Winter Park Pines Basin Study
Lake Corrine Outfall

Prepared for:

City of Winter Park

Submitted by:

Baxter and Woodman, Inc.

200 E. Robinson Street, Suite 555
Orlando, FL 32801
Phone 407-386-2249

September 2024

Table of Contents

Executive Summary

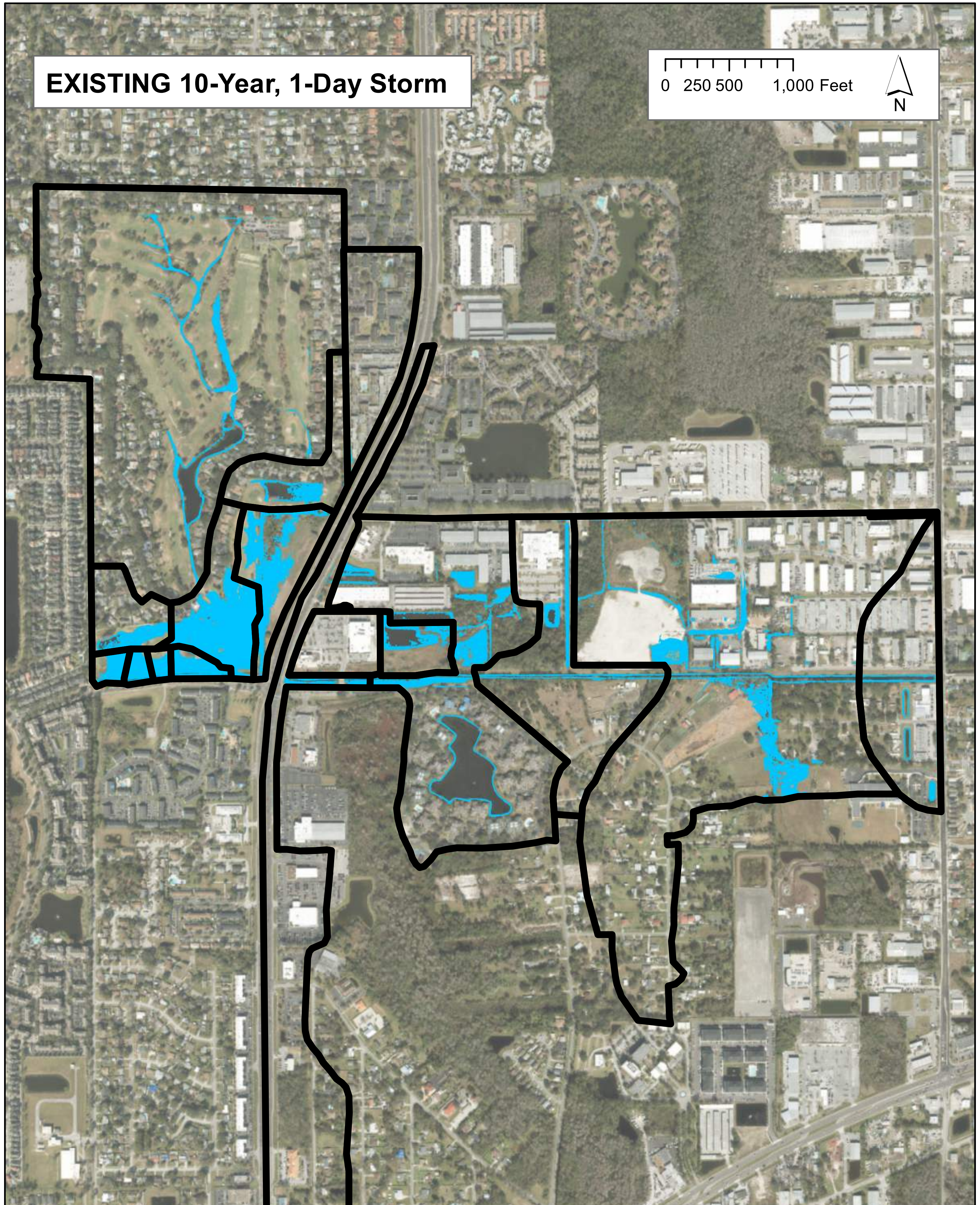
During Hurricane Ian (September 2022) Winter Park experienced flooding in various areas of the City. Areas of flooding included the Winter Park Pines golf course and surrounding neighborhoods, and the Mayflower Retirement Village in the northern area of the Winter Park Eastern Basin. The golf course and surrounding areas discharge to the Lake Corrine Outfall Canal which drains to Goldenrod Canal. The Mayflower Retirement Village drain to the Eastbrook canal, which discharges to the Crane Strand Canal and then to the Goldenrod Canal, which discharges to the Little Econlockhachee River.

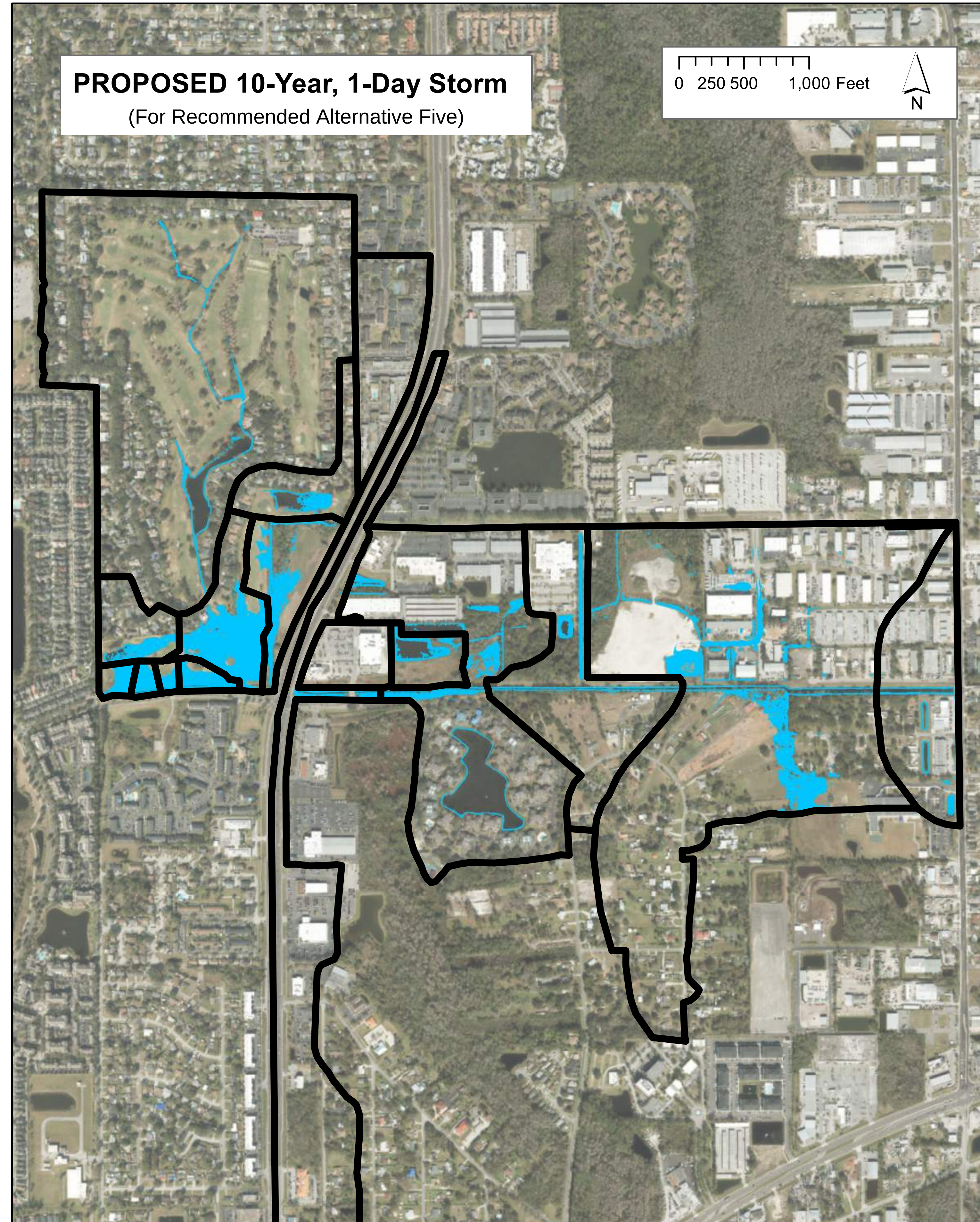
In 2023, the City of Winter Park contracted Baxter and Woodman, Inc. to provide engineering services to perform a drainage study of the eastern basins of the City. The study investigates the causes of flooding that occurred during Hurricane Ian and looks at drainage improvement alternatives to eliminate/reduce the flooding and ponding that occurs within the area. This report concentrates on the Lake Corrine Outfall Canal.

The study evaluated five alternatives within the Lake Corrine Outfall basin, to determine the effects on the peak stages within the Winter Park Pines golf course, the feasibility of the alternatives, and provide recommendations. The recommended alternative includes the regrading of the Lake Corrine Outfall Canal between S.R. 436 and Forsyth Road, and upgrading the existing 60” CMP pipe under Golfside Drive within the Winter Park Pines golf course to an equivalent 72” Elliptical RCP. The following pages illustrate the floodplain impacts for the 10-year, 25-year, and 100-year 1-day storms. The results show a substantial improvement between the existing and proposed for the 100-year 1-day storm.

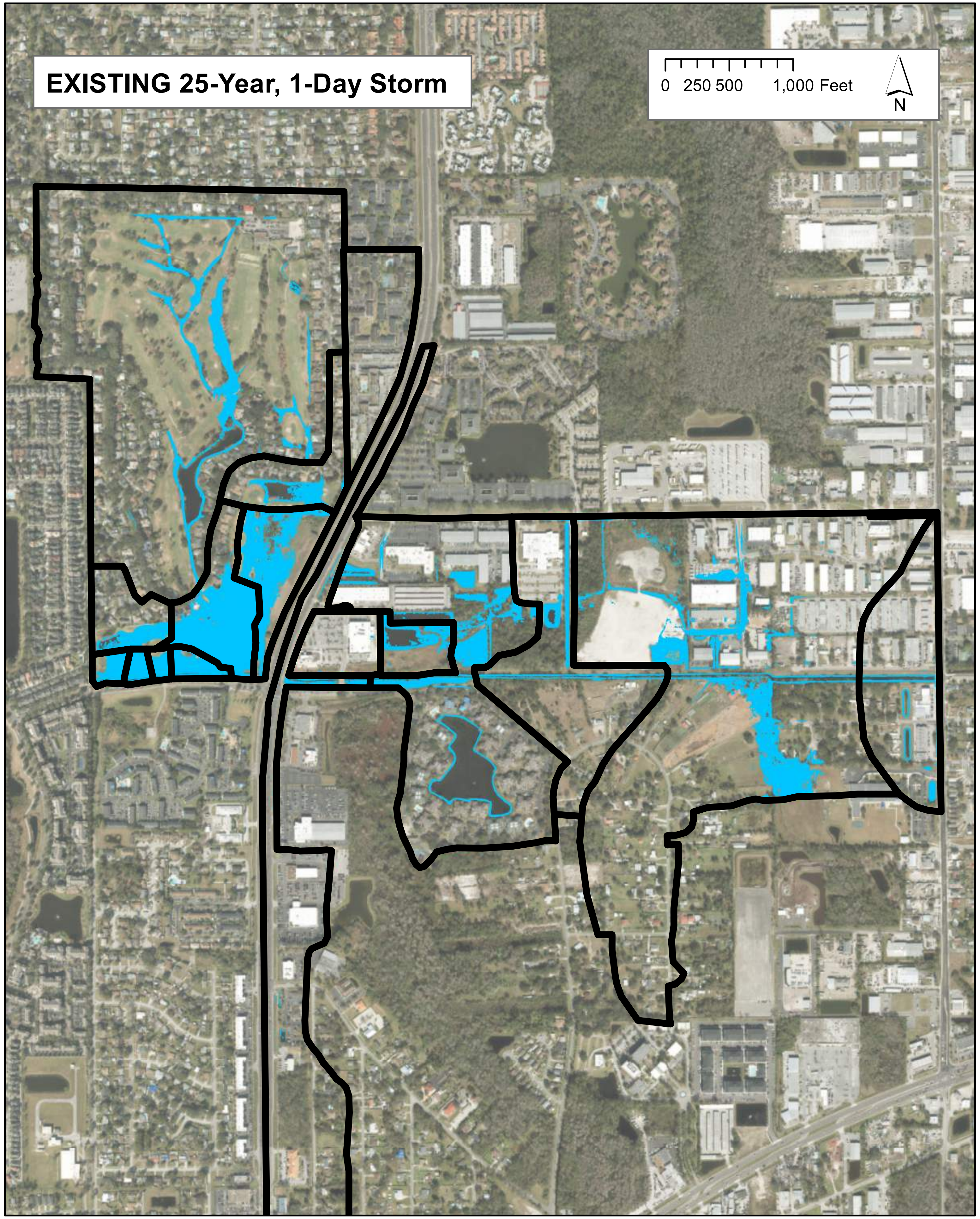
The City of Winter Park has implemented a flood management guide for procedures to follow in advance of a hurricane in the Winter Park basin. For example, the Winter Park Pines golf course contains check valves that, if not functioning, can cause a backup of stormwater at Hole 8. Part of the flood management guide for this area includes confirmation of the proper functioning of these check valves.

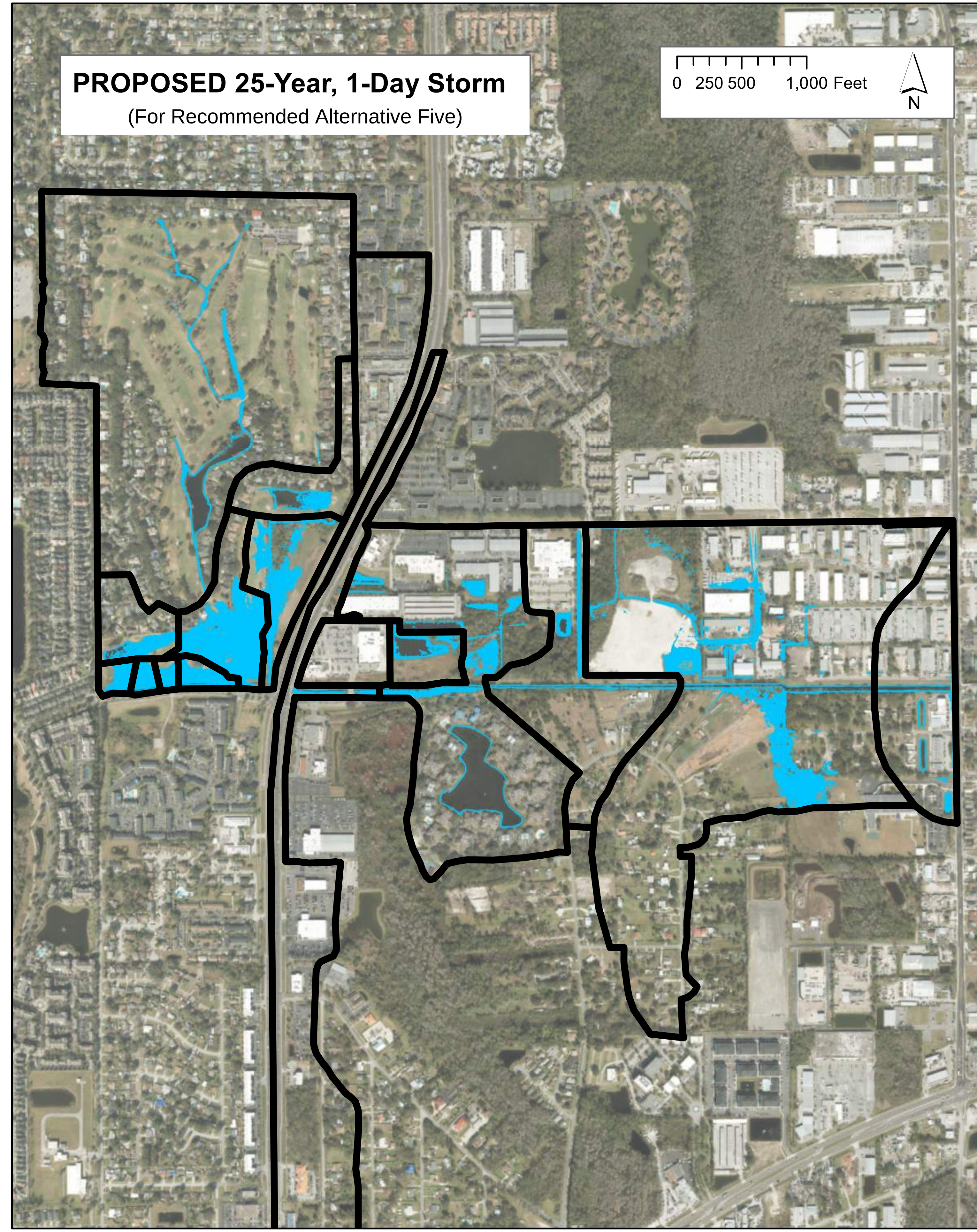
The Mayflower area will be discussed in a later report. There are several CIP projects that are planned to the Mayflower area, the first including $170,000 over the next five to six years. for heavy clearing of two ditches that drain to the north through the Interlachen Country Club. The second CIP project will include a new pipe replacement of an old, corrugated pipe at the cart path northeast of the Mayflower. The third CIP is a longer-term project and will include the use of articulated concrete block to line to the existing two ditches, which would greatly decrease long term maintenance of the ditches. A fourth CIP project will include the Tanglewood ditch piping project. The Tanglewood project will involve the piping of an existing large ditch at the rear of a row of existing lots, located between Arbor Park Road and Lake Howell Road. The estimated cost of the Tanglewood improvements is $2,000,000 for all phases of work.



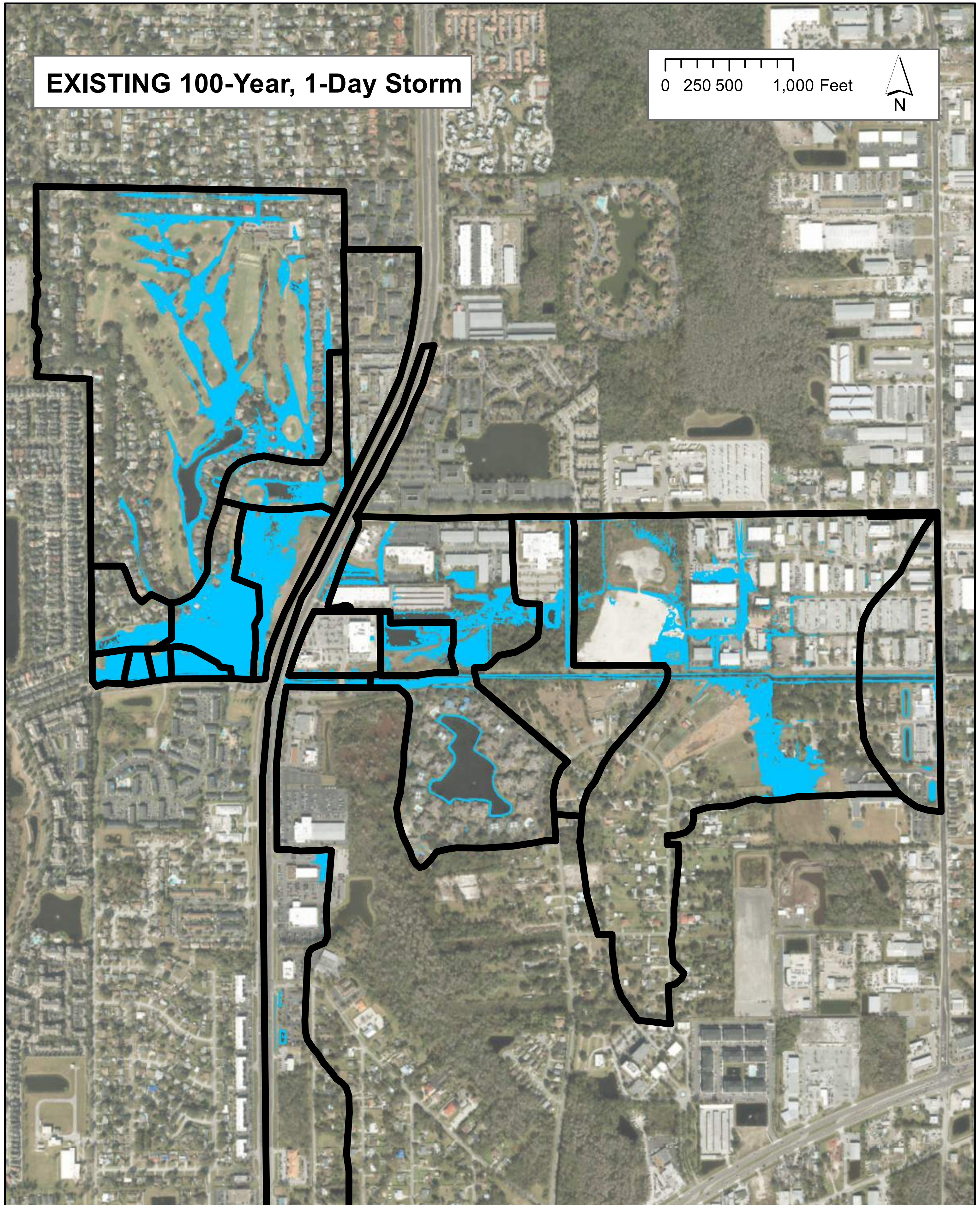


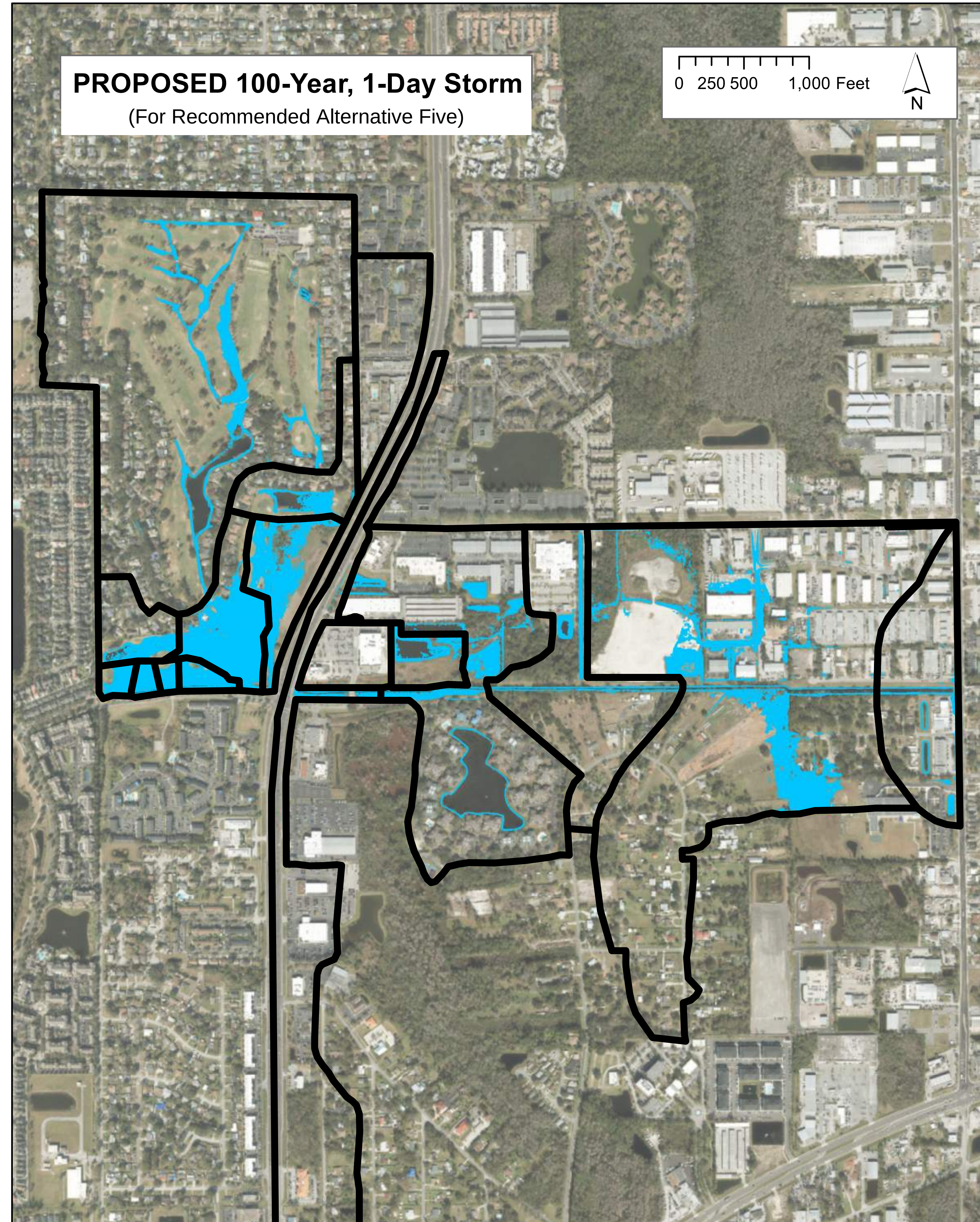
BAXTER & WOODMAN
Consulting Engineers





BAXTER & WOODMAN Consulting Engineers





BAXTER & WOODMAN
Consulting Engineers

Section 1 – Introduction

1.1 Introduction

During Hurricane Ian (September 2022) Winter Park experienced flooding in various areas of the City. Areas of flooding included the Winter Park Pines golf course and surrounding neighborhoods, and the Tanglewood Subdivision and Mayflower Retirement Village in the northern area of the Winter Park Eastern Basin. The golf course and surrounding areas discharge to the Lake Corrine Outfall Canal which drains to Goldenrod Canal. The Tanglewood Subdivision and Mayflower Retirement Village drain to the Eastbrook canal, which discharges to the Crane Strand Canal and then to the Goldenrod Canal, which discharges to the Little Econlockhachee River.

In 2023, the City of Winter Park contracted Baxter and Woodman, Inc. to provide engineering services to perform a drainage study of the eastern basins of the City. The study investigates the causes of flooding that occurred during Hurricane Ian and looks at drainage improvement alternatives to eliminate/reduce the flooding and ponding that occurs within the area.

This report concentrates on the Lake Corrine Outfall Canal basin and its proposed alternatives. An analysis was conducted of the basin to determine flood stages within the existing system and to provide alternatives to reduce peak stages for the 100-year storm event within the Winter Park Pines golf course.

1.2 Study Area Description

1.2.1 Data Collection

Existing reports, field reviews and other pertinent data were collected and reviewed to form a solid understanding of the project. Information used for the assessment included the following:

- Orange County one-foot aerial contours dated May 2002
- Orange County Lidar data dated 2018
- Orange County color aerial photography dated September 2023
- USGS topographic map
- SCS soils survey maps from the USGS for Orange County
- FEMA Flood Insurance Rate Map
- Little Econlockhatchee Basin Study and Model by Singhofen and Associates (2001)
- Drainage Report/Model for Lake Corrine Outfall ICPR Update (Singhofen and Associates, February 2013)
- Plans and Drainage Report for Forsyth Road Improvements (Professional Engineering Consultants, Inc., 2002)
- FDOT plans for State Road 436
- Plans and Drainage Reports for Wal-Mart Neighborhood Market, (CPH, 2012)

- Updated survey information from Winter Park by DRMP (2024)
- Structure data along the Lake Corrine Outfall Canal from Orange County Public Works

1.2.2 Project Location

The Lake Corrine Outfall Canal basin study area covers approximately 2900 acres within the Little Econlockhatchee River Basin and includes the Baldwin Park (formerly Lake Corrine) model updates by Singhofen and Associates from 2013, the Winter Park Pines golf course, and the Lake Corrine Outfall Canal from S.R. 436 to the confluence at Goldenrod Canal. The study is within Orange County in Sections 14, 15, 16, 17, 20, 21, 22 and 23, Township 22 South, and Range 30 East.

The proposed project area is in the City of Winter Park and includes the Winter Park Pines golf course on the west side of S.R. 436 (Semoran Boulevard), and along the Lake Corrine Outfall Canal from the golf course to Forsyth Road. The project area is Sections 15 and 16, Township 22 South, and Range 30 East. The limits of the basin study for this report along with the project limits are shown on Figure 1, Project Location Map.

1.2.3 Land Use

The existing land use within the project basin consists of single-family homes, apartments, townhomes, commercial properties, industrial parcels, schools, wetlands, and a golf course, and includes Lake Baldwin (Corrine) and Lake Susannah to the southwest.

1.2.4 Watershed

The project study is located within the limits of the Little Econlockhatchee River Basin and is under the jurisdiction of the St. Johns River Water Management District. Lake Susannah drains north to Lake Corrine which drains via a control structure to the north to the existing Lake Corrine Outfall Canal which travels along the north side of Baldwin Park Lane, crosses under S.R. 436 via a 9’x11.5’ box culvert to the east side of S.R. 436.

The canal continues east along the north side of Auvers Boulevard and Partridge Road west of Forsyth Road, to a weir structure which discharges via two 54” pipes under Forsyth Road. The canal then continues east along the north side of Partridge Road to Dorris where it discharges via two 54” CMP pipes under Partridge Road to the east side of Dorris. The canal then continues east on the south side of Partridge Road to the confluence at Goldenrod Canal, which discharges to the Little Econlockhatchee River.

1.2.5 Topography and Soils

Basin topography ranges in elevation from about 85 feet to 95 feet NAVD88 within the project area. Based on the Soil Resource Report for Orange County obtained from the USDA Natural Resources Conservation Service Soil Survey, existing soils within the study limits consist of Smyrna and Tavares sands with some Felda, Ona, Pomello, St. Lucie, Zolfo and Basinger sands and Samsula-Hontoon-Basinger association sand and Sanibel muck (see Figure 3 – SCS Soils Map). Soils present within the project limits consist of Basinger, Pomello, Samsula-Hontoon-Basinger, and Smyrna sands, along with small amounts of Basinger fine sand, Sanibel muck, and Zolfo sands. Tavares, Pomello, St. Lucie, and Zolfo sands are classified as Type A, Smyrna, and Ona sands are classified as Type B/D, and Felda and Basinger sands are classified as Type D, according to the Orange County Soil Survey. Basinger sands can sometimes be an indicator of the presence of muck.

1.2.6 Floodplain

The project area is shown as Zone AE according to the Flood Insurance Rate Maps (FIRM) 12095C0255F and 12095C0260F (see Figure 4, Flood Insurance Rate Map). According to the FIRM the 100-year floodplain for the Lake Corrine Outfall canal varies from 86 ft NAVD88 at Forsyth Road to 91 ft NAVD88 at the Winter Park Pines golf course.

1.2.7 Wetland Impacts

There are several wetlands and surface waters located within the study area, including Lake Corrine and its shoreline, the Lake Corrine Outfall Canal, several golf course ponds, and various detention ponds. Impacts to wetlands/surface waters will be limited to proposed Lake Corrine Outfall Canal bank regrading and temporary surface water impacts for pipe replacement.

Section 2 – Existing Conditions Basin Analysis

2.1 Methodology

The existing and proposed conditions were analyzed by stormwater routings of various design storms. Storm routings were performed using standard SCS methods and the Interconnected Pond Routing (ICPR) program (version 4) by Streamline Technologies. ICPR accounts for storage within a system (e.g., ponds, ditches, storage in streets, etc.) and can be used to model complex interconnected networks using a variable tailwater from a receiving water system. ICPR was used to calculate stages during the 10, 25 and 100-year/24-hour duration storms (rainfalls of 7.5, 8.6 and 10.6 inches respectively).

2.2 Historical Modeling for Little Econlockhatchee Basin

Singhofen and Associates, Inc. (SAI) prepared an ICPR stormwater model of the Little Econlockhatchee River Basin in Orange County, Florida in 2001, which covers approximately 93 square miles, extending from State Road 528/Orlando International Airport northward to County Road 419 in Oviedo. This model was developed as part of the Little Econ River Basin SWMMP for Orange County.

In 2006, the model was updated by SAI for Orange County to revise the SWMMP for the Little Econ basin to incorporate the Lake George basin into the study area and is known as the Little Econ Restudy. The restudy model converted the original master plan model to ICPR Version 3.0 and added hydrologic data for the newly added basins.

The restudy model was updated for Orange County by SAI in 2011 to incorporate more recent topography and established base flood elevations on a parcel in the Lake Corrine Outfall sub-basin near Muskogee Street.

In 2013, SAI updated the restudy model for Excel Engineering, Inc. to account for the more recent topography and development of the Baldwin Park subdivision which occurred since the 2006 update. The update was used to support a Letter of Map Revision (LOMR) request. The Baldwin Park model was incorporated into the 2011 Little Econ model and converted to ICPR Version 3.1.

This latest SAI model update was converted in 2023 by Baxter and Woodman to ICPR4, and updated the datum used from NGVD29 to NAVD88 (-1.0 foot). The converted model was used as a baseline for further updates to the basin by Baxter and Woodman.

2.3 Existing Condition ICPR Modeling

As discussed in Section 2.2, the existing conditions ICPR model used for this project is based on the latest SAI model from 2013, converted to ICPR4 and updated the datum from NGVD29 to NAVD88. Baxter and Woodman revised the converted model to incorporate additional updates to the basin.

The first update incorporated the Forsyth Road Widening Improvements from 2002 which included the design of a wet detention pond north of Partridge Road and east of Forsyth Road, to treat the additional impervious area from the widening of Forsyth Road between Hanging Moss Road and Partridge Road.

The second update incorporated the construction of the Walmart Neighborhood Market plaza, located at the corner of Semoran Boulevard (S.R. 436) and Auvers Boulevard. The update included adding the wet detention pond used for treatment of the impervious area from the building and parking areas, and a double cell box culvert within the Lake Corrine Outfall canal under the entrance drive from Auvers Boulevard.

Also included in the revisions to the model is updated survey by DRMP for the City of Winter Park for various structures within the project limits. See Appendix A for the existing condition ICPR input and output.

2.4 Results

The existing peak stages for the nodes along the Lake Corrine Outfall Canal for the 100-year storm event are shown in Table 1 below. Please note that nodes upstream of the golf course and beginning of the outfall canal are not included in the table.

Table 1 -Summary of Existing Peak Stages for 100yr/24hr Storm (ft NAVD88)

Node	Existing	Node Location
B-11	89.01	Headwall of existing 54” RCP connected to 9’x11.5’ Box Culvert under SR 436
BP207	89.58	Beginning node in canal along Baldwin Park St
BP218	89.53	US Invert of 96” RCP connected to 9’x11.5’ Box Culvert under SR 436
BP220	89.00	US Invert of 9’x11.5’ Box Culvert under SR 436
LC00050	88.75	DS invert of 9’x11.5’ Box Culvert under SR 436
LC00050A	88.70	US invert of Double (8’H x 6.9’W) Box Culvert under Entrance to Wal-Mart Market
LC00050B	88.54	DS invert of Double (8’H x 6.9’W) Box Culvert under Entrance to Wal-Mart Market
LC00055	88.51	Discharge point from WalMart pond to canal
LC00060	88.10	Outfall point of N/S ditch from Hanging Moss Road
LC00065	86.89	Jog in canal
LC00070	86.53	End of canal before Forsyth Weir structure
LC00070A	86.32	Weir structure at Forsyth Road
LC00070B_N	83.47	North Manhole on W side of Forsyth Road
LC00070B_S	83.45	South Manhole on W side of Forsyth Road
LC00075	79.04	Beginning of canal on East side of Forsyth Road

LC00080	78.51	Midpoint Node in canal between Forsyth Road and Cross Drain System at Dorris Drive
LC00084	78.34	Forsyth Pond at Partridge/Dorris (Pond 4)
LC00085	78.16	US Node of Cross Drain System at Dorris Drive
LC00087A	68.75	Eastern MH at SE intersection of Partridge/Dorris
LC00087B	68.78	Western MH at SE intersection of Partridge/Dorris
LC00090	67.78	Beginning of Canal east of Dorris Drive
LC00095	67.75	90° Bend in Canal
LC00100	67.73	US end of pipe under parking lot near Rising Stars at Conrad Academy
LC00105	61.48	DS end of pipe under parking lot near Rising Stars at Conrad Academy
LC00110	64.79	US end of pipe under Goldenrod Road
LC00115	60.80	DS end of pipe under Goldenrod Road
LC00117	67.72	Node in Canal
LC00120	60.01	Node in Canal
LC00123	59.35	Node in Canal
LC00125	59.04	Node in Canal
LC00130	57.79	Node Upstream of Confluence with Goldenrod Canal
WMPond-1	88.54	Wal-Mart Neighborhood Mkt Pond
WPP1	90.22	Central Golf Course Pond
WPP2	89.02	Eastern Golf Course Pond
WPP3	89.01	Beginning of Ditch around Triangular Parcel on East side of Golf Course
WPP4	89.54	DS end of Pipe Crossing at Golfside Drive
WPP9	89.55	Western Golf Course Pond

Section 3 – Proposed Alternatives Analysis

3.1 Proposed Condition ICPR Modeling

The proposed conditions ICPR model used for the project is based on the updated existing conditions model with changes which reflect the proposed alternatives. Various scenarios were modeled to determine the best solution to the existing flooding issues within the Winter Park Pines golf course and are discussed below in Section 3.2.

Any alternatives that include changes to basin areas and proposed new node/link information are based on CN and stage/storage calculations developed using Orange County aerials and one-foot contours.

3.2 Proposed Alternatives

Alternative One investigated designing a pond located within the triangular parcel on the west side of S.R. 436 next to the Winter Park Pines golf course. The pond would discharge via a control structure to the adjacent ditch located along the north and west sides of the parcel.

Alternative Two revised the existing weir structure system in the Lake Corrine Outfall canal on the west side of Forsyth Road. Three sub-alternatives were investigated. The first sub-alternate enlarged the two 54" RCP pipes from the weir structure to the first set of manholes to 60" RCP. The second sub-alternate enlarged the 54" RCP pipes to 60" RCP, from the weir structure to the east side of Forsyth Road, keeping the same inverts as the existing condition. The third sub-alternate used the proposed 60" RCP in the second sub-alternate above and revised the inverts from the weir structure and manholes to be the same as the outfall pipe invert in the canal on the east side of Forsyth Road, providing a flat slope from the west side of Forsyth Road to the east side.

Alternative Three involved enlarging and deepening the existing Forsyth Road pond located north of Partridge Road at Dorris (aka Pond 4 in the construction plans and drainage report for the Forsyth Widening Improvements project for Orange County – see Appendix C). This was investigated to provide extra storage within the basin during larger storms. The existing control structure was redesigned to lower the initial stage in the pond by five feet and provide an outfall that would connect directly to the cross-drain system that crosses under Partridge Road at Dorris Road. The pond would also be enlarged to encompass the existing wetland located directly north of the existing pond. The wetland currently discharges to the existing storm sewer system along Gresham Drive which outfalls to a wetland to the north, so an outfall structure for the enlarged pond was also designed to provide a secondary outfall to the north.

