75th Street West
from 20th Avenue to Manatee Avenue

CIP No. 6108260

90% RESUBMITTAL DRAINAGE DESIGN DOCUMENTATION

Prepared for:

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

1022 26th Avenue East
Bradenton, Florida 34208

Prepared by:

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July 2023

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DESCRIPTION **SECTION NO.**

Appendices

1.0 General Project Information

1.1 Introduction

The objective of this project is to enhance safety, improve traffic operations, enhance multimodal access, and meet future transportation demand for an approximately 1-mile segment of 75th Street West (75th Street) from approximately 20th Avenue West to Manatee Avenue (SR 64). The project is partially within the City of Bradenton and unincorporated Manatee County, Florida. The improvements include widening the existing 2-lane roadway to a 4-lane roadway with bicycle accommodations and sidewalks to provide an enhanced mobility experience for all users.

1.2 Project Location

The project is located within Sections 30 and 31 of Township 34 South and Range 17 East within Manatee County, Florida. This segment of 75th Street is bound by Cortez Road W (to the south), Manatee Ave W (to the north), Palma Sola Bay (to the west), and US 301 (to the east).

1.3 Project Description

This project consists of the reconstruction of 75th Street West in Manatee County, FL from 20th Avenue West to Manatee Avenue West. The existing typical section along 75th Street West consists of two travel lanes divided by a median, 4-foot paved shoulders, curb and gutter, and sidewalk on both sides. The existing sidewalk has a gap at the southeast corner of the Manatee Avenue intersection, and the 4-foot shoulders do not meet the minimum width for bicycle lanes (5 feet required from face of curb). Although most of the corridor has at least 83 feet of ROW, there are pinch points as narrow as 63 feet.

Based on the previous engineering and environmental comparative analysis, the recommended alternative for 75th Street West consists of two 11-foot lanes in each direction, 16-foot raised median, 5-foot sod buffers, 5-foot sidewalk, and 12-foot shared use path (trail) on one side. The 2-foot behind the sidewalk/shared use path along both sides is to accommodate utility and light poles This approach will provide restricted/strategic access management to the adjacent properties without impacting traffic operations, improved safety, and increased opportunity for landscaping.

There is one existing dry retention pond that provides treatment for the roadway located west of 75th Street West, just north of Cedar Hammock Creek. The roadway improvements for this project will cause an increase in impervious area, which will be more than the existing pond was permitted to provide treatment for.

The existing posted speed limit is 45 MPH from 20th Avenue to 18th Avenue, then 40 MPH from 18th Avenue to Manatee Avenue. The recommended design speed is 40 MPH due to the residential context and narrow ROW.

2.0 Existing Conditions

2.1 Drainage

The existing drainage system is a closed system, with curb inlets and pipes for collection and conveyance. The project primarily outfalls to Cedar Hammock Creek through an existing stormwater pond at approximate Station 11+00 (LT). This project basin outfalls within the Sarasota Bay Coastal Watershed (WBID 1885A), which is impaired for bacteria. No additional treatment is required for this watershed. A second outfall discharges to the existing drainage system at Manatee Avenue at the northern portion of the project limits.

The existing pond is permitted under Environmental Resource Permit (ERP) #12088.2 with the Southwest Florida Water Management District (SWFWMD).

2.2 Floodplain

The project is within the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 12081C0282F (dated 08/10/2021). The project is primarily within Zone X (Area of Minimal Flood Hazard) as shown in Figure 1. Cedar Hammock Creek is considered Zone AE (High Risk with Elevation determined) with Elevation 8.

Figure 1 – FEMA flood map

An existing conditions hydrologic and hydraulic model was developed for The City of Bradenton Watershed Study, which consists of the project limits along 75th Street W. This model's results show significantly more flood area for the 100-year event than the FEMA FIRM panels. Our design will utilize the results from this existing model as the best available information. The existing tailwater elevations within Cedar Hammock Creek will be used for the proposed storm sewer system and areas of flooding along 75th Street will be assessed.

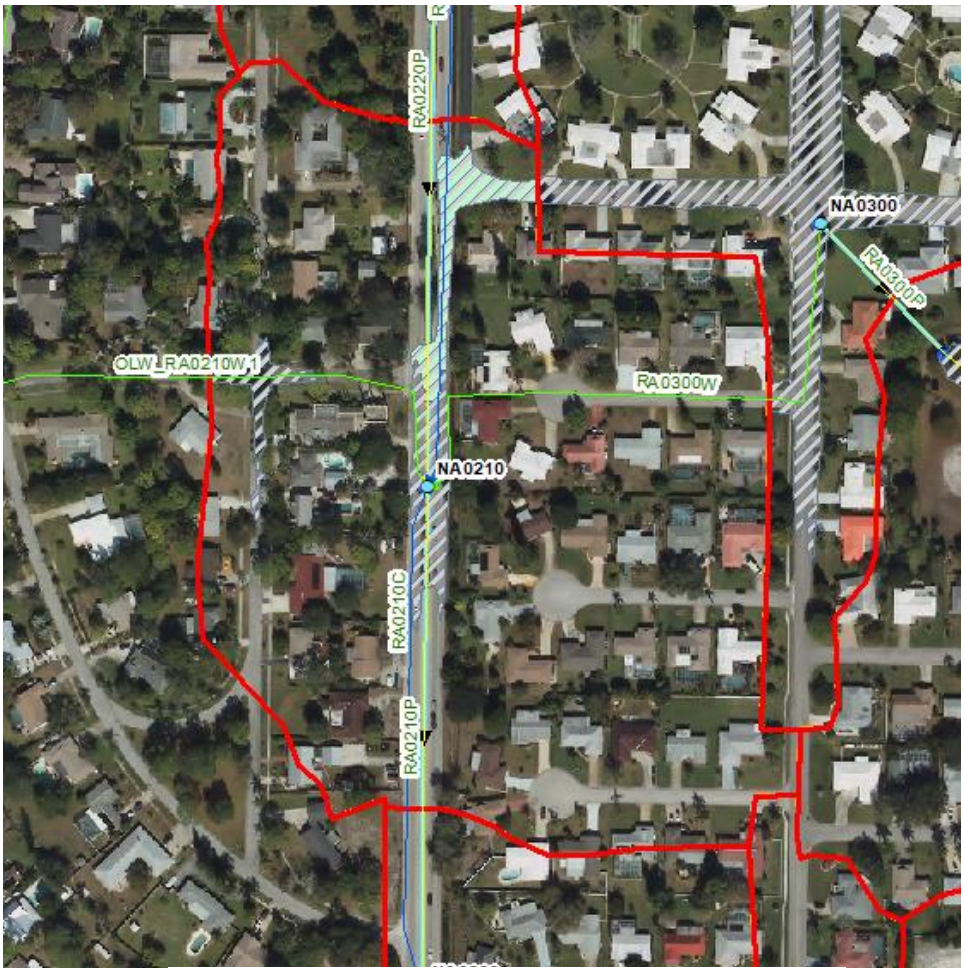

Figure 2 – City of Bradenton Watershed Study

Based on a review of the GIS from the City of Bradenton watershed model results, there is an area of flooding located near 11th Avenue West along 75th Street W. Currently the design is not impacting the floodplain storage, however the floodplain elevation is not meeting the County Land Development Code regarding the crown of the road elevations in relation to the 100-year floodplain elevation. As stated previously, the latest model shows significantly higher stage elevations for the 100-year floodplain compared to the FEMA Firm maps. A review of the existing watershed model will be performed to incorporate the proposed improvements for this project.

2.3 Soils Data

Soils data was collected from the United States Department of Agriculture National Resources Conservation Service (NRCS) and summarized in Table 1. Soils in the project limits are mostly sand.

Table 1 – Soils Data

Map Unit Symbol	Map Unit Name	Depth to Water Table (feet)
19	Duette fine sand, 0 to 5 percent slopes	4 – 6
20	EauGallie-EauGallie wet, fine sand, 0 to 2 percent slopes	¼ - 1½
26	Floridana-Immokalee-Okeelanta association	0
42	Pomello fine sand, 0 to 2 percent slopes	1½ - 3½

In addition, soil borings were conducted in the proposed pond site locations for the project. The proposed pond locations are Site 2A, Site 2B, and Site 2D. The following table shows the boring data and the estimated seasonal high-water elevations for each. Geotechnical data can be found in Appendix C.

Table 2 – Pond Boring Data

Summary of Seasonal High Groundwater Table Estimates - Ponds
75th Street West from 20th Avenue to Manatee Avenue
Manatee County, Florida
Manatee County Project No.: 6108260
TSF Project No. 7511-22-191

Boring Name	GPS Coordinates[1]		Boring Depth (Feet)	Measured Groundwater Table		USDA Soil Survey[3]			Estimated SHGWT Depth (feet)
	Latitiude	Longitude		Date Recorded	Depth[2] (feet)	Name	Symbol	Depth to Water Table (feet)	
SH-2A	27.482260	-82.637506	3.5	7/26/2022	1.0	Duette fine sand, 0 to 5 percent slopes Pomello fine sand, 0 to 2 percent slopes	19 42	4 to 6 1.5 to 3.5	1½ ± ½
SH-2B	27.483419	-82.636967	5.5	7/26/2022	3.5	Duette fine sand, 0 to 5 percent slopes Pomello fine sand, 0 to 2 percent slopes	19 42	4 to 6 1.5 to 3.5	2½ ± ½
SH-2D	27.490955	-82.637115	4.5	7/26/2022	2.5	EauGallie EaGallie wet, fine sand, 0 to 2 percent slopes	20	0.5 to 1.5 0.25 to 1.5	1½ ± ½

3.0 Proposed Conditions

3.1 Storm Sewer System

The intent of the design is to utilize the existing trunk line and connect proposed pipes and structures to the existing in the proposed storm sewer system. The existing storm sewer trunk line is located within the center of the road. A "smart box" design will be constructed at each of the proposed pond locations where a control weir will be constructed within the drainage structure to divert the first flush flow (low flow) to the pond, and the high flow will be allowed to bypass the pond and continue through the trunk line to the outfall at Cedar Hammock Creek. These smart boxes are proposed along the existing trunk line at each pond site location.

This portion of 75th Street W is designated as part of the Major Thoroughfare Plan per our coordination with Manatee County. As stated in the County Stormwater Manual in Section 2.4.3, all drainage systems that are part of the Major Thoroughfare Plan shall be designed for the 25-year storm event.

The tailwater elevation used for the storm sewer design was obtained from the City of Bradenton's Watershed Study. Maximum stage data was retrieved from the ICPR model to establish the downstream tailwater for the storm sewer design. Per the existing model, Node NA0025 is located within the Cedar Hammock Creek and consists of a 25-year maximum stage at elevation 12.62. This elevation was used as our tailwater at the boundary condition.

Spread calculations were performed to determine the placement of the proposed inlets to ensure the spread is within the FDOT allowable spread width. Since this road has a design speed of 40mph, the criteria says that half of the right travel lane must be kept clear for a 4 in/hr rainfall intensity. With a lane width of 11 feet and a gutter width of 1.5 feet, the allowable spread is 7 feet. The spread calculations can be found in Appendix B.

3.2 Pond Design

Analysis has been performed on the pond siting for the project to confirm that the recommended pond sites from the corridor study would provide adequate treatment and storage for the drainage basins within the project. The proposed ponds are designed to provide treatment volume for 1" of runoff from the contributing area to each pond and the require attenuation. The project drainage basins were delineated using LiDAR data, from site visits, and offsite basin areas were determined by utilizing the existing as-built plans for the area.

The pond routing model for the proposed ponds was conducted using ICPR. Both an existing and proposed condition model were developed to compare the peak flows for the design storm event for both conditions. Prior to the design analysis, an informal meeting was coordinated with SWFWMD to discuss the project design requirements. Per SWFWMD, the project is to meet the pre- versus -post discharge criteria even though the Cedar Hammock Creek is a tidally influenced waterway that connects to Palma Sola Bay. Our calculations demonstrate that the proposed condition meets the discharge criteria for the project. See Appendix B for the drainage calculation.

Coordination with SWFWMD also confirmed that the northern basin along 75th Street W which drains to the existing FDOT system at Manatee Ave W is to match the existing drainage flows in the proposed condition. The existing roadway is already built out to the 4-lane roadway typical along this segment of 75th Street, therefore no proposed widening of travel lanes will be required, and the existing runoff will closely match the existing condition. It will be demonstrated through the permitting process that there will be no adverse impacts to the existing system, and that the existing drainage patterns are maintained. To ensure the flows are reduced flowing into the existing FDOT system along Manatee Ave, additional area is routed through Pond 2D.

There is a 2.62 ac portion of the project that drains north to Manatee Ave (Basin 3) in the existing condition. Since there will be a greater amount of impervious area in proposed condition, the contributing area to the Manatee Ave system has been reduced to ensure that there is not a greater amount of flow discharging to the existing storm sewer system on this road. By reducing the area contributing to the Manatee Ave system to 2.21 ac, the storm sewer system will convey less flow in the proposed condition as in the existing.

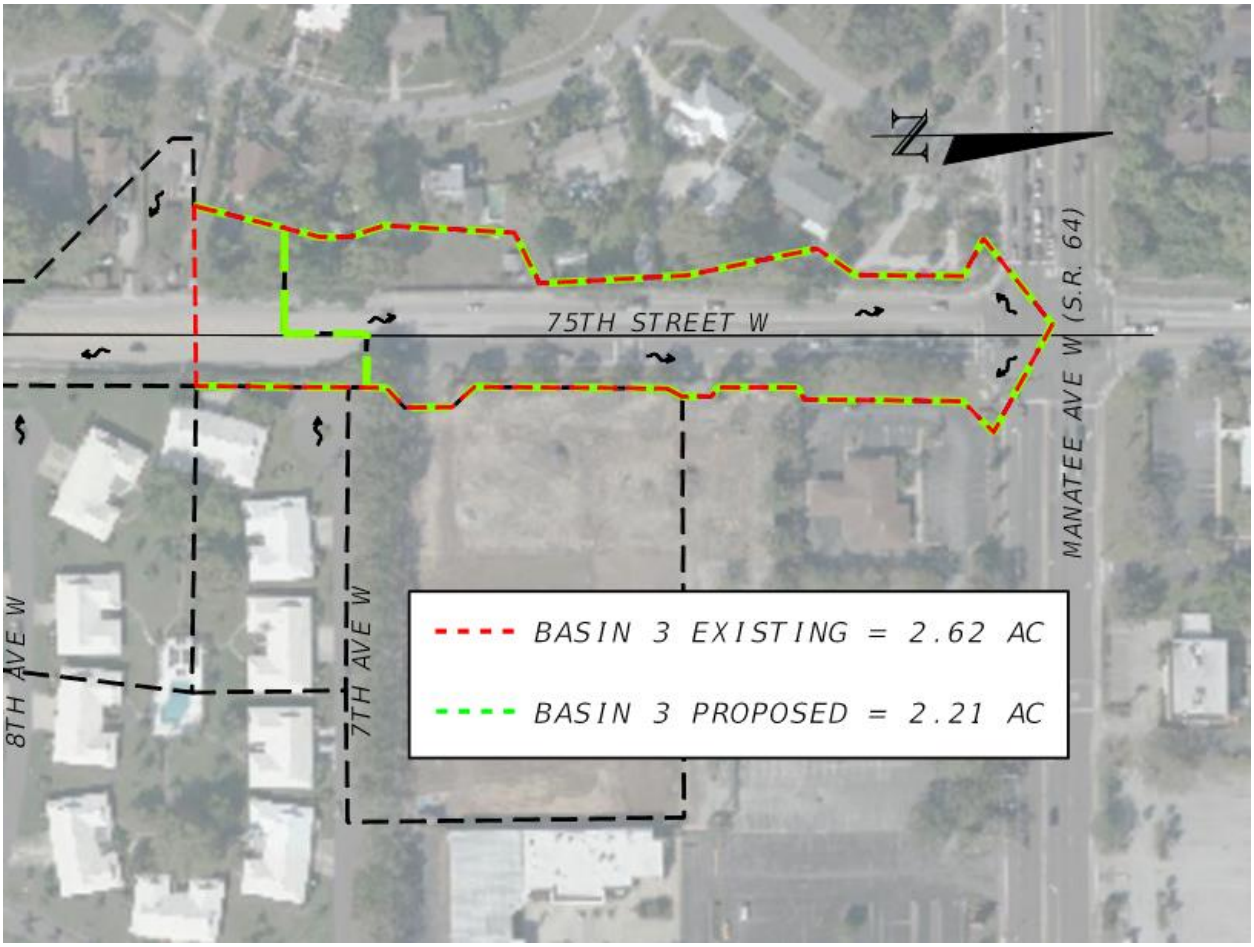

Figure 3 – Manatee Ave Basin 3 Area – Existing and Proposed Conditions

Table 3 – Manatee Ave Basin 3 Discharge Calculations – Existing vs. Proposed

Manatee Ave/Basin 3 Discharge Rates		
	Existing	Proposed
Impervious Area (ac)	1.74	1.59
Pervious Area (ac)	0.88	0.62
Total Area (ac)	2.62	2.21
Rainfall Intensity (in/hr)	8.87	8.87
C-Value	0.70	0.74
Discharge Rate (cfs)	16.23	14.48

There are multiple offsite areas that drain to the existing dry retention pond in existing condition that have been included in our analyses. According to the as-built plans for the previous 75th Street West project, there is a series of inlets that collect runoff from the streets of the Village Green Community located east of 75th Street West. Since this storm sewer system contributes to Basin 2 of 75th Street West, we have included these areas in our existing and proposed ICPR models. There is also approximately a 3 ac area on the site of Lucky's Market at the southeast corner of 75th Street West and Manatee Avenue West of almost entirely impervious area that contributes to Basin 2. The parking lot of Lucky's Market also contains an underground stormwater vault that discharges to the 75th Street West system. Although these offsite areas contribute runoff to the project area, we are only providing treatment for the area within the project limits.

3.3 City of Bradenton Watershed Model

The City of Bradenton Watershed model is considered the best available information for this area of Manatee County. Our current design was established by developing an independent ICPR model consisting only of the contributing basins and was developed to reflect the City of Bradenton's watershed model tailwater elevations for the proposed pond design. In the next phase submittal, the proposed drainage design will be incorporated into the City of Bradenton watershed model to evaluate the effects from the proposed improvements of the project area and the surrounding basins.

The existing watershed model will be reviewed within the limits of the project and the surrounding areas and will be updated based on the latest survey information, as needed. It appears that there are some areas that could be modified within the model to present a better representation of the connectivity of the existing storm systems.

As shown in Figure 2, the existing model shows flooding within 75th Street W. The offsite areas east of 75th Street will be reviewed to determine if the connectivity in the model can be revised to provide a more accurate representation of the design storm results within this portion of the basin.

4.0 Results

The proposed ICPR model was developed and designed for the 25yr/24hr storm event. The model incorporated 3 control structures, also referred to as "smart boxes" which creates an off-line pond system. Each pond was designed to provide treatment and attenuation and allow the additional flows to bypass the ponds over a weir structure located within drainage structures within the trunk line of the storm system. The proposed ponds were designed to collectively attenuate the proposed peak discharge from the system to match the existing condition. The warning stages used in the model are the elevations of the top of bank for the proposed ponds.

The proposed model shows that during a 25yr/24hr storm event, N-2A, N-2B and N-2D provide more than 1-foot of freeboard between the max stage of the pond and the back of the maintenance berm, the peak stages for the offsite areas are slightly higher than existing but this elevation still lower than lowest edge of pavement in each offsite area. The proposed ICPR model was also assessed for a 100yr/24hr storm event, and it has been confirmed that the peak discharges were contained within the proposed ponds, and no adverse impacts were introduced to adjacent parcels. Below are tables showing the ICPR model results for both existing and proposed conditions during a 25yr/24hr storm event.

Table 4 – Existing Condition – ICPR Results

Node	Max Stage (ft)	Warning Stage (Set at back of berm) (ft)	Peak Discharge (cfs)
N-2A	13.92	15.00	6.93
N-OUT	12.62	14.50	108.62

Table 5 – Proposed Condition– ICPR Results

Node	Max Stage (ft)	Warning Stage (Set at back of berm) (ft)	Peak Discharge (cfs)
N-2A	14.23	16.00	48.4
N-2B	14.69	16.00	12.32
N-2D	20.59	22.00	6.73
N-OUT	12.62	15.50	102.31

APPENDIX A

Drainage Maps

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REVISIONS			
NO.	DESCRIPTION	DATE	BY
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MANATEE COUNTY PUBLIC WORKS
COUNTY PROJECT NO: 6108260

75TH STREET WEST FROM 20TH AVENUE W. TO MANATEE AVENUE W. (SR 64)

EXISTING DRAINAGE MAP (1)

SHEET NO. 3

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MANATEE COUNTY
PUBLIC WORKS
COUNTY PROJECT NO:
6108260

75TH STREET WEST FROM
20TH AVENUE W. TO MANATEE AVENUE W. (SR 64)

EXISTING DRAINAGE MAP (2)

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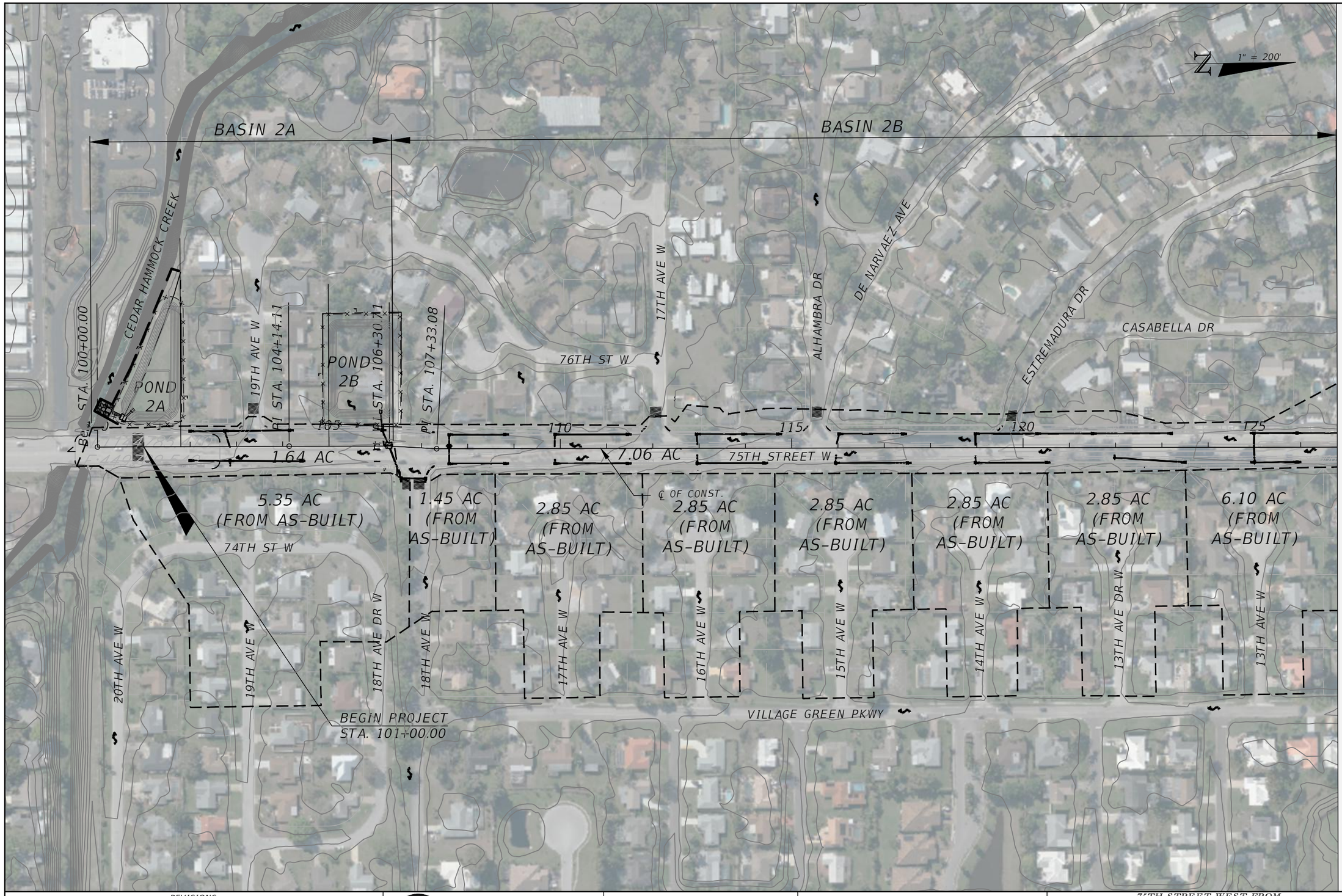

