

Stormwater Management Report

Mariner Village - Phase 2

WATER QUALITY CALCULATIONS

Criteria = 3.0 Inches Times the Percent Impervious:

Site Area for WQ:
(Does not include Non-Contributing Areas)

$$\frac{10.79}{\text{Project Area (acres)}} - \left(\frac{0.89}{\text{Lakes WSWT Area (acres)}} + \frac{2.67}{\text{Wetlands (acres)}} + \frac{0.00}{\text{Preserve (acres)}} \right) = \frac{7.23}{\text{Site Area for WQ}} \text{ acres}$$

Impervious Area for WQ:

$$\frac{7.23}{\text{Site Area for WQ (acres)}} - \frac{2.84}{\text{Pervious Area (acres)}} = \frac{4.39}{\text{Impervious Area for WQ}} \text{ acres}$$

Percent Imperviousness for WQ:

$$\frac{\text{Impervious Area for WQ}}{\text{Site Area for WQ}} = \frac{4.39}{7.23} = 60.7\%$$

3.0-in x % Impervious:

$$3.0 \text{ Inches} \times \frac{60.7\%}{\text{Percent Impervious}} = 1.82 \text{ inches}$$

Treated Volume:

$$1\text{-ft}/12\text{-in} \times \frac{1.82}{\text{Inches to be Treated (inches)}} \times \left(\frac{10.79}{\text{Project Area (acres)}} - \frac{0.89}{\text{Lakes WSWT Area (acres)}} - \frac{2.67}{\text{Wetlands (acres)}} \right) = \frac{1.10}{\text{Treated Volume}} \text{ ac-ft}$$

Required Martin County Water Quality Volume	=	1.10	ac-ft
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WATER QUALITY TREATMENT PROVIDED

WATER QUALITY PROVIDED TO MEET SFWMD CRITERIA

Dry Pretreatment Required	=	0.34 Ac-ft
Dry Retention Provided	=	0.30 Ac-ft
Dry Detention Provided	=	0.68 Ac-ft
Remaining Dry Pre-Treatment Volume Required	=	0.00 Ac-ft
Total Water Quality Required	=	1.22 Ac-ft
Dry Retention WQ Volume Provided	=	0.30 Ac-ft
Dry Retention WQ Credit	=	100%
Dry Retention WQ Volume Credit	=	0.30 Ac-ft
Remaining Water Quality Volume Required	=	0.91 Ac-ft
Dry Detention WQ Volume Provided	=	0.68 Ac-ft
Dry Detention WQ Credit	=	100%
Dry Detention WQ Volume Credit	=	0.68 Ac-ft
Remaining Water Quality Volume Required	=	0.23 Ac-ft
Wet Retention WQ Volume Provided	=	1.18 Ac-ft
Wet Retention WQ Credit	=	100%
Wet Retention WQ Volume Credit	=	1.18 Ac-ft
Remaining Water Quality Volume Required	=	0.00 Ac-ft
Wet Detention WQ Volume Provided	=	1.23 Ac-ft
Wet Detention WQ Credit	=	100%
Wet Detention WQ Volume Credit	=	1.23 Ac-ft
Remaining Water Quality Volume Required	=	0.00 Ac-ft

The total Water Quality Volume to meet SFWMD Criteria has been provided.

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WATER QUALITY TREATMENT PROVIDED

WATER QUALITY PROVIDED TO MEET MARTIN COUNTY CRITERIA

Total Water Quality Required	=	1.10 Ac-ft
Dry Retention WQ Volume Provided	=	0.30 Ac-ft
Martin County Dry Retention WQ Credit	=	100%
Dry Retention WQ Volume Credit	=	0.30 Ac-ft
Remaining Water Quality Volume Required	=	0.79 Ac-ft
Dry Detention WQ Volume Provided	=	0.68 Ac-ft
Martin County Dry Detention WQ Credit	=	75%
Dry Detention WQ Credit	=	0.51 Ac-ft
Remaining Water Quality Volume Required	=	0.28 Ac-ft
Wet Retention WQ Volume Provided	=	1.18 Ac-ft
Martin County Wet Retention WQ Credit	=	100%
Wet Retention WQ Volume Credit	=	1.18 Ac-ft
Remaining Water Quality Volume Required	=	0.00 Ac-ft
Total Wet Detention Volume Provided	=	1.23 Ac-ft
Martin County Wet Detention WQ Credit	=	50%
Wet Detention WQ Credit	=	0.61 Ac-ft
Remaining Water Quality Volume Required	=	0.00 Ac-ft

The total Water Quality Volume to meet Martin County Criteria has been provided.

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PERMANENT POOL CALCULATIONS

Post-Development Existing Lake

	EL -4.0	EL 0.0	EL 0.0	EL 4.0	EL 4.0	EL 8.0	EL 8.0	NWL 12.0
Area (ac)	0.08	0.26	0.26	0.45	0.45	0.65	0.65	0.89
ing Elev (ft)	V -4.00	L -4.00	V 0.00	L 0.00	V 4.00	L 4.00	V 8.00	L 8.00
ing Elev (ft)	0.00	0.00	4.00	4.00	8.00	8.00	12.00	12.00

Stage NAVD	Vertical Storage ac-ft	Linear Storage ac-ft	Vertical Storage ac-ft	Vertical Storage ac-ft	Linear Storage ac-ft	Vertical Storage ac-ft	Linear Storage ac-ft	Vertical Storage ac-ft	Linear Storage ac-ft	Total Storage ac-ft
-4.00	0.00	0.00								0.00
-3.00	0.08	0.03								0.11
-2.00	0.15	0.13								0.28
-1.00	0.23	0.29								0.52
0.00	0.31	0.51								0.82
1.00			0.00	0.00						0.31
2.00			0.26	0.06						0.74
3.00			0.51	0.22						1.27
4.00			0.77	0.50						1.92
5.00			1.03	0.89		0.00	0.00			0.53
6.00						0.45	0.08			1.22
7.00						0.89	0.32			2.07
8.00						1.34	0.73			3.08
9.00						1.78	1.30	0.00	0.00	0.76
10.00								0.65	0.11	1.74
11.00								1.30	0.44	2.95
12.00								1.95	1.00	4.38

Total Permanent Pool Volume = 10.199 ac-ft

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NUTRIENT CALCULATIONS

GENERAL INFORMATION

Meteorological Zone = 5 (Figure 4-3 and Table 4-23)

Mean Annual Rainfall = 57 in/year (Figure 3-2)

FORMULAS

Total Annual Runoff Volume (ac-ft/yr) = C Value x Mean Annual Rainfall (in/yr) x Area (acres) x 1 ft/12 in

Annual Pollutant Load (EMC) = Total Annual Runoff Volume x Pre-Load

Treatment Train Efficiency = $Eff_{TOT} = Eff_1 + (1 - Eff_1) \times Eff_2$

PRE-DEVELOPMENT CONDITIONS

Land Use

Site-Pre (Total)	=	20.28	acres	(On-site Area)
Existing Office/Entrance	=	1.90	acres	(Existing Phase 1 Development)
Wetland Preserve Tract	=	2.03	acres	(Wetland & Buffer Area)
Upland preserve Tract	=	0.76	acres	(Non contributing area)
Existing Lake Area 1	=	0.29	acres	(Existing Lake Area to be filled)
Existing Lake Area 2	=	0.89	acres	(Existing Lake Area to remain)
Future Development Area	=	8.19	acres	(Lot 3 and Lot 4)
Total Contributing Site (Pre)	=	6.22	acres	(On-Site Contributing Area)
DCIA %	=	19.0%	(***)	

Ground Cover and Soil Type

Site-Pre	=	Und - Scrubby Flatwoods
HSG	=	B
Non-DCIA CN	=	74
Annual C Value	=	0.246 (App C: Using Meteorological Zone, CN & DCIA values)

Total Annual Pre-Development Runoff Volume

Total Annual Runoff Volume (ac-ft/yr) = C Value x Mean Annual Rainfall (in/yr) x Area (acres) x 1 ft/12 in

$$= 0.246 \times \frac{57 \text{ in}}{\text{yr}} \times \frac{6.22 \text{ ac}}{\text{ac}} \times \frac{1 \text{ ft}}{12 \text{ in}} = 7.284 \text{ ac-ft/yr}$$

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NUTRIENT CALCULATIONS

Annual Pre-Development Loadings

TN Pre-Load = 1.155 mg/L (BMP 2020)

TP Pre-Load = 0.027 mg/L (BMP 2020)

Total Nitrogen Pre-Load = Total Annual Runoff Volume (ac-ft/yr) x TN Pre-Load (mg/L)

$$= \frac{7.284 \text{ ac-ft}}{\text{yr}} \times \frac{1.155 \text{ mg}}{\text{L}} \times \frac{43560 \text{ ft}^2}{\text{ac}} \times \frac{7.48 \text{ gal}}{\text{ft}^3} \times \frac{3.785 \text{ L}}{\text{gal}} \times \frac{1 \text{ kg}}{1\text{E}+06 \text{ mg}}$$

TN Pre-Load = 10.376 kg/yr

Total Phosphorus Pre-Load = Total Annual Runoff Volume (ac-ft/yr) x TP Pre-Load (mg/L)

$$= \frac{7.284 \text{ ac-ft}}{\text{yr}} \times \frac{0.027 \text{ mg}}{\text{L}} \times \frac{43560 \text{ ft}^2}{\text{ac}} \times \frac{7.48 \text{ gal}}{\text{ft}^3} \times \frac{3.785 \text{ L}}{\text{gal}} \times \frac{1 \text{ kg}}{1\text{E}+06 \text{ mg}}$$

TP Pre-Load = 0.243 kg/yr

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NUTRIENT CALCULATIONS

POST DEVELOPMENT CONDITIONS

Land Use

Site-Post (Total)	=	20.28	acres	(On-site Area)
Existing Office/Entrance	=	1.90	acres	(Existing Phase 1 Development)
Wetland Preserve Tract	=	2.03	acres	(Wetland & Buffer Area)
Upland Preserve Tract	=	0.76	acres	(Non contributing Preserve area)
Site Post Lake Area	=	0.89	acres	(Existing Lake Area)
Future Development Area	=	8.19	acres	(Lot 3 and Lot 4)
Total Contributing Site (Post)	=	6.51	acres	(On-Site Contributing Area)
DCIA %	=	90%		

Ground Cover and Soil Type

Site-Pre	=	Low-intensity Commercial
HSG	=	B
Non-DCIA CN	=	74
Annual C Value	=	0.739 (App C: Using Meteorological Zone, CN & DCIA values)

Total Annual Post-Development Runoff Volume

Total Annual Runoff Volume (ac-ft/yr) = C Value x Mean Annual Rainfall (in/yr) x Area (acres) x 1 ft/12 in

$$= 0.7386 \times \frac{57 \text{ in}}{\text{yr}} \times \frac{6.51 \text{ ac}}{\text{ac}} \times \frac{1 \text{ ft}}{12 \text{ in}}$$
$$= 22.851 \text{ ac-ft/yr}$$

Annual Post-Development Loadings

TN Post-Load	=	1.18	mg/L	(Table 4-17)
TP Post-Load	=	0.179	mg/L	(Table 4-17)

Total Nitrogen Post-Load = Total Annual Runoff Volume (ac-ft/yr) x TN Pre-Load (mg/L)

$$= \frac{22.851 \text{ ac-ft}}{\text{yr}} \times \frac{1.180 \text{ mg}}{\text{L}} \times \frac{43560 \text{ ft}^2}{\text{ac}} \times \frac{7.48 \text{ gal}}{\text{ft}^3} \times \frac{3.785 \text{ L}}{\text{gal}} \times \frac{1}{1\text{E}+06} \frac{\text{kg}}{\text{mg}}$$

TN Post-Load = 33.254 kg/yr

Total Phosphorus Post-Load = Total Annual Runoff Volume (ac-ft/yr) x TP Pre-Load (mg/L)

$$= \frac{22.851 \text{ ac-ft}}{\text{yr}} \times \frac{0.179 \text{ mg}}{\text{L}} \times \frac{43560 \text{ ft}^2}{\text{ac}} \times \frac{7.48 \text{ gal}}{\text{ft}^3} \times \frac{3.785 \text{ L}}{\text{gal}} \times \frac{1}{1\text{E}+06} \frac{\text{kg}}{\text{mg}}$$

TP Post-Load = 5.044 kg/yr

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NUTRIENT CALCULATIONS

TOTAL REQUIRED TREATMENT EFFICIENCY

Note that the required nutrient removal efficiency is based on "net improvement", with a maximum requirement of 90%.

Target Load Reduction, N = 68.8% → Max N Post Load = 10.38 kg/yr, Mass N Reduction = 22.88 kg/yr
Target Load Reduction, P = 90.0% → Max P Post Load = 0.50 kg/yr, Mass P Reduction = 4.54 kg/yr

ESTIMATE REQUIRED RETENTION DEPTH FOR THE SITE

Using the post-development information (App D: Using Meteorological Zone, CN & DCIA values):

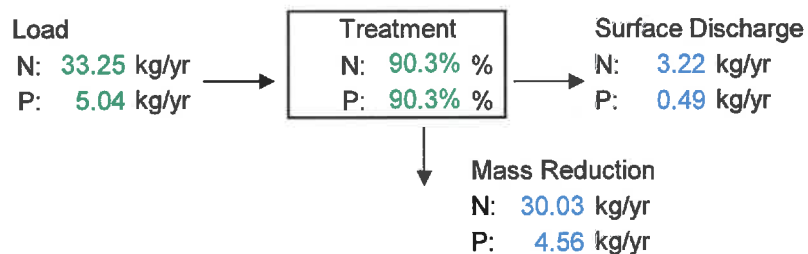
DCIA % = 90%
Non-DCIA CN = 74
Retention Depth = 2.5 inches at 88.7% % removal efficiency
Retention Depth = 2.75 inches at 90.4% % removal efficiency
Required Retention Depth = 2.69 inches at 90.0% % removal efficiency
= 1.46 ac-ft of retention needed

CONTRIBUTING BMPs

Retention

Wet Retention = 1.181 ac-ft (At Control Elevation)
Dry Retention Area 1 = 0.233 ac-ft (At Control Elevation)
Dry Retention Area 2 = 0.070 ac-ft (At Control Elevation)

Total Site Retention = 1.484 ac-ft = 2.73 inches of retention over the site
Retention Depth = 2.50 inches at 88.7% % removal efficiency (App D: Using Meteorological Zone, CN & DCIA values)
Retention Depth = 2.75 inches at 90.4% % removal efficiency (App D: Using Meteorological Zone, CN & DCIA values)
Required Retention Depth = 2.73 inches at 90.3% % removal efficiency (Eff₁)



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NUTRIENT CALCULATIONS

Wet Retention Pond

$$\begin{aligned} \text{PPV} &= 10.20 \text{ ac-ft} \\ \text{RO} &= 22.85 \text{ ac-ft/yr} \end{aligned}$$

$$\text{Detention Time (Td)} = \frac{\text{PPV}}{\text{RO}} \times \frac{365 \text{ days}}{1 \text{ year}} = \frac{10.20}{22.85} \times \frac{365}{1} = 162.91 \text{ days}$$

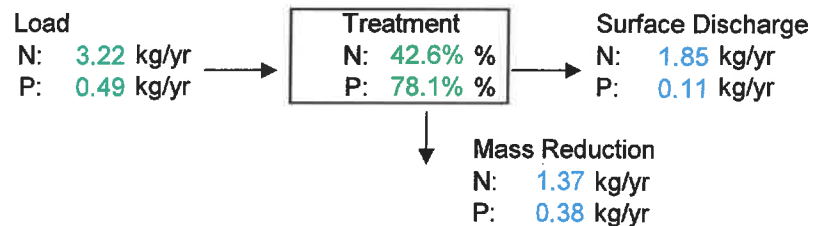
$$\% \text{ Removal N} = \frac{43.75 \times \text{Td}}{(4.38 + \text{Td})} = \left(\frac{43.75 \times 162.91}{4.38 + 162.91} \right) = 42.6 \%$$

$$\begin{aligned} \% \text{ Removal P} &= 40.13 + 6.372 \times \ln(\text{Td}) + 0.213 \times (\ln(\text{Td}))^2 \\ &= 40.13 + 6.372 \times \ln(162.91) + 0.213 \times (\ln(162.91))^2 = 78.1 \% \end{aligned}$$

$$\begin{aligned} \text{TN Eff} &= 42.6\% \text{ Removal} \\ \text{TP Eff} &= 78.1\% \text{ Removal} \end{aligned}$$

(Eff_{2N})

(Eff_{2P})



Treatment Train Efficiency

$$\begin{aligned} \text{N Eff}_{\text{TOT}} &= \text{Eff}_1 + (1 - \text{Eff}_1) \times \text{Eff}_{2\text{N}} \\ &= \frac{90.3\%}{100} + \left(1 - \frac{90.3\%}{100} \right) \times \frac{42.6\%}{100} \end{aligned}$$

$$\boxed{\text{N Eff}_{\text{TOT}} = 94.4\%}$$

$$\begin{aligned} \text{P Eff}_{\text{TOT}} &= \text{Eff}_1 + (1 - \text{Eff}_1) \times \text{Eff}_{2\text{P}} \\ &= \frac{90.3\%}{100} + \left(1 - \frac{90.3\%}{100} \right) \times \frac{78.1\%}{100} \end{aligned}$$

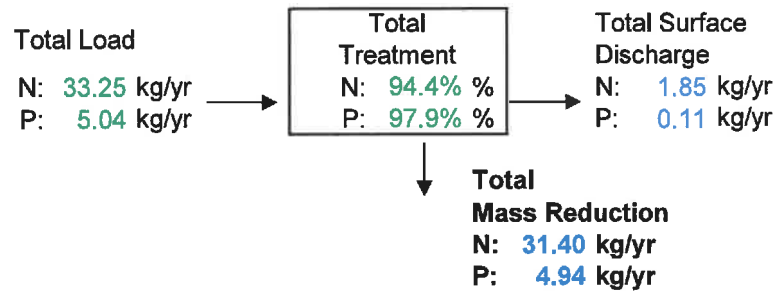
$$\boxed{\text{P Eff}_{\text{TOT}} = 97.9\%}$$

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NUTRIENT CALCULATIONS

LOAD FOR MULTIPLE BMPs IN SERIES



RESULTS SUMMARY

<u>Item</u>	<u>Nitrogen</u>	<u>Phosphorus</u>
Target Efficiency	68.8%	90.0%
Overall Provided Treatment Efficiency	94.4%	97.9%
Target Load Reduction	22.88 kg/yr	4.54 kg/yr
Mass Reduction Provided	31.40 kg/yr	4.94 kg/yr

EFFICIENCY REQUIREMENTS MET

LOAD REDUCTIONS MET

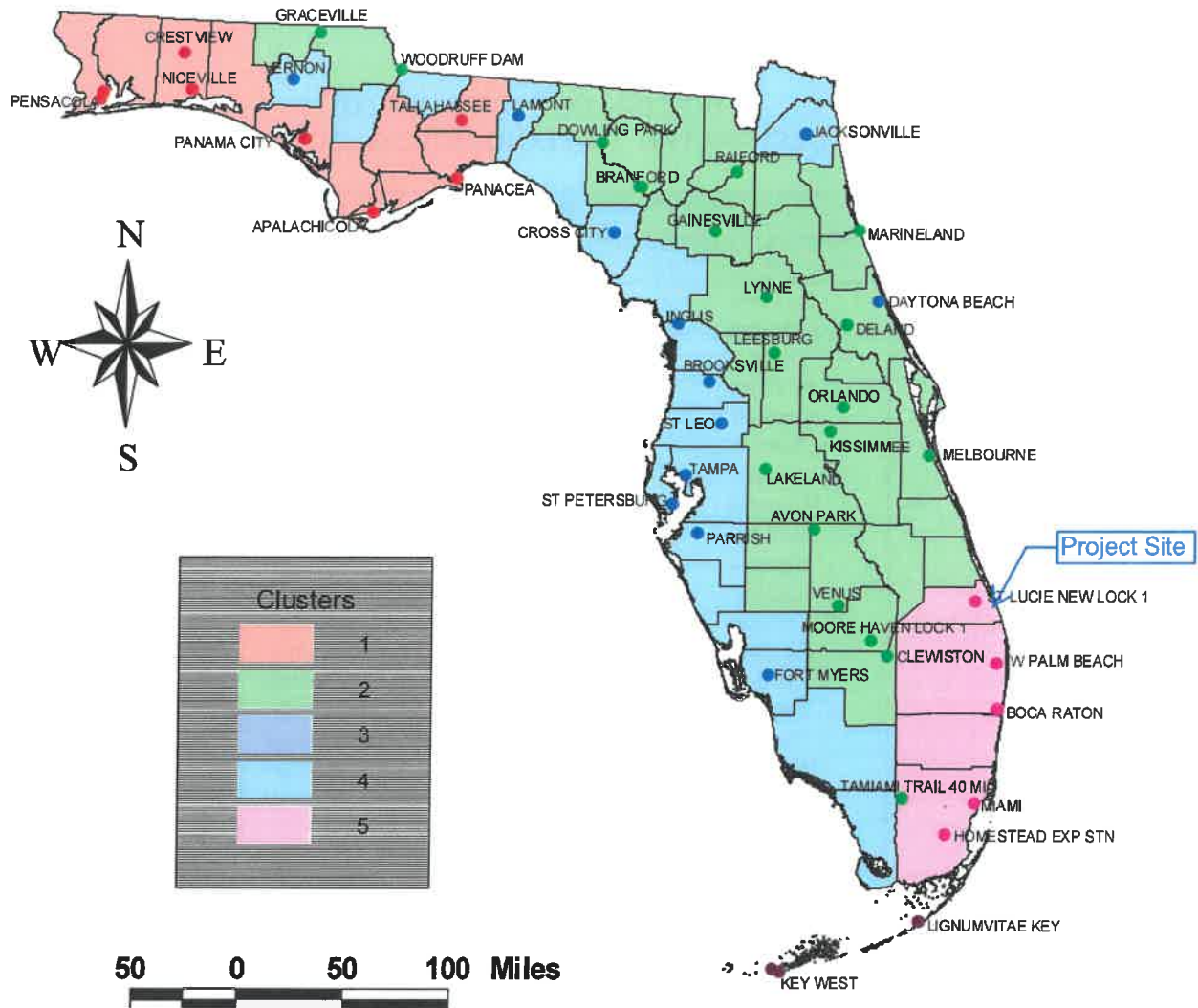


Figure 4-3. Meteorological Zones Identified Using Cluster Analysis.

