.39	0.39	100%	17.38
ST-5D7.2	0.12	5	4.91	0.85	0.5	1.7%	C	7.9	0.10	0.10	100%	2.83
ST-5D8	1.51	5	4.91	0.85	6.3	LP	C	7.9	0.30	0.30	100%	13.11
ST-5D10	1.37	5	4.91	0.85	5.7	LP	M	7.9	0.28	0.28	100%	12.16
ST-5D11	1.34	5	4.91	0.85	5.6	LP	M	7.9	0.28	0.28	100%	11.95
ST-5D12	1.32	5	4.91	0.85	5.5	LP	M	7.9	0.28	0.28	100%	11.81
ST-5D13.1	1.52	5	4.91	0.85	6.3	LP	TRENCH	7.9	#N/A	#N/A	#N/A	#N/A
ST-5D14	1.42	5	4.91	0.85	5.9	LP	M	7.9	0.29	0.29	100%	12.50
ST-5D15	1.49	5	4.91	0.85	6.2	LP	M	7.9	0.30	0.30	100%	12.98
ST-5D16	1.58	5	4.91	0.85	6.6	LP	M	7.9	0.31	0.31	100%	13.58
ST-5D17	1.61	5	4.91	0.85	6.7	LP	M	7.9	0.32	0.32	100%	13.77
ST-5D18	1.88	5	4.91	0.85	7.8	LP	M	7.9	0.35	0.35	100%	15.50
ST-5D19	1.76	5	4.91	0.85	7.3	LP	M	7.9	0.34	0.34	100%	14.74
ST-5D20	1.31	5	4.91	0.85	5.5	LP	M	7.9	0.28	0.28	100%	11.74
ST-7A29	0.83	5	4.91	0.85	3.5	6.2%	C	7.9	0.16	0.16	0.71	5.88
ST-7A28	0.71	5	4.91	0.85	3.0	6.3%	C	7.9	0.15	0.15	0.76	5.40
ST-7A27	0.54	5	4.91	0.85	2.3	3.1%	C	7.9	0.15	0.15	0.91	5.65
ST-7A22.1	0.82	5	4.91	0.85	3.4	5.0%	C	7.9	0.16	0.16	0.73	6.16
ST-7A20.1	1.17	5	4.91	0.85	4.9	5.0%	C	7.9	0.19	0.19	0.62	7.34
ST-7A18.1	1.14	5	4.91	0.85	4.8	5.0%	C	7.9	0.19	0.19	0.62	7.25
ST-7A17.1	1.74	5	4.91	0.85	7.3	5.1%	C	7.9	0.22	0.22	0.50	8.81
ST-7A16	1.54	5	4.91	0.85	6.4	5.7%	C	7.9	0.20	0.20	0.53	8.12
ST-7A12.1	0.77	5	4.91	0.85	3.2	5.7%	C	7.9	0.16	0.16	0.74	5.79
ST-7A11	0.97	5	4.91	0.85	4.0	LP	C	7.9	0.23	0.23	1.00	9.23
ST-7A5	0.53	5	4.91	0.85	2.2	5.6%	C	7.9	0.14	0.14	0.87	4.79
ST-7A3	0.97	5	4.91	0.85	4.0	2.2%	C	7.9	0.20	0.20	76%	8.13
ST-7A1	0.00	5	4.91	0.85	0.0	2.5%	C	8.9	0	0.00	0.00	-2.08
ST-7A0	0.00	5	4.91	0.85	0.0	8.4%	C	9.9	0	0.00	0.00	-2.08

LEGEND

TIC = TIME OF CONCENTRATION
 I = INTENSITY
 R = RUNOFF COEFFICIENT
 Q = DISCHARGE
 INLET CAP = INLET CAPACITY
 L.P. = LOW POINT

NOTE:

CAPACITY FOR A - INLET = 6.75 cfs / 5 L.F. ASSUMING 50% BLOCKED FOR GRASSED AREAS
 SUMP = 1.35 cfs / 1 L.F.
 B-MH - MODIFIED B MANHOLE DER STD SD 22.0
 A-10-TYPE A INLET DER-STD SD 10.1
 YARD - DER STD SD 15.0

DESIGNED BY:		DATE: 7/7/2026																									
CHECKED BY:																											
		CONTRACT: Switch Pit 01-03																									
		TITLE: Parking Lot Storm Drain																									
STORM SEWER DESIGN		100-yr storm																									
STRUCTURE		Area		Runoff Coef.			Tc (min)							PIPE n = 0.013												REMARKS	
FROM	TO	A, Area, Ac.	ΣA	Inlet "C"	Δ CA	ΣCA	Inlet	Drain	Total	I Rainfall, (In/hr)	Q (cfs)	Size (in)	So (%)	Va (fps)	Vo (fps)	L (ft)	Pipe Time (min)	Pipe time + Tc (min)	Capacity Full (cfs)	SF Slope %	Vp (fps)	Normal Depth nd (ft)					
ST-1A24	ST-1A23	1.12	1.12	0.85	0.95	0.95	5.00	0.00	5.00	4.91	4.67	15	1.00	5.26	3.81	131	0.41	5.41	6.5	0.52 %	5.73	0.788					
ST-1A23	ST-1A22	1.06	2.18	0.85	0.90	1.85	5.00	5.41	5.41	4.91	9.10	18	1.00	5.94	5.15	124	0.40	5.82	10.5	0.75 %	6.69	1.078					
ST-1A22	ST-1A21	1.43	3.61	0.85	1.22	3.07	5.00	5.82	5.82	4.91	15.07	24	0.50	5.09	4.80	215	0.70	6.52	16.0	0.44 %	5.79	1.544					
ST-1A21.1	ST-1A21	1.28	1.28	0.85	1.09	1.09	5.00	0.00	5.00	4.91	5.34	15	1.00	5.26	4.35	67	0.26	5.26	6.5	0.68 %	5.88	0.867					
ST-1A21	ST-1A20	0.00	4.89	0.85	0.00	4.16	5.00	6.52	6.52	4.91	20.41	30	0.50	5.91	4.16	151	0.61	7.13	29.0	0.25 %	6.40	1.547					
ST-1A20.1	ST-1A20	1.22	1.22	0.85	1.04	1.04	5.00	0.00	5.00	4.91	5.09	18	1.00	5.94	2.88	63	0.36	5.36	10.5	0.23 %	5.90	0.736					
ST-1A20	ST-1A19	0.60	6.71	0.85	0.51	5.70	5.00	7.13	7.13	4.91	28.00	30	0.50	5.91	5.70	247	0.72	7.85	29.0	0.47 %	6.73	1.976					
ST-1A19.1	ST-1A19	1.13	1.13	0.85	0.96	0.96	5.00	0.00	5.00	4.91	4.72	15	1.00	5.26	3.84	66	0.29	5.29	6.5	0.53 %	5.75	0.793					
ST-1A19	ST-1A18	0.00	7.84	0.85	0.00	6.66	5.00	7.85	7.85	4.91	32.72	36	0.50	6.67	4.63	128	0.46	8.31	47.2	0.24 %	7.21	1.838					
ST-1A18	ST-1A17	0.81	8.65	0.85	0.69	7.35	5.00	8.31	8.31	4.91	36.10	36	0.50	6.67	5.11	46	0.11	8.42	47.2	0.29 %	7.35	1.966					
ST-1A17	ST-1A16	1.33	9.98	0.85	1.13	8.48	5.00	8.42	8.42	4.91	41.65	36	0.50	6.67	5.89	67	0.19	8.61	47.2	0.39 %	7.53	2.190					
ST-1A16	ST-1A15	0.00	9.98	0.85	0.00	8.48	5.00	8.61	8.61	4.91	41.65	36	0.50	6.67	5.89	90	0.25	8.87	47.2	0.39 %	7.53	2.190					
ST-1A15	ST-1A14	1.28	11.26	0.85	1.09	9.57	5.00	8.87	8.87	4.91	46.99	36	0.50	6.67	6.65	195	0.49	9.36	47.2	0.50 %	7.61	2.449					
ST-1A14.1	ST-1A14	0.70	0.70	0.85	0.60	0.60	5.00	0.00	5.00	4.91	2.92	15	2.42	8.19	2.38	59	0.41	5.41	10.0	0.20 %	7.10	0.462					
ST-1A14	ST-1A13	0.00	11.96	0.85	0.00	10.17	5.00	9.36	9.36	4.91	49.92	36	0.50	6.67	7.06	195	0.46	9.82	47.2	0.56 %	7.53	2.659					
ST-1A13.1	ST-1A13	1.30	1.30	0.85	1.11	1.11	5.00	0.00	5.00	4.91	5.43	15	7.88	14.78	4.42	58	0.22	5.22	18.1	0.71 %	12.91	0.469					
ST-1A13	ST-1A12	0.55	13.81	0.85	0.47	11.74	5.00	9.82	9.82	4.91	57.64	42	0.66	8.50	5.99	195	0.54	10.36	81.7	0.33 %	9.21	2.168					
ST-1A12.1	ST-1A12	1.36	1.36	0.85	1.16	1.16	5.00	0.00	5.00	4.91	5.68	15	7.42	14.34	4.63	58	0.21	5.21	17.6	0.77 %	12.79	0.488					
ST-1A12	ST-1A11	0.42	15.59	0.85	0.36	13.25	5.00	10.36	10.36	4.91	65.06	42	0.96	10.25	6.76	196	0.48	10.84	98.6	0.42 %	10.95	2.076					
ST-1A11.1	ST-1A11	1.33	1.33	0.85	1.13	1.13	5.00	0.00	5.00	4.91	5.55	15	8.47	15.32	4.52	58	0.21	5.21	18.8	0.74 %	13.33	0.465					
ST-1A11	ST-1A10	0.84	17.76	0.85	0.71	15.10	5.00	10.84	10.84	4.91	74.12	42	0.55	7.76	7.70	194	0.42	11.26	74.6	0.54 %	8.84	2.848					
ST-1A10	ST-1A8	0.29	18.05	0.85	0.25	15.34	5.00	11.26	11.26	4.91	75.33	42	0.63	8.30	7.83	198	0.40	11.66	79.9	0.56 %	9.44	2.705					
ST-1A9	ST-1A10	1.28	1.28	0.85	1.09	1.09	5.00	0.00	5.00	4.91	5.34	15	0.65	4.24	4.35	59	0.23	5.23	5.2	0.68 %	1.00	2.852					
ST-1A8.2	ST-1A8	0.84	0.84	0.85	0.71	0.71	5.00	0.00	5.00	4.91	3.51	15	1.00	5.26	2.86	140	0.82	5.82	6.5	0.29 %	5.37	0.656					
ST-1A8.1	ST-1A8	1.28	1.28	0.85	1.09	1.09	5.00	0.00	5.00	4.91	5.34	15	11.83	18.11	4.35	32	0.12	5.12	22.2	0.68 %	5.88	0.867					
ST-1A8	ST-1A7	0.14	20.31	0.85	0.12	17.26	5.00	11.66	11.66	4.91	84.76	48	0.52	8.24	6.75	193	0.48	12.13	103.6	0.35 %	8.73	2.885					
ST-1A7.1	ST-1A7	1.01	1.01	0.85	0.86	0.86	5.00	0.00	5.00	4.91	4.22	15	19.99	23.54	3.43	32	0.16	5.16	28.9	0.43 %	14.80	0.353					
ST-1A7	ST-1A6	0.00	21.32	0.85	0.00	18.12	5.00	12.13	12.13	4.91	88.98	48	0.50	8.08	7.08	194	0.46	12.59	101.6	0.38 %	8.66	3.048					
ST-1A6.1	ST-1A6	0.92	0.92	0.85	0.78	0.78	5.00	0.00	5.00	4.91	3.84	15	11.74	18.04	3.13	26	0.14	5.14	22.1	0.35 %	13.52	0.352					
ST-1A6	ST-1A5	0.00	22.24	0.85	0.00	18.90	5.00	12.59	12.59	4.91	92.82	48	0.50	8.08	7.39	193	0.44	13.02	101.6	0.42 %	8.71	3.164					
ST-1A5.1	ST-1A5	0.65	0.65	0.85	0.55	0.55	5.00	0.00	5.00	4.91	2.71	15	19.99	23.54	2.21	27	0.20	5.20	28.9	0.18 %	14.78	0.259					
ST-1A5	ST-1A4	0.00	22.89	0.85	0.00	19.46	5.00	13.02	13.02	4.91	95.53	48	0.50	8.08	7.60	169	0.37	13.40	101.6	0.44 %	8.73	3.254					
ST-1A3.1	ST-1A3	0.76	0.76	0.85	0.65	0.65	5.00	0.00	5.00	4.91	3.17	15	17.90	22.27	2.58	13	0.08	5.08	27.3	0.24 %	14.87	0.288					
ST-1A3	ST-1A2	0.00	0.76	0.85	0.00	0.65	5.00	5.08	5.08	4.91	3.17	15	1.00	5.26	2.58	112	0.72	5.81	6.5	0.24 %	5.24	0.618					
ST-1A2.1	ST-1A2	0.57	0.57	0.85	0.48	0.48	5.00	0.00	5.00	4.91	2.38	15	16.26	21.23	1.94	10	0.09	5.09	26.0	0.14 %	14.22	0.243					
ST-1A4	ST-1A2	0.00	22.89	0.85	0.00	19.46	5.00	13.40	13.40	4.91	95.53	48	0.50	8.08	7.60	27	0.06	13.45	101.6	0.44 %	8.73	3.254					
ST-1A2	ST-1A1	0.00	24.22	0.85	0.00	20.59	5.00	13.45	13.45	4.91	101.08	48	0.52	8.24	8.04	83	0.17	13.63	103.6	0.50 %	8.91	3.387					
ST-3A2.4	ST-3A2.3	0.34	0.34	0.85	0.29	0.29	5.00	0.00	5.00	4.91	1.42	15	0.50	3.72	1.16	235	3.39	8.39	4.6	0.05 %	3.29	0.478					
ST-3A2.3	ST-3A2.2	0.00	0.34	0.85	0.00	0.29	5.00	8.39	8.39	4.91	1.42	15	0.50	3.72	1.16	37	0.53	8.92	4.6	0.05 %	3.28	0.478					
ST-3A2.2	ST-3A2.1	0.87	1.21	0.85	0.74	1.03	5.00	8.92	8.92	4.91	5.05	18	0.50	4.20	2.86	25	0.15	9.07	7.4	0.23 %	4.52	0.907					
ST-3A2.1	ST-3A2	0.00	1.21	0.85	0.00	1.03	5.00	9.07	9.07	4.91	5.05	18	0.50	4.20	2.86	177	0.70	9.77	7.4	0.23 %	4.52	0.907					
ST-3A7.2	ST-3A7.1	0.83	0.83	0.85	0.71	0.71	5.00	0.00	5.00	4.91	3.46	15	1.00	5.26	2.82	195	1.15	6.15	6.5	0.29 %	5.36	0.652					
ST-3A8	ST-3A7	0.62	0.62	0.85	0.53	0.53	5.00	0.00	5.00	4.91	2.59	15	1.00	5.26	2.11	204	1.61	6.61	6.5	0.16 %	4.97	0.550					
ST-3A7.1	ST-3A7	0.75	1.58	0.85	0.64	1.34	5.00	6.15	6.15	4.91	6.59	15	1.73	6.92	5.37	63	0.20	6.35	8.5	1.04 %	7.65	0.827					
ST-3A7	ST-3A6	0.66	2.86	0.85	0.56	2.43	5.00	6.61	6.61	4.91	11.94	24	1.00	7.20	3.80	153	0.67	7.28	22.6	0.28 %	7.30	1.032					
ST-3A6	ST-3A5	0.55	3.41	0.85	0.47	2.90	5.00	7.28	7.28	4.91	14.23	24	10.39	23.21	4.53	33	0.02	7.31	72.9	0.40 %	18.00	0.599					
ST-3A5.2	ST-3A5.1	0.89	0.89	0.85	0.76	0.76	5.00	0.00	5.00	4.91	3.71	15	1.07	5.45	3.03	149	0.82	5.82	6.7	0.33 %	5.59	0.666					
ST-3A5.1	ST-3A5	0.70	1.59	0.85	0.60	1.35	5.00	5.82	5.82	4.91	6.64	15	2.00	7.44	5.41	66	0.20	6.02	9.1	1.06 %	8.12	0.790					
ST-3A5	ST-3A4	0.00	5.00	0.85	0.00	4.25	5.00	7.31	7.31	4.91	20.87	24	4.49	15.26	6.64	126	0.32	7.62	47.9	0.85 %	14.73	0.923					
ST-3A4.2	ST-3A4.1	1.29	1.29																								