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MANATEE COUNTY
PUBLIC WORKS
COUNTY PROJECT NO:
6108260

75TH STREET WEST FROM
20TH AVENUE W. TO MANATEE AVENUE W. (SR 64)

PROPOSED DRAINAGE MAP (1)

SHEET NO.
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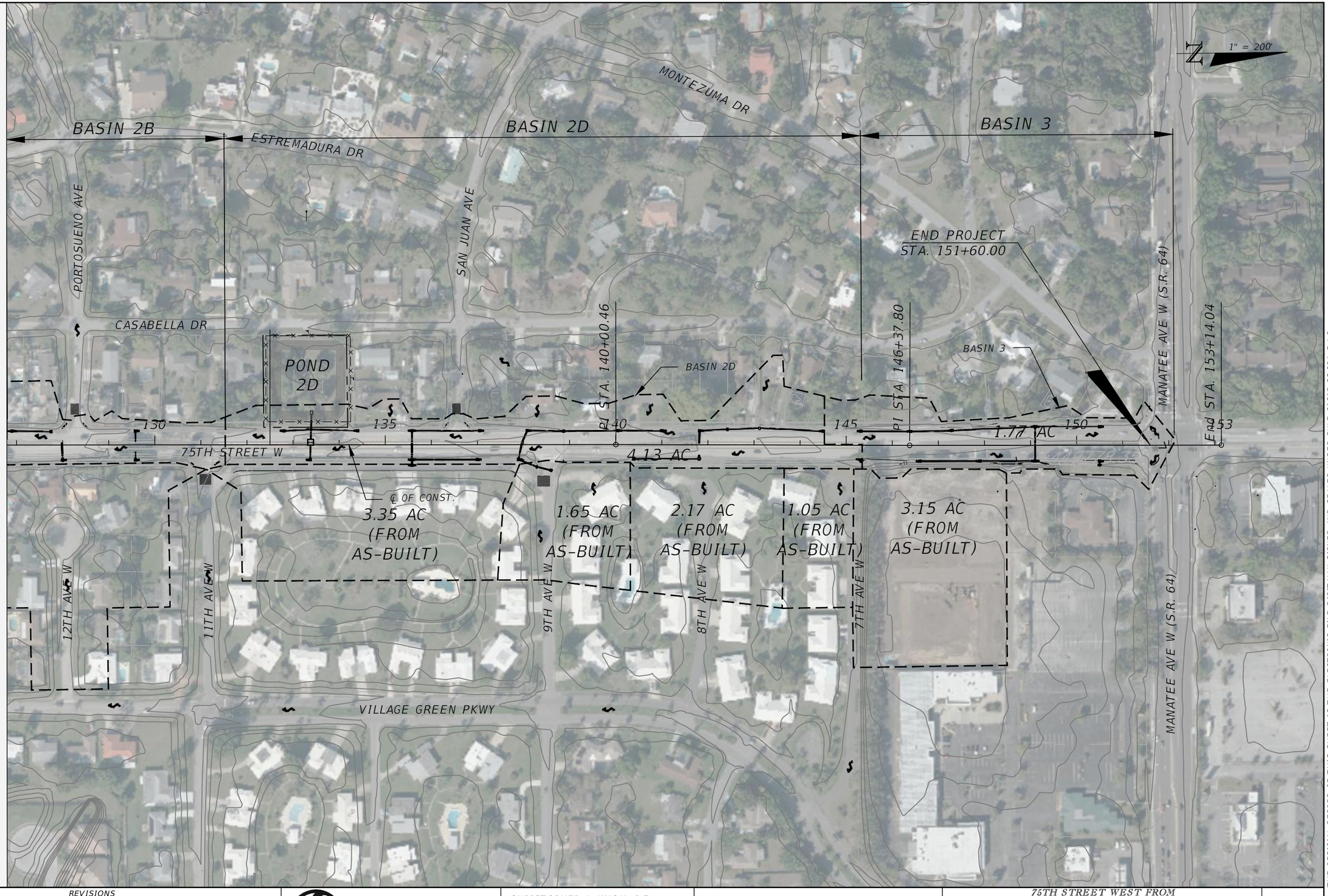

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MANATEE COUNTY PUBLIC WORKS
COUNTY PROJECT NO: 6108260

75TH STREET WEST FROM 20TH AVENUE W. TO MANATEE AVENUE W. (SR 64)

PROPOSED DRAINAGE MAP (2)

SHEET NO. 6

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APPENDIX B

Drainage Calculations

SPREAD CALCULATIONS

SPREAD ANALYSIS CALCULATIONS (75TH STREET)

Project: **75th Street West from 20th Avenue W. to Manatee Avenue W. (SR 64)**

County Project No.: **6108260**

Northbound

n= **0.015**

Design Speed (mph)= **40**

Allowable Spread Width (ft) = **7**

Station	Weighted Runoff Coefficient	Rainfall Intensity	Basin Area		Q (cfs)	Sx (%)	PGL Elevation (ft)	Longitud Slope (%)	Spread (ft)	Comment
		(in/hr)	(sf)	(ac)						
100+57.86	0.64	4.00	14809.5	0.340	0.87	2.0%		0.33%	8.10	EX-3
102+00.00	0.64	4.00	9319.3	0.214	0.55	2.0%		0.33%	6.81	S-104
102+86.50	0.61	4.00	9486.3	0.218	0.53	2.0%		0.33%	6.71	S-106
104+40.00	0.61	4.00	10526.1	0.242	0.59	2.0%		0.33%	6.97	S-108
107+60.00	0.66	4.00	6014.0	0.138	0.36	2.0%		0.33%	5.84	S-114
108+80.00	0.66	4.00	5755.8	0.132	0.35	2.0%		0.33%	5.74	S-118
109+89.00	0.67	4.00	9586.5	0.220	0.59	2.0%		0.33%	7.00	S-120
111+45.00	0.67	4.00	8426.3	0.193	0.52	2.0%		0.33%	6.67	S-122
112+96.00	0.73	4.00	8344.5	0.192	0.56	2.0%		0.33%	6.84	S-124
114+40.00	0.73	4.00	8796.2	0.202	0.59	2.0%		0.33%	6.98	S-126
115+95.00	0.68	4.00	8958.7	0.206	0.56	2.0%		0.33%	6.85	S-128
117+50.00	0.68	4.00	9089.4	0.209	0.57	2.0%		0.33%	6.89	S-131
118+97.00	0.74	4.00	8363.0	0.192	0.57	2.0%		0.33%	6.89	S-132
120+50.00	0.73	4.00	8973.6	0.206	0.60	2.0%		0.33%	7.03	S-135
122+25.00	High Point									
123+50.00	0.65	4.00	6363.1	0.146	0.38	2.0%		0.33%	5.91	S-139
124+99.00	0.65	4.00	7206.7	0.165	0.43	2.0%		0.33%	6.19	S-140
125+92.00	0.65	4.00	4761.5	0.109	0.28	2.0%		0.33%	5.30	S-143 (south End)
125+92.00	0.65	4.00	9934.3	0.228	0.59	2.0%		0.33%	6.99	S-143 (north End)
128+00.00	0.74	4.00	6616.0	0.152	0.45	2.0%		0.33%	6.32	S-146
129+58.00	0.74	4.00	8074.0	0.185	0.55	2.0%		0.33%	6.80	S-148
131+85.00	High Point									
133+37.00	0.77	4.00	8355.4	0.192	0.59	2.0%		0.30%	7.08	S-153
135+58.00	0.77	4.00	8261.2	0.190	0.58	2.0%		0.30%	7.05	S-156 (south end)
135+58.00	0.77	4.00	6105.0	0.140	0.43	2.0%		0.33%	6.19	S-156 (north end)
137+00.00	0.77	4.00	3828.3	0.088	0.27	2.0%		0.33%	5.20	S-158
137+89.00	0.77	4.00	2362.8	0.054	0.17	2.0%		0.33%	4.34	S-160
138+59.76	0.72	4.00	7458.5	0.171	0.49	2.0%		0.33%	6.53	S-163 (south end)
138+59.76	0.72	4.00	6951.2	0.160	0.46	2.0%		0.33%	6.36	S-163 (north end)
140+40.00	0.72	4.00	6819.8	0.157	0.45	2.0%		0.33%	6.32	S-166
141+81.00	0.63	4.00	9282.9	0.213	0.54	2.0%		0.33%	6.75	S-169
143+50.00	High Point									
145+32.00	0.63	4.00	8899.8	0.204	0.51	2.0%		0.30%	6.78	S-174
146+60.00	0.79	4.00	7770.3	0.178	0.56	2.0%		0.30%	6.98	S-176
147+90.00	0.79	4.00	6264.9	0.144	0.45	2.0%		0.30%	6.43	S-178
149+10.00	0.81	4.00	6533.3	0.150	0.49	2.0%		0.30%	6.63	S-180 (south end)
149+10.00	0.68	4.00	9966.2	0.229	0.62	2.0%		0.30%	7.28	S-180 (north end)
150+50.00	0.68	4.00	12105.9	0.278	0.75	2.0%		0.30%	7.83	S-182

SPREAD ANALYSIS CALCULATIONS (75TH STREET)

Project: **75th Street West from 20th Avenue W. to Manatee Avenue W. (SR 64)**

County Project No.: **6108260**

Southbound

n= **0.015**

Design Speed (mph)= **40**

Allowable Spread Width (ft) = **7**

Station	Weighted Runoff Coefficient	Rainfall Intensity	Basin Area		Q (cfs)	Sx (%)	PGL Elevation (ft)	Longitud Slope (%)	Spread (ft)	Comment
		(in/hr)	(sf)	(ac)						
100+58.20	0.78	4.00	7109.8	0.163	0.51	2.0%		0.33%	6.52	EX-1
102+00.00	0.78	4.00	3741.1	0.086	0.27	2.0%		0.33%	5.12	S-103
102+75.00	0.89	4.00	7675.1	0.176	0.62	2.0%		0.33%	7.05	S-105
104+15.00	0.74	4.00	9074.1	0.208	0.61	2.0%		0.33%	7.00	S-107
106+15.00	0.86	4.00	7562.0	0.174	0.60	2.0%		0.33%	6.94	S-109
107+60.00	0.86	4.00	6878.5	0.158	0.55	2.0%		0.33%	6.70	S-114
108+80.00	0.86	4.00	5871.8	0.135	0.47	2.0%		0.33%	6.31	S-117
109+89.00	0.71	4.00	6821.2	0.157	0.45	2.0%		0.33%	6.22	S-119
111+45.00	0.71	4.00	9619.4	0.221	0.63	2.0%		0.33%	7.08	S-121
112+94.50	0.62	4.00	7617.1	0.175	0.43	2.0%		0.33%	6.14	S-123
113+95.00	0.62	4.00	5782.3	0.133	0.33	2.0%		0.33%	5.54	S-125
114+70.00	0.62	4.00	10532.5	0.242	0.60	2.0%		0.33%	6.93	S-127
116+02.50	0.67	4.00	10283.9	0.236	0.63	2.0%		0.33%	7.08	S-129
117+40.00	0.67	4.00	10172.3	0.234	0.62	2.0%		0.33%	7.03	S-130
118+97.00	0.72	4.00	9443.7	0.217	0.63	2.0%		0.33%	7.05	S-132
120+30.00	0.72	4.00	9316.7	0.214	0.62	2.0%		0.33%	7.02	S-134
121+50.00	0.72	4.00	5823.1	0.134	0.39	2.0%		0.33%	5.88	S-136
122+25.00	High Point									
123+20.00	0.65	4.00	5751.2	0.132	0.34	2.0%		0.33%	5.61	S-138
124+99.00	0.65	4.00	9582.1	0.220	0.57	2.0%		0.33%	6.80	S-140
125+92.00	0.59	4.00	6176.7	0.142	0.33	2.0%		0.33%	5.59	S-142 (south end)
125+92.00	0.59	4.00	11008.1	0.253	0.59	2.0%		0.30%	7.02	S-142 (north end)
126+90.00	0.59	4.00	11251.2	0.258	0.60	2.0%		0.30%	7.08	S-144
127+75.00	0.59	4.00	11205.1	0.257	0.60	2.0%		0.30%	7.06	S-145
129+58.00	0.65	4.00	9768.4	0.224	0.58	2.0%		0.30%	7.01	S-147
131+85.00	High Point									
132+80.00	0.65	4.00	8928.8	0.205	0.53	2.0%		0.30%	6.77	S-149
134+40.00	0.65	4.00	7817.5	0.179	0.46	2.0%		0.30%	6.44	S-154
135+58.00	0.65	4.00	9768.4	0.224	0.58	2.0%		0.30%	7.00	S-155 (south end)
135+58.00	0.65	4.00	8656.0	0.199	0.51	2.0%		0.33%	6.56	S-155 (north end)
137+05.00	0.65	4.00	7365.0	0.169	0.44	2.0%		0.33%	6.18	S-159
138+08.00	0.62	4.00	8610.9	0.198	0.49	2.0%		0.33%	6.46	S-161
138+87.00	0.62	4.00	11041.1	0.253	0.62	2.0%		0.33%	7.05	S-164
140+05.00	0.62	4.00	10346.0	0.238	0.59	2.0%		0.33%	6.92	S-165
141+00.00	0.62	4.00	9058.7	0.208	0.52	2.0%		0.33%	6.58	S-167
141+82.00	0.64	4.00	10386.4	0.238	0.60	2.0%		0.33%	6.97	S-168
143+60.00	High Point									
144+50.00	0.61	4.00	8662.0	0.199	0.48	2.0%		0.30%	6.54	S-172
145+32.00	0.61	4.00	7870.7	0.181	0.44	2.0%		0.30%	6.31	S-173
146+40.00	0.57	4.00	11137.1	0.256	0.58	2.0%		0.30%	6.99	S-175
147+90.00	0.57	4.00	10441.7	0.240	0.55	2.0%		0.30%	6.84	S-178
149+10.00	0.83	4.00	7005.0	0.161	0.53	2.0%		0.30%	6.78	S-179 (south end)
149+10.00	0.83	4.00	7948.8	0.182	0.61	2.0%		0.30%	7.11	S-179 (north end)
150+50.00	0.83	4.00	7087.5	0.163	0.54	2.0%		0.30%	6.81	S-181

STORM TABULATION

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

Financial Prj Id: **6108260** County: **.Manatee** Network: **SYS-2A** Designed by: Date: 2/ 3/2023
Description: **75th Street West** Organization **Cardno, Inc.** State Road: **.** Checked by: Date: 2/ 3/2023

LOCATION OF UPPER END / ALIGNMENT NAME / STATION	DIST	SD	STR. NO. / UPPER / LOWER	TYPE OF STR.	LEN. (ft.)	AREAS (Ac) C= 0.00 / C= 0.00 / C= 0.00 INC	AREAS (Ac) TOTAL	SUB-TOTAL (C*A)	TIME OF CONC (min)	TIME OF FLOW SECT. (min)	INTEN (in/hr)	TOTAL (C*A)	BASE FLOW SUMM BASE (cfs)	TOTAL FLOW (cfs)	MINOR LOSS (ft.)	INLET ELEV. (ft.)	HGL CLEAR (ft.)	HYDRAULIC GRADE CROWN / FLOWLINE UPPER (ft.)	HYDRAULIC GRADE FLOWLINE LOWER (ft.)	HYDRAULIC GRADE FLOWLINE FALL (ft.)	# BR / L / S	PIPE SIZE (in.) / RISE / SPAN	SLOPE % / HGL / PHYS. MIN.	ACTUAL VEL. / PHYS. VEL. (fps)	FULL FLOW CAP. (cfs)	NOTES & REMARKS / ZONE: 6 / FREQ. (Yrs): 25 / MANNINGS n: 0.0120 / TAILW EL (ft): 12.62
			S-101			0.00	1.68	0.00										12.62	12.62	0.00		60.00	0.211	6.60		
				MH-7J	1.00	0.00	0.00	0.00	12.14	0.00	7.87	1.75	0.00	**129.68**	0.00	15.40	**2.78**	11.77			1		0.000		0.00	
100+56.2	63.50	Lt.	SB-101			0.00	0.77	0.00					115.90					6.77	6.77	0.00		60.00	0.030	0.00		
			S-105			0.17	0.59	0.16										13.26	13.20	0.06		18.00	0.175	2.70		
				P-5	37.00	0.00	0.00	0.00	11.17	0.23	8.13	0.59	0.00	**4.77**	0.00	15.08	**1.82**	11.60	11.45		1		0.405		7.25	
102+75	33.60	Lt.	EX-4			0.01	0.13	0.00					0.00					10.10	9.95	0.15		18.00	0.150	4.10		
			S-106			0.13	0.55	0.12										13.30	13.20	0.10		30.00	0.372	5.52		BASE FLOW FROM 74TH S
				P-5	27.00	0.00	0.00	0.00	11.27	0.08	8.10	0.60	22.26	**27.11**	0.00	15.07	**1.77**	13.27	12.94		1		1.222		49.12	SYSTEM
102+86.50	30.95	Rt.	EX-4			0.09	0.38	0.02					22.26					10.77	10.44	0.33		30.00	0.076	10.01		
			S-107			0.16	0.16	0.15										13.28	13.26	0.02		18.00	0.015	0.78		
				P-5	140.00	0.00	0.00	0.00	10.00	1.17	8.46	0.16	0.00	**1.37**	0.00	15.58	**2.30**	11.90	11.60		1		0.214		5.27	
104+15	34.20	Lt.	S-105			0.05	0.05	0.01					0.00					10.40	10.10	0.30		18.00	0.150	2.98		
			S-108			0.14	0.14	0.13										13.32	13.30	0.02		18.00	0.013	0.73		
				P-5	153.00	0.00	0.00	0.00	10.00	1.27	8.46	0.15	0.00	**1.29**	0.00	15.75	**2.43**	11.80	11.60		1		0.131		4.11	
104+40	32.30	Rt.	S-106			0.10	0.10	0.02					0.00					10.30	10.10	0.20		18.00	0.150	2.33		
			S-103			0.26	0.26	0.25										13.29	13.26	0.03		18.00	0.038	1.25		
				P-5	75.00	0.00	0.00	0.00	10.00	0.63	8.46	0.26	0.00	**2.21**	0.00	14.73	**1.44**	11.70	11.60		1		0.133		4.16	
102+00	33.20	Lt.	S-105			0.07	0.07	0.01					0.00					10.20	10.10	0.10		18.00	0.150	2.35		
			S-104			0.28	0.28	0.27										13.30	13.30	0.00		18.00	0.051	1.46		
				P-5	7.00	0.00	0.00	0.00	10.00	0.06	8.46	0.30	0.00	**2.57**	0.00	14.79	**1.49**	12.40	12.30		1		1.429		3.86	
102+00	30.05	Rt.	S-106			0.19	0.19	0.04					0.00					10.90	10.80	0.10		18.00	0.150	2.18		
			EX-4			0.00	1.14	0.00										13.20	12.75	0.45		60.00	0.198	6.39		BASE FLOW FROM 2B SYS
				MH-8J	226.00	0.00	0.00	0.00	11.40	0.59	8.06	1.18	93.64	**125.46**	0.00	15.45	**2.25**	13.16	12.37		1		0.350		166.82	
102+86.50	3.20	Rt.	EX-2			0.00	0.51	0.00					115.90					8.16	7.37	0.79		60.00	0.030	8.50		
			EX-3			0.28	0.28	0.27										12.77	12.75	0.02		18.00	0.051	1.46		INVERTS FROM AS BUILTP
				J-9	34.00	0.00	0.00	0.00	10.00	0.28	8.46	0.30	0.00	**2.57**	0.00	14.33	**1.56**	12.77	12.70		1		0.206		5.16	IT 401208800
100+57.86	34.19	Rt.	EX-2			0.19	0.19	0.04					0.00					11.27	11.20	0.07		18.00	0.150	2.92		
			EX-2			0.00	1.42	0.00										12.75	12.68	0.07		60.00	0.205	6.50		
				MH-8J	34.00	0.00	0.00	0.00	11.98	0.09	7.91	1.49	0.00	**127.68**	0.00	14.92	**2.17**	12.42	11.83		1		1.735		371.67	
100+60.28	0.08	Lt.	EX-1			0.00	0.70	0.00					115.90					7.42	6.83	0.59		60.00	0.030	18.93		
			EX-1			0.26	1.68	0.25										12.68	12.62	0.06		60.00	0.211	6.61		
				J-9	28.00	0.00	0.00	0.00	12.07	0.07	7.89	1.75	0.00	**129.71**	0.00	14.08	**1.40**	11.82	11.77		1		0.179		119.23	
100+58.20	34.08	Lt.	S-101			0.07	0.77	0.01					115.90					6.82	6.77	0.05		60.00	0.030	6.07		

Units: ENGLISH

HGL method: Standard FDOT (Jump HGL to pipe crown).