Unfortunately, not all counties in Florida have long-term meteorological monitoring sites with hourly data. For purposes of designating meteorological zones, counties without a monitoring site were grouped according to the meteorological characteristics of adjacent counties with monitoring sites. The resulting zones appear to be relatively intuitive with respect to meteorological processes. The cluster groupings only have two apparent outliers, Daytona Beach and Tamiami Trail, which appear out of place. However, in a data set containing 45 points, an analysis conducted at a 95% probability level would be expected to have approximately 2-3 outlier values. A listing of counties included in each meteorological zone is given in Table 4-23.

TABLE 4-23
COUNTIES INCLUDED IN THE
DESIGNATED METEOROLOGICAL ZONES

ZONE				
1	2	3	4	5
Okaloosa Liberty Bay Wakulla Leon Santarosa Gulf Franklin Escambia Walton	St. Lucie Columbia DeSoto St. Johns Seminole Sumter Flagler Suwannee Gadsden Gilchrist Glades Calhoun Hamilton Hardee Hendry Union Highlands Putnam Holmes Indian River Jackson Volusia Lafayette Lake Polk Brevard Bradford Baker Madison Osceola Marion Orange Clay Okeechobee Alachua	Monroe	Washington Manatee Levy Pasco Pinellas Lee Hillsborough Hernando Sarasota Duval Dixie Collier Citrus Charlotte Taylor Nassau Jefferson Monroe	Martin Broward Miami-Dade Palm Beach

A summary of mean runoff coefficients for each cluster as a function of land use and hydrologic soil group is given in Table 4-24. The values summarized in this table reflect the mean runoff coefficients for each land use and hydrologic soil group and each meteorological monitoring site included in each of the five clusters. The values summarized in Table 4-24 reflect differences in runoff coefficients as a result of frequency distributions of common rain events only. This analysis does not include variability in rainfall depth throughout the State which must be multiplied times the mean runoff coefficients to obtain an estimate of annual runoff volume.

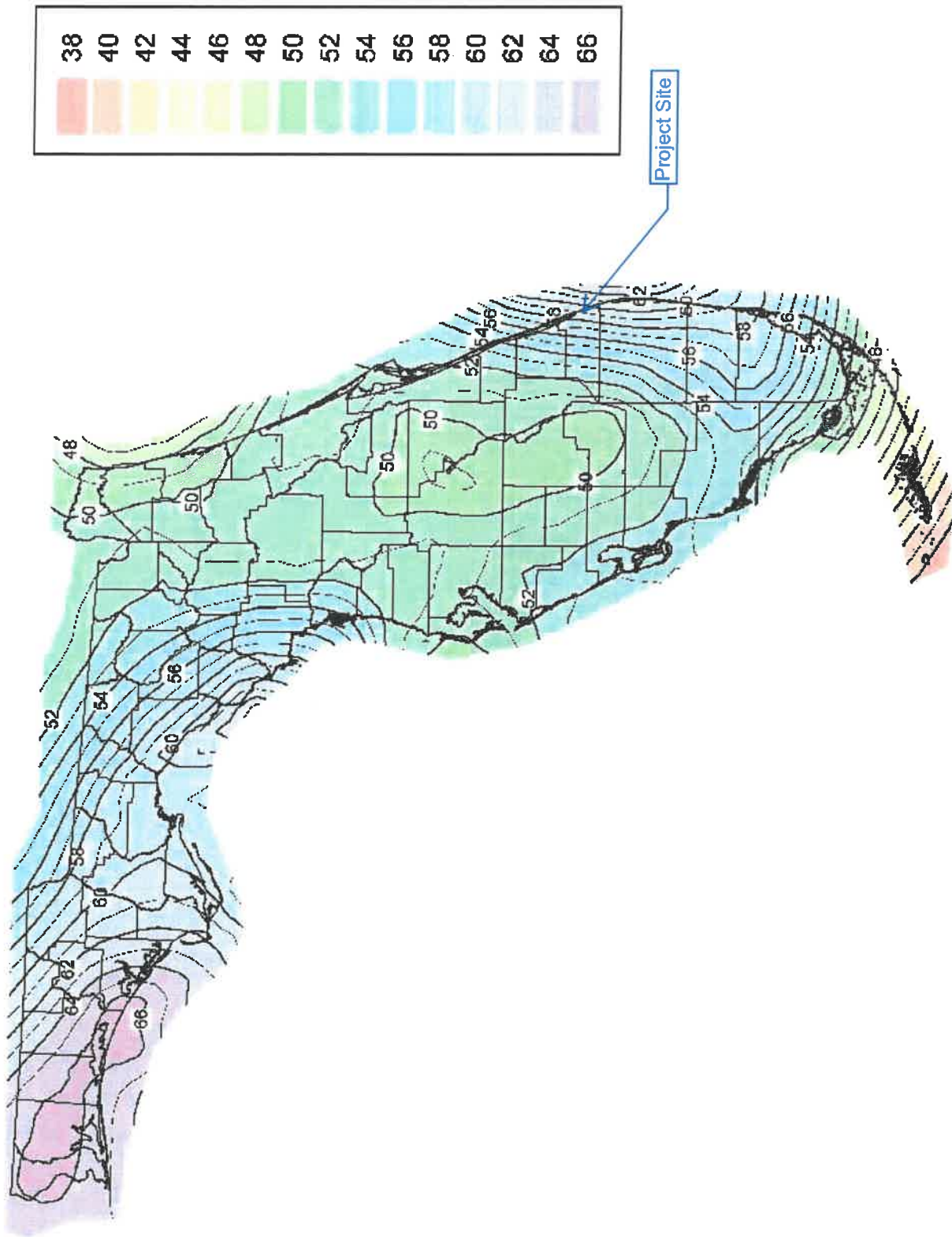


Figure 3-2. Isopleths of Mean Annual Precipitation in Florida from 1971-2000.

Zone 5

Mean Annual Runoff Coefficients (C Values) as a Function
of DCIA Percentage and Non-DCIA Curve Number (CN)

NDCIA CN	Percent DCIA																				
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
30	0.008	0.048	0.088	0.128	0.168	0.208	0.248	0.288	0.328	0.368	0.408	0.448	0.488	0.528	0.568	0.608	0.648	0.688	0.728	0.768	0.808
35	0.012	0.052	0.092	0.132	0.171	0.211	0.251	0.291	0.331	0.370	0.410	0.450	0.490	0.529	0.569	0.609	0.649	0.689	0.728	0.768	0.808
40	0.018	0.057	0.097	0.136	0.176	0.215	0.255	0.294	0.334	0.373	0.413	0.452	0.492	0.531	0.571	0.611	0.650	0.690	0.729	0.769	0.808
45	0.025	0.064	0.103	0.142	0.182	0.221	0.260	0.299	0.338	0.377	0.417	0.456	0.495	0.534	0.573	0.612	0.651	0.691	0.730	0.769	0.808
50	0.034	0.072	0.111	0.150	0.189	0.227	0.266	0.305	0.343	0.382	0.421	0.460	0.498	0.537	0.576	0.614	0.653	0.692	0.731	0.769	0.808
55	0.044	0.082	0.121	0.159	0.197	0.235	0.273	0.312	0.350	0.388	0.426	0.464	0.502	0.541	0.579	0.617	0.655	0.693	0.732	0.770	0.808
60	0.057	0.095	0.132	0.170	0.207	0.245	0.282	0.320	0.357	0.395	0.433	0.470	0.508	0.545	0.583	0.620	0.658	0.695	0.733	0.770	0.808
65	0.073	0.110	0.147	0.183	0.220	0.257	0.294	0.330	0.367	0.404	0.441	0.477	0.514	0.551	0.588	0.624	0.661	0.698	0.735	0.771	0.808
70	0.093	0.129	0.165	0.201	0.236	0.272	0.308	0.344	0.379	0.415	0.451	0.486	0.522	0.558	0.594	0.629	0.665	0.701	0.737	0.772	0.808
75	0.120	0.155	0.189	0.223	0.258	0.292	0.327	0.361	0.395	0.430	0.464	0.498	0.533	0.567	0.602	0.636	0.670	0.705	0.739	0.774	0.808
80	0.157	0.189	0.222	0.254	0.287	0.319	0.352	0.385	0.417	0.450	0.482	0.515	0.547	0.580	0.613	0.645	0.678	0.710	0.743	0.775	0.808
85	0.209	0.239	0.269	0.299	0.329	0.359	0.389	0.419	0.449	0.479	0.509	0.538	0.568	0.598	0.628	0.658	0.688	0.718	0.748	0.778	0.808
90	0.292	0.318	0.343	0.369	0.395	0.421	0.447	0.472	0.498	0.524	0.550	0.576	0.602	0.627	0.653	0.679	0.705	0.731	0.756	0.782	0.808
95	0.445	0.464	0.482	0.500	0.518	0.536	0.554	0.572	0.590	0.609	0.627	0.645	0.663	0.681	0.699	0.717	0.736	0.754	0.772	0.790	0.808
98	0.614	0.624	0.633	0.643	0.653	0.662	0.672	0.682	0.692	0.701	0.711	0.721	0.730	0.740	0.750	0.760	0.769	0.779	0.789	0.798	0.808

MASS LOADING METHODOLOGY:

What is mass loading?

Mass loading is the product of concentration and runoff volume. The typical measurement units used are kilograms per year or pounds per year. The typical units for concentration are milligrams per liter. Runoff volume is yearly average and expressed usually in acre-feet or million gallons. Mass Loading is calculated as an average annual loading, thus average annual runoff and average annual concentrations are used.

How is mass loading calculated?

Average annual loading is calculated as the product of the average Event Mean Concentration (EMC) and the average annual runoff. The EMC will vary with the land use. The average annual runoff varies with the average annual rainfall and the land use characteristics. The land use characteristics are defined by the directly connected impervious area (DCIA) and the rainfall excess from the non-directly connected impervious area. The non-directly connected impervious area (NDCIA) is defined by the composite curve number (CCN) for that area. The curve number (CN) for each NDCIA is weighted by the annual runoff to calculate the CCN.

The annual runoff calculations are based on long term simulations (greater than 25 years) using the DCIA and the CCN for the NDCIAs. These have been reported for 5 meteorological areas (defined by common rainfall inter event dry periods) as shown in support data files on this worksheet. One-hundred Sixty (160) rainfall stations (111 in the state) were used to generate annual runoff for stated land use conditions. Tables for the percentage of runoff for combinations of the CN for NDCIA and DCIA were developed and reported by Harper and Baker (2007), Evaluation of Current Stormwater Design Criteria within the State of Florida, Final Report submitted to the Florida Department of Environmental Protection (FDEP) for Agreement SO108. Another source of information is found in a draft rule developed by a FDEP task force and published in 2010. Both of these publications are reproduced here as Harper Methodology and Draft Rule.

How is average annual runoff calculated?

The annual runoff is the fraction of rainfall resulting from all storm events during the simulation years divided by the number of years. This is expressed in units of inches over the catchment. In more familiar units of measurement, inches is multiplied by the catchment area (acres) and divided by 12 inches per foot to express the average annual runoff in units of acre-feet.

The average annual runoff coefficients (fraction of rainfall) are viewed using the support data found on the "watershed characteristics page, adjacent to the Annual C printout data. When the CN and the DCIA are not in 5 unit increments, a linear interpolation method is used to calculate the value. The average annual runoff is calculated from each rational C table by a "look up" method. An example of average annual runoff fractions for a meteorological region is:

Rational C Values for Florida Zone 1

		Percent Directly Connected Impervious Area																			
NDCIA	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
30	0.006	0.048	0.090	0.132	0.175	0.217	0.259	0.301	0.343	0.386	0.428	0.470	0.512	0.554	0.596	0.639	0.681	0.723	0.765	0.807	0.849
35	0.009	0.051	0.093	0.135	0.177	0.219	0.261	0.303	0.345	0.387	0.429	0.471	0.513	0.555	0.597	0.639	0.681	0.723	0.765	0.807	0.849
40	0.014	0.056	0.098	0.139	0.181	0.223	0.265	0.307	0.348	0.390	0.432	0.474	0.515	0.557	0.599	0.641	0.682	0.724	0.766	0.808	0.849
45	0.020	0.062	0.103	0.145	0.186	0.228	0.269	0.311	0.352	0.394	0.435	0.476	0.518	0.559	0.601	0.642	0.684	0.725	0.767	0.808	0.849
50	0.029	0.070	0.111	0.152	0.193	0.234	0.275	0.316	0.357	0.398	0.439	0.480	0.521	0.562	0.603	0.644	0.685	0.726	0.767	0.808	0.849
55	0.039	0.079	0.120	0.161	0.201	0.242	0.282	0.323	0.363	0.404	0.444	0.485	0.525	0.566	0.606	0.647	0.687	0.728	0.768	0.809	0.849
60	0.052	0.092	0.132	0.172	0.212	0.252	0.291	0.331	0.371	0.411	0.451	0.491	0.531	0.570	0.610	0.650	0.690	0.730	0.770	0.810	0.849
65	0.069	0.108	0.147	0.186	0.225	0.264	0.303	0.342	0.381	0.420	0.459	0.498	0.537	0.576	0.615	0.654	0.693	0.732	0.771	0.810	0.849
70	0.092	0.130	0.167	0.205	0.243	0.281	0.319	0.357	0.395	0.433	0.471	0.508	0.546	0.584	0.622	0.660	0.698	0.736	0.774	0.812	0.849
75	0.121	0.158	0.194	0.230	0.267	0.303	0.340	0.376	0.412	0.449	0.485	0.522	0.558	0.595	0.631	0.667	0.704	0.740	0.777	0.813	0.849
80	0.162	0.196	0.230	0.265	0.299	0.334	0.368	0.402	0.437	0.471	0.506	0.540	0.574	0.609	0.643	0.678	0.712	0.746	0.781	0.815	0.849
85	0.220	0.252	0.283	0.315	0.346	0.378	0.409	0.441	0.472	0.503	0.535	0.566	0.598	0.629	0.661	0.692	0.724	0.755	0.787	0.818	0.849
90	0.312	0.339	0.366	0.393	0.419	0.446	0.473	0.500	0.527	0.554	0.581	0.608	0.634	0.661	0.688	0.715	0.742	0.769	0.796	0.823	0.849
95	0.478	0.496	0.515	0.533	0.552	0.571	0.589	0.608	0.626	0.645	0.664	0.682	0.701	0.719	0.738	0.757	0.775	0.794	0.812	0.831	0.849
98	0.656	0.666	0.676	0.685	0.695	0.705	0.714	0.724	0.734	0.743	0.753	0.763	0.772	0.782	0.792	0.801	0.811	0.821	0.830	0.840	0.849

What are Event Mean Concentration (EMC) data?

EMCs are available for each land use and they are found in support information and are listed once a land use is picked. Also a user defined value is permitted. An example of the EMCs are:

LAND USE CATEGORY	Event Mean Concentration (mg/l)	
	TOTAL Nitrogen	TOTAL Phosphorus
AG - CITRUS	2.240	0.183
AG - GENERAL	2.8	0.487
AVERAGE OF MFR+UNDEVELOPED	2.320	0.520
AVERAGE OF SFR + UNDEVELOPED	2.07	0.327
DRY PRAIRIE*	2.025	0.184
HIGH INTENSITY COMMERCIAL	2.4	0.345
HIGHWAY	1.52	0.2
HYDRIC HAMMOCK*	1.288	0.107
INDUSTRIAL	1.2	0.26

LOW DENSITY RESIDENTIAL	1.645	0.270
LOW INTENSITY COMMERCIAL	1.130	0.188
MESIC FLATWOODS*	1.090	0.043
MINING	1.180	0.150
MULTI FAMILY RES	2.320	0.520
PASTURE	3.510	0.686
ROW CROPS	2.650	0.593
RUDERAL UPLAND PINE*	1.694	0.162
SCRUBBY FLATWOODS*	1.155	0.027
SFR OR MFR DEPENDING ON UNITS	2.070	0.327
SINGLE FAMILY RES	2.070	0.327
UNDEVELOPED	1.288	0.107
UNDEVELOPED User Defined (overwrite defaults)	User input	User input
WATER	0	0
WET FLATWOODS*	1.213	0.021
WET PRAIRIE*	1.095	0.015
WETLAND*	1.15	0.055
XERIC HAMMOCK*	1.288	0.107
XERIC SCRUB*	1.288	0.107

TABLE 4-17

**SUMMARY OF LITERATURE-BASED RUNOFF
CHARACTERIZATION DATA FOR GENERAL LAND
USE CATEGORIES IN FLORIDA**

LAND USE CATEGORY	TYPICAL RUNOFF CONCENTRATION (mg/l)						
	TOTAL N	TOTAL P	BOD	TSS	COPPER	LEAD	ZINC
Low-Density Residential ¹	1.61	0.191	4.7	23.0	0.008 ⁴	0.002 ⁴	0.031 ⁴
Single-Family	2.07	0.327	7.9	37.5	0.016	0.004	0.062
Multi-Family	2.32	0.520	11.3	77.8	0.009	0.006	0.086
Low-Intensity Commercial	1.18	0.179	7.7	57.5	0.018	0.005	0.094
High-Intensity Commercial	2.40	0.345	11.3	69.7	0.015	--	0.160
Light Industrial	1.20	0.260	7.6	60.0	0.003	0.002	0.057
Highway	1.64	0.220	5.2	37.3	0.032	0.011	0.126
<u>Agricultural</u>							
Pasture	3.47	0.616	5.1	94.3	--	--	--
Citrus	2.24	0.183	2.55	15.5	0.003	0.001	0.012
Row Crops	2.65	0.593	--	19.8	0.022	0.004	0.030
General Agriculture ²	2.79	0.431	3.8	43.2	0.013	0.003	0.021
Undeveloped / Rangeland / Forest	1.15	0.055	1.4	8.4	--	--	--
Mining / Extractive	1.18	0.15	7.6 ³	60.0 ³	0.003 ³	0.002 ³	0.057 ³

1. Average of single-family and undeveloped loading rates
2. Mean of pasture, citrus, and row crop land uses
3. Runoff concentrations assumed equal to industrial values for these parameters
4. Value assumed to be equal to 50% of single-family concentration

The mean runoff characteristics summarized in Table 4-17 are recommended for use in general runoff characterization and loading studies within the State of Florida. However, in areas where more site-specific runoff characterization information is available, the site-specific data should be used instead of the generalized data summarized in Table 4-17.

Several assumptions were made in assigning runoff concentrations to provide a more complete database for the general land use categories. First, runoff characterization data was not available for copper, lead, or zinc in low-density residential land uses in the literature. Therefore, to provide estimates of runoff characteristics for these parameters, typical concentrations of copper, lead, and zinc in low-density residential areas are assumed to be equal to 50% of the mean values listed for single-family residential. Heavy metal concentrations were also not available for copper, lead, or zinc for mining/extractive land uses. As a result, runoff concentrations for these parameters in mining/extractive areas are assumed to be similar to concentrations observed in industrial areas. Pollutant contributions from mining activities are generated primarily from the movement of trucks and automobiles along access roads into and out of the site, as well as parking lots and garages. These activities are very similar to those occurring in industrial areas.