Alternative Four involved adding wet detention ponds along the south side of the Lake Corrine Outfall canal between the Walmart Neighborhood Market property and the weir structure at Forsyth Road. These ponds were intended to provide additional storage in the canal for larger storms. The initial stages in these proposed ponds were the same as within the canal, and the ponds were designed with overflow weirs set one foot below the normal water level in the canal to allow the water to flow back and forth between the ponds and the canal.

Alternative Five increased the cross-sectional area of the Lake Corrine Outfall canal, using a 30' wide bottom with 2:1 side slopes between SR 436 (Semoran Boulevard) and Forsyth Road. The alternative also included the replacement of the existing 60" CMP at Golfside Drive with an equivalent 72" ERCP.

Baldwin Park St – Outfall Structure

Baldwin Park St – Outfall Structure

Golfside Dr – 72" CMP, Downstream

Golfside Dr – 72" CMP, Upstream

Results

Alternative One showed little impact to the peak stages within the golf course, due to the high initial stage in the proposed pond and topographic constraints which did not allow for much storage. The alternative would require purchasing the parcel and permitting through SJRWMD.

For Alternative Two, the results for all three sub-alternatives also showed little impact to the peak stages within the golf course. There was some improvement with the replacement of the existing 54" RCPs with 60" RCPs, however discharge rates increased substantially, and downstream peak stages increased by approximately 3 to 4 inches. This alternative would require approval from Orange County to modify the existing structure at Forsyth Road/Partridge Road and permitting through SJRWMD.

Alternative Three showed little impact to the peak stages within the golf course. This alternative would require an agreement with Orange County and surrounding business owners along with a permit from SJRWMD for the pond to be approved as a joint-use pond.

Alternative Four showed little impact to the peak stages within the golf course. This alternative involves purchasing the parcels to construct the proposed ponds and permitting through SJRWMD.

Alternative Five showed a significant decrease in peak stages within the golf course upstream of the 9'x11.5' box culvert. The regrading and widening of the Lake Corrine Outfall Canal from S.R 436 to Forsyth Road decreases the friction loss through the canal, lowering peak stages on the golf course by approximately 6 to 11 inches. The pipe replacement at Golfside Drive also provides higher flows through the larger cross-sectional area. Stages downstream of the weir structure at Forsyth Road did increase, particularly after the cross-drain system at Dorris Drive and Partridge Lane. However, the water levels are still well within the canal banks. Alternative Five would require approval from Orange County and permitting through SJRWMD to modify the existing canal, as well as approval from Winter Park Pines golf course to replace the 60" CMP with the 72" equivalent ERCP at the crossing at Golfside Drive. Alternative Five would also require a submittal to FEMA.

Table 2 shows the 100-year peak stage comparison between existing and proposed conditions for the fifth alternative for the nodes shown in Table 1. See Appendix B for the proposed condition ICPR input and output for this alternative.

Table 2 – Peak Stage Comparison between Existing and Proposed for 100yr/24hr Storm (ft NAVD88)

Node	Existing	Proposed	Difference
B-11	89.01	88.28	-0.73
BP207	89.58	89.06	-0.52
BP218	89.53	89.01	-0.52
BP220	89.00	88.26	-0.74
LC00050	88.75	87.88	-0.87
LC00050A	88.70	87.83	-0.87
LC00050B	88.54	87.53	-1.01
LC00055	88.51	87.48	-1.03
LC00060	88.10	87.20	-0.9
LC00065	86.89	86.87	-0.02
LC00070	86.53	86.70	0.17
LC00070A	86.32	86.50	0.18
LC00070B_N	83.47	83.79	0.32
LC00070B_S	83.45	83.77	0.32
LC00075	79.04	79.58	0.54
LC00080	78.51	78.96	0.45
LC00084	78.34	78.75	0.41
LC00085	78.16	78.51	0.35
LC00087A	68.75	71.91	3.16
LC00087B	68.78	71.95	3.17
LC00090	67.78	70.85	3.07
LC00095	67.75	70.84	3.09
LC00100	67.73	70.83	3.10
LC00105	61.48	62.17	0.69
LC00110	64.79	64.81	0.02
LC00115	60.80	61.03	0.23
LC00117	67.72	67.72	0.00
LC00120	60.01	60.08	0.07
LC00123	59.35	59.43	0.08
LC00125	59.04	59.12	0.08
LC00130	57.79	57.96	0.17
WMPond-1	88.54	87.58	-0.96
WPP1	90.22	89.29	-0.93
WPP2	89.02	88.29	-0.73
WPP3	89.01	88.28	-0.73
WPP4	89.54	89.01	-0.53
WPP9	89.55	89.03	-0.52

Section 4 – Summary and Recommendations

4.1 Recommended Alternative

As discussed in Section 3.3, Alternative Five provides the most improvement in the peak stages within the Winter Park Pines golf course basin and upstream of Golfside Drive and is the recommended alternative. Alternative Five showed a significant decrease in peak stages within the golf course upstream of the 9'x11.5' box culvert. The regrading and widening of the Lake Corrine Outfall Canal from S.R 436 to Forsyth Road decreases the friction loss through the canal, lowering peak stages on the golf course by approximately 6 to 11 inches. The pipe replacement at Golfside Drive also provides higher flows through the larger cross-sectional area.

The preliminary cost of widening the Lake Corrine Outfall Canal from S.R 436 to Forsyth Road is approximately $5,265,000, and the preliminary cost of the culvert replacement at Golfside Drive is $584,000.

4.2 Water Quality Considerations During Construction

The Contractor will be required to provide effective and continuous control of erosion and water pollution throughout the life of the contract. Areas adjacent to construction activities will be protected from sedimentation by a continuous silt fence. The exact locations of the erosion protection are shown on the construction drawings along with installation details. The Contractor will be required to inspect the erosion protection after each rainfall and correct all observed deficiencies.

4.3 Operation and Maintenance

The overall maintenance and operation schedule will be the responsibility of the City of Winter Park and Orange County and will include regular mowing of the canal side banks and monthly inspections of the pipe replacement at Golfside Drive.

Engineer's Preliminary Estimate of Probable Cost
Alternative Five

PROJECT NAME: Lake Corrine Outfall Canal - Revise Canal Cross Section from SR436 to Forsyth Rd
July 9, 2024

ITEMS

REF. NO.	PAY ITEM NO.	DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
1	101-1	MOBILIZATION	10%	LS	$272,406.53	$272,406.53
2	102-1	MAINTENANCE OF TRAFFIC	3%	LS	$81,721.96	$81,721.96
3	104-14	PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION	10%	LS	$272,406.53	$272,406.53
4	110-1-1	CLEARING & GRUBBING	11.9	AC	$79,680.90	$948,202.71
5	120-1	REGULAR EXCAVATION	60,779	CY	$16.39	$996,167.81
6	120-6	EMBANKMENT	9,109	CY	$29.05	$264,616.45
7	570-1-2	PERFORMANCE TURF (SOD)	39,449	SY	$6.21	$244,978.29
8	900-1	AS-BUILT PLANS	1	LS	$30,000.00	$30,000.00
9	900-2	INDEMNIFICATION	1	LS	$100.00	$100.00
10	900-3	GROUNDWATER TREATMENT & DISPOSAL	120	DA	$2,000.00	$240,000.00
11		LAND COST, 9 PARCELS (ESTIMATED USING ORANGE COUNTY APPRAISALS AND APPLYING ADJUSTMENTS)	1	LS	$1,914,759.00	$ 1,914,759.00
		570-1-2				
		TOTAL				**$5,265,359.27**

Lake Corrine Outfall Canal - Revise Canal Cross Section from SR436 to Forsyth Rd	**$5,265,359.27**
Lake Corrine Outfall Canal - Golfside Drive	**583,578.08**
TOTAL	**$5,848,937.35**

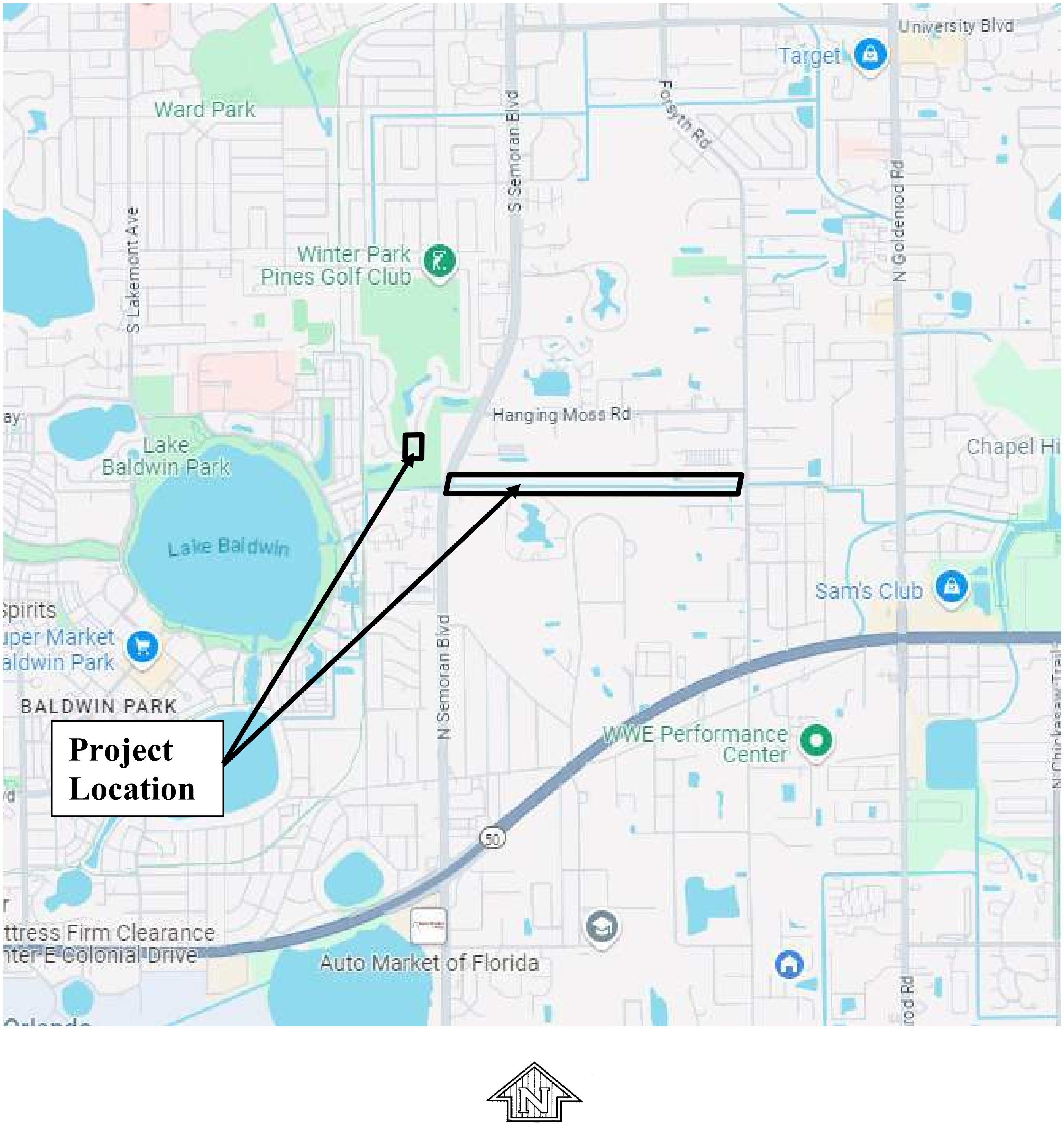
Engineer's Preliminary Estimate of Probable Cost
Alternative Five

PROJECT NAME: **Lake Corrine Outfall Canal - Golfside Drive**
July 10, 2024

ITEMS

REF. NO.	PAY ITEM NO.	DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
1	101-1	MOBILIZATION	10%	LS	$50,728.28	$50,728.28
2	102-1	MAINTENANCE OF TRAFFIC	5%	LS	$25,364.14	$25,364.14
3	104-14	PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION	2%	LS	$10,145.66	$202.91
4	110-1-1	CLEARING & GRUBBING	0.3	AC	$79,680.90	$19,920.23
5	160-4	TYPE B STABILIZATION (LBR 40) (12")	218	SY	$40.14	$8,741.60
6	285-70-8	BASE, GRADED CRUSHED CONCRETE AGGREGATE, (8")	218	SY	$44.16	$9,617.07
7	334-1-13	TYPE SP 12.5 ASPHALTIC CONCRETE (2.0") (TRAFFIC LEVEL C)	26.4	TN	$199.00	$5,253.60
8	425-1-462	INLETS, CURB, TYPE J-6, >10'	2	EA	$21,536.78	$43,073.56
9	430-175-272	PIPE CULVERT, STEEL REINFORCED CONCRETE, CLASS IV, ELLIPTICAL, 58"x91"	73	LF	$4,000.00	$292,000.00
10	430-572-130	STRAIGHT CONCRETE ENDWALLS, 72", SINGLE, 45 DEGREES, ROUND	2	EA	$50,000.00	$100,000.00
11	522-1	SIDEWALK CONCRETE, 4" THICK, SIDEWALK AND CART PATH	150	SY	$87.61	$13,141.50
12	570-1-2	PERFORMANCE TURF (SOD)	231	SY	$6.21	$1,435.20
13		WOOD RAILING	80	LF	$100.00	$8,000.00
14	900-1	AS-BUILT PLANS	1	LS	$6,000.00	$6,000.00
15	900-2	INDEMNIFICATION	1	LS	$100.00	$100.00
		TOTAL				**$583,578.08**

$583,578.08



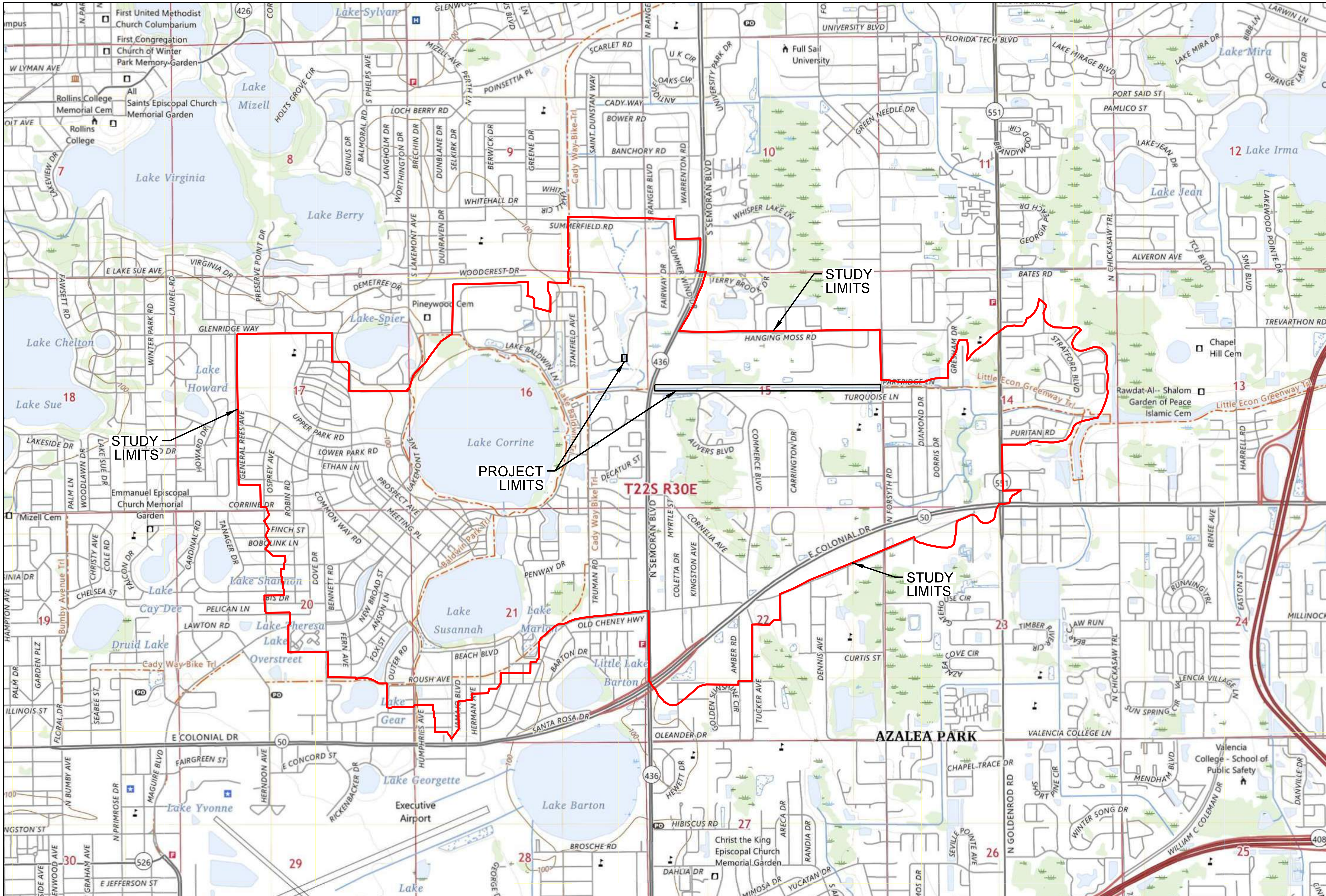
Baxter and Woodman, Inc.

200 E. Robinson Street, Suite 555
Orlando, FL 32801
407-386-2249

Winter Park Pines Basin Study

City of Winter Park, Florida

Figure 1 - Location Map



City of Winter Park

Florida

Figure 2
USGS Quadrangle Map
Orlando East, FL - 2023

Winter Park Pines Basin Study

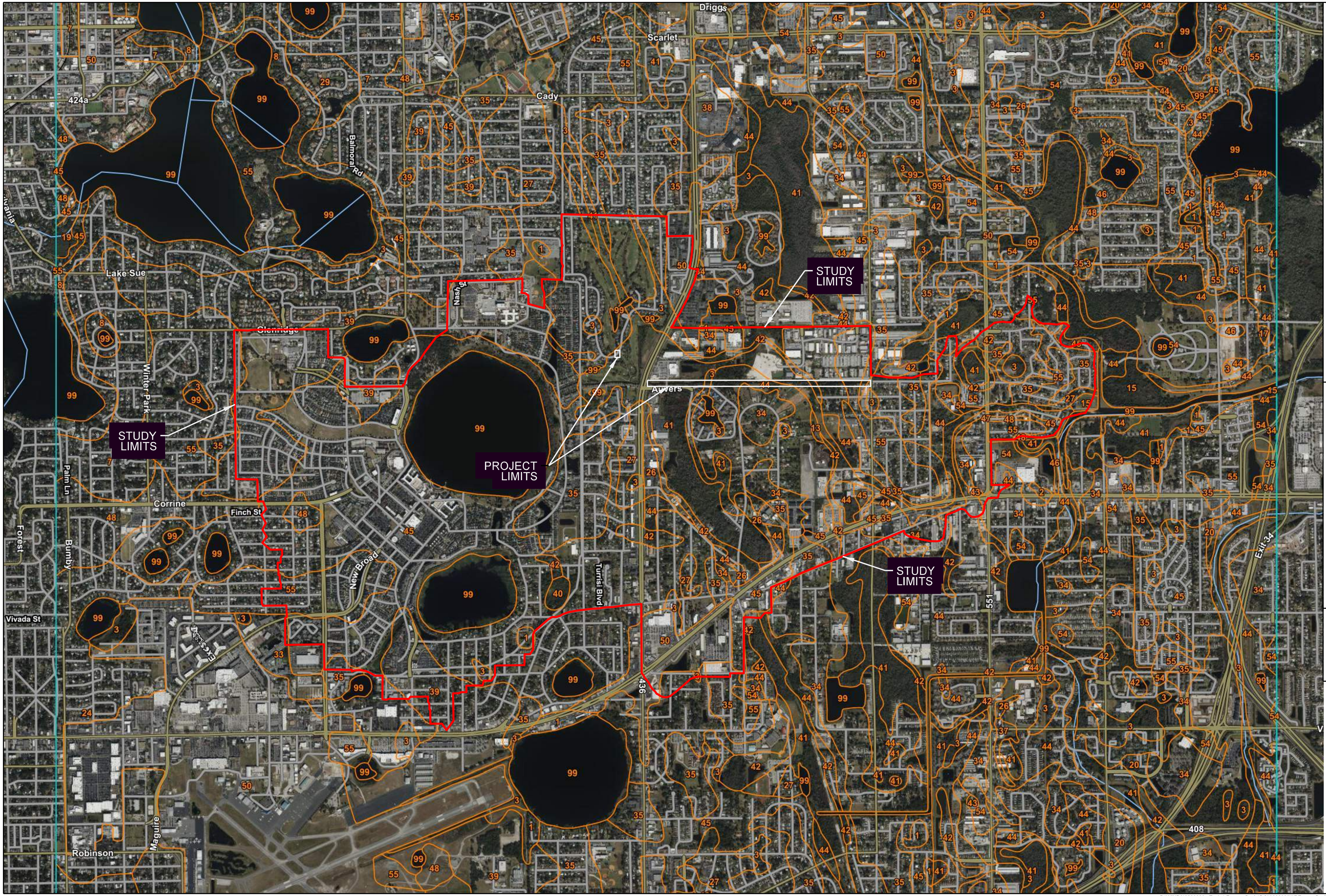
BY	DATE	JOB NUMBER	SHEET
CMY	09-11-24	230330	1 of 1

Baxter and Woodman, Inc.
200 E. Robinson Street, Suite 555, Orlando, FL 32801
407-386-2249

Cindy M Young, P.E.
P.E. Number 60936

SCALE:
1"=2000'

N



City of Winter Park
Florida

Figure 3
SCS Soil Survey Map
Orange County
Winter Park Pines Basin Study

BY CMY | DATE 09-11-24 | JOB NUMBER 230330 | SHEET 1 of 1

SCALE: 1"=2000'

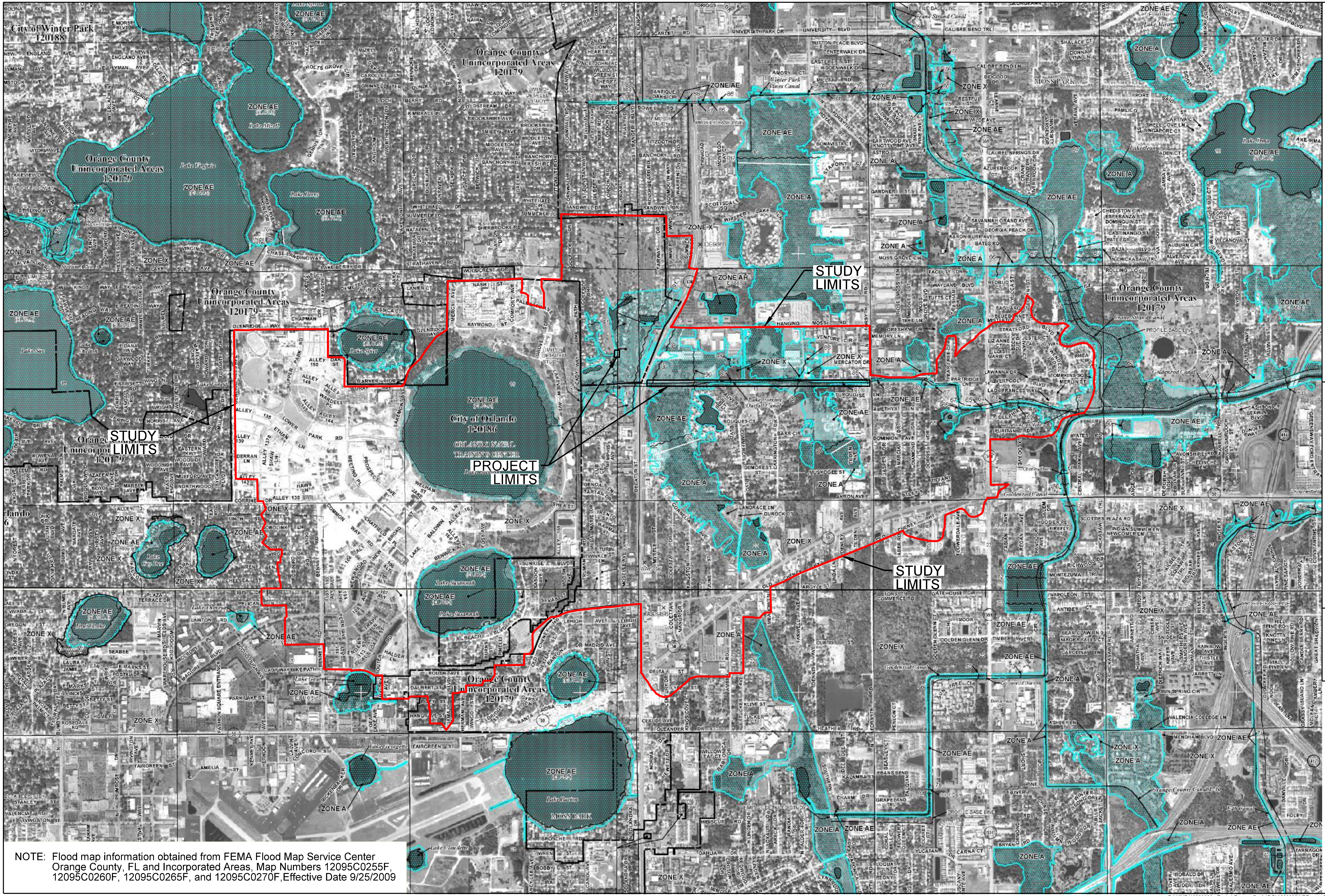
N

Baxter and Woodman, Inc.
200 E. Robinson Street, Suite 555, Orlando, FL 32801
407-386-2249

Cindy M Young, P.E.
P.E. Number 60936

9/12/2024 9:58:30 AM

P:\WINPA\0230330 - Task 1 Eastern Basin\DGN\230330WPEasternBasin\Drainage\Figure 3 - SCS Soils Map.dgn



NOTE: Flood map information obtained from FEMA Flood Map Service Center Orange County, FL and Incorporated Areas, Map Numbers 12095C0255F, 12095C0260F, 12095C0265F, and 12095C0270F, Effective Date 9/25/2009

Figure 4
FEMA Flood Map
Orange County
Winter Park Pines Basin Study

Florida

City of Winter Park

BY CMY | DATE 09-11-24 | JOB NUMBER 230330 | SHEET 1 of 1

Baxter and Woodman, Inc.
200 E. Robinson Street, Suite 555, Orlando, FL 32801
407-386-2249

Cindy M Young, P.E.
P.E. Number 60936

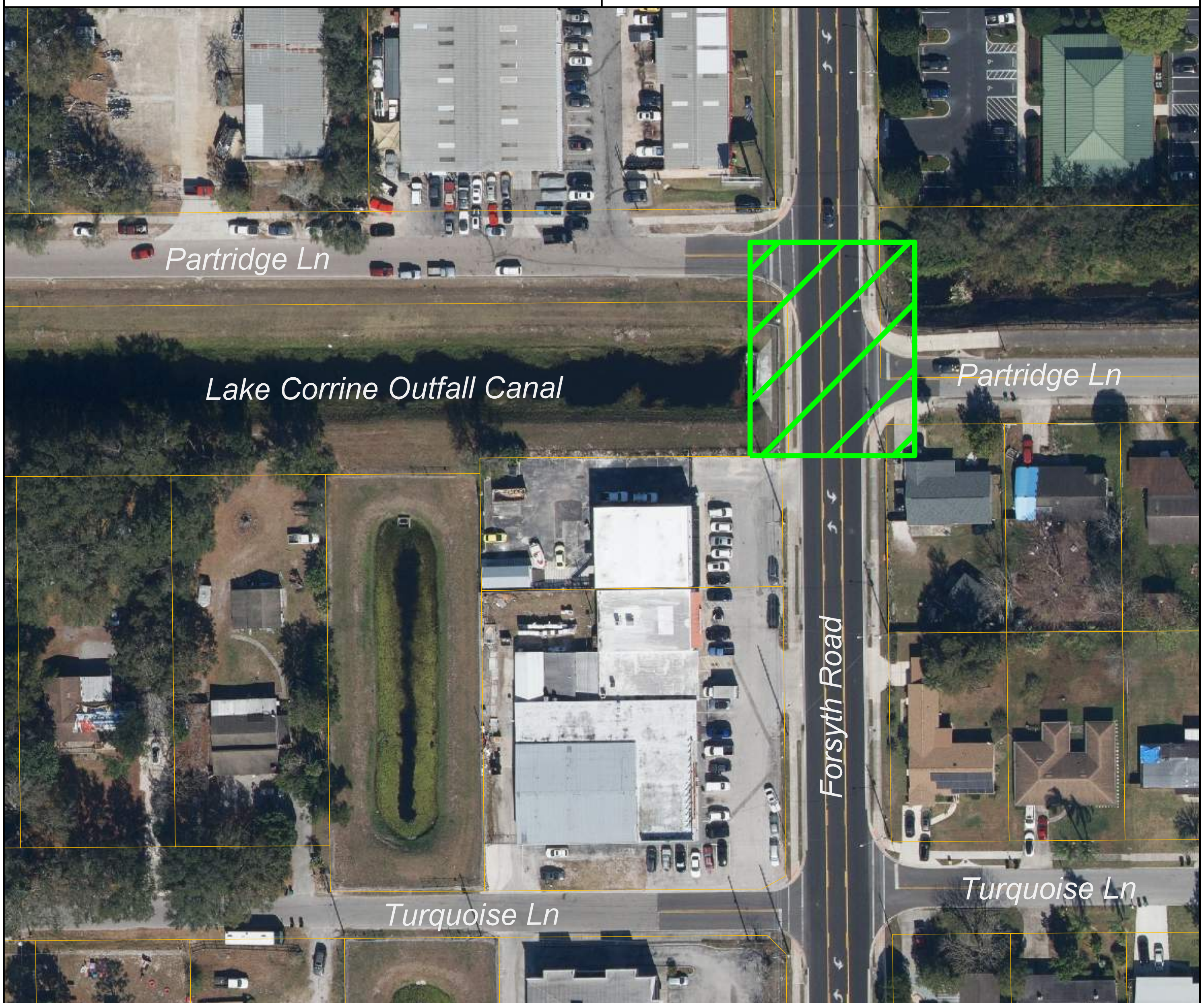
SCALE: 1"=2000'

N

SCALE: 1''=300'	**_Baxter and Woodman, Inc._**	City of Winter Park Florida
N	_200 E. Robinson Street, Suite 555, Orlando, FL 32801_ _407-386-2249_	Alternative #1 PROPOSED POND BY GOLF COURSE Winter Park Basin Study
	Cindy M. Young, P.E. _P.E. Number 60936_	BY CMY · DATE 07-09-24 · JOB NUMBER 230330 · SHEET 1 of 1

Existing Structure at Forsyth Road (Upstream)

Existing Structure at Forsyth Road (Downstream)



SCALE:
1"=100'

N

Baxter and Woodman, Inc.

200 E. Robinson Street, Suite 555, Orlando, FL 32801
407-386-2249

Cindy M. Young, P.E.
P.E. Number 60936

City of Winter Park — Florida

Alternative #2

FORSYTH ROAD STRUCTURE REVISIONS

Winter Park Basin Study

BY CMY	DATE 09-09-24	JOB NUMBER 230330	SHEET 1 of 1

City of Winter Park

Florida

Alternative #3

FORSYTH ROAD POND MODIFICATION

Winter Park Basin Study

BY CMY | DATE 09-09-24 | JOB NUMBER 230330 | SHEET 1 of 1

Baxter and Woodman, Inc.

200 E. Robinson Street, Suite 555, Orlando, FL 32801
407-386-2249

Cindy M. Young, P.E.
P.E. Number 60936

SCALE:
1"=200'

N

9/12/2024

P:\WINPA\0230330 - Task 1 Eastern Basin\DGN\230330\WPEasternBasin\Roadway\Alternative 3 - Forsyth Road Pond Modification.dgn

City of Winter Park

Florida

Alternative #4

PROPOSED PONDS ALONG CANAL

Winter Park Basin Study

BY CMY | DATE 07-09-24 | JOB NUMBER 230330 | SHEET 1 of 1

Baxter & Woodman, Inc.

200 E. Robinson Street, Suite 555, Orlando, FL 32801
407-380-0402

Claude L. Cassagnol, P.E.
P.E. Number 35490

SCALE: 1"=400'

N

9/12/2024 2:43:14 PM

P:\WINPA\230330 - Task 1 Eastern Basin\DGN\230330WPEasternBasin\Roadway\Alternative 4 - Proposed Ponds along Lake Corrine Outfall Canal.dgn

Existing 60" CMP

SCALE:
1"=200'

N

Baxter and Woodman, Inc.

200 E. Robinson Street, Suite 555, Orlando, FL 32801
_407-386-2249_

Cindy M. Young, P.E.
P.E. Number 60936

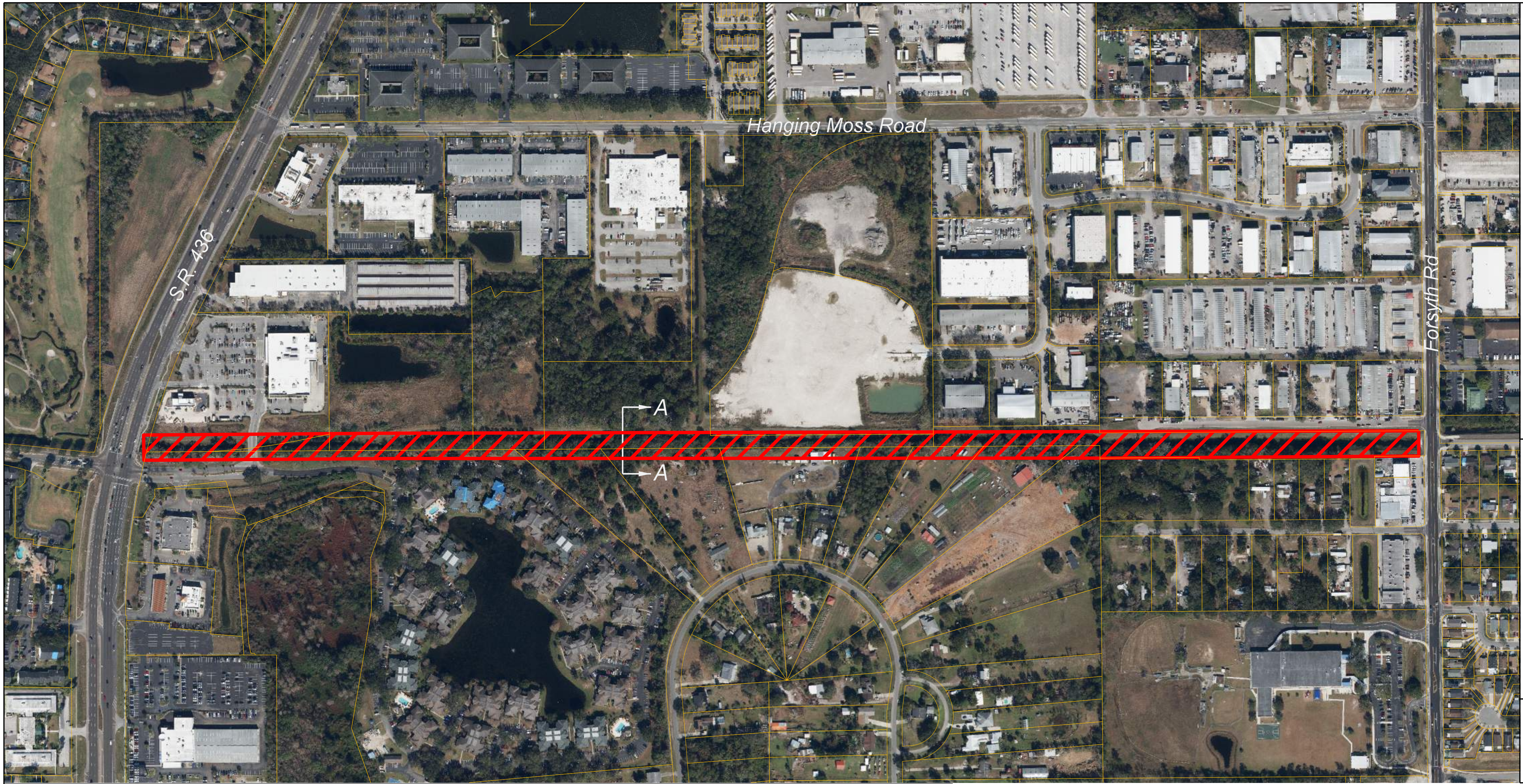
City of Winter Park | Florida

Alternative #5

GOLFSIDE DR CULVERT REPLACEMENT

Winter Park Basin Study

BY CMY	DATE 07-09-24	JOB NUMBER 230330	SHEET 1 of 1



City of Winter Park

Florida

Alternative #5

LAKE CORRINE OUTFALL CANAL REGRADING

Winter Park Basin Study

BY CMY | DATE 07-09-24 | JOB NUMBER 230330 | SHEET 1 of 1

Baxter & Woodman, Inc.