STRUCTURE		Area		Runoff Coef.			Tc (min)					PIPE n = 0.013									REMARKS		
FROM	TO	A, Area, Ac.	ΣA	Inlet "C"	Δ CA	ΣCA	Inlet	Drain	Total	I Rainfall, (In/hr)	Q (cfs)	Size (in)	So (%)	Va (fps)	Vo (fps)	L (ft)	Pipe Time (min)	Pipe time + Tc (min)	Capacity Full (cfs)	SF Slope %	Vp (fps)	Normal Depth nd (ft)	
ST-3A4.1	ST-3A4	0.00	1.29	0.85	0.00	1.10	5.00	5.36	5.36	4.91	5.38	15	1.00	5.26	4.39	50	0.16	5.51	6.5	0.69 %	5.89	0.872	
ST-3A4	ST-3A3	0.34	6.63	0.85	0.29	5.64	5.00	7.62	7.62	4.91	27.67	30	2.63	13.55	5.64	204	0.25	7.87	66.5	0.46 %	12.93	1.124	
ST-3A3	ST-3A2	0.86	7.49	0.85	0.73	6.37	5.00	7.87	7.87	4.91	31.26	30	1.72	10.96	6.37	205	0.31	8.19	53.8	0.58 %	11.37	1.368	
ST-3A2	ST-3A1	0.35	9.05	0.85	0.30	7.69	5.00	9.77	9.77	4.91	37.77	36	0.50	6.67	5.34	62	0.15	9.92	47.2	0.32 %	7.41	2.031	
ST-3B2.1	ST-3B2	0.70	0.70	0.85	0.60	0.60	5.00	0.00	5.00	4.91	2.92	15	9.02	15.81	2.38	66	0.46	5.46	19.4	0.20 %	11.38	0.328	
ST-3B8	ST-3B7	0.33	0.33	0.85	0.28	0.28	5.00	0.00	5.00	4.91	1.38	15	1.00	5.26	1.12	38	0.12	5.12	6.5	0.05 %	4.18	0.392	
ST-3B7	ST-3B6	0.00	0.33	0.85	0.00	0.28	5.00	5.12	5.12	4.91	1.38	15	1.00	5.26	1.12	211	0.67	5.79	6.5	0.05 %	4.18	0.392	
ST-3B6	ST-3B5	0.23	0.56	0.85	0.20	0.48	5.00	5.79	5.79	4.91	2.34	15	1.00	5.26	1.90	294	2.57	8.36	6.5	0.13 %	4.84	0.520	
ST-3B5	ST-3B4	0.40	0.96	0.85	0.34	0.82	5.00	8.36	8.36	4.91	4.01	15	1.00	5.26	3.26	249	1.27	9.63	6.5	0.38 %	5.54	0.713	
ST-3B4	ST-3B3	0.36	1.32	0.85	0.31	1.12	5.00	9.63	9.63	4.91	5.51	15	1.00	5.26	4.49	206	0.76	10.40	6.5	0.73 %	5.91	0.888	
ST-3B3	ST-3B2	0.47	1.79	0.85	0.40	1.52	5.00	10.40	10.40	4.91	7.47	18	1.00	5.94	4.23	107	0.30	10.70	10.5	0.51 %	6.45	0.935	
ST-3B2	ST-3B1	0.00	2.49	0.85	0.00	2.12	5.00	10.70	10.70	4.91	10.39	18	11.09	19.80	5.88	71	0.20	10.90	35.0	0.98 %	17.26	0.560	
ST-4A9	ST-4A8	1.58	1.58	0.85	1.34	1.34	5.00	0.00	5.00	4.91	6.59	15	1.05	5.39	5.37	129	0.40	5.40	6.6	1.04 %	6.15	1.020	
ST-4A8.2	ST-4A8	1.51	1.51	0.85	1.28	1.28	5.00	0.00	5.00	4.91	6.30	15	1.43	6.29	5.14	93	0.30	5.30	7.7	0.95 %	7.02	0.858	
ST-4A8.1	ST-4A8	0.86	0.86	0.85	0.73	0.73	5.00	0.00	5.00	4.91	3.59	15	1.00	5.26	2.92	242	1.38	6.38	6.5	0.31 %	5.40	0.666	
ST-4A8	ST-4A7	0.00	3.95	0.85	0.00	3.36	5.00	6.38	6.38	4.91	16.49	24	0.50	5.09	5.25	63	0.20	6.58	16.0	0.53 %	5.79	1.700	
ST-4A7	ST-4A6	1.58	5.53	0.85	1.34	4.70	5.00	6.58	6.58	4.91	23.08	30	0.50	5.91	4.70	196	0.69	7.27	29.0	0.32 %	6.56	1.685	
ST-4A6	ST-4A5	1.58	7.11	0.85	1.34	6.04	5.00	7.27	7.27	4.91	29.67	30	0.50	5.91	6.05	196	0.54	7.81	29.0	0.52 %	6.73	2.105	
ST-4A5	ST-4A4	1.61	8.72	0.85	1.37	7.41	5.00	7.81	7.81	4.91	36.39	36	0.50	6.67	5.15	229	0.74	8.56	47.2	0.30 %	7.36	1.978	
ST-4A4	ST-4A3	0.82	9.54	0.85	0.70	8.11	5.00	8.56	8.56	4.91	39.82	36	0.50	6.67	5.63	21	0.06	8.62	47.2	0.36 %	7.48	2.113	
ST-4A3.8	ST-4A3.7	0.41	0.41	0.85	0.35	0.35	5.00	0.00	5.00	4.91	1.71	15	5.42	12.25	1.39	99	1.18	6.18	15.0	0.07 %	8.13	0.285	
ST-4A3.7	ST-4A3.6	0.00	0.41	0.85	0.00	0.35	5.00	6.18	6.18	4.91	1.71	15	1.00	5.26	1.39	71	0.85	7.03	6.5	0.07 %	4.45	0.439	
ST-4A3.6	ST-4A3.4	0.00	0.41	0.85	0.00	0.35	5.00	7.03	7.03	4.91	1.71	15	1.00	5.26	1.39	146	1.75	8.78	6.5	0.07 %	4.45	0.439	
ST-4A3.5	ST-4A3.4	0.81	0.81	0.85	0.69	0.69	5.00	0.00	5.00	4.91	3.38	15	19.99	23.54	2.75	23	0.14	5.14	28.9	0.27 %	15.76	0.289	
ST-4A3.4	ST-4A3.1	0.00	1.22	0.85	0.00	1.04	5.00	8.78	8.78	4.91	5.09	15	1.00	5.26	4.15	182	0.73	9.51	6.5	0.62 %	5.83	0.837	
ST-4A3.3	ST-4A3.1	0.89	0.89	0.85	0.76	0.76	5.00	0.00	5.00	4.91	3.71	15	1.00	5.26	3.03	33	0.18	5.18	6.5	0.33 %	5.45	0.680	
ST-4A3.2	ST-4A3.1	0.53	0.53	0.85	0.45	0.45	5.00	0.00	5.00	4.91	2.21	15	1.00	5.26	1.80	24	0.22	5.22	6.5	0.12 %	4.77	0.504	
ST-4A3.1	ST-4A3	0.00	2.64	0.85	0.00	2.24	5.00	9.51	9.51	4.91	11.02	24	0.50	5.09	3.51	173	0.57	10.07	16.0	0.24 %	5.49	1.220	
ST-4A3	ST-4A2	0.00	12.18	0.85	0.00	10.35	5.00	10.07	10.07	4.91	50.83	42	0.50	7.39	5.28	59	0.13	10.21	71.1	0.26 %	8.04	2.188	
ST-4A2	ST-4A1	1.30	13.48	0.85	1.11	11.46	5.00	10.21	10.21	4.91	56.26	42	0.77	9.18	5.85	226	0.41	10.62	88.3	0.31 %	9.73	2.030	
ST-4B11	ST-4B10	1.33	1.33	0.85	1.13	1.13	5.00	0.00	5.00	4.91	5.55	15	1.00	5.26	4.52	195	0.72	5.72	6.5	0.74 %	5.92	0.893	
ST-4B10.1	ST-4B10	1.67	1.67	0.85	1.42	1.42	5.00	0.00	5.00	4.91	6.97	18	1.00	5.94	3.94	242	1.02	6.02	10.5	0.44 %	6.36	0.893	
ST-4B10	ST-4B9	1.59	4.59	0.85	1.35	3.90	5.00	6.02	6.02	4.91	19.16	30	0.50	5.91	3.90	197	0.84	6.86	29.0	0.22 %	6.31	1.483	
ST-4B9	ST-4B8	1.59	6.18	0.85	1.35	5.25	5.00	6.86	6.86	4.91	25.79	30	0.50	5.91	5.25	134	0.43	7.29	29.0	0.40 %	6.68	1.836	
ST-4B8.1	ST-4B8	0.78	0.78	0.85	0.66	0.66	5.00	0.00	5.00	4.91	3.26	15	1.90	7.26	2.65	93	0.58	5.58	8.9	0.25 %	6.69	0.523	
ST-4B8	ST-4B7	0.00	6.96	0.85	0.00	5.92	0.00	7.29	7.29	4.91	29.05	30	0.50	5.91	5.92	59	0.17	7.46	29.0	0.50 %	6.74	2.053	
ST-4B7	ST-4B6	1.58	8.54	0.85	1.34	7.26	5.00	7.46	7.46	4.91	35.64	36	0.50	6.67	5.04	196	0.65	8.10	47.2	0.29 %	7.33	1.949	
ST-4B6	ST-4B5	0.96	9.50	0.85	0.82	8.08	5.00	8.10	8.10	4.91	39.65	36	0.50	6.67	5.61	194	0.58	8.68	47.2	0.35 %	7.48	2.107	
ST-4B5	ST-4B4	0.41	9.91	0.85	0.35	8.42	5.00	8.68	8.68	4.91	41.36	36	0.50	6.67	5.85	66	0.19	8.87	47.2	0.38 %	7.52	2.178	
ST-4B4	ST-4B3	0.00	9.91	0.85	0.00	8.42	0.00	8.87	8.87	4.91	41.36	36	0.50	6.67	5.85	160	0.46	9.32	47.2	0.38 %	7.52	2.178	
ST-4B3.6	ST-4B3.5	0.24	0.24	0.85	0.20	0.20	5.00	0.00	5.00	4.91	1.00	15	1.00	5.26	0.82	177	0.56	5.56	6.5	0.02 %	3.82	0.333	
ST-4B3.5	ST-4B3.4	0.00	0.24	0.85	0.00	0.20	5.00	5.56	5.56	4.91	1.00	15	1.00	5.26	0.82	176	0.56	6.12	6.5	0.02 %	3.82	0.333	
ST-4B3.4	ST-4B3.2	0.25	0.49	0.85	0.21	0.42	5.00	6.12	6.12	4.91	2.05	15	1.00	5.26	1.67	46	0.15	6.26	6.5	0.10 %	4.67	0.483	
ST-4B3.3	ST-4B3.2	0.82	0.82	0.85	0.70	0.70	5.00	0.00	5.00	4.91	3.42	15	1.00	5.26	2.79	160	0.51	5.51	6.5	0.28 %	5.34	0.647	
ST-4B3.2	ST-4B3.1	0.00	1.31	0.85	0.00	1.11	5.00	6.26	6.26	4.91	5.47	15	14.34	19.93	4.46	236	0.20	6.46	24.5	0.72 %	16.06	0.402	
ST-4B3.1	ST-4B3	0.00	1.31	0.85	0.00	1.11	5.00	6.46	6.46	4.91	5.47	15	1.00	5.26	4.46	127	0.40	6.86	6.5	0.72 %	5.90	0.882	
ST-4B3	ST-4B2	1.36	12.58	0.85	1.16	10.69	5.00	9.32	9.32	4.91	52.50	42	1.20	11.46	5.46	106	0.32	9.65	110.2	0.27 %	11.32	1.701	
ST-4B2.1	ST-4B2	1.28	1.28	0.85	1.09	1.09	5.00	0.00	5.00	4.91	5.34	15	1.00	5.26	4.35	214	0.68	5.68	6.5	0.68 %	5.88	0.867	
ST-4B2	ST-4B1	0.60	14.46	0.85	0.51	12.29	5.00	9.65	9.65	4.91	60.35	42	19.99	46.75	6.27	54	0.02	9.67	449.8	0.36 %	32.56	0.866	