Mean Annual Mass Removal Efficiencies for 2.25-inches of Retention for Zone 5

NDCIA CN	Percent DCIA															
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
30	98.2	98.7	98.6	98.5	98.1	97.6	97.1	96.5	95.9	95.1	94.3	93.5	92.6	91.7	90.7	89.7
35	97.0	97.7	97.8	97.7	97.5	97.0	96.6	96.1	95.4	94.7	94.0	93.2	92.4	91.5	90.6	89.6
40	95.3	96.5	96.9	96.8	96.6	96.3	96.0	95.5	95.0	94.3	93.6	92.9	92.1	91.3	90.4	89.5
45	93.6	95.2	95.7	95.8	95.7	95.6	95.3	94.9	94.4	93.9	93.2	92.6	91.8	91.0	90.2	89.3
50	91.9	93.7	94.5	94.7	94.8	94.8	94.6	94.3	93.8	93.3	92.8	92.1	91.5	90.7	90.0	89.1
55	90.1	92.2	93.2	93.6	93.8	93.9	93.8	93.5	93.2	92.7	92.2	91.7	91.1	90.4	89.7	88.9
60	88.6	90.8	91.9	92.5	92.8	92.9	92.9	92.7	92.4	92.0	91.6	91.1	90.6	90.0	89.4	88.7
65	87.2	89.4	90.6	91.3	91.7	91.9	91.9	91.8	91.6	91.3	90.9	90.6	90.1	89.6	89.0	88.4
70	86.0	88.1	89.3	90.1	90.6	90.8	90.8	90.8	90.6	90.4	90.2	89.9	89.5	89.1	88.6	88.1
75	85.1	87.0	88.1	88.8	89.3	89.5	89.6	89.7	89.6	89.6	89.4	89.1	88.9	88.5	88.2	87.7
80	84.5	85.8	86.8	87.5	87.9	88.2	88.4	88.6	88.6	88.6	88.5	88.3	88.1	87.9	87.6	87.3
85	83.8	84.8	85.6	86.1	86.6	87.0	87.2	87.4	87.5	87.5	87.5	87.5	87.4	87.2	87.0	86.8
90	83.5	84.2	84.7	85.2	85.6	85.8	86.1	86.2	86.4	86.5	86.5	86.5	86.5	86.5	86.4	86.3
95	83.9	84.2	84.5	84.7	84.9	85.1	85.2	85.3	85.4	85.5	85.6	85.6	85.7	85.7	85.7	85.7
98	84.9	85.0	85.1	85.1	85.2	85.2	85.3	85.3	85.4	85.4	85.4	85.5	85.5	85.5	85.5	85.6

Mean Annual Mass Removal Efficiencies for 2.50-inches of Retention for Zone 5

NDCIA CN	Percent DCIA															
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
30	98.6	98.9	98.9	98.8	98.6	98.2	97.7	97.2	96.7	96.0	95.3	94.6	93.9	93.1	92.3	91.4
35	97.6	98.1	98.3	98.2	98.0	97.6	97.2	96.8	96.3	95.7	95.0	94.4	93.7	92.9	92.1	91.3
40	96.2	97.1	97.4	97.4	97.3	97.0	96.7	96.3	95.9	95.3	94.7	94.1	93.4	92.7	92.0	91.2
45	94.7	96.0	96.5	96.5	96.5	96.3	96.0	95.8	95.4	94.9	94.3	93.8	93.2	92.5	91.8	91.0
50	93.2	94.8	95.3	95.6	95.6	95.5	95.4	95.2	94.8	94.4	93.9	93.4	92.8	92.2	91.6	90.9
55	91.6	93.4	94.2	94.5	94.7	94.7	94.7	94.5	94.2	93.9	93.4	93.0	92.5	91.9	91.3	90.7
60	90.1	92.0	93.0	93.5	93.8	93.9	93.9	93.8	93.5	93.2	92.9	92.5	92.0	91.6	91.0	90.4
65	88.9	90.8	91.8	92.4	92.8	93.0	93.1	93.0	92.8	92.6	92.3	92.0	91.6	91.2	90.7	90.2
70	87.8	89.6	90.7	91.4	91.8	92.1	92.1	92.1	92.0	91.8	91.6	91.4	91.1	90.7	90.3	89.9
75	86.9	88.6	89.6	90.3	90.8	91.0	91.1	91.1	91.1	91.0	90.9	90.7	90.5	90.2	89.9	89.5
80	86.4	87.7	88.6	89.2	89.6	89.9	90.0	90.1	90.2	90.2	90.1	90.0	89.8	89.7	89.4	89.2
85	85.9	86.9	87.5	88.0	88.4	88.7	88.9	89.1	89.2	89.3	89.3	89.2	89.2	89.1	88.9	88.8
90	85.6	86.2	86.7	87.1	87.5	87.8	88.0	88.1	88.3	88.4	88.4	88.4	88.4	88.4	88.4	88.3
95	86.1	86.4	86.6	86.8	87.0	87.1	87.3	87.4	87.5	87.6	87.7	87.7	87.8	87.8	87.8	87.8
98	87.1	87.2	87.2	87.3	87.3	87.4	87.4	87.5	87.5	87.6	87.6	87.6	87.7	87.7	87.7	87.8

Mean Annual Mass Removal Efficiencies for 2.75-inches of Retention for Zone 5

NDCIA CN	Percent DCIA															
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
30	98.9	99.1	99.1	99.1	98.9	98.6	98.2	97.8	97.3	96.7	96.2	95.5	94.9	94.2	93.5	92.8
35	98.1	98.5	98.6	98.6	98.4	98.1	97.7	97.4	96.9	96.4	95.9	95.3	94.7	94.1	93.4	92.7
40	97.0	97.7	97.9	97.9	97.8	97.5	97.2	96.9	96.5	96.1	95.6	95.0	94.5	93.9	93.2	92.5
45	95.6	96.7	97.1	97.1	97.1	96.9	96.6	96.4	96.1	95.7	95.2	94.7	94.2	93.6	93.0	92.4
50	94.3	95.6	96.1	96.3	96.3	96.2	96.0	95.8	95.6	95.3	94.9	94.4	93.9	93.4	92.8	92.2
55	92.9	94.4	95.0	95.3	95.4	95.4	95.4	95.3	95.1	94.8	94.4	94.0	93.6	93.1	92.6	92.1
60	91.6	93.2	93.9	94.3	94.6	94.7	94.7	94.6	94.5	94.2	93.9	93.6	93.2	92.8	92.3	91.8
65	90.3	92.0	92.8	93.4	93.7	93.9	94.0	93.9	93.8	93.6	93.4	93.1	92.8	92.4	92.0	91.6
70	89.3	90.9	91.8	92.4	92.8	93.1	93.2	93.2	93.1	93.0	92.8	92.6	92.3	92.0	91.7	91.3
75	88.5	89.9	90.9	91.5	91.9	92.2	92.3	92.4	92.3	92.2	92.1	92.0	91.8	91.6	91.3	91.0
80	88.1	89.2	90.0	90.6	91.0	91.2	91.4	91.5	91.5	91.5	91.4	91.4	91.3	91.1	90.9	90.7
85	87.8	88.6	89.2	89.6	90.0	90.2	90.4	90.5	90.6	90.7	90.7	90.7	90.7	90.6	90.5	90.3
90	87.5	88.0	88.4	88.8	89.1	89.3	89.5	89.7	89.8	89.9	90.0	90.0	90.0	90.0	89.9	89.8
95	87.9	88.2	88.4	88.6	88.7	88.9	89.0	89.1	89.2	89.3	89.4	89.4	89.5	89.5	89.5	89.6
98	88.9	88.9	89.0	89.0	89.1	89.1	89.2	89.2	89.3	89.3	89.4	89.4	89.4	89.5	89.5	89.6

Mean Annual Mass Removal Efficiencies for 3.00-inches of Retention for Zone 5

NDCIA CN	Percent DCIA															
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
30	99.1	99.3	99.3	99.2	99.1	98.9	98.6	98.2	97.8	97.3	96.8	96.3	95.7	95.1	94.5	93.8
35	98.4	98.8	98.9	98.8	98.7	98.5	98.2	97.8	97.5	97.0	96.6	96.1	95.5	94.9	94.4	93.7
40	97.5	98.1	98.3	98.3	98.2	98.0	97.7	97.4	97.1	96.7	96.3	95.8	95.3	94.8	94.2	93.6
45	96.4	97.3	97.6	97.6	97.6	97.4	97.2	96.9	96.7	96.4	96.0	95.5	95.1	94.6	94.0	93.5
50	95.2	96.3	96.7	96.9	96.9	96.8	96.6	96.4	96.2	96.0	95.6	95.2	94.8	94.3	93.9	93.4
55	94.0	95.3	95.8	96.0	96.1	96.1	96.0	95.9	95.7	95.5	95.2	94.9	94.5	94.1	93.6	93.2
60	92.8	94.1	94.8	95.1	95.3	95.4	95.4	95.3	95.2	95.0	94.8	94.5	94.1	93.8	93.4	93.0
65	91.7	93.0	93.8	94.2	94.5	94.6	94.7	94.7	94.6	94.5	94.3	94.0	93.8	93.5	93.1	92.8
70	90.7	92.0	92.8	93.3	93.7	93.9	94.0	94.1	94.0	93.9	93.8	93.6	93.3	93.1	92.8	92.5
75	89.9	91.1	91.9	92.5	92.9	93.2	93.3	93.3	93.3	93.3	93.2	93.0	92.9	92.7	92.5	92.3
80	89.4	90.5	91.2	91.7	92.1	92.3	92.5	92.6	92.6	92.6	92.5	92.5	92.4	92.3	92.1	92.0
85	89.3	90.0	90.5	90.9	91.3	91.5	91.6	91.8	91.8	91.9	91.9	91.9	91.9	91.8	91.7	91.6
90	89.1	89.6	89.9	90.2	90.5	90.7	90.9	91.0	91.1	91.2	91.3	91.3	91.3	91.4	91.3	91.3
95	89.5	89.7	89.9	90.0	90.2	90.3	90.4	90.5	90.6	90.7	90.8	90.8	90.9	90.9	91.0	91.0
98	90.3	90.4	90.5	90.5	90.6	90.6	90.6	90.7	90.7	90.8	90.8	90.8	90.9	90.9	90.9	91.0

APPENDIX E
ICPR Input and Routings

1D Nodes - Max

1

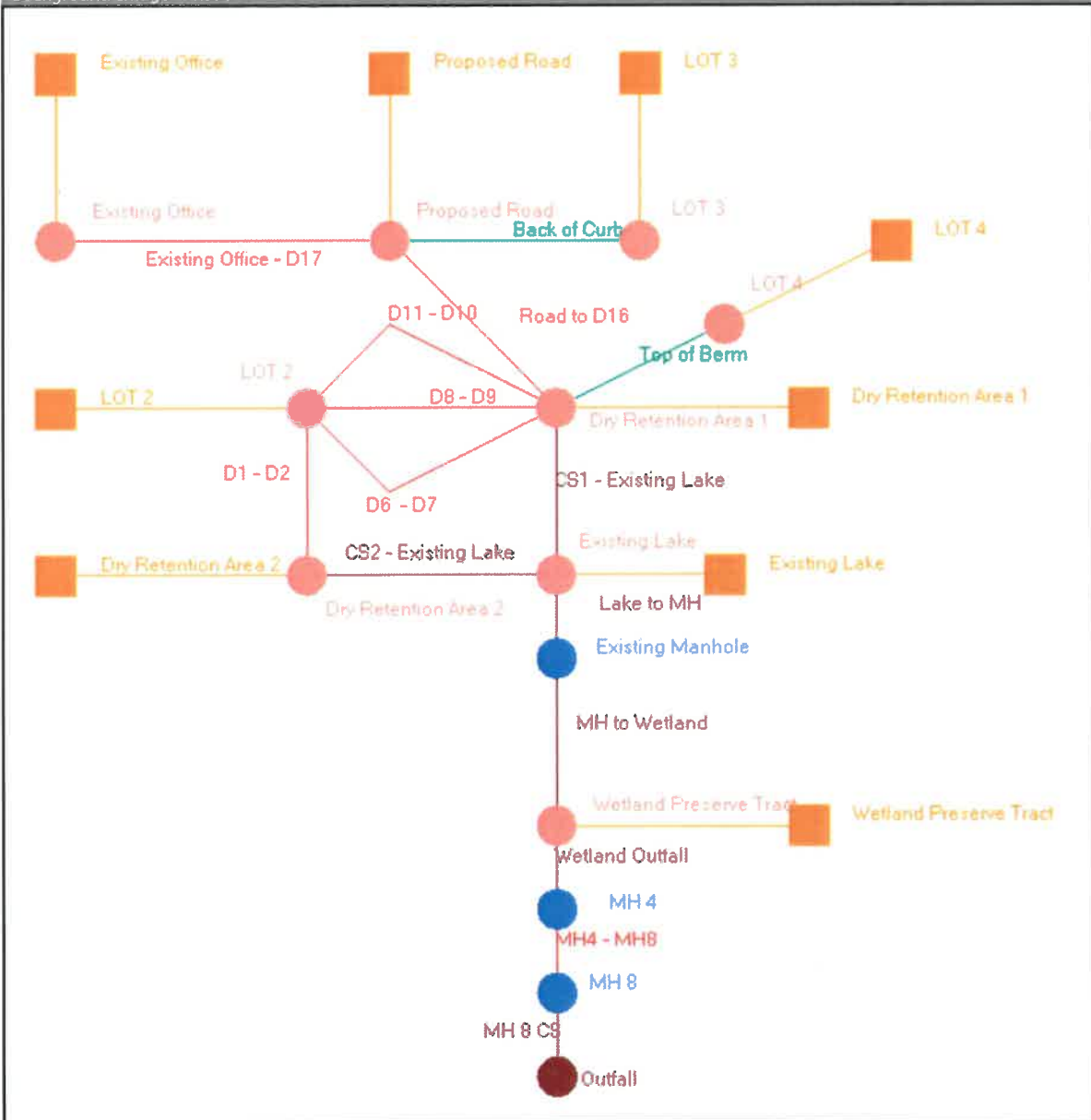
Scenario	Sim	Node Name	Maximum Stage [ft]	Maximum Total Inflow Rate [cfs]	Maximum Total Outflow Rate [cfs]
Zero	100y72h	Dry Retention Area 1	15.99	50.10	34.05
Zero	100y72h	Dry Retention Area 2	15.99	14.60	10.69
Zero	100y72h	Existing Lake	15.99	45.62	19.81
Zero	100y72h	Existing Manhole	16.00	19.81	19.77
Zero	100y72h	Existing Office	15.99	12.54	7.60
Zero	100y72h	LOT 2	15.99	24.44	13.49
Zero	100y72h	LOT 3	15.99	16.42	12.73
Zero	100y72h	LOT 4	15.99	33.57	29.03
Zero	100y72h	MH 4	16.00	2.14	2.14
Zero	100y72h	MH 8	15.99	1.86	0.41
Zero	100y72h	Outfall	13.50	0.00	0.00
Zero	100y72h	Proposed Road	15.99	17.91	15.96
Zero	100y72h	Wetland Preserve Tract	15.99	34.02	4.32
Routing	10y24h	Dry Retention Area 1	14.72	20.22	7.84
Routing	10y24h	Dry Retention Area 2	14.72	13.90	7.95
Routing	10y24h	Existing Lake	14.54	18.16	2.12
Routing	10y24h	Existing Manhole	13.38	2.12	2.12
Routing	10y24h	Existing Office	14.77	8.03	6.59
Routing	10y24h	LOT 2	14.72	12.81	15.40
Routing	10y24h	LOT 3	15.47	8.16	0.00
Routing	10y24h	LOT 4	15.47	16.69	0.00
Routing	10y24h	MH 4	13.36	2.37	2.37
Routing	10y24h	MH 8	13.36	2.37	2.43
Routing	10y24h	Outfall	13.35	2.38	0.83
Routing	10y24h	Proposed Road	14.72	8.81	11.80
Routing	10y24h	Wetland Preserve Tract	13.36	9.67	3.06
Routing	25y72h	Dry Retention Area 1	15.23	25.83	21.07
Routing	25y72h	Dry Retention Area 2	15.23	12.95	7.58
Routing	25y72h	Existing Lake	15.18	28.19	19.96

1D Nodes - Max

2

Scenario	Sim	Node Name	Maximum Stage [ft]	Maximum Total Inflow Rate [cfs]	Maximum Total Outflow Rate [cfs]
Routing	25y72h	Existing Manhole	15.07	19.94	20.21
Routing	25y72h	Existing Office	15.24	10.42	8.04
Routing	25y72h	LOT 2	15.23	16.67	13.61
Routing	25y72h	LOT 3	15.77	13.31	4.22
Routing	25y72h	LOT 4	15.67	27.21	13.12
Routing	25y72h	MH 4	15.04	6.82	5.27
Routing	25y72h	MH 8	14.20	5.27	5.27
Routing	25y72h	Outfall	13.50	5.27	0.83
Routing	25y72h	Proposed Road	15.23	10.83	13.89
Routing	25y72h	Wetland Preserve Tract	15.06	28.64	6.80

Background Image: Phase 2



Simulation: 10y24h

Scenario: Routing

Run Date/Time: 12/2/2019 11:45:08 AM

Program Version: ICPR4 4.05.02

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	48.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.5000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Site

Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Impervious
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight	0.5 dec		
Fact:			
dZ Tolerance:	0.0050 ft	Smp/Man Basin Rain	Global
		Opt:	
Max dZ:	1.0000 ft	OF Region Rain Opt:	No Rainfall
Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	7.30 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0000 ft	Dflt Damping (1D):	0.0000 ft
Min Node Srf Area	100 ft2	Min Node Srf Area	100 ft2
(2D):		(1D):	
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 25y72h

Scenario: Routing
Run Date/Time: 12/2/2019 11:45:30 AM
Program Version: ICPR4 4.05.02

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	96.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.5000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Site

Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Impervious
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	ET for Manual Basins: False
Over-Relax Weight 0.5 dec	
Fact:	
dZ Tolerance: 0.0050 ft	Smp/Man Basin Rain Global
	Opt:
Max dZ: 1.0000 ft	OF Region Rain Opt: No Rainfall
Link Optimizer Tol: 0.0000 ft	Rainfall Name: ~SFWMD-72
	Rainfall Amount: 12.50 in
Edge Length Option: Automatic	Storm Duration: 72.0000 hr
Dflt Damping (2D): 0.0000 ft	Dflt Damping (1D): 0.0000 ft
Min Node Srf Area 100 ft2	Min Node Srf Area 100 ft2
(2D):	(1D):
Energy Switch (2D): Energy	Energy Switch (1D): Energy

Comment:

Manual Basin: Dry Retention Area 1

Scenario: Routing
Node: Dry Retention Area 1

Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 0.9500 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.9500	Dry Pretreatment Area	A			

Comment:

Manual Basin: Dry Retention Area 2

Scenario: Routing
 Node: Dry Retention Area 2
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 0.2100 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.2100	Dry Pretreatment Area	A			

Comment:

Manual Basin: Existing Lake

Scenario: Routing
 Node: Existing Lake
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.5000 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
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Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
1.5000	Existing Lake	D			

Comment:

Manual Basin: Existing Office

Scenario: Routing
 Node: Existing Office
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.9000 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
1.9000	Existing Office	A			

Comment: Existing office parcel and Existing Access

Manual Basin: LOT 2

Scenario: Routing
 Node: LOT 2
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 3.0400 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
3.0400	Lot 2	A			

Comment:

Manual Basin: LOT 3

Scenario: Routing

Node: LOT 3
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 2.6900 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
2.6900	Lot 3	A			

Comment:

Manual Basin: LOT 4

Scenario: Routing
 Node: LOT 4
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 5.5000 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
5.5000	Lot 4	A			

Comment:

Manual Basin: Proposed Road

Scenario: Routing
 Node: Proposed Road
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 0.5100 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.5100	Road (Phase 3)	A			

Comment:

Manual Basin: Wetland Preserve Tract

Scenario: Routing
 Node: Wetland Preserve Tract
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 2.6700 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
2.6700	Wetland	D			

Comment:

Impervious: Impervious [Set]

Land Cover Zone	% Impervious	% DCIA	% Direct	Ia Impervious [in]	Ia Pervious [in]
Dry Pretreatment Area	0.00	0.00	0.00	0.000	0.000
Existing Lake	0.00	0.00	0.00	0.000	0.000
Existing Office	0.00	0.00	0.00	0.000	0.000
Lot 2	0.00	0.00	0.00	0.000	0.000
Lot 3	0.00	0.00	0.00	0.000	0.000
Lot 4	0.00	0.00	0.00	0.000	0.000
Road (Phase 3)	0.00	0.00	0.00	0.000	0.000
Wetland	0.00	0.00	0.00	0.000	0.000

Curve Number: Site [Set]

Land Cover Zone	Soil Zone	Curve Number [dec]
Dry Pretreatment	A	74.0
Dry Pretreatment Area	A	74.0
Existing Lake	D	88.3

Land Cover Zone	Soil Zone	Curve Number [dec]
Existing Office	A	93.0
Landscape BufferArea	A	74.0
Lot 2	A	92.7
Lot 3	A	74.0
Lot 4	A	74.0
Pre Site	D	74.0
Preserve	A	74.0
Road (Phase 3)	A	98.0
Wetland	D	82.1

Node: Dry Retention Area 1

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 9.50 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
13.00	0.00	0
13.50	0.31	13373
14.00	0.65	28096
14.50	1.01	44170
15.00	1.41	61550
15.50	1.84	80325
16.00	2.31	100449
16.50	2.78	121227
17.00	3.26	142049
17.50	3.74	162827
18.00	4.22	183605

Comment:

Node: Dry Retention Area 2

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 8.00 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
13.00	0.00	0
13.50	0.06	2788
14.00	0.14	5924
14.50	0.22	9365

Stage [ft]	Volume [ac-ft]	Volume [ft3]
15.00	0.30	13112
15.50	0.40	17206
16.00	0.50	21649
16.50	0.60	26223
17.00	0.71	30840

Comment:

Node: Existing Lake

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 13.00 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
12.00	0.00	0
12.50	0.45	19776
13.00	0.93	40380
13.50	1.42	61812
14.00	1.93	84027
14.50	2.49	108595
15.00	3.14	136604
15.50	3.85	167706
16.00	4.60	200289
16.50	5.35	232915
17.00	6.10	265498
17.50	6.84	298125
18.00	7.59	330708

Comment:

Node: Existing Manhole

Scenario: Routing
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 9.29 ft
 Warning Stage: 0.00 ft

Comment:

Node: Existing Office

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 11.12 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
14.00	0.00	0
14.50	0.02	784
15.00	0.07	3180
15.50	0.23	10062
16.00	0.63	27312
16.50	1.27	55147
17.00	2.12	92521

Comment:

Node: LOT 2

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 8.20 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
14.00	0.00	0
14.50	0.03	1481
15.00	0.14	5881
15.50	0.35	15377
16.00	0.79	34587
16.50	1.46	63554
17.00	2.32	100841
17.50	3.25	141526
18.00	4.18	182255

Comment:

Node: LOT 3

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 14.00 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
14.00	0.00	0
14.50	0.11	4879
15.00	0.45	19515
15.50	1.01	43908
16.00	1.79	78016
16.50	2.80	121924
17.00	4.03	175547
17.50	5.37	234048
18.00	6.72	292593

Comment:

Node: LOT 4

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 14.00 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
14.00	0.00	0
14.50	0.23	9975
15.00	0.92	39901
15.50	2.06	89821
16.00	3.67	159691
16.50	5.73	249512
17.00	8.25	359283
17.50	11.00	479029
18.00	13.75	598819

Comment:

Node: MH 4

Scenario: Routing
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 10.35 ft
 Warning Stage: 0.00 ft

Comment:

Node: MH 8

Scenario: Routing
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 10.11 ft
 Warning Stage: 0.00 ft

Comment:

Node: Outfall

Scenario: Routing
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 12.00 ft
 Warning Stage: 0.00 ft
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	12.60
0	0	0	4.0000	12.70
0	0	0	8.0000	12.80
0	0	0	12.0000	12.90
0	0	0	24.0000	13.10
0	0	0	62.0000	13.50
0	0	0	72.0000	13.00
0	0	0	96.0000	12.80

Comment:

Node: Proposed Road

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 9.70 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
15.10	0.00	0
15.60	0.05	2004
16.10	0.18	7971
16.60	0.44	19166
17.10	0.70	30361
17.60	0.95	41513
18.10	1.21	52708