200 E. Robinson Street, Suite 555, Orlando, FL 32801
407-380-0402

Claude L. Cassagnol, P.E.
P.E. Number 35490

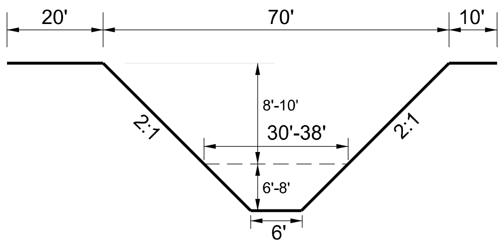
SCALE: 1"=400'

Existing Lake Corrine Outfall Canal (Looking West)

Existing Lake Corrine Outfall Canal (Looking East)

Existing Lake Corrine Outfall Canal (at Forsyth Rd)

TYPICAL SECTION A-A



9/17/2024 11:49:40 AM

P:\WINPA\0230330 - Task 1 Eastern Basin\DGN\230330WPEasternBasin\Roadway\Alternative 5 - Lake Corrine Outfall Regrading.dgn

Appendix A

Existing Condition ICPR Data and Results

Input Data

Simple Basin: LC00030

Scenario:	Existing Updated
Node:	LC00030
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	20.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	7.6200 ac
Curve Number:	85.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment: OFFSITE - SEMORAN CLUB DISCHARGE TO OFFSITE DITCH

Simple Basin: LC00040

Scenario:	Existing Updated
Node:	BP212
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	5.8800 ac
Curve Number:	74.6
% Impervious:	6.39
% DCIA:	6.39
% Direct:	0.00
Rainfall Name:	FLMOD

Comment: OFFSITE - DISCHARGE TO OFFSITE DITCH

Simple Basin: LC00045

Scenario:	Existing Updated
Node:	BP220
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	309.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	125.1100 ac
Curve Number:	72.3
% Impervious:	23.25

% DCIA:	23.25
% Direct:	0.00
Rainfall Name:	FLMOD

Comment: GREEN VIEW,GOLF COURSE,SEMORAN CLUB,CORRIE TERRACE

Simple Basin: LC00050

Scenario:	Existing Updated
Node:	LC00050
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	162.5000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	68.9000 ac
Curve Number:	75.0
% Impervious:	37.88
% DCIA:	37.88
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: LC00055

Scenario:	Existing Updated
Node:	LC00055
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	66.9000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	55.0200 ac
Curve Number:	78.0
% Impervious:	37.53
% DCIA:	37.53
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: LC00060

Scenario:	Existing Updated
Node:	LC00060
Hydrograph Method:	NRCS Unit Hydrograph

Infiltration Method:	Curve Number
Time of Concentration:	17.4000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	30.9300 ac
Curve Number:	75.8
% Impervious:	20.45
% DCIA:	20.45
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: LC00065

Scenario:	Existing Updated
Node:	LC00065
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	111.8000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	135.7200 ac
Curve Number:	72.6
% Impervious:	23.87
% DCIA:	23.87
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00070

Scenario:	Existing Updated
Node:	LC00070
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	23.6400 ac
Curve Number:	72.1
% Impervious:	39.84
% DCIA:	39.84
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00075

Scenario:	Existing Updated
Node:	LC00075
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.0600 ac
Curve Number:	82.7
% Impervious:	22.29
% DCIA:	22.29
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00080

Scenario:	Existing Updated
Node:	LC00080
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.6100 ac
Curve Number:	80.7
% Impervious:	17.72
% DCIA:	17.72
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00084A

Scenario:	Existing Updated
Node:	LC00084
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	43.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr

Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	7.3400 ac
Curve Number:	94.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Flmod

Comment: Forsyth Road draining to Pond north of Partridge Lane at Dorris Ave (Pond 4)
From SJRWMD Permit #20839-3, Drainage Report dated March 2002

Simple Basin: LC00084B

Scenario:	Existing Updated
Node:	LC00084
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	8.7400 ac
Curve Number:	93.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Flmod

Comment: Heddron/Ground Control Property draining to Pond north of Partridge Lane at Dorris Ave (Pond4), from SJRWMD Permit #20839-3, Drainage Report dated March 2002

Simple Basin: LC00084C

Scenario:	Existing Updated
Node:	LC00084
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.3900 ac
Curve Number:	90.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Flmod

Comment: Pond tract area draining to Pond north of Partridge Lane at Dorris Ave (Pond 4), from SJRWMD Permit #20839-3, Drainage Report dated March 2002

Simple Basin: LC00085

Scenario:	Existing Updated
Node:	LC00085
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.8100 ac
Curve Number:	82.5
% Impervious:	11.82
% DCIA:	11.82
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00090

Scenario:	Existing Updated
Node:	LC00090
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	19.9500 ac
Curve Number:	74.3
% Impervious:	21.36
% DCIA:	21.36
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: LC00095

Scenario:	Existing Updated
Node:	LC00095
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	10.6000 ac
Curve Number:	73.4
% Impervious:	32.26

% DCIA:	32.26
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: WMPost-1

Scenario:	Existing Updated
Node:	WMPond-1
Hydrograph Method:	Santa Barbara Urban Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	12.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Area:	7.2000 ac
Curve Number:	96.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: WMPost-2

Scenario:	Existing Updated
Node:	WMPond-1
Hydrograph Method:	Santa Barbara Urban Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Area:	5.5500 ac
Curve Number:	84.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: WPP1

Scenario:	Existing Updated
Node:	WPP1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	77.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr

Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	161.6000 ac
Curve Number:	79.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment: WINTER PINES GOLF COURSE

Simple Basin: WPP12

Scenario:	Existing Updated
Node:	WPP3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	16.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	16.3000 ac
Curve Number:	94.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP2

Scenario:	Existing Updated
Node:	WPP2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	63.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	10.4000 ac
Curve Number:	82.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP3

Scenario:	Existing Updated
Node:	WPP3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	69.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	11.2000 ac
Curve Number:	74.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP4

Scenario:	Existing Updated
Node:	WPP4
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	67.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	12.1000 ac
Curve Number:	76.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP5

Scenario:	Existing Updated
Node:	BP214
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	46.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.7000 ac
Curve Number:	74.0
% Impervious:	0.00

% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP6

Scenario:	Existing Updated
Node:	BP212
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	44.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	0.9000 ac
Curve Number:	74.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP7

Scenario:	Existing Updated
Node:	BP209
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	44.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	0.9000 ac
Curve Number:	74.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP8

Scenario:	Existing Updated
Node:	BP207
Hydrograph Method:	NRCS Unit Hydrograph

Infiltration Method:	Curve Number
Time of Concentration:	44.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.5000 ac
Curve Number:	74.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP9

Scenario:	Existing Updated
Node:	WPP9
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	58.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	7.8000 ac
Curve Number:	83.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Node: B-11

Scenario:	Existing Updated
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	79.53 ft
Warning Stage:	82.30 ft

Stage [ft]	Area [ac]	Area [ft2]
79.53	0.0010	44
82.50	0.0020	87

Comment: HEADWALL

Node: BP207

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 83.00 ft
Warning Stage: 88.98 ft

Stage [ft]	Area [ac]	Area [ft2]
82.00	0.0030	131
82.60	0.0040	174
83.00	0.0040	174
83.20	0.0050	218
83.40	0.0060	261
84.40	0.0070	305
84.80	0.0080	348
85.00	0.4160	18121
85.20	0.4380	19079
85.40	0.4670	20343
85.60	0.4920	21432
85.80	0.5140	22390
86.00	0.6130	26702
86.20	0.6340	27617
86.40	0.6430	28009
86.60	0.6570	28619
86.80	0.6680	29098
87.00	0.7050	30710
87.20	0.7170	31233
87.40	0.7290	31755
87.60	0.7400	32234
87.80	0.7540	32844
88.00	0.7650	33323
88.20	0.7810	34020
88.40	0.7960	34674
88.60	0.8080	35196
88.80	0.8230	35850
89.00	0.8870	38638
89.20	0.9080	39552
89.40	0.9320	40598
89.60	0.9490	41338
89.80	0.9720	42340
90.00	1.0200	44431
90.20	1.0520	45825
90.40	1.0740	46783
90.60	1.1000	47916
90.80	1.1190	48744
91.00	1.2110	52751
91.20	1.2290	53535
91.40	1.2390	53971
91.60	1.2500	54450
91.80	1.2530	54581
92.00	1.2560	54711
92.20	1.2590	54842
92.40	1.2610	54929
92.60	1.2640	55060
92.80	1.2660	55147
93.00	1.2680	55234
93.20	1.2710	55365

Stage [ft]	Area [ac]	Area [ft2]
93.40	1.2740	55495
93.60	1.2760	55583
93.80	1.2790	55713
94.00	1.2810	55800
94.20	1.2820	55844
94.40	1.2820	55844
94.80	1.2820	55844

Comment: BP 436 CONN. RD STATION 207+00 (OLD LC00035/MHB-2)

Stage/Area updated by SAI 1/30/13

Node: BP208

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.72 ft
Warning Stage: 86.18 ft

Stage [ft]	Area [ac]	Area [ft2]
82.72	0.1000	4356
86.18	0.2000	8712

Comment: BP 436 CONN. RD STATION 208+00

Node: BP209

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.44 ft
Warning Stage: 85.68 ft

Stage [ft]	Area [ac]	Area [ft2]
82.44	0.0010	44
85.00	0.1250	5445
85.20	0.1560	6795
85.40	0.1930	8407
85.60	0.2340	10193
85.80	0.2790	12153
86.00	0.4290	18687
86.20	0.4650	20255
86.40	0.5070	22085
86.60	0.5440	23697
86.80	0.5820	25352
87.00	0.6210	27051
87.20	0.6340	27617
87.40	0.6490	28270
87.60	0.6610	28793
87.80	0.6700	29185
88.00	0.6830	29751

Stage [ft]	Area [ac]	Area [ft2]
88.20	0.6910	30100
88.40	0.6980	30405
88.60	0.7070	30797
88.80	0.7130	31058
89.00	0.7220	31450
89.20	0.7290	31755
89.40	0.7370	32104
89.60	0.7440	32409
89.80	0.7520	32757
90.00	0.7570	32975
90.20	0.7610	33149
90.40	0.7640	33280
90.60	0.7650	33323
90.80	0.7660	33367
91.00	0.7680	33454

Comment: BP 436 CONN. RD STATION 209+00 (OLD MHB-4)

Stage/Area updated by SAI 1/30/13

Node: BP210

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.16 ft
Warning Stage: 85.63 ft

Stage [ft]	Area [ac]	Area [ft2]
82.16	0.1000	4356
85.63	0.2000	8712

Comment: BP 436 CONN. RD STATION 210+00

Node: BP211

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.88 ft
Warning Stage: 85.81 ft

Stage [ft]	Area [ac]	Area [ft2]
81.88	0.1000	4356
85.81	0.2000	8712

Comment: BP 436 CONN. RD STATION 211+00

Node: BP212

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.60 ft
Warning Stage: 86.62 ft

Stage [ft]	Area [ac]	Area [ft2]
81.60	0.0010	44
86.00	0.0550	2396
86.20	0.0650	2831
86.40	0.0850	3703
86.60	0.1112	4844
86.80	0.1360	5924
87.00	0.2560	11151
87.20	0.3000	13068
87.40	0.3540	15420
87.60	0.4000	17424
87.80	0.4410	19210
88.00	0.5050	21998
88.20	0.5200	22651
88.40	0.5375	23414
88.60	0.5580	24306
88.80	0.5750	25047
89.00	0.5990	26092
89.20	0.6170	26877
89.40	0.6340	27617
89.60	0.6541	28494
89.80	0.6731	29322
90.00	1.0954	47716
90.20	1.1280	49136
90.40	1.1680	50878
90.60	1.2040	52446
90.80	1.2433	54158
91.00	1.4631	63735
91.20	1.4912	64957
91.40	1.5260	66473
91.60	1.5590	67910
91.80	1.6084	70061
92.00	1.7101	74492
92.20	1.7260	75185
92.40	1.7430	75925
92.60	1.7612	76719
92.80	1.7750	77319
93.00	1.8393	80120
93.20	1.8540	80760
93.40	1.8700	81457
93.60	1.8880	82241
93.80	1.9090	83156
94.00	1.9530	85073
94.20	1.9740	85987
94.40	2.0030	87251
94.60	2.0260	88253
94.80	2.0500	89298
95.00	2.2060	96093
95.20	2.2260	96965
95.40	2.2500	98010

Stage [ft]	Area [ac]	Area [ft2]
95.60	2.2710	98925
95.80	2.2900	99752
96.00	2.3360	101756
96.20	2.3650	103019
96.40	2.3950	104326
96.60	2.4240	105589
96.80	2.4530	106853
97.00	2.4990	108856
97.20	2.5300	110207
97.40	2.5580	111426
97.60	2.5900	112820
97.80	2.6220	114214
98.00	2.9920	130332

Comment: BP 436 CONN. RD STATION 212+00 (OLD MHB-5)

Stage/Area updated by SAI 1/30/13

Node: BP213

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.32 ft
Warning Stage: 86.59 ft

Stage [ft]	Area [ac]	Area [ft2]
89.00	10.6800	465221
90.00	64.8200	2823559
91.00	114.3900	4982828

Comment: BP 436 CONN. RD STATION 213+00 (OLD LCOOO40)

Node: BP214

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.04 ft
Warning Stage: 85.50 ft

Stage [ft]	Area [ac]	Area [ft2]
82.00	0.0000	0
82.40	0.0000	0
83.20	0.0000	0
83.60	0.0000	0
84.60	0.0000	0
85.00	0.0670	2919
85.20	0.0960	4182
85.40	0.1360	5924
85.60	0.1830	7971
85.80	0.2310	10062

Stage [ft]	Area [ac]	Area [ft2]
86.00	0.5350	23305
86.20	0.5970	26005
86.40	0.6490	28270
86.60	0.7000	30492
86.80	0.7440	32409
87.00	0.8440	36765
87.20	0.8740	38071
87.40	0.9050	39422
87.60	0.9340	40685
87.80	0.9630	41948
88.00	1.0600	46174
88.20	1.0750	46827
88.40	1.0900	47480
88.60	1.1020	48003
88.80	1.1110	48395
89.00	1.1250	49005
89.20	1.1320	49310
89.40	1.1390	49615
89.60	1.1440	49833
89.80	1.1550	50312
90.00	1.2360	53840
90.20	1.2400	54014
90.40	1.2400	54014

Comment: BP 436 CONN. RD STATION 214+00 (OLD MHB-8)

Stage/Area updated by SAI 1/30/13

Node: BP215

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 80.76 ft
Warning Stage: 85.80 ft

Stage [ft]	Area [ac]	Area [ft2]
80.76	0.1000	4356
85.80	0.2000	8712

Comment: BP 436 CONN. RD STATION 215+00

Node: BP216

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 80.48 ft
Warning Stage: 86.43 ft

Stage [ft]	Area [ac]	Area [ft2]
80.48	0.1000	4356

Stage [ft]	Area [ac]	Area [ft2]
86.43	0.2000	8712

Comment: BP 436 CONN. RD STATION 216+00

Node: BP217

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 80.20 ft
Warning Stage: 85.46 ft

Stage [ft]	Area [ac]	Area [ft2]
80.20	0.1000	4356
85.46	0.2000	8712

Comment: BP 436 CONN. RD STATION 217+00 (OLD MHB-10)

Node: BP218

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 79.31 ft
Warning Stage: 85.46 ft

Stage [ft]	Area [ac]	Area [ft2]
79.31	0.1000	4356
85.46	0.2000	8712

Comment: BP 436 CONN. RD STATION 218+00

Node: BP220

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 79.50 ft
Warning Stage: 94.00 ft

Stage [ft]	Area [ac]	Area [ft2]
79.50	0.1000	4356
94.00	0.2000	8712

Comment: BP 436 CONN. RD STATION 220+00 (OLD LC00045)

Node: LC00030

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 84.75 ft
Warning Stage: 91.30 ft

Stage [ft]	Area [ac]	Area [ft2]
84.75	0.1000	4356
94.00	0.2000	8712

Comment: WARN=RD CRN

Node: LC00030A

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 83.11 ft
Warning Stage: 86.00 ft

Stage [ft]	Area [ac]	Area [ft2]
83.11	0.0010	44
86.11	0.0020	87

Comment: PROPOSED HEADWALL STATION 207

Node: LC00050

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 90.70 ft

Comment: WARN=NTOB
DRMP survey (4/8/24) shows stain mark at 83.6'+/-

Node: LC00050A

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 90.70 ft

Comment: Upstream node of double cell box culvert under driveway entrance to WalMart Neighborhood Mkt off Auvers Blvd

Node: LC00050B

Scenario:	Existing Updated
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	82.35 ft
Warning Stage:	90.70 ft

Comment: Downstream node of double cell box culvert under driveway entrance to WalMart Neighborhood Mkt off Auvers Blvd

Node: LC00055

Scenario:	Existing Updated
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	82.31 ft
Warning Stage:	90.10 ft

Comment: WARN=S BOC

Node: LC00060

Scenario:	Existing Updated
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	82.27 ft
Warning Stage:	89.50 ft

Comment: WARN=APPROX ELEV OF BLDG TO THE SOUTH

Node: LC00065

Scenario:	Existing Updated
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	82.21 ft
Warning Stage:	86.60 ft

Comment: WARN=STOB; STAGE AREA

Node: LC00070

Scenario:	Existing Updated
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	82.20 ft

Warning Stage: 86.80 ft

Comment: WARN=RD CRN

Node: LC00070A

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 77.20 ft
Warning Stage: 86.80 ft

Stage [ft]	Area [ac]	Area [ft2]
77.20	0.0010	44
78.13	0.0060	261
81.88	0.0060	261

Comment: Structure stage area information obtained from OCPW field notes dated 2014
Bottom of structure slopes to pipes on east starting at 78.13 on west side to 77.2 on the east side. Area is based on length x width of structure.

Node: LC00070B_N

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 77.20 ft
Warning Stage: 86.80 ft

Comment: N Manhole on W side of Forsyth, drop in invert

Node: LC00070B_S

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 77.20 ft
Warning Stage: 86.80 ft

Comment: S Manhole on W side of Forsyth, drop in invert

Node: LC00075

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs

Initial Stage: 73.50 ft
Warning Stage: 85.50 ft

Comment: WARN=APPROX CURB ELEV TO SOUTH

Node: LC00080

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 72.10 ft
Warning Stage: 83.00 ft

Comment: WARN~TOB PER TOPO

Node: LC00084

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 73.00 ft
Warning Stage: 78.00 ft

Stage [ft]	Area [ac]	Area [ft2]
73.00	1.6100	70132
74.00	1.7300	75359
75.00	1.8600	81022
76.00	1.9800	86249
77.00	2.2100	96268
78.00	2.2500	98010

Comment: Pond 4 from Forsyth Road Improvements, SJRWMD Permit #20839-3, Drainage Report dated March 2002, elevations converted to NAVD88 (-1 ft)

Node: LC00085

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 71.69 ft
Warning Stage: 78.00 ft

Comment: WARN=RD CRN

Node: LC00087A

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 59.25 ft
Warning Stage: 78.24 ft

Comment: (converted from manhole to stage/area node)

WARN=N MH RIM ELEV

Node: LC00087B

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 59.25 ft
Warning Stage: 78.24 ft

Comment: (converted from manhole to stage/area node)

WARN=N MH RIM ELEV

Node: LC00090

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 57.24 ft
Warning Stage: 77.00 ft

Comment: WARN=TOB

Node: LC00095

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 56.13 ft
Warning Stage: 73.50 ft

Comment: WARN=NTOB

Node: WMPond-1

Scenario: Existing Updated

Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 83.70 ft
Warning Stage: 90.00 ft

Stage [ft]	Area [ac]	Area [ft2]
83.70	1.6660	72571
84.00	1.7150	74705
85.00	1.8800	81893
86.00	2.0490	89254
87.00	2.2210	96747
88.00	2.3980	104457
89.00	2.5790	112341
89.14	2.6030	113387
90.00	2.7610	120269

Comment: Wet Detention Pond for Walmart Neighborhood Market at Auvers and 436

Node: WPP1

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 86.70 ft

Stage [ft]	Area [ac]	Area [ft2]
82.05	0.0010	44
86.00	2.7500	119790
86.20	2.8130	122534
86.40	2.8980	126237
86.60	2.9650	129155
86.80	3.0320	132074
87.00	3.2910	143356
87.20	3.4330	149541
87.40	3.5740	155683
87.60	3.7250	162261
87.80	3.8630	168272
88.00	4.5520	198285
88.20	4.8930	213139
88.40	5.2640	229300
88.60	5.6220	244894
88.80	5.9970	261229
89.00	7.6570	333539
89.20	8.5350	371785
89.40	9.4190	410292
89.60	10.3040	448842
89.80	11.2030	488003
90.00	22.9260	998657
90.20	25.7830	1123107
90.40	28.6680	1248778
90.60	31.6230	1377498
90.80	34.5840	1506479
91.00	57.6150	2509709

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Stage [ft]	Area [ac]	Area [ft2]
91.20	60.2590	2624882
91.40	62.7560	2733651
91.60	65.1500	2837934
91.80	67.4920	2939952
92.00	79.8610	3478745
92.20	81.4120	3546307
92.40	82.9580	3613650
92.60	84.4920	3680472
92.80	85.9710	3744897
93.00	94.1310	4100346
93.20	95.0070	4138505
93.40	95.8180	4173832
93.60	96.6360	4209464
93.80	97.3910	4242352
94.00	104.0410	4532026
94.20	105.5250	4596669
94.40	106.9110	4657043
94.60	108.2240	4714237
94.80	109.4310	4766814
95.00	117.0550	5098916
95.20	117.7260	5128145
95.40	118.4120	5158027
95.60	118.9700	5182333
95.80	119.5100	5205856
96.00	122.6250	5341545
96.20	123.2110	5367071
96.40	123.8450	5394688
96.60	124.5190	5424048
96.80	125.2250	5454801
97.00	128.8290	5611791
97.20	129.1300	5624903
97.40	129.3820	5635880
97.60	129.5870	5644810
97.80	129.7480	5651823
98.00	130.1820	5670728
98.20	130.2370	5673124
98.40	130.2900	5675432
98.60	130.3250	5676957
98.80	130.3590	5678438
99.00	130.3870	5679658
99.20	130.3970	5680093
99.40	130.4020	5680311
99.60	130.4100	5680660
99.80	130.4130	5680790
100.00	130.4200	5681095

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Node: WPP2

Scenario: Existing Updated

Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 86.00 ft

Stage [ft]	Area [ac]	Area [ft2]
81.30	0.0010	44
86.00	1.3420	58458
86.20	1.3650	59459
86.40	1.3910	60592
86.60	1.4110	61463
86.80	1.4310	62334
87.00	1.4760	64295
87.20	1.5400	67082
87.40	1.5900	69260
87.60	1.6510	71918
87.80	1.7090	74444
88.00	1.9160	83461
88.20	2.0120	87643
88.40	2.1180	92260
88.60	2.2000	95832
88.80	2.2960	100014
89.00	2.7880	121445
89.20	2.9620	129025
89.40	3.1350	136561
89.60	3.3210	144663
89.80	3.5170	153201
90.00	7.5440	328617
90.20	7.9710	347217
90.40	8.3540	363900
90.60	8.7120	379495
90.80	9.0610	394697
91.00	9.8850	430591
91.20	9.9420	433074
91.40	9.9900	435164
91.60	10.0480	437691
91.80	10.0970	439825
92.00	10.3330	450105
92.20	10.3430	450541
92.40	10.3470	450715
92.60	10.3550	451064
92.80	10.3600	451282
93.00	10.4280	454244

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Node: WPP3

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Warning Stage: 86.00 ft

Stage [ft]	Area [ac]	Area [ft2]
80.80	0.0010	44
84.00	0.0730	3180
84.20	0.1090	4748
84.40	0.1450	6316
84.60	0.1570	6839
84.80	0.2010	8756
85.00	0.4560	19863
85.20	0.5400	23522
85.40	0.6370	27748
85.60	0.7290	31755
85.80	0.8270	36024
86.00	1.1470	49963
86.20	1.3800	60113
86.40	1.6370	71308
86.60	1.8870	82198
86.80	2.1550	93872
87.00	3.1720	138172
87.20	3.6130	157382
87.40	4.0460	176244
87.60	4.4930	195715
87.80	4.9530	215753
88.00	6.5300	284447
88.20	6.7270	293028
88.40	6.9310	301914
88.60	7.1210	310191
88.80	7.3050	318206
89.00	8.4730	369084
89.20	8.7750	382239
89.40	9.0530	394349
89.60	9.3010	405152
89.80	9.5250	414909
90.00	10.7640	468880
90.20	10.9990	479116
90.40	11.2400	489614
90.60	11.4810	500112
90.80	11.7330	511089
91.00	14.4110	627743
91.20	14.8920	648696
91.40	15.3660	669343
91.60	15.8130	688814
91.80	16.2310	707022
92.00	18.0310	785430
92.20	18.2200	793663
92.40	18.4490	803638
92.60	18.7120	815095
92.80	19.0450	829600
93.00	27.4530	1195853
93.20	27.4550	1195940
93.40	27.4560	1195983
93.60	27.4570	1196027
93.80	27.4580	1196070
94.00	27.4580	1196070

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Node: WPP4

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.40 ft
Warning Stage: 81.60 ft

Stage [ft]	Area [ac]	Area [ft2]
82.00	0.0310	1350
82.20	0.0320	1394
82.40	0.0330	1437
82.60	0.0340	1481
82.80	0.0360	1568
83.00	0.0500	2178
83.20	0.0590	2570
83.40	0.0680	2962
83.60	0.0740	3223
83.80	0.0830	3615
84.00	0.1020	4443
84.20	0.1130	4922
84.40	0.1400	6098
84.60	0.1680	7318
84.80	0.2120	9235
85.00	1.4830	64599
85.20	1.7900	77972
85.40	2.1200	92347
85.60	2.4610	107201
85.80	2.8160	122665
86.00	4.0640	177028
86.20	4.2740	186175
86.40	4.4870	195454
86.60	4.6890	204253
86.80	4.8830	212703
87.00	5.9290	258267
87.20	6.1300	267023
87.40	6.3140	275038
87.60	6.4860	282530
87.80	6.6600	290110
88.00	7.2370	315244
88.20	7.3630	320732
88.40	7.4890	326221
88.60	7.6220	332014
88.80	7.7600	338026
89.00	8.4310	367254
89.20	8.5700	373309
89.40	8.6990	378928
89.60	8.8340	384809
89.80	8.9640	390472
90.00	9.6740	421399

Stage [ft]	Area [ac]	Area [ft2]
90.20	9.8770	430242
90.40	10.1130	440522
90.60	10.3560	451107
90.80	10.5950	461518
91.00	11.5370	502552
91.20	11.5400	502682
91.40	11.5420	502770
91.60	11.5430	502813
91.80	11.5440	502857
92.00	11.5440	502857
92.20	11.5450	502900
92.40	11.5450	502900
93.00	11.5450	502900

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Node: WPP9

Scenario: Existing Updated
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 86.00 ft

Stage [ft]	Area [ac]	Area [ft2]
81.70	0.0010	44
84.00	0.7120	31015
84.20	0.7370	32104
84.40	0.7620	33193
84.60	0.7860	34238
84.80	0.8100	35284
85.00	0.8320	36242
85.20	0.8540	37200
85.40	0.8800	38333
85.60	0.8960	39030
85.80	0.9130	39770
86.00	1.1100	48352
86.20	1.1370	49528
86.40	1.1680	50878
86.60	1.1920	51924
86.80	1.2170	53013
87.00	1.3910	60592
87.20	1.4370	62596
87.40	1.4850	64687
87.60	1.5270	66516
87.80	1.5740	68563
88.00	1.6330	71133
88.20	1.6980	73965
88.40	1.7530	76361
88.60	1.8040	78582
88.80	1.8560	80847

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Stage [ft]	Area [ac]	Area [ft2]
89.00	1.9060	83025
89.20	1.9480	84855
89.40	1.9940	86859
89.60	2.0390	88819
89.80	2.0780	90518
90.00	2.2830	99447
90.20	2.3730	103368
90.40	2.4560	106983
90.60	2.5320	110294
90.80	2.6060	113517
91.00	3.1470	137083
91.20	3.2550	141788
91.40	3.3540	146100
91.60	3.4540	150456
91.80	3.5430	154333
92.00	4.2250	184041
92.20	4.3370	188920
92.40	4.4390	193363
92.60	4.5450	197980
92.80	4.6430	202249
93.00	6.1910	269680
93.20	6.3700	277477
93.40	6.5300	284447
93.60	6.6720	290632
93.80	6.8040	296382
94.00	7.3130	318554
94.20	7.3180	318772
94.40	7.3230	318990
94.60	7.3270	319164
94.80	7.3300	319295
95.00	7.3710	321081

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Simulation: OC100y24

Scenario: Existing Updated
Run Date/Time: 8/31/2024 1:44:47 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	96.0000

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

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	6.0000	5.0000
0	0	0	15.0000	15.0000
0	0	0	24.0000	30.0000
0	0	0	36.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	36.0000	30.0000
0	0	0	72.0000	60.0000

Groundwater

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

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3
Reference ET Folder:
Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set: OC100-EXZ
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
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
ET for Manual Basins: False
Smp/Man Basin Rain Opt: Global
OF Region Rain Opt: Global
Rainfall Name: ORANGE
Rainfall Amount: 10.60 in
Storm Duration: 24.0000 hr

Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	1 ft2	Min Node Srf Area (1D):	113 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment: Little Econlockhatchee River Basin - Econ-Baldwin
100YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88
**Elevations are referenced to NAVD88

Little Econlockhatchee River Basin - Supplemental Model Revisions
100YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88

Simulation: OC10y24

Scenario: Existing Updated
Run Date/Time: 8/31/2024 3:57:24 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	96.0000

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

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	6.0000	5.0000
0	0	0	15.0000	15.0000
0	0	0	24.0000	30.0000
0	0	0	36.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	36.0000	30.0000
0	0	0	72.0000	60.0000

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

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

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3
Reference ET Folder:
Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set: OC10-EXZ
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
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic
Dflt Damping (2D): 0.0050 ft
Min Node Srf Area (2D): 1 ft2
Energy Switch (2D): Energy

IA Recovery Time: 24.0000 hr
ET for Manual Basins: False
Smp/Man Basin Rain Opt: Global
OF Region Rain Opt: Global
Rainfall Name: ORANGE
Rainfall Amount: 7.50 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 113 ft2
Energy Switch (1D): Energy

Comment: Little Econlockhatchee River Basin - Econ-Baldwin
10YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88
**Elevations are referenced to NAVD88

Little Econlockhatchee River Basin - Supplemental Model Revisions
10YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88

Simulation: OC25y24

Scenario: Existing Updated
Run Date/Time: 8/31/2024 5:44:46 PM
Program Version: ICPR4 4.07.08

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

General

Run Mode: Normal

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

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

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	6.0000	5.0000
0	0	0	15.0000	15.0000
0	0	0	24.0000	30.0000
0	0	0	36.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	36.0000	30.0000
0	0	0	72.0000	60.0000

Groundwater

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

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3
Reference ET Folder:
Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set: OC25-EXZ
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
Max Iterations:	6
Over-Relax Weight Fact:	0.5 dec
dZ Tolerance:	0.0010 ft
Max dZ:	1.0000 ft
Link Optimizer Tol:	0.0001 ft
Edge Length Option:	Automatic
Dflt Damping (2D):	0.0050 ft
Min Node Srf Area (2D):	1 ft2
Energy Switch (2D):	Energy
IA Recovery Time:	24.0000 hr
ET for Manual Basins:	False
Smp/Man Basin Rain Opt:	Global
OF Region Rain Opt:	Global
Rainfall Name:	ORANGE
Rainfall Amount:	8.60 in
Storm Duration:	24.0000 hr
Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (1D):	113 ft2
Energy Switch (1D):	Energy

Comment: Little Econlockhatchee River Basin - Econ-Baldwin
25YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88
**Elevations are referenced to NAVD88

Little Econlockhatchee River Basin - Supplemental Model Revisions
25YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88

Channel Cross Section: 207

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-102.08	88.98	0.0350
1	-84.14	83.00	0.0350
2	-78.14	83.00	0.0350
3	-45.00	94.05	0.0350
4	-30.00	95.55	0.0350

Comment: Station 207 Cross-Section - Proposed

Channel Cross Section: 208

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-88.13	86.18	0.0350
1	-77.78	82.72	0.0350
2	-71.78	82.72	0.0350

Order	Station [ft]	Elevation [ft]	Manning's N
3	-43.69	92.08	0.0350
4	-28.69	93.58	0.0350

Comment: Station 208 Cross-Section - Proposed

Channel Cross Section: 209

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-73.90	85.68	0.0350
1	-64.19	82.44	0.0350
2	-58.19	82.44	0.0350
3	-35.13	90.13	0.0350
4	-20.13	91.63	0.0350

Comment: Station 209 Cross-Section - Proposed

Channel Cross Section: 210

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-66.67	85.63	0.0350
1	-56.26	82.16	0.0350
2	-50.26	82.16	0.0350
3	-29.70	89.01	0.0350
4	-14.70	90.51	0.0350

Comment: Station 210 Cross-Section - Proposed

Channel Cross Section: 211

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-68.41	85.81	0.0350
1	-56.62	81.88	0.0350
2	-50.62	81.88	0.0350
3	-28.00	89.42	0.0350
4	-13.00	90.92	0.0350

Comment: Station 211 Cross-Section - Proposed

Channel Cross Section: 212

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-73.71	86.62	0.0350
1	-58.66	81.60	0.0350
2	-52.66	81.60	0.0350
3	-28.00	89.82	0.0350
4	-13.00	91.32	0.0350

Comment: Station 212 Cross-Section - Proposed

Channel Cross Section: 213

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-76.51	86.59	0.0350
1	-60.70	81.32	0.0350
2	-54.70	81.32	0.0350
3	-28.00	90.22	0.0350
4	-13.00	91.72	0.0350

Comment: Station 213 Cross-Section - Proposed

Channel Cross Section: 214

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-74.43	85.50	0.0350
1	-61.06	81.04	0.0350
2	-55.06	81.04	0.0350
3	-28.00	90.06	0.0350
4	-13.00	91.56	0.0350

Comment: Station 214 Cross-Section - Proposed

Channel Cross Section: 215

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-76.10	85.81	0.0350
1	-61.00	80.76	0.0350
2	-55.00	80.76	0.0350
3	-28.00	89.76	0.0350
4	-13.00	91.26	0.0350

Comment: Station 215 Cross-Section - Proposed

Channel Cross Section: 216

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-78.77	86.43	0.0350
1	-60.94	80.48	0.0350
2	-54.94	80.48	0.0350
3	-28.00	89.46	0.0350
4	-13.00	90.96	0.0350

Comment: Station 216 Cross-Section - Proposed

Channel Cross Section: 217

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-78.44	85.46	0.0350
1	-62.68	80.20	0.0350
2	-56.68	80.20	0.0350
3	-28.00	89.76	0.0350
4	-13.00	91.26	0.0350

Comment: Station 217 Cross-Section - Proposed

Channel Cross Section: C4-1X

Scenario: Existing Updated
Lid: No

Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-255.00	87.46	0.0450
1	-244.00	81.70	0.0450
2	-240.00	71.20	0.0450
3	-234.00	69.80	0.0450
4	-226.00	68.40	0.0450
5	-220.00	67.90	0.0450
6	-213.00	76.30	0.0450
7	-208.00	80.10	0.0450
8	-200.00	86.10	0.0450

Comment: pg 2124001-49

Channel Cross Section: C4-1XM

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-255.00	87.46	0.0450
1	-244.00	81.70	0.0450
2	-240.88	73.50	0.0450
3	-215.33	73.50	0.0450
4	-213.00	76.30	0.0450
5	-208.00	80.10	0.0450
6	-200.00	86.10	0.0450

Comment: pg 2124001-49 (PLUNGE POOL REMOVED)

Channel Cross Section: C4-2X

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-327.00	87.66	0.0450
1	-322.00	87.65	0.0450
2	-312.00	87.31	0.0450
3	-301.00	87.18	0.0450
4	-290.00	86.86	0.0450
5	-270.00	87.00	0.0450
6	-251.00	87.60	0.0450
7	-250.00	86.34	0.0450
8	-244.00	83.80	0.0450
9	-238.00	78.60	0.0450
10	-225.00	78.00	0.0450

Order	Station [ft]	Elevation [ft]	Manning's N
11	-216.00	78.50	0.0450
12	-213.00	81.40	0.0450
13	-207.00	83.20	0.0450
14	-200.00	86.40	0.0450

Comment: PG 2124001-48

Channel Cross Section: C4-3X

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	200.00	88.90	0.0450
1	209.00	84.20	0.0450
2	213.00	80.50	0.0450
3	219.00	78.00	0.0450
4	222.00	76.70	0.0450
5	234.00	79.30	0.0450
6	238.00	80.10	0.0450
7	244.00	80.90	0.0450
8	254.00	86.60	0.0450

Comment: 2124001-47

Channel Cross Section: C4-4X

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	200.00	94.00	0.0450
1	208.00	88.80	0.0450
2	214.00	82.50	0.0450
3	216.00	79.70	0.0450
4	222.00	78.60	0.0450
5	226.00	78.90	0.0450
6	229.00	82.00	0.0450
7	236.00	84.30	0.0450
8	247.00	89.10	0.0450
9	258.00	89.70	0.0450
10	297.00	90.60	0.0450
11	347.00	90.80	0.0450

Comment: pg 2124001-46

Channel Cross Section: C4-5X

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	200.00	90.90	0.0450
1	207.00	86.40	0.0450
2	213.00	80.80	0.0450
3	225.00	80.60	0.0450
4	233.00	79.90	0.0450
5	236.00	80.10	0.0450
6	240.00	82.00	0.0450
7	246.00	84.40	0.0450
8	287.00	85.50	0.0450
9	309.00	89.90	0.0450
10	330.00	90.10	0.0450

Comment: PG 2124001-45

Channel Cross Section: C4-6X

Scenario: Existing Updated
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-338.00	90.70	0.0450
1	-288.00	90.50	0.0450
2	-248.00	90.50	0.0450
3	-238.00	88.80	0.0450
4	-222.00	82.40	0.0450
5	-217.00	80.50	0.0450
6	-211.00	80.10	0.0450
7	-204.00	80.50	0.0450
8	-202.00	82.20	0.0450
9	-193.00	83.50	0.0450
10	-175.00	86.40	0.0450
11	-130.00	90.90	0.0450
12	-125.50	91.15	0.0450

Comment: PG 2124001-44

Weir Cross Section: LC00065W-W

Scenario: Existing Updated
Lid: No

Bottom Point Table

Order	Station [ft]	Elevation [ft]
0	0.00	89.10

Order	Station [ft]	Elevation [ft]
1	23.00	89.00
2	398.00	88.00
3	425.00	87.00
4	489.00	86.00
5	577.00	85.30
6	754.00	86.00
7	910.00	86.00
8	1084.00	86.00
9	1176.00	87.00
10	1306.00	88.00
11	1452.00	89.00
12	1487.00	90.00
13	1511.00	90.20

Comment: CROSS SECTION TAKEN FROM CONTOURS (NAVD88)

Channel Link: 207		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	83.00 ft	Invert:	82.72 ft
From Node:	BP207	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP208	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	207	Cross Section:	208
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 208		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	82.72 ft	Invert:	82.44 ft
From Node:	BP208	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP209	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	208	Cross Section:	209
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Channel Link: 209		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	82.44 ft	Invert:	82.16 ft
From Node:	BP209	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP210	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	209	Cross Section:	210
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:	LAKE CORRINE OUTFALL CANAL				

Channel Link: 210		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	82.16 ft	Invert:	81.88 ft
From Node:	BP210	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP211	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	210	Cross Section:	211
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:	LAKE CORRINE OUTFALL CANAL				

Channel Link: 211		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	81.88 ft	Invert:	81.60 ft
From Node:	BP211	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP212	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	211	Cross Section:	212
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:	LAKE CORRINE OUTFALL CANAL				