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

Financial Prj Id: **6108260** County: **.Manatee** Network: **SYS-2B** Designed by Date: 7/19/2023
Description: **75th Street West** Organization **Cardno, Inc.** State Road: **.** Checked by: Date: 7/19/2023

LOCATION OF UPPER END / ALIGNMENT NAME / STATION	DIST	SD	STR. NO. / UPPER / LOWER	TYPE OF STR.	LEN. (ft.)	AREAS (Ac) C= 0.95 / C= 0.70 / C= 0.20 INC	TOTAL	SUB-TOTAL (C*A)	TIME OF CONC (min)	TIME OF FLOW SECT. (min)	INTEN (in/hr)	TOTAL (C*A)	BASE FLOW SUMM BASE (cfs)	TOTAL FLOW (cfs)	MINOR LOSS (ft.)	INLET ELEV. (ft.)	HGL CLEAR (ft.)	HYDRAULIC GRADE CROWN / FLOWLINE UPPER (ft.)	LOWER (ft.)	FALL (ft.)	# BR / L / S	PIPE SIZE (in.) / RISE / SPAN	SLOPE % / HGL / PHYS. MIN.	ACTUAL VEL. / PHYS. VEL. (fps)	FULL FLOW CAP. (cfs)	NOTES & REMARKS
			S-110			0.16	0.16	0.15										14.22	14.21	0.00		18.00	0.013	0.74		ZONE: 6
				P-5	36.00	0.00	0.00	0.00	10.00	0.30	8.46	0.15	0.00	**1.30**	0.00	16.28	**2.06**	10.55	10.60		1		-0.139		-4.24	FREQ. (Yrs): 25
106+15	33.20	Lt.	S-111			0.01	0.01	0.00					0.00					9.05	9.10	-0.05		18.00	0.150	-2.40		MANNINGS n: 0.0120
			S-111			0.00	5.61	0.00										14.21	14.21	0.00		60.00	0.202	6.46		
				MH-7J	1.00	0.00	0.00	0.00	20.14	0.00	6.42	5.91	0.00	**126.89**	0.00	17.30	**3.09**	14.21	14.21		1		0.000		0.00	
106+29.5	1.50	Rt.	SB-111			0.00	2.90	0.00					88.97					9.21	9.21	0.00		60.00	0.030	0.00		TAILW EL (ft): 13.70
			S-112			0.14	0.69	0.13										14.26	14.21	0.05		24.00	0.067	2.01		
				P-9	76.00	0.00	0.00	0.00	10.31	0.63	8.37	0.76	0.00	**6.32**	0.00	16.65	**2.39**	11.50	11.20		1		0.395		15.40	
106+60.84	65.50	Rt.	S-111			0.18	0.50	0.04					0.00					9.50	9.20	0.30		24.00	0.102	4.90		
			S-113			0.55	0.55	0.52										14.36	14.26	0.10		18.00	0.190	2.81		
				P-5	53.00	0.00	0.00	0.00	10.00	0.31	8.46	0.59	0.00	**4.96**	0.00	16.48	**2.12**	11.15	11.00		1		0.283		6.05	
107+11.17	65.23	Rt.	S-112			0.32	0.32	0.06					0.00					9.65	9.50	0.15		18.00	0.150	3.43		
			S-123			0.11	0.33	0.10										15.81	15.80	0.01		18.00	0.062	1.60		
				P-5	24.00	0.00	0.00	0.00	11.47	0.20	8.05	0.35	0.00	**2.83**	0.00	18.71	**2.90**	15.85	15.80		1		0.208		5.19	
112+94.50	30.30	Lt.	EX-6			0.07	0.19	0.01					0.00					14.35	14.30	0.05		18.00	0.150	2.94		
			S-125			0.08	0.22	0.08										15.88	15.85	0.03		18.00	0.029	1.09		
				P-5	101.00	0.00	0.00	0.00	10.63	0.84	8.28	0.23	0.00	**1.93**	0.00	19.05	**3.17**	16.00	15.85		1		0.149		4.39	
113+95	30.30	Lt.	S-123			0.05	0.12	0.01					0.00					14.50	14.35	0.15		18.00	0.150	2.48		
			S-126			0.15	0.15	0.14										15.40	15.40	0.00		18.00	0.013	0.73		
				P-5	14.00	0.00	0.00	0.00	10.00	0.12	8.46	0.15	0.00	**1.29**	0.00	18.97	**3.57**	14.55	14.30		1		1.786		4.74	
114+40	32.30	Rt.	S-124			0.05	0.05	0.01					0.00					13.05	12.80	0.25		18.00	0.150	2.68		
			S-127			0.14	0.14	0.13										16.01	16.00	0.01		18.00	0.012	0.70		
				P-5	75.00	0.00	0.00	0.00	10.00	0.63	8.46	0.15	0.00	**1.24**	0.00	20.04	**4.03**	16.15	16.00		1		0.200		5.09	
117+50	32.30	Rt.	S-125			0.07	0.07	0.01					0.00					14.65	14.50	0.15		18.00	0.150	2.88		
			S-128			0.14	0.28	0.13										16.21	16.10	0.11		24.00	0.272	4.07		BASE FLOW FROM 15TH A
				P-5	40.00	0.00	0.00	0.00	11.29	0.16	8.09	0.29	10.40	**12.78**	0.00	19.56	**3.35**	13.86	13.56		1		0.750		21.22	SYSTEM
115+95.00	32.22	Rt.	EX-7			0.07	0.14	0.01					10.40					11.86	11.56	0.30		24.00	0.102	6.76		
			S-129			0.16	0.30	0.15										16.31	16.30	0.01		18.00	0.051	1.45		
				P-5	22.00	0.00	0.00	0.00	11.15	0.18	8.13	0.31	0.00	**2.56**	0.00	19.77	**3.46**	16.35	16.30		1		0.227		5.42	
116+02.50	30.30	Lt.	EX-7			0.08	0.15	0.02					0.00					14.85	14.80	0.05		18.00	0.150	3.07		
			S-130			0.14	0.14	0.13										16.37	16.35	0.02		18.00	0.012	0.70		
				P-5	138.00	0.00	0.00	0.00	10.00	1.15	8.46	0.15	0.00	**1.24**	0.00	20.04	**3.67**	16.60	16.35		1		0.181		4.84	
117+50	32.30	Rt.	S-129			0.07	0.07	0.01					0.00					15.10	14.85	0.25		18.00	0.150	2.74		
			S-131			0.14	0.14	0.13										16.23	16.21	0.02		18.00	0.012	0.70		
				P-5	155.00	0.00	0.00	0.00	10.00	1.29	8.46	0.15	0.00	**1.24**	0.00	20.04	**3.81**	14.75	14.50		1		0.161		4.57	
117+50	32.30	Rt.	S-128			0.07	0.07	0.01					0.00					13.25	13.00	0.25		18.00	0.150	2.59		
			S-132			0.16	0.50	0.15										16.82	16.81	0.01		24.00	0.025	1.24		BASE FLOW FROM 13TH A
				P-5	25.00	0.00	0.00	0.00	13.53	0.21	7.55	0.51	0.00	**3.89**	0.00	20.79	**3.97**	16.55	16.50		1		0.200		10.96	SYSTEM
118+97	30.30	Lt.	EX-8			0.06	0.20	0.01					0.00					14.55	14.50	0.05		24.00	0.102	3.49		
			S-133			0.14	0.30	0.13										16.92	16.81	0.10		24.00	0.276	4.10		BASE FLOW FROM 14TH A
				P-5	37.00	0.00	0.00	0.00	11.27	0.15	8.10	0.31	10.40	**12.89**	0.00	20.55	**3.63**	16.74	16.57		1		0.459		16.61	SYSTEM
118+97	32.23	Rt.	EX-8			0.05	0.11	0.01					10.40					14.74	14.57	0.17		24.00	0.102	5.29		

Units: ENGLISH

HGL method: Standard FDOT (Jump HGL to pipe crown).

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

Financial Prj Id: **6108260** County: **.Manatee** Network: **SYS-2B** Designed by Date: 7/19/2023
Description: **75th Street West** Organization **Cardno, Inc.** State Road: **.** Checked by: Date: 7/19/2023

LOCATION OF UPPER END / ALIGNMENT NAME			STR. NO. / UPPER	TYPE OF STR.	LEN.	AREAS (Ac) C= 0.95 / C= 0.70 / C= 0.20		SUB-TOTAL (C*A)	TIME OF CONC	TIME OF FLOW SECT.	INTEN	TOTAL (C*A)	BASE FLOW SUMM BASE	TOTAL FLOW	MINOR LOSS	INLET ELEV.	HGL CLEAR	HYDRAULIC GRADE CROWN / FLOWLINE			# B R L S	PIPE SIZE (in.) RISE SPAN	SLOPE % HGL PHYS MIN.	ACTUAL VEL. PHYS. VEL.	FULL FLOW CAP.	NOTES & REMARKS ZONE: 6 / FREQ. (Yrs): 25 / MANNINGS n: 0.0120
STATION	DIST	SD	LOWER		(ft.)	INC	TOTAL		(min)	(min)	(in/hr)		(cfs)	(cfs)	(ft.)	(ft.)	(ft.)	UPPER (ft.)	LOWER (ft.)	FALL (ft.)						TAILW EL (ft): 13.70
			S-134			0.15	0.34	0.14										16.84	16.82	0.02		24.00	0.013	0.87		BASE FLOW FROM 13TH A\
				P-5	133.00	0.00	0.00	0.00	12.42	1.11	7.81	0.35	0.00	**2.74**	0.00	21.25	**4.41**	16.70	16.50		1		0.150		9.50	SYSTEM
120+30	30.30	Lt.	S-132			0.06	0.14	0.01					0.00					14.70	14.50	0.20		24.00	0.102	3.03		
			S-135			0.16	0.16	0.15										16.94	16.92	0.02		18.00	0.015	0.79		BASE FLOW FROM 13TH A\
				P-5	153.00	0.00	0.00	0.00	10.00	1.27	8.46	0.16	0.00	**1.39**	0.00	21.32	**4.38**	17.00	16.80		1		0.131		4.11	SYSTEM
120+50	32.30	Rt.	S-133			0.06	0.06	0.01					0.00					15.50	15.30	0.20		18.00	0.150	2.33		
			S-136			0.11	0.19	0.10										16.86	16.84	0.02		18.00	0.019	0.90		BASE FLOW FROM 13TH A\
				P-5	120.00	0.00	0.00	0.00	11.42	1.00	8.06	0.20	0.00	**1.58**	0.00	21.66	**4.80**	16.40	16.20		1		0.167		4.65	SYSTEM
121+50	30.30	Lt.	S-134			0.03	0.08	0.01					0.00					14.90	14.70	0.20		18.00	0.150	2.63		
			S-137			0.09	0.18	0.09										17.70	17.70	0.00		24.00	0.004	0.50		BASE FLOW FROM 13TH A\
				P-5	28.00	0.00	0.00	0.00	11.27	0.23	8.10	0.20	0.00	**1.58**	0.00	21.51	**3.81**	17.45	17.70		1		-0.893		-23.16	SYSTEM
123+50	32.30	Rt.	EX-9			0.06	0.12	0.01					0.00					15.45	15.70	-0.25		24.00	0.102	-7.37		
			S-138			0.08	0.08	0.08										16.87	16.86	0.01		18.00	0.004	0.41		BASE FLOW FROM 13TH A\
				P-5	170.00	0.00	0.00	0.00	10.00	1.42	8.46	0.09	0.00	**0.73**	0.00	21.61	**4.74**	16.70	16.40		1		0.176		4.78	SYSTEM
123+20	30.30	Lt.	S-136			0.05	0.05	0.01					0.00					15.20	14.90	0.30		18.00	0.150	2.71		
			S-139			0.09	0.09	0.09										17.71	17.70	0.01		18.00	0.005	0.47		BASE FLOW FROM 13TH A\
				P-5	153.00	0.00	0.00	0.00	10.00	1.27	8.46	0.10	0.00	**0.83**	0.00	21.51	**3.80**	17.20	16.95		1		0.163		4.60	SYSTEM
123+50	32.30	Rt.	S-137			0.06	0.06	0.01					0.00					15.70	15.45	0.25		18.00	0.150	2.60		
			S-140			0.12	0.59	0.11										17.97	17.96	0.01		24.00	0.043	1.62		
				P-5	23.00	0.00	0.00	0.00	12.19	0.19	7.86	0.65	0.00	**5.08**	0.00	21.01	**3.04**	17.85	17.80		1		0.217		11.43	
124+99	30.30	Lt.	EX-10			0.10	0.43	0.02					0.00					15.85	15.80	0.05		24.00	0.102	3.64		
			S-141			0.11	0.33	0.10										18.07	17.96	0.11		24.00	0.294	4.23		BASE FLOW FROM 13TH A\
				P-5	37.00	0.00	0.00	0.00	10.77	0.15	8.24	0.35	10.40	**13.28**	0.00	21.01	**2.94**	16.80	16.50		1		0.811		22.07	SYSTEM
124+99.50	32.30	Rt.	EX-10			0.06	0.18	0.01					10.40					14.80	14.50	0.30		24.00	0.102	7.02		
			S-142			0.22	0.47	0.21										18.00	17.97	0.03		24.00	0.028	1.31		
				P-6	93.00	0.00	0.00	0.00	11.42	0.77	8.06	0.51	0.00	**4.13**	0.00	20.71	**2.71**	18.00	17.85		1		0.161		9.84	
125+92	30.24	Lt.	S-140			0.17	0.33	0.03					0.00					16.00	15.85	0.15		24.00	0.102	3.13		
			S-143			0.22	0.22	0.21										18.10	18.07	0.03		18.00	0.030	1.12		
				P-6	92.00	0.00	0.00	0.00	10.00	0.77	8.46	0.23	0.00	**1.97**	0.00	20.47	**2.37**	16.90	16.80		1		0.109		3.75	
125+92	32.30	Rt.	S-141			0.12	0.12	0.02					0.00					15.40	15.30	0.10		18.00	0.150	2.12		
			S-144			0.14	0.25	0.13										18.03	18.00	0.03		18.00	0.038	1.26		
				P-5	85.00	0.00	0.00	0.00	10.71	0.71	8.25	0.27	0.00	**2.22**	0.00	20.95	**2.92**	18.20	18.00		1		0.235		5.52	
129+60	29.30	Lt.	S-142			0.12	0.16	0.02					0.00					16.70	16.50	0.20		18.00	0.150	3.12		
			S-145			0.11	0.11	0.10										18.21	18.20	0.01		18.00	0.007	0.54		
				P-9	85.00	0.00	0.00	0.00	10.00	0.71	8.46	0.11	0.00	**0.95**	0.00	21.02	**2.81**	18.30	18.20		1		0.118		3.90	
128+00	32.27	Rt.	S-144			0.04	0.04	0.01					0.00					16.80	16.70	0.10		18.00	0.150	2.21		
			S-146			0.11	0.11	0.10										18.56	18.53	0.03		30.00	0.083	2.61		BASE FLOW FROM 12TH A\
				P-5	37.00	0.00	0.00	0.00	10.00	0.24	8.46	0.11	11.86	**12.81**	0.00	21.02	**2.46**	18.00	17.57		1		1.162		47.90	SYSTEM
128+00	32.27	Rt.	EX-12			0.04	0.04	0.01					11.86					15.50	15.07	0.43		30.00	0.076	9.76		
			S-147			0.14	0.14	0.13										18.95	18.94	0.01		15.00	0.032	1.03		
				P-5	24.00	0.00	0.00	0.00	10.00	0.20	8.46	0.15	0.00	**1.26**	0.00	21.76	**2.81**	19.00	18.94		1		0.250		3.50	
129+58	30.29	Lt.	EX-13			0.08	0.08	0.02					0.00					17.75	17.69	0.06		15.00	0.191	2.85		

Units: ENGLISH

HGL method: Standard FDOT (Jump HGL to pipe crown).

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

Financial Prj Id: **6108260** County: **.Manatee** Network: **SYS-2B** Designed by Date: 7/19/2023
Description: **75th Street West** Organization **Cardno, Inc.** State Road: **.** Checked by: Date: 7/19/2023

LOCATION OF UPPER END / ALIGNMENT NAME			STR. NO. / UPPER	TYPE OF STR.	LEN.	AREAS (Ac) C= 0.95 / C= 0.70 / C= 0.20		SUB-TOTAL (C*A)	TIME OF CONC	TIME OF FLOW SECT.	INTEN	TOTAL (C*A)	BASE FLOW SUMM BASE	TOTAL FLOW	MINOR LOSS	INLET ELEV.	HGL CLEAR	HYDRAULIC GRADE CROWN / FLOWLINE			# BR L S	PIPE SIZE (in.) RISE SPAN	SLOPE % HGL PHYS MIN.	ACTUAL VEL. PHYS. VEL.	FULL FLOW CAP.	NOTES & REMARKS
																										ZONE: 6
																										FREQ. (Yrs): 25
																		UPPER	LOWER	FALL						MANNINGS n: 0.0120
STATION	DIST	SD	LOWER		(ft.)	INC	TOTAL		(min)	(min)	(in/hr)		(cfs)	(cfs)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)						TAILW EL (ft): 13.70
			S-148			0.15	0.15	0.14										18.73	18.72	0.01		15.00	0.033	1.04		
				P-5	39.00	0.00	0.00	0.00	10.00	0.32	8.46	0.15	0.00	**1.27**	0.00	21.76	**3.03**	16.67	16.67		1		0.000		0.00	
129+58	32.26	Rt.	EX-13			0.04	0.04	0.01					0.00					15.42	15.42	0.00		15.00	0.191	0.00		
			S-149			0.26	0.26	0.25										19.44	19.27	0.17		18.00	0.337	7.18		PIPE SLOPE FROM AS BUI
				P-5	52.00	0.00	0.00	0.00	10.00	0.12	8.46	0.29	0.00	**2.48**	0.00	21.76	**2.32**	20.57	19.27		1		2.500		17.99	
131+60.41	44.75	Rt.	EX-14			0.23	0.23	0.05					0.00					19.07	17.77	1.30		18.00	0.150	10.18		
			EX-14			0.00	0.26	0.00										19.15	19.10	0.05		48.00	0.031	2.19		BASE FLOW FROM 2D SYS
				MH-8J	160.00	0.00	0.00	0.00	10.12	1.22	8.43	0.29	25.11	**27.58**	0.00	22.31	**3.16**	19.27	19.10		1		0.106		50.72	
131+58.64	6.28	Lt.	EX-13			0.00	0.23	0.00					25.11					15.27	15.10	0.17		48.00	0.041	4.04		
			EX-13			0.00	0.55	0.00										18.72	18.60	0.12		42.00	0.075	3.11		
				MH-8J	160.00	0.00	0.00	0.00	11.34	0.86	8.08	0.59	0.00	**29.90**	0.00	22.29	**3.57**	18.79	18.60		1		0.119		37.56	
129+58.12	6.46	Lt.	EX-12			0.00	0.35	0.00					25.11					15.29	15.10	0.19		42.00	0.048	3.90		
			S-124			0.15	0.30	0.14										15.40	15.29	0.11		24.00	0.280	4.13		BASE FLOW FROM 16TH A
				P-5	39.00	0.00	0.00	0.00	10.12	0.16	8.43	0.31	10.40	**12.97**	0.00	18.51	**3.11**	14.74	13.04		1		4.359		51.17	SYSTEM
112+96	32.27	Rt.	EX-6			0.05	0.10	0.01					10.40					12.74	11.04	1.70		24.00	0.102	16.29		
			EX-12			0.00	0.66	0.00										18.53	18.41	0.12		48.00	0.075	3.38		
				MH-8J	160.00	0.00	0.00	0.00	12.19	0.79	7.86	0.70	0.00	**42.51**	0.00	21.17	**2.64**	18.31	18.41		1		-0.062		-38.90	
127+98.25	6.36	Lt.	EX-11			0.00	0.39	0.00					36.97					14.31	14.41	-0.10		48.00	0.041	-3.10		
			EX-11			0.00	0.66	0.00										18.23	18.11	0.12		48.00	0.074	3.37		
				MH-8J	160.00	0.00	0.00	0.00	12.98	0.79	7.68	0.70	0.00	**42.38**	0.00	21.12	**2.89**	18.31	18.11		1		0.125		55.02	
124+98.94	5.86	Lt.	EX-10			0.00	0.39	0.00					36.97					14.31	14.11	0.20		48.00	0.041	4.38		
			S-122			0.13	0.13	0.12										17.17	17.07	0.10		18.00	0.108	1.87		
				P-6	93.00	0.00	0.00	0.00	10.00	0.77	8.46	0.14	0.00	**1.16**	0.00	17.95	**0.78**	18.10	18.00		1		0.108		3.73	
111+45	32.30	Rt.	S-120			0.07	0.07	0.01					0.00					16.60	16.50	0.10		18.00	0.150	2.11		
			S-120			0.14	0.27	0.13										14.96	14.86	0.09		24.00	0.271	4.06		BASE FLOW FROM 17TH A
				P-5	35.00	0.00	0.00	0.00	10.77	0.14	8.23	0.29	10.40	**12.76**	0.00	17.41	**2.45**	14.01	13.52		1		1.400		29.00	SYSTEM
109+89	32.30	Rt.	EX-5			0.08	0.15	0.02					10.40					12.01	11.52	0.49		24.00	0.102	9.23		
			S-121			0.16	0.16	0.15										14.90	14.87	0.02		18.00	0.015	0.79		
				P-5	156.00	0.00	0.00	0.00	10.00	1.30	8.46	0.16	0.00	**1.39**	0.00	18.19	**3.29**	14.80	14.55		1		0.160		4.56	
111+45	30.30	Lt.	S-119			0.06	0.06	0.01					0.00					13.30	13.05	0.25		18.00	0.150	2.58		
			EX-10			0.00	1.58	0.00										17.96	17.51	0.45		48.00	0.149	4.78		
				MH-8J	301.00	0.00	0.00	0.00	13.77	1.05	7.50	1.70	0.00	**60.13**	0.00	21.12	**3.16**	17.82	17.51		1		0.103		49.94	
124+98.94	5.86	Lt.	EX-9			0.00	1.00	0.00					47.37					13.82	13.51	0.31		48.00	0.041	3.97		
			S-119			0.11	0.27	0.10										14.87	14.86	0.01		18.00	0.039	1.28		
				P-5	26.00	0.00	0.00	0.00	11.30	0.22	8.09	0.28	0.00	**2.25**	0.00	17.65	**2.78**	14.55	14.50		1		0.192		4.99	
109+89	30.30	Lt.	EX-5			0.05	0.11	0.01					0.00					13.05	13.00	0.05		18.00	0.150	2.82		
			EX-9			0.00	1.76	0.00										17.28	16.81	0.46		48.00	0.155	4.87		
				MH-8J	300.00	0.00	0.00	0.00	14.82	1.03	7.29	1.90	0.00	**61.19**	0.00	21.96	**4.68**	16.47	15.59		1		0.293		84.28	
121+97.58	5.86	Lt.	EX-8			0.00	1.12	0.00					47.37					12.47	11.59	0.88		48.00	0.041	6.71		
			S-117			0.12	0.12	0.11										14.56	14.55	0.01		18.00	0.008	0.57		
				P-5	120.00	0.00	0.00	0.00	10.00	1.00	8.46	0.12	0.00	**1.00**	0.00	17.03	**2.47**	14.70	14.55		1		0.125		4.02	
108+80	30.30	Lt.	S-114			0.02	0.02	0.00					0.00					13.20	13.05	0.15		18.00	0.150	2.28		

Units: ENGLISH

HGL method: Standard FDOT (Jump HGL to pipe crown).