Stage [ft]	Volume [ac-ft]	Volume [ft3]
18.60	1.47	63859
19.10	1.72	75054

Comment:

Node: Wetland Preserve Tract

Scenario: Routing
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 13.02 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
12.00	0.00	0
12.50	0.52	22651
13.00	1.18	51488
13.50	1.99	86467
14.00	2.93	127631
14.50	3.98	173412
15.00	5.10	222287
15.50	6.30	274254
16.00	7.56	329270
16.50	8.89	387423
17.00	10.23	445532
17.50	11.56	503641
18.00	12.90	561793

Comment:

Weir Link: Back of Curb

Scenario: Routing
 From Node: Proposed Road
 To Node: LOT 3
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Irregular
 Invert: 15.73 ft
 Control Elevation: 15.73 ft
 Cross Section: Lot 4

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 2.800

Weir Table:

Orifice Default: 0.600

Orifice Table:

Comment:

Drop Structure Link: CS1 - Existing Lake		Upstream Pipe	Downstream Pipe
Scenario:	Routing	Invert: 9.00 ft	Invert: 7.00 ft
From Node:	Dry Retention Area 1	Manning's N: 0.0120	Manning's N: 0.0120
		Geometry: Circular	Geometry: Circular
To Node:	Existing Lake	Max Depth: 3.00 ft	Max Depth: 3.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Solution:	Combine	Op Table:	Op Table:
Increments:	10	Ref Node:	Ref Node:
Pipe Count:	1	Manning's N: 0.0000	Manning's N: 0.0000
Damping:	0.0000 ft	Top Clip	
Length:	47.00 ft	Default: 0.00 ft	Default: 0.00 ft
FHWA Code:	0	Op Table:	Op Table:
Entr Loss Coef:	0.00	Ref Node:	Ref Node:
Exit Loss Coef:	0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Loss Coef:	0.00		
Bend Location:	0.00 ft		
Energy Switch:	Energy		
Pipe Comment:			

Weir Component			
Weir:	1	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	Top Clip	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	14.60 ft	Op Table:	
Control Elevation:	14.60 ft	Ref Node:	
Max Depth:	3.00 ft	Discharge Coefficients	
Max Width:	9.00 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	
Weir Comment:			

Weir Component	
Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Circular
Invert:	13.40 ft
Control Elevation:	13.40 ft
Max Depth:	0.25 ft

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Weir Component	
Weir: 3	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.25 ft	Op Table:
Control Elevation: 14.25 ft	Ref Node:
Max Depth: 0.50 ft	Discharge Coefficients
Max Width: 3.00 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment:

Drop Structure Link: CS2 - Existing Lake		Upstream Pipe	Downstream Pipe
Scenario: Routing		Invert: 10.00 ft	Invert: 8.00 ft
From Node: Dry Retention Area 2		Manning's N: 0.0110	Manning's N: 0.0110
To Node: Existing Lake		Geometry: Circular	Geometry: Circular
Link Count: 1		Max Depth: 2.00 ft	Max Depth: 2.00 ft
Flow Direction: Both		Bottom Clip	
Solution: Combine		Default: 0.00 ft	Default: 0.00 ft
Increments: 10		Op Table:	Op Table:
Pipe Count: 1		Ref Node:	Ref Node:
Damping: 0.0000 ft		Manning's N: 0.0000	Manning's N: 0.0000
Length: 80.00 ft		Top Clip	
FHWA Code: 0		Default: 0.00 ft	Default: 0.00 ft
Entr Loss Coef: 0.00		Op Table:	Op Table:
Exit Loss Coef: 0.00		Ref Node:	Ref Node:
Bend Loss Coef: 0.00		Manning's N: 0.0000	Manning's N: 0.0000
Bend Location: 0.00 ft			
Energy Switch: Energy			

Pipe Comment:

Weir Component	
Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft

Invert: 14.60 ft
 Control Elevation: 14.60 ft
 Max Depth: 3.00 ft
 Max Width: 9.00 ft
 Fillet: 0.00 ft

Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Weir Component

Weir: 2
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Circular
 Invert: 13.50 ft
 Control Elevation: 13.50 ft
 Max Depth: 0.25 ft

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Weir Component

Weir: 3
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Rectangular
 Invert: 14.10 ft
 Control Elevation: 14.10 ft
 Max Depth: 0.50 ft
 Max Width: 3.00 ft
 Fillet: 0.00 ft

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Drop Structure Comment:

Pipe Link: D1 - D2

Scenario: Routing
 From Node: LOT 2

Upstream
 Invert: 8.20 ft
 Manning's N: 0.0110

Downstream
 Invert: 8.00 ft
 Manning's N: 0.0110

To Node:	Dry Retention Area	Geometry: Circular	Geometry: Circular
	2	Max Depth: 3.00 ft	Max Depth: 3.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Positive	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	15.00 ft	Ref Node:	Ref Node:
FHWA Code:	0	Manning's N: 0.0000	Manning's N: 0.0000
Entr Loss Coef:	0.00	Top Clip	
Exit Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 ft	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0000	Manning's N: 0.0000
Comment:			

Pipe Link: D11 - D10	Upstream	Downstream
Scenario: Routing	Invert: 9.70 ft	Invert: 9.50 ft
From Node: LOT 2	Manning's N: 0.0110	Manning's N: 0.0110
To Node: Dry Retention Area	Geometry: Circular	Geometry: Circular
	1	Max Depth: 1.50 ft
Link Count: 1	Bottom Clip	
Flow Direction: Both	Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft	Op Table:	Op Table:
Length: 16.00 ft	Ref Node:	Ref Node:
FHWA Code: 0	Manning's N: 0.0000	Manning's N: 0.0000
Entr Loss Coef: 0.00	Top Clip	
Exit Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 ft	Ref Node:	Ref Node:
Energy Switch: Energy	Manning's N: 0.0000	Manning's N: 0.0000
Comment:		

Pipe Link: D6 - D7	Upstream	Downstream
Scenario: Routing	Invert: 9.70 ft	Invert: 9.50 ft
From Node: LOT 2	Manning's N: 0.0110	Manning's N: 0.0110
To Node: Dry Retention Area	Geometry: Circular	Geometry: Circular
	1	Max Depth: 2.00 ft
Link Count: 1	Bottom Clip	
Flow Direction: Both	Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft	Op Table:	Op Table:
Length: 17.00 ft	Ref Node:	Ref Node:
FHWA Code: 0	Manning's N: 0.0000	Manning's N: 0.0000
Entr Loss Coef: 0.00	Top Clip	
Exit Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 ft	Ref Node:	Ref Node:

Energy Switch: Energy	Manning's N: 0.0000	Manning's N: 0.0000
Comment:		

Pipe Link: D8 - D9		Upstream	Downstream
Scenario: Routing		Invert: 9.70 ft	Invert: 9.50 ft
From Node: LOT 2		Manning's N: 0.0110	Manning's N: 0.0110
To Node: Dry Retention Area		Geometry: Circular	Geometry: Circular
Link Count: 1		Max Depth: 1.25 ft	Max Depth: 1.25 ft
Flow Direction: Both		Bottom Clip	
Damping: 0.0000 ft		Default: 0.00 ft	Default: 0.00 ft
Length: 16.00 ft		Op Table:	Op Table:
FHWA Code: 0		Ref Node:	Ref Node:
Entr Loss Coef: 0.00		Manning's N: 0.0000	Manning's N: 0.0000
Exit Loss Coef: 0.00		Top Clip	
Bend Loss Coef: 0.00		Default: 0.00 ft	Default: 0.00 ft
Bend Location: 0.00 ft		Op Table:	Op Table:
Energy Switch: Momentum		Ref Node:	Ref Node:
		Manning's N: 0.0000	Manning's N: 0.0000
Comment:			

Pipe Link: Existing Office - D17		Upstream	Downstream
Scenario: Routing		Invert: 11.12 ft	Invert: 11.09 ft
From Node: Existing Office		Manning's N: 0.0110	Manning's N: 0.0110
To Node: Proposed Road		Geometry: Circular	Geometry: Circular
Link Count: 1		Max Depth: 2.00 ft	Max Depth: 2.00 ft
Flow Direction: Both		Bottom Clip	
Damping: 0.0000 ft		Default: 0.00 ft	Default: 0.00 ft
Length: 105.00 ft		Op Table:	Op Table:
FHWA Code: 0		Ref Node:	Ref Node:
Entr Loss Coef: 0.00		Manning's N: 0.0000	Manning's N: 0.0000
Exit Loss Coef: 0.00		Top Clip	
Bend Loss Coef: 0.00		Default: 0.00 ft	Default: 0.00 ft
Bend Location: 0.00 ft		Op Table:	Op Table:
Energy Switch: Energy		Ref Node:	Ref Node:
		Manning's N: 0.0000	Manning's N: 0.0000
Comment:			

Drop Structure Link: Lake to MH		Upstream Pipe	Downstream Pipe
Scenario: Routing		Invert: 10.50 ft	Invert: 9.68 ft
From Node: Existing Lake		Manning's N: 0.0120	Manning's N: 0.0120
To Node: Existing Manhole		Geometry: Circular	Geometry: Circular
Link Count: 1		Max Depth: 2.00 ft	Max Depth: 2.00 ft

Flow Direction: Both
 Solution: Combine
 Increments: 10
 Pipe Count: 1
 Damping: 0.0000 ft
 Length: 55.00 ft
 FHWA Code: 0
 Entr Loss Coef: 0.00
 Exit Loss Coef: 0.00
 Bend Loss Coef: 0.00
 Bend Location: 0.00 ft
 Energy Switch: Energy

Bottom Clip		
Default:	0.00 ft	Default: 0.00 ft
Op Table:		Op Table:
Ref Node:		Ref Node:
Manning's N:	0.0000	Manning's N: 0.0000
Top Clip		
Default:	0.00 ft	Default: 0.00 ft
Op Table:		Op Table:
Ref Node:		Ref Node:
Manning's N:	0.0000	Manning's N: 0.0000

Pipe Comment:

Weir Component	
Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.43 ft	Op Table:
Control Elevation: 14.43 ft	Ref Node:
Max Depth: 3.00 ft	Discharge Coefficients
Max Width: 4.00 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Weir Component	
Weir: 2	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Circular	Default: 0.00 ft
Invert: 13.26 ft	Op Table:
Control Elevation: 13.26 ft	Ref Node:
Max Depth: 0.33 ft	Discharge Coefficients
	Weir Default: 3.200
	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment:

Drop Structure Link: MH 8 CS		Upstream Pipe	Downstream Pipe
Scenario:	Routing	Invert: 12.19 ft	Invert: 11.68 ft
From Node:	MH 8	Manning's N: 0.0110	Manning's N: 0.0110
To Node:	Outfall	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 2.00 ft	Max Depth: 2.00 ft
Flow Direction:	Both	Bottom Clip	
Solution:	Combine	Default: 0.00 ft	Default: 0.00 ft
Increments:	10	Op Table:	Op Table:
Pipe Count:	1	Ref Node:	Ref Node:
Damping:	0.0000 ft	Manning's N: 0.0000	Manning's N: 0.0000
Length:	22.00 ft	Top Clip	
FHWA Code:	0	Default: 0.00 ft	Default: 0.00 ft
Entr Loss Coef:	0.00	Op Table:	Op Table:
Exit Loss Coef:	0.00	Ref Node:	Ref Node:
Bend Loss Coef:	0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Location:	0.00 ft		
Energy Switch:	Energy		
Pipe Comment:			

Weir Component			
Weir:	1	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Sharp Crested Vertical	Top Clip	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	12.00 ft	Op Table:	
Control Elevation:	12.00 ft	Ref Node:	
Max Depth:	1.00 ft	Discharge Coefficients	
Max Width:	1.25 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Drop Structure Link: MH to Wetland		Upstream Pipe	Downstream Pipe
Scenario:	Routing	Invert: 8.85 ft	Invert: 9.29 ft
From Node:	Wetland Preserve Tract	Manning's N: 0.0120	Manning's N: 0.0120
To Node:	Existing Manhole	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 3.00 ft	Max Depth: 3.00 ft
Flow Direction:	Both	Bottom Clip	
Solution:	Combine	Default: 0.00 ft	Default: 0.00 ft
Increments:	10	Op Table:	Op Table:
Pipe Count:	1	Ref Node:	Ref Node:
		Manning's N: 0.0000	Manning's N: 0.0000

Damping: 0.0000 ft	Top Clip	
Length: 65.00 ft	Default: 0.00 ft	Default: 0.00 ft
FHWA Code: 0	Op Table:	Op Table:
Entr Loss Coef: 0.00	Ref Node:	Ref Node:
Exit Loss Coef: 0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Loss Coef: 0.00		
Bend Location: 0.00 ft		
Energy Switch: Energy		

Pipe Comment:

Weir Component

Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 13.16 ft	Op Table:
Control Elevation: 13.16 ft	Ref Node:
Max Depth: 3.00 ft	Discharge Coefficients
Max Width: 4.00 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment:

Pipe Link: MH4 - MH8

	Upstream	Downstream
Scenario: Routing	Invert: 10.35 ft	Invert: 10.11 ft
From Node: MH 4	Manning's N: 0.0110	Manning's N: 0.0110
To Node: MH 8	Geometry: Circular	Geometry: Circular
Link Count: 1	Max Depth: 1.50 ft	Max Depth: 1.50 ft
Flow Direction: Both	Bottom Clip	
Damping: 0.0000 ft	Default: 0.00 ft	Default: 0.00 ft
Length: 505.00 ft	Op Table:	Op Table:
FHWA Code: 0	Ref Node:	Ref Node:
Entr Loss Coef: 0.00	Manning's N: 0.0000	Manning's N: 0.0000
Exit Loss Coef: 0.00	Top Clip	
Bend Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Location: 0.00 ft	Op Table:	Op Table:
Energy Switch: Energy	Ref Node:	Ref Node:
	Manning's N: 0.0000	Manning's N: 0.0000

Comment:

Pipe Link: Road to D16		Upstream	Downstream
Scenario:	Routing	Invert: 7.70 ft	Invert: 9.50 ft
From Node:	Proposed Road	Manning's N: 0.0110	Manning's N: 0.0110
To Node:	Dry Retention Area 1	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 2.50 ft	Max Depth: 2.50 ft
Flow Direction:	Positive	Bottom Clip	
Damping:	0.0000 ft	Default: 0.00 ft	Default: 0.00 ft
Length:	21.00 ft	Op Table:	Op Table:
FHWA Code:	0	Ref Node:	Ref Node:
Entr Loss Coef:	0.00	Manning's N: 0.0000	Manning's N: 0.0000
Exit Loss Coef:	0.00	Top Clip	
Bend Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Location:	0.00 ft	Op Table:	Op Table:
Energy Switch:	Energy	Ref Node:	Ref Node:
		Manning's N: 0.0000	Manning's N: 0.0000
Comment:			

Weir Link: Top of Berm	
Scenario:	Routing
From Node:	LOT 4
To Node:	Dry Retention Area 1
Link Count:	1
Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Irregular
Invert:	15.60 ft
Control Elevation:	15.60 ft
Cross Section:	Lot 4

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Drop Structure Link: Wetland Outfall		Upstream Pipe	Downstream Pipe
Scenario:	Routing	Invert: 8.27 ft	Invert: 10.30 ft
From Node:	Wetland Preserve Tract	Manning's N: 0.0110	Manning's N: 0.0011
To Node:	MH 4	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 2.50 ft	Max Depth: 2.50 ft
Flow Direction:	Both	Bottom Clip	
Solution:	Combine	Default: 0.00 ft	Default: 0.00 ft
Increments:	10	Op Table:	Op Table:
Pipe Count:	1	Ref Node:	Ref Node:
Damping:	0.0000 ft	Manning's N: 0.0000	Manning's N: 0.0000
Length:	82.00 ft	Top Clip	
		Default: 0.00 ft	Default: 0.00 ft

FHWA Code: 0	Op Table:	Op Table:
Entr Loss Coef: 0.00	Ref Node:	Ref Node:
Exit Loss Coef: 0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Loss Coef: 0.00		
Bend Location: 0.00 ft		
Energy Switch: Energy		

Pipe Comment:

Weir Component	
Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 13.02 ft	Op Table:
Control Elevation: 13.02 ft	Ref Node:
Max Depth: 1.49 ft	Discharge Coefficients
Max Width: 2.75 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Weir Component	
Weir: 2	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.82 ft	Op Table:
Control Elevation: 14.82 ft	Ref Node:
Max Depth: 1.49 ft	Discharge Coefficients
Max Width: 2.75 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Weir Component	
Weir: 3	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.42 ft	Op Table:
Control Elevation: 14.42 ft	Ref Node:
Max Depth: 1.49 ft	Discharge Coefficients

Max Width: 2.75 ft
Fillet: 0.00 ft

Weir Default: 3.200
Weir Table:
Orifice Default: 0.600
Orifice Table:

Weir Comment:

Drop Structure Comment:

Weir Cross Section: Lot 3

Scenario: Routing
Lid: No

Bottom Point Table

Order	Station [ft]	Elevation [ft]
0	0.00	15.98
1	46.00	16.15
2	97.50	16.33
3	144.50	16.03
4	191.50	15.73
5	249.00	15.90
6	296.00	16.08
7	348.50	15.90
8	400.00	15.73
9	448.00	15.90
10	485.00	16.08
11	514.00	15.90
12	557.00	15.81
13	601.00	15.73
14	633.00	15.90
15	669.00	16.08

Comment:

Weir Cross Section: Lot 4

Scenario: Routing
Lid: No

Bottom Point Table

Order	Station [ft]	Elevation [ft]
0	0.00	16.00
1	44.00	16.00
2	79.00	15.60
3	354.00	15.60

Comment:

Simulation: 100y72h

Scenario: Zero

Run Date/Time: 12/2/2019 11:46:33 AM

Program Version: ICPR4 4.05.02

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	96.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.5000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set: Site

Green-Ampt Set:
Vertical Layers Set:
Impervious Set: Impervious
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:

Conductivity Set:

Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight	0.5 dec		
Fact:			
dZ Tolerance:	0.0050 ft	Smp/Man Basin Rain	Global
		Opt:	
Max dZ:	1.0000 ft	OF Region Rain Opt:	No Rainfall
Link Optimizer Tol:	0.0000 ft	Rainfall Name:	~SFWMD-72
		Rainfall Amount:	15.00 in
Edge Length Option:	Automatic	Storm Duration:	72.0000 hr
Dflt Damping (2D):	0.0000 ft	Dflt Damping (1D):	0.0000 ft
Min Node Srf Area	100 ft2	Min Node Srf Area	100 ft2
(2D):		(1D):	
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Manual Basin: Dry Retention Area 1

Scenario: Zero
 Node: Dry Retention Area 1
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 0.9500 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.9500	Dry Pretreatment Area	A			

Comment:

Manual Basin: Dry Retention Area 2

Scenario: Zero
 Node: Dry Retention Area 2
 Hydrograph Method: NRCS Unit Hydrograph

Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 0.2100 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.2100	Dry Pretreatment Area	A			

Comment:

Manual Basin: Existing Lake

Scenario: Zero
 Node: Existing Lake
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.5000 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
1.5000	Existing Lake	D			

Comment:

Manual Basin: Existing Office

Scenario: Zero
 Node: Existing Office
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 1.9000 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
1.9000	Existing Office	A			

Comment: Existing office parcel and Existing Access

Manual Basin: LOT 2

Scenario: Zero
Node: LOT 2
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 10.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 3.0400 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
3.0400	Lot 2	A			

Comment:

Manual Basin: LOT 3

Scenario: Zero
Node: LOT 3
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 10.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 2.6900 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
2.6900	Lot 3	A			

Comment:

Manual Basin: LOT 4

Scenario: Zero
Node: LOT 4
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number

Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 5.5000 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
5.5000	Lot 4	A			

Comment:

Manual Basin: Proposed Road

Scenario: Zero
 Node: Proposed Road
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 0.5100 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.5100	Road (Phase 3)	A			

Comment:

Manual Basin: Wetland Preserve Tract

Scenario: Zero
 Node: Wetland Preserve Tract
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 2.6700 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
2.6700	Wetland	D			

Comment:

Impervious: Impervious [Set]

Land Cover Zone	% Impervious	% DCIA	% Direct	Ia Impervious [in]	Ia Pervious [in]
Dry Pretreatment Area	0.00	0.00	0.00	0.000	0.000
Existing Lake	0.00	0.00	0.00	0.000	0.000
Existing Office	0.00	0.00	0.00	0.000	0.000
Lot 2	0.00	0.00	0.00	0.000	0.000
Lot 3	0.00	0.00	0.00	0.000	0.000
Lot 4	0.00	0.00	0.00	0.000	0.000
Road (Phase 3)	0.00	0.00	0.00	0.000	0.000
Wetland	0.00	0.00	0.00	0.000	0.000

Curve Number: Site [Set]

Land Cover Zone	Soil Zone	Curve Number [dec]
Dry Pretreatment	A	74.0
Dry Pretreatment Area	A	74.0
Existing Lake	D	88.3
Existing Office	A	93.0
Landscape BufferArea	A	74.0
Lot 2	A	92.7
Lot 3	A	74.0
Lot 4	A	74.0
Pre Site	D	74.0
Preserve	A	74.0
Road (Phase 3)	A	98.0
Wetland	D	82.1

Node: Dry Retention Area 1

Scenario: Zero
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 9.50 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
13.00	0.00	0
13.50	0.31	13373
14.00	0.65	28096
14.50	1.01	44170
15.00	1.41	61550
15.50	1.84	80325
16.00	2.31	100449
16.50	2.78	121227

Stage [ft]	Volume [ac-ft]	Volume [ft3]
17.00	3.26	142049
17.50	3.74	162827
18.00	4.22	183605

Comment:

Node: Dry Retention Area 2

Scenario: Zero
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 8.00 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
13.00	0.00	0
13.50	0.06	2788
14.00	0.14	5924
14.50	0.22	9365
15.00	0.30	13112
15.50	0.40	17206
16.00	0.50	21649
16.50	0.60	26223
17.00	0.71	30840

Comment:

Node: Existing Lake

Scenario: Zero
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 13.00 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
12.00	0.00	0
12.50	0.45	19776
13.00	0.93	40380
13.50	1.42	61812
14.00	1.93	84027
14.50	2.49	108595
15.00	3.14	136604
15.50	3.85	167706
16.00	4.60	200289
16.50	5.35	232915

Stage [ft]	Volume [ac-ft]	Volume [ft3]
17.00	6.10	265498
17.50	6.84	298125
18.00	7.59	330708

Comment:

Node: Existing Manhole

Scenario: Zero
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 9.29 ft
 Warning Stage: 0.00 ft

Comment:

Node: Existing Office

Scenario: Zero
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 11.12 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
14.00	0.00	0
14.50	0.02	784
15.00	0.07	3180
15.50	0.23	10062
16.00	0.63	27312
16.50	1.27	55147
17.00	2.12	92521

Comment:

Node: LOT 2

Scenario: Zero
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 8.20 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
14.00	0.00	0
14.50	0.03	1481
15.00	0.14	5881
15.50	0.35	15377
16.00	0.79	34587
16.50	1.46	63554
17.00	2.32	100841
17.50	3.25	141526
18.00	4.18	182255

Comment:

Node: LOT 3

Scenario: Zero
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 14.00 ft
Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
14.00	0.00	0
14.50	0.11	4879
15.00	0.45	19515
15.50	1.01	43908
16.00	1.79	78016
16.50	2.80	121924
17.00	4.03	175547
17.50	5.37	234048
18.00	6.72	292593

Comment:

Node: LOT 4

Scenario: Zero
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 14.00 ft
Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
14.00	0.00	0
14.50	0.23	9975
15.00	0.92	39901
15.50	2.06	89821

Stage [ft]	Volume [ac-ft]	Volume [ft3]
16.00	3.67	159691
16.50	5.73	249512
17.00	8.25	359283
17.50	11.00	479029
18.00	13.75	598819

Comment:

Node: MH 4

Scenario: Zero
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 10.35 ft
 Warning Stage: 0.00 ft

Comment:

Node: MH 8

Scenario: Zero
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 10.11 ft
 Warning Stage: 0.00 ft

Comment:

Node: Outfall

Scenario: Zero
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 12.00 ft
 Warning Stage: 0.00 ft
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	12.60
0	0	0	4.0000	12.70
0	0	0	8.0000	12.80
0	0	0	12.0000	12.90

Year	Month	Day	Hour	Stage [ft]
0	0	0	24.0000	13.10
0	0	0	62.0000	13.50
0	0	0	72.0000	13.00
0	0	0	96.0000	12.80

Comment:

Node: Proposed Road

Scenario: Zero
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 9.70 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
15.10	0.00	0
15.60	0.05	2004
16.10	0.18	7971
16.60	0.44	19166
17.10	0.70	30361
17.60	0.95	41513
18.10	1.21	52708
18.60	1.47	63859
19.10	1.72	75054

Comment:

Node: Wetland Preserve Tract

Scenario: Zero
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 13.02 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
12.00	0.00	0
12.50	0.52	22651
13.00	1.18	51488
13.50	1.99	86467
14.00	2.93	127631
14.50	3.98	173412
15.00	5.10	222287
15.50	6.30	274254
16.00	7.56	329270

Stage [ft]	Volume [ac-ft]	Volume [ft3]
16.50	8.89	387423
17.00	10.23	445532
17.50	11.56	503641
18.00	12.90	561793

Comment:

Weir Link: Back of Curb

Scenario: Zero
 From Node: Proposed Road
 To Node: LOT 3
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Irregular
 Invert: 15.73 ft
 Control Elevation: 15.73 ft
 Cross Section: Lot 4

Bottom Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Top Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Discharge Coefficients

Weir Default: 2.800
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Comment:

Drop Structure Link: CS1 - Existing Lake

Scenario: Zero
 From Node: Dry Retention Area
 1
 To Node: Existing Lake
 Link Count: 1
 Flow Direction: Both
 Solution: Combine
 Increments: 10
 Pipe Count: 1
 Damping: 0.0000 ft
 Length: 47.00 ft
 FHWA Code: 0
 Entr Loss Coef: 0.00
 Exit Loss Coef: 0.00
 Bend Loss Coef: 0.00
 Bend Location: 0.00 ft
 Energy Switch: Energy

Upstream Pipe

Invert: 9.00 ft
 Manning's N: 0.0120
 Geometry: Circular
 Max Depth: 3.00 ft

Downstream Pipe

Invert: 7.00 ft
 Manning's N: 0.0120
 Geometry: Circular
 Max Depth: 3.00 ft

Bottom Clip

Default: 0.00 ft
 Op Table:
 Ref Node:
 Manning's N: 0.0000

Default: 0.00 ft
 Op Table:
 Ref Node:
 Manning's N: 0.0000

Top Clip

Default: 0.00 ft
 Op Table:
 Ref Node:
 Manning's N: 0.0000

Default: 0.00 ft
 Op Table:
 Ref Node:
 Manning's N: 0.0000

Pipe Comment:

Weir Component

Weir: 1
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Horizontal
 Geometry Type: Rectangular
 Invert: 14.60 ft
 Control Elevation: 14.60 ft
 Max Depth: 3.00 ft
 Max Width: 9.00 ft
 Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 3.200

Weir Table:

Orifice Default: 0.600

Orifice Table:

Weir Comment:

Weir Component

Weir: 2
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Circular
 Invert: 13.40 ft
 Control Elevation: 13.40 ft
 Max Depth: 0.25 ft

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 3.200

Weir Table:

Orifice Default: 0.600

Orifice Table:

Weir Comment:

Weir Component

Weir: 3
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Rectangular
 Invert: 14.25 ft
 Control Elevation: 14.25 ft
 Max Depth: 0.50 ft
 Max Width: 3.00 ft
 Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 3.200

Weir Table:

Orifice Default: 0.600

Orifice Table:

Weir Comment:

Drop Structure Comment:

Drop Structure Link: CS2 - Existing Lake		
Scenario:	Zero	
From Node:	Dry Retention Area 2	
To Node:	Existing Lake	
Link Count:	1	
Flow Direction:	Both	
Solution:	Combine	
Increments:	10	
Pipe Count:	1	
Damping:	0.0000 ft	
Length:	80.00 ft	
FHWA Code:	0	
Entr Loss Coef:	0.00	
Exit Loss Coef:	0.00	
Bend Loss Coef:	0.00	
Bend Location:	0.00 ft	
Energy Switch:	Energy	

Pipe Comment:

Weir Component	
Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Horizontal
Geometry Type:	Rectangular
Invert:	14.60 ft
Control Elevation:	14.60 ft
Max Depth:	3.00 ft
Max Width:	9.00 ft
Fillet:	0.00 ft

Weir Comment:

Weir Component	
Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Circular
Invert:	13.50 ft
Control Elevation:	13.50 ft
Max Depth:	0.25 ft

Weir Comment:

Weir Component	
Weir: 3	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.10 ft	Op Table:
Control Elevation: 14.10 ft	Ref Node:
Max Depth: 0.50 ft	Discharge Coefficients
Max Width: 3.00 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment:

Pipe Link: D1 - D2		Upstream	Downstream
Scenario: Zero		Invert: 8.20 ft	Invert: 8.00 ft
From Node: LOT 2		Manning's N: 0.0110	Manning's N: 0.0110
To Node: Dry Retention Area		Geometry: Circular	Geometry: Circular
2		Max Depth: 3.00 ft	Max Depth: 3.00 ft
Link Count: 1		Bottom Clip	
Flow Direction: Positive		Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft		Op Table:	Op Table:
Length: 15.00 ft		Ref Node:	Ref Node:
FHWA Code: 0		Manning's N: 0.0000	Manning's N: 0.0000
Entr Loss Coef: 0.00		Top Clip	
Exit Loss Coef: 0.00		Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00		Op Table:	Op Table:
Bend Location: 0.00 ft		Ref Node:	Ref Node:
Energy Switch: Energy		Manning's N: 0.0000	Manning's N: 0.0000
Comment:			

Pipe Link: D11 - D10		Upstream	Downstream
Scenario: Zero		Invert: 9.70 ft	Invert: 9.50 ft
From Node: LOT 2		Manning's N: 0.0110	Manning's N: 0.0110
To Node: Dry Retention Area		Geometry: Circular	Geometry: Circular
1		Max Depth: 1.50 ft	Max Depth: 1.50 ft
Link Count: 1		Bottom Clip	
Flow Direction: Both		Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft		Op Table:	Op Table:

Length: 16.00 ft	Ref Node:	Ref Node:
FHWA Code: 0	Manning's N: 0.0000	Manning's N: 0.0000
Entr Loss Coef: 0.00	Top Clip	
Exit Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 ft	Ref Node:	Ref Node:
Energy Switch: Energy	Manning's N: 0.0000	Manning's N: 0.0000
Comment:		

Pipe Link: D6 - D7	Upstream	Downstream
Scenario: Zero	Invert: 9.70 ft	Invert: 9.50 ft
From Node: LOT 2	Manning's N: 0.0110	Manning's N: 0.0110
To Node: Dry Retention Area	Geometry: Circular	Geometry: Circular
1	Max Depth: 2.00 ft	Max Depth: 2.00 ft
Link Count: 1	Bottom Clip	
Flow Direction: Both	Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft	Op Table:	Op Table:
Length: 17.00 ft	Ref Node:	Ref Node:
FHWA Code: 0	Manning's N: 0.0000	Manning's N: 0.0000
Entr Loss Coef: 0.00	Top Clip	
Exit Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 ft	Ref Node:	Ref Node:
Energy Switch: Energy	Manning's N: 0.0000	Manning's N: 0.0000
Comment:		

Pipe Link: D8 - D9	Upstream	Downstream
Scenario: Zero	Invert: 9.70 ft	Invert: 9.50 ft
From Node: LOT 2	Manning's N: 0.0110	Manning's N: 0.0110
To Node: Dry Retention Area	Geometry: Circular	Geometry: Circular
1	Max Depth: 1.25 ft	Max Depth: 1.25 ft
Link Count: 1	Bottom Clip	
Flow Direction: Both	Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft	Op Table:	Op Table:
Length: 16.00 ft	Ref Node:	Ref Node:
FHWA Code: 0	Manning's N: 0.0000	Manning's N: 0.0000
Entr Loss Coef: 0.00	Top Clip	
Exit Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 ft	Ref Node:	Ref Node:
Energy Switch: Momentum	Manning's N: 0.0000	Manning's N: 0.0000
Comment:		

Pipe Link: Existing Office - D17		Upstream	Downstream
Scenario:	Zero	Invert: 11.12 ft	Invert: 11.09 ft
From Node:	Existing Office	Manning's N: 0.0110	Manning's N: 0.0110
To Node:	Proposed Road	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 2.00 ft	Max Depth: 2.00 ft
Flow Direction:	Both	Bottom Clip	
Damping:	0.0000 ft	Default: 0.00 ft	Default: 0.00 ft
Length:	105.00 ft	Op Table:	Op Table:
FHWA Code:	0	Ref Node:	Ref Node:
Entr Loss Coef:	0.00	Manning's N: 0.0000	Manning's N: 0.0000
Exit Loss Coef:	0.00	Top Clip	
Bend Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Location:	0.00 ft	Op Table:	Op Table:
Energy Switch:	Energy	Ref Node:	Ref Node:
		Manning's N: 0.0000	Manning's N: 0.0000
Comment:			

Drop Structure Link: Lake to MH		Upstream Pipe	Downstream Pipe
Scenario:	Zero	Invert: 10.50 ft	Invert: 9.68 ft
From Node:	Existing Lake	Manning's N: 0.0120	Manning's N: 0.0120
To Node:	Existing Manhole	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 2.00 ft	Max Depth: 2.00 ft
Flow Direction:	Both	Bottom Clip	
Solution:	Combine	Default: 0.00 ft	Default: 0.00 ft
Increments:	10	Op Table:	Op Table:
Pipe Count:	1	Ref Node:	Ref Node:
Damping:	0.0000 ft	Manning's N: 0.0000	Manning's N: 0.0000
Length:	55.00 ft	Top Clip	
FHWA Code:	0	Default: 0.00 ft	Default: 0.00 ft
Entr Loss Coef:	0.00	Op Table:	Op Table:
Exit Loss Coef:	0.00	Ref Node:	Ref Node:
Bend Loss Coef:	0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Location:	0.00 ft		
Energy Switch:	Energy		
Pipe Comment:			

Weir Component			
Weir:	1	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	Top Clip	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	14.43 ft	Op Table:	
Control Elevation:	14.43 ft	Ref Node:	
Max Depth:	3.00 ft	Discharge Coefficients	
Max Width:	4.00 ft	Weir Default:	3.200

Fillet: 0.00 ft

Weir Table:
Orifice Default: 0.600
Orifice Table:

Weir Comment:

Weir Component

Weir: 2
Weir Count: 1
Weir Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Sharp Crested Vertical
Geometry Type: Circular
Invert: 13.26 ft
Control Elevation: 13.26 ft
Max Depth: 0.33 ft

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:

Top Clip

Default: 0.00 ft
Op Table:
Ref Node:

Discharge Coefficients

Weir Default: 3.200
Weir Table:
Orifice Default: 0.600
Orifice Table:

Weir Comment:

Drop Structure Comment:

Drop Structure Link: MH 8 CS

Scenario: Zero
From Node: MH 8
To Node: Outfall
Link Count: 1
Flow Direction: None
Solution: Combine
Increments: 10
Pipe Count: 1
Damping: 0.0000 ft
Length: 22.00 ft
FHWA Code: 0
Entr Loss Coef: 0.00
Exit Loss Coef: 0.00
Bend Loss Coef: 0.00
Bend Location: 0.00 ft
Energy Switch: Energy

Upstream Pipe

Invert: 12.19 ft
Manning's N: 0.0110
Geometry: Circular
Max Depth: 2.00 ft

Downstream Pipe

Invert: 11.68 ft
Manning's N: 0.0110
Geometry: Circular
Max Depth: 2.00 ft

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:
Manning's N: 0.0000

Default: 0.00 ft
Op Table:
Ref Node:
Manning's N: 0.0000

Top Clip

Default: 0.00 ft
Op Table:
Ref Node:
Manning's N: 0.0000

Default: 0.00 ft
Op Table:
Ref Node:
Manning's N: 0.0000

Pipe Comment:

Weir Component

Weir: 1
Weir Count: 1
Weir Flow Direction: Both

Bottom Clip

Default: 0.00 ft
Op Table:

Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Rectangular
 Invert: 12.00 ft
 Control Elevation: 12.00 ft
 Max Depth: 1.00 ft
 Max Width: 1.25 ft
 Fillet: 0.00 ft

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 3.200

Weir Table:

Orifice Default: 0.600

Orifice Table:

Weir Comment:

Drop Structure Comment:

Drop Structure Link: MH to Wetland

Upstream Pipe

Downstream Pipe

Scenario: Zero
 From Node: Wetland Preserve Tract
 To Node: Existing Manhole
 Link Count: 1
 Flow Direction: Both
 Solution: Combine
 Increments: 10
 Pipe Count: 1
 Damping: 0.0000 ft
 Length: 65.00 ft
 FHWA Code: 0
 Entr Loss Coef: 0.00
 Exit Loss Coef: 0.00
 Bend Loss Coef: 0.00
 Bend Location: 0.00 ft
 Energy Switch: Energy

Invert: 8.85 ft

Manning's N: 0.0120

Geometry: Circular

Max Depth: 3.00 ft

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Manning's N: 0.0000

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Manning's N: 0.0000

Invert: 9.29 ft

Manning's N: 0.0120

Geometry: Circular

Max Depth: 3.00 ft

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Manning's N: 0.0000

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Manning's N: 0.0000

Pipe Comment:

Weir Component

Weir: 1

Weir Count: 1

Weir Flow Direction: Both

Damping: 0.0000 ft

Weir Type: Horizontal

Geometry Type: Rectangular

Invert: 13.16 ft

Control Elevation: 13.16 ft

Max Depth: 3.00 ft

Max Width: 4.00 ft

Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 3.200

Weir Table:

Orifice Default: 0.600

Orifice Table:

Weir Comment:

Drop Structure Comment:

Pipe Link: MH4 - MH8

	Upstream	Downstream
Scenario: Zero	Invert: 10.35 ft	Invert: 10.11 ft
From Node: MH 4	Manning's N: 0.0110	Manning's N: 0.0110
To Node: MH 8	Geometry: Circular	Geometry: Circular
Link Count: 1	Max Depth: 1.50 ft	Max Depth: 1.50 ft
Flow Direction: Both	Bottom Clip	
Damping: 0.0000 ft	Default: 0.00 ft	Default: 0.00 ft
Length: 505.00 ft	Op Table:	Op Table:
FHWA Code: 0	Ref Node:	Ref Node:
Entr Loss Coef: 0.00	Manning's N: 0.0000	Manning's N: 0.0000
Exit Loss Coef: 0.00	Top Clip	
Bend Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Location: 0.00 ft	Op Table:	Op Table:
Energy Switch: Energy	Ref Node:	Ref Node:
	Manning's N: 0.0000	Manning's N: 0.0000

Comment:

Pipe Link: Road to D16

	Upstream	Downstream
Scenario: Zero	Invert: 7.70 ft	Invert: 9.50 ft
From Node: Proposed Road	Manning's N: 0.0110	Manning's N: 0.0110
To Node: Dry Retention Area	Geometry: Circular	Geometry: Circular
1	Max Depth: 2.50 ft	Max Depth: 2.50 ft
Link Count: 1	Bottom Clip	
Flow Direction: Positive	Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft	Op Table:	Op Table:
Length: 21.00 ft	Ref Node:	Ref Node:
FHWA Code: 0	Manning's N: 0.0000	Manning's N: 0.0000
Entr Loss Coef: 0.00	Top Clip	
Exit Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 ft	Ref Node:	Ref Node:
Energy Switch: Energy	Manning's N: 0.0000	Manning's N: 0.0000

Comment:

Weir Link: Top of Berm

Scenario: Zero
 From Node: LOT 4
 To Node: Dry Retention Area 1
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Irregular
 Invert: 15.60 ft
 Control Elevation: 15.60 ft
 Cross Section: Lot 4

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 2.800
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Comment:

Drop Structure Link: Wetland Outfall

Scenario: Zero
 From Node: Wetland Preserve
 Tract
 To Node: MH 4
 Link Count: 1
 Flow Direction: Both
 Solution: Combine
 Increments: 10
 Pipe Count: 1
 Damping: 0.0000 ft
 Length: 82.00 ft
 FHWA Code: 0
 Entr Loss Coef: 0.00
 Exit Loss Coef: 0.00
 Bend Loss Coef: 0.00
 Bend Location: 0.00 ft
 Energy Switch: Energy

Upstream Pipe

Invert: 8.27 ft
 Manning's N: 0.0110
 Geometry: Circular
 Max Depth: 2.50 ft
 Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Manning's N: 0.0000
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Manning's N: 0.0000

Downstream Pipe

Invert: 10.30 ft
 Manning's N: 0.0011
 Geometry: Circular
 Max Depth: 2.50 ft
 Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Manning's N: 0.0000
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Manning's N: 0.0000

Pipe Comment:

Weir Component

Weir: 1
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Horizontal
 Geometry Type: Rectangular
 Invert: 13.02 ft
 Control Elevation: 13.02 ft
 Max Depth: 1.49 ft
 Max Width: 2.75 ft

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 3.200

Fillet: 0.00 ft

Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Weir Component

Weir: 2
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Horizontal
 Geometry Type: Rectangular
 Invert: 14.82 ft
 Control Elevation: 14.82 ft
 Max Depth: 1.49 ft
 Max Width: 2.75 ft
 Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Top Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Discharge Coefficients

Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Weir Component

Weir: 3
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Horizontal
 Geometry Type: Rectangular
 Invert: 14.42 ft
 Control Elevation: 14.42 ft
 Max Depth: 1.49 ft
 Max Width: 2.75 ft
 Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Top Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Discharge Coefficients

Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Drop Structure Comment:

Weir Cross Section: Lot 3

Scenario: Zero
 Lid: No

Bottom Point Table

Order	Station [ft]	Elevation [ft]
0	0.00	15.98

Order	Station [ft]	Elevation [ft]
1	46.00	16.15
2	97.50	16.33
3	144.50	16.03
4	191.50	15.73
5	249.00	15.90
6	296.00	16.08
7	348.50	15.90
8	400.00	15.73
9	448.00	15.90
10	485.00	16.08
11	514.00	15.90
12	557.00	15.81
13	601.00	15.73
14	633.00	15.90
15	669.00	16.08

Comment:

Weir Cross Section: Lot 4

Scenario: Zero

Lid: No

Bottom Point Table

Order	Station [ft]	Elevation [ft]
0	0.00	16.00
1	44.00	16.00
2	79.00	15.60
3	354.00	15.60

Comment:

Simulation: 12 Days

Scenario: Recovery
 Run Date/Time: 12/2/2019 11:56:53 AM
 Program Version: ICPR4 4.05.02

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	288.0000
	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]	
Min Calculation Time:	60.0000	0.5000	900.0000	
Max Calculation Time:		30.0000		

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
 Reference ET Folder:
 Unit Hydrograph
 Folder:

Lookup Tables

Boundary Stage Set:
 Extern Hydrograph Set:
 Curve Number Set: Site

 Green-Ampt Set:
 Vertical Layers Set:
 Impervious Set: Impervious
 Roughness Set:
 Crop Coef Set:
 Fillable Porosity Set:

Conductivity Set:

Leakage Set:

Tolerances & Options

Time Marching: SAOR
 Max Iterations: 6
 Over-Relax Weight: 0.5 dec
 Fact:
 dZ Tolerance: 0.0050 ft
 Max dZ: 1.0000 ft
 Link Optimizer Tol: 0.0000 ft

IA Recovery Time: 24.0000 hr
 ET for Manual Basins: False

Smp/Man Basin Rain: No Rainfall
 Opt:
 OF Region Rain Opt: No Rainfall

Edge Length Option: Automatic

Dflt Damping (2D): 0.0000 ft
 Min Node Srf Area: 100 ft2
 (2D):
 Energy Switch (2D): Energy