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Channel Link: 212		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	81.60 ft	Invert:	81.32 ft
From Node:	BP212	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP213	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	212	Cross Section:	213
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:	LAKE CORRINE OUTFALL CANAL				

Channel Link: 213		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	81.32 ft	Invert:	81.04 ft
From Node:	BP213	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP214	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	213	Cross Section:	214
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:	LAKE CORRINE OUTFALL CANAL				

Channel Link: 214		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	81.04 ft	Invert:	80.76 ft
From Node:	BP214	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP215	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	214	Cross Section:	215
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:	LAKE CORRINE OUTFALL CANAL				

Channel Link: 215		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	80.76 ft	Invert:	80.48 ft
From Node:	BP215	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP216	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	215	Cross Section:	216
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 216		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	80.48 ft	Invert:	80.20 ft
From Node:	BP216	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP217	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	216	Cross Section:	217
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 217		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	80.20 ft	Invert:	79.31 ft
From Node:	BP217	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP218	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	217	Cross Section:	217
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: LC00030		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	83.60 ft	Invert:	83.11 ft
From Node:	LC00030	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00030A	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C3-1X	Cross Section:	C3-1X
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	603.73 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: OFFSITE OUTFALL DITCH FROM PROPERY LINE NORTH

Channel Link: LC00050		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	80.10 ft	Invert:	80.00 ft
From Node:	LC00050	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00050A	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-6X	Cross Section:	C4-6X
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	402.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: LC00050B		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	79.20 ft	Invert:	79.20 ft
From Node:	LC00050B	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00055	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-6X	Cross Section:	C4-5X
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	542.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: LC00055		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	79.90 ft	Invert:	78.90 ft
From Node:	LC00055	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00060	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-5X	Cross Section:	C4-4X
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1201.06 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: LC00060		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	78.90 ft	Invert:	78.60 ft
From Node:	LC00060	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00065	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-4X	Cross Section:	C4-3X
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1599.59 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: LC00065		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	77.50 ft	Invert:	77.65 ft
From Node:	LC00065	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00070	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-3X	Cross Section:	C4-2X
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1272.04 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: LC00075		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	73.50 ft	Invert:	72.10 ft
From Node:	LC00075	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00080	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-1XM	Cross Section:	C4-1XM
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	570.73 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: LC00080		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	72.10 ft	Invert:	70.50 ft
From Node:	LC00080	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00085	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-1XM	Cross Section:	C4-1XM
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	653.57 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Comment:					

Channel Link: LC00090		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	56.90 ft	Invert:	53.11 ft
From Node:	LC00090	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00095	Geometry:	Trapezoidal	Geometry:	Trapezoidal
Link Count:	1	Max Depth:	941.10 ft	Max Depth:	944.89 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	20.00 ft	Bottom Width:	20.00 ft
Length:	582.00 ft	Left Slope:	2.000 (h:v)	Left Slope:	2.000 (h:v)
Contraction Coef:	0.10	Right Slope:	1.500 (h:v)	Right Slope:	1.500 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0450	Manning's N:	0.0450
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	

	Upstream		Downstream	
	Ref Node:		Ref Node:	
	Manning's N:	0.0450	Manning's N:	0.0450

Comment: ASSUMED XSEC FROM TOPO

Channel Link: LC00095		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	53.11 ft	Invert:	53.70 ft
From Node:	LC00095	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00100	Geometry:	Trapezoidal	Geometry:	Trapezoidal
Link Count:	1	Max Depth:	944.89 ft	Max Depth:	944.30 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	20.00 ft	Bottom Width:	20.00 ft
Length:	360.66 ft	Left Slope:	1.500 (h:v)	Left Slope:	1.500 (h:v)
Contraction Coef:	0.10	Right Slope:	1.500 (h:v)	Right Slope:	1.500 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0450	Manning's N:	0.0450
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0450	Manning's N:	0.0450

Comment: ASSUMED XSEC FROM TOPO

Channel Link: WPP3		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	80.80 ft	Invert:	79.68 ft
From Node:	WPP3	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	B-11	Geometry:	Trapezoidal	Geometry:	Trapezoidal
Link Count:	1	Max Depth:	999.00 ft	Max Depth:	999.00 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	6.00 ft	Bottom Width:	6.00 ft
Length:	95.00 ft	Left Slope:	2.000 (h:v)	Left Slope:	2.000 (h:v)
Contraction Coef:	0.10	Right Slope:	2.000 (h:v)	Right Slope:	2.000 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0450	Manning's N:	0.0450
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0450	Manning's N:	0.0450

Comment: WINTER PINES GOLF COURSE CANAL

Channel Link: WPP4		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	81.40 ft	Invert:	79.97 ft

From Node:	WPP4	Manning's N:	0.0450	Manning's N:	0.0450
		Geometry: Trapezoidal		Geometry: Trapezoidal	
To Node:	BP217	Max Depth:	916.60 ft	Max Depth:	918.03 ft
Link Count:	1	Extrapolation:	Normal	Extrapolation:	Normal
Flow Direction:	Both	Bottom Width:	6.00 ft	Bottom Width:	6.00 ft
Damping:	0.0000 ft	Left Slope:	2.000 (h:v)	Left Slope:	2.000 (h:v)
Length:	115.00 ft	Right Slope:	2.000 (h:v)	Right Slope:	2.000 (h:v)
Contraction Coef:	0.10				
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0450	Manning's N:	0.0450
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0450	Manning's N:	0.0450

Comment: WINTER PINES GOLF COURSE CANAL

Pipe Link: 218		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	79.31 ft	Invert:	79.13 ft
From Node:	BP218	Manning's N:	0.0110	Manning's N:	0.0110
To Node:	BP220	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	8.00 ft	Max Depth:	8.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	171.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0110	Manning's N:	0.0110
Exit Loss Coef:	1.00	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:	0.0110	Manning's N:	0.0110

Comment: Existing 96" RCP from Baldwin Park Lane Improvements, updated info from DRMP Survey (4/8/24), deleted Node 219 and Pipe BP219 from model

Pipe Link: B-11		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	80.94 ft	Invert:	80.76 ft
From Node:	B-11	Manning's N:	0.0110	Manning's N:	0.0110
To Node:	BP220	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	20.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0110	Manning's N:	0.0110
Exit Loss Coef:	1.00	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:	0.0110	Manning's N:	0.0110

Comment: WINTER PINES GOLF COURSE HEADWALL 54" RCP, updated info from DRMP Survey (4/8/24)

Pipe Link: LC00030A		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	83.11 ft	Invert:	83.00 ft
From Node:	LC00030A	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	BP207	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:	114.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0120	Manning's N:	0.0120
Exit Loss Coef:	1.00	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:	0.0120	Manning's N:	0.0120

Comment: PROPOSED 36" RCP

Pipe Link: LC00031		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	86.50 ft	Invert:	87.00 ft
From Node:	BALDWIN	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	CS-BALD	Geometry: Circular		Geometry: Circular	
Link Count:	3	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:	140.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0130	Manning's N:	0.0130
Exit Loss Coef:	1.00	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:	0.0130	Manning's N:	0.0130

Comment:

Pipe Link: LC00045		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	79.31 ft	Invert:	79.00 ft
From Node:	BP220	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00050	Geometry: Rectangular		Geometry: Rectangular	
Link Count:	1	Max Depth:	9.00 ft	Max Depth:	9.00 ft
Flow Direction:	Both	Max Width:	11.50 ft	Max Width:	11.50 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	186.00 ft	Bottom Clip			
FHWA Code:	11	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.70	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	

Bend Loss Coef:	0.00	Manning's N:	0.0130	Manning's N:	0.0130
		Top Clip			
Bend Location:	0.00 dec				
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0130	Manning's N:	0.0130

Comment: BOX CULVERT AT SR 436 - EXTENDED 34', updated survey from DRMP (4/08/24)

Pipe Link: LC00050A1		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	80.98 ft	Invert:	80.40 ft
From Node:	LC00050A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00050B	Geometry: Rectangular		Geometry: Rectangular	
Link Count:	1	Max Depth:	8.00 ft	Max Depth:	8.00 ft
Flow Direction:	Both	Max Width:	6.90 ft	Max Width:	6.90 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	55.00 ft	Bottom Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: North Cell of Double Cell Box Culvert under entrance to Walmart Neighborhood Market from Auvers Blvd, updated survey from DRMP (04/08/24)

Pipe Link: LC00050A2		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	80.87 ft	Invert:	80.41 ft
From Node:	LC00050A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00050B	Geometry: Rectangular		Geometry: Rectangular	
Link Count:	1	Max Depth:	8.00 ft	Max Depth:	8.00 ft
Flow Direction:	Both	Max Width:	6.90 ft	Max Width:	6.90 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	55.00 ft	Bottom Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: South Cell of Double Cell Box Culvert under entrance to Walmart Neighborhood Market from Auvers Blvd, updated survey from DRMP (04/08/24)

Pipe Link: LC00070A_N		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	77.25 ft	Invert:	76.67 ft
From Node:	LC00070A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00070B_N	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	17.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	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: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00070A_S		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	77.20 ft	Invert:	76.84 ft
From Node:	LC00070A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00070B_S	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	20.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	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: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00070B_N		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	73.76 ft	Invert:	73.38 ft
From Node:	LC00070B_N	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00075	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	106.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.50	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: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00070B_S		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	73.78 ft	Invert:	73.48 ft
From Node:	LC00070B_S	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00075	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	103.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.50	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: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00085A_N		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	70.66 ft	Invert:	68.88 ft
From Node:	LC00085	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00087A	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:	102.00 ft	Op Table:		Op Table:	
FHWA Code:	2	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0240	Manning's N:	0.0240
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:	0.0240	Manning's N:	0.0240

Comment: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00085A_S		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	70.74 ft	Invert:	69.14 ft
From Node:	LC00085	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00087B	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:	104.00 ft	Op Table:		Op Table:	
FHWA Code:	2	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0240	Manning's N:	0.0240
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:	0.0240	Manning's N:	0.0240

Comment: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00087_N		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	58.03 ft	Invert:	57.76 ft
From Node:	LC00087A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00090	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:	75.00 ft	Op Table:		Op Table:	
FHWA Code:	7	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0240	Manning's N:	0.0240
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:	0.0240	Manning's N:	0.0240

Comment: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00087_S		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	58.28 ft	Invert:	57.48 ft
From Node:	LC00087B	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00090	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:	82.00 ft	Op Table:		Op Table:	
FHWA Code:	7	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0240	Manning's N:	0.0240
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:	0.0240	Manning's N:	0.0240

Comment: Update using GIS info from OCPW (1/2024)

Pipe Link: WPP1		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	82.05 ft	Invert:	81.40 ft
From Node:	WPP1	Manning's N:	0.0250	Manning's N:	0.0250
To Node:	WPP4	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:	65.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0250	Manning's N:	0.0250
Exit Loss Coef:	1.00	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:	0.0250	Manning's N:	0.0250

Comment: WINTER PINES GOLF COURSE EXISTING 60" CMP

Pipe Link: WPP9		Upstream		Downstream	
Scenario:	Existing Updated	Invert:	79.73 ft	Invert:	79.27 ft
From Node:	WPP9	Manning's N:	0.0250	Manning's N:	0.0250
To Node:	WPP4	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:	30.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0250	Manning's N:	0.0250
Exit Loss Coef:	1.00	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:	0.0250	Manning's N:	0.0250

Comment: WINTER PINES GOLF COURSE EXISTING 18" CMP

Weir Link: LC00065W			
Scenario:	Existing Updated	Bottom Clip	
From Node:	LC00065	Default:	0.00 ft
To Node:	LC12200	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	86.30 ft	Discharge Coefficients	
Control Elevation:	86.30 ft	Weir Default:	2.800
Cross Section:	LC00065W-W	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment: WEIR INVERT TAKEN FROM CONTOURS

Weir Link: LC00070B			
Scenario:	Existing Updated	Bottom Clip	
From Node:	LC00070	Default:	0.00 ft
To Node:	LC00075	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	86.00 ft	Discharge Coefficients	
Control Elevation:	86.00 ft	Weir Default:	2.800
Max Depth:	99.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	0.00 ft	Orifice Table:	
Left Slope:	217.400 (h:v)		
Right Slope:	333.300 (h:v)		

Comment: OVERFLOW FORSYTH 180'+/- SOUTH OF XING

Weir Link: LC00070_W			
Scenario:	Existing Updated	**Bottom Clip**	
From Node:	LC00070	Default:	0.00 ft
To Node:	LC00070A	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	81.88 ft	**Discharge Coefficients**	
Control Elevation:	81.88 ft	Weir Default:	3.000
Max Depth:	999.00 ft	Weir Table:	
Max Width:	47.50 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	
Comment:			

Weir Link: LC00085B			
Scenario:	Existing Updated	**Bottom Clip**	
From Node:	LC00085	Default:	0.00 ft
To Node:	LC00090	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Parabolic	Ref Node:	
Invert:	77.80 ft	**Discharge Coefficients**	
Control Elevation:	77.80 ft	Weir Default:	2.800
Max Depth:	99.00 ft	Weir Table:	
Max Width:	1557.40 ft	Orifice Default:	0.600
Extrapolation Method:	Normal Projection	Orifice Table:	
Comment: OVERFLOW DORIS/PARTRIDGE (SEE C5-4S)			

Weir Link: WMW-1			
Scenario:	Existing Updated	**Bottom Clip**	
From Node:	WMPond-1	Default:	0.00 ft
To Node:	LC00055	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	88.50 ft	**Discharge Coefficients**	
Control Elevation:	88.50 ft	Weir Default:	2.800
Max Depth:	1.50 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	20.00 ft	Orifice Table:	
Left Slope:	4.000 (h:v)		
Right Slope:	4.000 (h:v)		
Comment:			

Weir Link: WPP2

Scenario:	Existing Updated	**Bottom Clip**	
From Node:	WPP2	Default:	0.00 ft
To Node:	WPP3	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	82.00 ft	**Discharge Coefficients**	
Control Elevation:	82.00 ft	Weir Default:	3.200
Max Depth:	999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	6.00 ft	Orifice Table:	
Left Slope:	2.000 (h:v)		
Right Slope:	2.000 (h:v)		

Comment: WINTER PINES GOLF COURSE EXISTING WEIR

2013_0107 - Weir Type revised to reflect Vertical: Mavis Equation

Weir Link: WPP2A

Scenario:	Existing Updated	**Bottom Clip**	
From Node:	WPP2	Default:	0.00 ft
To Node:	WPP3	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	81.80 ft	**Discharge Coefficients**	
Control Elevation:	81.80 ft	Weir Default:	3.200
Max Depth:	0.20 ft	Weir Table:	
Max Width:	3.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	

Comment: WINTER PINES GOLF COURSE EXISTING WEIR

Weir Link: WPP9_W

Scenario:	Existing Updated	**Bottom Clip**	
From Node:	WPP9	Default:	0.00 ft
To Node:	BP217	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	87.00 ft	**Discharge Coefficients**	
Control Elevation:	87.00 ft	Weir Default:	2.600
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	50.00 ft	Orifice Table:	
Left Slope:	0.000 (h:v)		

Right Slope: 0.000 (h:v)

Comment:

Weir Link: WPP9_W2

Scenario:	Existing Updated	**Bottom Clip**	
From Node:	WPP9	Default:	0.00 ft
To Node:	BP208	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	86.00 ft	**Discharge Coefficients**	
Control Elevation:	86.00 ft	Weir Default:	2.600
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	50.00 ft	Orifice Table:	
Left Slope:	0.000 (h:v)		
Right Slope:	0.000 (h:v)		

Comment:

Weir Link: WPP9_W3

Scenario:	Existing Updated	**Bottom Clip**	
From Node:	WPP9	Default:	0.00 ft
To Node:	BP210	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	86.50 ft	**Discharge Coefficients**	
Control Elevation:	86.50 ft	Weir Default:	2.600
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	50.00 ft	Orifice Table:	
Left Slope:	0.000 (h:v)		
Right Slope:	0.000 (h:v)		

Comment:

Drop Structure Link: LC00084DS

		Upstream Pipe		Downstream Pipe	
Scenario:	Existing Updated	Invert:	72.50 ft	Invert:	72.00 ft
From Node:	LC00084	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	LC00085	**Geometry: Circular**		**Geometry: Circular**	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	**Bottom Clip**			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Input Data
9/17/2024

Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	80.00 ft	**Top Clip**			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.50	Op Table:		Op Table:	
Exit Loss Coef:	1.00	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:	Circular	Default:	0.00 ft
Invert:	73.00 ft	Op Table:	
Control Elevation:	73.00 ft	Ref Node:	
Max Depth:	0.40 ft	**Discharge Coefficients**	
		Weir Default:	3.000
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component			
Weir:	2	**Bottom Clip**	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Sharp Crested Vertical	**Top Clip**	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	74.57 ft	Op Table:	
Control Elevation:	74.57 ft	Ref Node:	
Max Depth:	2.43 ft	**Discharge Coefficients**	
Max Width:	1.00 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component			
Weir:	3	**Bottom Clip**	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	**Top Clip**	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	77.00 ft	Op Table:	
Control Elevation:	77.00 ft	Ref Node:	
Max Depth:	3.08 ft	**Discharge Coefficients**	
Max Width:	4.08 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment: Pond 4 Outfall Structure from Forsyth Road Improvements, SJRWMD Permit #20839-3, Drainage Report dated March 2002, elevations converted to NAVD88 (-1 ft)

Drop Structure Link: WMCS-1		Upstream Pipe		Downstream Pipe	
Scenario:	Existing Updated	Invert:	83.50 ft	Invert:	81.00 ft
From Node:	WMPond-1	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00055	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	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:	203.00 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:	1.00	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:	84.65 ft	Op Table:	
Control Elevation:	84.65 ft	Ref Node:	
Max Depth:	3.78 ft	Discharge Coefficients	
Max Width:	0.58 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component			
Weir:	2	Bottom Clip	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	Top Clip	
Geometry Type:	Circular	Default:	0.00 ft
Invert:	83.70 ft	Op Table:	
Control Elevation:	83.70 ft	Ref Node:	
Max Depth:	0.29 ft	Discharge Coefficients	
		Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600

Orifice Table:

Weir Comment:

Weir Component			
Weir:	3	**Bottom Clip**	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	**Top Clip**	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	88.43 ft	Op Table:	
Control Elevation:	88.46 ft	Ref Node:	
Max Depth:	4.08 ft	**Discharge Coefficients**	
Max Width:	3.08 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component			
Weir:	4	**Bottom Clip**	
Weir Count:	2	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:	86.03 ft	Op Table:	
Control Elevation:	86.03 ft	Ref Node:	
Max Depth:	2.40 ft	**Discharge Coefficients**	
Max Width:	3.00 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Node Maximum Conditions

25 Year/24 Hour Storm

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Node Maximum Conditions - 25 Year/24 Hour Storm
9/17/2024

Node Max Conditions w/ Times [Existing Updated]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
B-11	OC25y24	82.30	88.41	0.0406	45.96	52.26	1979	14.7906	0.0001	0.0000	7.9080
BALDWIN	OC25y24	95.00	92.40	-0.0150	1091.58	322.43	8999916	20.3990	0.0005	9.0667	0.0000
BP207	OC25y24	88.98	88.91	0.0002	147.50	148.91	39349	15.0194	0.4247	20.1008	20.0988
BP208	OC25y24	86.18	88.90	0.0007	148.91	149.42	12286	15.0247	0.5222	20.0988	20.0975
BP209	OC25y24	85.68	88.89	0.0006	133.56	134.19	34760	15.0238	0.5243	32.7332	32.7296
BP210	OC25y24	85.63	88.89	0.0003	145.74	146.81	12380	14.9852	15.0057	28.5190	14.9341
BP211	OC25y24	85.81	88.88	-0.0004	146.30	146.87	12615	15.0205	15.0057	28.5178	28.5171
BP212	OC25y24	86.62	88.88	0.0005	146.87	170.90	29725	14.9591	9.0414	28.5171	15.7786
BP213	OC25y24	86.59	88.88	0.0014	170.90	170.69	4407	14.9034	15.3329	15.7786	15.4052
BP214	OC25y24	85.50	88.87	0.0005	171.18	199.27	52961	14.9795	0.0001	15.4052	15.2319
BP215	OC25y24	85.80	88.87	0.0012	199.27	235.85	13266	14.9852	15.2580	15.2319	15.2320
BP216	OC25y24	86.43	88.87	-0.0012	235.85	216.35	13550	14.9554	15.2580	15.2320	14.0131
BP217	OC25y24	85.46	88.87	0.0010	350.77	379.09	15847	14.9454	13.1226	14.2309	15.1003
BP218	OC25y24	85.46	88.86	0.0010	379.09	208.70	11278	14.8921	11.1357	15.1003	15.7791
BP220	OC25y24	94.00	88.41	0.0021	276.15	275.53	8070	14.7302	0.0001	15.1355	15.3531
CS-BALD	OC25y24	89.00	91.47	0.0640	146.03	146.03	864	20.2343	0.0001	20.2579	20.2343
LC00030	OC25y24	91.30	88.91	0.0002	12.16	9.02	15946	14.9626	8.7460	9.0334	9.0870
LC00030A	OC25y24	86.00	88.91	0.0003	9.02	7.25	9875	14.9955	0.5178	9.0870	9.1266
LC00050	OC25y24	90.70	88.19	-0.0022	308.58	308.54	16575	14.6376	0.0001	14.4255	14.5487
LC00050A	OC25y24	90.70	88.13	-0.0004	308.54	308.50	16420	14.6478	0.0014	14.5487	14.5706
LC00050B	OC25y24	90.70	88.00	-0.0003	308.50	308.58	25115	14.7081	0.0001	14.5706	14.6146
LC00055	OC25y24	90.10	87.97	0.0002	388.25	388.04	74074	14.6650	8.7460	14.6178	14.7284
LC00060	OC25y24	89.50	87.61	0.0002	391.69	391.69	58172	14.6501	8.7460	14.5374	14.7564
LC00065	OC25y24	86.60	86.68	0.0002	453.19	445.79	1328497	14.5975	8.7476	13.6891	14.5975
LC00070	OC25y24	86.80	86.39	0.0002	411.34	411.30	34188	14.5592	8.7628	14.4664	14.4970
LC00070A	OC25y24	86.80	86.16	0.0228	358.67	358.68	343	14.5624	0.0001	20.3070	20.3121
LC00070B_N	OC25y24	86.80	83.17	-0.0224	179.25	179.25	271	14.7456	0.0005	12.1925	20.1777
LC00070B_S	OC25y24	86.80	83.14	-0.0210	179.46	179.46	271	14.7272	0.0001	20.4115	20.4096
LC00075	OC25y24	85.50	78.50	0.0027	411.43	411.36	9435	14.7911	0.0001	14.4931	14.5610
LC00080	OC25y24	83.00	77.95	-0.0003	411.55	411.37	20951	14.8551	0.5243	14.4996	14.5894
LC00084	OC25y24	78.00	77.62	0.0002	29.82	8.60	97348	15.1440	8.7476	9.0167	11.5504
LC00085	OC25y24	78.00	77.60	-0.0038	413.45	413.42	11676	14.8703	0.0001	14.8685	14.8726
LC00087A	OC25y24	78.24	66.50	0.0030	208.07	208.08	426	15.0537	8.9480	14.8726	14.9120
LC00087B	OC25y24	78.24	66.52	0.0029	205.35	205.36	448	15.0313	27.9565	14.8721	14.9042
LC00090	OC25y24	77.00	65.67	0.0008	415.64	415.85	15717	15.0832	8.8405	14.8744	14.9010
LC00095	OC25y24	73.50	65.63	0.0008	417.03	418.21	27911	15.0797	8.8405	14.9010	14.8998

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition

Node Maximum Conditions - 25 Year/24 Hour Storm

9/17/2024

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
LC00100	OC25y24	70.47	65.61	0.0010	419.04	417.40	10138	15.0573	8.8273	14.8998	15.0925
LC00105	OC25y24	70.47	61.04	-0.0010	417.52	417.61	10549	10.2570	8.8291	15.0647	15.0732
LC00110	OC25y24	69.00	64.37	0.0001	319.48	318.07	69323	10.0503	8.9410	9.6738	9.7833
LC00115	OC25y24	68.47	60.24	-0.0004	688.71	688.57	20766	10.2126	8.8410	10.1896	10.2054
LC00117	OC25y24	68.50	67.14	0.0004	34.83	24.40	29185	10.0604	8.7460	9.0167	10.0600
LC00120	OC25y24	68.00	59.62	-0.0002	716.09	716.02	7585	10.2137	8.8413	10.1832	10.1898
LC00123	OC25y24	62.40	58.94	0.0024	716.02	715.87	9275	10.2469	8.0085	10.1898	10.1969
LC00125	OC25y24	59.10	58.63	-0.0006	723.44	721.95	78217	10.2648	26.2930	10.1585	10.2345
LC00130	OC25y24	57.75	57.17	0.0002	843.94	839.89	69839	10.3524	8.7118	10.1597	10.2188
WMPond-1	OC25y24	90.00	87.98	0.0002	23.01	4.76	104321	15.0396	8.7476	9.0000	26.5671
WPP1	OC25y24	86.70	89.35	0.0003	178.73	112.33	400549	12.4547	8.7476	9.8333	10.5789
WPP2	OC25y24	86.00	88.42	0.0002	19.85	6.06	92547	14.7960	8.7460	8.7032	0.0075
WPP3	OC25y24	86.00	88.41	-0.0021	38.24	45.96	304242	14.7934	0.0002	9.0499	0.0000
WPP4	OC25y24	81.60	88.87	0.0019	125.44	109.10	350097	14.9721	0.0001	10.4979	13.6259
WPP9	OC25y24	86.00	88.88	-0.0010	43.92	35.05	81768	14.9864	0.1928	9.1809	25.5139

100 Year/24 Hour Storm

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition

Node Maximum Conditions - 100 Year/24 Hour Storm

9/17/2024

Node Max Conditions w/ Times [Existing Updated]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
B-11	OC100y24	82.30	89.01	0.0406	45.96	52.11	2093	14.5550	0.0001	0.0000	7.4918
BALDWIN	OC100y24	95.00	93.14	-0.0150	1473.60	322.43	9618945	21.0275	0.0005	9.0561	0.0000
BP207	OC100y24	88.98	89.58	0.0003	172.90	175.65	43352	16.4038	0.4160	22.7584	22.7401
BP208	OC100y24	86.18	89.57	0.0006	175.65	176.51	12487	16.3775	0.5217	22.7401	22.7413
BP209	OC100y24	85.68	89.56	0.0006	146.63	156.98	36109	16.3653	0.5265	22.7414	15.3855
BP210	OC100y24	85.63	89.56	-0.0006	161.53	190.46	12865	16.3651	15.0102	34.6562	15.0101
BP211	OC100y24	85.81	89.55	0.0009	181.97	191.92	12944	16.4032	15.0102	15.0101	15.3850
BP212	OC100y24	86.62	89.55	0.0005	192.63	162.86	32760	16.3658	8.6723	15.3850	34.6175
BP213	OC100y24	86.59	89.55	0.0012	162.86	179.00	1761305	16.3429	9.8395	34.6175	20.6855
BP214	OC100y24	85.50	89.54	0.0005	179.31	214.17	54314	16.3503	0.0001	20.6855	15.4733
BP215	OC100y24	85.80	89.54	0.0013	214.17	248.70	13467	16.3725	15.0735	15.4733	15.3826
BP216	OC100y24	86.43	89.54	-0.0012	248.70	247.76	13796	16.2848	15.0735	15.3826	17.2255
BP217	OC100y24	85.46	89.54	-0.0013	402.31	430.13	16258	16.1591	13.7605	15.7762	15.4699
BP218	OC100y24	85.46	89.53	-0.0010	430.13	257.34	11466	16.1838	15.7168	15.4699	19.9052
BP220	OC100y24	94.00	89.00	0.0021	319.70	319.67	8075	14.5020	0.0001	17.3360	17.2119
CS-BALD	OC100y24	89.00	91.88	0.0640	171.01	171.01	864	17.8772	0.0001	20.9997	21.0012
LC00030	OC100y24	91.30	89.58	0.0002	15.42	11.41	16681	16.3713	9.8117	9.0333	8.7450
LC00030A	OC100y24	86.00	89.58	0.0003	11.41	9.33	10295	16.3773	0.5172	8.7450	8.7394
LC00050	OC100y24	90.70	88.75	-0.0022	347.40	347.67	17405	14.2275	0.0001	15.3567	15.4033
LC00050A	OC100y24	90.70	88.70	-0.0004	347.67	347.97	17824	14.1966	0.0014	15.4033	15.4888
LC00050B	OC100y24	90.70	88.54	-0.0003	347.97	348.43	26800	14.1704	0.0001	15.4888	15.5103
LC00055	OC100y24	90.10	88.51	0.0002	485.04	485.21	77176	14.1543	8.2675	14.3647	14.4524
LC00060	OC100y24	89.50	88.10	0.0002	492.19	492.19	60509	14.0991	8.2675	14.0806	14.1241
LC00065	OC100y24	86.60	86.89	0.0002	580.10	577.58	1499905	13.5916	9.8117	13.1094	13.6790
LC00070	OC100y24	86.80	86.53	0.0002	472.30	472.25	38300	13.1852	9.8122	13.1665	13.1851
LC00070A	OC100y24	86.80	86.32	0.0228	358.80	358.81	343	13.1852	0.0001	25.4985	25.4982
LC00070B_N	OC100y24	86.80	83.47	-0.0224	179.33	179.33	271	13.1823	0.0005	25.2394	25.2415
LC00070B_S	OC100y24	86.80	83.45	-0.0210	179.52	179.53	271	13.1749	0.0001	25.5770	25.5761
LC00075	OC100y24	85.50	79.04	0.0027	472.71	472.69	9697	13.1808	0.0001	13.1291	13.1808
LC00080	OC100y24	83.00	78.51	0.0003	473.37	473.32	21531	13.2002	8.2670	13.1346	13.1978
LC00084	OC100y24	78.00	78.34	0.0002	37.07	12.50	98010	13.7303	8.2675	9.0166	10.4769
LC00085	OC100y24	78.00	78.16	-0.0038	480.51	480.50	11991	13.2291	0.0001	13.2289	13.2291
LC00087A	OC100y24	78.24	68.75	-0.0030	225.26	225.25	426	13.6489	33.7391	13.2290	13.5731
LC00087B	OC100y24	78.24	68.78	0.0029	222.75	222.74	448	13.6438	33.0218	13.2290	13.7368
LC00090	OC100y24	77.00	67.78	0.0009	488.78	487.36	17864	13.6577	8.3632	13.0953	13.6578
LC00095	OC100y24	73.50	67.75	0.0010	491.40	492.16	31217	13.6526	8.3632	13.1167	13.5842

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition
Node Maximum Conditions - 100 Year/24 Hour Storm
9/17/2024

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
LC00100	OC100y24	70.47	67.73	0.0010	494.53	492.25	11289	13.6262	8.3632	13.5842	13.6401
LC00105	OC100y24	70.47	61.48	-0.0010	492.59	492.75	10967	10.1463	8.3472	13.6264	13.6351
LC00110	OC100y24	69.00	64.79	0.0002	397.63	394.60	77488	9.5452	8.7105	9.3167	9.4795
LC00115	OC100y24	68.47	60.80	-0.0003	795.15	795.10	21796	10.0884	8.3632	10.0640	10.1024
LC00117	OC100y24	68.50	67.72	0.0005	44.02	40.23	29185	9.1811	8.2670	9.0166	9.1810
LC00120	OC100y24	68.00	60.01	-0.0002	832.33	832.28	7881	10.0865	8.3632	9.8050	9.8250
LC00123	OC100y24	62.40	59.35	0.0025	832.28	832.16	9751	10.1280	31.0861	9.8250	9.8293
LC00125	OC100y24	59.10	59.04	-0.0006	843.69	842.35	88660	10.1575	31.0861	9.7643	9.8470
LC00130	OC100y24	57.75	57.79	0.0002	1011.50	1005.62	81987	11.4916	8.2640	9.6008	9.6683
WMPond-1	OC100y24	90.00	88.54	0.0002	30.22	4.62	108701	14.1295	9.8117	8.9999	31.2979
WPP1	OC100y24	86.70	90.22	0.0003	233.87	121.91	1137247	13.3149	9.5664	9.7500	10.4636
WPP2	OC100y24	86.00	89.02	0.0002	21.58	6.06	122021	14.5968	8.2670	8.2736	0.0075
WPP3	OC100y24	86.00	89.01	-0.0021	57.23	45.96	371767	14.5988	0.0002	10.5958	0.0000
WPP4	OC100y24	81.60	89.54	0.0019	139.47	138.11	385307	16.3508	0.0001	10.2117	13.8255
WPP9	OC100y24	86.00	89.55	-0.0010	49.12	41.62	88372	16.3662	0.1929	8.7317	30.7306

10 Year/24 Hour Storm

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition

Node Maximum Conditions - 10 Year/24 Hour Storm

9/17/2024

Node Max Conditions w/ Times [Existing Updated]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
B-11	OC10y24	82.30	87.88	0.0406	45.96	52.15	1878	14.7004	0.0001	0.0000	8.1852
BALDWIN	OC10y24	95.00	91.98	-0.0150	893.14	322.43	8613516	20.2129	0.0005	10.0333	0.0000
BP207	OC10y24	88.98	88.28	0.0002	131.46	132.80	36124	14.7142	0.4245	20.0765	20.1287
BP208	OC10y24	86.18	88.27	0.0007	132.80	133.28	12076	14.7191	0.5174	20.1287	20.1274
BP209	OC10y24	85.68	88.26	0.0006	124.74	125.57	33529	14.6919	0.5195	28.0966	28.0771
BP210	OC10y24	85.63	88.26	0.0002	134.39	134.95	12190	14.6918	0.5195	24.5205	24.5198
BP211	OC10y24	85.81	88.25	-0.0003	134.95	135.53	12425	14.6902	14.7358	24.5198	24.5185
BP212	OC10y24	86.62	88.25	0.0004	135.56	144.00	26913	14.6901	9.5016	24.5185	15.2640
BP213	OC10y24	86.59	88.25	0.0013	144.00	145.76	4218	14.6885	14.6191	15.2640	15.4430
BP214	OC10y24	85.50	88.24	0.0005	146.18	162.16	51122	14.6941	0.0001	15.4430	14.7180
BP215	OC10y24	85.80	88.24	0.0010	162.16	186.94	13077	14.7237	14.3712	14.7180	14.7181
BP216	OC10y24	86.43	88.24	0.0010	186.94	185.35	13361	14.7182	14.7238	14.7181	14.7195
BP217	OC10y24	85.46	88.24	0.0010	297.91	326.01	15513	14.6941	12.6605	13.9651	13.9650
BP218	OC10y24	85.46	88.23	-0.0010	326.01	182.98	11278	14.6819	13.8043	13.9650	14.7273
BP220	OC10y24	94.00	87.87	0.0021	242.26	241.55	7956	14.6171	0.0001	14.4595	14.5284
CS-BALD	OC10y24	89.00	91.25	0.0640	130.12	130.13	864	20.1381	0.0001	20.1372	20.1381
LC00030	OC10y24	91.30	88.29	-0.0002	10.36	7.18	15033	14.6871	0.0001	9.0500	0.0000
LC00030A	OC10y24	86.00	88.29	0.0003	7.18	5.36	9483	14.7486	0.5174	0.0000	9.2045
LC00050	OC10y24	90.70	87.71	-0.0022	274.92	274.51	15831	14.6559	0.0001	13.4321	13.4648
LC00050A	OC10y24	90.70	87.64	-0.0004	274.51	274.11	15190	14.6887	0.0014	13.4648	13.4990
LC00050B	OC10y24	90.70	87.53	-0.0003	274.11	273.49	23639	14.7801	0.0001	13.4990	13.5358
LC00055	OC10y24	90.10	87.49	0.0002	329.41	328.73	71408	14.8193	8.6480	14.0864	14.3389
LC00060	OC10y24	89.50	87.16	0.0001	334.40	333.21	55889	15.0632	8.6486	14.0169	14.0755
LC00065	OC10y24	86.60	86.33	0.0002	396.54	357.58	1048943	15.5383	9.5547	11.6943	15.5010
LC00070	OC10y24	86.80	86.07	0.0002	359.09	359.03	31051	15.5611	9.5563	15.3506	15.5705
LC00070A	OC10y24	86.80	85.82	0.0228	358.28	358.28	343	15.5611	0.0001	15.6092	15.6046
LC00070B_N	OC10y24	86.80	82.72	-0.0224	179.07	179.07	271	15.5200	0.0005	15.6046	15.5996
LC00070B_S	OC10y24	86.80	82.69	-0.0210	179.21	179.21	271	15.5627	0.0001	15.5702	15.6070
LC00075	OC10y24	85.50	77.90	0.0027	359.10	359.11	9304	15.3653	0.0001	15.6070	15.6182
LC00080	OC10y24	83.00	77.26	-0.0003	359.21	359.24	20234	15.4218	0.5195	15.6387	15.6483
LC00084	OC10y24	78.00	77.08	0.0002	25.82	5.26	96399	13.7903	9.5547	9.0166	24.6812
LC00085	OC10y24	78.00	76.85	-0.0038	362.64	362.62	11318	15.3216	0.0001	15.2999	15.3249
LC00087A	OC10y24	78.24	65.14	0.0030	182.86	182.86	426	14.0992	9.3206	15.3239	15.3211
LC00087B	OC10y24	78.24	65.15	0.0029	179.76	179.77	448	14.1014	24.4084	15.3249	15.2797
LC00090	OC10y24	77.00	64.50	0.0006	365.46	365.59	14517	14.0972	9.2327	14.0501	14.0823
LC00095	OC10y24	73.50	64.44	0.0007	367.64	368.65	26059	14.0904	9.2324	14.0823	13.7889