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

Financial Prj Id: **6108260** County: **.Manatee** Network: **SYS-2B** Designed by: Date: 7/19/2023
Description: **75th Street West** Organization **Cardno, Inc.** State Road: **.** Checked by: Date: 7/19/2023

LOCATION OF UPPER END / ALIGNMENT NAME / STATION	DIST	SD	STR. NO. / UPPER / LOWER	TYPE OF STR.	LEN. (ft.)	AREAS (Ac) C= 0.95 / C= 0.70 / C= 0.20 INC	TOTAL	SUB-TOTAL (C*A)	TIME OF CONC (min)	TIME OF FLOW SECT. (min)	INTEN (in/hr)	TOTAL (C*A)	BASE FLOW SUMM BASE (cfs)	TOTAL FLOW (cfs)	MINOR LOSS (ft.)	INLET ELEV. (ft.)	HGL CLEAR (ft.)	HYDRAULIC GRADE CROWN / FLOWLINE UPPER (ft.)	LOWER (ft.)	FALL (ft.)	# BR L S	PIPE SIZE (in.) RISE SPAN	SLOPE % HGL PHYS MIN.	ACTUAL VEL. PHYS. VEL. (fps)	FULL FLOW CAP. (cfs)	NOTES & REMARKS ZONE: 6 / FREQ. (Yrs): 25 / MANNINGS n: 0.0120 / TAILW EL (ft): 13.70
			S-118			0.09	0.09	0.09										14.61	14.60	0.01		18.00	0.005	0.45		
				P-5	120.00	0.00	0.00	0.00	10.00	1.00	8.46	0.09	0.00	**0.79**	0.00	17.27	**2.66**	14.80	14.60		1		0.167		4.65	
108+80	32.30	Rt.	S-116			0.04	0.04	0.01					0.00					13.30	13.10	0.20		18.00	0.150	2.63		
			EX-8			0.00	2.56	0.00										16.81	16.59	0.22		60.00	0.075	3.92		
				MH-8J	300.00	0.00	0.00	0.00	15.85	1.27	7.09	2.72	0.00	**77.05**	0.00	21.22	**4.41**	17.07	16.59		1		0.160		112.86	
118+97.23	4.19	Lt.	EX-7			0.00	1.43	0.00					57.77					12.07	11.59	0.48		60.00	0.030	5.75		
			S-115			0.00	4.76	0.00										14.46	14.22	0.24		60.00	0.185	6.18		
				MH-8	131.00	0.00	0.00	0.00	19.78	0.35	6.47	5.00	0.00	**121.30**	0.00	17.08	**2.62**	14.29	14.22		1		0.053		65.22	
107+60	5.80	Lt.	S-111			0.00	2.39	0.00					88.97					9.29	9.22	0.07		60.00	0.030	3.32		
			S-116			0.09	0.18	0.09										14.51	14.50	0.01		18.00	0.018	0.87		
				P-5	38.00	0.00	0.00	0.00	11.00	0.32	8.17	0.19	0.00	**1.54**	0.00	16.86	**2.35**	14.60	14.50		1		0.263		5.84	
107+60	32.30	Rt.	S-115			0.05	0.09	0.01					0.00					13.10	13.00	0.10		18.00	0.150	3.30		
			EX-7			0.00	3.14	0.00										16.10	15.79	0.31		60.00	0.104	4.64		
				MH-8J	300.00	0.00	0.00	0.00	17.12	1.08	6.87	3.33	0.00	**91.03**	0.00	19.99	**3.89**	16.29	15.79		1		0.167		115.19	
115+96.86	7.77	Lt.	EX-6			0.00	1.72	0.00					68.17					11.29	10.79	0.50		60.00	0.030	5.87		
			S-114			0.15	0.27	0.14										14.51	14.50	0.01		18.00	0.036	1.21		
				P-5	25.00	0.00	0.00	0.00	11.00	0.21	8.17	0.26	0.00	**2.15**	0.00	16.62	**2.11**	14.55	14.50		1		0.200		5.09	
107+60	30.30	Lt.	S-115			0.01	0.03	0.00					0.00					13.05	13.00	0.05		18.00	0.150	2.88		
			EX-6			0.00	3.77	0.00										15.29	14.86	0.43		60.00	0.139	5.36		
				MH-8J	309.00	0.00	0.00	0.00	18.20	0.96	6.70	3.98	0.00	**105.26**	0.00	19.74	**4.45**	15.79	14.80		1		0.320		159.70	
112+96.44	6.54	Lt.	EX-5			0.00	2.01	0.00					78.57					10.79	9.80	0.99		60.00	0.030	8.13		
			EX-5			0.00	4.31	0.00										14.86	14.46	0.40		60.00	0.177	6.05		
				MH-8J	226.00	0.00	0.00	0.00	19.16	0.62	6.55	4.55	0.00	**118.78**	0.00	15.45	**0.59**	14.79	14.22		1		0.252		141.70	
102+86.50	3.20	Rt.	S-115			0.00	2.27	0.00					88.97					9.79	9.22	0.57		60.00	0.030	7.22		

Units: ENGLISH

HGL method: Standard FDOT (Jump HGL to pipe crown).

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

Financial Prj Id: **6108260** County: **.Manatee** Network: **SYS-2D** Designed by **ETHAN GRANTGES** Date: 2/ 3/2023
Description: **75th Street West** Organization **Cardno, Inc.** State Road: **.** Checked by: **CHRIS KNOX** Date: 2/ 3/2023

LOCATION OF UPPER END / ALIGNMENT NAME			STR. NO. / UPPER	TYPE OF STR.	LEN.	AREAS (Ac) C= 0.95 / C= 0.70 / C= 0.20 INC	AREAS (Ac) TOTAL	SUB-TOTAL (C*A)	TIME OF CONC	TIME OF FLOW SECT.	INTEN	TOTAL (C*A)	BASE FLOW SUMM BASE	TOTAL FLOW	MINOR LOSS	INLET ELEV.	HGL CLEAR	HYDRAULIC GRADE CROWN / FLOWLINE UPPER	HYDRAULIC GRADE FLOWLINE LOWER	HYDRAULIC GRADE FLOWLINE FALL	# B R L S	PIPE SIZE (in.) / RISE / SPAN	SLOPE % / HGL / PHYS.	ACTUAL VEL. / PHYS. VEL.	FULL FLOW CAP.	NOTES & REMARKS ZONE: 6 / FREQ. (Yrs): 25 / MANNINGS n: 0.0120
STATION	DIST	SD	LOWER		(ft.)	INC	TOTAL		(min)	(min)	(in/hr)		(cfs)	(cfs)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)		MIN.	(fps)	(cfs)	TAILW EL (ft): 19.90
			S-149			0.13	0.13	0.12										20.87	20.86	0.01		18.00	0.011	0.67		INV FROM AS BUILT 401208
				J-5	59.00	0.00	0.00	0.00	10.00	0.49	8.46	0.14	0.00	**1.18**	0.00	22.16	**1.29**	17.40	17.33		1		0.119		3.92	00 (~1' CONV)
132+80	30.20	Lt.	S-151			0.08	0.08	0.02					0.00					15.90	15.83	0.07		18.00	0.150	2.22		
			S-151			0.00	0.24	0.00										20.86	20.85	0.01		18.00	0.035	1.20		
				MH-8	28.00	0.00	0.00	0.00	10.84	0.23	8.22	0.26	0.00	**2.12**	0.00	22.40	**1.54**	17.35	17.33		1		0.071		3.04	
133+39	5.60	Lt.	S-152			0.00	0.15	0.00					0.00					15.85	15.83	0.02		18.00	0.150	1.72		
			S-152			0.00	2.59	0.00										20.85	20.85	0.00		60.00	0.027	2.35		INV FROM AS BUILT 401208
				MH-8J	1.00	0.00	3.35	0.00	16.77	0.00	6.93	5.08	0.00	**46.10**	0.00	22.86	**2.01**	20.85	20.85		1		0.000		0.00	00 (~1' CONV)
133+38	32.30	Rt.	SB-152			0.00	1.39	0.00					10.86					15.85	15.85	0.00		60.00	0.030	0.00		
			S-153			0.15	0.15	0.14										20.86	20.85	0.00		18.00	0.013	0.72		INV FROM AS BUILT 401208
				J-5	38.00	0.00	0.00	0.00	10.00	0.32	8.46	0.15	0.00	**1.27**	0.00	21.99	**1.13**	17.40	17.35		1		0.132		4.13	00 (~1' CONV)
133+37	32.30	Rt.	S-152			0.04	0.04	0.01					0.00					15.90	15.85	0.05		18.00	0.150	2.34		
			S-154			0.11	0.11	0.10										20.87	20.86	0.01		18.00	0.008	0.57		INV FROM AS BUILT 401208
				J-5	101.00	0.00	0.00	0.00	10.00	0.84	8.46	0.12	0.00	**1.00**	0.00	21.69	**0.82**	17.45	17.33		1		0.119		3.92	00 (~1' CONV)
134+40	30.20	Lt.	S-151			0.07	0.07	0.01					0.00					15.95	15.83	0.12		18.00	0.150	2.22		
			S-155			0.27	0.38	0.26										21.01	20.99	0.02		18.00	0.083	1.85		INV FROM AS BUILT 401208
				J-6	24.00	0.00	0.00	0.00	11.23	0.20	8.11	0.40	0.00	**3.27**	0.00	21.39	**0.38**	19.60	19.50		1		0.417		7.35	00 (~1' CONV)
135+58	30.26	Lt.	EX-15			0.15	0.21	0.03					0.00					18.10	18.00	0.10		18.00	0.150	4.16		
			S-156			0.27	0.34	0.26										21.07	20.99	0.07		30.00	0.191	3.96		
				J-6	37.00	0.00	3.35	0.00	15.06	0.16	7.24	2.68	0.00	**19.43**	0.00	21.39	**0.32**	19.10	18.80		1		0.811		40.01	
135+58	32.24	Rt.	EX-15			0.06	0.08	0.01					0.00					16.60	16.30	0.30		30.00	0.076	8.15		
			S-157			0.00	0.00	0.00										21.08	21.07	0.02		30.00	0.146	3.46		INLET IS ON 75TH ST PKWY
				P-6	13.00	3.35	3.35	2.34	15.00	0.06	7.25	2.34	0.00	**17.01**	0.00	21.30	**0.22**	19.20	19.10		1		0.769		38.97	(FRONTAGE ROAD)
135+58	45.75	Rt.	S-156			0.00	0.00	0.00					0.00					16.70	16.60	0.10		30.00	0.076	7.94		
			S-158			0.07	0.07	0.07										21.07	21.07	0.00		18.00	0.003	0.34		
				P-5	142.00	0.00	0.00	0.00	10.00	1.18	8.46	0.07	0.00	**0.60**	0.00	21.86	**0.79**	18.50	18.30		1		0.141		4.27	
137+00	32.30	Rt.	S-156			0.02	0.02	0.00					0.00					17.00	16.80	0.20		18.00	0.150	2.42		
			S-159			0.11	0.11	0.10										21.02	21.01	0.00		24.00	0.002	0.31		
				P-5	147.00	0.00	0.00	0.00	10.00	1.23	8.46	0.12	0.00	**0.99**	0.00	21.87	**0.85**	20.35	20.10		1		0.170		10.11	
137+05	30.30	Lt.	S-155			0.06	0.06	0.01					0.00					18.35	18.10	0.25		24.00	0.102	3.22		
			S-160			0.05	0.21	0.05										21.17	21.17	0.00		24.00	0.005	0.56		
				P-5	37.00	0.00	0.00	0.00	10.63	0.31	8.28	0.21	0.00	**1.75**	0.00	22.15	**0.98**	20.00	19.85		1		0.405		15.60	
137+89	32.24	Rt.	EX-16			0.00	0.06	0.00					0.00					18.00	17.85	0.15		24.00	0.102	4.97		
			S-161			0.12	0.53	0.11										21.18	21.17	0.01		24.00	0.033	1.41		INV FROM AS BUILT 401208
				P-5	27.00	0.00	0.00	0.00	12.43	0.22	7.80	0.57	0.00	**4.43**	0.00	22.07	**0.89**	20.45	20.40		1		0.185		10.55	00 (~1' CONV)
138+08	30.21	Lt.	EX-16			0.08	0.32	0.02					0.00					18.45	18.40	0.05		24.00	0.102	3.36		
			S-162			0.04	0.16	0.04										21.18	21.17	0.01		18.00	0.015	0.78		
				P-9	43.00	0.00	0.00	0.00	10.27	0.36	8.38	0.16	0.00	**1.37**	0.00	21.94	**0.76**	19.60	19.50		1		0.233		5.49	
138+29	48.06	Rt.	S-160			0.02	0.06	0.00					0.00					18.10	18.00	0.10		18.00	0.150	3.11		
			S-163			0.12	0.12	0.11										21.18	21.18	0.00		18.00	0.008	0.58		
				P-9	32.00	0.00	0.00	0.00	10.00	0.27	8.46	0.12	0.00	**1.03**	0.00	21.62	**0.44**	19.65	19.60		1		0.156		4.50	
138+59.76	55.93	Rt.	S-162			0.04	0.04	0.01					0.00					18.15	18.10	0.05		18.00	0.150	2.55		

Units: ENGLISH

HGL method: Standard FDOT (Jump HGL to pipe crown).

FLORIDA DEPARTMENT OF TRANSPORTATION
STORM DRAIN TABULATION FORM

Financial Prj Id: **6108260** County: **.Manatee** Network: **SYS-2D** Designed by **ETHAN GRANTGES** Date: 2/ 3/2023
Description: **75th Street West** Organization **Cardno, Inc.** State Road: **.** Checked by: **CHRIS KNOX** Date: 2/ 3/2023

LOCATION OF UPPER END / ALIGNMENT NAME			STR. NO. / UPPER	TYPE OF STR.	LEN.	AREAS (Ac) C= 0.95 / C= 0.70 / C= 0.20		SUB-TOTAL (C*A)	TIME OF CONC	TIME OF FLOW SECT.	INTEN	TOTAL (C*A)	BASE FLOW SUMM BASE	TOTAL FLOW	MINOR LOSS	INLET ELEV.	HGL CLEAR	HYDRAULIC GRADE CROWN / FLOWLINE			# B R L S	PIPE SIZE (in.) RISE SPAN	SLOPE % HGL PHYS MIN.	ACTUAL VEL. PHYS. VEL.	FULL FLOW CAP.	NOTES & REMARKS
STATION	DIST	SD	LOWER		(ft.)	INC	TOTAL		(min)	(min)	(in/hr)		(cfs)	(cfs)	(ft.)	(ft.)	(ft.)	UPPER (ft.)	LOWER (ft.)	FALL (ft.)						ZONE: 6 / FREQ. (Yrs): 25 / MANNINGS n: 0.0120 / TAILW EL (ft): 19.90
			S-164			0.15	0.41	0.14										21.19	21.18	0.02		24.00	0.020	1.11		
				P-9	79.00	0.00	0.00	0.00	11.78	0.66	7.97	0.44	0.00	**3.49**	0.00	22.24	**1.05**	20.55	20.45		1		0.127		8.72	
138+87	29.30	Lt.	S-161			0.10	0.24	0.02					0.00					18.55	18.45	0.10		24.00	0.102	2.78		
			S-165			0.14	0.26	0.13										21.24	21.19	0.05		18.00	0.040	1.28		
				P-5	118.00	0.00	0.00	0.00	10.79	0.98	8.23	0.28	0.00	**2.26**	0.00	22.63	**1.39**	20.80	20.55		1		0.212		5.24	
140+05	30.20	Lt.	S-164			0.10	0.14	0.02					0.00					19.30	19.05	0.25		18.00	0.150	2.96		
			S-166			0.12	0.12	0.11										22.09	22.08	0.01		18.00	0.008	0.58		
				P-5	141.00	0.00	0.00	0.00	10.00	1.17	8.46	0.12	0.00	**1.03**	0.00	22.99	**0.90**	21.65	21.40		1		0.177		4.79	
140+40	31.10	Rt.	S-169			0.04	0.04	0.01					0.00					20.15	19.90	0.25		18.00	0.150	2.71		
			S-167			0.12	0.12	0.11										21.25	21.24	0.01		18.00	0.008	0.58		
				P-5	95.00	0.00	0.00	0.00	10.00	0.79	8.46	0.12	0.00	**1.03**	0.00	22.95	**1.70**	20.95	20.80		1		0.158		4.52	
140+40	31.10	Rt.	S-165			0.04	0.04	0.01					0.00					19.45	19.30	0.15		18.00	0.150	2.56		
			S-168			0.16	0.38	0.15										21.79	21.73	0.05		18.00	0.086	1.89		
				P-5	60.00	0.00	0.00	0.00	12.23	0.50	7.85	0.43	0.00	**3.34**	0.00	23.46	**1.67**	21.50	21.20		1		0.500		8.05	
141+82	32.00	Lt.	EX-17			0.11	0.32	0.02					0.00					20.00	19.70	0.30		18.00	0.150	4.55		
			S-169			0.12	0.36	0.11										22.08	22.05	0.03		30.00	0.097	2.81		BASE FLOW FROM 8TH AV
				P-5	31.00	0.00	0.00	0.00	12.93	0.18	7.69	0.38	8.49	**13.81**	0.00	23.45	**1.37**	21.93	22.05		1		-0.387		-27.65	INLET
141+81	30.43	Rt.	EX-17			0.09	0.21	0.02					10.86					19.43	19.55	-0.12		30.00	0.076	-5.63		
			S-170			0.06	0.22	0.06										21.80	21.79	0.02		18.00	0.031	1.13		
				DBI-CM	60.00	0.00	0.00	0.00	11.73	0.50	7.98	0.25	0.00	**2.00**	0.00	23.99	**2.19**	21.50	21.20		1		0.500		8.05	
142+42	33.79	Lt.	S-168			0.08	0.21	0.02					0.00					20.00	19.70	0.30		18.00	0.150	4.55		
			S-171			0.04	0.16	0.04										21.82	21.80	0.01		18.00	0.016	0.82		
				DBI-CM	70.00	0.00	0.00	0.00	11.15	0.58	8.13	0.18	0.00	**1.45**	0.00	24.32	**2.50**	21.70	21.50		1		0.286		6.08	
143+12	36.78	Lt.	S-170			0.05	0.13	0.01					0.00					20.20	20.00	0.20		18.00	0.150	3.44		
			S-172			0.12	0.12	0.11										21.83	21.82	0.01		18.00	0.009	0.62		
				P-5	138.00	0.00	0.00	0.00	10.00	1.15	8.46	0.13	0.00	**1.10**	0.00	23.78	**1.95**	21.85	21.70		1		0.109		3.75	
144+50	30.30	Lt.	S-171			0.08	0.08	0.02					0.00					20.35	20.20	0.15		18.00	0.150	2.12		
			S-174			0.12	0.12	0.11										22.41	22.08	0.33		18.00	0.093	1.96		BASE FLOW FROM LUCKY'
				P-6	351.00	0.00	0.00	0.00	10.00	2.92	8.46	0.13	2.37	**3.47**	0.00	23.53	**1.12**	21.28	20.88		1		0.114		3.84	RKET SYSTEM
145+32	32.00	Rt.	S-169			0.08	0.08	0.02					2.37					19.78	19.38	0.40		18.00	0.150	2.17		
			EX-17			0.00	0.74	0.00										21.73	21.17	0.57		30.00	0.147	3.47		
				MH-8J	384.00	0.00	0.00	0.00	13.11	1.84	7.65	0.81	0.00	**17.05**	0.00	22.55	**0.82**	21.90	20.35		1		0.404		28.23	
137+96.71	4.86	Lt.	EX-16			0.00	0.53	0.00					10.86					19.40	17.85	1.55		30.00	0.076	5.75		
			EX-16			0.00	1.48	0.00										21.17	20.99	0.17		36.00	0.096	3.17		
				MH-8J	181.00	0.00	0.00	0.00	14.95	0.95	7.26	1.59	0.00	**22.39**	0.00	22.55	**1.38**	19.01	18.85		1		0.088		21.48	
137+96.71	4.86	Lt.	EX-15			0.00	0.91	0.00					10.86					16.01	15.85	0.16		36.00	0.059	3.04		
			EX-15			0.00	2.20	0.00										20.99	20.85	0.14		48.00	0.080	3.50		
				MH-8J	181.00	0.00	3.35	0.00	15.90	0.86	7.08	4.67	0.00	**43.97**	0.00	21.81	**0.82**	20.01	19.85		1		0.088		46.27	
135+57.96	4.62	Lt.	S-152			0.00	1.20	0.00					10.86					16.01	15.85	0.16		48.00	0.041	3.68		

Units: ENGLISH

HGL method: Standard FDOT (Jump HGL to pipe crown).

BASIN DATA

Existing Drainage Basin Data

Project Name: 75th Street West

FPID: 0

County: Manatee County

Date: February 3, 2023

LAND COVER	CN
Pavement	98
Good Condition Grass	39

CN Values from FDOT Hydrology Handbook (Table T-7)

Basin	Area (AC)		Total Area (AC)	Weighted CN	DCIA %
	Paved	Good Condition Grass			
2A	1.0	0.7	*1.64*	73.2	57.93
2B	3.8	3.3	*7.06*	70.6	53.54
2D	1.2	2.5	*3.70*	57.5	31.35
Total	5.9	6.5	*12.40*	67.0	47.50

Proposed Drainage Basin Data

Project Name: 75th Street West

FPID: 0

County: Manatee County

Date: February 3, 2023

LAND COVER	CN
Pavement	98
Good Condition Grass	39

CN Values from FDOT Hydrology Handbook (Table T-7)

Basin	Area (AC)		Total Area (AC)	Weighted CN (Area to Pond)	DCIA %
	Paved	Good Condition Grass			
2A	1.09	0.55	*1.64*	78.2	66.47
2B	4.33	2.73	*7.06*	75.2	61.37
2D	2.36	1.77	*4.13*	72.7	57.08

Treatment Volume Calculation

Project Name: 75th Street West

FPID: 0

County: Manatee County

Date: February 3, 2023

Basin	Treatment Facility		Impervious Area (AC)		*Wet Detention Criteria* Treatment Volume (AC-FT)
			Existing	Proposed	Based on 1" (wet) Over Impervious Area
2A	POND 2A	Wet	0.95	1.09	0.09
2B	POND 2B	Wet	3.78	4.33	0.36
2D	POND 2D	Wet	1.16	2.36	0.20

Pond Stage Volume

Project Name: 75th Street West

FPID: 0

County: Manatee County

Date: February 3, 2023

Pond	At NWL / Pond Bottom / Initial Stage		Above the Weir		Weir Elevation (ft)	Area (AC)	Actual Volume Provided (AC-FT)
	Elevation	Area (AC)	Elevation	Area (AC)			
POND 2A	10.00	0.271	14.00	0.434	10.35	0.29	0.10
POND 2B	13.00	0.588	15.00	0.677	13.60	0.61	0.36
POND 2D	19.50	0.544	21.00	0.606	19.90	0.56	0.22

.