STRUCTURE		Area		Runoff Coef.			Tc (min)					PIPE n = 0.013									REMARKS		
FROM	TO	A, Area, Ac.	ΣA	Inlet "C"	Δ CA	ΣCA	Inlet	Drain	Total	I Rainfall, (In/hr)	Q (cfs)	Size (in)	So (%)	Va (fps)	Vo (fps)	L (ft)	Pipe Time (min)	Pipe time + Tc (min)	Capacity Full (cfs)	SF Slope %	Vp (fps)	Normal Depth nd (ft)	
ST-5A4	ST-5A3	0.30	0.30	0.85	0.26	0.26	5.00	0.00	5.00	4.91	1.25	15	1.00	5.26	1.02	146	2.39	7.39	6.5	0.04 %	4.07	0.373	
ST-5A3	ST-5A2	0.00	0.30	0.85	0.00	0.26	5.00	7.39	7.39	4.91	1.25	15	0.50	3.72	1.02	111	1.81	9.20	4.6	0.04 %	3.17	0.447	
ST-5A2.1	ST-5A2	0.17	0.17	0.85	0.14	0.14	5.00	0.00	5.00	4.91	0.71	15	0.50	3.72	0.58	251	7.24	12.24	4.6	0.01 %	2.70	0.333	
ST-5A2	ST-5A1	0.25	0.72	0.85	0.21	0.61	5.00	12.24	12.24	4.91	3.00	15	1.30	6.00	2.45	54	0.37	12.60	7.4	0.22 %	5.70	0.556	
ST-5C2.13	ST-5C2.12	0.37	0.37	0.85	0.31	0.31	5.00	0.00	5.00	4.91	1.54	15	17.54	22.05	1.26	24	0.32	5.32	27.1	0.06 %	11.95	0.203	
ST-5C2.12	ST-5C2.1	0.00	0.37	0.85	0.00	0.31	5.00	5.32	5.32	4.91	1.54	15	1.00	5.26	1.26	196	0.62	5.94	6.5	0.06 %	4.32	0.416	
ST-5C7.2	ST-5C7	1.69	1.69	0.85	1.44	1.44	5.00	0.00	5.00	4.91	7.05	18	1.00	5.94	3.99	242	1.01	6.01	10.5	0.45 %	6.37	0.900	
ST-5C8	ST-5C7	1.69	1.69	0.85	1.44	1.44	5.00	0.00	5.00	4.91	7.05	18	1.00	5.94	3.99	217	0.91	5.91	10.5	0.45 %	6.37	0.900	
ST-5C7.1	ST-5C7	0.79	0.79	0.85	0.67	0.67	5.00	0.00	5.00	4.91	3.30	15	1.00	5.26	2.69	93	0.58	5.58	6.5	0.26 %	5.29	0.633	
ST-5C7	ST-5C6	1.81	5.98	0.85	1.54	5.08	5.00	6.01	6.01	4.91	24.96	30	0.50	5.91	5.08	230	0.75	6.76	29.0	0.37 %	6.64	1.788	
ST-5C6	ST-5C5	1.68	7.66	0.85	1.43	6.51	5.00	6.76	6.76	4.91	31.97	36	0.62	7.43	4.52	189	0.70	7.46	52.5	0.23 %	7.79	1.690	
ST-5C5	ST-5C4	1.79	9.45	0.85	1.52	8.03	5.00	7.46	7.46	4.91	39.44	36	0.50	6.67	5.58	203	0.61	8.07	47.2	0.35 %	7.47	2.098	
ST-5C4	ST-5C3	0.00	9.45	0.85	0.00	8.03	5.00	8.07	8.07	4.91	39.44	36	0.50	6.67	5.58	64	0.19	8.26	47.2	0.35 %	7.47	2.098	
ST-5C3	ST-5C2	0.76	10.21	0.85	0.65	8.68	5.00	8.26	8.26	4.91	42.61	36	11.30	31.72	6.03	22	0.06	8.32	224.2	0.41 %	24.41	0.886	
ST-5C2.2	ST-5C2.1	0.65	0.65	0.85	0.55	0.55	5.00	0.00	5.00	4.91	2.71	15	19.99	23.54	2.21	24	0.18	5.18	28.9	0.18 %	14.78	0.259	
ST-5C2.1	ST-5C2	0.00	1.02	0.85	0.00	0.87	5.00	5.94	5.94	4.91	4.26	15	1.00	5.26	3.47	197	0.95	6.88	6.5	0.43 %	5.62	0.741	
ST-5C2.11	ST-5C2.9	0.74	0.74	0.85	0.63	0.63	5.00	0.00	5.00	4.91	3.09	15	1.00	5.26	2.52	209	1.38	6.38	6.5	0.23 %	5.20	0.609	
ST-5C2.10	ST-5C2.9	1.69	1.69	0.85	1.44	1.44	5.00	0.00	5.00	4.91	7.05	15	1.20	5.77	5.75	149	0.43	5.43	7.1	1.19 %	1.00	1.250	
ST-5C2.9	ST-5C2.8	0.72	3.15	0.85	0.61	2.68	5.00	6.38	6.38	4.91	13.15	24	1.00	7.20	4.18	181	0.72	7.11	22.6	0.34 %	7.47	1.095	
ST-5C2.8	ST-5C2.7	0.67	3.82	0.85	0.57	3.25	5.00	7.11	7.11	4.91	15.94	24	1.00	7.20	5.07	210	0.69	7.79	22.6	0.50 %	7.80	1.239	
ST-5C2.7	ST-5C2.6	0.93	4.75	0.85	0.79	4.04	5.00	7.79	7.79	4.91	19.82	24	1.00	7.20	6.31	251	0.66	8.46	22.6	0.77 %	8.12	1.451	
ST-5C2.6	ST-5C2.5	0.58	5.33	0.85	0.49	4.53	5.00	8.46	8.46	4.91	22.24	30	0.50	5.91	4.53	52	0.19	8.65	29.0	0.29 %	6.51	1.641	
ST-5C2.5	ST-5C2.3	0.00	5.33	0.85	0.00	4.53	5.00	8.65	8.65	4.91	22.24	30	0.50	5.91	4.53	258	0.95	9.60	29.0	0.29 %	6.51	1.641	
ST-5C2.4	ST-5C2.3	0.72	0.72	0.85	0.61	0.61	5.00	0.00	5.00	4.91	3.00	15	19.99	23.54	2.45	24	0.16	5.16	28.9	0.22 %	15.23	0.272	
ST-5C2.3	ST-5C2	0.00	6.05	0.85	0.00	5.14	5.00	9.60	9.60	4.91	25.25	30	0.50	5.91	5.14	194	0.63	10.23	29.0	0.38 %	6.66	1.804	
ST-5C2	ST-5C1	0.00	17.28	0.85	0.00	14.69	5.00	10.23	10.23	4.91	72.12	42	16.37	42.31	7.50	73	0.16	10.39	407.1	0.51 %	31.92	0.997	
ST-5D20	ST-5D19	1.31	1.31	0.85	1.11	1.11	5.00	0.00	5.00	4.91	5.47	15	1.00	5.26	4.46	156	0.49	5.49	6.5	0.72 %	5.90	0.882	
ST-5D19	ST-5D18	1.76	3.07	0.85	1.50	2.61	5.00	5.49	5.49	4.91	12.81	24	1.00	7.20	4.08	156	0.36	5.85	22.6	0.32 %	7.42	1.078	
ST-5D18	ST-5D17	1.88	4.95	0.85	1.60	4.21	5.00	5.85	5.85	4.91	20.66	30	0.50	5.91	4.21	156	0.62	6.47	29.0	0.25 %	6.42	1.559	
ST-5D17	ST-5D16	1.61	6.56	0.85	1.37	5.58	5.00	6.47	6.47	4.91	27.38	30	0.50	5.91	5.58	156	0.47	6.94	29.0	0.45 %	6.72	1.934	
ST-5D16	ST-5D15	1.58	8.14	0.85	1.34	6.92	5.00	6.94	6.94	4.91	33.97	36	0.50	6.67	4.81	156	0.54	7.48	47.2	0.26 %	7.26	1.885	
ST-5D15	ST-5D14	1.49	9.63	0.85	1.27	8.19	5.00	7.48	7.48	4.91	40.19	36	0.50	6.67	5.69	156	0.46	7.94	47.2	0.36 %	7.49	2.129	
ST-5D14	ST-5D13	1.42	11.05	0.85	1.21	9.39	5.00	7.94	7.94	4.91	46.12	36	0.50	6.67	6.52	40	0.10	8.04	47.2	0.48 %	7.60	2.401	
ST-5D13.1	ST-5D13	1.52	1.52	0.85	1.29	1.29	5.00	0.00	5.00	4.91	6.34	18	1.00	5.94	3.59	241	1.12	6.12	10.5	0.36 %	6.22	0.841	
ST-5D13	ST-5D12	0.00	12.57	0.85	0.00	10.68	5.00	8.04	8.04	4.91	52.46	42	0.50	7.39	5.45	112	0.25	8.29	71.1	0.27 %	8.09	2.235	
ST-5D12	ST-5D11	1.32	13.89	0.85	1.12	11.81	5.00	8.29	8.29	4.91	57.97	42	0.50	7.39	6.03	158	0.44	8.73	71.1	0.33 %	8.24	2.400	
ST-5D11	ST-5D10	1.34	15.23	0.85	1.14	12.95	5.00	8.73	8.73	4.91	63.56	42	0.50	7.39	6.61	158	0.40	9.13	71.1	0.40 %	8.36	2.580	
ST-5D10	ST-5D9	1.37	16.60	0.85	1.16	14.11	5.00	9.13	9.13	4.91	69.28	42	0.50	7.39	7.20	159	0.37	9.50	71.1	0.47 %	8.43	2.789	
ST-5D9	ST-5D8	0.00	16.60	0.85	0.00	14.11	5.00	9.50	9.50	4.91	69.28	42	0.50	7.39	7.20	175	0.41	9.90	71.1	0.47 %	8.43	2.789	
ST-5D8	ST-5D7	1.51	18.11	0.85	1.28	15.39	5.00	9.90	9.90	4.91	75.58	42	0.57	7.89	7.86	14	0.03	9.93	76.0	0.56 %	9.00	2.853	
ST-5D7.2	ST-5D7.1	0.12	0.12	0.85	0.10	0.10	5.00	0.00	5.00	4.91	0.50	15	6.59	13.51	0.41	24	0.98	5.98	16.6	0.01 %	6.05	0.149	
ST-5D7.1	ST-5D7	0.00	0.12	0.85	0.00	0.10	5.00	5.98	5.98	4.91	0.50	15	1.00	5.26	0.41	164	6.70	12.68	6.5	0.01 %	3.12	0.236	
ST-5D7	ST-5D6	0.00	18.23	0.85	0.00	15.50	5.00	12.68	12.68	4.91	76.08	42	0.58	7.96	7.91	104	0.22	12.90	76.6	0.57 %	9.08	2.847	
ST-5D6.1	ST-5D6	1.32	1.32	0.85	1.12	1.12	5.00	0.00	5.00	4.91	5.51	15	19.99	23.54	4.49	16	0.01	5.01	28.9	0.73 %	18.13	0.370	
ST-5D6	ST-5D5	0.00	19.55	0.85	0.00	16.62	5.00	12.90	12.90	4.91	81.59	42	0.67	8.56	8.48	73	0.14	13.04	82.4	0.66 %	9.76	2.840	
ST-5D5.1	ST-5D5	0.78	0.78	0.85	0.66	0.66	5.00	0.00	5.00	4.91	3.26	15	19.99	23.54	2.65	14	0.09	5.09	28.9	0.25 %	15.59	0.283	
ST-5D5	ST-5D4	0.00	20.33	0.85	0.00	17.28	5.00	13.04	13.04	4.91	84.85	42	0.50	7.39	8.82	93	0.18	13.21	71.1	0.71 %	9.05	3.281	
ST-5D4.1	ST-5D4	1.19	1.19	0.85	1.01	1.01	5.00	0.00	5.00	4.91	4.97	15	18.81	22.83	4.05	15	0.01	5.01	28.0	0.59 %	17.22	0.356	