Dflt Damping (1D): 0.0000 ft
 Min Node Srf Area: 100 ft2
 (1D):
 Energy Switch (1D): Energy

Comment:

Node: Dry Retention Area 1

Scenario: Recovery
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 15.23 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
13.00	0.00	0
13.50	0.31	13373
14.00	0.65	28096
14.50	1.01	44170
15.00	1.41	61550
15.50	1.84	80325
16.00	2.31	100449
16.50	2.78	121227
17.00	3.26	142049
17.50	3.74	162827
18.00	4.22	183605

Comment:

Node: Dry Retention Area 2

Scenario: Recovery
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 15.23 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
13.00	0.00	0
13.50	0.06	2788
14.00	0.14	5924
14.50	0.22	9365
15.00	0.30	13112
15.50	0.40	17206
16.00	0.50	21649
16.50	0.60	26223
17.00	0.71	30840

Comment:

Node: Existing Lake

Scenario: Recovery
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 15.18 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
12.00	0.00	0
12.50	0.45	19776
13.00	0.93	40380
13.50	1.42	61812
14.00	1.93	84027
14.50	2.49	108595
15.00	3.14	136604
15.50	3.85	167706
16.00	4.60	200289
16.50	5.35	232915
17.00	6.10	265498
17.50	6.84	298125
18.00	7.59	330708

Comment:

Node: Existing Manhole

Scenario: Recovery
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 9.29 ft
Warning Stage: 0.00 ft

Comment:

Node: GW

Scenario: Recovery
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 12.00 ft
Warning Stage: 0.00 ft
Boundary Stage:

Comment:

Node: GW1

Scenario: Recovery
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 12.00 ft
Warning Stage: 0.00 ft
Boundary Stage:

Comment:

Node: MH 4

Scenario: Recovery
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 10.35 ft
Warning Stage: 0.00 ft

Comment:

Node: MH 8

Scenario: Recovery
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 10.11 ft
 Warning Stage: 0.00 ft

Comment:

Node: Outfall

Scenario: Recovery
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 0.00 ft
 Warning Stage: 0.00 ft
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	12.00
0	0	0	288.0000	12.00

Comment:

Node: Wetland Preserve Tract

Scenario: Recovery
 Type: Stage/Volume
 Base Flow: 0.00 cfs
 Initial Stage: 15.06 ft
 Warning Stage: 0.00 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
12.00	0.00	0
12.50	0.52	22651
13.00	1.18	51488
13.50	1.99	86467
14.00	2.93	127631
14.50	3.98	173412
15.00	5.10	222287
15.50	6.30	274254
16.00	7.56	329270
16.50	8.89	387423
17.00	10.23	445532
17.50	11.56	503641
18.00	12.90	561793

Comment:

Drop Structure Link: CS2 - Existing Lake		Upstream Pipe	Downstream Pipe
Scenario:	Recovery	Invert: 10.00 ft	Invert: 8.00 ft
From Node:	Dry Retention Area 2	Manning's N: 0.0110	Manning's N: 0.0110
		Geometry: Circular	Geometry: Circular
To Node:	Existing Lake	Max Depth: 2.00 ft	Max Depth: 2.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Solution:	Combine	Op Table:	Op Table:
Increments:	10	Ref Node:	Ref Node:
Pipe Count:	1	Manning's N: 0.0000	Manning's N: 0.0000
Damping:	0.0000 ft	Top Clip	
Length:	80.00 ft	Default: 0.00 ft	Default: 0.00 ft
FHWA Code:	0	Op Table:	Op Table:
Entr Loss Coef:	0.00	Ref Node:	Ref Node:
Exit Loss Coef:	0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Loss Coef:	0.00		
Bend Location:	0.00 ft		
Energy Switch:	Energy		

Pipe Comment:

Weir Component			
Weir:	1	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	Top Clip	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	14.60 ft	Op Table:	
Control Elevation:	14.60 ft	Ref Node:	
Max Depth:	3.00 ft	Discharge Coefficients	
Max Width:	9.00 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component			
Weir:	2	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Sharp Crested Vertical	Top Clip	
Geometry Type:	Circular	Default:	0.00 ft
Invert:	13.50 ft	Op Table:	

Control Elevation: 13.50 ft
Max Depth: 0.25 ft

Ref Node:

Discharge Coefficients

Weir Default: 3.200

Weir Table:

Orifice Default: 0.600

Orifice Table:

Weir Comment:

Weir Component

Weir: 3
Weir Count: 1
Weir Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Sharp Crested Vertical
Geometry Type: Rectangular
Invert: 14.10 ft
Control Elevation: 14.10 ft
Max Depth: 0.50 ft
Max Width: 3.00 ft
Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 3.200

Weir Table:

Orifice Default: 0.600

Orifice Table:

Weir Comment:

Drop Structure Comment:

Drop Structure Link: Dry Pretreatment

Area 1 to Lake

Scenario: Recovery
From Node: Dry Retention Area
1
To Node: Existing Lake
Link Count: 1
Flow Direction: Both
Solution: Combine
Increments: 10
Pipe Count: 1
Damping: 0.0000 ft
Length: 47.00 ft
FHWA Code: 0
Entr Loss Coef: 0.00
Exit Loss Coef: 0.00
Bend Loss Coef: 0.00
Bend Location: 0.00 ft
Energy Switch: Energy

Upstream Pipe

Invert: 9.00 ft

Manning's N: 0.0120

Geometry: Circular

Max Depth: 3.00 ft

Downstream Pipe

Invert: 7.00 ft

Manning's N: 0.0120

Geometry: Circular

Max Depth: 3.00 ft

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Manning's N: 0.0000

Default: 0.00 ft

Op Table:

Ref Node:

Manning's N: 0.0000

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Manning's N: 0.0000

Default: 0.00 ft

Op Table:

Ref Node:

Manning's N: 0.0000

Pipe Comment:

Weir Component	
Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.60 ft	Op Table:
Control Elevation: 14.60 ft	Ref Node:
Max Depth: 3.00 ft	Discharge Coefficients
Max Width: 9.00 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Weir Component	
Weir: 2	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Circular	Default: 0.00 ft
Invert: 13.40 ft	Op Table:
Control Elevation: 13.40 ft	Ref Node:
Max Depth: 0.25 ft	Discharge Coefficients
	Weir Default: 3.200
	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Weir Component	
Weir: 3	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.25 ft	Op Table:
Control Elevation: 14.25 ft	Ref Node:
Max Depth: 0.50 ft	Discharge Coefficients
Max Width: 3.00 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment:

Percolation Link: Dry Retention Area 1

Scenario:	Recovery	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Dry Retention Area 1	Vertical Flow Termination:	Horizontal Flow Algorithm
To Node:	GW	Perimeter 1:	820.00 ft
Link Count:	1	Perimeter 2:	940.00 ft
Flow Direction:	Both	Perimeter 3:	1032.00 ft
Aquifer Base Elevation:	0.00 ft	Distance P1 to P2:	50.00 ft
Water Table Elevation:	12.00 ft	Distance P2 to P3:	50.00 ft
Annual Recharge Rate:	0 ipy	# of Cells P1 to P2:	4
Horizontal Conductivity:	19.000 fpd	# of Cells P2 to P3:	4
Vertical Conductivity:	12.670 fpd		
Fillable Porosity:	0.250		
Layer Thickness:	0.00 ft		

Comment:

Percolation Link: Dry Retention Area 2

Scenario:	Recovery	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Dry Retention Area 2	Vertical Flow Termination:	Horizontal Flow Algorithm
To Node:	GW1	Perimeter 1:	264.49 ft
Link Count:	1	Perimeter 2:	350.66 ft
Flow Direction:	Both	Perimeter 3:	648.67 ft
Aquifer Base Elevation:	0.00 ft	Distance P1 to P2:	25.00 ft
Water Table Elevation:	12.00 ft	Distance P2 to P3:	25.00 ft
Annual Recharge Rate:	0 ipy	# of Cells P1 to P2:	4
Horizontal Conductivity:	19.000 fpd	# of Cells P2 to P3:	4
Vertical Conductivity:	12.670 fpd		
Fillable Porosity:	0.250		
Layer Thickness:	0.00 ft		

Comment:

Drop Structure Link: Lake to MH

	Upstream Pipe	Downstream Pipe
Scenario:	Recovery	
From Node:	Existing Lake	
To Node:	Existing Manhole	
Link Count:	1	
Flow Direction:	Both	
Solution:	Combine	
Increments:	10	
Pipe Count:	1	
Damping:	0.0000 ft	
Length:	55.00 ft	
FHWA Code:	0	
Entr Loss Coef:	0.00	
Exit Loss Coef:	0.00	
Bend Loss Coef:	0.00	
	Invert: 10.50 ft	Invert: 9.68 ft
	Manning's N: 0.0120	Manning's N: 0.0120
	Geometry: Circular	Geometry: Circular
	Max Depth: 2.00 ft	Max Depth: 2.00 ft
	Bottom Clip	
	Default: 0.00 ft	Default: 0.00 ft
	Op Table:	Op Table:
	Ref Node:	Ref Node:
	Manning's N: 0.0000	Manning's N: 0.0000
	Top Clip	
	Default: 0.00 ft	Default: 0.00 ft
	Op Table:	Op Table:
	Ref Node:	Ref Node:
	Manning's N: 0.0000	Manning's N: 0.0000

Bend Location: 0.00 ft

Energy Switch: Energy

Pipe Comment:

Weir Component	
Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.43 ft	Op Table:
Control Elevation: 14.43 ft	Ref Node:
Max Depth: 3.00 ft	Discharge Coefficients
Max Width: 4.00 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Weir Component	
Weir: 2	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Circular	Default: 0.00 ft
Invert: 13.26 ft	Op Table:
Control Elevation: 13.26 ft	Ref Node:
Max Depth: 0.33 ft	Discharge Coefficients
	Weir Default: 3.200
	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment:

Drop Structure Link: MH 8 CS		Upstream Pipe	Downstream Pipe
Scenario: Recovery		Invert: 12.19 ft	Invert: 11.68 ft
From Node: MH 8		Manning's N: 0.0110	Manning's N: 0.0110
To Node: Outfall		Geometry: Circular	Geometry: Circular
Link Count: 1		Max Depth: 2.00 ft	Max Depth: 2.00 ft
Flow Direction: Both		Bottom Clip	
Solution: Combine		Default: 0.00 ft	Default: 0.00 ft
Increments: 10		Op Table:	Op Table:
Pipe Count: 1		Ref Node:	Ref Node:

Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	22.00 ft				
FHWA Code:	0				
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 ft	Manning's N:	0.0000	Manning's N:	0.0000
Energy Switch:	Energy				

Pipe Comment:

Weir Component

Weir:	1	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Sharp Crested Vertical	Top Clip	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	12.00 ft	Op Table:	
Control Elevation:	12.00 ft	Ref Node:	
Max Depth:	1.00 ft	Discharge Coefficients	
Max Width:	1.25 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Drop Structure Link: MH to Wetland

Scenario:	Recovery	Upstream Pipe	Downstream Pipe
From Node:	Wetland Preserve Tract	Invert:	8.85 ft
To Node:	Existing Manhole	Manning's N:	0.0120
Link Count:	1	Geometry:	Circular
Flow Direction:	Both	Max Depth:	3.00 ft
Solution:	Combine	Bottom Clip	
Increments:	10	Default:	0.00 ft
Pipe Count:	1	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Length:	65.00 ft	Manning's N:	0.0000
FHWA Code:	0	Top Clip	
Entr Loss Coef:	0.00	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:	
Bend Loss Coef:	0.00	Ref Node:	
Bend Location:	0.00 ft	Manning's N:	0.0000
Energy Switch:	Energy		

Pipe Comment:

Weir Component	
Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 13.16 ft	Op Table:
Control Elevation: 13.16 ft	Ref Node:
Max Depth: 3.00 ft	Discharge Coefficients
Max Width: 4.00 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment:

Pipe Link: MH4 - MH8		Upstream	Downstream
Scenario: Recovery		Invert: 10.35 ft	Invert: 10.11 ft
From Node: MH 4		Manning's N: 0.0110	Manning's N: 0.0110
To Node: MH 8		Geometry: Circular	Geometry: Circular
Link Count: 1		Max Depth: 1.50 ft	Max Depth: 1.50 ft
Flow Direction: Both		Bottom Clip	
Damping: 0.0000 ft		Default: 0.00 ft	Default: 0.00 ft
Length: 505.00 ft		Op Table:	Op Table:
FHWA Code: 0		Ref Node:	Ref Node:
Entr Loss Coef: 0.00		Manning's N: 0.0000	Manning's N: 0.0000
Exit Loss Coef: 0.00		Top Clip	
Bend Loss Coef: 0.00		Default: 0.00 ft	Default: 0.00 ft
Bend Location: 0.00 ft		Op Table:	Op Table:
Energy Switch: Energy		Ref Node:	Ref Node:
		Manning's N: 0.0000	Manning's N: 0.0000

Comment:

Drop Structure Link: Wetland Outfall		Upstream Pipe	Downstream Pipe
Scenario: Recovery		Invert: 8.27 ft	Invert: 10.30 ft
From Node: Wetland Preserve		Manning's N: 0.0110	Manning's N: 0.0011
Tract		Geometry: Circular	Geometry: Circular
To Node: MH 4		Max Depth: 2.50 ft	Max Depth: 2.50 ft
Link Count: 1		Bottom Clip	
Flow Direction: Both		Default: 0.00 ft	Default: 0.00 ft
Solution: Combine		Op Table:	Op Table:
Increments: 10		Ref Node:	Ref Node:

Pipe Count: 1	Manning's N: 0.0000	Manning's N: 0.0000
Damping: 0.0000 ft	Top Clip	
Length: 82.00 ft	Default: 0.00 ft	Default: 0.00 ft
FHWA Code: 0	Op Table:	Op Table:
Entr Loss Coef: 0.00	Ref Node:	Ref Node:
Exit Loss Coef: 0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Loss Coef: 0.00		
Bend Location: 0.00 ft		
Energy Switch: Energy		

Pipe Comment:

Weir Component

Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 13.02 ft	Op Table:
Control Elevation: 13.02 ft	Ref Node:
Max Depth: 1.49 ft	Discharge Coefficients
Max Width: 2.75 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Weir Component

Weir: 2	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 14.82 ft	Op Table:
Control Elevation: 14.82 ft	Ref Node:
Max Depth: 1.49 ft	Discharge Coefficients
Max Width: 2.75 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Weir Component

Weir: 3	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft

Invert: 14.42 ft
Control Elevation: 14.42 ft
Max Depth: 1.49 ft
Max Width: 2.75 ft
Fillet: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 3.200

Weir Table:

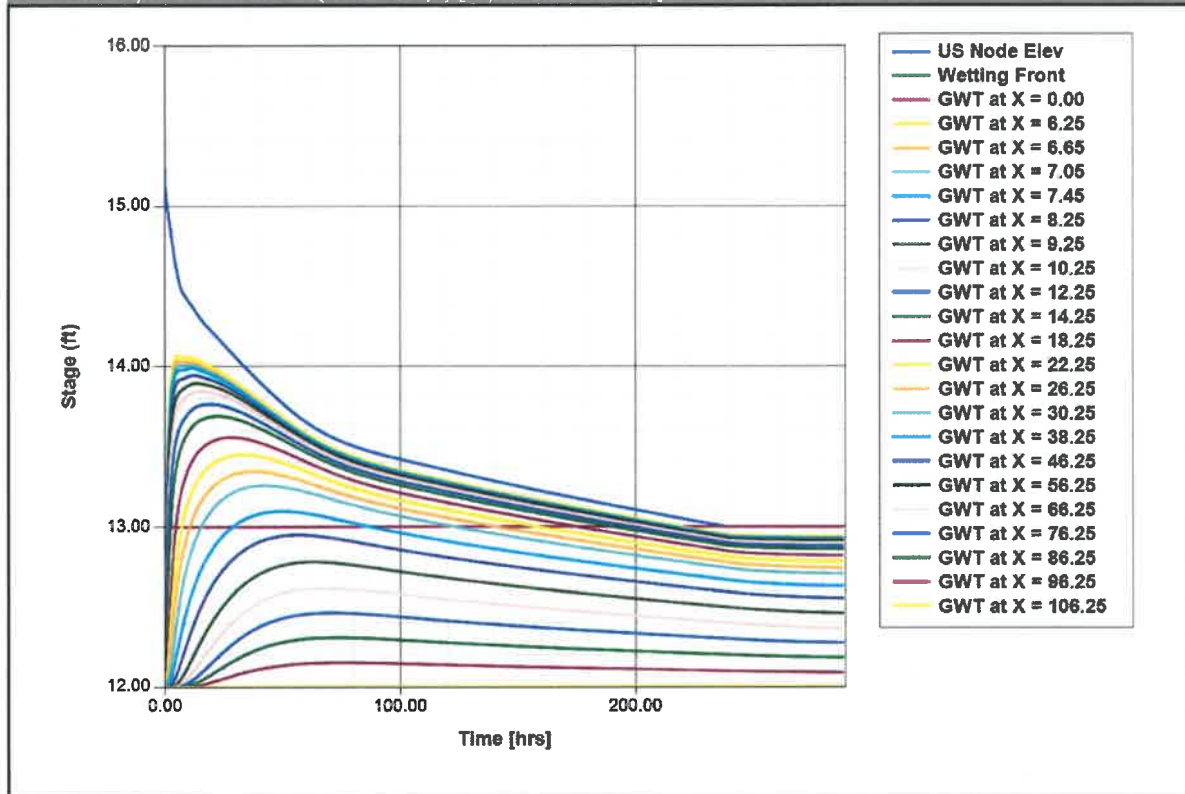
Orifice Default: 0.600

Orifice Table:

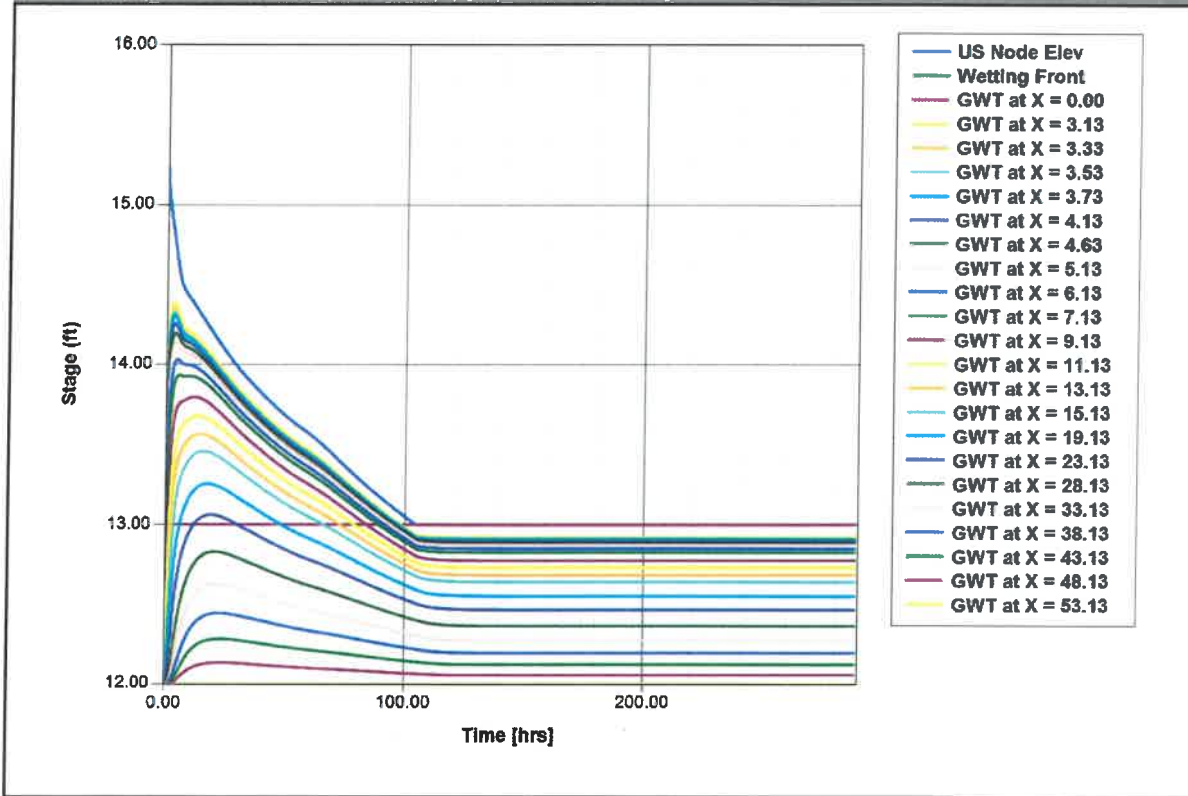
Weir Comment:

Drop Structure Comment:

Perc Link: Dry Retention Area 1 (Sim: 12 Days) [Dry Retention Area 1]



Perc Link: Dry Retention Area 2 (Sim: 12 Days) [Dry Retention Area 2]



Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	0.0001	15.23
Recovery	12 Days	Dry Retention Area 1	0.2507	15.13
Recovery	12 Days	Dry Retention Area 1	0.5001	15.08
Recovery	12 Days	Dry Retention Area 1	0.7500	15.04
Recovery	12 Days	Dry Retention Area 1	1.0002	15.01
Recovery	12 Days	Dry Retention Area 1	1.2505	14.98
Recovery	12 Days	Dry Retention Area 1	1.5003	14.95
Recovery	12 Days	Dry Retention Area 1	1.7501	14.93
Recovery	12 Days	Dry Retention Area 1	2.0007	14.90
Recovery	12 Days	Dry Retention Area 1	2.2502	14.87
Recovery	12 Days	Dry Retention Area 1	2.5003	14.85
Recovery	12 Days	Dry Retention Area 1	2.7503	14.82
Recovery	12 Days	Dry Retention Area 1	3.0001	14.79
Recovery	12 Days	Dry Retention Area 1	3.2507	14.77
Recovery	12 Days	Dry Retention Area 1	3.5006	14.74
Recovery	12 Days	Dry Retention Area 1	3.7507	14.72
Recovery	12 Days	Dry Retention Area 1	4.0002	14.69
Recovery	12 Days	Dry Retention Area 1	4.2508	14.67
Recovery	12 Days	Dry Retention Area 1	4.5003	14.65
Recovery	12 Days	Dry Retention Area 1	4.7503	14.62
Recovery	12 Days	Dry Retention Area 1	5.0000	14.60
Recovery	12 Days	Dry Retention Area 1	5.2500	14.59
Recovery	12 Days	Dry Retention Area 1	5.5002	14.57
Recovery	12 Days	Dry Retention Area 1	5.7500	14.55
Recovery	12 Days	Dry Retention Area 1	6.0003	14.53
Recovery	12 Days	Dry Retention Area 1	6.2501	14.52
Recovery	12 Days	Dry Retention Area 1	6.5002	14.50
Recovery	12 Days	Dry Retention Area 1	6.7504	14.49
Recovery	12 Days	Dry Retention Area 1	7.0002	14.48
Recovery	12 Days	Dry Retention Area 1	7.2501	14.47
Recovery	12 Days	Dry Retention Area 1	7.5003	14.47
Recovery	12 Days	Dry Retention Area 1	7.7501	14.46
Recovery	12 Days	Dry Retention Area 1	8.0003	14.45
Recovery	12 Days	Dry Retention Area 1	8.2502	14.45
Recovery	12 Days	Dry Retention Area 1	8.5004	14.44
Recovery	12 Days	Dry Retention Area 1	8.7504	14.44
Recovery	12 Days	Dry Retention Area 1	9.0001	14.43
Recovery	12 Days	Dry Retention Area 1	9.2504	14.43
Recovery	12 Days	Dry Retention Area 1	9.5001	14.42
Recovery	12 Days	Dry Retention Area 1	9.7501	14.42
Recovery	12 Days	Dry Retention Area 1	10.0001	14.41
Recovery	12 Days	Dry Retention Area 1	10.2504	14.41
Recovery	12 Days	Dry Retention Area 1	10.5003	14.40
Recovery	12 Days	Dry Retention Area 1	10.7504	14.40
Recovery	12 Days	Dry Retention Area 1	11.0005	14.39
Recovery	12 Days	Dry Retention Area 1	11.2504	14.38
Recovery	12 Days	Dry Retention Area 1	11.5004	14.38
Recovery	12 Days	Dry Retention Area 1	11.7503	14.37

← Peak Stage during design storm event.