Winter Park Pines Study, Lake Corrine Outfall Canal - Existing Condition

Node Maximum Conditions - 10 Year/24 Hour Storm

9/17/2024

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
LC00100	OC10y24	70.47	64.41	0.0009	370.21	368.85	9493	14.0892	9.2230	13.7889	14.0879
LC00105	OC10y24	70.47	60.74	-0.0010	369.07	369.22	10268	10.4226	9.2264	13.2613	13.3025
LC00110	OC10y24	69.00	64.10	0.0001	272.49	271.36	63517	10.1621	8.6480	10.0243	10.1096
LC00115	OC10y24	68.47	59.87	-0.0003	613.70	613.53	20072	10.3059	9.2327	10.2843	10.3025
LC00117	OC10y24	68.50	66.58	0.0004	29.75	19.50	29185	10.1354	8.5016	9.0167	10.1352
LC00120	OC10y24	68.00	59.31	-0.0002	635.17	635.10	7361	10.3167	9.2420	10.2819	10.2899
LC00123	OC10y24	62.40	58.63	0.0024	635.10	634.95	8915	10.3386	8.2863	10.2899	10.2981
LC00125	OC10y24	59.10	58.32	-0.0006	640.40	639.46	70474	10.3561	23.0255	10.2743	10.3517
LC00130	OC10y24	57.75	56.75	0.0002	738.84	736.92	61266	10.3785	8.5016	10.2666	10.3154
WMPond-1	OC10y24	90.00	87.51	0.0001	19.60	4.84	100656	15.0756	9.5563	8.9999	22.8023
WPP1	OC10y24	86.70	88.64	0.0003	148.77	101.20	247827	12.1881	9.5547	9.9167	10.6654
WPP2	OC10y24	86.00	87.88	0.0002	18.19	6.06	78193	14.6474	8.6479	9.0111	0.0075
WPP3	OC10y24	86.00	87.88	-0.0021	32.56	45.96	244970	14.6496	0.0002	9.0500	0.0000
WPP4	OC10y24	81.60	88.24	0.0019	112.24	94.26	323767	14.6707	0.0001	10.5250	12.6639
WPP9	OC10y24	86.00	88.26	-0.0010	37.49	30.54	74637	14.6967	0.1927	9.5094	21.6189

Appendix B

Proposed Condition ICPR Data and Results

Input Data

Simple Basin: LC00030

Scenario:	ProposedFinal
Node:	LC00030
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	20.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	7.6200 ac
Curve Number:	85.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment: OFFSITE - SEMORAN CLUB DISCHARGE TO OFFSITE DITCH

Simple Basin: LC00040

Scenario:	ProposedFinal
Node:	BP212
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	5.8800 ac
Curve Number:	74.6
% Impervious:	6.39
% DCIA:	6.39
% Direct:	0.00
Rainfall Name:	FLMOD

Comment: OFFSITE - DISCHARGE TO OFFSITE DITCH

Simple Basin: LC00045

Scenario:	ProposedFinal
Node:	BP220
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	309.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	125.1100 ac
Curve Number:	72.3
% Impervious:	23.25

% DCIA:	23.25
% Direct:	0.00
Rainfall Name:	FLMOD

Comment: GREEN VIEW,GOLF COURSE,SEMORAN CLUB,CORRIE TERRACE

Simple Basin: LC00050

Scenario:	ProposedFinal
Node:	LC00050
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	162.5000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	68.9000 ac
Curve Number:	75.0
% Impervious:	37.88
% DCIA:	37.88
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: LC00055

Scenario:	ProposedFinal
Node:	LC00055
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	66.9000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	55.0200 ac
Curve Number:	78.0
% Impervious:	37.53
% DCIA:	37.53
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: LC00060

Scenario:	ProposedFinal
Node:	LC00060
Hydrograph Method:	NRCS Unit Hydrograph

Infiltration Method:	Curve Number
Time of Concentration:	17.4000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	30.9300 ac
Curve Number:	75.8
% Impervious:	20.45
% DCIA:	20.45
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: LC00065

Scenario:	ProposedFinal
Node:	LC00065
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	111.8000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	135.7200 ac
Curve Number:	72.6
% Impervious:	23.87
% DCIA:	23.87
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00070

Scenario:	ProposedFinal
Node:	LC00070
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	23.6400 ac
Curve Number:	72.1
% Impervious:	39.84
% DCIA:	39.84
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00075

Scenario:	ProposedFinal
Node:	LC00075
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.0600 ac
Curve Number:	82.7
% Impervious:	22.29
% DCIA:	22.29
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00080

Scenario:	ProposedFinal
Node:	LC00080
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.6100 ac
Curve Number:	80.7
% Impervious:	17.72
% DCIA:	17.72
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00084A

Scenario:	ProposedFinal
Node:	LC00084
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	43.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr

Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	7.3400 ac
Curve Number:	94.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Flmod

Comment: Forsyth Road draining to Pond north of Partridge Lane at Dorris Ave (Pond 4)
From SJRWMD Permit #20839-3, Drainage Report dated March 2002

Simple Basin: LC00084B

Scenario:	ProposedFinal
Node:	LC00084
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	8.7400 ac
Curve Number:	93.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Flmod

Comment: Heddron/Ground Control Property draining to Pond north of Partridge Lane at Dorris Ave (Pond4), from SJRWMD Permit #20839-3, Drainage Report dated March 2002

Simple Basin: LC00084C

Scenario:	ProposedFinal
Node:	LC00084
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	2.3900 ac
Curve Number:	90.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	Flmod

Comment: Pond tract area draining to Pond north of Partridge Lane at Dorris Ave (Pond 4), from SJRWMD Permit #20839-3, Drainage Report dated March 2002

Simple Basin: LC00085

Scenario:	ProposedFinal
Node:	LC00085
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.8100 ac
Curve Number:	82.5
% Impervious:	11.82
% DCIA:	11.82
% Direct:	0.00
Rainfall Name:	GORDECON

Comment: Area reduced to account for Forsyth Road Improvements (widening), CN assumed unchanged

Simple Basin: LC00090

Scenario:	ProposedFinal
Node:	LC00090
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	19.9500 ac
Curve Number:	74.3
% Impervious:	21.36
% DCIA:	21.36
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: LC00095

Scenario:	ProposedFinal
Node:	LC00095
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	15.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	10.6000 ac
Curve Number:	73.4
% Impervious:	32.26

% DCIA:	32.26
% Direct:	0.00
Rainfall Name:	GORDECON

Comment:

Simple Basin: WMPost-1

Scenario:	ProposedFinal
Node:	WMPond-1
Hydrograph Method:	Santa Barbara Urban Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	12.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Area:	7.2000 ac
Curve Number:	96.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: WMPost-2

Scenario:	ProposedFinal
Node:	WMPond-1
Hydrograph Method:	Santa Barbara Urban Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	0.00 cfs
Time Shift:	0.0000 hr
Area:	5.5500 ac
Curve Number:	84.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: WPP1

Scenario:	ProposedFinal
Node:	WPP1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	77.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr

Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	161.6000 ac
Curve Number:	79.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment: WINTER PINES GOLF COURSE

Simple Basin: WPP12

Scenario:	ProposedFinal
Node:	WPP3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	16.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	16.3000 ac
Curve Number:	94.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP2

Scenario:	ProposedFinal
Node:	WPP2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	63.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	10.4000 ac
Curve Number:	82.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP3

Scenario:	ProposedFinal
Node:	WPP3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	69.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	11.2000 ac
Curve Number:	74.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP4

Scenario:	ProposedFinal
Node:	WPP4
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	67.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	12.1000 ac
Curve Number:	76.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP5

Scenario:	ProposedFinal
Node:	BP214
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	46.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.7000 ac
Curve Number:	74.0
% Impervious:	0.00

% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP6

Scenario:	ProposedFinal
Node:	BP212
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	44.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	0.9000 ac
Curve Number:	74.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP7

Scenario:	ProposedFinal
Node:	BP209
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	44.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	0.9000 ac
Curve Number:	74.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP8

Scenario:	ProposedFinal
Node:	BP207
Hydrograph Method:	NRCS Unit Hydrograph

Infiltration Method:	Curve Number
Time of Concentration:	44.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	1.5000 ac
Curve Number:	74.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Simple Basin: WPP9

Scenario:	ProposedFinal
Node:	WPP9
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	58.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	7.8000 ac
Curve Number:	83.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	FLMOD

Comment:

Node: B-11

Scenario:	ProposedFinal
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	79.53 ft
Warning Stage:	82.30 ft

Stage [ft]	Area [ac]	Area [ft2]
79.53	0.0010	44
82.50	0.0020	87

Comment: HEADWALL

Node: BP207

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 83.00 ft
Warning Stage: 88.98 ft

Stage [ft]	Area [ac]	Area [ft2]
82.00	0.0030	131
82.60	0.0040	174
83.00	0.0040	174
83.20	0.0050	218
83.40	0.0060	261
84.40	0.0070	305
84.80	0.0080	348
85.00	0.4160	18121
85.20	0.4380	19079
85.40	0.4670	20343
85.60	0.4920	21432
85.80	0.5140	22390
86.00	0.6130	26702
86.20	0.6340	27617
86.40	0.6430	28009
86.60	0.6570	28619
86.80	0.6680	29098
87.00	0.7050	30710
87.20	0.7170	31233
87.40	0.7290	31755
87.60	0.7400	32234
87.80	0.7540	32844
88.00	0.7650	33323
88.20	0.7810	34020
88.40	0.7960	34674
88.60	0.8080	35196
88.80	0.8230	35850
89.00	0.8870	38638
89.20	0.9080	39552
89.40	0.9320	40598
89.60	0.9490	41338
89.80	0.9720	42340
90.00	1.0200	44431
90.20	1.0520	45825
90.40	1.0740	46783
90.60	1.1000	47916
90.80	1.1190	48744
91.00	1.2110	52751
91.20	1.2290	53535
91.40	1.2390	53971
91.60	1.2500	54450
91.80	1.2530	54581
92.00	1.2560	54711
92.20	1.2590	54842
92.40	1.2610	54929
92.60	1.2640	55060
92.80	1.2660	55147
93.00	1.2680	55234
93.20	1.2710	55365

Stage [ft]	Area [ac]	Area [ft2]
93.40	1.2740	55495
93.60	1.2760	55583
93.80	1.2790	55713
94.00	1.2810	55800
94.20	1.2820	55844
94.40	1.2820	55844
94.80	1.2820	55844

Comment: BP 436 CONN. RD STATION 207+00 (OLD LC00035/MHB-2)

Stage/Area updated by SAI 1/30/13

Node: BP208

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.72 ft
Warning Stage: 86.18 ft

Stage [ft]	Area [ac]	Area [ft2]
82.72	0.1000	4356
86.18	0.2000	8712

Comment: BP 436 CONN. RD STATION 208+00

Node: BP209

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.44 ft
Warning Stage: 85.68 ft

Stage [ft]	Area [ac]	Area [ft2]
82.44	0.0010	44
85.00	0.1250	5445
85.20	0.1560	6795
85.40	0.1930	8407
85.60	0.2340	10193
85.80	0.2790	12153
86.00	0.4290	18687
86.20	0.4650	20255
86.40	0.5070	22085
86.60	0.5440	23697
86.80	0.5820	25352
87.00	0.6210	27051
87.20	0.6340	27617
87.40	0.6490	28270
87.60	0.6610	28793
87.80	0.6700	29185
88.00	0.6830	29751

Stage [ft]	Area [ac]	Area [ft2]
88.20	0.6910	30100
88.40	0.6980	30405
88.60	0.7070	30797
88.80	0.7130	31058
89.00	0.7220	31450
89.20	0.7290	31755
89.40	0.7370	32104
89.60	0.7440	32409
89.80	0.7520	32757
90.00	0.7570	32975
90.20	0.7610	33149
90.40	0.7640	33280
90.60	0.7650	33323
90.80	0.7660	33367
91.00	0.7680	33454

Comment: BP 436 CONN. RD STATION 209+00 (OLD MHB-4)

Stage/Area updated by SAI 1/30/13

Node: BP210

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.16 ft
Warning Stage: 85.63 ft

Stage [ft]	Area [ac]	Area [ft2]
82.16	0.1000	4356
85.63	0.2000	8712

Comment: BP 436 CONN. RD STATION 210+00

Node: BP211

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.88 ft
Warning Stage: 85.81 ft

Stage [ft]	Area [ac]	Area [ft2]
81.88	0.1000	4356
85.81	0.2000	8712

Comment: BP 436 CONN. RD STATION 211+00

Node: BP212

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.60 ft
Warning Stage: 86.62 ft

Stage [ft]	Area [ac]	Area [ft2]
81.60	0.0010	44
86.00	0.0550	2396
86.20	0.0650	2831
86.40	0.0850	3703
86.60	0.1112	4844
86.80	0.1360	5924
87.00	0.2560	11151
87.20	0.3000	13068
87.40	0.3540	15420
87.60	0.4000	17424
87.80	0.4410	19210
88.00	0.5050	21998
88.20	0.5200	22651
88.40	0.5375	23414
88.60	0.5580	24306
88.80	0.5750	25047
89.00	0.5990	26092
89.20	0.6170	26877
89.40	0.6340	27617
89.60	0.6541	28494
89.80	0.6731	29322
90.00	1.0954	47716
90.20	1.1280	49136
90.40	1.1680	50878
90.60	1.2040	52446
90.80	1.2433	54158
91.00	1.4631	63735
91.20	1.4912	64957
91.40	1.5260	66473
91.60	1.5590	67910
91.80	1.6084	70061
92.00	1.7101	74492
92.20	1.7260	75185
92.40	1.7430	75925
92.60	1.7612	76719
92.80	1.7750	77319
93.00	1.8393	80120
93.20	1.8540	80760
93.40	1.8700	81457
93.60	1.8880	82241
93.80	1.9090	83156
94.00	1.9530	85073
94.20	1.9740	85987
94.40	2.0030	87251
94.60	2.0260	88253
94.80	2.0500	89298
95.00	2.2060	96093
95.20	2.2260	96965
95.40	2.2500	98010

Stage [ft]	Area [ac]	Area [ft2]
95.60	2.2710	98925
95.80	2.2900	99752
96.00	2.3360	101756
96.20	2.3650	103019
96.40	2.3950	104326
96.60	2.4240	105589
96.80	2.4530	106853
97.00	2.4990	108856
97.20	2.5300	110207
97.40	2.5580	111426
97.60	2.5900	112820
97.80	2.6220	114214
98.00	2.9920	130332

Comment: BP 436 CONN. RD STATION 212+00 (OLD MHB-5)

Stage/Area updated by SAI 1/30/13

Node: BP213

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.32 ft
Warning Stage: 86.59 ft

Stage [ft]	Area [ac]	Area [ft2]
89.00	10.6800	465221
90.00	64.8200	2823559
91.00	114.3900	4982828

Comment: BP 436 CONN. RD STATION 213+00 (OLD LCOOO40)

Node: BP214

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.04 ft
Warning Stage: 85.50 ft

Stage [ft]	Area [ac]	Area [ft2]
82.00	0.0000	0
82.40	0.0000	0
83.20	0.0000	0
83.60	0.0000	0
84.60	0.0000	0
85.00	0.0670	2919
85.20	0.0960	4182
85.40	0.1360	5924
85.60	0.1830	7971
85.80	0.2310	10062

Stage [ft]	Area [ac]	Area [ft2]
86.00	0.5350	23305
86.20	0.5970	26005
86.40	0.6490	28270
86.60	0.7000	30492
86.80	0.7440	32409
87.00	0.8440	36765
87.20	0.8740	38071
87.40	0.9050	39422
87.60	0.9340	40685
87.80	0.9630	41948
88.00	1.0600	46174
88.20	1.0750	46827
88.40	1.0900	47480
88.60	1.1020	48003
88.80	1.1110	48395
89.00	1.1250	49005
89.20	1.1320	49310
89.40	1.1390	49615
89.60	1.1440	49833
89.80	1.1550	50312
90.00	1.2360	53840
90.20	1.2400	54014
90.40	1.2400	54014

Comment: BP 436 CONN. RD STATION 214+00 (OLD MHB-8)

Stage/Area updated by SAI 1/30/13

Node: BP215

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 80.76 ft
Warning Stage: 85.80 ft

Stage [ft]	Area [ac]	Area [ft2]
80.76	0.1000	4356
85.80	0.2000	8712

Comment: BP 436 CONN. RD STATION 215+00

Node: BP216

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 80.48 ft
Warning Stage: 86.43 ft

Stage [ft]	Area [ac]	Area [ft2]
80.48	0.1000	4356

Stage [ft]	Area [ac]	Area [ft2]
86.43	0.2000	8712

Comment: BP 436 CONN. RD STATION 216+00

Node: BP217

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 80.20 ft
Warning Stage: 85.46 ft

Stage [ft]	Area [ac]	Area [ft2]
80.20	0.1000	4356
85.46	0.2000	8712

Comment: BP 436 CONN. RD STATION 217+00 (OLD MHB-10)

Node: BP218

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 79.31 ft
Warning Stage: 85.46 ft

Stage [ft]	Area [ac]	Area [ft2]
79.31	0.1000	4356
85.46	0.2000	8712

Comment: BP 436 CONN. RD STATION 218+00

Node: BP220

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 79.50 ft
Warning Stage: 94.00 ft

Stage [ft]	Area [ac]	Area [ft2]
79.50	0.1000	4356
94.00	0.2000	8712

Comment: BP 436 CONN. RD STATION 220+00 (OLD LC00045)

Node: LC00030

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 84.75 ft
Warning Stage: 91.30 ft

Stage [ft]	Area [ac]	Area [ft2]
84.75	0.1000	4356
94.00	0.2000	8712

Comment: WARN=RD CRN

Node: LC00030A

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 83.11 ft
Warning Stage: 86.00 ft

Stage [ft]	Area [ac]	Area [ft2]
83.11	0.0010	44
86.11	0.0020	87

Comment: PROPOSED HEADWALL STATION 207

Node: LC00050

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 90.70 ft

Comment: WARN=NTOB
DRMP survey (4/8/24) shows stain mark at 83.6'+/-

Node: LC00050A

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 90.70 ft

Comment: Upstream node of double cell box culvert under driveway entrance to WalMart Neighborhood Mkt off Auvers Blvd

Node: LC00050B

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 90.70 ft

Comment: Downstream node of double cell box culvert under driveway entrance to WalMart Neighborhood Mkt off Auvers Blvd

Node: LC00055

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.31 ft
Warning Stage: 90.10 ft

Comment: WARN=S BOC

Node: LC00060

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.27 ft
Warning Stage: 89.50 ft

Comment: WARN=APPROX ELEV OF BLDG TO THE SOUTH

Node: LC00065

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.21 ft
Warning Stage: 86.60 ft

Stage [ft]	Area [ac]	Area [ft2]
82.00	1.2950	56410
83.00	1.6960	73878
84.00	2.2760	99143
85.00	4.2680	185914
86.00	16.5550	721136
87.00	34.8770	1519242
88.00	69.3300	3020015
89.00	96.2150	4191125
90.00	105.3050	4587086
91.00	108.9720	4746820

Stage [ft]	Area [ac]	Area [ft2]
92.00	118.7810	5174100
93.00	132.6710	5779149
94.00	135.8710	5918541
95.00	136.0780	5927558

Comment: WARN=STOB; STAGE AREA

Node: LC00070

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.20 ft
Warning Stage: 86.80 ft

Comment: WARN=RD CRN

Node: LC00070A

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 77.20 ft
Warning Stage: 86.80 ft

Stage [ft]	Area [ac]	Area [ft2]
77.20	0.0010	44
78.13	0.0060	261
81.88	0.0060	261

Comment: Structure stage area information obtained from OCPW field notes dated 2014
Bottom of structure slopes to pipes on east starting at 78.13 on west side to 77.2 on the east side. Area is based on length x width of structure.

Node: LC00070B_N

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 77.20 ft
Warning Stage: 86.80 ft

Comment: N Manhole on W side of Forsyth, drop in invert

Node: LC00070B_S

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 77.20 ft
Warning Stage: 86.80 ft

Comment: S Manhole on W side of Forsyth, drop in invert

Node: LC00075

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 73.50 ft
Warning Stage: 85.50 ft

Comment: WARN=APPROX CURB ELEV TO SOUTH

Node: LC00080

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 72.10 ft
Warning Stage: 83.00 ft

Comment: WARN~TOB PER TOPO

Node: LC00084

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 73.00 ft
Warning Stage: 78.00 ft

Stage [ft]	Area [ac]	Area [ft2]
73.00	1.6100	70132
74.00	1.7300	75359
75.00	1.8600	81022
76.00	1.9800	86249
77.00	2.2100	96268
78.00	2.2500	98010

Comment: Pond 4 from Forsyth Road Improvements, SJRWMD Permit #20839-3, Drainage Report dated March 2002, elevations converted to NAVD88 (-1 ft)

Node: LC00085

Scenario:	ProposedFinal
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	71.69 ft
Warning Stage:	78.00 ft

Comment: WARN=RD CRN

Node: LC00087A

Scenario:	ProposedFinal
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	59.25 ft
Warning Stage:	78.24 ft

Comment: (converted from manhole to stage/area node)

WARN=N MH RIM ELEV

Node: LC00087B

Scenario:	ProposedFinal
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	59.25 ft
Warning Stage:	78.24 ft

Comment: (converted from manhole to stage/area node)

WARN=N MH RIM ELEV

Node: LC00090

Scenario:	ProposedFinal
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	57.24 ft
Warning Stage:	77.00 ft

Comment: WARN=TOB

Node: LC00095

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 56.13 ft
Warning Stage: 73.50 ft

Comment: WARN=NTOB

Node: LC00100

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 56.13 ft
Warning Stage: 70.47 ft

Comment:

Node: LC00105

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 55.17 ft
Warning Stage: 70.47 ft

Comment: WARN=US RD CRN

Node: LC00110

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 61.00 ft
Warning Stage: 69.00 ft

Stage [ft]	Area [ac]	Area [ft2]
55.00	0.0000	0
57.00	0.0010	44
60.00	0.3670	15987
61.00	0.4020	17511
62.00	0.4370	19036
63.00	0.4960	21606
64.00	0.5750	25047
65.00	0.8930	38899
66.00	1.0470	45607
67.00	1.3180	57412
68.00	2.4010	104588

Stage [ft]	Area [ac]	Area [ft2]
69.00	3.9220	170842
70.00	5.9380	258659
71.00	7.7290	336675
72.00	9.1160	397093
73.00	10.8970	474673
74.00	13.7100	597208
75.00	17.0260	741653
76.00	22.0150	958973
77.00	29.0950	1267378
78.00	33.4460	1456908
79.00	38.4620	1675405
80.00	41.3190	1799856
81.00	45.0100	1960636
82.00	49.5000	2156220
83.00	53.3960	2325930
84.00	59.5820	2595392
85.00	67.0290	2919783
86.00	72.5530	3160409
87.00	77.6240	3381301
88.00	79.4420	3460494
89.00	79.7770	3475086

Comment: WARN=TOP OF ZA;

Node: LC00115

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 54.84 ft
Warning Stage: 68.47 ft

Comment: WARN=RD CRWN

Node: LC00117

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 59.50 ft
Warning Stage: 68.50 ft

Stage [ft]	Area [ac]	Area [ft2]
59.50	0.6700	29185
68.50	0.6700	29185

Comment: WARN=TOB

Node: LC00120

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 54.83 ft
Warning Stage: 68.00 ft

Comment: WARN=FLOODING ON NORTH

Node: LC00123

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 54.40 ft
Warning Stage: 62.40 ft

Comment: WARN = HP IN XSEC

Node: LC00125

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 53.48 ft
Warning Stage: 59.10 ft

Comment: ZW=HP IN XSEC

Node: LC00130

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 53.46 ft
Warning Stage: 57.75 ft

Comment: WARN=TOP OF WEIR

Node: WMPond-1

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 83.70 ft

Warning Stage: 90.00 ft

Stage [ft]	Area [ac]	Area [ft2]
83.70	1.6660	72571
84.00	1.7150	74705
85.00	1.8800	81893
86.00	2.0490	89254
87.00	2.2210	96747
88.00	2.3980	104457
89.00	2.5790	112341
89.14	2.6030	113387
90.00	2.7610	120269

Comment: Wet Detention Pond for Walmart Neighborhood Market at Auvers and 436

Node: WPP1

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 86.70 ft

Stage [ft]	Area [ac]	Area [ft2]
82.05	0.0010	44
86.00	2.7500	119790
86.20	2.8130	122534
86.40	2.8980	126237
86.60	2.9650	129155
86.80	3.0320	132074
87.00	3.2910	143356
87.20	3.4330	149541
87.40	3.5740	155683
87.60	3.7250	162261
87.80	3.8630	168272
88.00	4.5520	198285
88.20	4.8930	213139
88.40	5.2640	229300
88.60	5.6220	244894
88.80	5.9970	261229
89.00	7.6570	333539
89.20	8.5350	371785
89.40	9.4190	410292
89.60	10.3040	448842
89.80	11.2030	488003
90.00	22.9260	998657
90.20	25.7830	1123107
90.40	28.6680	1248778
90.60	31.6230	1377498
90.80	34.5840	1506479
91.00	57.6150	2509709
91.20	60.2590	2624882
91.40	62.7560	2733651
91.60	65.1500	2837934

Stage [ft]	Area [ac]	Area [ft2]
91.80	67.4920	2939952
92.00	79.8610	3478745
92.20	81.4120	3546307
92.40	82.9580	3613650
92.60	84.4920	3680472
92.80	85.9710	3744897
93.00	94.1310	4100346
93.20	95.0070	4138505
93.40	95.8180	4173832
93.60	96.6360	4209464
93.80	97.3910	4242352
94.00	104.0410	4532026
94.20	105.5250	4596669
94.40	106.9110	4657043
94.60	108.2240	4714237
94.80	109.4310	4766814
95.00	117.0550	5098916
95.20	117.7260	5128145
95.40	118.4120	5158027
95.60	118.9700	5182333
95.80	119.5100	5205856
96.00	122.6250	5341545
96.20	123.2110	5367071
96.40	123.8450	5394688
96.60	124.5190	5424048
96.80	125.2250	5454801
97.00	128.8290	5611791
97.20	129.1300	5624903
97.40	129.3820	5635880
97.60	129.5870	5644810
97.80	129.7480	5651823
98.00	130.1820	5670728
98.20	130.2370	5673124
98.40	130.2900	5675432
98.60	130.3250	5676957
98.80	130.3590	5678438
99.00	130.3870	5679658
99.20	130.3970	5680093
99.40	130.4020	5680311
99.60	130.4100	5680660
99.80	130.4130	5680790
100.00	130.4200	5681095

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Node: WPP2

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft

Warning Stage: 86.00 ft

Stage [ft]	Area [ac]	Area [ft2]
81.30	0.0010	44
86.00	1.3420	58458
86.20	1.3650	59459
86.40	1.3910	60592
86.60	1.4110	61463
86.80	1.4310	62334
87.00	1.4760	64295
87.20	1.5400	67082
87.40	1.5900	69260
87.60	1.6510	71918
87.80	1.7090	74444
88.00	1.9160	83461
88.20	2.0120	87643
88.40	2.1180	92260
88.60	2.2000	95832
88.80	2.2960	100014
89.00	2.7880	121445
89.20	2.9620	129025
89.40	3.1350	136561
89.60	3.3210	144663
89.80	3.5170	153201
90.00	7.5440	328617
90.20	7.9710	347217
90.40	8.3540	363900
90.60	8.7120	379495
90.80	9.0610	394697
91.00	9.8850	430591
91.20	9.9420	433074
91.40	9.9900	435164
91.60	10.0480	437691
91.80	10.0970	439825
92.00	10.3330	450105
92.20	10.3430	450541
92.40	10.3470	450715
92.60	10.3550	451064
92.80	10.3600	451282
93.00	10.4280	454244

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Node: WPP3

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 86.00 ft

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Stage [ft]	Area [ac]	Area [ft2]
80.80	0.0010	44
84.00	0.0730	3180
84.20	0.1090	4748
84.40	0.1450	6316
84.60	0.1570	6839
84.80	0.2010	8756
85.00	0.4560	19863
85.20	0.5400	23522
85.40	0.6370	27748
85.60	0.7290	31755
85.80	0.8270	36024
86.00	1.1470	49963
86.20	1.3800	60113
86.40	1.6370	71308
86.60	1.8870	82198
86.80	2.1550	93872
87.00	3.1720	138172
87.20	3.6130	157382
87.40	4.0460	176244
87.60	4.4930	195715
87.80	4.9530	215753
88.00	6.5300	284447
88.20	6.7270	293028
88.40	6.9310	301914
88.60	7.1210	310191
88.80	7.3050	318206
89.00	8.4730	369084
89.20	8.7750	382239
89.40	9.0530	394349
89.60	9.3010	405152
89.80	9.5250	414909
90.00	10.7640	468880
90.20	10.9990	479116
90.40	11.2400	489614
90.60	11.4810	500112
90.80	11.7330	511089
91.00	14.4110	627743
91.20	14.8920	648696
91.40	15.3660	669343
91.60	15.8130	688814
91.80	16.2310	707022
92.00	18.0310	785430
92.20	18.2200	793663
92.40	18.4490	803638
92.60	18.7120	815095
92.80	19.0450	829600
93.00	27.4530	1195853
93.20	27.4550	1195940
93.40	27.4560	1195983
93.60	27.4570	1196027
93.80	27.4580	1196070
94.00	27.4580	1196070

Comment: WINTER PINES GOLF COURSE

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Stage/Area updated by SAI 1/30/13

Node: WPP4

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 81.40 ft
Warning Stage: 81.60 ft

Stage [ft]	Area [ac]	Area [ft2]
82.00	0.0310	1350
82.20	0.0320	1394
82.40	0.0330	1437
82.60	0.0340	1481
82.80	0.0360	1568
83.00	0.0500	2178
83.20	0.0590	2570
83.40	0.0680	2962
83.60	0.0740	3223
83.80	0.0830	3615
84.00	0.1020	4443
84.20	0.1130	4922
84.40	0.1400	6098
84.60	0.1680	7318
84.80	0.2120	9235
85.00	1.4830	64599
85.20	1.7900	77972
85.40	2.1200	92347
85.60	2.4610	107201
85.80	2.8160	122665
86.00	4.0640	177028
86.20	4.2740	186175
86.40	4.4870	195454
86.60	4.6890	204253
86.80	4.8830	212703
87.00	5.9290	258267
87.20	6.1300	267023
87.40	6.3140	275038
87.60	6.4860	282530
87.80	6.6600	290110
88.00	7.2370	315244
88.20	7.3630	320732
88.40	7.4890	326221
88.60	7.6220	332014
88.80	7.7600	338026
89.00	8.4310	367254
89.20	8.5700	373309
89.40	8.6990	378928
89.60	8.8340	384809
89.80	8.9640	390472
90.00	9.6740	421399
90.20	9.8770	430242
90.40	10.1130	440522

Stage [ft]	Area [ac]	Area [ft2]
90.60	10.3560	451107
90.80	10.5950	461518
91.00	11.5370	502552
91.20	11.5400	502682
91.40	11.5420	502770
91.60	11.5430	502813
91.80	11.5440	502857
92.00	11.5440	502857
92.20	11.5450	502900
92.40	11.5450	502900
93.00	11.5450	502900

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Node: WPP9

Scenario: ProposedFinal
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 82.35 ft
Warning Stage: 86.00 ft

Stage [ft]	Area [ac]	Area [ft2]
81.70	0.0010	44
84.00	0.7120	31015
84.20	0.7370	32104
84.40	0.7620	33193
84.60	0.7860	34238
84.80	0.8100	35284
85.00	0.8320	36242
85.20	0.8540	37200
85.40	0.8800	38333
85.60	0.8960	39030
85.80	0.9130	39770
86.00	1.1100	48352
86.20	1.1370	49528
86.40	1.1680	50878
86.60	1.1920	51924
86.80	1.2170	53013
87.00	1.3910	60592
87.20	1.4370	62596
87.40	1.4850	64687
87.60	1.5270	66516
87.80	1.5740	68563
88.00	1.6330	71133
88.20	1.6980	73965
88.40	1.7530	76361
88.60	1.8040	78582
88.80	1.8560	80847
89.00	1.9060	83025
89.20	1.9480	84855

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Stage [ft]	Area [ac]	Area [ft2]
89.40	1.9940	86859
89.60	2.0390	88819
89.80	2.0780	90518
90.00	2.2830	99447
90.20	2.3730	103368
90.40	2.4560	106983
90.60	2.5320	110294
90.80	2.6060	113517
91.00	3.1470	137083
91.20	3.2550	141788
91.40	3.3540	146100
91.60	3.4540	150456
91.80	3.5430	154333
92.00	4.2250	184041
92.20	4.3370	188920
92.40	4.4390	193363
92.60	4.5450	197980
92.80	4.6430	202249
93.00	6.1910	269680
93.20	6.3700	277477
93.40	6.5300	284447
93.60	6.6720	290632
93.80	6.8040	296382
94.00	7.3130	318554
94.20	7.3180	318772
94.40	7.3230	318990
94.60	7.3270	319164
94.80	7.3300	319295
95.00	7.3710	321081

Comment: WINTER PINES GOLF COURSE

Stage/Area updated by SAI 1/30/13

Simulation: OC100y24

Scenario:	ProposedFinal
Run Date/Time:	9/1/2024 2:20:41 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	96.0000

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

Output Time Increments

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	6.0000	5.0000
0	0	0	15.0000	15.0000
0	0	0	24.0000	30.0000
0	0	0	36.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	36.0000	30.0000
0	0	0	72.0000	60.0000

Groundwater

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

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3
Reference ET Folder:
Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set: OC100-EXZ
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
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic
Dflt Damping (2D): 0.0050 ft
Min Node Srf Area 1 ft2

IA Recovery Time: 24.0000 hr
ET for Manual Basins: False
Smp/Man Basin Rain Opt: Global
OF Region Rain Opt: Global
Rainfall Name: ORANGE
Rainfall Amount: 10.60 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area 113 ft2

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

(2D):		(1D):	
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment: Little Econlockhatchee River Basin - Econ-Baldwin
100YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88
**Elevations are referenced to NAVD88

Little Econlockhatchee River Basin - Supplemental Model Revisions
100YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88

Simulation: OC10y24

Scenario: ProposedFinal
Run Date/Time: 9/1/2024 4:40:14 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	96.0000

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

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	6.0000	5.0000
0	0	0	15.0000	15.0000
0	0	0	24.0000	30.0000
0	0	0	36.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	36.0000	30.0000
0	0	0	72.0000	60.0000

Groundwater

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

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Restart File

Save Restart:	False

Resources & Lookup Tables

Resources

Rainfall Folder:	ICPR3
Reference ET Folder:	
Unit Hydrograph Folder:	ICPR3

Lookup Tables

Boundary Stage Set:	OC10-EXZ
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:	ORANGE
		Rainfall Amount:	7.50 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):	1 ft2	Min Node Srf Area (1D):	113 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment: Little Econlockhatchee River Basin - Econ-Baldwin
10YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88
**Elevations are referenced to NAVD88

Little Econlockhatchee River Basin - Supplemental Model Revisions
10YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88

Simulation: OC25y24

Scenario:	ProposedFinal
Run Date/Time:	9/1/2024 6:25:45 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	96.0000

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

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	6.0000	5.0000
0	0	0	15.0000	15.0000
0	0	0	24.0000	30.0000
0	0	0	36.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	36.0000	30.0000
0	0	0	72.0000	60.0000

Groundwater

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

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3
Reference ET Folder:
Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set: OC25-EXZ
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
Max Iterations: 6

IA Recovery Time: 24.0000 hr
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:	ORANGE
		Rainfall Amount:	8.60 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):	1 ft2	Min Node Srf Area (1D):	113 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment: Little Econlockhatchee River Basin - Econ-Baldwin
25YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88
**Elevations are referenced to NAVD88

Little Econlockhatchee River Basin - Supplemental Model Revisions
25YR-24HR EXISTING COND STORM (ORANGE)
Nov 2023 Conversion to NAVD88

Channel Cross Section: 207

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-102.08	88.98	0.0350
1	-84.14	83.00	0.0350
2	-78.14	83.00	0.0350
3	-45.00	94.05	0.0350
4	-30.00	95.55	0.0350

Comment: Station 207 Cross-Section - Proposed

Channel Cross Section: 208

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-88.13	86.18	0.0350
1	-77.78	82.72	0.0350
2	-71.78	82.72	0.0350
3	-43.69	92.08	0.0350
4	-28.69	93.58	0.0350

Comment: Station 208 Cross-Section - Proposed

Channel Cross Section: 209

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-73.90	85.68	0.0350
1	-64.19	82.44	0.0350
2	-58.19	82.44	0.0350
3	-35.13	90.13	0.0350
4	-20.13	91.63	0.0350

Comment: Station 209 Cross-Section - Proposed

Channel Cross Section: 210

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-66.67	85.63	0.0350
1	-56.26	82.16	0.0350
2	-50.26	82.16	0.0350
3	-29.70	89.01	0.0350
4	-14.70	90.51	0.0350

Comment: Station 210 Cross-Section - Proposed

Channel Cross Section: 211

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-68.41	85.81	0.0350
1	-56.62	81.88	0.0350
2	-50.62	81.88	0.0350
3	-28.00	89.42	0.0350
4	-13.00	90.92	0.0350

Comment: Station 211 Cross-Section - Proposed

Channel Cross Section: 212

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-73.71	86.62	0.0350
1	-58.66	81.60	0.0350
2	-52.66	81.60	0.0350
3	-28.00	89.82	0.0350
4	-13.00	91.32	0.0350

Comment: Station 212 Cross-Section - Proposed

Channel Cross Section: 213

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-76.51	86.59	0.0350
1	-60.70	81.32	0.0350
2	-54.70	81.32	0.0350
3	-28.00	90.22	0.0350
4	-13.00	91.72	0.0350

Comment: Station 213 Cross-Section - Proposed

Channel Cross Section: 214

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-74.43	85.50	0.0350
1	-61.06	81.04	0.0350
2	-55.06	81.04	0.0350
3	-28.00	90.06	0.0350
4	-13.00	91.56	0.0350

Comment: Station 214 Cross-Section - Proposed

Channel Cross Section: 215

Scenario: ProposedFinal
Lid: No

Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-76.10	85.81	0.0350
1	-61.00	80.76	0.0350
2	-55.00	80.76	0.0350
3	-28.00	89.76	0.0350
4	-13.00	91.26	0.0350

Comment: Station 215 Cross-Section - Proposed

Channel Cross Section: 216

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-78.77	86.43	0.0350
1	-60.94	80.48	0.0350
2	-54.94	80.48	0.0350
3	-28.00	89.46	0.0350
4	-13.00	90.96	0.0350

Comment: Station 216 Cross-Section - Proposed

Channel Cross Section: 217

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-78.44	85.46	0.0350
1	-62.68	80.20	0.0350
2	-56.68	80.20	0.0350
3	-28.00	89.76	0.0350
4	-13.00	91.26	0.0350

Comment: Station 217 Cross-Section - Proposed

Channel Cross Section: C4-1X

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-255.00	87.46	0.0450
1	-244.00	81.70	0.0450
2	-240.00	71.20	0.0450
3	-234.00	69.80	0.0450
4	-226.00	68.40	0.0450
5	-220.00	67.90	0.0450
6	-213.00	76.30	0.0450
7	-208.00	80.10	0.0450
8	-200.00	86.10	0.0450

Comment: pg 2124001-49

Channel Cross Section: C4-1XM

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-255.00	87.46	0.0450
1	-244.00	81.70	0.0450
2	-240.88	73.50	0.0450
3	-215.33	73.50	0.0450
4	-213.00	76.30	0.0450
5	-208.00	80.10	0.0450
6	-200.00	86.10	0.0450