ORIFICE CALCULATIONS

Project Name: 75th Street West

FPID: 0

County: Manatee County

Date: February 3, 2023

Time (hr)	60
Cd	0.6
2g	64.4

POND	ELEVATION (FT)		POND SURFACE AREA (AC)			ORIFICE	
	WEIR	ORIFICE	AT WEIR	AT ORFICE	AVERAGE	AREA (SF)	DIAMETER (IN)
POND 2A	10.35	10.00	0.29	0.27	0.28	0.0040	0.9
POND 2B	13.60	13.00	0.61	0.59	0.60	0.0114	1.4
POND 2D	19.90	19.50	0.56	0.54	0.55	0.0086	1.3

ICPR DATA - EXISTING

Simple Basin: B-2

Scenario:	Scenario1
Node:	DN-2A
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	40.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	12.4000 ac
Curve Number:	67.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-1

Scenario:	Scenario1
Node:	OF-1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	5.3500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-10

Scenario:	Scenario1
Node:	OF-10
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs

Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.3600 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-11

Scenario:	Scenario1
Node:	OF-11
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.6500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-12

Scenario:	Scenario1
Node:	OF-12
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.2200 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-2

Scenario:	Scenario1
Node:	OF-2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.4500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-3

Scenario:	Scenario1
Node:	OF-3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-4

Scenario:	Scenario1
Node:	OF-4
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-5

Scenario:	Scenario1
Node:	OF-5
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-6

Scenario:	Scenario1
Node:	OF-6
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs

Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-7

Scenario:	Scenario1
Node:	OF-7
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-8

Scenario:	Scenario1
Node:	OF-8
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	10.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-9

Scenario:	Scenario1
Node:	OF-9
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.2500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-LM

Scenario:	Scenario1
Node:	OF-LM
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.1500 ac
Curve Number:	89.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Node: DN-2A

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 7.37 ft
Warning Stage: 14.90 ft

Stage [ft]	Area [ac]	Area [ft2]
7.37	0.0001	4
14.90	0.0001	4

Comment:

Node: DOF-1

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-10

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-11

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-2

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 13.00 ft
Warning Stage: 16.30 ft

Comment:

Node: DOF-3

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-4

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-5

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-6

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-7

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-8

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: DOF-9

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: N-2A

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 12.00 ft
Warning Stage: 14.00 ft

Stage [ft]	Area [ac]	Area [ft2]
12.00	0.2500	10890
15.00	0.4500	19602

Comment:

Node: N-OUT

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.52 ft
Warning Stage: 14.50 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.52
0	0	0	0.2501	1.52
0	0	0	0.5000	1.52
0	0	0	0.7500	1.59
0	0	0	1.0000	1.67
0	0	0	1.2500	1.72
0	0	0	1.5000	1.75
0	0	0	1.7500	1.78
0	0	0	2.0000	1.79
0	0	0	2.2501	1.79
0	0	0	2.5001	1.79
0	0	0	2.7501	1.79
0	0	0	3.0001	1.79
0	0	0	3.2500	1.79
0	0	0	3.5001	1.78
0	0	0	3.7501	1.79
0	0	0	4.0001	1.80
0	0	0	4.2500	1.83
0	0	0	4.5001	1.86
0	0	0	4.7500	1.92
0	0	0	5.0001	2.00
0	0	0	5.2501	2.11
0	0	0	5.5001	2.25
0	0	0	5.7500	2.39
0	0	0	6.0000	2.53

Year	Month	Day	Hour	Stage [ft]
0	0	0	6.2501	2.67
0	0	0	6.5001	2.82
0	0	0	6.7500	2.97
0	0	0	7.0000	3.13
0	0	0	7.2500	3.29
0	0	0	7.5000	3.47
0	0	0	7.7501	3.65
0	0	0	8.0000	3.83
0	0	0	8.2500	4.02
0	0	0	8.5000	4.20
0	0	0	8.7500	4.39
0	0	0	9.0000	4.58
0	0	0	9.2500	4.79
0	0	0	9.5001	5.01
0	0	0	9.7500	5.21
0	0	0	10.0000	5.43
0	0	0	10.2501	5.64
0	0	0	10.5001	5.88
0	0	0	10.7501	6.15
0	0	0	11.0001	6.45
0	0	0	11.2500	6.77
0	0	0	11.5000	7.12
0	0	0	11.7500	7.73
0	0	0	12.0000	9.21
0	0	0	12.2501	11.02
0	0	0	12.5000	11.93
0	0	0	12.7500	12.38
0	0	0	13.0000	12.58
0	0	0	13.2500	12.62
0	0	0	13.5000	12.55
0	0	0	13.7500	12.43
0	0	0	14.0000	12.27
0	0	0	14.2500	12.09
0	0	0	14.5000	11.89
0	0	0	14.7500	11.68
0	0	0	15.0001	11.46
0	0	0	15.2500	11.29
0	0	0	15.5001	11.11
0	0	0	15.7501	10.94
0	0	0	16.0001	10.78
0	0	0	16.2501	10.63
0	0	0	16.5001	10.50
0	0	0	16.7500	10.37
0	0	0	17.0001	10.26
0	0	0	17.2500	10.17
0	0	0	17.5000	10.08
0	0	0	17.7501	9.98
0	0	0	18.0001	9.89
0	0	0	18.2500	9.79

Year	Month	Day	Hour	Stage [ft]
0	0	0	18.5001	9.70
0	0	0	18.7501	9.63
0	0	0	19.0000	9.55
0	0	0	19.2500	9.47
0	0	0	19.5000	9.38
0	0	0	19.7500	9.29
0	0	0	20.0001	9.19
0	0	0	20.2500	9.09
0	0	0	20.5001	9.00
0	0	0	20.7501	8.91
0	0	0	21.0000	8.82
0	0	0	21.2501	8.73
0	0	0	21.5000	8.66
0	0	0	21.7500	8.59
0	0	0	22.0000	8.52
0	0	0	22.2500	8.46
0	0	0	22.5000	8.40
0	0	0	22.7500	8.34
0	0	0	23.0000	8.28
0	0	0	23.2500	8.22
0	0	0	23.5000	8.16
0	0	0	23.7500	8.10
0	0	0	24.0000	8.04
0	0	0	24.2501	7.97
0	0	0	24.5001	7.87
0	0	0	24.7500	7.76
0	0	0	25.0000	7.63
0	0	0	25.2500	7.50
0	0	0	25.5000	7.37
0	0	0	25.7500	7.25
0	0	0	26.0001	7.13
0	0	0	26.2500	7.02
0	0	0	26.5000	6.91
0	0	0	26.7501	6.80
0	0	0	27.0000	6.70
0	0	0	27.2500	6.61
0	0	0	27.5000	6.52
0	0	0	27.7500	6.44
0	0	0	28.0000	6.36
0	0	0	28.2500	6.29
0	0	0	28.5001	6.22
0	0	0	28.7501	6.15
0	0	0	29.0001	6.09
0	0	0	29.2500	6.03
0	0	0	29.5000	5.98
0	0	0	29.7501	5.93
0	0	0	30.0001	5.88
0	0	0	30.2500	5.83
0	0	0	30.5001	5.79

Year	Month	Day	Hour	Stage [ft]
0	0	0	30.7501	5.75
0	0	0	31.0001	5.71
0	0	0	31.2500	5.67
0	0	0	31.5001	5.64
0	0	0	31.7500	5.60
0	0	0	32.0000	5.57
0	0	0	32.2501	5.53
0	0	0	32.5000	5.50
0	0	0	32.7500	5.46
0	0	0	33.0000	5.43
0	0	0	33.2500	5.40
0	0	0	33.5000	5.37
0	0	0	33.7501	5.35
0	0	0	34.0000	5.33
0	0	0	34.2500	5.30
0	0	0	34.5000	5.27
0	0	0	34.7501	5.25
0	0	0	35.0000	5.22
0	0	0	35.2500	5.19
0	0	0	35.5000	5.17
0	0	0	35.7501	5.14
0	0	0	36.0001	5.11
0	0	0	36.2500	5.09
0	0	0	36.5001	5.06
0	0	0	36.7501	5.04
0	0	0	37.0001	5.01
0	0	0	37.2501	4.99
0	0	0	37.5001	4.97
0	0	0	37.7501	4.94
0	0	0	38.0001	4.92
0	0	0	38.2501	4.89
0	0	0	38.5001	4.86
0	0	0	38.7501	4.84
0	0	0	39.0001	4.81
0	0	0	39.2501	4.79
0	0	0	39.5001	4.76
0	0	0	39.7501	4.74
0	0	0	40.0001	4.71
0	0	0	40.2501	4.69
0	0	0	40.5001	4.67
0	0	0	40.7501	4.65
0	0	0	41.0001	4.62
0	0	0	41.2501	4.60
0	0	0	41.5001	4.57
0	0	0	41.7501	4.55
0	0	0	42.0001	4.52
0	0	0	42.2501	4.50
0	0	0	42.5001	4.47
0	0	0	42.7501	4.44

Year	Month	Day	Hour	Stage [ft]
0	0	0	43.0001	4.42
0	0	0	43.2501	4.39
0	0	0	43.5001	4.37
0	0	0	43.7501	4.36
0	0	0	44.0001	4.34
0	0	0	44.2501	4.31
0	0	0	44.5001	4.29
0	0	0	44.7501	4.26
0	0	0	45.0001	4.24
0	0	0	45.2501	4.21
0	0	0	45.5001	4.19
0	0	0	45.7501	4.16
0	0	0	46.0001	4.14
0	0	0	46.2501	4.12
0	0	0	46.5001	4.10
0	0	0	46.7501	4.07
0	0	0	47.0001	4.05
0	0	0	47.2501	4.03
0	0	0	47.5001	4.01
0	0	0	47.7501	3.99
0	0	0	48.0001	3.97
0	0	0	48.2501	3.95
0	0	0	48.5001	3.93
0	0	0	48.7501	3.91
0	0	0	49.0001	3.89
0	0	0	49.2501	3.87
0	0	0	49.5001	3.85
0	0	0	49.7501	3.83
0	0	0	50.0001	3.82
0	0	0	50.2501	3.80
0	0	0	50.5001	3.78
0	0	0	50.7501	3.76
0	0	0	51.0001	3.74
0	0	0	51.2501	3.73
0	0	0	51.5001	3.71
0	0	0	51.7501	3.69
0	0	0	52.0001	3.67
0	0	0	52.2501	3.66
0	0	0	52.5001	3.64
0	0	0	52.7501	3.62
0	0	0	53.0001	3.61
0	0	0	53.2501	3.59
0	0	0	53.5001	3.58
0	0	0	53.7501	3.56
0	0	0	54.0001	3.54
0	0	0	54.2501	3.53
0	0	0	54.5001	3.51
0	0	0	54.7501	3.50
0	0	0	55.0001	3.48

Year	Month	Day	Hour	Stage [ft]
0	0	0	55.2501	3.47
0	0	0	55.5001	3.45
0	0	0	55.7501	3.44
0	0	0	56.0001	3.43
0	0	0	56.2501	3.41
0	0	0	56.5001	3.40
0	0	0	56.7501	3.39
0	0	0	57.0001	3.37
0	0	0	57.2501	3.36
0	0	0	57.5001	3.35
0	0	0	57.7501	3.33
0	0	0	58.0001	3.32
0	0	0	58.2501	3.31
0	0	0	58.5001	3.30
0	0	0	58.7501	3.28
0	0	0	59.0001	3.27
0	0	0	59.2501	3.26
0	0	0	59.5001	3.25
0	0	0	59.7501	3.24
0	0	0	60.0001	3.22
0	0	0	60.2501	3.21
0	0	0	60.5001	3.20
0	0	0	60.7501	3.19
0	0	0	61.0001	3.18
0	0	0	61.2501	3.17
0	0	0	61.5001	3.16
0	0	0	61.7501	3.15
0	0	0	62.0001	3.14
0	0	0	62.2501	3.12
0	0	0	62.5001	3.11
0	0	0	62.7501	3.10
0	0	0	63.0001	3.09
0	0	0	63.2501	3.08
0	0	0	63.5001	3.07
0	0	0	63.7501	3.06
0	0	0	64.0001	3.05
0	0	0	64.2501	3.04
0	0	0	64.5001	3.03
0	0	0	64.7501	3.02
0	0	0	65.0001	3.01
0	0	0	65.2501	3.00
0	0	0	65.5001	3.00
0	0	0	65.7501	2.99
0	0	0	66.0001	2.98
0	0	0	66.2501	2.97
0	0	0	66.5001	2.96
0	0	0	66.7501	2.95
0	0	0	67.0001	2.94
0	0	0	67.2501	2.93

Year	Month	Day	Hour	Stage [ft]
0	0	0	67.5001	2.92
0	0	0	67.7501	2.92
0	0	0	68.0001	2.91
0	0	0	68.2501	2.89
0	0	0	68.5001	2.89
0	0	0	68.7501	2.89
0	0	0	69.0001	2.87
0	0	0	69.2501	2.87
0	0	0	69.5001	2.86
0	0	0	69.7501	2.85
0	0	0	70.0001	2.85
0	0	0	70.2501	2.83
0	0	0	70.5001	2.83
0	0	0	70.7501	2.82
0	0	0	71.0001	2.82
0	0	0	71.2501	2.81
0	0	0	71.5001	2.80
0	0	0	71.7501	2.80

Comment:

Node: OF-1

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-10

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-11

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-12

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-2

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-3

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-4

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-5

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-6

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-7

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-8

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-9

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 0.00 ft

Comment:

Node: OF-LM

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 20.00 ft
Warning Stage: 26.00 ft

Comment:

Pipe Link: L-2AP

		Upstream		Downstream	
Scenario:	Scenario1	Invert:	12.02 ft	Invert:	12.00 ft
From Node:	DN-2A	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	N-2A	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	18.00 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 dec	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: L-2Aout		Upstream Pipe		Downstream Pipe	
Scenario:	Scenario1	Invert:	7.27 ft	Invert:	7.04 ft
From Node:	DN-2A	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	N-OUT	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	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:	40.00 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 dec				
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:	12.70 ft	Op Table:	
Control Elevation:	12.70 ft	Ref Node:	
Max Depth:	1.73 ft	Discharge Coefficients	
Max Width:	20.00 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Pipe Link: L_DOF-10_DOF-9		Upstream		Downstream	
Scenario:	Scenario1	Invert:	16.01 ft	Invert:	15.17 ft
From Node:	DOF-10	Manning's N:	0.0120	Manning's N:	0.0120

To Node:	DOF-9	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	3.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	760.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-11_DOF-10		Upstream		Downstream	
Scenario:	Scenario1	Invert:	17.55 ft	Invert:	16.60 ft
From Node:	DOF-11	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-10	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.00 ft	Max Depth:	3.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	239.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-1_DN-2A		Upstream		Downstream	
Scenario:	Scenario1	Invert:	8.16 ft	Invert:	6.58 ft
From Node:	DOF-1	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DN-2A	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	290.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	

		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-2_DOF-1		Upstream		Downstream	
Scenario:	Scenario1	Invert:	9.10 ft	Invert:	8.39 ft
From Node:	DOF-2	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-1	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	343.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-3_DOF-2		Upstream		Downstream	
Scenario:	Scenario1	Invert:	9.58 ft	Invert:	9.13 ft
From Node:	DOF-3	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-2	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	358.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-4_DOF-3		Upstream		Downstream	
Scenario:	Scenario1	Invert:	10.79 ft	Invert:	9.80 ft
From Node:	DOF-4	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-3	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft

Flow Direction:	Both		Bottom Clip		
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	308.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-5_DOF-4		Upstream		Downstream	
Scenario:	Scenario1	Invert:	11.29 ft	Invert:	10.94 ft
From Node:	DOF-5	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-4	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both		Bottom Clip		
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	300.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-6_DOF-5		Upstream		Downstream	
Scenario:	Scenario1	Invert:	12.07 ft	Invert:	11.59 ft
From Node:	DOF-6	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-5	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both		Bottom Clip		
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	300.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-7_DOF-6		Upstream		Downstream	
Scenario:	Scenario1	Invert:	13.36 ft	Invert:	12.47 ft
From Node:	DOF-7	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-6	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	300.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-8_DOF-7		Upstream		Downstream	
Scenario:	Scenario1	Invert:	13.82 ft	Invert:	13.51 ft
From Node:	DOF-8	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-7	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	301.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-9_DOF-8		Upstream		Downstream	
Scenario:	Scenario1	Invert:	15.28 ft	Invert:	14.04 ft
From Node:	DOF-9	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-8	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	300.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-10_DOF-10		Upstream		Downstream	
Scenario:	Scenario1	Invert:	16.33 ft	Invert:	16.31 ft
From Node:	OF-10	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-10	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:	26.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-11_DOF-11		Upstream		Downstream	
Scenario:	Scenario1	Invert:	18.90 ft	Invert:	18.95 ft
From Node:	OF-11	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-11	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:	87.50 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-12_DOF-11		Upstream		Downstream	
Scenario:	Scenario1	Invert:	19.43 ft	Invert:	17.85 ft

From Node:	OF-12	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-11	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	416.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-1_DOF-1		Upstream		Downstream	
Scenario:	Scenario1	Invert:	10.77 ft	Invert:	10.44 ft
From Node:	OF-1	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-1	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	33.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-2_DOF-2		Upstream		Downstream	
Scenario:	Scenario1	Invert:	9.45 ft	Invert:	9.10 ft
From Node:	OF-2	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-2	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:	70.00 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 dec	Op Table:		Op Table:	

Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-3_DOF-3		Upstream		Downstream	
Scenario:	Scenario1	Invert:	12.01 ft	Invert:	11.52 ft
From Node:	OF-3	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-3	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:	34.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-4_DOF-4		Upstream		Downstream	
Scenario:	Scenario1	Invert:	12.74 ft	Invert:	11.04 ft
From Node:	OF-4	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-4	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:	28.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-5_DOF-5		Upstream		Downstream	
Scenario:	Scenario1	Invert:	11.86 ft	Invert:	11.56 ft
From Node:	OF-5	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-5	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:	29.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-6_DOF-6		Upstream		Downstream	
Scenario:	Scenario1	Invert:	14.74 ft	Invert:	14.57 ft
From Node:	OF-6	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-6	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:	26.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-7_DOF-7		Upstream		Downstream	
Scenario:	Scenario1	Invert:	15.45 ft	Invert:	15.70 ft
From Node:	OF-7	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-7	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:	28.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-8_DOF-8		Upstream		Downstream	
Scenario:	Scenario1	Invert:	16.19 ft	Invert:	13.27 ft
From Node:	OF-8	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-8	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:	27.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-9_DOF-9		Upstream		Downstream	
Scenario:	Scenario1	Invert:	16.63 ft	Invert:	16.76 ft
From Node:	OF-9	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-9	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:	29.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-LM_OF-12		Upstream		Downstream	
Scenario:	Scenario1	Invert:	19.78 ft	Invert:	22.05 ft
From Node:	OF-LM	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	OF-12	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:	351.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Simulation: 100yr24hr

Scenario: Scenario1
Run Date/Time: 2/2/2023 2:02:41 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

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:	
Green-Ampt Set:	
Vertical Layers Set:	
Impervious Set:	
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 Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	12.40 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 10yr24hr

Scenario:	Scenario1
Run Date/Time:	6/24/2022 4:10:34 PM
Program Version:	ICPR4 4.07.08

General

Run Mode: Normal

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

End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

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

Tolerances & Options

Time Marching: FIREBALL
dZ Tolerance: 0.0010 ft
IA Recovery Time: 24.0000 hr
ET for Manual Basins: False
Smp/Man Basin Rain Opt: Global

Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	7.01 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 25yr24hr

Scenario: Scenario1
Run Date/Time: 2/2/2023 2:03:00 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

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:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
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 Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	8.87 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 50yr24hr

Scenario: Scenario1
Run Date/Time: 6/21/2022 10:01:51 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

Year	Month	Day	Hour [hr]

Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

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

Tolerances & Options

Time Marching:	FIREBALL	IA Recovery Time:	24.0000 hr
		ET for Manual Basins:	False
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain	Global

		Opt:	
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	10.50 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 5yr24hr

Scenario: Scenario1
Run Date/Time: 6/21/2022 10:01:55 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

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

Tolerances & Options

Time Marching:	FIREBALL	IA Recovery Time:	24.0000 hr
		ET for Manual Basins:	False
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	5.87 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Sim	Node Name	Maximum Stage [ft]	Time to Maximum Stage [hrs]	Maximum Total Inflow Rate [cfs]
100yr24hr	DN-2A	14.83	12.1116	196.16
100yr24hr	DOF-1	15.91	12.1026	171.90
100yr24hr	DOF-10	24.30	12.1138	57.35
100yr24hr	DOF-11	25.10	12.1148	41.74
100yr24hr	DOF-2	16.83	12.1022	146.36
100yr24hr	DOF-3	17.70	12.1018	139.48
100yr24hr	DOF-4	18.32	12.1028	125.99
100yr24hr	DOF-5	18.80	12.1037	112.56
100yr24hr	DOF-6	20.01	12.1063	99.19
100yr24hr	DOF-7	20.92	12.1086	85.87
100yr24hr	DOF-8	21.58	12.1105	72.75
100yr24hr	DOF-9	22.20	12.1108	72.48
100yr24hr	N-2A	14.38	12.5004	8.70
100yr24hr	N-OUT	12.62	13.2500	187.61
100yr24hr	OF-1	16.01	12.0992	26.63
100yr24hr	OF-10	24.41	12.1130	16.72
100yr24hr	OF-11	25.49	12.1148	8.21
100yr24hr	OF-12	27.55	12.1146	34.31
100yr24hr	OF-2	17.09	12.0987	20.15
100yr24hr	OF-3	17.81	12.1010	14.19
100yr24hr	OF-4	18.40	12.1020	14.19
100yr24hr	OF-5	18.88	12.1029	14.19
100yr24hr	OF-6	20.09	12.1059	14.19
100yr24hr	OF-7	21.01	12.1082	14.19
100yr24hr	OF-8	21.58	12.1116	14.19
100yr24hr	OF-9	22.31	12.1105	16.18
100yr24hr	OF-LM	29.70	12.1179	19.33
25yr24hr	DN-2A	14.12	12.1535	115.22
25yr24hr	DOF-1	14.48	12.1364	125.01
25yr24hr	DOF-10	18.75	12.1002	36.70
25yr24hr	DOF-11	19.24	12.0869	27.24
25yr24hr	DOF-2	14.80	12.1369	85.76
25yr24hr	DOF-3	15.10	12.1373	81.97
25yr24hr	DOF-4	15.28	12.1372	74.54
25yr24hr	DOF-5	15.42	12.1382	67.11
25yr24hr	DOF-6	15.79	12.1392	60.49
25yr24hr	DOF-7	16.04	12.1386	52.76
25yr24hr	DOF-8	16.53	12.1312	45.40
25yr24hr	DOF-9	17.38	12.1031	45.50
25yr24hr	N-2A	13.92	12.4782	6.93
25yr24hr	N-OUT	12.62	13.2500	108.62
25yr24hr	OF-1	14.52	12.1310	15.38

Sim	Node Name	Maximum Stage [ft]	Time to Maximum Stage [hrs]	Maximum Total Inflow Rate [cfs]
25yr24hr	OF-10	18.78	12.0985	9.66
25yr24hr	OF-11	20.20	12.0645	4.74
25yr24hr	OF-12	21.24	12.0837	22.57
25yr24hr	OF-2	14.88	12.1290	20.15
25yr24hr	OF-3	15.13	12.1345	8.19
25yr24hr	OF-4	15.30	12.1353	8.19
25yr24hr	OF-5	15.45	12.1371	8.19
25yr24hr	OF-6	15.84	12.1388	8.19
25yr24hr	OF-7	17.03	12.0576	8.19
25yr24hr	OF-8	17.21	22.0549	8.19
25yr24hr	OF-9	18.16	12.0569	9.34
25yr24hr	OF-LM	24.99	12.1007	13.47