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	12.0002	14.37
Recovery	12 Days	Dry Retention Area 1	12.2504	14.36
Recovery	12 Days	Dry Retention Area 1	12.5000	14.36
Recovery	12 Days	Dry Retention Area 1	12.7502	14.35
Recovery	12 Days	Dry Retention Area 1	13.0004	14.35
Recovery	12 Days	Dry Retention Area 1	13.2509	14.34
Recovery	12 Days	Dry Retention Area 1	13.5007	14.34
Recovery	12 Days	Dry Retention Area 1	13.7502	14.33
Recovery	12 Days	Dry Retention Area 1	14.0006	14.32
Recovery	12 Days	Dry Retention Area 1	14.2503	14.32
Recovery	12 Days	Dry Retention Area 1	14.5082	14.31
Recovery	12 Days	Dry Retention Area 1	14.7581	14.31
Recovery	12 Days	Dry Retention Area 1	15.0031	14.30
Recovery	12 Days	Dry Retention Area 1	15.2501	14.30
Recovery	12 Days	Dry Retention Area 1	15.5039	14.29
Recovery	12 Days	Dry Retention Area 1	15.7539	14.29
Recovery	12 Days	Dry Retention Area 1	16.0072	14.28
Recovery	12 Days	Dry Retention Area 1	16.2539	14.28
Recovery	12 Days	Dry Retention Area 1	16.5022	14.27
Recovery	12 Days	Dry Retention Area 1	16.7525	14.27
Recovery	12 Days	Dry Retention Area 1	17.0017	14.27
Recovery	12 Days	Dry Retention Area 1	17.2544	14.26
Recovery	12 Days	Dry Retention Area 1	17.5004	14.26
Recovery	12 Days	Dry Retention Area 1	17.7503	14.25
Recovery	12 Days	Dry Retention Area 1	18.0015	14.25
Recovery	12 Days	Dry Retention Area 1	18.2516	14.25
Recovery	12 Days	Dry Retention Area 1	18.5022	14.24
Recovery	12 Days	Dry Retention Area 1	18.7504	14.24
Recovery	12 Days	Dry Retention Area 1	19.0017	14.23
Recovery	12 Days	Dry Retention Area 1	19.2514	14.23
Recovery	12 Days	Dry Retention Area 1	19.5026	14.23
Recovery	12 Days	Dry Retention Area 1	19.7514	14.22
Recovery	12 Days	Dry Retention Area 1	20.0009	14.22
Recovery	12 Days	Dry Retention Area 1	20.2523	14.22
Recovery	12 Days	Dry Retention Area 1	20.5016	14.21
Recovery	12 Days	Dry Retention Area 1	20.7504	14.21
Recovery	12 Days	Dry Retention Area 1	21.0024	14.20
Recovery	12 Days	Dry Retention Area 1	21.2517	14.20
Recovery	12 Days	Dry Retention Area 1	21.5034	14.20
Recovery	12 Days	Dry Retention Area 1	21.7519	14.19
Recovery	12 Days	Dry Retention Area 1	22.0012	14.19
Recovery	12 Days	Dry Retention Area 1	22.2512	14.18
Recovery	12 Days	Dry Retention Area 1	22.5025	14.18
Recovery	12 Days	Dry Retention Area 1	22.7518	14.18
Recovery	12 Days	Dry Retention Area 1	23.0019	14.17
Recovery	12 Days	Dry Retention Area 1	23.2506	14.17
Recovery	12 Days	Dry Retention Area 1	23.5018	14.16
Recovery	12 Days	Dry Retention Area 1	23.7508	14.16

← 50% recovery
approximately 0.9
days after end of
design storm event.

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	24.0010	14.16
Recovery	12 Days	Dry Retention Area 1	24.2523	14.15
Recovery	12 Days	Dry Retention Area 1	24.5033	14.15
Recovery	12 Days	Dry Retention Area 1	24.7516	14.14
Recovery	12 Days	Dry Retention Area 1	25.0005	14.14
Recovery	12 Days	Dry Retention Area 1	25.2500	14.14
Recovery	12 Days	Dry Retention Area 1	25.5005	14.13
Recovery	12 Days	Dry Retention Area 1	25.7502	14.13
Recovery	12 Days	Dry Retention Area 1	26.0007	14.12
Recovery	12 Days	Dry Retention Area 1	26.2507	14.12
Recovery	12 Days	Dry Retention Area 1	26.5005	14.12
Recovery	12 Days	Dry Retention Area 1	26.7512	14.11
Recovery	12 Days	Dry Retention Area 1	27.0023	14.11
Recovery	12 Days	Dry Retention Area 1	27.2503	14.10
Recovery	12 Days	Dry Retention Area 1	27.5001	14.10
Recovery	12 Days	Dry Retention Area 1	27.7507	14.10
Recovery	12 Days	Dry Retention Area 1	28.0022	14.09
Recovery	12 Days	Dry Retention Area 1	28.2502	14.09
Recovery	12 Days	Dry Retention Area 1	28.5028	14.09
Recovery	12 Days	Dry Retention Area 1	28.7517	14.08
Recovery	12 Days	Dry Retention Area 1	29.0003	14.08
Recovery	12 Days	Dry Retention Area 1	29.2505	14.07
Recovery	12 Days	Dry Retention Area 1	29.5006	14.07
Recovery	12 Days	Dry Retention Area 1	29.7503	14.07
Recovery	12 Days	Dry Retention Area 1	30.0004	14.06
Recovery	12 Days	Dry Retention Area 1	30.2519	14.06
Recovery	12 Days	Dry Retention Area 1	30.5018	14.05
Recovery	12 Days	Dry Retention Area 1	30.7504	14.05
Recovery	12 Days	Dry Retention Area 1	31.0013	14.05
Recovery	12 Days	Dry Retention Area 1	31.2502	14.04
Recovery	12 Days	Dry Retention Area 1	31.5002	14.04
Recovery	12 Days	Dry Retention Area 1	31.7502	14.03
Recovery	12 Days	Dry Retention Area 1	32.0006	14.03
Recovery	12 Days	Dry Retention Area 1	32.2502	14.03
Recovery	12 Days	Dry Retention Area 1	32.5008	14.02
Recovery	12 Days	Dry Retention Area 1	32.7511	14.02
Recovery	12 Days	Dry Retention Area 1	33.0004	14.02
Recovery	12 Days	Dry Retention Area 1	33.2502	14.01
Recovery	12 Days	Dry Retention Area 1	33.5001	14.01
Recovery	12 Days	Dry Retention Area 1	33.7503	14.00
Recovery	12 Days	Dry Retention Area 1	34.0004	14.00
Recovery	12 Days	Dry Retention Area 1	34.2502	14.00
Recovery	12 Days	Dry Retention Area 1	34.5020	13.99
Recovery	12 Days	Dry Retention Area 1	34.7505	13.99
Recovery	12 Days	Dry Retention Area 1	35.0004	13.99
Recovery	12 Days	Dry Retention Area 1	35.2514	13.98
Recovery	12 Days	Dry Retention Area 1	35.5010	13.98
Recovery	12 Days	Dry Retention Area 1	35.7502	13.97

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	36.0005	13.97
Recovery	12 Days	Dry Retention Area 1	36.2501	13.97
Recovery	12 Days	Dry Retention Area 1	36.5002	13.96
Recovery	12 Days	Dry Retention Area 1	36.7503	13.96
Recovery	12 Days	Dry Retention Area 1	37.0011	13.96
Recovery	12 Days	Dry Retention Area 1	37.2505	13.95
Recovery	12 Days	Dry Retention Area 1	37.5009	13.95
Recovery	12 Days	Dry Retention Area 1	37.7512	13.94
Recovery	12 Days	Dry Retention Area 1	38.0005	13.94
Recovery	12 Days	Dry Retention Area 1	38.2504	13.94
Recovery	12 Days	Dry Retention Area 1	38.5003	13.93
Recovery	12 Days	Dry Retention Area 1	38.7508	13.93
Recovery	12 Days	Dry Retention Area 1	39.0003	13.93
Recovery	12 Days	Dry Retention Area 1	39.2501	13.92
Recovery	12 Days	Dry Retention Area 1	39.5006	13.92
Recovery	12 Days	Dry Retention Area 1	39.7505	13.92
Recovery	12 Days	Dry Retention Area 1	40.0002	13.91
Recovery	12 Days	Dry Retention Area 1	40.2506	13.91
Recovery	12 Days	Dry Retention Area 1	40.5000	13.90
Recovery	12 Days	Dry Retention Area 1	40.7501	13.90
Recovery	12 Days	Dry Retention Area 1	41.0005	13.90
Recovery	12 Days	Dry Retention Area 1	41.2502	13.89
Recovery	12 Days	Dry Retention Area 1	41.5006	13.89
Recovery	12 Days	Dry Retention Area 1	41.7502	13.89
Recovery	12 Days	Dry Retention Area 1	42.0001	13.88
Recovery	12 Days	Dry Retention Area 1	42.2505	13.88
Recovery	12 Days	Dry Retention Area 1	42.5006	13.88
Recovery	12 Days	Dry Retention Area 1	42.7504	13.87
Recovery	12 Days	Dry Retention Area 1	43.0004	13.87
Recovery	12 Days	Dry Retention Area 1	43.2500	13.87
Recovery	12 Days	Dry Retention Area 1	43.5007	13.86
Recovery	12 Days	Dry Retention Area 1	43.7505	13.86
Recovery	12 Days	Dry Retention Area 1	44.0000	13.85
Recovery	12 Days	Dry Retention Area 1	44.2502	13.85
Recovery	12 Days	Dry Retention Area 1	44.5006	13.85
Recovery	12 Days	Dry Retention Area 1	44.7501	13.84
Recovery	12 Days	Dry Retention Area 1	45.0004	13.84
Recovery	12 Days	Dry Retention Area 1	45.2505	13.84
Recovery	12 Days	Dry Retention Area 1	45.5002	13.83
Recovery	12 Days	Dry Retention Area 1	45.7508	13.83
Recovery	12 Days	Dry Retention Area 1	46.0002	13.83
Recovery	12 Days	Dry Retention Area 1	46.2506	13.82
Recovery	12 Days	Dry Retention Area 1	46.5005	13.82
Recovery	12 Days	Dry Retention Area 1	46.7502	13.82
Recovery	12 Days	Dry Retention Area 1	47.0006	13.81
Recovery	12 Days	Dry Retention Area 1	47.2505	13.81
Recovery	12 Days	Dry Retention Area 1	47.5002	13.81
Recovery	12 Days	Dry Retention Area 1	47.7509	13.80

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	48.0004	13.80
Recovery	12 Days	Dry Retention Area 1	48.2501	13.80
Recovery	12 Days	Dry Retention Area 1	48.5001	13.79
Recovery	12 Days	Dry Retention Area 1	48.7506	13.79
Recovery	12 Days	Dry Retention Area 1	49.0006	13.79
Recovery	12 Days	Dry Retention Area 1	49.2507	13.78
Recovery	12 Days	Dry Retention Area 1	49.5001	13.78
Recovery	12 Days	Dry Retention Area 1	49.7505	13.78
Recovery	12 Days	Dry Retention Area 1	50.0004	13.77
Recovery	12 Days	Dry Retention Area 1	50.2510	13.77
Recovery	12 Days	Dry Retention Area 1	50.5007	13.77
Recovery	12 Days	Dry Retention Area 1	50.7501	13.76
Recovery	12 Days	Dry Retention Area 1	51.0005	13.76
Recovery	12 Days	Dry Retention Area 1	51.2506	13.76
Recovery	12 Days	Dry Retention Area 1	51.5007	13.75
Recovery	12 Days	Dry Retention Area 1	51.7501	13.75
Recovery	12 Days	Dry Retention Area 1	52.0002	13.75
Recovery	12 Days	Dry Retention Area 1	52.2503	13.74
Recovery	12 Days	Dry Retention Area 1	52.5005	13.74
Recovery	12 Days	Dry Retention Area 1	52.7505	13.74
Recovery	12 Days	Dry Retention Area 1	53.0002	13.73
Recovery	12 Days	Dry Retention Area 1	53.2501	13.73
Recovery	12 Days	Dry Retention Area 1	53.5005	13.73
Recovery	12 Days	Dry Retention Area 1	53.7501	13.73
Recovery	12 Days	Dry Retention Area 1	54.0006	13.72
Recovery	12 Days	Dry Retention Area 1	54.2504	13.72
Recovery	12 Days	Dry Retention Area 1	54.5004	13.72
Recovery	12 Days	Dry Retention Area 1	54.7500	13.71
Recovery	12 Days	Dry Retention Area 1	55.0007	13.71
Recovery	12 Days	Dry Retention Area 1	55.2504	13.71
Recovery	12 Days	Dry Retention Area 1	55.5001	13.70
Recovery	12 Days	Dry Retention Area 1	55.7500	13.70
Recovery	12 Days	Dry Retention Area 1	56.0002	13.70
Recovery	12 Days	Dry Retention Area 1	56.2504	13.69
Recovery	12 Days	Dry Retention Area 1	56.5005	13.69
Recovery	12 Days	Dry Retention Area 1	56.7506	13.69
Recovery	12 Days	Dry Retention Area 1	57.0001	13.69
Recovery	12 Days	Dry Retention Area 1	57.2504	13.68
Recovery	12 Days	Dry Retention Area 1	57.5001	13.68
Recovery	12 Days	Dry Retention Area 1	57.7504	13.68
Recovery	12 Days	Dry Retention Area 1	58.0007	13.67
Recovery	12 Days	Dry Retention Area 1	58.2502	13.67
Recovery	12 Days	Dry Retention Area 1	58.5005	13.67
Recovery	12 Days	Dry Retention Area 1	58.7508	13.67
Recovery	12 Days	Dry Retention Area 1	59.0002	13.66
Recovery	12 Days	Dry Retention Area 1	59.2505	13.66
Recovery	12 Days	Dry Retention Area 1	59.5005	13.66
Recovery	12 Days	Dry Retention Area 1	59.7505	13.66

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	60.0002	13.65
Recovery	12 Days	Dry Retention Area 1	60.2504	13.65
Recovery	12 Days	Dry Retention Area 1	60.5002	13.65
Recovery	12 Days	Dry Retention Area 1	60.7502	13.65
Recovery	12 Days	Dry Retention Area 1	61.0004	13.64
Recovery	12 Days	Dry Retention Area 1	61.2502	13.64
Recovery	12 Days	Dry Retention Area 1	61.5003	13.64
Recovery	12 Days	Dry Retention Area 1	61.7502	13.64
Recovery	12 Days	Dry Retention Area 1	62.0002	13.63
Recovery	12 Days	Dry Retention Area 1	62.2504	13.63
Recovery	12 Days	Dry Retention Area 1	62.5003	13.63
Recovery	12 Days	Dry Retention Area 1	62.7504	13.63
Recovery	12 Days	Dry Retention Area 1	63.0001	13.62
Recovery	12 Days	Dry Retention Area 1	63.2501	13.62
Recovery	12 Days	Dry Retention Area 1	63.5005	13.62
Recovery	12 Days	Dry Retention Area 1	63.7500	13.62
Recovery	12 Days	Dry Retention Area 1	64.0001	13.62
Recovery	12 Days	Dry Retention Area 1	64.2506	13.61
Recovery	12 Days	Dry Retention Area 1	64.5002	13.61
Recovery	12 Days	Dry Retention Area 1	64.7501	13.61
Recovery	12 Days	Dry Retention Area 1	65.0003	13.61
Recovery	12 Days	Dry Retention Area 1	65.2504	13.60
Recovery	12 Days	Dry Retention Area 1	65.5001	13.60
Recovery	12 Days	Dry Retention Area 1	65.7503	13.60
Recovery	12 Days	Dry Retention Area 1	66.0003	13.60
Recovery	12 Days	Dry Retention Area 1	66.2503	13.60
Recovery	12 Days	Dry Retention Area 1	66.5004	13.59
Recovery	12 Days	Dry Retention Area 1	66.7506	13.59
Recovery	12 Days	Dry Retention Area 1	67.0004	13.59
Recovery	12 Days	Dry Retention Area 1	67.2502	13.59
Recovery	12 Days	Dry Retention Area 1	67.5002	13.58
Recovery	12 Days	Dry Retention Area 1	67.7503	13.58
Recovery	12 Days	Dry Retention Area 1	68.0006	13.58
Recovery	12 Days	Dry Retention Area 1	68.2504	13.58
Recovery	12 Days	Dry Retention Area 1	68.5004	13.58
Recovery	12 Days	Dry Retention Area 1	68.7505	13.58
Recovery	12 Days	Dry Retention Area 1	69.0000	13.57
Recovery	12 Days	Dry Retention Area 1	69.2505	13.57
Recovery	12 Days	Dry Retention Area 1	69.5002	13.57
Recovery	12 Days	Dry Retention Area 1	69.7505	13.57
Recovery	12 Days	Dry Retention Area 1	70.0003	13.57
Recovery	12 Days	Dry Retention Area 1	70.2503	13.56
Recovery	12 Days	Dry Retention Area 1	70.5004	13.56
Recovery	12 Days	Dry Retention Area 1	70.7502	13.56
Recovery	12 Days	Dry Retention Area 1	71.0001	13.56
Recovery	12 Days	Dry Retention Area 1	71.2506	13.56
Recovery	12 Days	Dry Retention Area 1	71.5003	13.55
Recovery	12 Days	Dry Retention Area 1	71.7500	13.55

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	72.0005	13.55
Recovery	12 Days	Dry Retention Area 1	72.2504	13.55
Recovery	12 Days	Dry Retention Area 1	72.5012	13.55
Recovery	12 Days	Dry Retention Area 1	72.7504	13.55
Recovery	12 Days	Dry Retention Area 1	73.0010	13.54
Recovery	12 Days	Dry Retention Area 1	73.2504	13.54
Recovery	12 Days	Dry Retention Area 1	73.5007	13.54
Recovery	12 Days	Dry Retention Area 1	73.7508	13.54
Recovery	12 Days	Dry Retention Area 1	74.0009	13.54
Recovery	12 Days	Dry Retention Area 1	74.2506	13.54
Recovery	12 Days	Dry Retention Area 1	74.5005	13.54
Recovery	12 Days	Dry Retention Area 1	74.7509	13.53
Recovery	12 Days	Dry Retention Area 1	75.0002	13.53
Recovery	12 Days	Dry Retention Area 1	75.2504	13.53
Recovery	12 Days	Dry Retention Area 1	75.5002	13.53
Recovery	12 Days	Dry Retention Area 1	75.7501	13.53
Recovery	12 Days	Dry Retention Area 1	76.0006	13.53
Recovery	12 Days	Dry Retention Area 1	76.2510	13.52
Recovery	12 Days	Dry Retention Area 1	76.5010	13.52
Recovery	12 Days	Dry Retention Area 1	76.7501	13.52
Recovery	12 Days	Dry Retention Area 1	77.0004	13.52
Recovery	12 Days	Dry Retention Area 1	77.2501	13.52
Recovery	12 Days	Dry Retention Area 1	77.5007	13.52
Recovery	12 Days	Dry Retention Area 1	77.7504	13.52
Recovery	12 Days	Dry Retention Area 1	78.0001	13.51
Recovery	12 Days	Dry Retention Area 1	78.2510	13.51
Recovery	12 Days	Dry Retention Area 1	78.5011	13.51
Recovery	12 Days	Dry Retention Area 1	78.7504	13.51
Recovery	12 Days	Dry Retention Area 1	79.0007	13.51
Recovery	12 Days	Dry Retention Area 1	79.2509	13.51
Recovery	12 Days	Dry Retention Area 1	79.5001	13.51
Recovery	12 Days	Dry Retention Area 1	79.7505	13.50
Recovery	12 Days	Dry Retention Area 1	80.0002	13.50
Recovery	12 Days	Dry Retention Area 1	80.2501	13.50
Recovery	12 Days	Dry Retention Area 1	80.5002	13.50
Recovery	12 Days	Dry Retention Area 1	80.7504	13.50
Recovery	12 Days	Dry Retention Area 1	81.0009	13.50
Recovery	12 Days	Dry Retention Area 1	81.2507	13.50
Recovery	12 Days	Dry Retention Area 1	81.5002	13.50
Recovery	12 Days	Dry Retention Area 1	81.7503	13.49
Recovery	12 Days	Dry Retention Area 1	82.0002	13.49
Recovery	12 Days	Dry Retention Area 1	82.2504	13.49
Recovery	12 Days	Dry Retention Area 1	82.5004	13.49
Recovery	12 Days	Dry Retention Area 1	82.7507	13.49
Recovery	12 Days	Dry Retention Area 1	83.0001	13.49
Recovery	12 Days	Dry Retention Area 1	83.2503	13.49
Recovery	12 Days	Dry Retention Area 1	83.5005	13.49
Recovery	12 Days	Dry Retention Area 1	83.7504	13.48