STRUCTURE		Area		Runoff Coef.			Tc (min)					PIPE n = 0.013									REMARKS		
FROM	TO	A, Area, Ac.	ΣA	Inlet "C"	Δ CA	ΣCA	Inlet	Drain	Total	I Rainfall, (In/hr)	Q (cfs)	Size (in)	So (%)	Va (fps)	Vo (fps)	L (ft)	Pipe Time (min)	Pipe time + Tc (min)	Capacity Full (cfs)	SF Slope %	Vp (fps)	Normal Depth nd (ft)	
ST-5D4	ST-5D3	0.00	21.52	0.85	0.00	18.29	5.00	13.21	13.21	4.91	89.81	42	0.81	9.41	9.34	102	0.18	13.40	90.5	0.80 %	10.73	2.843	
ST-5D3.9	ST-5D3.8	0.19	0.19	0.85	0.16	0.16	5.00	0.00	5.00	4.91	0.79	15	1.43	6.29	0.65	92	2.37	7.37	7.7	0.02 %	4.06	0.271	
ST-5D3.8	ST-5D3.7	0.00	0.19	0.85	0.00	0.16	5.00	7.37	7.37	4.91	0.79	15	1.00	5.26	0.65	97	2.50	9.87	6.5	0.02 %	3.57	0.296	
ST-5D3.7	ST-5D3.5	1.34	1.53	0.85	1.14	1.30	5.00	9.87	9.87	4.91	6.39	15	1.00	5.26	5.20	196	0.63	10.50	6.5	0.98 %	6.00	1.012	
ST-5D3.6	ST-5D3.5	0.87	0.87	0.85	0.74	0.74	5.00	0.00	5.00	4.91	3.63	15	1.00	5.26	2.96	243	1.37	6.37	6.5	0.32 %	5.42	0.670	
ST-5D3.5	ST-5D3.4	1.58	3.98	0.85	1.34	3.38	5.00	10.50	10.50	4.91	16.61	24	0.55	5.34	5.29	196	0.62	11.12	16.8	0.54 %	6.09	1.622	
ST-5D3.4	ST-5D3.3	1.51	5.49	0.85	1.28	4.67	5.00	11.12	11.12	4.91	22.91	24	1.04	7.34	7.29	196	0.45	11.57	23.1	1.03 %	1.00	2.000	
ST-5D3.3	ST-5D3.2	0.00	5.49	0.85	0.00	4.67	5.00	11.57	11.57	4.91	22.91	24	1.04	7.34	7.29	196	0.45	12.02	23.1	1.03 %	1.00	2.000	
ST-5D3.2	ST-5D3.1	1.47	6.96	0.85	1.25	5.92	5.00	12.02	12.02	4.91	29.05	30	0.50	5.91	5.92	157	0.44	12.46	29.0	0.50 %	6.74	2.053	
ST-5D3.1	ST-5D3	0.95	7.91	0.85	0.81	6.72	5.00	12.46	12.46	4.91	33.01	36	0.50	6.67	4.67	14	0.05	12.51	47.2	0.24 %	7.22	1.849	
ST-5D3	ST-5D2	0.00	29.43	0.85	0.00	25.02	5.00	13.40	13.40	4.91	122.83	48	8.78	33.87	9.77	80	0.14	13.53	425.6	0.73 %	29.27	1.472	
ST-5D2.2	ST-5D2.1	0.19	0.19	0.85	0.16	0.16	5.00	0.00	5.00	4.91	0.79	18	1.78	7.93	0.45	42	0.09	5.09	14.0	0.01 %	4.29	0.242	
ST-5D2.1	ST-5D2	0.14	0.33	0.85	0.12	0.28	5.00	5.09	5.09	4.91	1.38	18	0.91	5.67	0.78	40	0.86	5.94	10.0	0.02 %	3.98	0.376	
ST-5D2	ST-5D1	0.00	29.76	0.85	0.00	25.30	5.00	13.53	13.53	4.91	124.20	48	6.88	29.98	9.88	67	0.11	13.64	376.8	0.75 %	26.89	1.581	
ST-6A2	ST-6A1	0.66	0.66	0.85	0.56	0.56	5.00	0.00	5.00	4.91	2.75	15	2.55	8.41	2.24	96	0.71	5.71	10.3	0.18 %	7.12	0.441	
ST-6B3	ST-6B2	0.85	0.85	0.85	0.72	0.72	5.00	0.00	5.00	4.91	3.55	15	6.89	13.82	2.89	152	0.88	5.88	17.0	0.30 %	10.93	0.388	
ST-6B2	ST-6B1	1.67	2.52	0.85	1.42	2.14	5.00	5.88	5.88	4.91	10.52	24	0.89	6.79	3.35	83	0.41	6.29	21.3	0.22 %	6.77	0.992	
ST-6C4.1	ST-6C4	15.67	15.67	0.85	13.32	13.32	10.00	0.00	10.00	4.91	65.40	42	0.50	7.39	6.80	106	0.26	10.26	71.1	0.42 %	8.39	2.643	
ST-6C5.1	ST-6C5	2.19	2.19	0.85	1.86	1.86	5.00	0.00	5.00	4.91	9.14	15	2.00	7.44	7.45	13	0.03	5.03	9.1	2.00 %	8.49	1.025	
ST-6C7	ST-6C6	1.61	1.61	0.85	1.37	1.37	5.00	0.00	5.00	4.91	6.72	15	16.63	21.47	5.48	11	0.03	5.03	26.3	1.08 %	17.94	0.431	
ST-6C6	ST-6C5	0.00	1.61	0.85	0.00	1.37	5.00	5.03	5.03	4.91	6.72	15	1.09	5.50	5.48	198	0.60	5.64	6.7	1.08 %	6.27	1.020	
ST-6C5	ST-6C4	0.00	3.80	0.00	0.00	3.23	0.00	5.64	5.64	4.91	15.86	18	2.29	9.00	8.97	65	0.12	5.76	15.9	2.28 %	10.26	1.226	
ST-6C4	ST-6C3	0.00	19.47	0.85	0.00	16.55	5.00	10.26	10.26	4.91	81.26	42	1.00	10.46	8.45	119	0.23	10.49	100.6	0.65 %	11.64	2.385	
ST-6C3	ST-6C2	0.00	19.47	0.85	0.00	16.55	5.00	10.49	10.49	4.91	81.26	42	2.97	18.02	8.45	141	0.28	10.77	173.4	0.65 %	17.73	1.685	
ST-6C2.1	ST-6C2	0.43	0.43	0.85	0.37	0.37	5.00	0.00	5.00	4.91	1.79	15	2.21	7.83	1.46	68	0.14	5.14	9.6	0.08 %	5.99	0.366	
ST-6C2	ST-6C1	0.41	20.31	0.85	0.35	17.26	5.00	10.77	10.77	4.91	84.76	42	18.51	44.99	8.81	137	0.26	11.03	432.9	0.71 %	34.92	1.050	
ST-7A29	ST-7A28	0.83	0.83	0.20	0.17	0.17	5.00	0.00	5.00	4.91	0.82	15	6.04	12.94	0.67	196	4.91	9.91	15.9	0.02 %	0.78	1.000	
ST-7A28	ST-7A27	0.71	1.54	0.20	0.14	0.31	5.00	9.91	9.91	4.91	1.51	15	4.12	10.68	1.23	155	2.09	12.00	13.1	0.05 %	1.44	1.000	
ST-7A27	ST-7A26	0.54	2.08	0.20	0.11	0.42	5.00	12.00	12.00	4.91	2.04	15	19.99	23.54	1.67	3	0.03	12.03	28.9	0.10 %	1.94	1.000	
ST-7A26	ST-7A25	0.00	2.08	0.20	0.00	0.42	5.00	12.03	12.03	4.91	2.04	15	0.00	0.00	1.67	64	0.64	12.67	0.0	0.10 %	1.94	1.000	
ST-7A25	ST-7A24	0.00	2.08	0.20	0.00	0.42	5.00	12.67	12.67	4.91	2.04	15	0.00	0.00	1.67	55	0.55	13.22	0.0	0.10 %	1.94	1.000	
ST-7A24	ST-7A23	0.00	2.08	0.20	0.00	0.42	5.00	13.22	13.22	4.91	2.04	15	0.00	0.00	1.67	58	0.58	13.80	0.0	0.10 %	1.94	1.000	
ST-7A23	ST-7A22	0.00	2.08	0.20	0.00	0.42	5.00	13.80	13.80	4.91	2.04	15	0.00	0.00	1.67	58	0.58	14.38	0.0	0.10 %	1.94	1.000	
ST-7A22.1	ST-7A22	0.82	0.82	0.20	0.16	0.16	5.00	0.00	5.00	4.91	0.81	15	3.37	9.66	0.66	2	0.05	5.05	11.9	0.02 %	0.77	1.000	
ST-7A22	ST-7A21	0.00	2.91	0.20	0.00	0.58	5.00	14.38	14.38	4.91	2.85	15	0.00	0.00	2.32	62	0.44	14.83	0.0	0.20 %	2.71	1.000	
ST-7A21	ST-7A20	0.00	2.91	0.20	0.00	0.58	5.00	14.83	14.83	4.91	2.85	15	0.00	0.00	2.32	62	0.44	15.27	0.0	0.20 %	2.71	1.000	
ST-7A20.1	ST-7A20	1.17	1.17	0.20	0.23	0.23	5.00	0.00	5.00	4.91	1.15	15	3.41	9.72	0.94	2	0.04	5.04	11.9	0.03 %	1.10	1.000	
ST-7A20	ST-7A19	0.00	4.08	0.20	0.00	0.82	5.00	15.27	15.27	4.91	4.01	15	0.00	0.00	3.26	57	0.29	15.56	0.0	0.38 %	3.81	1.000	
ST-7A19	ST-7A18	0.00	4.08	0.20	0.00	0.82	5.00	15.56	15.56	4.91	4.01	15	0.00	0.00	3.26	57	0.29	15.85	0.0	0.38 %	3.81	1.000	
ST-7A18.1	ST-7A18	1.14	1.14	0.20	0.23	0.23	5.00	0.00	5.00	4.91	1.12	15	1.74	6.94	0.91	2	0.04	5.04	8.5	0.03 %	1.06	1.000	
ST-7A18	ST-7A17	0.00	5.22	0.20	0.00	1.04	5.00	15.85	15.85	4.91	5.13	15	0.00	0.00	4.18	125	0.50	16.35	0.0	0.63 %	4.87	1.000	
ST-7A17.1	ST-7A17	1.74	1.74	0.20	0.35	0.35	5.00	0.00	5.00	4.91	1.71	15	3.10	9.27	1.39	4	0.05	5.05	11.4	0.07 %	1.62	1.000	
ST-7A17	ST-7A16	0.00	6.96	0.20	0.00	1.39	5.00	16.35	16.35	4.91	6.83	15	3.07	9.22	5.57	116	0.35	16.70	11.3	1.12 %	6.49	1.000	
ST-7A16	ST-7A15	1.54	8.50	0.20	0.31	1.70	5.00	16.70	16.70	4.91	8.35	15	6.74	13.67	6.80	49	0.12	16.82	16.8	1.67 %	7.93	1.000	
ST-7A15	ST-7A14	0.00	8.50	0.20	0.00	1.70	5.00	16.82	16.82	4.91	8.35	15	0.00	0.00	6.80	74	0.18	17.00	0.0	1.67 %	7.93	1.000	
ST-7A14	ST-7A13	0.00	8.50	0.20	0.00	1.70	5.00	17.00	17.00	4.91	8.35	15	0.00	0.00	6.80	64	0.16	17.16	0.0	1.67 %	7.93	1.000	
ST-7A13	ST-7A12	0.00	8.50	0.20	0.00	1.70	5.00	17.16	17.16	4.91	8.35	15	0.00	0.00	6.80	62	0.15	17.31	0.0	1.67 %	7.93	1.000	
ST-7A12.1	ST-7A12	0.77	0.77	0.20	0.15	0.15	5.00	0.00	5.00	4.91	0.76	15	6.60	13.52	0.62	3	0.08	5.08	16.6	0.01 %	0.72	1.000	