Sim	Link Name	Maximum Flow Rate [cfs]	Maximum Avg Velocity [fps]
100yr24hr	L-2Aout	187.61	0.00
100yr24hr	L-2AP	8.70	11.08
100yr24hr	L_DOF-10_DOF-9	57.41	5.97
100yr24hr	L_DOF-11_DOF-10	41.83	6.09
100yr24hr	L_DOF-1_DN-2A	171.87	8.75
100yr24hr	L_DOF-2_DOF-1	146.36	8.52
100yr24hr	L_DOF-3_DOF-2	139.48	7.10
100yr24hr	L_DOF-4_DOF-3	126.01	6.42
100yr24hr	L_DOF-5_DOF-4	112.60	5.73
100yr24hr	L_DOF-6_DOF-5	99.26	7.90
100yr24hr	L_DOF-7_DOF-6	85.97	6.84
100yr24hr	L_DOF-8_DOF-7	72.73	5.79
100yr24hr	L_DOF-9_DOF-8	72.52	6.82
100yr24hr	L_OF-10_DOF-10	16.00	5.09
100yr24hr	L_OF-11_DOF-11	7.65	4.85
100yr24hr	L_OF-12_DOF-11	34.09	6.94
100yr24hr	L_OF-1_DOF-1	26.48	5.39
100yr24hr	L_OF-2_DOF-2	7.03	-11.54
100yr24hr	L_OF-3_DOF-3	13.93	4.43
100yr24hr	L_OF-4_DOF-4	13.89	4.42
100yr24hr	L_OF-5_DOF-5	13.86	4.41
100yr24hr	L_OF-6_DOF-6	16.05	6.27
100yr24hr	L_OF-7_DOF-7	13.71	4.81
100yr24hr	L_OF-8_DOF-8	14.18	12.78
100yr24hr	L_OF-9_DOF-9	15.60	5.47
100yr24hr	L_OF-LM_OF-12	19.23	6.19
25yr24hr	L-2Aout	108.62	0.00
25yr24hr	L-2AP	6.93	8.83
25yr24hr	L_DOF-10_DOF-9	36.42	5.10
25yr24hr	L_DOF-11_DOF-10	27.21	5.86
25yr24hr	L_DOF-1_DN-2A	99.87	6.43
25yr24hr	L_DOF-2_DOF-1	125.01	8.52
25yr24hr	L_DOF-3_DOF-2	81.96	-6.03
25yr24hr	L_DOF-4_DOF-3	74.55	3.91
25yr24hr	L_DOF-5_DOF-4	67.12	3.79
25yr24hr	L_DOF-6_DOF-5	59.70	4.86
25yr24hr	L_DOF-7_DOF-6	52.28	6.05
25yr24hr	L_DOF-8_DOF-7	45.01	5.63
25yr24hr	L_DOF-9_DOF-8	45.40	6.58
25yr24hr	L_OF-10_DOF-10	9.60	3.05
25yr24hr	L_OF-11_DOF-11	4.74	3.79
25yr24hr	L_OF-12_DOF-11	22.54	6.33

Sim	Link Name	Maximum Flow Rate [cfs]	Maximum Avg Velocity [fps]
25yr24hr	L_OF-1_DOF-1	15.39	3.14
25yr24hr	L_OF-2_DOF-2	4.07	-11.54
25yr24hr	L_OF-3_DOF-3	8.69	3.00
25yr24hr	L_OF-4_DOF-4	11.60	3.93
25yr24hr	L_OF-5_DOF-5	8.03	2.56
25yr24hr	L_OF-6_DOF-6	8.62	5.55
25yr24hr	L_OF-7_DOF-7	8.19	4.09
25yr24hr	L_OF-8_DOF-8	8.19	10.78
25yr24hr	L_OF-9_DOF-9	9.34	4.47
25yr24hr	L_OF-LM_OF-12	13.47	5.20

ICPR DATA - PROPOSED

Simple Basin: B-2A

Scenario:	Scenario1
Node:	DN-2A
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.6400 ac
Curve Number:	78.2
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B-2B

Scenario:	Scenario1
Node:	DN-2B
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	25.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	7.0600 ac
Curve Number:	75.2
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B-2D

Scenario:	Scenario1
Node:	DN-2D
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	20.0000 min
Max Allowable Q:	9999.00 cfs

Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	4.1300 ac
Curve Number:	72.7
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-1

Scenario:	Scenario1
Node:	OF-1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	5.3500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-10

Scenario:	Scenario1
Node:	OF-10
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.3600 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-11

Scenario:	Scenario1
Node:	OF-11
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.6500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-12

Scenario:	Scenario1
Node:	OF-12
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.2200 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-2

Scenario:	Scenario1
Node:	OF-2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	1.4500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-3

Scenario:	Scenario1
Node:	OF-3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-4

Scenario:	Scenario1
Node:	OF-4
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs

Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-5

Scenario:	Scenario1
Node:	OF-5
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-6

Scenario:	Scenario1
Node:	OF-6
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-7

Scenario:	Scenario1
Node:	OF-7
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-8

Scenario:	Scenario1
Node:	OF-8
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	10.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.8500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-9

Scenario:	Scenario1
Node:	OF-9
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.2500 ac
Curve Number:	61.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BOF-LM

Scenario:	Scenario1
Node:	OF-LM
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.1500 ac
Curve Number:	89.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Node: DN-2A

Scenario:	Scenario1
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	10.00 ft
Warning Stage:	15.50 ft

Stage [ft]	Area [ac]	Area [ft2]
10.00	0.0001	4
15.50	0.0001	4

Comment:

Node: DN-2B

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 13.00 ft
Warning Stage: 17.21 ft

Stage [ft]	Area [ac]	Area [ft2]
13.00	0.0001	4
16.30	0.0001	4

Comment:

Node: DN-2D

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 20.00 ft
Warning Stage: 21.60 ft

Stage [ft]	Area [ac]	Area [ft2]
20.00	0.0001	4
21.60	0.0001	4

Comment:

Node: DOF-1

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 15.70 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-10

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 21.80 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-11

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 22.63 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-3

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 18.10 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-4

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 19.20 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-5

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 20.02 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-6

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 20.90 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-7

Scenario: Scenario1
Type: Stage/Area

Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 22.30 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-8

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 21.45 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: DOF-9

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 21.72 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: N-2A

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 10.35 ft
Warning Stage: 15.00 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.1338	5828
9.00	0.1549	6747
9.00	0.2338	10184
15.00	0.4784	20839

Comment:

Node: N-2B

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 13.60 ft
Warning Stage: 15.00 ft

Stage [ft]	Area [ac]	Area [ft2]
9.00	0.4257	18543
15.00	0.6773	29503
16.00	0.8609	37501

Comment:

Node: N-2D

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 19.90 ft
Warning Stage: 21.00 ft

Stage [ft]	Area [ac]	Area [ft2]
15.00	0.3758	16370
21.00	0.6062	26406
22.00	0.7579	33014

Comment:

Node: N-OUT

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.52 ft

Warning Stage: 14.50 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.52
0	0	0	0.2501	1.52
0	0	0	0.5000	1.52
0	0	0	0.7500	1.59
0	0	0	1.0000	1.67
0	0	0	1.2500	1.72
0	0	0	1.5000	1.75
0	0	0	1.7500	1.78
0	0	0	2.0000	1.79
0	0	0	2.2501	1.79
0	0	0	2.5001	1.79
0	0	0	2.7501	1.79
0	0	0	3.0001	1.79
0	0	0	3.2500	1.79
0	0	0	3.5001	1.78
0	0	0	3.7501	1.79
0	0	0	4.0001	1.80
0	0	0	4.2500	1.83
0	0	0	4.5001	1.86
0	0	0	4.7500	1.92
0	0	0	5.0001	2.00
0	0	0	5.2501	2.11
0	0	0	5.5001	2.25
0	0	0	5.7500	2.39
0	0	0	6.0000	2.53
0	0	0	6.2501	2.67
0	0	0	6.5001	2.82
0	0	0	6.7500	2.97
0	0	0	7.0000	3.13
0	0	0	7.2500	3.29
0	0	0	7.5000	3.47
0	0	0	7.7501	3.65
0	0	0	8.0000	3.83
0	0	0	8.2500	4.02
0	0	0	8.5000	4.20
0	0	0	8.7500	4.39
0	0	0	9.0000	4.58
0	0	0	9.2500	4.79
0	0	0	9.5001	5.01
0	0	0	9.7500	5.21
0	0	0	10.0000	5.43
0	0	0	10.2501	5.64
0	0	0	10.5001	5.88
0	0	0	10.7501	6.15
0	0	0	11.0001	6.45
0	0	0	11.2500	6.77

Year	Month	Day	Hour	Stage [ft]
0	0	0	11.5000	7.12
0	0	0	11.7500	7.73
0	0	0	12.0000	9.21
0	0	0	12.2501	11.02
0	0	0	12.5000	11.93
0	0	0	12.7500	12.38
0	0	0	13.0000	12.58
0	0	0	13.2500	12.62
0	0	0	13.5000	12.55
0	0	0	13.7500	12.43
0	0	0	14.0000	12.27
0	0	0	14.2500	12.09
0	0	0	14.5000	11.89
0	0	0	14.7500	11.68
0	0	0	15.0001	11.46
0	0	0	15.2500	11.29
0	0	0	15.5001	11.11
0	0	0	15.7501	10.94
0	0	0	16.0001	10.78
0	0	0	16.2501	10.63
0	0	0	16.5001	10.50
0	0	0	16.7500	10.37
0	0	0	17.0001	10.26
0	0	0	17.2500	10.17
0	0	0	17.5000	10.08
0	0	0	17.7501	9.98
0	0	0	18.0001	9.89
0	0	0	18.2500	9.79
0	0	0	18.5001	9.70
0	0	0	18.7501	9.63
0	0	0	19.0000	9.55
0	0	0	19.2500	9.47
0	0	0	19.5000	9.38
0	0	0	19.7500	9.29
0	0	0	20.0001	9.19
0	0	0	20.2500	9.09
0	0	0	20.5001	9.00
0	0	0	20.7501	8.91
0	0	0	21.0000	8.82
0	0	0	21.2501	8.73
0	0	0	21.5000	8.66
0	0	0	21.7500	8.59
0	0	0	22.0000	8.52
0	0	0	22.2500	8.46
0	0	0	22.5000	8.40
0	0	0	22.7500	8.34
0	0	0	23.0000	8.28
0	0	0	23.2500	8.22
0	0	0	23.5000	8.16

Year	Month	Day	Hour	Stage [ft]
0	0	0	23.7500	8.10
0	0	0	24.0000	8.04
0	0	0	24.2501	7.97
0	0	0	24.5001	7.87
0	0	0	24.7500	7.76
0	0	0	25.0000	7.63
0	0	0	25.2500	7.50
0	0	0	25.5000	7.37
0	0	0	25.7500	7.25
0	0	0	26.0001	7.13
0	0	0	26.2500	7.02
0	0	0	26.5000	6.91
0	0	0	26.7501	6.80
0	0	0	27.0000	6.70
0	0	0	27.2500	6.61
0	0	0	27.5000	6.52
0	0	0	27.7500	6.44
0	0	0	28.0000	6.36
0	0	0	28.2500	6.29
0	0	0	28.5001	6.22
0	0	0	28.7501	6.15
0	0	0	29.0001	6.09
0	0	0	29.2500	6.03
0	0	0	29.5000	5.98
0	0	0	29.7501	5.93
0	0	0	30.0001	5.88
0	0	0	30.2500	5.83
0	0	0	30.5001	5.79
0	0	0	30.7501	5.75
0	0	0	31.0001	5.71
0	0	0	31.2500	5.67
0	0	0	31.5001	5.64
0	0	0	31.7500	5.60
0	0	0	32.0000	5.57
0	0	0	32.2501	5.53
0	0	0	32.5000	5.50
0	0	0	32.7500	5.46
0	0	0	33.0000	5.43
0	0	0	33.2500	5.40
0	0	0	33.5000	5.37
0	0	0	33.7501	5.35
0	0	0	34.0000	5.33
0	0	0	34.2500	5.30
0	0	0	34.5000	5.27
0	0	0	34.7501	5.25
0	0	0	35.0000	5.22
0	0	0	35.2500	5.19
0	0	0	35.5000	5.17
0	0	0	35.7501	5.14

Year	Month	Day	Hour	Stage [ft]
0	0	0	36.0001	5.11
0	0	0	36.2500	5.09
0	0	0	36.5001	5.06
0	0	0	36.7501	5.04
0	0	0	37.0001	5.01
0	0	0	37.2501	4.99
0	0	0	37.5001	4.97
0	0	0	37.7501	4.94
0	0	0	38.0001	4.92
0	0	0	38.2501	4.89
0	0	0	38.5001	4.86
0	0	0	38.7501	4.84
0	0	0	39.0001	4.81
0	0	0	39.2501	4.79
0	0	0	39.5001	4.76
0	0	0	39.7501	4.74
0	0	0	40.0001	4.71
0	0	0	40.2501	4.69
0	0	0	40.5001	4.67
0	0	0	40.7501	4.65
0	0	0	41.0001	4.62
0	0	0	41.2501	4.60
0	0	0	41.5001	4.57
0	0	0	41.7501	4.55
0	0	0	42.0001	4.52
0	0	0	42.2501	4.50
0	0	0	42.5001	4.47
0	0	0	42.7501	4.44
0	0	0	43.0001	4.42
0	0	0	43.2501	4.39
0	0	0	43.5001	4.37
0	0	0	43.7501	4.36
0	0	0	44.0001	4.34
0	0	0	44.2501	4.31
0	0	0	44.5001	4.29
0	0	0	44.7501	4.26
0	0	0	45.0001	4.24
0	0	0	45.2501	4.21
0	0	0	45.5001	4.19
0	0	0	45.7501	4.16
0	0	0	46.0001	4.14
0	0	0	46.2501	4.12
0	0	0	46.5001	4.10
0	0	0	46.7501	4.07
0	0	0	47.0001	4.05
0	0	0	47.2501	4.03
0	0	0	47.5001	4.01
0	0	0	47.7501	3.99
0	0	0	48.0001	3.97

Year	Month	Day	Hour	Stage [ft]
0	0	0	48.2501	3.95
0	0	0	48.5001	3.93
0	0	0	48.7501	3.91
0	0	0	49.0001	3.89
0	0	0	49.2501	3.87
0	0	0	49.5001	3.85
0	0	0	49.7501	3.83
0	0	0	50.0001	3.82
0	0	0	50.2501	3.80
0	0	0	50.5001	3.78
0	0	0	50.7501	3.76
0	0	0	51.0001	3.74
0	0	0	51.2501	3.73
0	0	0	51.5001	3.71
0	0	0	51.7501	3.69
0	0	0	52.0001	3.67
0	0	0	52.2501	3.66
0	0	0	52.5001	3.64
0	0	0	52.7501	3.62
0	0	0	53.0001	3.61
0	0	0	53.2501	3.59
0	0	0	53.5001	3.58
0	0	0	53.7501	3.56
0	0	0	54.0001	3.54
0	0	0	54.2501	3.53
0	0	0	54.5001	3.51
0	0	0	54.7501	3.50
0	0	0	55.0001	3.48
0	0	0	55.2501	3.47
0	0	0	55.5001	3.45
0	0	0	55.7501	3.44
0	0	0	56.0001	3.43
0	0	0	56.2501	3.41
0	0	0	56.5001	3.40
0	0	0	56.7501	3.39
0	0	0	57.0001	3.37
0	0	0	57.2501	3.36
0	0	0	57.5001	3.35
0	0	0	57.7501	3.33
0	0	0	58.0001	3.32
0	0	0	58.2501	3.31
0	0	0	58.5001	3.30
0	0	0	58.7501	3.28
0	0	0	59.0001	3.27
0	0	0	59.2501	3.26
0	0	0	59.5001	3.25
0	0	0	59.7501	3.24
0	0	0	60.0001	3.22
0	0	0	60.2501	3.21

Year	Month	Day	Hour	Stage [ft]
0	0	0	60.5001	3.20
0	0	0	60.7501	3.19
0	0	0	61.0001	3.18
0	0	0	61.2501	3.17
0	0	0	61.5001	3.16
0	0	0	61.7501	3.15
0	0	0	62.0001	3.14
0	0	0	62.2501	3.12
0	0	0	62.5001	3.11
0	0	0	62.7501	3.10
0	0	0	63.0001	3.09
0	0	0	63.2501	3.08
0	0	0	63.5001	3.07
0	0	0	63.7501	3.06
0	0	0	64.0001	3.05
0	0	0	64.2501	3.04
0	0	0	64.5001	3.03
0	0	0	64.7501	3.02
0	0	0	65.0001	3.01
0	0	0	65.2501	3.00
0	0	0	65.5001	3.00
0	0	0	65.7501	2.99
0	0	0	66.0001	2.98
0	0	0	66.2501	2.97
0	0	0	66.5001	2.96
0	0	0	66.7501	2.95
0	0	0	67.0001	2.94
0	0	0	67.2501	2.93
0	0	0	67.5001	2.92
0	0	0	67.7501	2.92
0	0	0	68.0001	2.91
0	0	0	68.2501	2.89
0	0	0	68.5001	2.89
0	0	0	68.7501	2.89
0	0	0	69.0001	2.87
0	0	0	69.2501	2.87
0	0	0	69.5001	2.86
0	0	0	69.7501	2.85
0	0	0	70.0001	2.85
0	0	0	70.2501	2.83
0	0	0	70.5001	2.83
0	0	0	70.7501	2.82
0	0	0	71.0001	2.82
0	0	0	71.2501	2.81
0	0	0	71.5001	2.80
0	0	0	71.7501	2.80

Comment:

Node: OF-1

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 17.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-10

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 21.27 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-11

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 21.94 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-12

Scenario: Scenario1
Type: Stage/Area

Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 23.45 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-2

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 16.65 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-3

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 19.47 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-4

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 20.30 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-5

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 21.03 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-6

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 22.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-7

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 22.82 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44

Stage [ft]	Area [ac]	Area [ft2]
999.00	0.0010	44

Comment:

Node: OF-8

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 22.94 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-9

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 0.00 ft
Warning Stage: 22.80 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0010	44
999.00	0.0010	44

Comment:

Node: OF-LM

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 20.00 ft
Warning Stage: 26.00 ft

Stage [ft]	Area [ac]	Area [ft2]
20.00	0.0001	4
26.00	0.0001	4

Comment:

Drop Structure Link: L-2A		Upstream Pipe		Downstream Pipe	
Scenario:	Scenario1	Invert:	6.50 ft	Invert:	6.25 ft
From Node:	DN-2A	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	N-OUT	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	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:	32.00 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 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component		Bottom Clip	
Weir:	1	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	10.35 ft	Ref Node:	
Control Elevation:	10.35 ft	Discharge Coefficients	
Max Depth:	1.00 ft	Weir Default:	3.200
Max Width:	8.00 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component		Bottom Clip	
Weir:	2	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Circular	Op Table:	
Invert:	10.00 ft	Ref Node:	
Control Elevation:	10.00 ft	Discharge Coefficients	
Max Depth:	0.07 ft		

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:	13.50 ft
Control Elevation:	10.35 ft
Max Depth:	2.33 ft
Max Width:	18.00 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: L-2AP		Upstream		Downstream	
Scenario:	Scenario1	Invert:	8.00 ft	Invert:	8.00 ft
From Node:	DN-2A	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	N-2A	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	23.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L-2BP		Upstream		Downstream	
Scenario:	Scenario1	Invert:	9.10 ft	Invert:	9.00 ft
From Node:	DN-2B	Manning's N:	0.0120	Manning's N:	0.0120

To Node:	N-2B	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:	74.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L-2DP		Upstream		Downstream	
Scenario:	Scenario1	Invert:	15.85 ft	Invert:	15.80 ft
From Node:	DN-2D	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	N-2D	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:	63.00 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 dec	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: L_DN-2B_DOF-1		Upstream Pipe		Downstream Pipe	
Scenario:	Scenario1	Invert:	9.10 ft	Invert:	8.39 ft
From Node:	DN-2B	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-1	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	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:	343.00 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 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component		Bottom Clip	
Weir:	1	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	13.60 ft	Ref Node:	
Control Elevation:	13.60 ft	Discharge Coefficients	
Max Depth:	2.10 ft	Weir Default:	3.200
Max Width:	30.00 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component		Bottom Clip	
Weir:	2	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Circular	Op Table:	
Invert:	13.00 ft	Ref Node:	
Control Elevation:	13.00 ft	Discharge Coefficients	
Max Depth:	0.12 ft	Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Drop Structure Link: L_DN-2D_DOF-9		Upstream Pipe		Downstream Pipe	
Scenario:	Scenario1	Invert:	15.85 ft	Invert:	15.17 ft
From Node:	DN-2D	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-9	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	3.50 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	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:	540.00 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 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component		Bottom Clip	
Weir:	1	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	19.90 ft	Ref Node:	
Control Elevation:	19.90 ft	Discharge Coefficients	
Max Depth:	1.10 ft	Weir Default:	3.200
Max Width:	20.00 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component		Bottom Clip	
Weir:	2	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Circular	Op Table:	
Invert:	19.50 ft	Ref Node:	
Control Elevation:	19.50 ft	Discharge Coefficients	
Max Depth:	0.10 ft	Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Pipe Link: L_DOF-10_DN-2D		Upstream		Downstream	
Scenario:	Scenario1	Invert:	16.01 ft	Invert:	15.85 ft

From Node:	DOF-10	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DN-2D	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	3.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	220.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-11_DOF-10		Upstream		Downstream	
Scenario:	Scenario1	Invert:	17.55 ft	Invert:	16.60 ft
From Node:	DOF-11	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-10	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.00 ft	Max Depth:	3.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	239.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-1_DN-2A		Upstream		Downstream	
Scenario:	Scenario1	Invert:	8.16 ft	Invert:	6.58 ft
From Node:	DOF-1	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DN-2A	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	290.00 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 dec	Op Table:		Op Table:	

Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-3_DN-2B		Upstream		Downstream	
Scenario:	Scenario1	Invert:	9.58 ft	Invert:	9.13 ft
From Node:	DOF-3	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DN-2B	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	358.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-4_DOF-3		Upstream		Downstream	
Scenario:	Scenario1	Invert:	10.79 ft	Invert:	9.80 ft
From Node:	DOF-4	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-3	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	308.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-5_DOF-4		Upstream		Downstream	
Scenario:	Scenario1	Invert:	11.29 ft	Invert:	10.94 ft
From Node:	DOF-5	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-4	Geometry: Circular		Geometry: Circular	

Link Count:	1	Max Depth:	5.00 ft	Max Depth:	5.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	300.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-6_DOF-5		Upstream		Downstream	
Scenario:	Scenario1	Invert:	12.07 ft	Invert:	11.59 ft
From Node:	DOF-6	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-5	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	300.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-7_DOF-6		Upstream		Downstream	
Scenario:	Scenario1	Invert:	13.36 ft	Invert:	12.47 ft
From Node:	DOF-7	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-6	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	300.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-8_DOF-7		Upstream		Downstream	
Scenario:	Scenario1	Invert:	13.82 ft	Invert:	13.51 ft
From Node:	DOF-8	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-7	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	301.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_DOF-9_DOF-8		Upstream		Downstream	
Scenario:	Scenario1	Invert:	15.28 ft	Invert:	14.04 ft
From Node:	DOF-9	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-8	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	3.50 ft	Max Depth:	4.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	300.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-10_DOF-10		Upstream		Downstream	
Scenario:	Scenario1	Invert:	16.33 ft	Invert:	16.31 ft
From Node:	OF-10	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-10	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:	26.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-11_DOF-11		Upstream		Downstream	
Scenario:	Scenario1	Invert:	18.10 ft	Invert:	17.85 ft
From Node:	OF-11	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-11	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	24.00 ft	Max Depth:	24.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	87.50 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-12_DOF-11		Upstream		Downstream	
Scenario:	Scenario1	Invert:	19.43 ft	Invert:	17.85 ft
From Node:	OF-12	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-11	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	416.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-1_DOF-1		Upstream		Downstream	
Scenario:	Scenario1	Invert:	10.77 ft	Invert:	10.44 ft
From Node:	OF-1	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-1	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	33.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: L_OF-2_DN-2B		Upstream		Downstream	
Scenario:	Scenario1	Invert:	9.50 ft	Invert:	9.20 ft
From Node:	OF-2	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DN-2B	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:	75.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: L_OF-3_DOF-3		Upstream		Downstream	
Scenario:	Scenario1	Invert:	12.01 ft	Invert:	11.52 ft
From Node:	OF-3	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-3	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:	34.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-4_DOF-4		Upstream		Downstream	
Scenario:	Scenario1	Invert:	12.74 ft	Invert:	11.04 ft
From Node:	OF-4	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-4	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:	28.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-5_DOF-5		Upstream		Downstream	
Scenario:	Scenario1	Invert:	11.86 ft	Invert:	11.56 ft
From Node:	OF-5	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-5	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:	29.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-6_DOF-6		Upstream		Downstream	
Scenario:	Scenario1	Invert:	14.74 ft	Invert:	14.57 ft