Comment: pg 2124001-49 (PLUNGE POOL REMOVED)

Channel Cross Section: C4-2X

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-327.00	87.66	0.0450
1	-322.00	87.65	0.0450
2	-312.00	87.31	0.0450
3	-301.00	87.18	0.0450
4	-290.00	86.86	0.0450
5	-270.00	87.00	0.0450
6	-251.00	87.60	0.0450
7	-250.00	86.34	0.0450
8	-244.00	83.80	0.0450
9	-238.00	78.60	0.0450
10	-225.00	78.00	0.0450
11	-216.00	78.50	0.0450
12	-213.00	81.40	0.0450
13	-207.00	83.20	0.0450

Order	Station [ft]	Elevation [ft]	Manning's N
14	-200.00	86.40	0.0450

Comment: PG 2124001-48

Channel Cross Section: C4-3X

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	200.00	88.90	0.0450
1	209.00	84.20	0.0450
2	213.00	80.50	0.0450
3	219.00	78.00	0.0450
4	222.00	76.70	0.0450
5	234.00	79.30	0.0450
6	238.00	80.10	0.0450
7	244.00	80.90	0.0450
8	254.00	86.60	0.0450

Comment: 2124001-47

Channel Cross Section: C4-4X

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	200.00	94.00	0.0450
1	208.00	88.80	0.0450
2	214.00	82.50	0.0450
3	216.00	79.70	0.0450
4	222.00	78.60	0.0450
5	226.00	78.90	0.0450
6	229.00	82.00	0.0450
7	236.00	84.30	0.0450
8	247.00	89.10	0.0450
9	258.00	89.70	0.0450
10	297.00	90.60	0.0450
11	347.00	90.80	0.0450

Comment: pg 2124001-46

Channel Cross Section: C4-5X

Scenario: ProposedFinal

Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	200.00	90.90	0.0450
1	207.00	86.40	0.0450
2	213.00	80.80	0.0450
3	225.00	80.60	0.0450
4	233.00	79.90	0.0450
5	236.00	80.10	0.0450
6	240.00	82.00	0.0450
7	246.00	84.40	0.0450
8	287.00	85.50	0.0450
9	309.00	89.90	0.0450
10	330.00	90.10	0.0450

Comment: PG 2124001-45

Channel Cross Section: C4-6X

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	-338.00	90.70	0.0450
1	-288.00	90.50	0.0450
2	-248.00	90.50	0.0450
3	-238.00	88.80	0.0450
4	-222.00	82.40	0.0450
5	-217.00	80.50	0.0450
6	-211.00	80.10	0.0450
7	-204.00	80.50	0.0450
8	-202.00	82.20	0.0450
9	-193.00	83.50	0.0450
10	-175.00	86.40	0.0450
11	-130.00	90.90	0.0450
12	-125.50	91.15	0.0450

Comment: PG 2124001-44

Channel Cross Section: C4-NEW

Scenario: ProposedFinal
Lid: No
Conveyance Method: ICPRv3

Bottom Point Table

Order	Station [ft]	Elevation [ft]	Manning's N
0	0.00	88.00	0.0450
1	20.00	78.00	0.0450

Order	Station [ft]	Elevation [ft]	Manning's N
2	50.00	78.00	0.0450
3	70.00	88.00	0.0450

Comment:

Weir Cross Section: LC00065W-W

Scenario: ProposedFinal
Lid: No

Bottom Point Table

Order	Station [ft]	Elevation [ft]
0	0.00	89.10
1	23.00	89.00
2	398.00	88.00
3	425.00	87.00
4	489.00	86.00
5	577.00	85.30
6	754.00	86.00
7	910.00	86.00
8	1084.00	86.00
9	1176.00	87.00
10	1306.00	88.00
11	1452.00	89.00
12	1487.00	90.00
13	1511.00	90.20

Comment: CROSS SECTION TAKEN FROM CONTOURS (NAVD88)

Channel Link: 207

		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	83.00 ft	Invert:	82.72 ft
From Node:	BP207	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP208	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	207	Cross Section:	208
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 208

		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	82.72 ft	Invert:	82.44 ft

		Upstream		Downstream	
From Node:	BP208	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP209	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	208	Cross Section:	209
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 209		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	82.44 ft	Invert:	82.16 ft
From Node:	BP209	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP210	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	209	Cross Section:	210
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 210		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	82.16 ft	Invert:	81.88 ft
From Node:	BP210	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP211	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	210	Cross Section:	211
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 211		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	81.88 ft	Invert:	81.60 ft
From Node:	BP211	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP212	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	211	Cross Section:	212
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 212		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	81.60 ft	Invert:	81.32 ft
From Node:	BP212	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP213	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	212	Cross Section:	213
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 213		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	81.32 ft	Invert:	81.04 ft
From Node:	BP213	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP214	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	213	Cross Section:	214
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Input Data
9/17/2024

Channel Link: 214		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	81.04 ft	Invert:	80.76 ft
From Node:	BP214	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP215	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	214	Cross Section:	215
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 215		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	80.76 ft	Invert:	80.48 ft
From Node:	BP215	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP216	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	215	Cross Section:	216
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 216		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	80.48 ft	Invert:	80.20 ft
From Node:	BP216	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP217	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	216	Cross Section:	217
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: 217		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	80.20 ft	Invert:	79.31 ft
From Node:	BP217	Manning's N:	0.0000	Manning's N:	0.0000
To Node:	BP218	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	217	Cross Section:	217
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	100.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: LAKE CORRINE OUTFALL CANAL

Channel Link: LC00030		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	83.60 ft	Invert:	83.11 ft
From Node:	LC00030	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00030A	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C3-1X	Cross Section:	C3-1X
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	603.73 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: OFFSITE OUTFALL DITCH FROM PROPERY LINE NORTH

Channel Link: LC00050		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	80.10 ft	Invert:	80.00 ft
From Node:	LC00050	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00050A	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-NEW	Cross Section:	C4-NEW
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	402.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: Regrading of existing Lake Corrine Outfall Canal between SR 436 and Forsyth Road

Channel Link: LC00050B		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	79.20 ft	Invert:	79.20 ft
From Node:	LC00050B	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00055	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-NEW	Cross Section:	C4-NEW
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	542.00 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Diff Wave				

Comment: Regrading of existing Lake Corrine Outfall Canal between SR 436 and Forsyth Road

Channel Link: LC00055		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	79.90 ft	Invert:	78.90 ft
From Node:	LC00055	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00060	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-NEW	Cross Section:	C4-NEW
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1201.06 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: Regrading of existing Lake Corrine Outfall Canal between SR 436 and Forsyth Road

Channel Link: LC00060		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	78.90 ft	Invert:	78.60 ft
From Node:	LC00060	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00065	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-NEW	Cross Section:	C4-NEW
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1599.59 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: Regrading of existing Lake Corrine Outfall Canal between SR 436 and Forsyth Road

Channel Link: LC00065		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	77.50 ft	Invert:	77.65 ft
From Node:	LC00065	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00070	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-NEW	Cross Section:	C4-NEW
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	1272.04 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment: Regrading of existing Lake Corrine Outfall Canal between SR 436 and Forsyth Road

Channel Link: LC00075		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	73.50 ft	Invert:	72.10 ft
From Node:	LC00075	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00080	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-1XM	Cross Section:	C4-1XM
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	570.73 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: LC00080		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	72.10 ft	Invert:	70.50 ft
From Node:	LC00080	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00085	Geometry:	Irregular	Geometry:	Irregular
Link Count:	1	Cross Section:	C4-1XM	Cross Section:	C4-1XM
Flow Direction:	Both				
Damping:	0.0000 ft				
Length:	653.57 ft				
Contraction Coef:	0.10				
Expansion Coef:	0.30				
Entr Loss Coef:	0.00				
Exit Loss Coef:	0.00				
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Comment:

Channel Link: LC00090		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	56.90 ft	Invert:	53.11 ft
From Node:	LC00090	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00095	Geometry:	Trapezoidal	Geometry:	Trapezoidal
Link Count:	1	Max Depth:	941.10 ft	Max Depth:	944.89 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	20.00 ft	Bottom Width:	20.00 ft
Length:	582.00 ft	Left Slope:	2.000 (h:v)	Left Slope:	2.000 (h:v)
Contraction Coef:	0.10	Right Slope:	1.500 (h:v)	Right Slope:	1.500 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0450	Manning's N:	0.0450
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0450	Manning's N:	0.0450

Comment: ASSUMED XSEC FROM TOPO

Channel Link: LC00095		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	53.11 ft	Invert:	53.70 ft
From Node:	LC00095	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	LC00100	Geometry:	Trapezoidal	Geometry:	Trapezoidal
Link Count:	1	Max Depth:	944.89 ft	Max Depth:	944.30 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	20.00 ft	Bottom Width:	20.00 ft
Length:	360.66 ft	Left Slope:	1.500 (h:v)	Left Slope:	1.500 (h:v)
Contraction Coef:	0.10	Right Slope:	1.500 (h:v)	Right Slope:	1.500 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0450	Manning's N:	0.0450
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0450	Manning's N:	0.0450

Comment: ASSUMED XSEC FROM TOPO

Channel Link: WPP3		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	80.80 ft	Invert:	79.68 ft
From Node:	WPP3	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	B-11	Geometry:	Trapezoidal	Geometry:	Trapezoidal
Link Count:	1	Max Depth:	999.00 ft	Max Depth:	999.00 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	6.00 ft	Bottom Width:	6.00 ft
Length:	95.00 ft	Left Slope:	2.000 (h:v)	Left Slope:	2.000 (h:v)
Contraction Coef:	0.10	Right Slope:	2.000 (h:v)	Right Slope:	2.000 (h:v)

Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0450	Manning's N:	0.0450
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0450	Manning's N:	0.0450

Comment: WINTER PINES GOLF COURSE CANAL

Channel Link: WPP4		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	81.40 ft	Invert:	79.97 ft
From Node:	WPP4	Manning's N:	0.0450	Manning's N:	0.0450
To Node:	BP217	Geometry: Trapezoidal		Geometry: Trapezoidal	
Link Count:	1	Max Depth:	916.60 ft	Max Depth:	918.03 ft
Flow Direction:	Both	Extrapolation:	Normal	Extrapolation:	Normal
Damping:	0.0000 ft	Bottom Width:	6.00 ft	Bottom Width:	6.00 ft
Length:	115.00 ft	Left Slope:	2.000 (h:v)	Left Slope:	2.000 (h:v)
Contraction Coef:	0.10	Right Slope:	2.000 (h:v)	Right Slope:	2.000 (h:v)
Expansion Coef:	0.30	Bottom Clip			
Entr Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:		Op Table:	
Bend Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0450	Manning's N:	0.0450
Energy Switch:	Energy	Top Clip			
		Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0450	Manning's N:	0.0450

Comment: WINTER PINES GOLF COURSE CANAL

Pipe Link: 218		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	79.31 ft	Invert:	79.13 ft
From Node:	BP218	Manning's N:	0.0110	Manning's N:	0.0110
To Node:	BP220	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	8.00 ft	Max Depth:	8.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	171.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0110	Manning's N:	0.0110
Exit Loss Coef:	1.00	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:	0.0110	Manning's N:	0.0110

Comment: Existing 96" RCP from Baldwin Park Lane Improvements, updated info from DRMP Survey (4/8/24), deleted Node 219 and Pipe BP219 from model

Pipe Link: B-11		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	80.94 ft	Invert:	80.76 ft
From Node:	B-11	Manning's N:	0.0110	Manning's N:	0.0110
To Node:	BP220	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	20.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0110	Manning's N:	0.0110
Exit Loss Coef:	1.00	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:	0.0110	Manning's N:	0.0110

Comment: WINTER PINES GOLF COURSE HEADWALL 54" RCP, updated info from DRMP Survey (4/8/24)

Pipe Link: LC00030A		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	83.11 ft	Invert:	83.00 ft
From Node:	LC00030A	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	BP207	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:	114.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0120	Manning's N:	0.0120
Exit Loss Coef:	1.00	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:	0.0120	Manning's N:	0.0120

Comment: PROPOSED 36" RCP

Pipe Link: LC00031		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	86.50 ft	Invert:	87.00 ft
From Node:	BALDWIN	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	CS-BALD	Geometry: Circular		Geometry: Circular	
Link Count:	3	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:	140.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0130	Manning's N:	0.0130
Exit Loss Coef:	1.00	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:	0.0130	Manning's N:	0.0130

Comment:

Pipe Link: LC00045		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	79.31 ft	Invert:	79.00 ft
From Node:	BP220	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00050	Geometry: Rectangular		Geometry: Rectangular	
Link Count:	1	Max Depth:	9.00 ft	Max Depth:	9.00 ft
Flow Direction:	Both	Max Width:	11.50 ft	Max Width:	11.50 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	186.00 ft	Bottom Clip			
FHWA Code:	11	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.70	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0130	Manning's N:	0.0130
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0130	Manning's N:	0.0130

Comment: BOX CULVERT AT SR 436 - EXTENDED 34', updated survey from DRMP (4/08/24)

Pipe Link: LC00050A1		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	80.98 ft	Invert:	80.40 ft
From Node:	LC00050A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00050B	Geometry: Rectangular		Geometry: Rectangular	
Link Count:	1	Max Depth:	8.00 ft	Max Depth:	8.00 ft
Flow Direction:	Both	Max Width:	6.90 ft	Max Width:	6.90 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	55.00 ft	Bottom Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: North Cell of Double Cell Box Culvert under entrance to Walmart Neighborhood Market from Auvers Blvd, updated survey from DRMP (04/08/24)

Pipe Link: LC00050A2		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	80.87 ft	Invert:	80.41 ft
From Node:	LC00050A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00050B	Geometry: Rectangular		Geometry: Rectangular	
Link Count:	1	Max Depth:	8.00 ft	Max Depth:	8.00 ft
Flow Direction:	Both	Max Width:	6.90 ft	Max Width:	6.90 ft
Damping:	0.0000 ft	Fillet:	0.00 ft	Fillet:	0.00 ft
Length:	55.00 ft	Bottom Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000

Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment: South Cell of Double Cell Box Culvert under entrance to Walmart Neighborhood Market from Auvers Blvd, updated survey from DRMP (04/08/24)

Pipe Link: LC00070A_N		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	77.25 ft	Invert:	76.67 ft
From Node:	LC00070A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00070B_N	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	17.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	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: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00070A_S		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	77.20 ft	Invert:	76.84 ft
From Node:	LC00070A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00070B_S	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	20.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	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: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00070B_N		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	73.76 ft	Invert:	73.38 ft
From Node:	LC00070B_N	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00075	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			

Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	106.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.50	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: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00070B_S		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	73.78 ft	Invert:	73.48 ft
From Node:	LC00070B_S	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00075	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	4.50 ft	Max Depth:	4.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	103.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.50	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: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00085A_N		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	70.66 ft	Invert:	68.88 ft
From Node:	LC00085	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00087A	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:	102.00 ft	Op Table:		Op Table:	
FHWA Code:	2	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0240	Manning's N:	0.0240
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:	0.0240	Manning's N:	0.0240

Comment: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00085A_S		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	70.74 ft	Invert:	69.14 ft
From Node:	LC00085	Manning's N:	0.0130	Manning's N:	0.0130

To Node:	LC00087B	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:	104.00 ft	Op Table:		Op Table:	
FHWA Code:	2	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0240	Manning's N:	0.0240
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:	0.0240	Manning's N:	0.0240

Comment: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00087_N		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	58.03 ft	Invert:	57.76 ft
From Node:	LC00087A	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00090	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:	75.00 ft	Op Table:		Op Table:	
FHWA Code:	7	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0240	Manning's N:	0.0240
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:	0.0240	Manning's N:	0.0240

Comment: Update using GIS info from OCPW (1/2024)

Pipe Link: LC00087_S		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	58.28 ft	Invert:	57.48 ft
From Node:	LC00087B	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00090	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:	82.00 ft	Op Table:		Op Table:	
FHWA Code:	7	Ref Node:		Ref Node:	
Entr Loss Coef:	0.20	Manning's N:	0.0240	Manning's N:	0.0240
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:	0.0240	Manning's N:	0.0240

Comment: Update using GIS info from OCPW (1/2024)

Pipe Link: WPP1		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	82.05 ft	Invert:	81.40 ft
From Node:	WPP1	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	WPP4	Geometry: Horizontal Ellipse		Geometry: Horizontal Ellipse	
Link Count:	1	Max Depth:	4.83 ft	Max Depth:	4.83 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	65.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0250	Manning's N:	0.0250
Exit Loss Coef:	1.00	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:	0.0250	Manning's N:	0.0250

Comment: WINTER PINES GOLF COURSE EXISTING 60" CMP Revised to 72" elliptical equivalent RCP

Pipe Link: WPP9		Upstream		Downstream	
Scenario:	ProposedFinal	Invert:	79.73 ft	Invert:	79.27 ft
From Node:	WPP9	Manning's N:	0.0250	Manning's N:	0.0250
To Node:	WPP4	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:	30.00 ft	Op Table:		Op Table:	
FHWA Code:	1	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0250	Manning's N:	0.0250
Exit Loss Coef:	1.00	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:	0.0250	Manning's N:	0.0250

Comment: WINTER PINES GOLF COURSE EXISTING 18" CMP

Weir Link: LC00065W			
Scenario:	ProposedFinal	Bottom Clip	
From Node:	LC00065	Default:	0.00 ft
To Node:	LC12200	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Irregular	Ref Node:	
Invert:	86.30 ft	Discharge Coefficients	
Control Elevation:	86.30 ft	Weir Default:	2.800
Cross Section:	LC00065W-W	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Comment: WEIR INVERT TAKEN FROM CONTOURS

Weir Link: LC00070B			
Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	LC00070	Default:	0.00 ft
To Node:	LC00075	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	86.00 ft	**Discharge Coefficients**	
Control Elevation:	86.00 ft	Weir Default:	2.800
Max Depth:	99.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	0.00 ft	Orifice Table:	
Left Slope:	217.400 (h:v)		
Right Slope:	333.300 (h:v)		
Comment: OVERFLOW FORSYTH 180'+/- SOUTH OF XING			

Weir Link: LC00070_W			
Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	LC00070	Default:	0.00 ft
To Node:	LC00070A	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	81.88 ft	**Discharge Coefficients**	
Control Elevation:	81.88 ft	Weir Default:	3.000
Max Depth:	999.00 ft	Weir Table:	
Max Width:	47.50 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	
Comment:			

Weir Link: LC00085B			
Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	LC00085	Default:	0.00 ft
To Node:	LC00090	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Parabolic	Ref Node:	
Invert:	77.80 ft	**Discharge Coefficients**	
Control Elevation:	77.80 ft	Weir Default:	2.800
Max Depth:	99.00 ft	Weir Table:	
Max Width:	1557.40 ft	Orifice Default:	0.600
Extrapolation Method:	Normal Projection	Orifice Table:	
Comment: OVERFLOW DORIS/PARTRIDGE (SEE C5-4S)			

Weir Link: WMW-1

Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	WMPond-1	Default:	0.00 ft
To Node:	LC00055	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	88.50 ft	**Discharge Coefficients**	
Control Elevation:	88.50 ft	Weir Default:	2.800
Max Depth:	1.50 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	20.00 ft	Orifice Table:	
Left Slope:	4.000 (h:v)		
Right Slope:	4.000 (h:v)		

Comment:

Weir Link: WPP2

Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	WPP2	Default:	0.00 ft
To Node:	WPP3	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	82.00 ft	**Discharge Coefficients**	
Control Elevation:	82.00 ft	Weir Default:	3.200
Max Depth:	999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	6.00 ft	Orifice Table:	
Left Slope:	2.000 (h:v)		
Right Slope:	2.000 (h:v)		

Comment: WINTER PINES GOLF COURSE EXISTING WEIR

2013_0107 - Weir Type revised to reflect Vertical: Mavis Equation

Weir Link: WPP2A

Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	WPP2	Default:	0.00 ft
To Node:	WPP3	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	81.80 ft	**Discharge Coefficients**	
Control Elevation:	81.80 ft	Weir Default:	3.200
Max Depth:	0.20 ft	Weir Table:	
Max Width:	3.00 ft	Orifice Default:	0.600

Fillet:	0.00 ft		
		Orifice Table:	

Comment: WINTER PINES GOLF COURSE EXISTING WEIR

Weir Link: WPP9_W

Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	WPP9	Default:	0.00 ft
To Node:	BP217	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	87.00 ft	**Discharge Coefficients**	
Control Elevation:	87.00 ft	Weir Default:	2.600
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	50.00 ft	Orifice Table:	
Left Slope:	0.000 (h:v)		
Right Slope:	0.000 (h:v)		

Comment:

Weir Link: WPP9_W2

Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	WPP9	Default:	0.00 ft
To Node:	BP208	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Trapezoidal	Ref Node:	
Invert:	86.00 ft	**Discharge Coefficients**	
Control Elevation:	86.00 ft	Weir Default:	2.600
Max Depth:	9999.00 ft	Weir Table:	
Extrapolation Method:	Normal Projection	Orifice Default:	0.600
Bottom Width:	50.00 ft	Orifice Table:	
Left Slope:	0.000 (h:v)		
Right Slope:	0.000 (h:v)		

Comment:

Weir Link: WPP9_W3

Scenario:	ProposedFinal	**Bottom Clip**	
From Node:	WPP9	Default:	0.00 ft
To Node:	BP210	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	

Geometry Type:	Trapezoidal		
Invert:	86.50 ft	Ref Node:	
Control Elevation:	86.50 ft	**Discharge Coefficients**	
Max Depth:	9999.00 ft	Weir Default:	2.600
Extrapolation Method:	Normal Projection	Weir Table:	
Bottom Width:	50.00 ft	Orifice Default:	0.600
Left Slope:	0.000 (h:v)	Orifice Table:	
Right Slope:	0.000 (h:v)		

Comment:

Drop Structure Link: LC00084DS		Upstream Pipe		Downstream Pipe	
Scenario:	ProposedFinal	Invert:	72.50 ft	Invert:	72.00 ft
From Node:	LC00084	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	LC00085	**Geometry: Circular**		**Geometry: Circular**	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	**Bottom Clip**			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	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:	80.00 ft	**Top Clip**			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.50	Op Table:		Op Table:	
Exit Loss Coef:	1.00	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:	Circular	Default:	0.00 ft
Invert:	73.00 ft	Op Table:	
Control Elevation:	73.00 ft	Ref Node:	
Max Depth:	0.40 ft	**Discharge Coefficients**	
		Weir Default:	3.000
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component			
Weir:	2	**Bottom Clip**	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Sharp Crested Vertical	**Top Clip**	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	74.57 ft	Op Table:	

Control Elevation:	74.57 ft		
Max Depth:	2.43 ft	Ref Node:	
Max Width:	1.00 ft	**Discharge Coefficients**	
Fillet:	0.00 ft	Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component

Weir:	3	**Bottom Clip**	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	**Top Clip**	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	77.00 ft	Op Table:	
Control Elevation:	77.00 ft	Ref Node:	
Max Depth:	3.08 ft	**Discharge Coefficients**	
Max Width:	4.08 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment: Pond 4 Outfall Structure from Forsyth Road Improvements, SJRWMD Permit #20839-3, Drainage Report dated March 2002, elevations converted to NAVD88 (-1 ft)

Drop Structure Link: WMCS-1		Upstream Pipe		Downstream Pipe	
Scenario:	ProposedFinal	Invert:	83.50 ft	Invert:	81.00 ft
From Node:	WMPond-1	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	LC00055	**Geometry: Circular**		**Geometry: Circular**	
Link Count:	1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	**Bottom Clip**			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	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:	203.00 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:	1.00	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
Invert: 84.65 ft
Control Elevation: 84.65 ft
Max Depth: 3.78 ft
Max Width: 0.58 ft
Fillet: 0.00 ft

Default: 0.00 ft
Op Table:
Ref Node:

Discharge Coefficients

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

Weir Comment:

Weir Component

Weir: 2
Weir Count: 1
Weir Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Horizontal
Geometry Type: Circular
Invert: 83.70 ft
Control Elevation: 83.70 ft
Max Depth: 0.29 ft

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:

Top Clip

Default: 0.00 ft
Op Table:
Ref Node:

Discharge Coefficients

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

Weir Comment:

Weir Component

Weir: 3
Weir Count: 1
Weir Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Horizontal
Geometry Type: Rectangular
Invert: 88.43 ft
Control Elevation: 88.46 ft
Max Depth: 4.08 ft
Max Width: 3.08 ft
Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:

Top Clip

Default: 0.00 ft
Op Table:
Ref Node:

Discharge Coefficients

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

Weir Comment:

Weir Component

Weir: 4
Weir Count: 2
Weir Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Sharp Crested Vertical
Geometry Type: Rectangular
Invert: 86.03 ft
Control Elevation: 86.03 ft
Max Depth: 2.40 ft
Max Width: 3.00 ft
Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:

Top Clip

Default: 0.00 ft
Op Table:
Ref Node:

Discharge Coefficients

Weir Default: 3.200
Weir Table:
Orifice Default: 0.600

Orifice Table:

Weir Comment:

Drop Structure Comment:

Node Maximum Conditions

25 Year/24 Hour Storm

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition

Node Maximum Conditions - 25 Year/24 Hour Storm

9/17/2024

Node Max Conditions w/ Times [ProposedFinal]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
B-11	OC25y24	82.30	87.64	0.0406	45.96	70.29	1831	13.7938	0.0001	0.0000	8.5877
BALDWIN	OC25y24	95.00	92.40	-0.0150	1091.58	322.43	8999913	20.3990	0.0005	9.0668	0.0000
BP207	OC25y24	88.98	88.19	0.0003	147.31	148.52	35783	14.0249	0.4161	20.0720	18.6603
BP208	OC25y24	86.18	88.17	0.0007	148.52	149.02	12042	14.0290	0.5196	18.6603	18.6694
BP209	OC25y24	85.68	88.16	0.0006	146.44	148.04	33335	14.0218	0.5218	25.3703	25.3716
BP210	OC25y24	85.63	88.16	0.0002	151.54	152.09	12159	14.0077	0.5305	22.5047	22.5030
BP211	OC25y24	85.81	88.15	0.0002	152.09	152.66	12394	14.0074	8.7689	22.5030	22.5621
BP212	OC25y24	86.62	88.15	0.0002	152.90	153.52	26512	14.0077	8.7689	22.7616	22.5011
BP213	OC25y24	86.59	88.14	0.0010	153.52	153.71	4186	13.9877	12.2231	22.5011	22.4847
BP214	OC25y24	85.50	88.14	0.0007	153.92	161.23	50745	14.0221	0.3177	22.7486	14.4220
BP215	OC25y24	85.80	88.13	-0.0009	161.23	190.78	13045	14.0223	14.3479	14.4220	14.5029
BP216	OC25y24	86.43	88.13	0.0009	190.78	189.08	13329	14.0091	12.0898	14.5029	14.2109
BP217	OC25y24	85.46	88.13	0.0010	317.08	339.05	15456	14.0223	12.3244	13.6055	14.3519
BP218	OC25y24	85.46	88.12	-0.0009	339.05	219.47	11288	14.0446	14.3479	14.3519	14.7611
BP220	OC25y24	94.00	87.62	0.0021	297.23	296.52	7892	13.7453	0.0001	14.3306	14.2228
CS-BALD	OC25y24	89.00	91.47	0.0640	146.03	146.03	864	20.6242	0.0001	20.2433	20.2454
LC00030	OC25y24	91.30	88.19	-0.0002	12.16	9.10	14762	14.0530	0.0001	9.0333	8.8187
LC00030A	OC25y24	86.00	88.19	0.0003	9.10	7.48	9356	14.0268	0.5196	8.8187	8.4092
LC00050	OC25y24	90.70	87.34	-0.0013	336.56	336.84	12931	13.6315	0.0001	13.4225	13.5202
LC00050A	OC25y24	90.70	87.30	-0.0005	336.84	336.51	12264	13.6346	0.0018	13.5202	13.5149
LC00050B	OC25y24	90.70	87.10	-0.0005	336.51	336.59	17050	13.6932	0.0001	13.5149	13.4584
LC00055	OC25y24	90.10	87.05	0.0002	426.17	426.07	52697	13.6901	8.7689	13.8101	13.7516
LC00060	OC25y24	89.50	86.87	0.0002	433.92	433.93	86190	13.6480	8.7674	13.5861	13.7095
LC00065	OC25y24	86.60	86.66	0.0002	507.78	502.66	1341711	13.6104	8.7674	13.0614	13.6367
LC00070	OC25y24	86.80	86.54	0.0002	475.41	475.33	41858	13.5776	8.7689	13.5548	13.5776
LC00070A	OC25y24	86.80	86.32	0.0228	358.62	358.58	343	13.5783	0.0001	10.9858	10.9864
LC00070B_N	OC25y24	86.80	83.48	-0.0224	179.29	179.28	271	13.6730	0.0005	10.9864	10.9858
LC00070B_S	OC25y24	86.80	83.45	-0.0210	179.29	179.28	271	13.6615	0.0001	10.9864	10.9858
LC00075	OC25y24	85.50	79.04	0.0027	475.61	475.58	9700	13.6813	0.0001	13.5777	13.5817
LC00080	OC25y24	83.00	78.51	0.0003	476.01	475.92	21534	13.7059	8.7548	13.5817	13.6152
LC00084	OC25y24	78.00	78.24	0.0002	32.68	8.30	98010	14.1472	8.7689	9.0000	10.8576
LC00085	OC25y24	78.00	78.16	-0.0038	480.18	480.16	11991	13.7632	0.0001	13.7259	13.7632
LC00087A	OC25y24	78.24	68.58	0.0030	225.21	225.20	426	14.1317	8.6257	13.7631	13.7638
LC00087B	OC25y24	78.24	68.61	0.0029	222.70	222.69	448	14.1376	27.5519	13.7631	13.7638
LC00090	OC25y24	77.00	67.61	0.0005	484.98	483.73	17691	14.1433	8.7674	13.7263	14.0692
LC00095	OC25y24	73.50	67.58	0.0005	486.25	488.78	30950	14.1412	8.7689	13.9059	14.0690

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Node Maximum Conditions - 25 Year/24 Hour Storm
9/17/2024

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
LC00100	OC25y24	70.47	67.56	0.0007	490.48	486.63	11196	14.1419	8.5416	14.0690	14.1408
LC00105	OC25y24	70.47	61.26	0.0008	486.86	486.96	10621	13.7967	29.0545	14.1288	14.1574
LC00110	OC25y24	69.00	64.39	0.0001	319.51	318.32	69533	9.8963	8.9326	9.6736	9.7759
LC00115	OC25y24	68.47	60.31	0.0002	703.88	703.75	20891	10.1822	8.3555	10.1513	10.1724
LC00117	OC25y24	68.50	67.14	0.0004	34.83	24.40	29185	10.0604	8.3545	9.0167	10.0603
LC00120	OC25y24	68.00	59.67	0.0002	731.55	731.49	7624	10.1800	8.3548	10.1517	10.1573
LC00123	OC25y24	62.40	58.99	0.0024	731.49	731.37	9335	10.2124	25.7985	10.1573	10.1655
LC00125	OC25y24	59.10	58.68	-0.0006	739.33	737.96	79330	10.2256	25.7985	10.1311	10.1893
LC00130	OC25y24	57.75	57.21	0.0002	860.74	856.64	70838	10.3347	8.2062	10.1221	10.1780
WMPond-1	OC25y24	90.00	87.11	0.0001	21.60	4.27	97596	14.0455	8.7674	9.0000	10.0089
WPP1	OC25y24	86.70	88.27	0.0003	178.73	136.21	218942	13.5029	8.7674	9.8333	10.4540
WPP2	OC25y24	86.00	87.64	0.0003	20.01	6.06	72433	13.7963	8.7674	8.7590	0.0075
WPP3	OC25y24	86.00	87.64	-0.0021	38.24	45.96	201044	13.7939	0.0002	9.0500	0.0000
WPP4	OC25y24	81.60	88.13	0.0018	150.02	101.08	320835	14.0014	0.0001	10.3884	12.0495
WPP9	OC25y24	86.00	88.15	-0.0003	35.32	35.91	73304	14.0292	0.2061	9.6223	18.6587

100 Year/24 Hour Storm

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition

Node Maximum Conditions - 100 Year/24 Hour Storm

9/17/2024

Node Max Conditions w/ Times [ProposedFinal]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
B-11	OC100y24	82.30	88.28	0.0406	45.96	71.51	1954	13.6578	0.0001	0.0000	8.1534
BALDWIN	OC100y24	95.00	93.13	-0.0150	1473.60	322.43	9617508	21.0305	0.0005	9.0543	0.0000
BP207	OC100y24	88.98	89.06	0.0003	172.62	174.33	40922	14.0718	9.1827	20.0947	18.6462
BP208	OC100y24	86.18	89.04	0.0006	174.33	175.00	12330	14.0608	0.5235	18.6462	18.6452
BP209	OC100y24	85.68	89.04	0.0005	165.13	166.47	35074	14.0743	0.5282	29.8822	29.8751
BP210	OC100y24	85.63	89.03	0.0003	172.62	173.22	12443	14.0733	10.5194	26.9828	26.9916
BP211	OC100y24	85.81	89.03	0.0004	173.22	173.87	12672	14.0635	9.9997	26.9916	27.0058
BP212	OC100y24	86.62	89.03	0.0004	173.87	189.31	30493	14.0727	9.1833	27.0058	15.0939
BP213	OC100y24	86.59	89.02	0.0012	189.31	188.93	521255	14.0183	15.0754	15.0939	15.1300
BP214	OC100y24	85.50	89.02	0.0007	189.69	214.46	53417	14.0196	0.3176	15.1300	15.4820
BP215	OC100y24	85.80	89.02	0.0010	214.46	249.50	13310	14.0328	14.2233	15.4820	15.5604
BP216	OC100y24	86.43	89.01	0.0011	249.50	245.31	13593	14.0083	15.0422	15.5604	14.3968
BP217	OC100y24	85.46	89.01	-0.0014	412.29	433.24	15923	13.9998	15.0422	14.3968	14.3967
BP218	OC100y24	85.46	89.01	0.0010	433.24	270.63	11291	14.0288	10.4814	14.3967	14.7528
BP220	OC100y24	94.00	88.26	0.0021	370.86	370.47	8071	13.4841	0.0001	14.4016	14.3471
CS-BALD	OC100y24	89.00	91.87	0.0640	170.89	170.89	864	20.8820	0.0001	20.8932	20.8821
LC00030	OC100y24	91.30	89.06	0.0003	15.42	11.95	16113	14.0944	9.6107	9.0333	9.0764
LC00030A	OC100y24	86.00	89.06	0.0003	11.95	9.95	9970	14.0807	0.5148	9.0764	9.1036
LC00050	OC100y24	90.70	87.88	-0.0013	422.23	438.47	13359	13.2685	0.0001	13.5518	13.5508
LC00050A	OC100y24	90.70	87.83	-0.0005	438.47	421.94	12688	13.2712	0.0018	13.5508	13.3165
LC00050B	OC100y24	90.70	87.53	-0.0005	421.94	422.15	17521	13.2679	0.0001	13.3165	13.3115
LC00055	OC100y24	90.10	87.48	0.0002	573.85	573.74	53753	13.2320	9.1827	13.4441	13.5318
LC00060	OC100y24	89.50	87.20	0.0002	585.04	585.13	88012	13.1930	9.1827	13.1764	13.2290
LC00065	OC100y24	86.60	86.87	0.0002	683.60	682.24	1509970	13.1144	9.1827	12.5897	13.2243
LC00070	OC100y24	86.80	86.70	0.0002	587.35	587.31	42296	13.0334	9.1827	13.0678	13.0334
LC00070A	OC100y24	86.80	86.50	0.0228	358.23	358.24	343	13.0353	0.0001	23.7567	23.7566
LC00070B_N	OC100y24	86.80	83.79	-0.0224	179.08	179.07	271	13.0351	0.0005	9.9730	23.5706
LC00070B_S	OC100y24	86.80	83.77	-0.0210	179.23	179.23	271	12.8717	0.0001	23.9203	23.9195
LC00075	OC100y24	85.50	79.58	0.0027	587.80	587.79	9947	13.0370	0.0001	13.0328	13.0366
LC00080	OC100y24	83.00	78.96	0.0004	588.52	588.50	21995	13.0530	10.4662	13.0366	13.0496
LC00084	OC100y24	78.00	78.75	0.0002	37.94	10.77	98010	13.3061	8.3389	8.6588	9.9460
LC00085	OC100y24	78.00	78.51	-0.0038	597.03	597.02	12201	13.0755	0.0001	13.0752	13.0755
LC00087A	OC100y24	78.24	71.91	0.0030	235.30	235.33	426	13.0615	8.1936	13.0733	13.0617
LC00087B	OC100y24	78.24	71.95	0.0029	232.90	232.91	448	13.0715	31.4651	13.0756	13.0686
LC00090	OC100y24	77.00	70.85	0.0005	605.75	614.70	21000	13.0677	11.2544	13.0617	12.9146
LC00095	OC100y24	73.50	70.84	0.0005	619.41	614.59	36030	13.0845	11.2544	12.9146	12.9711

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition
Node Maximum Conditions - 100 Year/24 Hour Storm
9/17/2024

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
LC00100	OC100y24	70.47	70.83	-0.0008	617.88	613.49	12961	13.0947	33.3831	12.9711	13.0948
LC00105	OC100y24	70.47	62.17	0.0009	613.95	614.00	11477	12.8664	33.3832	13.0948	13.1010
LC00110	OC100y24	69.00	64.81	0.0002	397.65	394.78	77736	9.5308	8.4427	9.3172	9.4825
LC00115	OC100y24	68.47	61.03	0.0003	835.11	835.04	22096	12.7210	33.4082	12.6895	12.7379
LC00117	OC100y24	68.50	67.72	0.0005	44.02	40.23	29185	9.1811	8.3175	9.0166	9.1810
LC00120	OC100y24	68.00	60.08	0.0002	849.42	849.42	7934	12.6874	33.4082	12.6858	12.6874
LC00123	OC100y24	62.40	59.43	0.0024	849.42	849.44	9843	12.6996	7.4674	12.6874	12.6997
LC00125	OC100y24	59.10	59.12	-0.0005	857.64	856.19	90922	12.7072	29.2506	9.6468	9.7352
LC00130	OC100y24	57.75	57.96	0.0002	1026.98	1020.91	85498	11.8130	9.1123	9.5537	9.6125
WMPond-1	OC100y24	90.00	87.58	0.0002	26.97	6.30	101183	13.8839	8.3389	9.0000	9.2803
WPP1	OC100y24	86.70	89.29	0.0004	233.87	164.65	389990	12.5728	9.6107	9.7501	10.1904
WPP2	OC100y24	86.00	88.29	0.0003	23.00	6.06	89614	13.6603	8.3175	8.8159	0.0075
WPP3	OC100y24	86.00	88.28	-0.0021	48.64	47.44	298389	13.6576	0.0002	9.0500	8.7119
WPP4	OC100y24	81.60	89.01	0.0018	182.52	135.35	369816	14.0098	0.0001	10.0862	12.1920
WPP9	OC100y24	86.00	89.03	0.0006	45.44	43.86	83303	14.0644	9.1123	9.1110	22.3728