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	84.0005	13.48
Recovery	12 Days	Dry Retention Area 1	84.2506	13.48
Recovery	12 Days	Dry Retention Area 1	84.5005	13.48
Recovery	12 Days	Dry Retention Area 1	84.7507	13.48
Recovery	12 Days	Dry Retention Area 1	85.0002	13.48
Recovery	12 Days	Dry Retention Area 1	85.2507	13.48
Recovery	12 Days	Dry Retention Area 1	85.5004	13.48
Recovery	12 Days	Dry Retention Area 1	85.7511	13.48
Recovery	12 Days	Dry Retention Area 1	86.0001	13.47
Recovery	12 Days	Dry Retention Area 1	86.2512	13.47
Recovery	12 Days	Dry Retention Area 1	86.5002	13.47
Recovery	12 Days	Dry Retention Area 1	86.7505	13.47
Recovery	12 Days	Dry Retention Area 1	87.0000	13.47
Recovery	12 Days	Dry Retention Area 1	87.2505	13.47
Recovery	12 Days	Dry Retention Area 1	87.5008	13.47
Recovery	12 Days	Dry Retention Area 1	87.7503	13.47
Recovery	12 Days	Dry Retention Area 1	88.0007	13.47
Recovery	12 Days	Dry Retention Area 1	88.2510	13.46
Recovery	12 Days	Dry Retention Area 1	88.5009	13.46
Recovery	12 Days	Dry Retention Area 1	88.7506	13.46
Recovery	12 Days	Dry Retention Area 1	89.0004	13.46
Recovery	12 Days	Dry Retention Area 1	89.2501	13.46
Recovery	12 Days	Dry Retention Area 1	89.5003	13.46
Recovery	12 Days	Dry Retention Area 1	89.7511	13.46
Recovery	12 Days	Dry Retention Area 1	90.0007	13.46
Recovery	12 Days	Dry Retention Area 1	90.2502	13.46
Recovery	12 Days	Dry Retention Area 1	90.5008	13.46
Recovery	12 Days	Dry Retention Area 1	90.7506	13.45
Recovery	12 Days	Dry Retention Area 1	91.0001	13.45
Recovery	12 Days	Dry Retention Area 1	91.2503	13.45
Recovery	12 Days	Dry Retention Area 1	91.5013	13.45
Recovery	12 Days	Dry Retention Area 1	91.7507	13.45
Recovery	12 Days	Dry Retention Area 1	92.0005	13.45
Recovery	12 Days	Dry Retention Area 1	92.2505	13.45
Recovery	12 Days	Dry Retention Area 1	92.5015	13.45
Recovery	12 Days	Dry Retention Area 1	92.7503	13.45
Recovery	12 Days	Dry Retention Area 1	93.0013	13.45
Recovery	12 Days	Dry Retention Area 1	93.2504	13.44
Recovery	12 Days	Dry Retention Area 1	93.5004	13.44
Recovery	12 Days	Dry Retention Area 1	93.7506	13.44
Recovery	12 Days	Dry Retention Area 1	94.0006	13.44
Recovery	12 Days	Dry Retention Area 1	94.2504	13.44
Recovery	12 Days	Dry Retention Area 1	94.5013	13.44
Recovery	12 Days	Dry Retention Area 1	94.7502	13.44
Recovery	12 Days	Dry Retention Area 1	95.0005	13.44
Recovery	12 Days	Dry Retention Area 1	95.2506	13.44
Recovery	12 Days	Dry Retention Area 1	95.5000	13.44
Recovery	12 Days	Dry Retention Area 1	95.7504	13.44

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	96.0001	13.43
Recovery	12 Days	Dry Retention Area 1	96.2505	13.43
Recovery	12 Days	Dry Retention Area 1	96.5009	13.43
Recovery	12 Days	Dry Retention Area 1	96.7506	13.43
Recovery	12 Days	Dry Retention Area 1	97.0008	13.43
Recovery	12 Days	Dry Retention Area 1	97.2516	13.43
Recovery	12 Days	Dry Retention Area 1	97.5008	13.43
Recovery	12 Days	Dry Retention Area 1	97.7504	13.43
Recovery	12 Days	Dry Retention Area 1	98.0005	13.43
Recovery	12 Days	Dry Retention Area 1	98.2501	13.43
Recovery	12 Days	Dry Retention Area 1	98.5002	13.43
Recovery	12 Days	Dry Retention Area 1	98.7506	13.42
Recovery	12 Days	Dry Retention Area 1	99.0017	13.42
Recovery	12 Days	Dry Retention Area 1	99.2501	13.42
Recovery	12 Days	Dry Retention Area 1	99.5017	13.42
Recovery	12 Days	Dry Retention Area 1	99.7500	13.42
Recovery	12 Days	Dry Retention Area 1	100.0007	13.42
Recovery	12 Days	Dry Retention Area 1	100.2505	13.42
Recovery	12 Days	Dry Retention Area 1	100.5002	13.42
Recovery	12 Days	Dry Retention Area 1	100.7510	13.42
Recovery	12 Days	Dry Retention Area 1	101.0008	13.42
Recovery	12 Days	Dry Retention Area 1	101.2517	13.42
Recovery	12 Days	Dry Retention Area 1	101.5009	13.41
Recovery	12 Days	Dry Retention Area 1	101.7513	13.41
Recovery	12 Days	Dry Retention Area 1	102.0003	13.41
Recovery	12 Days	Dry Retention Area 1	102.2509	13.41
Recovery	12 Days	Dry Retention Area 1	102.5011	13.41
Recovery	12 Days	Dry Retention Area 1	102.7510	13.41
Recovery	12 Days	Dry Retention Area 1	103.0002	13.41
Recovery	12 Days	Dry Retention Area 1	103.2509	13.41
Recovery	12 Days	Dry Retention Area 1	103.5001	13.41
Recovery	12 Days	Dry Retention Area 1	103.7515	13.41
Recovery	12 Days	Dry Retention Area 1	104.0012	13.41
Recovery	12 Days	Dry Retention Area 1	104.2508	13.41
Recovery	12 Days	Dry Retention Area 1	104.5015	13.40
Recovery	12 Days	Dry Retention Area 1	104.7507	13.40
Recovery	12 Days	Dry Retention Area 1	105.0012	13.40
Recovery	12 Days	Dry Retention Area 1	105.2501	13.40
Recovery	12 Days	Dry Retention Area 1	105.5004	13.40
Recovery	12 Days	Dry Retention Area 1	105.7505	13.40
Recovery	12 Days	Dry Retention Area 1	106.0002	13.40
Recovery	12 Days	Dry Retention Area 1	106.2502	13.40
Recovery	12 Days	Dry Retention Area 1	106.5001	13.40
Recovery	12 Days	Dry Retention Area 1	106.7507	13.40
Recovery	12 Days	Dry Retention Area 1	107.0012	13.40
Recovery	12 Days	Dry Retention Area 1	107.2512	13.40
Recovery	12 Days	Dry Retention Area 1	107.5012	13.39
Recovery	12 Days	Dry Retention Area 1	107.7510	13.39

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	108.0013	13.39
Recovery	12 Days	Dry Retention Area 1	108.2508	13.39
Recovery	12 Days	Dry Retention Area 1	108.5001	13.39
Recovery	12 Days	Dry Retention Area 1	108.7514	13.39
Recovery	12 Days	Dry Retention Area 1	109.0008	13.39
Recovery	12 Days	Dry Retention Area 1	109.2516	13.39
Recovery	12 Days	Dry Retention Area 1	109.5009	13.39
Recovery	12 Days	Dry Retention Area 1	109.7507	13.39
Recovery	12 Days	Dry Retention Area 1	110.0008	13.39
Recovery	12 Days	Dry Retention Area 1	110.2511	13.39
Recovery	12 Days	Dry Retention Area 1	110.5005	13.38
Recovery	12 Days	Dry Retention Area 1	110.7520	13.38
Recovery	12 Days	Dry Retention Area 1	111.0003	13.38
Recovery	12 Days	Dry Retention Area 1	111.2505	13.38
Recovery	12 Days	Dry Retention Area 1	111.5000	13.38
Recovery	12 Days	Dry Retention Area 1	111.7513	13.38
Recovery	12 Days	Dry Retention Area 1	112.0000	13.38
Recovery	12 Days	Dry Retention Area 1	112.2525	13.38
Recovery	12 Days	Dry Retention Area 1	112.5012	13.38
Recovery	12 Days	Dry Retention Area 1	112.7518	13.38
Recovery	12 Days	Dry Retention Area 1	113.0008	13.38
Recovery	12 Days	Dry Retention Area 1	113.2514	13.37
Recovery	12 Days	Dry Retention Area 1	113.5008	13.37
Recovery	12 Days	Dry Retention Area 1	113.7508	13.37
Recovery	12 Days	Dry Retention Area 1	114.0017	13.37
Recovery	12 Days	Dry Retention Area 1	114.2512	13.37
Recovery	12 Days	Dry Retention Area 1	114.5002	13.37
Recovery	12 Days	Dry Retention Area 1	114.7508	13.37
Recovery	12 Days	Dry Retention Area 1	115.0005	13.37
Recovery	12 Days	Dry Retention Area 1	115.2505	13.37
Recovery	12 Days	Dry Retention Area 1	115.5006	13.37
Recovery	12 Days	Dry Retention Area 1	115.7513	13.37
Recovery	12 Days	Dry Retention Area 1	116.0023	13.37
Recovery	12 Days	Dry Retention Area 1	116.2504	13.36
Recovery	12 Days	Dry Retention Area 1	116.5007	13.36
Recovery	12 Days	Dry Retention Area 1	116.7501	13.36
Recovery	12 Days	Dry Retention Area 1	117.0014	13.36
Recovery	12 Days	Dry Retention Area 1	117.2519	13.36
Recovery	12 Days	Dry Retention Area 1	117.5005	13.36
Recovery	12 Days	Dry Retention Area 1	117.7519	13.36
Recovery	12 Days	Dry Retention Area 1	118.0007	13.36
Recovery	12 Days	Dry Retention Area 1	118.2503	13.36
Recovery	12 Days	Dry Retention Area 1	118.5019	13.36
Recovery	12 Days	Dry Retention Area 1	118.7513	13.36
Recovery	12 Days	Dry Retention Area 1	119.0009	13.36
Recovery	12 Days	Dry Retention Area 1	119.2520	13.35
Recovery	12 Days	Dry Retention Area 1	119.5015	13.35
Recovery	12 Days	Dry Retention Area 1	119.7520	13.35

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	120.0019	13.35
Recovery	12 Days	Dry Retention Area 1	120.2511	13.35
Recovery	12 Days	Dry Retention Area 1	120.5005	13.35
Recovery	12 Days	Dry Retention Area 1	120.7519	13.35
Recovery	12 Days	Dry Retention Area 1	121.0001	13.35
Recovery	12 Days	Dry Retention Area 1	121.2533	13.35
Recovery	12 Days	Dry Retention Area 1	121.5013	13.35
Recovery	12 Days	Dry Retention Area 1	121.7511	13.35
Recovery	12 Days	Dry Retention Area 1	122.0020	13.35
Recovery	12 Days	Dry Retention Area 1	122.2515	13.34
Recovery	12 Days	Dry Retention Area 1	122.5009	13.34
Recovery	12 Days	Dry Retention Area 1	122.7529	13.34
Recovery	12 Days	Dry Retention Area 1	123.0006	13.34
Recovery	12 Days	Dry Retention Area 1	123.2512	13.34
Recovery	12 Days	Dry Retention Area 1	123.5004	13.34
Recovery	12 Days	Dry Retention Area 1	123.7520	13.34
Recovery	12 Days	Dry Retention Area 1	124.0020	13.34
Recovery	12 Days	Dry Retention Area 1	124.2522	13.34
Recovery	12 Days	Dry Retention Area 1	124.5022	13.34
Recovery	12 Days	Dry Retention Area 1	124.7526	13.34
Recovery	12 Days	Dry Retention Area 1	125.0024	13.34
Recovery	12 Days	Dry Retention Area 1	125.2531	13.33
Recovery	12 Days	Dry Retention Area 1	125.5023	13.33
Recovery	12 Days	Dry Retention Area 1	125.7524	13.33
Recovery	12 Days	Dry Retention Area 1	126.0038	13.33
Recovery	12 Days	Dry Retention Area 1	126.2513	13.33
Recovery	12 Days	Dry Retention Area 1	126.5031	13.33
Recovery	12 Days	Dry Retention Area 1	126.7526	13.33
Recovery	12 Days	Dry Retention Area 1	127.0034	13.33
Recovery	12 Days	Dry Retention Area 1	127.2533	13.33
Recovery	12 Days	Dry Retention Area 1	127.5026	13.33
Recovery	12 Days	Dry Retention Area 1	127.7502	13.33
Recovery	12 Days	Dry Retention Area 1	128.0029	13.33
Recovery	12 Days	Dry Retention Area 1	128.2523	13.33
Recovery	12 Days	Dry Retention Area 1	128.5039	13.32
Recovery	12 Days	Dry Retention Area 1	128.7532	13.32
Recovery	12 Days	Dry Retention Area 1	129.0033	13.32
Recovery	12 Days	Dry Retention Area 1	129.2512	13.32
Recovery	12 Days	Dry Retention Area 1	129.5041	13.32
Recovery	12 Days	Dry Retention Area 1	129.7526	13.32
Recovery	12 Days	Dry Retention Area 1	130.0018	13.32
Recovery	12 Days	Dry Retention Area 1	130.2539	13.32
Recovery	12 Days	Dry Retention Area 1	130.5016	13.32
Recovery	12 Days	Dry Retention Area 1	130.7532	13.32
Recovery	12 Days	Dry Retention Area 1	131.0013	13.32
Recovery	12 Days	Dry Retention Area 1	131.2517	13.32
Recovery	12 Days	Dry Retention Area 1	131.5022	13.31
Recovery	12 Days	Dry Retention Area 1	131.7543	13.31

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	132.0001	13.31
Recovery	12 Days	Dry Retention Area 1	132.2502	13.31
Recovery	12 Days	Dry Retention Area 1	132.5023	13.31
Recovery	12 Days	Dry Retention Area 1	132.7533	13.31
Recovery	12 Days	Dry Retention Area 1	133.0020	13.31
Recovery	12 Days	Dry Retention Area 1	133.2538	13.31
Recovery	12 Days	Dry Retention Area 1	133.5020	13.31
Recovery	12 Days	Dry Retention Area 1	133.7504	13.31
Recovery	12 Days	Dry Retention Area 1	134.0018	13.31
Recovery	12 Days	Dry Retention Area 1	134.2515	13.31
Recovery	12 Days	Dry Retention Area 1	134.5002	13.30
Recovery	12 Days	Dry Retention Area 1	134.7519	13.30
Recovery	12 Days	Dry Retention Area 1	135.0007	13.30
Recovery	12 Days	Dry Retention Area 1	135.2508	13.30
Recovery	12 Days	Dry Retention Area 1	135.5010	13.30
Recovery	12 Days	Dry Retention Area 1	135.7506	13.30
Recovery	12 Days	Dry Retention Area 1	136.0023	13.30
Recovery	12 Days	Dry Retention Area 1	136.2508	13.30
Recovery	12 Days	Dry Retention Area 1	136.5003	13.30
Recovery	12 Days	Dry Retention Area 1	136.7518	13.30
Recovery	12 Days	Dry Retention Area 1	137.0033	13.30
Recovery	12 Days	Dry Retention Area 1	137.2527	13.30
Recovery	12 Days	Dry Retention Area 1	137.5012	13.29
Recovery	12 Days	Dry Retention Area 1	137.7536	13.29
Recovery	12 Days	Dry Retention Area 1	138.0005	13.29
Recovery	12 Days	Dry Retention Area 1	138.2523	13.29
Recovery	12 Days	Dry Retention Area 1	138.5007	13.29
Recovery	12 Days	Dry Retention Area 1	138.7508	13.29
Recovery	12 Days	Dry Retention Area 1	139.0040	13.29
Recovery	12 Days	Dry Retention Area 1	139.2520	13.29
Recovery	12 Days	Dry Retention Area 1	139.5034	13.29
Recovery	12 Days	Dry Retention Area 1	139.7506	13.29
Recovery	12 Days	Dry Retention Area 1	140.0006	13.29
Recovery	12 Days	Dry Retention Area 1	140.2527	13.29
Recovery	12 Days	Dry Retention Area 1	140.5045	13.29
Recovery	12 Days	Dry Retention Area 1	140.7521	13.28
Recovery	12 Days	Dry Retention Area 1	141.0027	13.28
Recovery	12 Days	Dry Retention Area 1	141.2500	13.28
Recovery	12 Days	Dry Retention Area 1	141.5026	13.28
Recovery	12 Days	Dry Retention Area 1	141.7530	13.28
Recovery	12 Days	Dry Retention Area 1	142.0013	13.28
Recovery	12 Days	Dry Retention Area 1	142.2504	13.28
Recovery	12 Days	Dry Retention Area 1	142.5018	13.28
Recovery	12 Days	Dry Retention Area 1	142.7518	13.28
Recovery	12 Days	Dry Retention Area 1	143.0009	13.28
Recovery	12 Days	Dry Retention Area 1	143.2520	13.28
Recovery	12 Days	Dry Retention Area 1	143.5023	13.28
Recovery	12 Days	Dry Retention Area 1	143.7500	13.27

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	12 Days	Dry Retention Area 1	144.0024	13.27
Recovery	12 Days	Dry Retention Area 1	144.2511	13.27
Recovery	12 Days	Dry Retention Area 1	144.5023	13.27
Recovery	12 Days	Dry Retention Area 1	144.7505	13.27
Recovery	12 Days	Dry Retention Area 1	145.0024	13.27
Recovery	12 Days	Dry Retention Area 1	145.2516	13.27
Recovery	12 Days	Dry Retention Area 1	145.5008	13.27
Recovery	12 Days	Dry Retention Area 1	145.7515	13.27
Recovery	12 Days	Dry Retention Area 1	146.0007	13.27
Recovery	12 Days	Dry Retention Area 1	146.2508	13.27
Recovery	12 Days	Dry Retention Area 1	146.5021	13.27
Recovery	12 Days	Dry Retention Area 1	146.7525	13.27
Recovery	12 Days	Dry Retention Area 1	147.0016	13.26
Recovery	12 Days	Dry Retention Area 1	147.2515	13.26
Recovery	12 Days	Dry Retention Area 1	147.5013	13.26
Recovery	12 Days	Dry Retention Area 1	147.7519	13.26
Recovery	12 Days	Dry Retention Area 1	148.0024	13.26
Recovery	12 Days	Dry Retention Area 1	148.2503	13.26
Recovery	12 Days	Dry Retention Area 1	148.5003	13.26
Recovery	12 Days	Dry Retention Area 1	148.7523	13.26
Recovery	12 Days	Dry Retention Area 1	149.0010	13.26
Recovery	12 Days	Dry Retention Area 1	149.2526	13.26
Recovery	12 Days	Dry Retention Area 1	149.5026	13.26
Recovery	12 Days	Dry Retention Area 1	149.7501	13.26
Recovery	12 Days	Dry Retention Area 1	150.0013	13.25
Recovery	12 Days	Dry Retention Area 1	150.2506	13.25
Recovery	12 Days	Dry Retention Area 1	150.5020	13.25
Recovery	12 Days	Dry Retention Area 1	150.7515	13.25
Recovery	12 Days	Dry Retention Area 1	151.0018	13.25
Recovery	12 Days	Dry Retention Area 1	151.2523	13.25
Recovery	12 Days	Dry Retention Area 1	151.5015	13.25
Recovery	12 Days	Dry Retention Area 1	151.7506	13.25
Recovery	12 Days	Dry Retention Area 1	152.0009	13.25
Recovery	12 Days	Dry Retention Area 1	152.2515	13.25
Recovery	12 Days	Dry Retention Area 1	152.5004	13.25
Recovery	12 Days	Dry Retention Area 1	152.7521	13.25
Recovery	12 Days	Dry Retention Area 1	153.0013	13.25
Recovery	12 Days	Dry Retention Area 1	153.2505	13.24
Recovery	12 Days	Dry Retention Area 1	153.5001	13.24
Recovery	12 Days	Dry Retention Area 1	153.7527	13.24
Recovery	12 Days	Dry Retention Area 1	154.0016	13.24
Recovery	12 Days	Dry Retention Area 1	154.2512	13.24
Recovery	12 Days	Dry Retention Area 1	154.5014	13.24
Recovery	12 Days	Dry Retention Area 1	154.7500	13.24
Recovery	12 Days	Dry Retention Area 1	155.0027	13.24
Recovery	12 Days	Dry Retention Area 1	155.2506	13.24
Recovery	12 Days	Dry Retention Area 1	155.5019	13.24
Recovery	12 Days	Dry Retention Area 1	155.7511	13.24