From Node:	OF-6	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-6	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:	26.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-7_DOF-7		Upstream		Downstream	
Scenario:	Scenario1	Invert:	15.45 ft	Invert:	15.70 ft
From Node:	OF-7	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-7	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:	28.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-8_DOF-8		Upstream		Downstream	
Scenario:	Scenario1	Invert:	14.80 ft	Invert:	14.50 ft
From Node:	OF-8	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-8	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:	27.00 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 dec	Op Table:		Op Table:	

Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-9_DOF-9		Upstream		Downstream	
Scenario:	Scenario1	Invert:	15.50 ft	Invert:	15.07 ft
From Node:	OF-9	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	DOF-9	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	37.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: L_OF-LM_OF-12		Upstream		Downstream	
Scenario:	Scenario1	Invert:	19.78 ft	Invert:	22.05 ft
From Node:	OF-LM	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	OF-12	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:	351.00 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 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Simulation: 100yr24hr	
Scenario:	Scenario1
Run Date/Time:	2/2/2023 8:27:14 PM
Program Version:	ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

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:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
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 Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	12.40 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 25yr24hr

Scenario: Scenario1
Run Date/Time: 2/2/2023 8:30:09 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

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:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
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 Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	8.87 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Sim	Node Name	Maximum Stage [ft]	Time to Maximum Stage [hrs]	Maximum Total Inflow Rate [cfs]
100yr24hr	DN-2A	14.90	12.1853	181.04
100yr24hr	DN-2B	17.04	12.1281	165.55
100yr24hr	DN-2D	23.03	12.1514	72.64
100yr24hr	DOF-1	15.91	12.1406	170.69
100yr24hr	DOF-10	23.57	12.1543	67.56
100yr24hr	DOF-11	24.28	12.1630	70.93
100yr24hr	DOF-3	17.81	12.1167	131.80
100yr24hr	DOF-4	18.35	12.1136	118.18
100yr24hr	DOF-5	18.76	12.1140	104.68
100yr24hr	DOF-6	19.80	12.1158	91.43
100yr24hr	DOF-7	20.56	12.1194	78.64
100yr24hr	DOF-8	21.09	12.1249	66.49
100yr24hr	DOF-9	21.60	12.1295	66.25
100yr24hr	N-2A	14.90	12.1917	54.14
100yr24hr	N-2B	15.57	12.6861	20.35
100yr24hr	N-2D	21.47	12.4391	20.85
100yr24hr	N-OUT	12.62	13.2499	173.20
100yr24hr	OF-1	16.01	12.1291	26.63
100yr24hr	OF-10	23.66	12.1529	16.72
100yr24hr	OF-11	24.28	12.1630	12.32
100yr24hr	OF-12	26.56	12.1363	34.56
100yr24hr	OF-2	17.10	12.1243	36.16
100yr24hr	OF-3	17.91	12.1128	14.19
100yr24hr	OF-4	18.43	12.1111	14.19
100yr24hr	OF-5	18.85	12.1102	14.19
100yr24hr	OF-6	19.87	12.1132	14.19
100yr24hr	OF-7	20.64	12.1180	14.19
100yr24hr	OF-8	21.09	12.1270	14.19
100yr24hr	OF-9	21.64	12.1288	16.18
100yr24hr	OF-LM	28.67	12.1284	19.33
25yr24hr	DN-2A	14.24	12.3428	114.32
25yr24hr	DN-2B	15.13	12.2702	105.97
25yr24hr	DN-2D	20.65	12.1157	47.73
25yr24hr	DOF-1	14.59	12.3013	107.76
25yr24hr	DOF-10	20.89	12.0990	67.56
25yr24hr	DOF-11	21.22	12.0998	42.81
25yr24hr	DOF-3	15.42	12.2400	84.21
25yr24hr	DOF-4	15.61	12.2143	77.15
25yr24hr	DOF-5	15.75	12.2100	70.22
25yr24hr	DOF-6	16.23	12.1928	70.41
25yr24hr	DOF-7	16.49	12.1857	57.15
25yr24hr	DOF-8	16.85	12.1738	50.34

Sim	Node Name	Maximum Stage [ft]	Time to Maximum Stage [hrs]	Maximum Total Inflow Rate [cfs]
25yr24hr	DOF-9	17.50	12.1039	50.36
25yr24hr	N-2A	14.23	12.3536	48.40
25yr24hr	N-2B	14.69	12.6282	12.32
25yr24hr	N-2D	20.59	12.3722	6.73
25yr24hr	N-OUT	12.62	13.2500	102.31
25yr24hr	OF-1	14.61	12.2985	15.38
25yr24hr	OF-10	20.93	12.0942	15.17
25yr24hr	OF-11	21.23	12.1000	9.47
25yr24hr	OF-12	22.29	12.0883	22.57
25yr24hr	OF-2	15.15	12.2691	36.16
25yr24hr	OF-3	15.44	12.2390	8.19
25yr24hr	OF-4	15.63	12.2159	8.19
25yr24hr	OF-5	15.77	12.2075	8.19
25yr24hr	OF-6	16.23	12.1937	8.19
25yr24hr	OF-7	17.03	12.0578	8.19
25yr24hr	OF-8	16.85	12.1763	8.19
25yr24hr	OF-9	17.51	12.1022	9.34
25yr24hr	OF-LM	24.99	12.1007	13.47

Sim	Link Name	Maximum Flow Rate [cfs]	Maximum Avg Velocity [fps]
100yr24hr	L-2A	173.20	0.00
100yr24hr	L-2AP	54.14	11.03
100yr24hr	L-2BP	20.35	11.51
100yr24hr	L-2DP	20.85	11.80
100yr24hr	L_DN-2B_DOF-1	145.20	0.00
100yr24hr	L_DN-2D_DOF-9	55.93	0.00
100yr24hr	L_DOF-10_DN-2D	54.01	-7.97
100yr24hr	L_DOF-11_DOF-10	40.04	5.66
100yr24hr	L_DOF-1_DN-2A	170.63	8.69
100yr24hr	L_DOF-3_DN-2B	131.72	6.71
100yr24hr	L_DOF-4_DOF-3	118.12	6.02
100yr24hr	L_DOF-5_DOF-4	104.66	5.33
100yr24hr	L_DOF-6_DOF-5	91.45	7.28
100yr24hr	L_DOF-7_DOF-6	78.72	6.26
100yr24hr	L_DOF-8_DOF-7	66.61	5.66
100yr24hr	L_DOF-9_DOF-8	66.36	7.05
100yr24hr	L_OF-10_DOF-10	16.29	-5.80
100yr24hr	L_OF-11_DOF-11	37.41	-2.47
100yr24hr	L_OF-12_DOF-11	34.17	6.96
100yr24hr	L_OF-1_DOF-1	26.64	5.80
100yr24hr	L_OF-2_DN-2B	7.04	-11.66
100yr24hr	L_OF-3_DOF-3	13.96	4.45
100yr24hr	L_OF-4_DOF-4	13.95	4.44
100yr24hr	L_OF-5_DOF-5	13.94	4.44
100yr24hr	L_OF-6_DOF-6	15.44	6.16
100yr24hr	L_OF-7_DOF-7	13.87	4.70
100yr24hr	L_OF-8_DOF-8	14.18	6.26
100yr24hr	L_OF-9_DOF-9	23.22	5.04
100yr24hr	L_OF-LM_OF-12	19.08	6.07
25yr24hr	L-2A	102.31	0.00
25yr24hr	L-2AP	48.40	9.86
25yr24hr	L-2BP	12.32	-11.34
25yr24hr	L-2DP	6.73	-11.06
25yr24hr	L_DN-2B_DOF-1	93.64	0.00
25yr24hr	L_DN-2D_DOF-9	41.46	0.00
25yr24hr	L_DOF-10_DN-2D	36.37	-7.97
25yr24hr	L_DOF-11_DOF-10	26.98	3.82
25yr24hr	L_DOF-1_DN-2A	107.62	5.48
25yr24hr	L_DOF-3_DN-2B	84.07	-6.03
25yr24hr	L_DOF-4_DOF-3	76.79	3.96
25yr24hr	L_DOF-5_DOF-4	69.83	3.85
25yr24hr	L_DOF-6_DOF-5	62.91	5.01

Sim	Link Name	Maximum Flow Rate [cfs]	Maximum Avg Velocity [fps]
25yr24hr	L_DOF-7_DOF-6	55.92	5.83
25yr24hr	L_DOF-8_DOF-7	49.29	5.68
25yr24hr	L_DOF-9_DOF-8	50.34	6.79
25yr24hr	L_OF-10_DOF-10	9.63	-5.80
25yr24hr	L_OF-11_DOF-11	41.72	-2.47
25yr24hr	L_OF-12_DOF-11	22.52	4.59
25yr24hr	L_OF-1_DOF-1	27.49	5.98
25yr24hr	L_OF-2_DN-2B	4.03	-11.66
25yr24hr	L_OF-3_DOF-3	8.03	2.56
25yr24hr	L_OF-4_DOF-4	10.90	3.71
25yr24hr	L_OF-5_DOF-5	8.01	-2.70
25yr24hr	L_OF-6_DOF-6	14.51	5.58
25yr24hr	L_OF-7_DOF-7	8.19	4.09
25yr24hr	L_OF-8_DOF-8	8.19	5.23
25yr24hr	L_OF-9_DOF-9	9.30	2.08
25yr24hr	L_OF-LM_OF-12	13.47	5.20

APPENDIX C

Soils Data

Summary of Seasonal High Groundwater Table Estimates - Ponds
75th Street West from 20th Avenue to Manatee Avenue
Manatee County, Florida
Manatee County Project No.: 6108260
TSF Project No. 7511-22-191

Boring Name	GPS Coordinates[1]		Boring Depth (Feet)	Measured Groundwater Table		USDA Soil Survey[3]			Estimated SHGWT Depth (feet)
	Latitiude	Longitude		Date Recorded	Depth[2] (feet)	Name	Symbol	Depth to Water Table (feet)	
SH-2A	27.482260	-82.637506	3.5	7/26/2022	1.0	Duette fine sand, 0 to 5 percent slopes Pomello fine sand, 0 to 2 percent slopes	19 42	4 to 6 1.5 to 3.5	1½ ± ½
SH-2B	27.483419	-82.636967	5.5	7/26/2022	3.5	Duette fine sand, 0 to 5 percent slopes Pomello fine sand, 0 to 2 percent slopes	19 42	4 to 6 1.5 to 3.5	2½ ± ½
SH-2C	27.485357	-82.637378	5	7/26/2022	3.5	Pomello fine sand, 0 to 2 percent slopes	42	1.5 to 3.5	3 ± ½
SH-2D	27.490955	-82.637115	4.5	7/26/2022	2.5	EauGallie EaGallie wet, fine sand, 0 to 2 percent slopes	20	0.5 to 1.5 0.25 to 1.5	1½ ± ½
SH-2E	27.491151	-82.635780	4.0	7/26/2022	2.0	EauGallie EaGallie wet, fine sand, 0 to 2 percent slopes	20	0.5 to 1.5 0.25 to 1.5	1 ± ½
SH-3	27.495837	-82.637611	5	7/26/2022	2.5	Pomello fine sand, 0 to 2 percent slopes	42	1.5 to 3.5	2 ± ½

(1) Coordinates of the boring locations are based on hand held GPS with an accuracy of +/- 10 feet.
(2) Depth below existing grade at time of field work.
(3) Seasonal high groundwater table depth estimated based on the Manatee County, Florida USDA Soil Survey information.

APPENDIX D

Correspondence

Chris Knox

From: Chris Knox
Sent: Monday, November 14, 2022 4:27 PM
To: Kenneth Kohn
Cc: Anthony Russo; Jeremy Runkle; Tom Gerstenberger; Jerry Varghese; Douglas Stoker
Subject: RE: SWFWMD Pre-Application Meeting : 75th Street W

Ken,
In response to your previous email, please see my responses in **blue** below.

Please provide the direction given by the SWFWMD regarding water quality, attenuation, floodplain impacts and wetland mitigation that you obtained in place of a pre-app. Provide also status regarding 404 permitting with FDEP.

- water quality
  - The project is not located within an impaired water body per FDEP designation, therefore presumptive criteria will be followed.
- Attenuation
  - Pre vs Post-development peak discharge will be met
- floodplain impacts
  - There are no anticipated floodplain impacts
- wetland mitigation
  - There are no anticipated wetland impacts
- status regarding 404 permitting with FDEP
  - A pre-application has been requested with FDEP regarding the 404 program. The project is anticipated to meet exemption criteria.

1. Existing ROW conveyances will need to be mitigated for lost storage and associated water quality treatment.
   Response – All lost storage will be mitigated within the proposed design. The existing condition consists of a closed conveyance system, therefore no existing open ditches will be impacted. The project limits are not located within an impaired water body, therefore the drainage design will follow the presumptive SWFWMD criteria for water quality calculations.

2. Existing ERP-12088.000 will be modified. Refer to existing as-builts.
   Response – Existing as-built drawings will be utilized for the modification to Pond 2A.

3. Use existing ponds, etc. considering re-evaluation of SHWT (using initial stages from the Model-where applicable), for additional storage in addition to weir modifications and available storage between DHWL-25 year and top of bank. Utilize lowest initial stages w/verifiable SHWT/tailwater conditions where practical to maximize available storage.
   Response – Proposed design of the ponds will set the NWL based on the geotechnical report SHW estimates. NWL elevations will be evaluated at approximately 6-in below the estimated SHW elevations to maximize storage within the ponds.

4. Refer to City of Bradenton approved Watershed Study for drainage design (attenuation, floodplain impacts, tailwater, water quality, etc.). the model will need to be revised for existing conditions within the limits of the project prior to use for pre vs. post analysis. This will be needed for major crossing and up to design 100 yr 24 hour storm. Generate rating curve in HEC-RAS and use ICPR Revised Existing Condition Model for analysis of no-adverse impacts and for bridge/culvert hydraulics where applicable.

Response – Cardno is working on accessing the the City of Bradenton approved Watershed Study. However, this project does not involve any major crossings for analysis. Our calculations will demonstrate pre vs post peak discharge from the project area. Cardno will discuss the need for this model update with the County.

5. Refer to Section 2.3.6 (Stormwater Management Design Manual), for minimum crown of road requirements.
   Response – The drainage design will meet the minimum criteria for the crown of the road concerning DHW. The proposed drainage system will be designed with the HGL having 1-ft freeboard from the eop elevation.

6. Drainage design must demonstrate no adverse impacts to off-site property up to 100 year 24 hr storm event (mean annual, 10 yr, 25 yr, 50 yr and 100 yr 24 hr storm events).
   Response – All off-site ponds will demonstrate that storms up to the 100-year/24-hour storm event will not have adverse impacts to surrounding properties.

7. Utilize directly connected flood plain compensation areas in lieu of storage modeling where possible.
   Response – There are no existing floodplains within the project limits.

8. Internal collector system design to the 25 year 24 hr storm-Section 2.4.3 of Stormwater Management Design Manual.
   Response – Per coordination with the County, it has been determined that the corridor is designated as part of the Major Thoroughfare Plan therefore, the storm sewer shall be designed for the 25 Year Frequency event. (Will clarify with the County whether this should use the Rational Method or SCS for determining design peak flows).

9. Jurisdictional survey to determine any mitigation needed as well as associated FDEP 404 and SWFWMD ERP permitting.
   Response – There are no anticipated wetland impacts and no waters of the US within the project limits. Cardno has coordinated with FDEP to set up a virtual pre-application meeting to discuss the 404 program. During the ERP process, this likely will be commented on during the process and a site visit meeting will be coordinated with FDEP personnel to establish an exemption from the 404 requirements.

10. There are flood prone areas identified in the City of Bradenton Watershed Study that could be evaluated for improvements.
    Response – Cardno has coordinated with the County to obtain the City of Bradenton approved Watershed Study. (currently being downloaded)

11. Evaluate existing bridge crossing for any needed improvements.
    Response – There are no bridge crossings within the project limit.

12. A methodology meeting with Stormwater Engineering staff is recommended for drainage design.
    Response – Cardno has coordinated with the County and plans to hold a meeting with the County Stormwater Engineering staff to discuss the drainage design on Thursday @10 am (A meeting invite is to follow).

Please let me know if you have any further questions or comments.

Thanks,

Chris Knox, PE, ENV SP
PROJECT MANAGER | SENIOR DRAINAGE ENGINEER
PRINCIPAL - STORMWATER
CARDNO

Direct +1 727 531 3505 Mobile +1 727 410 1567
Address 380 Park Place Blvd. Suite 300, Clearwater, Florida 33759
Email chris.knox@cardno.com Web www.cardno.com

Chris Knox

From: Anthony Russo <anthony.russo@mymanatee.org>
Sent: Monday, November 14, 2022 3:03 PM
To: Douglas Stoker; Jerry Varghese; Chris Knox
Subject: Re: 75stW arterial on map 5B / minor arterial Map5A

See below

From: Clarke Davis <clarke.davis@mymanatee.org>
Sent: Monday, November 14, 2022 2:38 PM
To: Anthony Russo <anthony.russo@mymanatee.org>; Neil Byrne <neil.byrne@mymanatee.org>
Subject: RE: 75stW arterial on map 5B / minor arterial Map5A

The short answer is "yes." See attached email where this question was addressed for Rangeland Pkwy.

The referenced Major Thoroughfare Plan is the Traffic Circulation Plan (Table 5-1 and the Map 5 series) of the Comprehensive Plan. It includes all designated collector and arterial roadways, whether or not they are also considered minor or major (as noted, the distinction is only used for Map 5-A)

Within the capital project limits, 75th St W is classified as an arterial roadway, and it should be considered a roadway that is a "designated part of the Major Thoroughfare Plan" for purposes of applying standards.

=-=-=-=
Clarke Davis
941.708.7450 x7272

From: Anthony Russo
Sent: Monday, November 14, 2022 1:47 PM
To: Clarke Davis <clarke.davis@mymanatee.org>; Neil Byrne <neil.byrne@mymanatee.org>
Subject: 75stW arterial on map 5B / minor arterial Map5A

Can you provide clarification?
Thank you,
Tony Russo PE
941.708.7450 x7349
813.434.5350 cell

From: Douglas Stoker <Doug.Stoker@cardno.com>
Sent: Monday, November 14, 2022 1:32 PM
To: Anthony Russo <anthony.russo@mymanatee.org>; Jerry Varghese <jerry.varghese@mymanatee.org>
Cc: Jeremy Runkle <jeremy.runkle@cardno.com>; Chris Knox <chris.knox@cardno.com>
Subject: Stormwater Management Design Manual

Tony/Jerry,

County Transportation Planning map 5-A indicates that the 75th Street W. corridor is a “minor arterial” and map 5-B indicates that the corridor is an “arterial” in the future, but is it part of the Major Thoroughfare Plan?

See below…

MANATEE COUNTY PUBLIC WORKS STANDARDS
PART 2 - STORMWATER MANAGEMENT DESIGN MANUAL

2.4.3. HYDROLOGY

The interior drainage systems of an area are to be developed or redeveloped shall be designed to ca from a 10 Year Frequency Rainfall. Drainage systems from improvements to or for roadways which are d part of the Major Thoroughfare Plan shall be designed for the 25 Year Frequency event.

Thanks,
Doug

Doug Stoker, PE
Vice President, Cardno, Inc.

Direct +1 727 431 1550 Mobile +1 813 382 6668
Address 380 Park Place Blvd. Suite 300, Clearwater, Florida 33759
Email doug.stoker@cardno.com

Chris Knox

From: Rob McDaniel <Rob.McDaniel@swfwmd.state.fl.us>
Sent: Wednesday, August 31, 2022 10:59 AM
To: Chris Knox
Subject: RE: (ERP) Pre-Application Meeting Request - 75th Street West from 20th Avenue to Manatee Avenue

Chris,
Thanks for the clarification. I see where I mis-interpreted the proposed conditions: “two 11-foot lanes in each direction”. Yes, for the portion of roadway that will not be converted from 2 lanes to 4 lanes the design may match pre-vs post for the connection into the existing FDOT storm system along Manatee Ave. Hope this helps.
Thanks,
Rob McDaniel, P.E.
ERP Evaluation Manager
Environmental Resource Permit Bureau
Southwest Florida Water Management District
7601 Highway 301 North
Tampa, FL 33637-6759
813-355-0620
813-985-7481 or 800-836-0797 ext. 2039
rob.mcdaniel@swfwmd.state.fl.us

From: Chris Knox <Chris.Knox@cardno.com>
Sent: Wednesday, August 31, 2022 9:13 AM
To: Rob McDaniel <Rob.McDaniel@swfwmd.state.fl.us>
Subject: RE: (ERP) Pre-Application Meeting Request - 75th Street West from 20th Avenue to Manatee Avenue

[EXTERNAL SENDER] Use caution before opening.
Good morning Rob,
I appreciate you’re email response. Part of me wants to document your email and hold you to that ;), but I may not have made it clear in my initial email that we will be adding travel lanes to the project. The typical section will go from a two-lane to four-lane divided roadway.

With that being said, we will require the treatment ponds along the corridor. The one area I would like to verify will be the northern portion of the project (approximately 600-ft of the roadway connecting to Manatee Ave). If we can demonstrate that we are not adding additional lanes, or increasing flows for this section of roadway, will SWFWMD allow us to match pre-vs post for the connection into the existing FDOT storm system along Manatee Ave?

Please let me know if I need to explain this area in more detail.

Thanks,

Chris Knox, PE, ENV SP
PROJECT MANAGER | SENIOR DRAINAGE ENGINEER
PRINCIPAL - STORMWATER
CARDNO

Direct +1 727 531 3505 Mobile +1 727 410 1567
Address 380 Park Place Blvd. Suite 300, Clearwater, Florida 33759
Email chris.knox@cardno.com Web www.cardno.com

From: Rob McDaniel <Rob.McDaniel@swfwmd.state.fl.us>
Sent: Monday, August 29, 2022 5:28 PM
To: Chris Knox <Chris.Knox@cardno.com>
Subject: RE: (ERP) Pre-Application Meeting Request - 75th Street West from 20th Avenue to Manatee Avenue

Chris,
Since no new traffic lanes will be created, runoff from the roadway surface will not require formal water quality treatment or attenuation. Existing function provided by any roadside ditches, swales, or ponds will need to be maintained in the post-developed condition. Any floodplain encroachment would need to be quantified and calculations would need to be provided demonstrating no adverse impacts will occur as a result of fill within the floodplain.
If there is no District permitting over the area and there are no wetland/surface water impacts, it is likely a Request for Verification of Exempt Activities ($100 fee) will be appropriate. If there is permitting history, or there are impacts, or if the floodplain approach involves sophisticated modeling, then an Individual ERP should be pursued.
Let me know if you have any additional questions.
Thanks,
Rob McDaniel, P.E.
ERP Evaluation Manager
Environmental Resource Permit Bureau
Southwest Florida Water Management District
7601 Highway 301 North
Tampa, FL 33637-6759
813-355-0620
813-985-7481 or 800-836-0797 ext. 2039
rob.mcdaniel@swfwmd.state.fl.us

From: Chris Knox <Chris.Knox@cardno.com>
Sent: Monday, August 29, 2022 5:09 PM

To: Rob McDaniel <Rob.McDaniel@swfwmd.state.fl.us>; ERP_PreAppRequest <ERP_PreAppRequest@swfwmd.state.fl.us>
Subject: RE: (ERP) Pre-Application Meeting Request - 75th Street West from 20th Avenue to Manatee Avenue

[EXTERNAL SENDER] Use caution before opening.