10 Year/24 Hour Storm

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition

Node Maximum Conditions - 10 Year/24 Hour Storm

9/17/2024

Node Max Conditions w/ Times [ProposedFinal]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
B-11	OC10y24	82.30	87.17	0.0406	45.96	75.40	1744	14.1850	0.0001	0.0000	8.9051
BALDWIN	OC10y24	95.00	91.98	-0.0150	893.14	322.43	8613515	20.2120	0.0005	10.0333	0.0000
BP207	OC10y24	88.98	87.61	0.0003	131.49	132.94	33914	14.3063	0.4161	20.0963	20.1242
BP208	OC10y24	86.18	87.58	0.0006	132.94	133.50	11845	14.2770	0.5219	20.1242	20.1220
BP209	OC10y24	85.68	87.57	0.0006	133.52	135.09	31851	14.2920	0.5226	22.1180	22.1399
BP210	OC10y24	85.63	87.57	0.0002	136.81	137.41	11982	14.2841	0.5226	19.7288	19.7878
BP211	OC10y24	85.81	87.56	0.0002	137.41	138.04	12217	14.2359	9.1483	19.7878	19.8232
BP212	OC10y24	86.62	87.55	0.0002	138.38	138.97	20822	14.2830	9.1483	19.8237	19.5469
BP213	OC10y24	86.59	87.55	-0.0005	138.97	139.18	4008	14.2839	14.2328	19.5469	19.5474
BP214	OC10y24	85.50	87.55	0.0007	139.44	141.52	44281	14.2832	0.3192	19.8637	19.8751
BP215	OC10y24	85.80	87.54	0.0006	141.52	150.19	12867	14.2830	14.2830	19.8751	14.3987
BP216	OC10y24	86.43	87.54	-0.0008	150.19	161.03	13151	14.1995	14.2830	14.3987	14.3986
BP217	OC10y24	85.46	87.54	-0.0010	264.39	282.04	15142	14.2830	14.3313	14.4012	14.3706
BP218	OC10y24	85.46	87.53	0.0009	282.04	185.99	11286	14.2416	13.9133	14.3706	14.7368
BP220	OC10y24	94.00	87.17	0.0021	249.03	248.44	7890	14.1479	0.0001	14.4213	14.1752
CS-BALD	OC10y24	89.00	91.25	0.0640	130.13	130.13	864	20.0959	0.0001	20.0970	20.0959
LC00030	OC10y24	91.30	87.61	-0.0002	10.36	8.20	13051	14.2493	0.0001	9.0500	8.6832
LC00030A	OC10y24	86.00	87.61	0.0003	8.20	7.06	7949	14.2444	0.5176	8.6832	8.6522
LC00050	OC10y24	90.70	86.95	-0.0013	285.09	284.53	12615	14.1553	0.0001	12.5359	12.5369
LC00050A	OC10y24	90.70	86.91	-0.0005	284.53	284.01	11950	14.1756	0.0018	12.5369	12.6120
LC00050B	OC10y24	90.70	86.76	-0.0005	284.01	283.27	16686	14.1936	0.0001	12.6120	12.6714
LC00055	OC10y24	90.10	86.72	0.0002	345.37	344.60	51570	14.1889	9.1469	13.5734	13.7191
LC00060	OC10y24	89.50	86.58	0.0002	352.62	350.07	84605	14.2452	9.1469	13.1094	13.8499
LC00065	OC10y24	86.60	86.43	0.0002	438.59	395.93	1156678	14.3672	9.1469	11.0904	14.3893
LC00070	OC10y24	86.80	86.34	0.0002	396.21	396.13	41326	14.3476	9.1469	14.2752	14.3172
LC00070A	OC10y24	86.80	86.10	0.0228	358.71	358.69	343	14.3501	0.0001	12.3455	12.3477
LC00070B_N	OC10y24	86.80	83.05	-0.0224	179.33	179.33	271	14.4285	0.0005	12.4806	12.4784
LC00070B_S	OC10y24	86.80	83.03	-0.0210	179.42	179.41	271	14.4399	0.0001	12.2606	12.2601
LC00075	OC10y24	85.50	78.31	0.0027	396.27	396.18	9339	14.5035	0.0001	14.3138	14.3486
LC00080	OC10y24	83.00	77.73	-0.0002	396.39	396.15	20722	14.5489	0.5226	14.3211	14.4167
LC00084	OC10y24	78.00	77.38	0.0002	28.18	6.39	96924	14.8914	9.1469	9.0645	11.9812
LC00085	OC10y24	78.00	77.36	-0.0038	397.82	397.78	11545	14.5728	0.0001	14.5713	14.5918
LC00087A	OC10y24	78.24	66.04	0.0030	200.31	200.31	426	14.6052	8.9373	14.5918	14.5958
LC00087B	OC10y24	78.24	66.06	0.0029	197.48	197.49	448	14.6017	24.7444	14.5606	14.6085
LC00090	OC10y24	77.00	65.27	0.0006	399.80	400.04	15307	14.6052	8.9229	14.4456	14.6052
LC00095	OC10y24	73.50	65.22	0.0006	401.07	401.73	27277	14.5975	8.9229	14.6052	14.6690

Winter Park Pines Study, Lake Corrine Outfall Canal - Proposed Final Condition

Node Maximum Conditions - 10 Year/24 Hour Storm

9/17/2024

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
LC00100	OC10y24	70.47	65.20	-0.0007	402.46	401.46	9918	14.6369	26.1583	14.6690	14.6187
LC00105	OC10y24	70.47	60.86	0.0007	401.57	401.72	10373	10.3196	26.1583	14.6187	14.5941
LC00110	OC10y24	69.00	64.11	0.0001	272.57	271.65	63800	10.1462	8.3257	10.0190	10.1054
LC00115	OC10y24	68.47	59.97	0.0002	635.07	634.92	20258	10.2589	8.3251	10.2313	10.2576
LC00117	OC10y24	68.50	66.58	0.0004	29.75	19.50	29185	10.1354	8.3251	9.0167	10.1353
LC00120	OC10y24	68.00	59.39	0.0002	656.86	656.80	7420	10.2668	8.3251	10.2375	10.2432
LC00123	OC10y24	62.40	58.71	0.0024	656.80	656.68	9007	10.2860	8.1638	10.2432	10.2523
LC00125	OC10y24	59.10	58.40	-0.0005	662.49	661.58	72202	10.3047	23.3921	10.2261	10.2976
LC00130	OC10y24	57.75	56.82	0.0002	762.27	760.30	62814	10.3432	8.3258	10.2208	10.2723
WMPond-1	OC10y24	90.00	86.74	0.0001	18.64	4.06	94830	14.2987	8.6062	9.0000	19.1429
WPP1	OC10y24	86.70	87.62	0.0002	148.77	117.32	162861	13.8079	9.1469	9.9167	10.1129
WPP2	OC10y24	86.00	87.18	0.0002	17.91	6.06	66771	14.1795	9.1469	9.0801	0.0075
WPP3	OC10y24	86.00	87.17	-0.0021	32.56	45.96	156446	14.1747	0.0002	9.0500	0.0000
WPP4	OC10y24	81.60	87.54	0.0018	129.55	87.97	282049	14.2464	0.0001	10.1481	10.7920
WPP9	OC10y24	86.00	87.57	-0.0003	27.41	29.84	66220	14.2768	0.2060	16.0884	16.2486

Appendix C

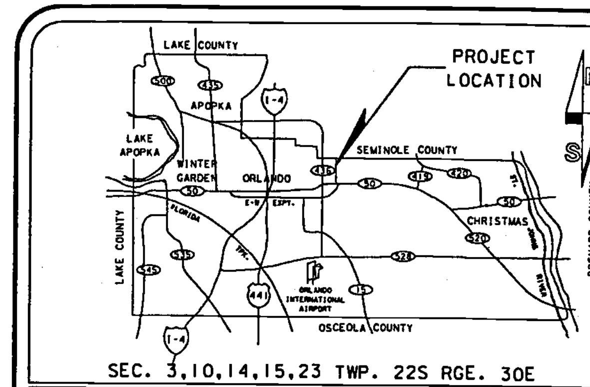
Backup Information from SJRWMD, Orange County, Winter Park

Forsyth Road Widening Improvements
SJRWMD Permit #4-095-20839-3

CONSTRUCTION PLANS FOR

FORSYTH ROAD
COLONIAL DR. TO ALOMA AVE.

DISTRICT Nos. 3 AND 5
ORANGE COUNTY, FLORIDA



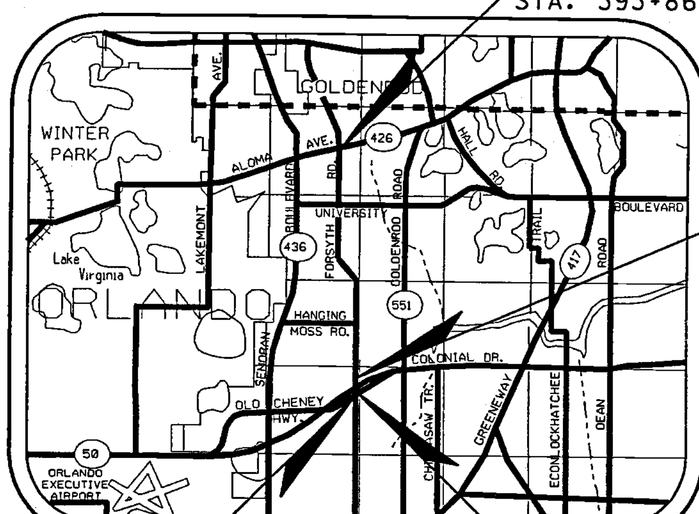
LOCATION MAP

UTILITIES ENCOUNTERED

FLORIDA POWER CORP	(813)866-5329 (407)938-6628
ORLANDO UTILITIES COMMISSION (ELECTRICAL) (WATER)	(407)384-4100 (407)423-9100
ORANGE CO. PUBLIC UTILITIES	(407)836-7211
WINTER PARK PUBLIC UTILITIES	(407)599-3219
BELL SOUTH TELEPHONE CO.	(407)237-5084
SPRINT	(407)830-3458
TIME WARNER COMMUNICATIONS	(407)291-2500
GAS & PETROLEUM TECO/PEOPLES GAS SYSTEM, INC.	(407)425-4661
SOUTH SEMINOLE AND NORTH ORANGE WASTEWATER TRANSMISSION AUTHORITY	(407)628-3419

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY & TRAFFIC DESIGN STANDARDS. (BOOKLETS DATED JANUARY 1992 & JANUARY 1994, WHERE APPLICABLE)

END PROJECT
STA. 393+86.26



END EXCEPTION
STA. 245+48.25

BEGIN PROJECT
STA. 239+66.34

VICINITY MAP
N.T.S.

BEGIN EXCEPTION
STA. 244+69.66

SOURCE OF BENCH MARK DATUM

B-34-001 RAILROAD SPIKE IN ASPHALT CUT IN ℄ OF FORSYTH ROAD. 450' +/- NORTH OF ℄ SR 50. EL. 85.74

B-34-013 RAILROAD SPIKE IN EAST FACE OF POWER POLE. 20' ± WEST OF ℄ OF FORSYTH RD. AND 10' +/- SOUTHEAST OF SOUTHEAST FENCE CORNER OF ORANGE COUNTY MAINTENANCE BARN. STA. 99+58, 23' LT, EL. 90.32

TYPE OF CONSTRUCTION: RECONSTRUCTION

PROJECT LENGTH: 15419.92 FT. 2.92 MI.

ERP SUBMITTAL
JANUARY 15, 2002

NOTE

PLANS WERE PREPARED ACCORDING TO AVAILABLE INFORMATION TO ADEQUATELY ADDRESS CONDITIONS AS THEY EXISTED AT THE TIME OF PLANS PREPARATION. NEEDS, CONDITIONS AND OWNERSHIP OF PROPERTIES MAY HAVE CHANGED SINCE PROJECT DESIGN. THE COUNTY'S REPRESENTATIVE WILL ADDRESS CHANGES AND NEEDS WITH THE PROPERTY OWNER OR THEIR REPRESENTATIVES. CONTRACTOR SHALL WORK WITH THE COUNTY'S REPRESENTATIVE IN ADDRESSING AND MEETING NEEDS AND CONDITIONS THAT MAY HAVE CHANGED SINCE PLANS PREPARATION.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

LEGEND

SECTION LINE	HEDGE
CITY LINE	TREES
BASE OR SURVEY LINE	EDGE OF WOODED AREA
RIGHT OF WAY	CONCRETE
LIMITED ACCESS LINE	RATE OF SUPERELEVATION
FENCE LINE	POWER POLE
BOX CULVERT	OVERHEAD POWER CABLE
BRIDGE	TELEPHONE POLE
STORM SEWER INLET	OVERHEAD TELEPHONE POLE
MANHOLE	GUY WIRE AND ANCHOR PIN
SURVEY REFERENCE POINT	BURIED POWER CABLE
BENCH MARK	ELECTRIC DUCT
POINT OF INTERSECTION	BURIED TELEPHONE CABLE
NORTH POINT	TELEPHONE DUCT
BASE LINE	LIGHT POLE
CENTERLINE	GAS MAIN
PROPERTY LINE	WATER MAIN
DELTA ANGLE	SANITARY SEWER
APPROXIMATE	MANHOLE
ROUND	VALVE
CURB	FIRE HYDRANT
CURB AND GUTTER	UNDERGROUND CABLE TELEVISION
SOIL BORING	OVERHEAD CABLE TELEVISION
GUARDRAIL	MONITORING WELL
	POTENTIAL CONTAMINATION SITE
	TEMPORARY CONST. EASEMENT T.C.E.
	PERMANENT DRAINAGE EASEMENT P.D.E.
	PERMANENT MAINTENANCE EASEMENT P.M.E.

INDEX OF SHEETS

SHEET	DESCRIPTION
1	KEY SHEET
2	SUMMARY OF PAY ITEMS
3	PAY ITEM NOTES
4	GENERAL NOTES AND DETAILS
5-7	TYPICAL SECTIONS
8-13	DRAINAGE MAPS
14	DRAINAGE AREA SUMMARY
15-16	EXISTING DRAINAGE STRUCTURES
17-29A	SUMMARY OF DRAINAGE STRUCTURES
30-68	ROADWAY PLAN AND PROFILE
69-70	SPECIAL PROFILES
71-80	INTERSECTION DETAILS
81-91	DRIVEWAY HALF SECTIONS
92-94A, 95-114A	DRAINAGE STRUCTURE CROSS SECTIONS
115-120A,121-138A	DRAINAGE STRUCTURE CROSS SECTIONS
92-94A, 95-120A	DRAINAGE STRUCTURE CROSS SECTIONS
139-172	DRAINAGE STRUCTURE CROSS SECTIONS
173-177A,178-180	POND PLANS
181-186	POND DETAILS
187-195	CSX RAILROAD LATERAL DITCH
196-198	BOX CULVERT DETAILS
199-200	GARDNER LATERAL DITCH
201-256	ROADWAY CROSS SECTIONS
257-301A,B,C	POND CROSS SECTIONS
302-316	POND CROSS SECTIONS
317-349	TRAFFIC CONTROL PLANS
350-358	PAVEMENT MARKING PLANS
359-365	SIGNALIZATION PLANS

PREPARED BY:
PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
200 E. ROBINSON STREET, SUITE 1560
ORLANDO, FL 32801
engineers planners surveyors

20839-3

RECEIVED
MAR 0 8 2002
PDS
ALTAMONTE SVC. CTR.

REVISIONS	DATE	BY

BOARD OF COUNTY COMMISSIONERS

RICHARD T. CROTTY	COUNTY CHAIRMAN
TERESA JACOBS	DISTRICT 1
ROBERT B. "BOB" SINDLER	DISTRICT 2
MARY I. JOHNSON	DISTRICT 3
CLARENCE W. HOENSTINE	DISTRICT 4
TED EDWARDS	DISTRICT 5
HOMER L. HARTAGE	DISTRICT 6
WILLIAM P. BAXTER, P.E.	DIRECTOR OF PUBLIC WORKS

Michael B. Lele
2/8/02

CERTIFICATION TO PLANS

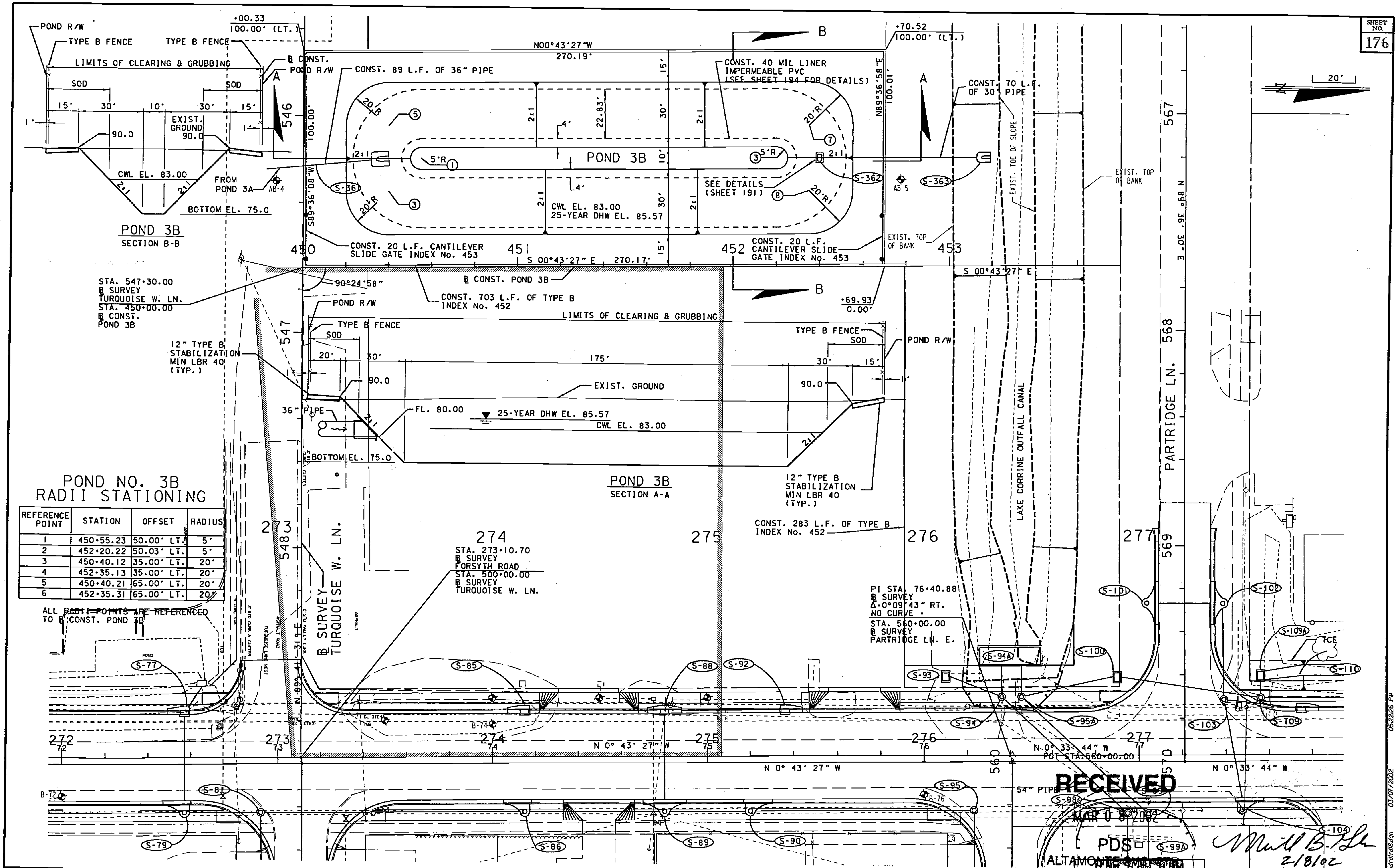
THIS IS TO CERTIFY THAT THE ROADWAY CONSTRUCTION PLANS AND SPECIFICATIONS AS CONTAINED HEREIN WERE DESIGNED TO APPLICABLE STANDARDS AS SET FORTH IN THE 'MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS', STATE OF FLORIDA, AS PREPARED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION TALLAHASSEE, FLORIDA. DATED SEPTEMBER 12, 1989

DATE:________ ENGINEER: MICHAEL L. MOHLER REG. NO. 52034

DESIGNED BY: MLM	DATE: 1/13/95
CHECKED BY: LJM	DATE: 1/13/95
DRAWN BY: LHS	DATE: 1/13/95
APPROVED BY: MLM	DATE: 1/13/95
PROJECT NO: OC-64/73	

SHEET 1 OF 365

05:21:39 PM 03/07/2002



POND NO. 3B RADII STATIONING

REFERENCE POINT	STATION	OFFSET	RADIUS
1	450+55.23	50.00' LT.	5'
2	452+20.22	50.03' LT.	5'
3	450+40.12	35.00' LT.	20'
4	452+35.13	35.00' LT.	20'
5	450+40.21	65.00' LT.	20'
6	452+35.31	65.00' LT.	20'

ALL RADII POINTS ARE REFERENCED TO Ꞓ CONST. POND 3B

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

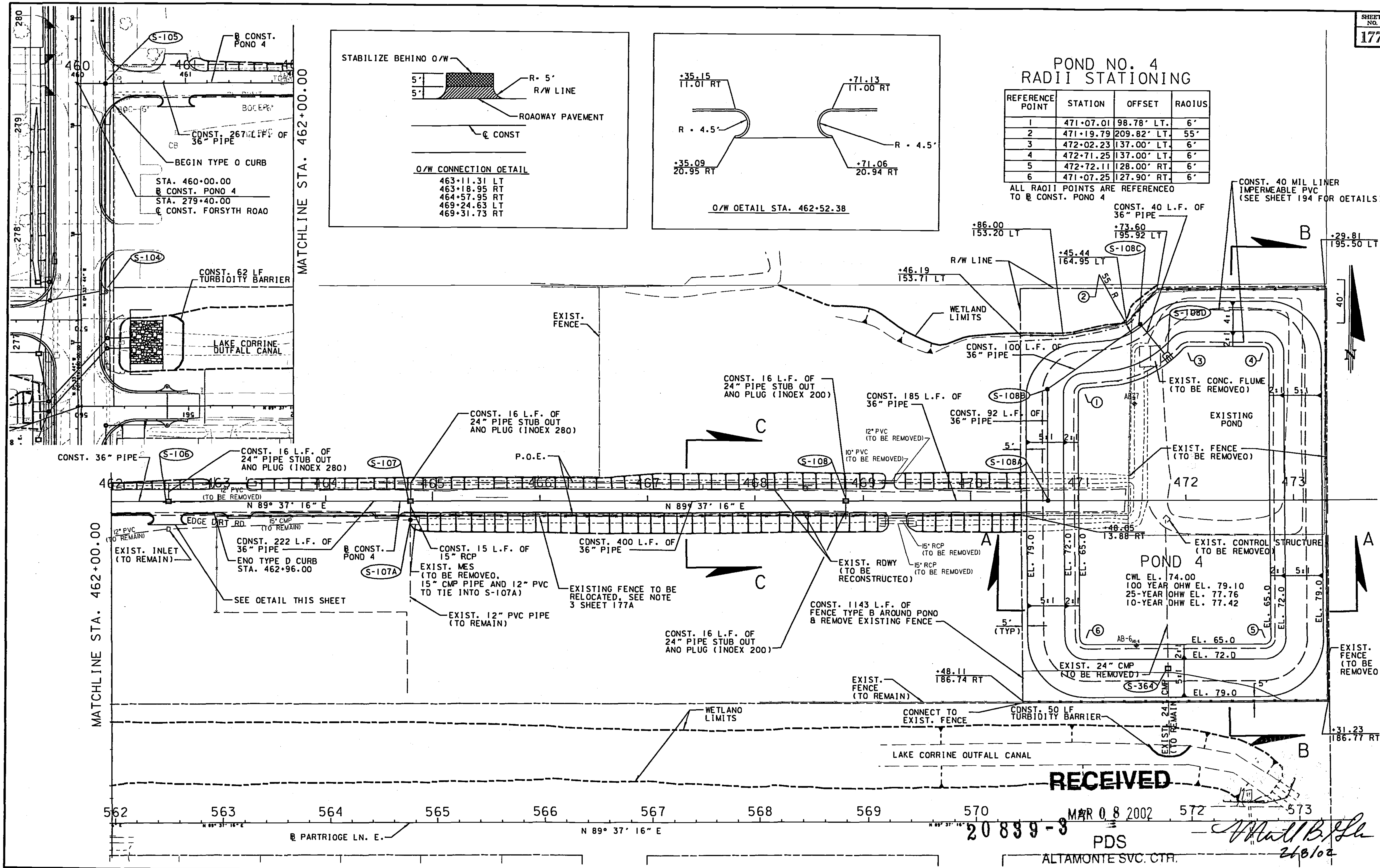
ORANGE COUNTY FLORIDA 20869-3

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN
Pond 3B

SHEET NO. 176

05:22:26 PM 03/07/2002



POND NO. 4 RADII STATIONING

REFERENCE POINT	STATION	OFFSET	RADIUS
1	471+07.01	98.78' LT.	6'
2	471+19.79	209.82' LT.	55'
3	472+02.23	137.00' LT.	6'
4	472+71.25	137.00' LT.	6'
5	472+72.11	128.00' RT.	6'
6	471+07.25	127.90' RT.	6'

ALL RADII POINTS ARE REFERENCED TO ℄ CONST. POND 4

RECEIVED
MAR 0 8 2002
20839-3
PDS
ALTAMONTE SVC. CTR.

2/8/02

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

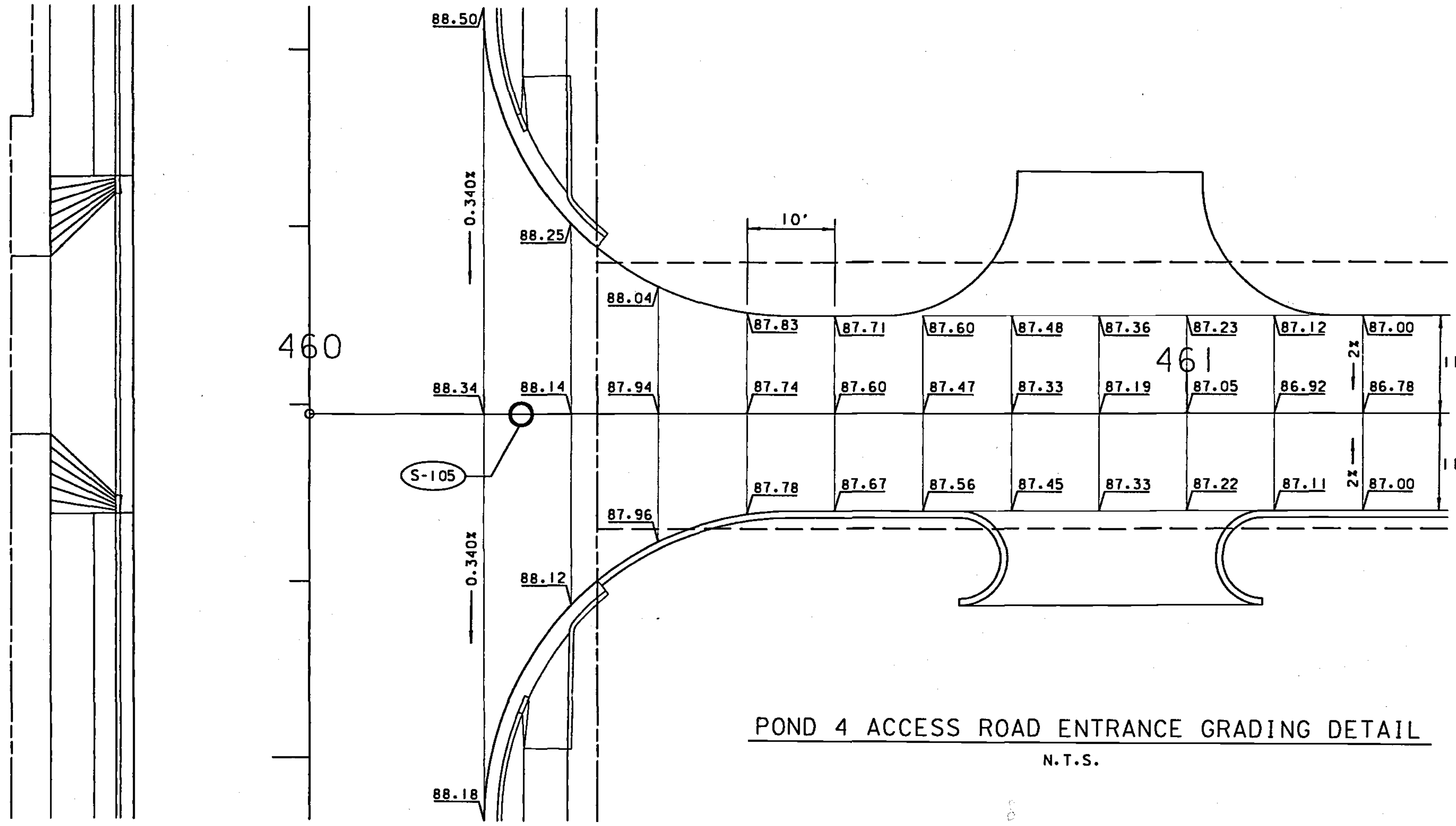
ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN
Pond 4

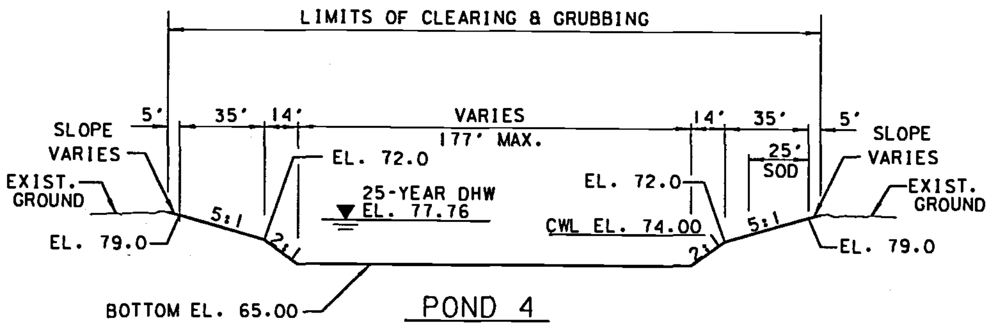
NOTES:

1. SEE POND 4 CROSS SECTIONS SHEET NOS. 276 - 283C FOR POND 4 ACCESS ROAD PGL ELEVATIONS.
2. SEE SHEET NO. 177 FOR LOCATION OF CROSS SECTION LINES A-A, B-B AND C-C.
3. THE EXISTING FENCE AND GATES ALONG THE POND 4 ACCESS ROAD (STA. 463+00.00 - STA. 470+47.00) IS TO BE REMOVED DURING CONSTRUCTION AND THEN RE-INSTALLED IN THE SAME LOCATION. COORDINATION WITH THE PROPERTY OWNER IS REQUIRED IN ORDER TO MAINTAIN ON-SITE SECURITY.



POND 4 ACCESS ROAD ENTRANCE GRADING DETAIL

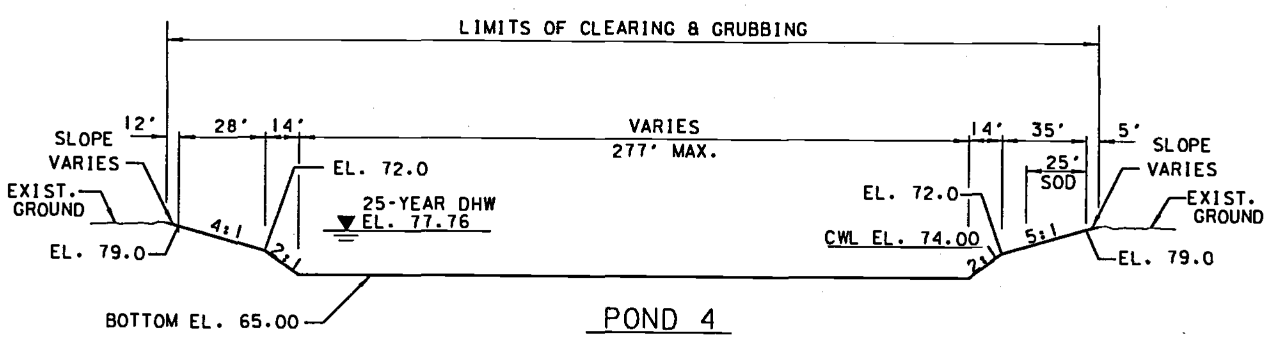
N.T.S.



POND 4

SECTION A-A

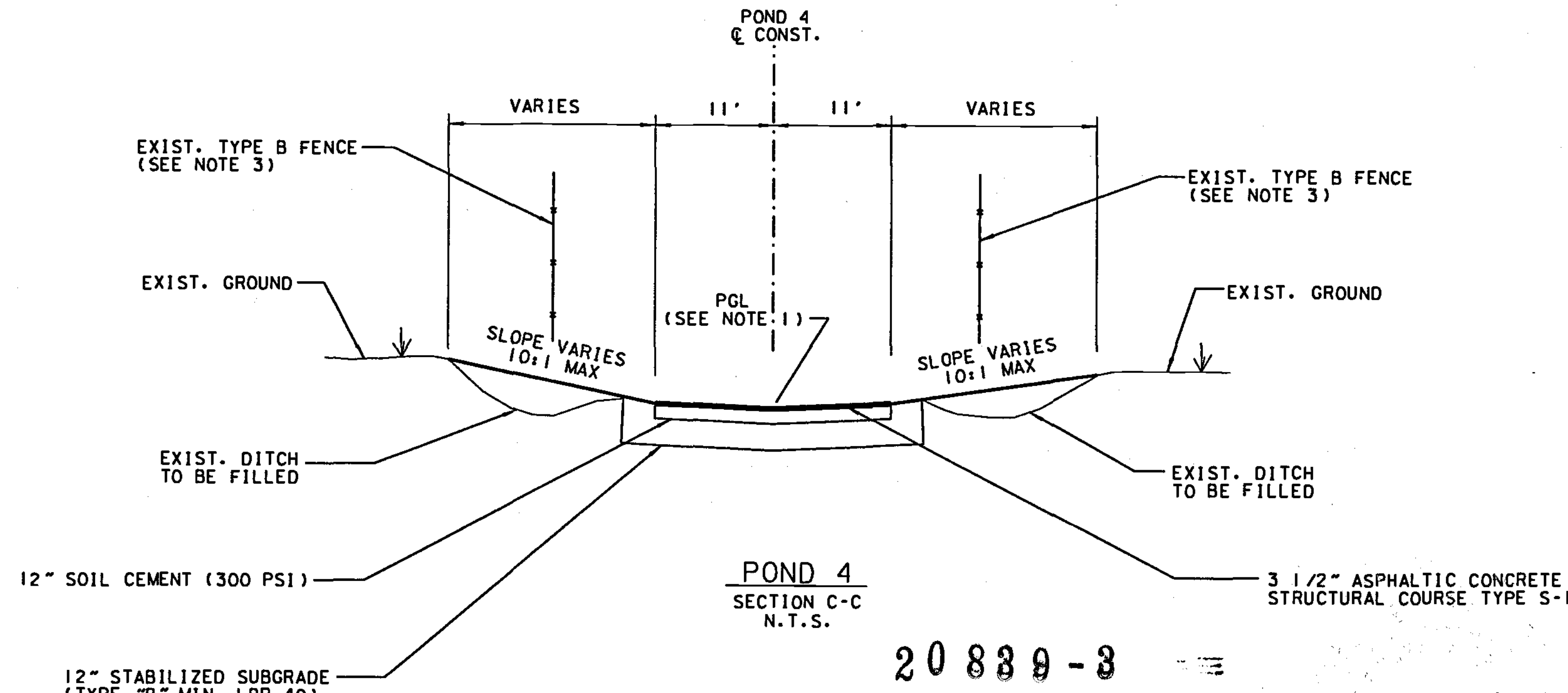
N.T.S.



POND 4

SECTION B-B

N.T.S.



POND 4

SECTION C-C

N.T.S.

20839-3

RECEIVED

MAR 0 8 2002

PDS ALTAMONTE SVC. CTR.