STRUCTURE		Area		Runoff Coef.			Tc (min)					PIPE n = 0.013									REMARKS		
FROM	TO	A, Area, Ac.	ΣA	Inlet "C"	Δ CA	ΣCA	Inlet	Drain	Total	I Rainfall, (In/hr)	Q (cfs)	Size (in)	So (%)	Va (fps)	Vo (fps)	L (ft)	Pipe Time (min)	Pipe time + Tc (min)	Capacity Full (cfs)	SF Slope %	Vp (fps)	Normal Depth nd (ft)	
ST-7A12	ST-7A11	0.00	9.27	0.20	0.00	1.85	5.00	17.31	17.31	4.91	9.11	15	4.28	10.89	7.42	111	0.25	17.56	13.4	1.99 %	8.65	1.000	
ST-7A11	ST-7A10	0.97	10.24	0.20	0.19	2.05	5.00	17.56	17.56	4.91	10.06	15	3.42	9.73	8.20	4	0.01	17.57	11.9	2.43 %	9.56	1.000	
ST-7A10	ST-7A9	0.00	10.24	0.20	0.00	2.05	5.00	17.57	17.57	4.91	10.06	15	0.00	0.00	8.20	52	0.11	17.67	0.0	2.43 %	9.56	1.000	
ST-7A9	ST-7A8	0.00	10.24	0.20	0.00	2.05	5.00	17.67	17.67	4.91	10.06	15	0.00	0.00	8.20	52	0.11	17.78	0.0	2.43 %	9.56	1.000	
ST-7A8	ST-7A7	0.00	10.24	0.20	0.00	2.05	5.00	17.78	17.78	4.91	10.06	15	0.00	0.00	8.20	52	0.11	17.89	0.0	2.43 %	9.56	1.000	
ST-7A7	ST-7A6	0.00	10.24	0.20	0.00	2.05	5.00	17.89	17.89	4.91	10.06	15	0.00	0.00	8.20	52	0.11	17.99	0.0	2.43 %	9.56	1.000	
ST-7A6	ST-7A5	0.00	10.24	0.20	0.00	2.05	5.00	17.99	17.99	4.91	10.06	15	1.00	5.26	8.20	2	0.00	18.00	6.5	2.43 %	9.56	1.000	
ST-7A5	ST-7A4	0.53	10.77	0.20	0.11	2.15	5.00	18.00	18.00	4.91	10.58	15	4.12	10.68	8.62	42	0.08	18.08	13.1	2.68 %	10.05	1.000	
ST-7A4	ST-7A3	0.00	10.77	0.20	0.00	2.15	5.00	18.08	18.08	4.91	10.58	15	3.31	9.58	8.62	49	0.09	18.17	11.8	2.68 %	10.05	1.000	
ST-7A3	ST-7A2	0.97	11.74	0.20	0.19	2.35	5.00	18.17	18.17	4.91	11.53	15	1.00	5.26	9.39	11	0.02	18.19	6.5	3.18 %	10.95	1.000	
ST-7A2	ST-7A1	0.00	11.74	0.20	0.00	2.35	5.00	18.19	18.19	4.91	11.53	15	9.84	16.51	9.39	11	0.02	18.21	20.3	3.18 %	10.95	1.000	
ST-7A1	ST-7A0	0.00	11.74	0.20	0.00	2.35	5.00	18.21	18.21	4.91	11.53	15	1.59	6.64	9.39	348	0.62	18.83	8.1	3.18 %	10.95	1.000	

PROJECT NAME: Switch Pit 01-03
PROJECT No: 25010482
COMP BY :
DATE: 7/7/2026

PERMIT(S):

REVIEW BY :

HYDRAULIC GRADE LINE COMPUTATIONS

PERMIT #:	TO	FROM	HGL (IN)*	LENGTH (FT)	FRICTION SLOPE (%)	HGL (OUT)	LOSS	PIPE-IN INVERT ELEVATION	PIPE-IN DIAMETER (IN)	PIPE CROWN ELEVATION	HGL ELEV.	HGL ELEVATION U.S. OF STR	COMMENT	STR #:	STR TOP/ LP ELEVATION	Top Elev - HGL Diff. (FT)
	ST-6C2	ST-6C1	1153.50	137	0.71	1154.47	0.00	1175.40	42	1178.90	1154.47	1154.47	100 YR - HGL	ST-6C2	1154.40	-
	ST-6C2.1	ST-6C2	1178.90	68	0.08	1178.95	1.42	1181.55	15	1182.80	1178.95	1180.37	100 YR - HGL	ST-6C2.1	1184.90	4.53
	ST-6C3	ST-6C2	1178.90	141	0.65	1179.82	1.42	1182.02	42	1185.52	1179.82	1181.24	100 YR - HGL	ST-6C3	1184.90	3.66
	ST-6C4	ST-6C3	1185.52	119	0.65	1186.30	1.11	1183.43	42	1186.93	1186.30	1187.40	100 YR - HGL	ST-6C4	1193.70	6.30
	ST-6C5	ST-6C4	1186.93	65	2.28	1188.41	1.25	1186.60	18	1188.10	1188.41	1189.66	100 YR - HGL	ST-6C5	1195.70	6.04
	ST-6C6	ST-6C5	1188.10	198	1.08	1190.24	0.86	1188.93	15	1190.18	1190.24	1191.10	100 YR - HGL	ST-6C6	1200.30	9.20
	ST-6C7	ST-6C6	1190.18	11	1.08	1190.30	0.47	1191.24	15	1192.49	1190.30	1190.76	100 YR - HGL	ST-6C7	1193.30	2.54
	ST-6C5.1	ST-6C5	1188.10	13	2.00	1188.36	0.86	1191.98	15	1193.23	1188.36	1189.22	100 YR - HGL	ST-6C5.1	1200.30	11.08
	ST-6C4.1	ST-6C4	1186.93	106	0.42	1187.38	1.25	1184.11	42	1187.61	1187.38	1188.63	100 YR - HGL	ST-6C4.1	1195.70	7.07
	ST-6B2	ST-6B1	1152.00	83	0.22	1152.18	0.00	1150.75	24	1152.75	1152.18	1152.18	100 YR - HGL	ST-6B2	1152.80	-
	ST-6B3	ST-6B2	1152.18	152	0.30	1152.64	0.19	1161.50	15	1162.75	1152.64	1152.83	100 YR - HGL	ST-6B3	1157.70	4.87
	ST-6A2	ST-6A1	1151.25	96	0.18	1151.42	0.00	1152.47	15	1153.72	1151.42	1151.42	100 YR - HGL	ST-6A2	1151.90	-
	ST-5D2	ST-5D1	1172.00	67	0.75	1172.50	0.00	1168.34	48	1172.34	1172.50	1172.50	100 YR - HGL	ST-5D2	1172.90	-
	ST-5D2.1	ST-5D2	1172.50	40	0.02	1172.51	1.48	1168.89	18	1170.39	1172.51	1173.99	100 YR - HGL	ST-5D2.1	1180.50	6.51
	ST-5D2.2	ST-5D2.1	1172.51	42	0.01	1172.51	0.01	1169.42	18	1170.92	1172.51	1172.52	100 YR - HGL	ST-5D2.2	1173.54	1.03
	ST-5D3	ST-5D2	1172.50	80	0.73	1173.09	1.48	1180.46	48	1184.46	1173.09	1174.57	100 YR - HGL	ST-5D3	1180.50	5.93
	ST-5D3.1	ST-5D3	1173.09	14	0.24	1173.12	0.95	1184.02	36	1187.02	1173.12	1174.07	100 YR - HGL	ST-5D3.1	1191.40	17.33
	ST-5D3.2	ST-5D3.1	1173.12	157	0.50	1173.91	0.53	1184.92	30	1187.42	1173.91	1174.44	100 YR - HGL	ST-5D3.2	1196.20	21.76
	ST-5D3.3	ST-5D3.2	1173.91	196	1.03	1175.92	1.03	1187.08	24	1189.08	1175.92	1176.95	100 YR - HGL	ST-5D3.3	1197.50	20.55
	ST-5D3.4	ST-5D3.3	1175.92	196	1.03	1177.93	0.12	1189.26	24	1191.26	1177.93	1178.05	100 YR - HGL	ST-5D3.4	1198.60	20.55
	ST-5D3.5	ST-5D3.4	1177.93	196	0.54	1178.99	0.22	1190.47	24	1192.47	1178.99	1179.20	100 YR - HGL	ST-5D3.5	1198.00	18.80
	ST-5D3.6	ST-5D3.5	1178.99	243	0.32	1179.75	0.20	1194.71	15	1195.96	1179.75	1179.96	100 YR - HGL	ST-5D3.6	1198.00	18.04
	ST-5D3.7	ST-5D3.5	1178.99	196	0.98	1180.90	0.63	1192.56	15	1193.81	1180.90	1181.53	100 YR - HGL	ST-5D3.7	1198.00	16.47
	ST-5D3.8	ST-5D3.7	1180.90	97	0.02	1180.92	0.00	1193.67	15	1194.92	1180.92	1180.92	100 YR - HGL	ST-5D3.8	1198.00	17.08
	ST-5D3.9	ST-5D3.8	1180.92	92	0.02	1180.93	0.01	1195.14	15	1196.39	1180.93	1180.94	100 YR - HGL	ST-5D3.9	1198.00	17.06
	ST-5D4	ST-5D3	1173.09	102	0.80	1173.90	0.95	1181.67	42	1185.17	1173.90	1174.85	100 YR - HGL	ST-5D4	1191.40	16.55
	ST-5D4.1	ST-5D4	1173.90	15	0.59	1173.99	1.21	1188.97	15	1190.22	1173.99	1175.19	100 YR - HGL	ST-5D4.1	1191.20	16.01
	ST-5D5	ST-5D4	1173.90	93	0.71	1174.56	1.21	1182.28	42	1185.78	1174.56	1175.77	100 YR - HGL	ST-5D5	1191.20	15.43
	ST-5D5.1	ST-5D5	1174.56	14	0.25	1174.60	1.12	1189.11	15	1190.36	1174.60	1175.71	100 YR - HGL	ST-5D5.1	1191.40	15.69
	ST-5D6	ST-5D5	1174.56	73	0.66	1175.04	1.12	1182.90	42	1186.40	1175.04	1176.16	100 YR - HGL	ST-5D6	1191.40	15.24
	ST-5D6.1	ST-5D6	1175.04	16	0.73	1175.16	0.97	1189.16	15	1190.41	1175.16	1176.13	100 YR - HGL	ST-5D6.1	1191.30	15.17
	ST-5D7	ST-5D6	1175.04	104	0.57	1175.63	0.97	1183.64	42	1187.14	1175.63	1176.61	100 YR - HGL	ST-5D7	1191.30	14.69
	ST-5D7.1	ST-5D7	1175.63	164	0.01	1175.64	0.96	1186.15	15	1187.40	1175.64	1176.60	100 YR - HGL	ST-5D7.1	1191.20	14.60
	ST-5D7.2	ST-5D7.1	1175.64	24	0.01	1175.65	0.00	1189.84	15	1191.09	1175.65	1175.65	100 YR - HGL	ST-5D7.2	1193.43	17.78
	ST-5D8	ST-5D7	1175.63	14	0.56	1175.71	0.96	1184.54	42	1188.04	1175.71	1176.67	100 YR - HGL	ST-5D8	1191.20	14.53
	ST-5D9	ST-5D8	1175.71	175	0.47	1176.54	0.64	1185.55	42	1189.05	1176.54	1177.19	100 YR - HGL	ST-5D9	1195.40	18.21
	ST-5D10	ST-5D9	1176.54	159	0.47	1177.30	0.12	1186.47	42	1189.97	1177.30	1177.42	100 YR - HGL	ST-5D10	1198.10	20.68
	ST-5D11	ST-5D10	1177.30	158	0.40	1177.93	0.34	1187.37	42	1190.87	1177.93	1178.27	100 YR - HGL	ST-5D11	1199.10	20.83
	ST-5D12	ST-5D11	1177.93	158	0.33	1178.45	0.28	1188.27	42	1191.77	1178.45	1178.73	100 YR - HGL	ST-5D12	1200.00	21.27
	ST-5D13	ST-5D12	1178.45	112	0.27	1178.76	0.23	1188.94	42	1192.44	1178.76	1178.99	100 YR - HGL	ST-5D13	1200.40	21.41
	ST-5D13.1	ST-5D13	1178.76	241	0.36	1179.64	0.20	1195.21	18	1196.71	1179.64	1179.84	100 YR - HGL	ST-5D13.1	1200.40	20.56
	ST-5D14	ST-5D13	1178.76	40	0.48	1178.95	0.66	1189.26	36	1192.26	1178.95	1179.61	100 YR - HGL	ST-5D14	1200.40	20.79
	ST-5D15	ST-5D14	1178.95	156	0.36	1179.52	0.25	1190.16	36	1193.16	1179.52	1179.77	100 YR - HGL	ST-5D15	1200.40	20.63
	ST-5D16	ST-5D15	1179.52	156	0.26	1179.92	0.18	1191.06	36	1194.06	1179.92	1180.10	100 YR - HGL	ST-5D16	1200.20	20.10
	ST-5D17	ST-5D16	1179.92	156	0.45	1180.61	0.24	1191.96	30	1194.46	1180.61	1180.86	100 YR - HGL	ST-5D17	1200.40	19.54
	ST-5D18	ST-5D17	1180.61	156	0.25	1181.01	0.14	1192.86	30	1195.36	1181.01	1181.15	100 YR - HGL	ST-5D18	1200.40	19.25