Rob,
I've attached the 30% plans for your reference.

The existing typical section along 75th Street West consists of two travel lanes divided by a median, 4-foot paved shoulders (bike lane), curb and gutter, and sidewalk on both sides.

The proposed typical section consists of two 11-foot lanes in each direction, 16-foot raised median, 5-foot sod buffers, 5-foot sidewalk, and 12-foot shared-use path (trail) on one side.

There is one existing dry retention pond that provides treatment for the existing roadway located west of 75th Street West, just north of Cedar Hammock Creek.

We are proposing to treat and attenuate the majority of the project using three off-line ponds, all of which drain south to Hammock Creek. The northern portion of 75th Street drains directly to the existing storm system along Manatee Ave. In the proposed condition we are reducing the area draining to the Manatee Ave system by adding additional inlets to collect and convey additional area to the ponds and we will demonstrate a pre vs post peak discharge into the Manatee Ave storm system. If you look at the existing versus proposed roadway footprint, we will not be widening the travel lanes at the north leg of the corridor and the edges of pavement are very similar, therefore we are matching (if not reducing the flow) the existing condition here. The runoff draining north will not be treated (matching the existing condition).

I feel pretty good about our approach to the project and we will be providing an overall water quality improvement to the corridor. Our project is on an accelerated schedule and I just wanted to make sure I coordinated with SWFWMD to make sure we are all on the same page before we move to the next phase submittal and begin the permitting process.

Thanks,

Chris Knox, PE, ENV SP
PROJECT MANAGER | SENIOR DRAINAGE ENGINEER
PRINCIPAL - STORMWATER
CARDNO

Direct +1 727 531 3505 Mobile +1 727 410 1567
Address 380 Park Place Blvd. Suite 300, Clearwater, Florida 33759
Email chris.knox@cardno.com Web www.cardno.com

From: Rob McDaniel <Rob.McDaniel@swfwmd.state.fl.us>
Sent: Monday, August 29, 2022 4:03 PM

To: ERP_PreAppRequest <ERP_PreAppRequest@swfwmd.state.fl.us>; Chris Knox <Chris.Knox@cardno.com>
Subject: RE: (ERP) Pre-Application Meeting Request - 75th Street West from 20th Avenue to Manatee Avenue

Chris,
Please provide a project description and any specific questions you may have.
Thanks,
Rob McDaniel, P.E.
ERP Evaluation Manager
Environmental Resource Permit Bureau
Southwest Florida Water Management District
7601 Highway 301 North
Tampa, FL 33637-6759
813-355-0620
813-985-7481 or 800-836-0797 ext. 2039
rob.mcdaniel@swfwmd.state.fl.us

From: Noreply Webmaster <Noreply.Webmaster@swfwmd.state.fl.us>
Sent: Monday, August 29, 2022 10:07 AM
To: ERP_PreAppRequest <ERP_PreAppRequest@swfwmd.state.fl.us>
Subject: Webform submission from: Environmental Resource Permits (ERP) Pre-Application Meeting Request

Submitted on Mon, 08/29/2022 - 02:07

Submitted by: Anonymous

Submitted values are:

Meeting Contact Name

First Name
Chris

Last Name
Knox

Firm
Cardno

Phone
17274101567

Email Address
chris.knox@cardno.com

Preferred

Location Requested (Preferred date/time)
Tampa

First Available
Yes

Extenuating Circumstances
No

Mitigation Bank Pre-application Meeting (Held in Tampa; two hours)
No

Are any impacts to mangroves anticipated?
No

Wetlands (onsite or adjacent)
No

Is this one of multiple projects to be discussed?
No

Project Name
75th Street West from 20th Avenue to Manatee Avenue

County
Manatee

If Manatee County, may we notify Manatee County of your pre-app meeting?
N/A

At least one of the following location fields is required:

Section/Township/Range
30/34S/17E, 31/34S/17E

Nearest intersection OR address OR Parcel ID
75th Street W & Manatee Ave W

Project Information

Please check all that apply to this project and provide requested information.
Fast Track Project

Number of Attendees
2

Name of Attendees
Chris Knox
Kenneth Kohn

Comments
I would like to request an informal review for this project to expedite the process.

{Empty}

APPENDIX E

Cost Estimate

Manatee County

Manatee County Public Works Department
CIP No. 6108260
75th Street West from 20th Avenue to Manatee Avenue

Stantec

90% Opinion of Probable Cost Estimate

ITEM	PAY ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ESTIMATED UNIT PRICE	TOTAL PRICE
		ROADWAY COMPONENT				
1	201020-001	MOBILIZATION (10%) (FDOT 101-1)	LS	1	$ 1,503,554.00	$ 1,503,554.00
2	201500-001	MAINTENANCE OF TRAFFIC (10%) (FDOT 102-1)	LS	1	$ 1,366,867.00	$ 1,366,867.00
3	102-2-200	SPECIAL DETOUR-TEMPORARY PAVEMENT	SY	4,948	$ 3.00	$ 14,843.19
4	102-71-13	TEMPORARY BARRIER, F&I, LOW PROFILE, CONCRETE	LF	1,260	$ 30.00	$ 37,800.00
5	102-71-23	TEMPORARY BARRIER, F&I, RELOCATE, LOW PROFILE CONCRETE	LF	336	$ 14.00	$ 4,704.00
6	102-74-1	CHANNELIZING DEVICE	ED	337,990	$ 0.10	$ 33,799.00
7	104-10-3	SEDIMENT BARRIER	LF	1,484	$ 1.00	$ 1,484.00
8	104-12	STAKED TURBIDITY BARRIER	LF	115	$ 7.00	$ 805.00
9	104-18	INLET PROTECTION SYSTEM	EA	3	$ 213.00	$ 639.00
10	110-1-1	CLEARING AND GRUBBING (12.20 AC)	LS/AC	1	$ 19,395.00	$ 236,619.00
11	110-4-10	REMOVAL OF EXISTING CONCRETE	SY	9,258	$ 54.00	$ 499,944.00
12	110-7-1	MAILBOX, F&I, SINGLE	EA	30	$ 265.00	$ 7,950.00
13	120-1	REGULAR EXCAVATION	CY	30,611.1	$ 43.00	$ 1,316,277.73
14	120-6	EMBANKMENT	CY	231.4	$ 66.00	$ 15,272.40
15	160-4	TYPE B STABILIZATION	SY	38,137	$ 10.00	$ 381,370.00
16	285-709	OPTIONAL BASE, BASE GROUP 09	SY	35,191	$ 77.00	$ 2,709,729.54
17	286-2	TURNOUT CONSTRUCTION-ASPHALT/DRIVEWAY BASE-ASPHALT MATERIAL	SY	339	$ 217.00	$ 73,563.00
18	327-70-6	MILLING EXISTING ASPH PAVT, 1 1/2" AVG DEPTH	SY	11,125	$ 6.00	$ 66,748.44
19	334-1-53	SUPERPAVE ASPHALTIC CONCRETE, TRAFFIC C, PG 76-22	TN	18.6	$ 156.00	$ 2,908.62
20	337-7-82	ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG 76-22	TN	1965.4	$ 223.00	$ 438,277.51
21	339-1	MISCELLANEOUS ASPHALT PAVEMENT	TN	250.0	$ 296.00	$ 74,000.00
22	400-2-11	CONCRETE CLASS II - RETAINING WALL	CY	140.3	$ 1,931.00	$ 270,919.30
23	415-1-1	REINFORCING STEEL - ROADWAY	LB	9458	$ 3.00	$ 28,374.00
24	425-1201	INLETS, CURB, TYPE P-9, <10'	EA	8	$ 7,620.00	$ 60,960.00
25	425-1203	INLETS, CURB, TYPE J-9, <10'	EA	1	$ 12,074.00	$ 12,074.00
26	425-1311	INLETS, CURB, TYPE P-1, <10'	EA	1	$ 11,842.00	$ 11,842.00
27	425-1351	INLETS, CURB, TYPE P-5, <10'	EA	54	$ 14,030.00	$ 757,620.00
28	425-1361	INLETS, CURB, TYPE P-6, <10'	EA	7	$ 10,527.00	$ 73,689.00
29	425-1531	INLETS, DITCH BOTTOM, TYPE C MODIFIED-BACK OF SIDEWALK, <10'	EA	2	$ 11,317.00	$ 22,634.00
30	425-2-41	MANHOLES, P-7, <10'	EA	2	$ 8,104.00	$ 16,208.00
31	425-2-61	MANHOLES, P-8, <10'	EA	1	$ 11,139.00	$ 11,139.00
32	425-2-63	MANHOLES, P-8, PARTIAL	EA	1	$ 7,275.00	$ 7,275.00
33	425-2-74	MANHOLES, J-7, <10' CONTROL STRUCTURE (12.0'x12.0')	EA	2	$40,000.00	$ 80,000.00
34	425-2-75	MANHOLES, J-7, >10' CONTROL STRUCTURE (12.0'x12.0')	EA	1	$ 18,400.00	$ 18,400.00
35	425-5	MANHOLES, ADJUST	EA	15	$ 1,617.00	$ 24,255.00
36	425-6	VALVE BOXES, ADJUST	EA	51	$ 1,110.00	$ 56,610.00
37	430-175-112	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 12"S/CD	LF	40	$ 520.00	$ 20,800.00
38	430-175-115	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 15"S/CD	LF	113	$ 82.00	$ 9,266.00
39	430-175-118	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 18"S/CD	LF	4010	$ 408.00	$ 1,636,080.00
40	430-175-124	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 24"S/CD	LF	491	$ 343.00	$ 168,413.00
41	430-175-130	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 30"S/CD	LF	107	$ 1,219.00	$ 130,433.00
42	430-175-142	PIPE CULVERT, OPT MATERIAL, ROUND, 42"S/CD	LF	8	$ 411.00	$ 3,288.00
43	430-175-160	PIPE CULVERT, OPT MATERIAL, ROUND, 60"S/CD	LF	52	$ 801.00	$ 41,652.00
44	430-175-215	PIPE CULVERT, OPT MATERIAL, OTHER-ELLIPTICAL/ARCH, 15"S/CD	LF	853	$ 252.00	$ 214,956.00
45	430-175-224	PIPE CULVERT, OPT MATERIAL, OTHER-ELLIPTICAL/ARCH, 24"S/CD	LF	8	$ 194.00	$ 1,552.00
46	430-982-125	MITERED END SECTION, OPTIONAL ROUND, 18" CD	EA	3	$ 5,738.00	$ 17,214.00
47	430-982-133	MITERED END SECTION, OPTIONAL ROUND, 30" CD	EA	3	$ 5,905.00	$ 17,715.00
48	430-982-143	MITERED END SECTION, OPTIONAL ROUND, 60" CD	EA	1	$ 18,784.00	$ 18,784.00
49	440-1-20	UNDERDRAIN, TYPE II	LF	2,184	$ 41.00	$ 89,544.00
50	515-1-1	PIPE HANDRAIL - GUIDERAIL, STEEL	LF	24	$ 374.00	$ 8,976.00
51	520-1-10	CONCRETE CURB & GUTTER, TYPE F (INCLUDES TYPE A MIAMI CURB & GUTTER PER MC DETAIL 201.1)	LF	11,777	$ 62.00	$ 730,148.34
	520-2-4	CONCRETE CURB, TYPE D	LF	1,391	$ 51.00	$ 70,949.16
53	520-2-8	CONCRETE CURB, TYPE RA	LF	5,039	$ 42.00	$ 211,624.56
54	520-3	VALLEY GUTTER - CONCRETE	LF	171	$ 102.00	$ 17,442.00
55	520-5-11	TRAFFIC SEPARATOR CONCRETE - TYPE I, 4' WIDE	LF	1,759	$ 62.00	$ 109,058.00
56	522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	SY	8,302	$ 132.00	$ 1,095,813.49
57	522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	SY	992	$ 103.00	$ 102,216.17
58	527-2	DETECTABLE WARNINGS	SF	757	$ 36.00	$ 27,239.20

Manatee County

Manatee County Public Works Department
CIP No. 6108260
75th Street West from 20th Avenue to Manatee Avenue

Stantec

90% Opinion of Probable Cost Estimate

ITEM	PAY ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ESTIMATED UNIT PRICE	TOTAL PRICE
		ROADWAY COMPONENT				
1	201020-001	MOBILIZATION (10%) (FDOT 101-1)	LS	1	$ 1,503,554.00	$ 1,503,554.00
59	530-3-4	RIPRAP, RUBBLE, F&I, DITCH LINING	TN	113	$ 1,268.00	$ 143,069.49
60	530-74	BEDDING STONE	TN	50	$ 419.00	$ 21,045.28
61	550-10-222	FENCING, TYPE B, 5.1-6.0, W/ VINYL COATING	LF	2260	$20.00	$ 45,200.00
62	550-60-623	FENCE GATE, TYPE B VINYL, DOUBLE, 12.1-18.0' OPENING	EA	3	$6,500.00	$ 19,500.00
63	570-1-2	PERFORMANCE TURF, SOD	SY	7633	$ 4.00	$ 30,533.85
						$ 15,241,667.27
		SIGNING AND PAVEMENT MARKINGS COMPONENT				
64	700-1-11	SINGLE POST SIGN, F&I, GROUND MOUNT, UP TO 12 SF	AS	34	$ 534.00	$ 18,156.00
65	700-1-12	SINGLE POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS	8	$ 1,718.00	$ 13,744.00
66	700-1-50	SINGLE POST SIGN, RELOCATE	AS	7	$ 472.00	$ 3,304.00
67	700-1-60	SINGLE POST SIGN, REMOVE	AS	29	$ 48.00	$ 1,392.00
68	700-3-501	SIGN PANEL, RELOCATE, UP TO 12 SF	EA	16	$ 58.00	$ 928.00
65	700-3-601	SIGN PANEL, REMOVE, UP TO 12 SF	EA	1	$ 129.00	$ 129.00
70	705-11-1	DELINEATOR (FLEXIBLE TUBULAR)	EA	8	$ 162.00	$ 1,296.00
71	706-1-3	RAISED PAVEMENT MARKER, TYPE B	EA	438	$ 5.00	$ 2,190.00
72	710-11-290	PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	SF	95	$ 4.00	$ 380.00
73	710-90	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1	$ 31,504.00	$ 31,504.00
74	711-11-102	THERMOPLASTIC, STANDARD, WHITE, SOLID, 8" FOR INTERCHANGE AND URBAN ISLAND	GM	0.012	$ 7,651.00	$ 92.00
75	711-11-123	THERMOPLASTIC, STANDARD, WHITE, SOLID, 12"	LF	1435	$ 4.00	$ 5,740.00
76	711-11-124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	10	$ 6.00	$ 60.00
77	711-11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP BAR	LF	320	$ 8.00	$ 2,560.00
78	711-11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/6-10 GAP EXTENSION, 6"	GM	0.187	$ 2,546.00	$ 477.00
79	711-11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW (BICYCLE, LEFT)	EA	32	$ 73.00	$ 2,336.00
80	711-11-241	THERMOPLASTIC, STANDARD, YELLOW, 2-4 DOTTED GUIDE/6-10 DOTTED EXTENSION, 6"	GM	0.187	$ 2,374.00	$ 444.00
81	711-14-125	THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	485	$ 17.00	$ 8,245.00
82	711-14-160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE (BICYCLE, SCHOOL)	EA	8	$ 259.00	$ 2,072.00
83	711-14-170	THERMOPLASTIC, PREFORMED, WHITE, ARROW (BICYCLE)	EA	6	$ 111.00	$ 666.00
84	711-16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	2.161	$ 5,616.00	$ 12,137.00
85	711-16-131	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SKIP, 6",10-30	GM	1.757	$ 1,399.00	$ 2,459.00
86	711-16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	1.983	$ 5,691.00	$ 11,286.00
87	711-16-231	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SKIP, 6"	GM	0.114	$ 1,219.00	$ 139.00
		SIGNING AND PAVEMENT MARKINGS COMPONENT SUB-TOTAL				**$ 121,736.00**
		SIGNALIZATION COMPONENT				
88	630-2-11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	275	$ 17.26	$ 4,747.00
89	630-2-12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	4925	$ 39.06	$ 192,371.00
90	632-7-1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	$ 16,418.46	$ 16,419.00
91	632-7-6	SIGNAL CABLE, REMOVE- INTERSECTION	PI	1	$ 1,018.87	$ 1,019.00
92	633-1-121	FIBER OPTIC CABLE, F&I, UNDERGROUND,2-12 FIBERS (12 SM)	LF	200	$ 4.30	$ 860.00
93	633-1-123	FIBER OPTIC CABLE, F&I, UNDERGROUND,49-96 FIBERS (72 SM)	LF	5095	$ 5.00	$ 25,475.00
94	633-1-620	FIBER OPTIC CABLE, REMOVE, UNDERGROUND	LF	3985	$ 1.20	$ 4,782.00
95	633-2-31	FIBER OPTIC CONNECTION, INSTALL, SPLICE	EA	150	$ 48.34	$ 7,251.00
96	633-2-32	FIBER OPTIC CONNECTION, INSTALL, TERMINATION	EA	24	$ 87.37	$ 2,097.00
97	633-3-11	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE ENCLOSURE	EA	3	$ 1,013.03	$ 3,040.00
98	633-3-12	FIBER OPTIC CONNECTION HARDWARE, F&I, SPLICE TRAY	EA	13	$ 58.54	$ 762.00
99	633-3-16	FIBER OPTIC CONNECTION HARDWARE, F&I, PATCH PANEL- FIELD TERMINATED	EA	2	$ 1,340.89	$ 2,682.00
100	635-2-12	PULL & SPLICE BOX, F&I, 24" X 36" COVER SIZE	EA	7	$ 2,492.25	$ 17,446.00
101	635-2-13	PULL & SPLICE BOX, F&I, 30" X 60" RECTANGULAR	EA	2	$ 4,670.72	$ 9,342.00
102	635-2-14	PULL & SPLICE BOX, F&I, 17" x 30" COVER SIZE	EA	18	$ 1,476.68	$ 26,581.00
103	639-1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	2	$ 3,782.08	$ 7,565.00
104	639-1-620	ELECTRICAL POWER SERVICE, REMOVE UNDERGROUND	AS	1	$ 600.00	$ 600.00
105	639-2-1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	280	$ 13.39	$ 3,750.00
106	639-3-11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA	2	$ 1,405.96	$ 2,812.00
107	639-4-6	EMERGENCY GENERATOR - PORTABLE, INSTALL HOUSING ONLY	EA	1	$ 10,000.00	$ 10,000.00
108	641-2-12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	3	$ 2,094.01	$ 6,283.00
109	641-2-13	PRESTRESSED CONCRETE POLE, F&I, TYPE P-III	EA	2	$ 9,759.91	$ 19,520.00
110	641-2-60	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL- PEDESTAL/SERVICE POLE	EA	1	$ 1,278.62	$ 1,279.00
111	641-2-80	PRESTRESSED CONCRETE POLE, COMPLETE POLE REMOVAL- POLE 30' AND GREATER	EA	1	$ 8,515.64	$ 8,516.00
112	646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	6	$ 2,044.29	$ 12,266.00

Manatee County Public Works Department
CIP No. 6108260
75th Street West from 20th Avenue to Manatee Avenue

Stantec

90% Opinion of Probable Cost Estimate

ITEM	PAY ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	ESTIMATED UNIT PRICE	TOTAL PRICE
		ROADWAY COMPONENT				
1	201020-001	MOBILIZATION (10%) (FDOT 101-1)	LS	1	$ 1,503,554.00	$ 1,503,554.00
113	649-21-1	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 30'	EA	1	$ 75,000.00	$ 75,000.00
114	649-21-3	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 40'	EA	1	$ 76,000.00	$ 76,000.00
115	649-21-6	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 50'	EA	1	$ 81,880.32	$ 81,881.00
116	649-26-5	STEEL MAST ARM ASSEMBLY, REMOVE, DEEP FOUNDATION- BOLT ON ATTACHMENT	EA	4	$ 26,555.00	$ 106,220.00
117	650-1-14	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	6	$ 1,839.19	$ 11,036.00
118	650-1-16	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 4 SECTION, 1 WAY	AS	1	$ 2,330.24	$ 2,331.00
119	653-1-11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	6	$ 999.10	$ 5,995.00
120	660-3-11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	3	$ 11,933.18	$ 35,800.00
121	660-3-12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	7	$ 12,755.93	$ 89,292.00
122	660-3-60	VEHICLE DETECTION SYSTEM - MICROWAVE, REMOVE, COMPLETE SYSTEM	EA	1	$ 2,000.00	$ 2,000.00
123	665-1-11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	6	$ 442.90	$ 2,658.00
124	670-5-110	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA	AS	1	$ 40,602.37	$ 40,603.00
125	670-5-600	TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET	AS	1	$ 686.83	$ 687.00
126	676-2-122	ITS CABINET, FURNISH & INSTALL, POLE MOUNT WITH SUNSHIELD, 336S, 24" W X 46" H X 22" D	EA	1	$ 12,358.62	$ 12,359.00
127	676-3-10	SMALL EQUIPMENT ENCLOSURE, FURNISH AND INSTALL, LESS THAN 10"W X 13"H X 11" D	EA	1	$ 1,975.82	$ 1,976.00
128	682-1-133	ITS CCTV CAMERA, F&I, DOME ENCLOSURE - NON-PRESSURIZED, IP, HIGH DEFINITION	EA	1	$ 8,307.30	$ 8,308.00
129	684-1-1	MANAGED FIELD ETHERNET SWITCH, FURNISH & INSTALL	EA	2	$ 6,543.95	$ 13,088.00
130	685-1-11	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE	EA	1	$ 7,047.56	$ 7,048.00
131	685-1-13	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE WITH CABINET	EA	1	$ 10,715.47	$ 10,716.00
132	700-3-201	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, UP TO 12 SF	EA	3	$ 1,026.04	$ 3,079.00
133	700-5-22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	3	$ 4,797.09	$ 14,392.00
					SIGNALIZATION COMPONENT SUB-TOTAL	**$ 987,934.00**
		LIGHTING COMPONENT				
134	630-2-91	CONDUIT, INSTALL, OPEN TRENCH	LF	345	$ 15.00	$ 5,175.00
135	630-2-92	CONDUIT, INSTALL, DIRECTIONAL BORE	LF	4980	$ 32.00	$ 159,360.00
136	635-2-30	PULL & SPLICE BOX, INSTALL	EA	43	$ 540.00	$ 23,220.00
					LIGHTING COMPONENT SUB-TOTAL	**$ 187,755.00**
		OTHER				
137		PROJECT UNKNOWNS (15%)	LS	1	$2,452,700.59	$2,452,701.00
					PROJECT TOTAL	**$ 18,991,793.27**

Note: Unit costs based on FDOT Historical Costs (Current 12 Month Moving Averages for Area 10 and Statewide 6-month Moving Average). Percentages based on values per FDOT Work Program Update Cycle.