HYDRAULIC GRADE LINE COMPUTATIONS																
PERMIT #:	TO	FROM	HGL (IN)*	LENGTH (FT)	FRICTION SLOPE (%)	HGL (OUT)	LOSS	PIPE-IN INVERT ELEVATION	PIPE-IN DIAMETER (IN)	PIPE CROWN ELEVATION	HGL ELEV.	HGL ELEVATION U.S. OF STR	COMMENT	STR #:	STR TOP/ LP ELEVATION	Top Elev - HGL Diff. (FT)
	ST-5D19	ST-5D18	1181.01	156	0.32	1181.51	0.13	1194.56	24	1196.56	1181.51	1181.64	100 YR - HGL	ST-5D19	1200.40	18.76
	ST-5D20	ST-5D19	1181.51	156	0.72	1182.63	0.15	1196.25	15	1197.50	1182.63	1182.78	100 YR - HGL	ST-5D20	1200.40	17.62
	ST-5C2	ST-5C1	1171.50	73	0.51	1171.88	0.00	1180.03	42	1183.53	1171.88	1171.88	100 YR - HGL	ST-5C2	1172.40	-
	ST-5C2.3	ST-5C2	1171.88	194	0.38	1172.61	0.56	1181.60	30	1184.10	1172.61	1173.17	100 YR - HGL	ST-5C2.3	1189.00	15.83
	ST-5C2.4	ST-5C2.3	1172.61	24	0.22	1172.66	0.32	1189.64	15	1190.89	1172.66	1172.98	100 YR - HGL	ST-5C2.4	1189.60	16.62
	ST-5C2.5	ST-5C2.3	1172.61	258	0.29	1173.37	0.32	1183.01	30	1185.51	1173.37	1173.69	100 YR - HGL	ST-5C2.5	1189.60	15.91
	ST-5C2.6	ST-5C2.5	1173.37	52	0.29	1173.52	0.27	1183.40	30	1185.90	1173.52	1173.79	100 YR - HGL	ST-5C2.6	1191.20	17.41
	ST-5C2.7	ST-5C2.6	1173.52	251	0.77	1175.45	0.53	1186.06	24	1188.06	1175.45	1175.98	100 YR - HGL	ST-5C2.7	1196.00	20.02
	ST-5C2.8	ST-5C2.7	1175.45	210	0.50	1176.49	0.20	1188.31	24	1190.31	1176.49	1176.69	100 YR - HGL	ST-5C2.8	1196.70	20.01
	ST-5C2.9	ST-5C2.8	1176.49	181	0.34	1177.10	0.43	1190.28	24	1192.28	1177.10	1177.53	100 YR - HGL	ST-5C2.9	1196.80	19.27
	ST-5C2.10	ST-5C2.9	1177.10	149	1.19	1178.88	0.77	1193.31	15	1194.56	1178.88	1179.65	100 YR - HGL	ST-5C2.10	1196.80	17.15
	ST-5C2.11	ST-5C2.9	1177.10	209	0.23	1177.58	0.77	1192.52	15	1193.77	1177.58	1178.35	100 YR - HGL	ST-5C2.11	1196.80	18.45
	ST-5C2.1	ST-5C2	1171.88	197	0.43	1172.73	0.56	1183.53	15	1184.78	1172.73	1173.29	100 YR - HGL	ST-5C2.1	1189.00	15.71
	ST-5C2.2	ST-5C2.1	1172.73	24	0.18	1172.77	0.08	1190.11	15	1191.36	1172.77	1172.85	100 YR - HGL	ST-5C2.2	1189.94	17.09
	ST-5C3	ST-5C2	1171.88	22	0.41	1171.96	0.56	1186.64	36	1189.64	1171.96	1172.53	100 YR - HGL	ST-5C3	1189.10	16.57
	ST-5C4	ST-5C3	1171.96	64	0.35	1172.19	0.38	1187.27	36	1190.27	1172.19	1172.57	100 YR - HGL	ST-5C4	1195.40	22.83
	ST-5C5	ST-5C4	1172.19	203	0.35	1172.90	0.27	1188.41	36	1191.41	1172.90	1173.17	100 YR - HGL	ST-5C5	1196.50	23.33
	ST-5C6	ST-5C5	1172.90	189	0.23	1173.33	0.33	1189.70	36	1192.70	1173.33	1173.66	100 YR - HGL	ST-5C6	1197.50	23.84
	ST-5C7	ST-5C6	1173.33	230	0.37	1174.18	0.20	1190.97	30	1193.47	1174.18	1174.38	100 YR - HGL	ST-5C7	1197.50	23.12
	ST-5C7.1	ST-5C7	1174.18	93	0.26	1174.43	0.37	1193.78	15	1195.03	1174.43	1174.80	100 YR - HGL	ST-5C7.1	1197.50	22.70
	ST-5C8	ST-5C7	1174.18	217	0.45	1175.16	0.37	1193.27	18	1194.77	1175.16	1175.53	100 YR - HGL	ST-5C8	1197.50	21.97
	ST-5C7.2	ST-5C7	1174.18	242	0.45	1175.28	0.37	1194.21	18	1195.71	1175.28	1175.65	100 YR - HGL	ST-5C7.2	1197.50	21.85
	ST-5C2.12	ST-5C2.1	1172.73	196	0.06	1172.84	0.08	1185.63	15	1186.88	1172.84	1172.92	100 YR - HGL	ST-5C2.12	1189.94	17.02
	ST-5C2.13	ST-5C2.12	1172.84	24	0.06	1172.86	0.02	1189.63	15	1190.88	1172.86	1172.88	100 YR - HGL	ST-5C2.13	1190.00	17.12
	ST-5A2	ST-5A1	1169.25	54	0.22	1169.37	0.00	1168.71	15	1169.96	1169.37	1169.37	100 YR - HGL	ST-5A2	1169.90	-
	ST-5A2.1	ST-5A2	1169.37	251	0.01	1169.40	0.02	1170.17	15	1171.42	1169.40	1169.42	100 YR - HGL	ST-5A2.1	1174.50	5.08
	ST-5A3	ST-5A2	1169.37	111	0.04	1169.41	0.02	1169.82	15	1171.07	1169.41	1169.43	100 YR - HGL	ST-5A3	1174.50	5.07
	ST-5A4	ST-5A3	1169.41	146	0.04	1169.46	0.01	1171.42	15	1172.67	1169.46	1169.47	100 YR - HGL	ST-5A4	1174.40	4.93
	ST-4B2	ST-4B1	1176.14	54	0.36	1176.33	0.00	1183.83	42	1187.33	1176.33	1176.33	100 YR - HGL	ST-4B2	1177.40	-
	ST-4B2.1	ST-4B2	1176.33	214	0.68	1177.80	0.69	1188.08	15	1189.33	1177.80	1178.49	100 YR - HGL	ST-4B2.1	1190.70	12.21
	ST-4B3	ST-4B2	1176.33	106	0.27	1176.62	0.69	1185.55	42	1189.05	1176.62	1177.32	100 YR - HGL	ST-4B3	1190.70	13.38
	ST-4B3.1	ST-4B3	1176.62	127	0.72	1177.53	0.80	1187.02	15	1188.27	1177.53	1178.33	100 YR - HGL	ST-4B3.1	1194.20	15.87
	ST-4B3.2	ST-4B3.1	1177.53	236	0.72	1179.22	0.23	1189.53	15	1190.78	1179.22	1179.45	100 YR - HGL	ST-4B3.2	1194.60	15.15
	ST-4B3.3	ST-4B3.2	1179.22	160	0.28	1179.67	0.12	1195.20	15	1196.45	1179.67	1179.79	100 YR - HGL	ST-4B3.3	1196.70	16.91
	ST-4B3.4	ST-4B3.2	1179.22	46	0.10	1179.27	0.04	1190.13	15	1191.38	1179.27	1179.31	100 YR - HGL	ST-4B3.4	1196.70	17.39
	ST-4B3.5	ST-4B3.4	1179.27	176	0.02	1179.31	0.02	1192.03	15	1193.28	1179.31	1179.33	100 YR - HGL	ST-4B3.5	1196.60	17.27
	ST-4B3.6	ST-4B3.5	1179.31	177	0.02	1179.35	0.00	1193.84	15	1195.09	1179.35	1179.36	100 YR - HGL	ST-4B3.6	1197.30	17.94
	ST-4B4	ST-4B3	1176.62	160	0.38	1177.24	0.80	1186.50	36	1189.50	1177.24	1178.04	100 YR - HGL	ST-4B4	1194.20	16.16
	ST-4B5	ST-4B4	1177.24	66	0.38	1177.49	0.48	1186.95	36	1189.95	1177.49	1177.98	100 YR - HGL	ST-4B5	1197.50	19.52
	ST-4B6	ST-4B5	1177.49	194	0.35	1178.18	0.73	1188.04	36	1191.04	1178.18	1178.91	100 YR - HGL	ST-4B6	1198.00	19.09
	ST-4B7	ST-4B6	1178.18	196	0.29	1178.74	0.20	1189.14	36	1192.14	1178.74	1178.93	100 YR - HGL	ST-4B7	1198.00	19.07
	ST-4B8	ST-4B7	1178.74	59	0.50	1179.03	0.27	1189.55	30	1192.05	1179.03	1179.30	100 YR - HGL	ST-4B8	1198.00	18.70
	ST-4B8.1	ST-4B8	1179.03	93	0.25	1179.27	0.43	1195.11	15	1196.36	1179.27	1179.70	100 YR - HGL	ST-4B8.1	1198.00	18.30
	ST-4B9	ST-4B8	1179.03	134	0.40	1179.56	0.43	1190.34	30	1192.84	1179.56	1179.99	100 YR - HGL	ST-4B9	1198.00	18.01
	ST-4B10	ST-4B9	1179.56	197	0.22	1179.99	0.12	1191.44	30	1193.94	1179.99	1180.11	100 YR - HGL	ST-4B10	1198.00	17.89
	ST-4B10.1	ST-4B10	1179.99	242	0.44	1181.06	0.48	1194.71	18	1196.21	1181.06	1181.53	100 YR - HGL	ST-4B10.1	1198.00	16.47
	ST-4B11	ST-4B10	1179.99	195	0.74	1181.43	0.48	1193.52	15	1194.77	1181.43	1181.91	100 YR - HGL	ST-4B11	1198.00	16.09
	ST-4A2	ST-4A1	1176.14	226	0.31	1176.85	0.00	1174.75	42	1178.25	1176.85	1176.85	100 YR - HGL	ST-4A2	1176.80	-
	ST-4A3	ST-4A2	1176.85	59	0.26	1177.00	0.24	1175.17	42	1178.67	1177.00	1177.24	100 YR - HGL	ST-4A3	1193.00	15.76
	ST-4A3.1	ST-4A3	1177.00	173	0.24	1177.41	0.43	1175.32	24	1177.32	1177.41	1177.84	100 YR - HGL	ST-4A3.1	1194.40	16.56
	ST-4A3.2	ST-4A3.1	1177.41	24	0.12	1177.44	0.27	1191.51	15	1192.76	1177.44	1177.70	100 YR - HGL	ST-4A3.2	1192.40	14.70
	ST-4A3.3	ST-4A3.1	1177.41	33	0.33	1177.52	0.27	1186.47	15	1187.72	1177.52	1177.78	100 YR - HGL	ST-4A3.3	1192.40	14.62
	ST-4A3.4	ST-4A3.1	1177.41	182	0.62	1178.54	0.27	1178.14	15	1179.39	1178.54	1178.81	100 YR - HGL	ST-4A3.4	1192.40	13.59
	ST-4A3.5	ST-4A3.4	1178.54	23	0.27	1178.60	0.12	1190.42	15	1191.67	1178.60	1178.72	100 YR - HGL	ST-4A3.5	1190.40	11.68
	ST-4A3.6	ST-4A3.4	1178.54	146	0.07	1178.64	0.12	1179.72	15	1180.97	1178.64	1178.76	100 YR - HGL	ST-4A3.6	1190.40	11.64
	ST-4A3.7	ST-4A3.6	1178.64	71	0.07	1178.69	0.02	1180.57	15	1181.82	1178.69	1178.71	100 YR - HGL	ST-4A3.7	1187.10	8.39
	ST-4A3.8	ST-4A3.7	1178.69	99	0.07	1178.76	0.02	1186.11	15	1187.36	1178.76	1178.78	100 YR - HGL	ST-4A3.8	1184.80	6.02
	ST-4A4	ST-4A3	1177.00	21	0.36	1177.07	0.43	1187.74	36	1190.74	1177.07	1177.50	100 YR - HGL	ST-4A4	1194.40	16.90
	ST-4A5	ST-4A4	1177.07	229	0.30	1177.75	0.21	1189.00	36	1192.00	1177.75	1177.96	100 YR - HGL	ST-4A5	1196.00	18.04

HYDRAULIC GRADE LINE COMPUTATIONS																
PERMIT #:	TO	FROM	HGL (IN)*	LENGTH (FT)	FRICTION SLOPE (%)	HGL (OUT)	LOSS	PIPE-IN INVERT ELEVATION	PIPE-IN DIAMETER (IN)	PIPE CROWN ELEVATION	HGL ELEV.	HGL ELEVATION U.S. OF STR	COMMENT	STR #:	STR TOP/ LP ELEVATION	Top Elev - HGL Diff. (FT)
	ST-4A6	ST-4A5	1177.75	196	0.52	1178.78	0.28	1190.10	30	1192.60	1178.78	1179.06	100 YR - HGL	ST-4A6	1197.50	18.44
	ST-4A7	ST-4A6	1178.78	196	0.32	1179.40	0.17	1191.20	30	1193.70	1179.40	1179.57	100 YR - HGL	ST-4A7	1197.50	17.93
	ST-4A8	ST-4A7	1179.40	63	0.53	1179.73	0.21	1191.66	24	1193.66	1179.73	1179.95	100 YR - HGL	ST-4A8	1197.50	17.55
	ST-4A8.1	ST-4A8	1179.73	242	0.31	1180.48	0.45	1194.21	15	1195.46	1180.48	1180.93	100 YR - HGL	ST-4A8.1	1197.50	16.57
	ST-4A8.2	ST-4A8	1179.73	93	0.95	1180.62	0.45	1194.64	15	1195.89	1180.62	1181.07	100 YR - HGL	ST-4A8.2	1197.50	16.43
	ST-4A9	ST-4A8	1179.73	129	1.04	1181.08	0.45	1193.34	15	1194.59	1181.08	1181.53	100 YR - HGL	ST-4A9	1197.50	15.97
	ST-3B2	ST-3B1	1160.50	71	0.98	1161.19	0.00	1166.91	18	1168.41	1161.19	1161.19	100 YR - HGL	ST-3B2	1161.20	-
	ST-3B3	ST-3B2	1161.19	107	0.51	1161.74	0.28	1168.39	18	1169.89	1161.74	1162.01	100 YR - HGL	ST-3B3	1191.30	29.29
	ST-3B4	ST-3B3	1161.74	206	0.73	1163.23	0.16	1170.60	15	1171.85	1163.23	1163.39	100 YR - HGL	ST-3B4	1192.70	29.31
	ST-3B5	ST-3B4	1163.23	249	0.38	1164.19	0.08	1173.24	15	1174.49	1164.19	1164.27	100 YR - HGL	ST-3B5	1192.10	27.83
	ST-3B6	ST-3B5	1164.19	294	0.13	1164.58	0.03	1176.34	15	1177.59	1164.58	1164.61	100 YR - HGL	ST-3B6	1190.90	26.29
	ST-3B7	ST-3B6	1164.58	211	0.05	1164.67	0.01	1178.61	15	1179.86	1164.67	1164.68	100 YR - HGL	ST-3B7	1189.50	24.82
	ST-3B8	ST-3B7	1164.67	38	0.05	1164.69	0.01	1179.13	15	1180.38	1164.69	1164.70	100 YR - HGL	ST-3B8	1183.10	18.40
	ST-3B2.1	ST-3B2	1161.19	66	0.20	1161.33	0.28	1190.98	15	1192.23	1161.33	1161.61	100 YR - HGL	ST-3B2.1	1191.30	29.69
	ST-3A2	ST-3A1	1161.50	62	0.32	1161.70	0.00	1159.31	36	1162.31	1161.70	1161.70	100 YR - HGL	ST-3A2	1162.30	-
	ST-3A3	ST-3A2	1161.70	205	0.58	1162.89	0.94	1167.65	30	1170.15	1162.89	1163.83	100 YR - HGL	ST-3A3	1169.20	5.37
	ST-3A4	ST-3A3	1162.89	204	0.46	1163.82	0.25	1174.21	30	1176.71	1163.82	1164.06	100 YR - HGL	ST-3A4	1174.20	10.14
	ST-3A4.1	ST-3A4	1163.82	50	0.69	1164.17	0.79	1175.71	15	1176.96	1164.17	1164.95	100 YR - HGL	ST-3A4.1	1179.80	14.85
	ST-3A4.2	ST-3A4.1	1164.17	154	0.69	1165.23	0.20	1178.74	15	1179.99	1165.23	1165.44	100 YR - HGL	ST-3A4.2	1184.85	19.41
	ST-3A5	ST-3A4	1163.82	126	0.85	1164.89	0.79	1180.17	24	1182.17	1164.89	1165.68	100 YR - HGL	ST-3A5	1179.80	14.12
	ST-3A5.1	ST-3A5	1164.89	66	1.06	1165.59	0.38	1187.38	15	1188.63	1165.59	1165.96	100 YR - HGL	ST-3A5.1	1185.40	19.44
	ST-3A5.2	ST-3A5.1	1165.59	149	0.33	1166.08	0.08	1193.14	15	1194.39	1166.08	1166.15	100 YR - HGL	ST-3A5.2	1196.80	30.65
	ST-3A6	ST-3A5	1164.89	33	0.40	1165.02	0.38	1184.40	24	1186.40	1165.02	1165.40	100 YR - HGL	ST-3A6	1185.40	20.00
	ST-3A7	ST-3A6	1165.02	153	0.28	1165.45	0.12	1186.33	24	1188.33	1165.45	1165.57	100 YR - HGL	ST-3A7	1192.90	27.33
	ST-3A7.1	ST-3A7	1165.45	63	1.04	1166.10	0.61	1188.32	15	1189.57	1166.10	1166.72	100 YR - HGL	ST-3A7.1	1192.90	26.18
	ST-3A8	ST-3A7	1165.45	204	0.16	1165.77	0.61	1188.54	15	1189.79	1165.77	1166.39	100 YR - HGL	ST-3A8	1192.90	26.51
	ST-3A7.2	ST-3A7.1	1166.10	195	0.29	1166.66	0.17	1192.52	15	1193.77	1166.66	1166.83	100 YR - HGL	ST-3A7.2	1196.80	29.97
	ST-3A2.1	ST-3A2	1161.70	177	0.23	1162.11	0.94	1160.32	18	1161.82	1162.11	1163.05	100 YR - HGL	ST-3A2.1	1169.20	6.15
	ST-3A2.2	ST-3A2.1	1162.11	25	0.23	1162.17	0.08	1160.56	18	1162.06	1162.17	1162.24	100 YR - HGL	ST-3A2.2	1165.00	2.76
	ST-3A2.3	ST-3A2.2	1162.17	37	0.05	1162.18	0.02	1160.87	15	1162.12	1162.18	1162.21	100 YR - HGL	ST-3A2.3	1164.90	2.69
	ST-3A2.4	ST-3A2.3	1162.18	235	0.05	1162.30	0.02	1162.17	15	1163.42	1162.30	1162.32	100 YR - HGL	ST-3A2.4	1168.60	6.28
	ST-1A2	ST-1A1	1170.40	83	0.50	1170.81	0.00	1168.00	48	1172.00	1170.81	1170.81	100 YR - HGL	ST-1A2	1191.50	-
	ST-1A4	ST-1A2	1170.81	27	0.44	1170.93	1.00	1168.70	48	1172.70	1170.93	1171.93	100 YR - HGL	ST-1A4	1190.60	18.67
	ST-1A2.1	ST-1A2	1170.81	10	0.14	1170.82	1.00	1888.55	15	1889.80	1170.82	1171.83	100 YR - HGL	ST-1A2.1	1195.00	23.17
	ST-1A3	ST-1A2	1170.81	112	0.24	1171.08	1.00	1186.96	15	1188.21	1171.08	1172.08	100 YR - HGL	ST-1A3	1191.90	19.82
	ST-1A3.1	ST-1A3	1171.08	13	0.24	1171.11	0.10	1189.32	15	1190.57	1171.11	1171.22	100 YR - HGL	ST-1A3.1	1195.30	24.08
	ST-1A5	ST-1A4	1170.93	169	0.44	1171.68	1.00	1169.68	48	1173.68	1171.68	1172.68	100 YR - HGL	ST-1A5	1184.20	11.52
	ST-1A5.1	ST-1A5	1171.68	27	0.18	1171.73	0.95	1187.86	15	1189.11	1171.73	1172.67	100 YR - HGL	ST-1A5.1	1187.40	14.73
	ST-1A6	ST-1A5	1171.68	193	0.42	1172.48	0.95	1170.77	48	1174.77	1172.48	1173.43	100 YR - HGL	ST-1A6	1187.40	13.97
	ST-1A6.1	ST-1A6	1172.48	26	0.35	1172.58	0.87	1188.23	15	1189.48	1172.58	1173.45	100 YR - HGL	ST-1A6.1	1192.10	18.65
	ST-1A7	ST-1A6	1172.48	194	0.38	1173.23	0.87	1171.87	48	1175.87	1173.23	1174.10	100 YR - HGL	ST-1A7	1192.10	18.00
	ST-1A7.1	ST-1A7	1173.23	32	0.43	1173.36	0.80	1190.18	15	1191.43	1173.36	1174.16	100 YR - HGL	ST-1A7.1	1195.50	21.34
	ST-1A8	ST-1A7	1173.23	193	0.35	1173.90	0.80	1173.01	48	1177.01	1173.90	1174.70	100 YR - HGL	ST-1A8	1198.00	23.30
	ST-1A8.1	ST-1A8	1173.90	32	0.68	1174.12	1.09	1187.81	15	1189.06	1174.12	1175.21	100 YR - HGL	ST-1A8.1	1195.50	20.29
	ST-1A8.2	ST-1A8	1173.90	140	0.29	1174.31	1.09	1174.55	15	1175.80	1174.31	1175.40	100 YR - HGL	ST-1A8.2	1178.90	3.50
	ST-1A10	ST-1A8	1173.90	198	0.56	1175.01	1.09	1176.90	42	1180.40	1175.01	1176.10	100 YR - HGL	ST-1A10	1194.10	18.00
	ST-1A9	ST-1A10	1175.01	59	0.68	1175.41	1.59	1185.53	15	1186.78	1175.41	1177.00	100 YR - HGL	ST-1A9	1195.30	18.30
	ST-1A11	ST-1A10	1175.01	194	0.54	1176.06	1.37	1178.61	42	1182.11	1176.06	1177.44	100 YR - HGL	ST-1A11	1189.00	11.56
	ST-1A11.1	ST-1A11	1176.06	58	0.74	1176.49	1.07	1183.50	15	1184.75	1176.49	1177.56	100 YR - HGL	ST-1A11.1	1185.20	7.64
	ST-1A12	ST-1A11	1176.06	196	0.42	1176.88	1.07	1180.61	42	1184.11	1176.88	1177.95	100 YR - HGL	ST-1A12	1185.20	7.25
	ST-1A12.1	ST-1A12	1176.88	58	0.77	1177.33	0.84	1184.92	15	1186.17	1177.33	1178.17	100 YR - HGL	ST-1A12.1	1187.20	9.03
	ST-1A13	ST-1A12	1176.88	195	0.33	1177.52	0.84	1182.06	42	1185.56	1177.52	1178.36	100 YR - HGL	ST-1A13	1187.20	8.84
	ST-1A13.1	ST-1A13	1177.52	58	0.71	1177.93	1.16	1186.90	15	1188.15	1177.93	1179.09	100 YR - HGL	ST-1A13.1	1189.20	10.11
	ST-1A14	ST-1A13	1177.52	195	0.56	1178.62	1.16	1183.15	36	1186.15	1178.62	1179.78	100 YR - HGL	ST-1A14	1189.20	9.42
	ST-1A14.1	ST-1A14	1178.62	59	0.20	1178.74	0.69	1188.33	15	1189.58	1178.74	1179.42	100 YR - HGL	ST-1A14.1	1191.00	11.58
	ST-1A15	ST-1A14	1178.62	195	0.50	1179.58	0.69	1184.25	36	1187.25	1179.58	1180.27	100 YR - HGL	ST-1A15	1191.00	10.73
	ST-1A16	ST-1A15	1179.58	90	0.39	1179.93	0.31	1184.82	36	1187.82	1179.93	1180.24	100 YR - HGL	ST-1A16	1193.20	12.96
	ST-1A17	ST-1A16	1179.93	67	0.39	1180.20	0.43	1185.28	36	1188.28	1180.20	1180.63	100 YR - HGL	ST-1A17	1194.80	14.17
	ST-1A18	ST-1A17	1180.20	46	0.29	1180.33	0.32	1185.65	36	1188.65	1180.33	1180.65	100 YR - HGL	ST-1A18	1194.80	14.15

HYDRAULIC GRADE LINE COMPUTATIONS																
PERMIT #:	TO	FROM	HGL (IN)*	LENGTH (FT)	FRICTION SLOPE (%)	HGL (OUT)	LOSS	PIPE-IN INVERT ELEVATION	PIPE-IN DIAMETER (IN)	PIPE CROWN ELEVATION	HGL ELEV.	HGL ELEVATION U.S. OF STR	COMMENT	STR #:	STR TOP/ LP ELEVATION	Top Elev - HGL Diff. (FT)
	ST-1A19	ST-1A18	1180.33	128	0.24	1180.64	0.17	1186.41	36	1189.41	1180.64	1180.81	100 YR - HGL	ST-1A19	1196.30	15.49
	ST-1A19.1	ST-1A19	1180.64	66	0.53	1180.99	0.76	1193.73	15	1194.98	1180.99	1181.75	100 YR - HGL	ST-1A19.1	1198.30	16.55
	ST-1A20	ST-1A19	1180.64	247	0.47	1181.79	0.76	1187.78	30	1190.28	1181.79	1182.55	100 YR - HGL	ST-1A20	1198.30	15.75
	ST-1A20.1	ST-1A20	1181.79	63	0.23	1181.94	0.40	1194.59	18	1196.09	1181.94	1182.34	100 YR - HGL	ST-1A20.1	1198.20	15.86
	ST-1A21	ST-1A20	1181.79	151	0.25	1182.16	0.40	1188.66	30	1191.16	1182.16	1182.57	100 YR - HGL	ST-1A21	1198.20	15.63
	ST-1A21.1	ST-1A21	1182.16	67	0.68	1182.62	0.36	1194.13	15	1195.38	1182.62	1182.98	100 YR - HGL	ST-1A21.1	1199.50	16.52
	ST-1A22	ST-1A21	1182.16	215	0.44	1183.12	0.36	1189.85	24	1191.85	1183.12	1183.47	100 YR - HGL	ST-1A22	1199.50	16.03
	ST-1A23	ST-1A22	1183.12	124	0.75	1184.05	0.27	1191.23	18	1192.73	1184.05	1184.32	100 YR - HGL	ST-1A23	1197.80	13.48
	ST-1A24	ST-1A23	1184.05	131	0.52	1184.73	0.11	1192.69	15	1193.94	1184.73	1184.85	100 YR - HGL	ST-1A24	1197.40	12.55
	ST-7A1	ST-7A0	1074.34	348	3.18	1085.42	1.54	1078.62	15	1079.87	1085.42	1086.96	100 YR - HGL	ST-7A1	1088.60	1.64
	ST-7A2	ST-7A1	1085.42	11	3.18	1085.77	2.05	1079.82	15	1081.07	1085.77	1087.83	100 YR - HGL	ST-7A2	1091.20	3.37
	ST-7A3	ST-7A2	1085.77	11	3.18	1086.12	1.37	1080.24	15	1081.49	1086.12	1087.49	100 YR - HGL	ST-7A3	1090.60	3.11
	ST-7A4	ST-7A3	1086.12	49	2.68	1087.43	1.73	1082.09	15	1083.34	1087.43	1089.17	100 YR - HGL	ST-7A4	1092.50	3.33
	ST-7A5	ST-7A4	1087.43	42	2.68	1088.56	1.10	1084.02	15	1085.27	1088.56	1089.66	100 YR - HGL	ST-7A5	1094.90	5.24
	ST-7A6	ST-7A5	1088.56	2	2.43	1088.61	1.57	1084.33	15	1085.58	1088.61	1090.17	100 YR - HGL	ST-7A6	1094.70	4.53
	ST-7A7	ST-7A6	1088.61	52	2.43	1089.87	1.04	1084.46	15	1085.71	1089.87	1090.91	100 YR - HGL	ST-7A7	1097.80	6.89
	ST-7A8	ST-7A7	1089.87	52	2.43	1091.13	0.16	1087.55	15	1088.80	1091.13	1091.29	100 YR - HGL	ST-7A8	1100.80	9.51
	ST-7A9	ST-7A8	1091.13	52	2.43	1092.39	0.16	1090.56	15	1091.81	1092.39	1092.55	100 YR - HGL	ST-7A9	1103.80	11.25
	ST-7A10	ST-7A9	1092.39	52	2.43	1093.65	0.16	1093.66	15	1094.91	1093.65	1093.81	100 YR - HGL	ST-7A10	1104.00	10.19
	ST-7A11	ST-7A10	1093.65	4	2.43	1093.75	1.04	1093.89	15	1095.14	1093.75	1094.79	100 YR - HGL	ST-7A11	1105.90	11.11
	ST-7A12	ST-7A11	1093.75	111	1.99	1095.96	0.43	1098.73	15	1099.98	1095.96	1096.38	100 YR - HGL	ST-7A12	1110.60	14.22
	ST-7A12.1	ST-7A12	1095.96	3	0.01	1095.96	0.01	1103.53	15	1104.78	1095.96	1095.96	100 YR - HGL	ST-7A12.1	1110.90	14.94
	ST-7A13	ST-7A12	1095.96	62	1.67	1096.99	0.65	1100.15	15	1101.40	1096.99	1097.65	100 YR - HGL	ST-7A13	1113.70	16.05
	ST-7A14	ST-7A13	1096.99	64	1.67	1098.06	0.11	1103.25	15	1104.50	1098.06	1098.17	100 YR - HGL	ST-7A14	1116.80	18.63
	ST-7A15	ST-7A14	1098.06	74	1.67	1099.30	0.11	1106.37	15	1107.62	1099.30	1099.40	100 YR - HGL	ST-7A15	1120.30	20.90
	ST-7A16	ST-7A15	1099.30	49	1.67	1100.12	0.16	1119.36	15	1120.61	1100.12	1100.27	100 YR - HGL	ST-7A16	1123.90	23.63
	ST-7A17	ST-7A16	1100.12	116	1.12	1101.41	0.72	1123.28	15	1124.53	1101.41	1102.14	100 YR - HGL	ST-7A17	1130.40	21.76
	ST-7A17.1	ST-7A17	1101.41	4	0.07	1101.42	0.25	1126.15	15	1127.40	1101.42	1101.67	100 YR - HGL	ST-7A17.1	1130.40	28.73
	ST-7A18	ST-7A17	1101.41	125	0.63	1102.20	0.25	1126.15	15	1127.40	1102.20	1102.45	100 YR - HGL	ST-7A18	1130.40	27.95
	ST-7A18.1	ST-7A18	1102.20	2	0.03	1102.20	0.17	1132.55	15	1133.80	1102.20	1102.37	100 YR - HGL	ST-7A18.1	1136.70	34.33
	ST-7A19	ST-7A18	1102.20	57	0.38	1102.42	0.17	1132.45	15	1133.70	1102.42	1102.58	100 YR - HGL	ST-7A19	1136.70	34.12
	ST-7A20	ST-7A19	1102.42	57	0.38	1102.64	0.02	1135.45	15	1136.70	1102.64	1102.66	100 YR - HGL	ST-7A20	1139.70	37.04
	ST-7A20.1	ST-7A20	1102.64	2	0.03	1102.64	0.08	1138.55	15	1139.80	1102.64	1102.72	100 YR - HGL	ST-7A20.1	1142.60	39.88
	ST-7A21	ST-7A20	1102.64	62	0.20	1102.76	0.08	1138.35	15	1139.60	1102.76	1102.84	100 YR - HGL	ST-7A21	1142.60	39.76
	ST-7A22	ST-7A21	1102.76	62	0.20	1102.88	0.01	1141.55	15	1142.80	1102.88	1102.89	100 YR - HGL	ST-7A22	1145.80	42.91
	ST-7A22.1	ST-7A22	1102.88	2	0.02	1102.88	0.04	1144.95	15	1146.20	1102.88	1102.92	100 YR - HGL	ST-7A22.1	1149.00	46.08
	ST-7A23	ST-7A22	1102.88	58	0.10	1102.94	0.04	1144.75	15	1146.00	1102.94	1102.98	100 YR - HGL	ST-7A23	1149.00	46.02
	ST-7A24	ST-7A23	1102.94	58	0.10	1103.00	0.01	1147.75	15	1149.00	1103.00	1103.00	100 YR - HGL	ST-7A24	1152.00	49.00
	ST-7A25	ST-7A24	1103.00	55	0.10	1103.05	0.01	1150.75	15	1152.00	1103.05	1103.06	100 YR - HGL	ST-7A25	1155.00	51.94
	ST-7A26	ST-7A25	1103.05	64	0.10	1103.12	0.01	1153.65	15	1154.90	1103.12	1103.12	100 YR - HGL	ST-7A26	1157.90	54.78
	ST-7A27	ST-7A26	1103.12	3	0.10	1103.12	0.04	1155.26	15	1156.51	1103.12	1103.16	100 YR - HGL	ST-7A27	1158.10	54.94
	ST-7A28	ST-7A27	1103.12	155	0.05	1103.20	0.02	1163.55	15	1164.80	1103.20	1103.23	100 YR - HGL	ST-7A28	1161.20	57.97
	ST-7A29	ST-7A28	1103.20	196	0.02	1103.23	0.00	1175.85	15	1177.10	1103.23	1103.24	100 YR - HGL	ST-7A29	1167.90	64.66

Pond #	Infiltration Rate 1	Infiltration Rate 2	Infiltration Rate 3	Infiltration Rate 4	Infiltration Rate 5	Infiltration Rate 6	Infiltration Rate 7	Infiltration Rate 8	Infiltration Rate 9	Infiltration Rate 10	Infiltration Rate 11	Infiltration Rate 12	Infiltration Rate 13	Infiltration Rate 14	Average
1	0.14	0	0.55	9.9	0.55	0	0	0	0	0	0	0.14	8.8	0.14	1.44
2	0.14	6.6	0	8.25	4.95	0									3.32
3	0	0	1.1	0	8.25	13.2	6.6	0	6.6						3.97
4	6.6	0.41	1.65	11.55	5.78	0	1.65	1.1	5.36	31.35	0	4.13	0	0	4.97
5	0.14	0	0.55	9.9	0.55	0	0	0	0	0.14	0	0.14			0.95
6	1.1	3.3	0	0	0	23.1	0	0	13.82	0	21.24	0.55	0	6.6	4.98

Infiltration Rate = in/hr

Pond	Volume Routed (cf)	Surface Area (sf)	Infiltration Rate (in/hr)	ir/12	Infil. Capacity (cf)	Infil. Period (hr)
1	225117	112742	0.72	0.06	6764.52	33.28
2	186740	77260	1.66	0.14	10687.63	17.47
3	177146	33066	1.99	0.17	5483.45	32.31
4	211143	88997	2.49	0.21	18466.88	11.43
5	384883	70882	0.475	0.04	2805.75	137.18
6	187922	33990	2.49	0.21	7052.93	26.64