Neil B. Gale

2/8/02

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

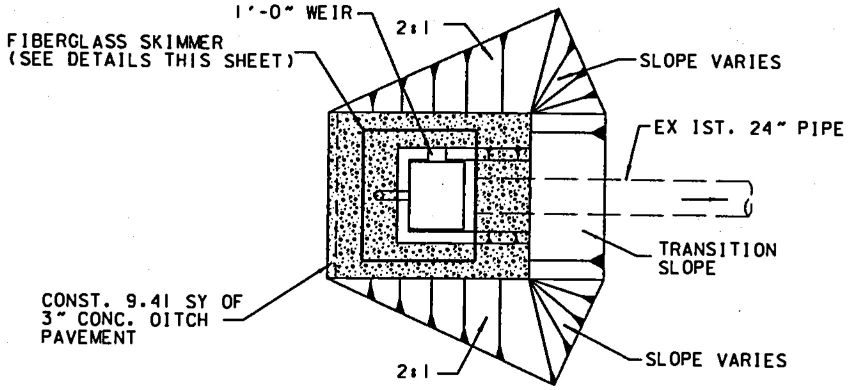
ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

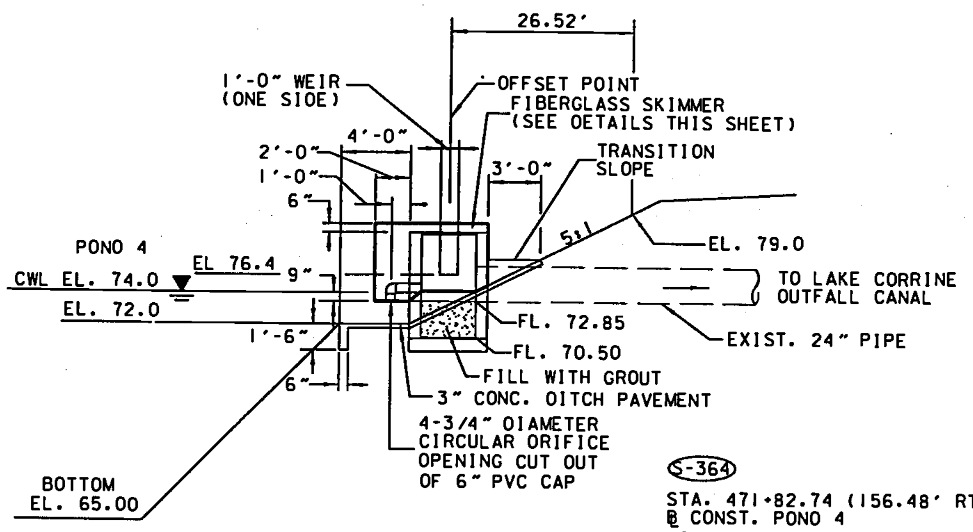
PLAN

Pond 4

05:22:40 PM 03/07/2002

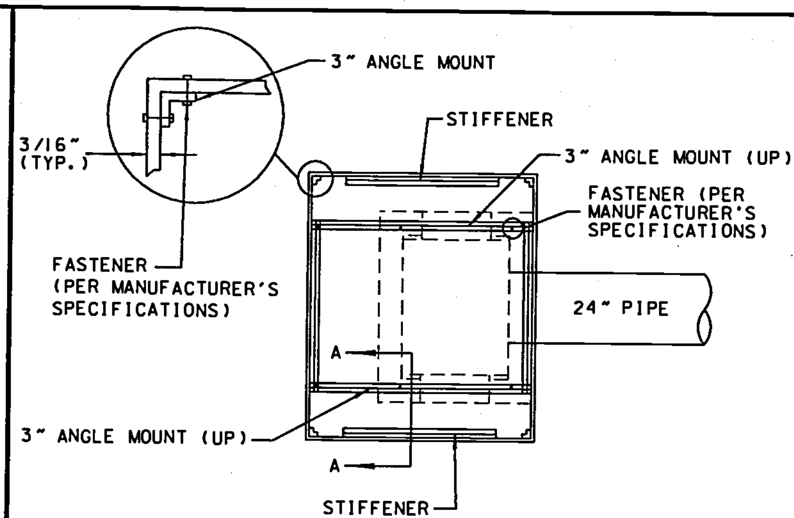


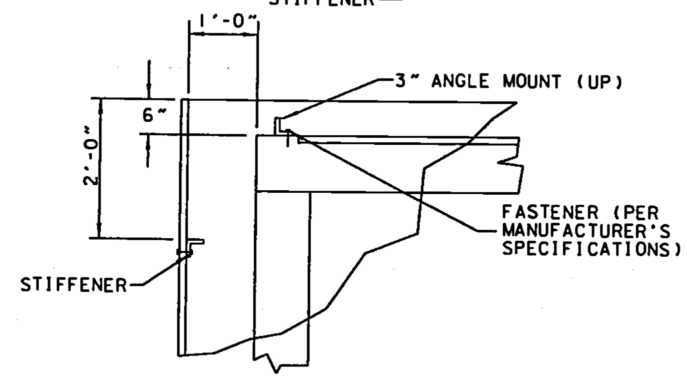
STRUCTURE S-364
PLAN
(POND 4)
N.T.S



STRUCTURE S-364
SIDE ELEVATION
(POND 4)
N.T.S

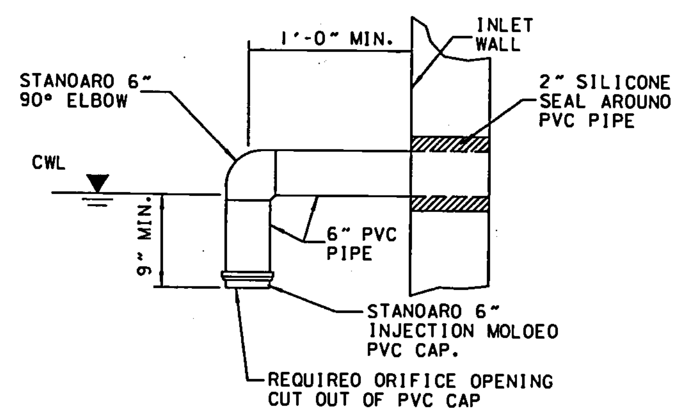
S-364
STA. 471+82.74 (156.48' RT)
℄ CONST. POND 4
CONST. INLET TYPE D (MODIFIED)
GRATE EL. 78.00
WEIR EL. 75.40
ORIFICE EL. 74.00
FL. 72.85
INDEX NO. 232



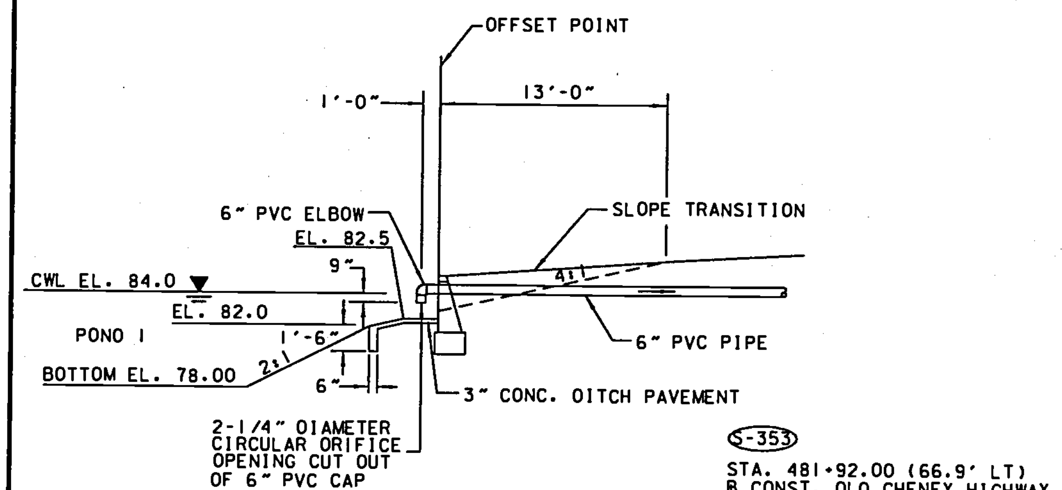


SECTION A-A

SKIMMER DETAIL
PLAN
N.T.S

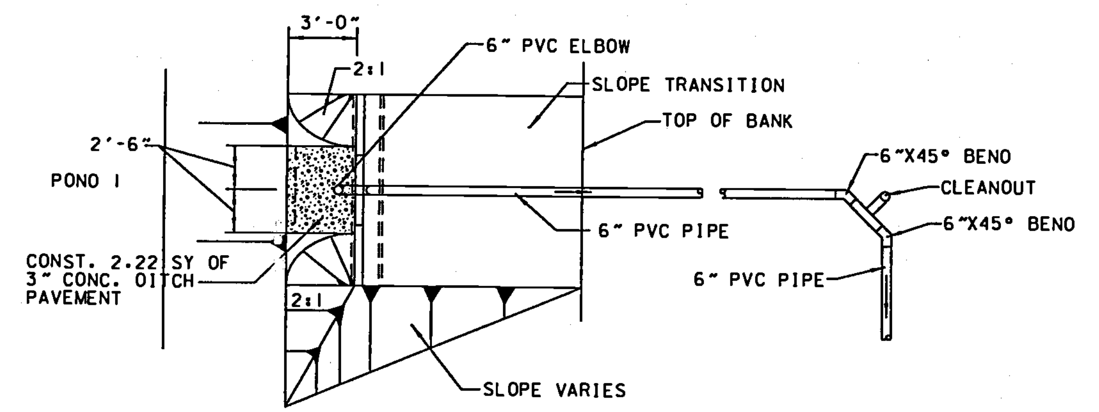


TYPICAL PVC BLEED-DOWN
DEVICE DETAIL

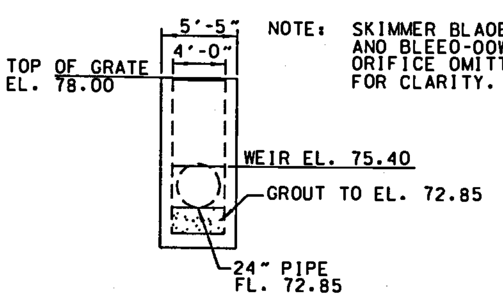


S-353
STA. 481+92.00 (66.9' LT)
℄ CONST. OLD CHENEY HIGHWAY
CONST. STRAIGHT ENDWALL (24")
INDEX NO. 250
ORIFICE EL. 84.00

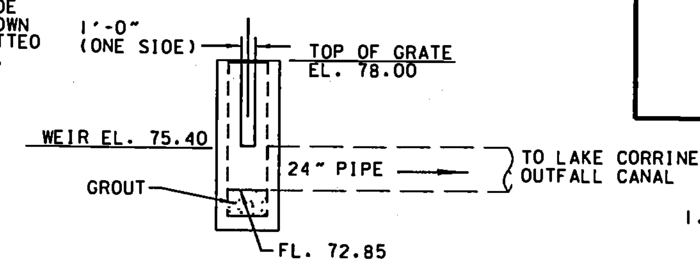
STRUCTURE S-353
SIDE ELEVATION
(POND 1)
N.T.S



STRUCTURE S-353
PLAN
(POND 1)
N.T.S



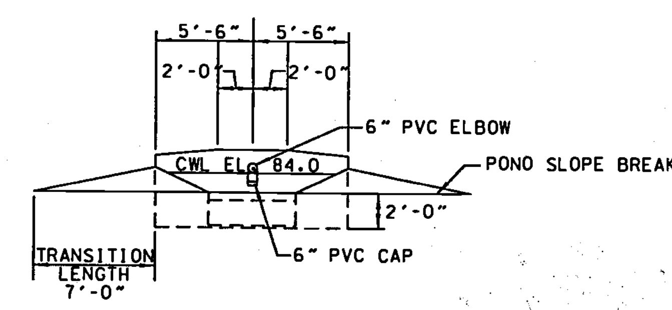
STRUCTURE S-364
FRONT ELEVATION
(POND 4)
N.T.S



STRUCTURE S-364
SIDE ELEVATION
N.T.S

NOTES

1. ALL EXPOSED PVC PIPES AND FITTINGS SHALL BE PAINTED WITH TWO (2) COATS OF WHITE ENAMEL BASE PAINT. PAINT SHALL MEET ALL APPLICABLE STATE AND FEDERAL STANDARDS AND SPECIFICATIONS.
2. ALL NECESSARY GRADING AROUND THE CONTROL STRUCTURE SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "INLET" OR "ENDWALL".
3. THE COST OF THE BLEED DOWN ORIFICE, SKIMMER AND THE 3" CONC. DITCH PAVEMENT SHALL BE INCLUDED IN THE COST OF THE TYPE "D" DITCH BOTTOM INLET (POND 4) OR STRAIGHT ENDWALL (POND 1).



STRUCTURE S-353
FRONT ELEVATION
N.T.S

20839-3

RECEIVED
MAR 0 8 2002
PDS
ALTAMONTE SVC CTR.

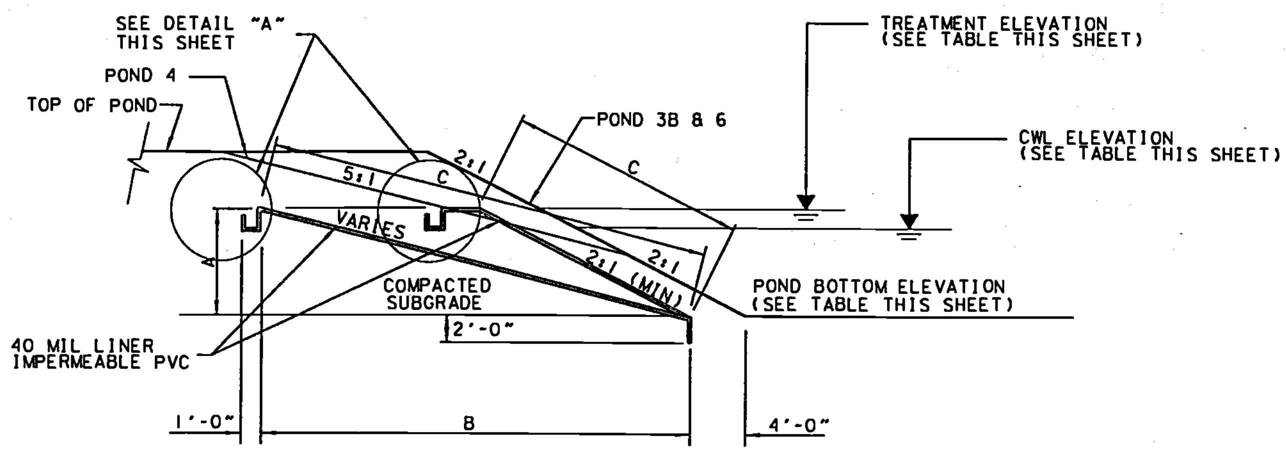
Matt B. Gale
2/8/02

REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.

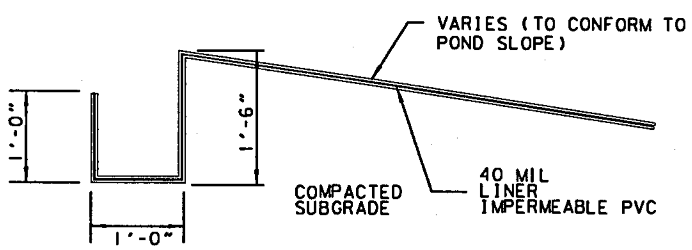
POND 1 & 4
DETAILS



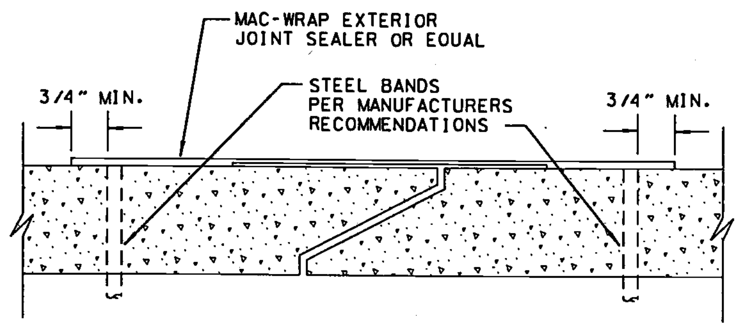
POND	TREATMENT EL. (NGVD)	CWL EL (NGVD)	POND BOTTOM EL. (NGVD)	DIMENSION A	DIMENSION B	DIMENSION C	LINER IMPERMEABLE PVC (40 MIL)
3B	84.40	83.00	75.00	9'-5"	18'-10"	21'-1"	1,564 SY
4	75.60	74.00	65.00	10'-6"	53'-0"	54'-0"	7,184 SY
6	85.00	82.00	71.00	13'-11"	27'-10"	31'-1"	2,265 SY

NOTE: LINER SHOWN ABOVE IS FOR 2:1 AND 5:1 SIDE SLOPED CONDITIONS.

POND LINING DETAILS
POND '3B', '4' & '6'
N.T.S



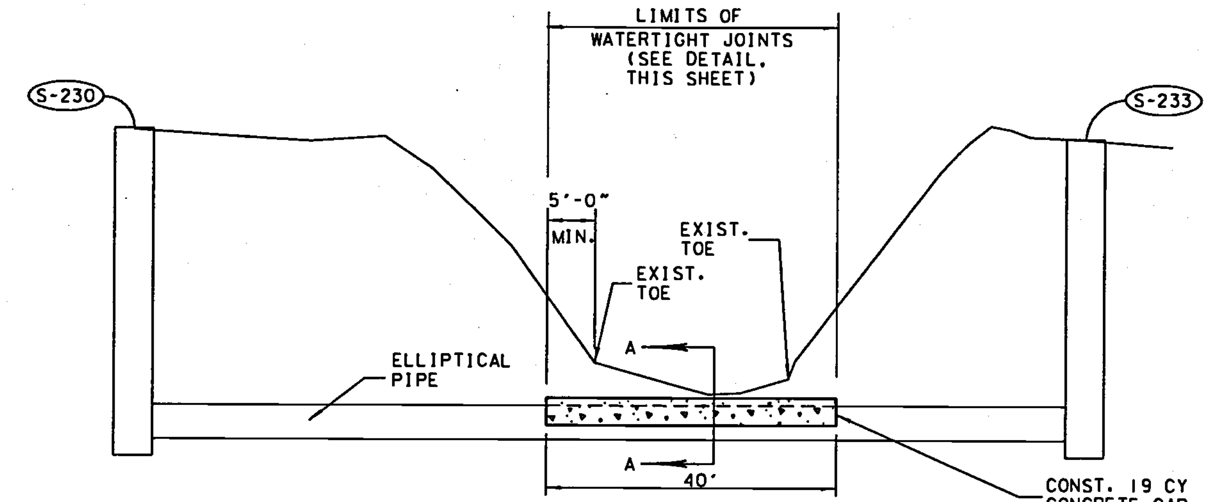
DETAIL "A"
N.T.S

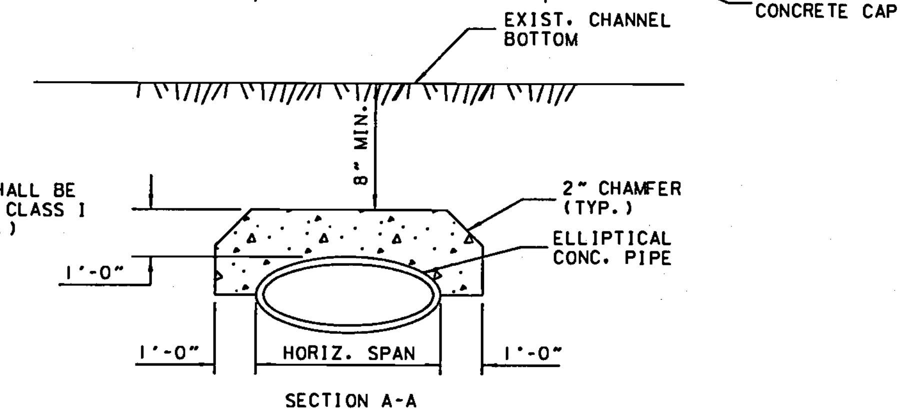


TYPICAL WATERTIGHT JOINT DETAIL
N.T.S

POND LINING NOTES

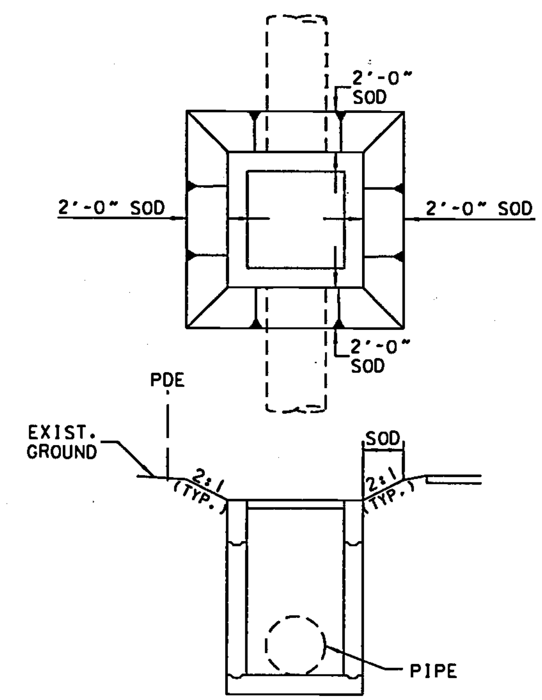
1. PRIOR TO LINER INSTALLATION, THE EXPOSED SUBGRADE SHALL BE SCORED TO A DEPTH OF AT LEAST SIX (6) INCHES AND COMPACTED TO 95% OF STANDARD PROCTOR (ASTM D 698), MAXIMUM LABORATORY DRY DENSITY. WEAK OR COMPRESSIBLE AREAS WHICH CANNOT BE SATISFACTORILY COMPACTED SHALL BE REMOVED AND REPLACED WITH PROPERLY COMPACTED FILL.
2. ALL SURFACES TO BE LINED SHALL BE SMOOTH AND FREE OF ALL FOREIGN AND ORGANIC MATERIAL, SHARP OBJECTS OR DEBRIS OF ANY KIND.
3. THE ANCHOR TRENCH SHALL BE EXCAVATED TO THE LINE, GRADE AND WIDTH SHOWN ON THE CONSTRUCTION DRAWINGS. THE FIELD ENGINEER SHALL VERIFY THAT THE ANCHOR TRENCH HAS BEEN CONSTRUCTED ACCORDING TO THE CONSTRUCTION DRAWINGS.
4. THE ANCHOR TRENCH SHALL BE BACKFILLED AND COMPACTED BY THE CONTRACTOR AS APPROVED BY THE FIELD ENGINEER. TRENCH BACKFILL SHALL BE PLACED IN 6-INCH THICK LOOSE LIFTS AND COMPACTED BY WHEEL ROLLING WITH LIGHT, RUBBER-TIRED OR OTHER LIGHT COMPACTION EQUIPMENT.
5. ALL EARTHWORK ASOCIATED WITH LINER INSTALLATION BELOW FINISH POND TEMPLATE GRADE SHALL BE INCLUDED IN THE BID UNIT PRICE FOR ITEM No. 514-72 IMPERMEABLE PVC LINER (40 MIL).



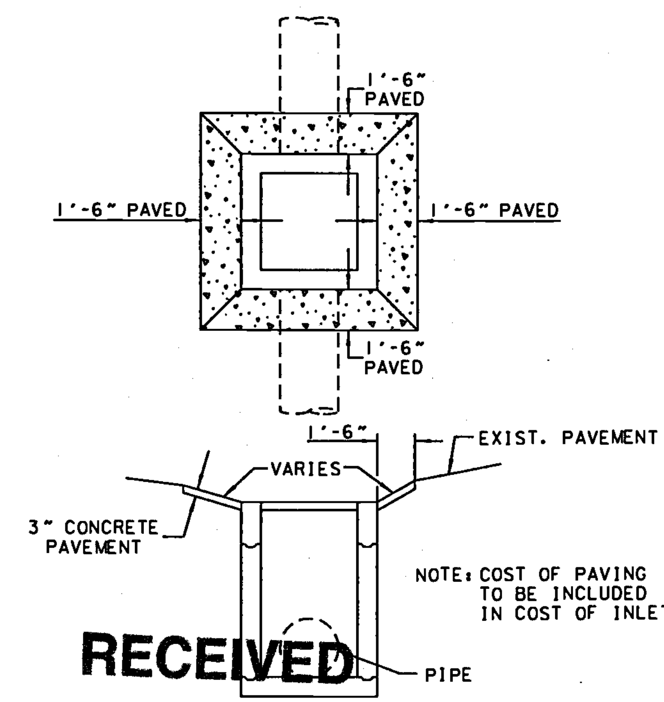


NOTE: CONC. CAP SHALL BE PAID FOR AS CLASS I CONC. (MISC.)

TYPICAL PIPE CONC. CAP FOR CHANNEL CROSSING
N.T.S



DITCH BOTTOM INLET SODDED CONDITION
N.T.S



NOTE: COST OF PAVING TO BE INCLUDED IN COST OF INLET

DITCH BOTTOM INLET PAVED CONDITION
N.T.S

Mitchell B. Gehm
2/8/02

RECEIVED
MAR 0 8 2002
PDS
ALTAMONTE SVC. CTR.
20839-3

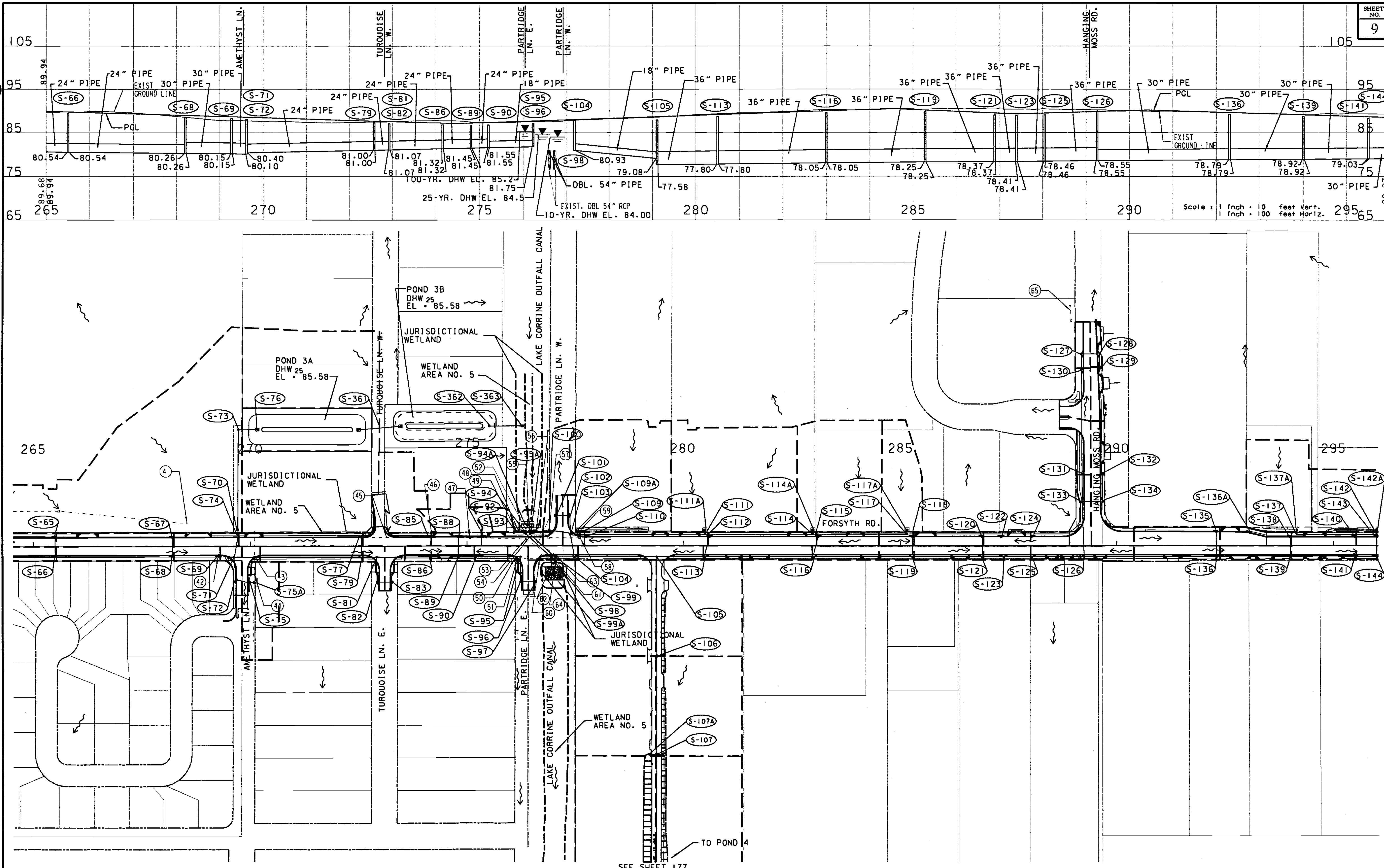
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

MISCELLANEOUS DRAINAGE DETAILS



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

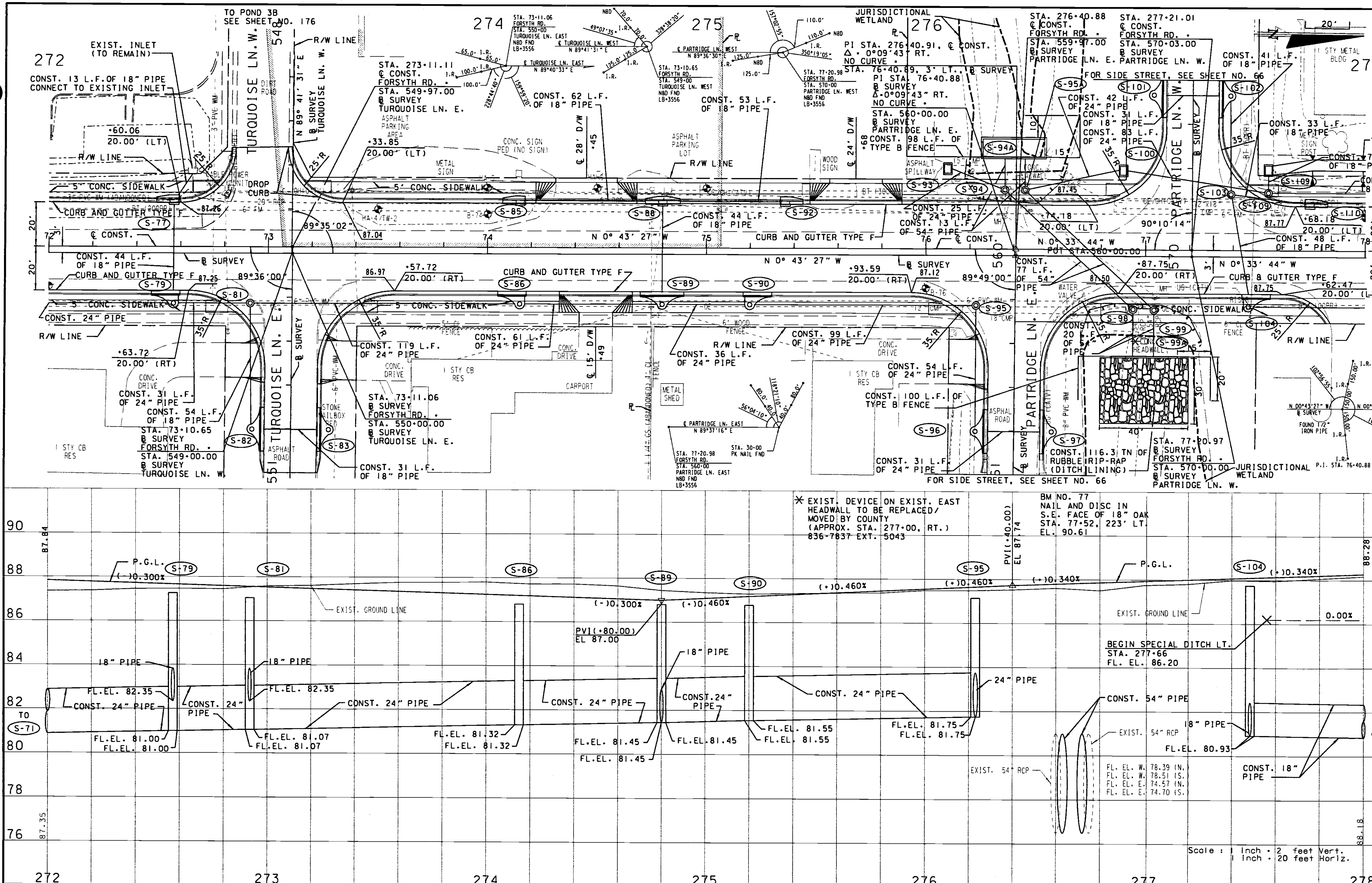
REVISIONS

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

DRAINAGE MAP

11:53:02 AM 01/08/2002



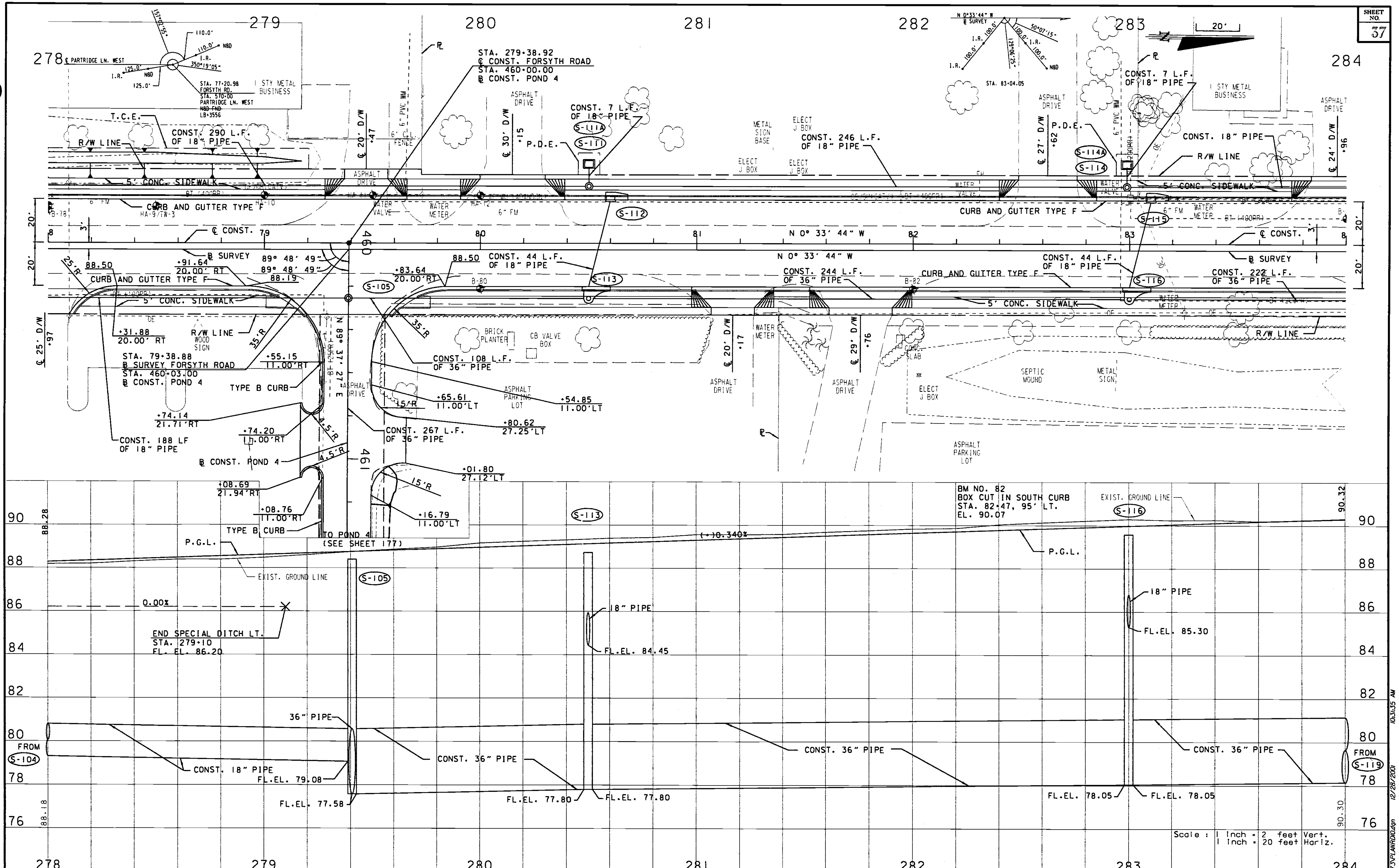
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN / PROFILE 272+00 to 278+00



REVISIONS

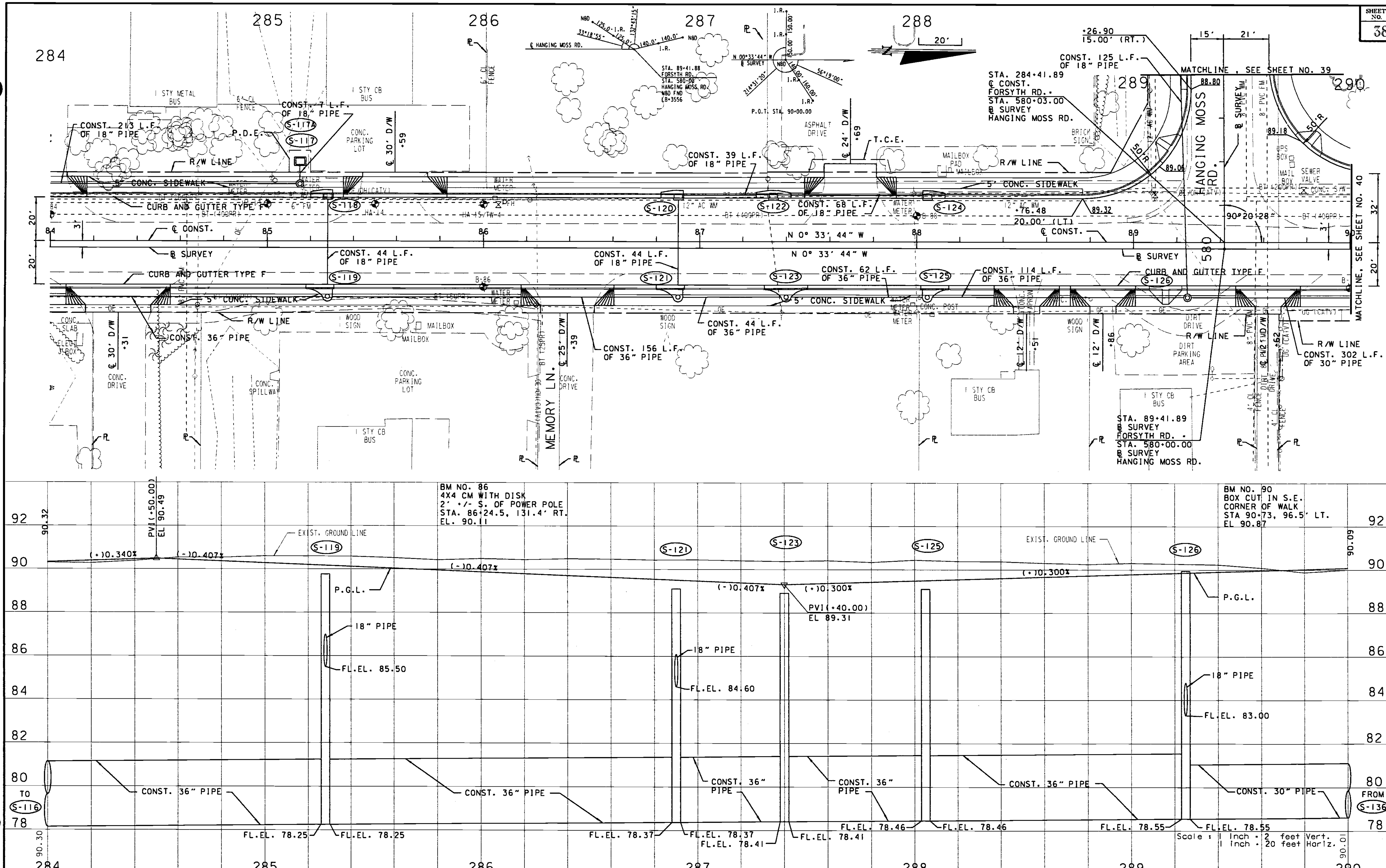
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

PLAN / PROFILE
278+00 to 284+00

h:\Projects\occ\07\PLANRD10.dgn 12/28/2001 10:31:35 AM



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

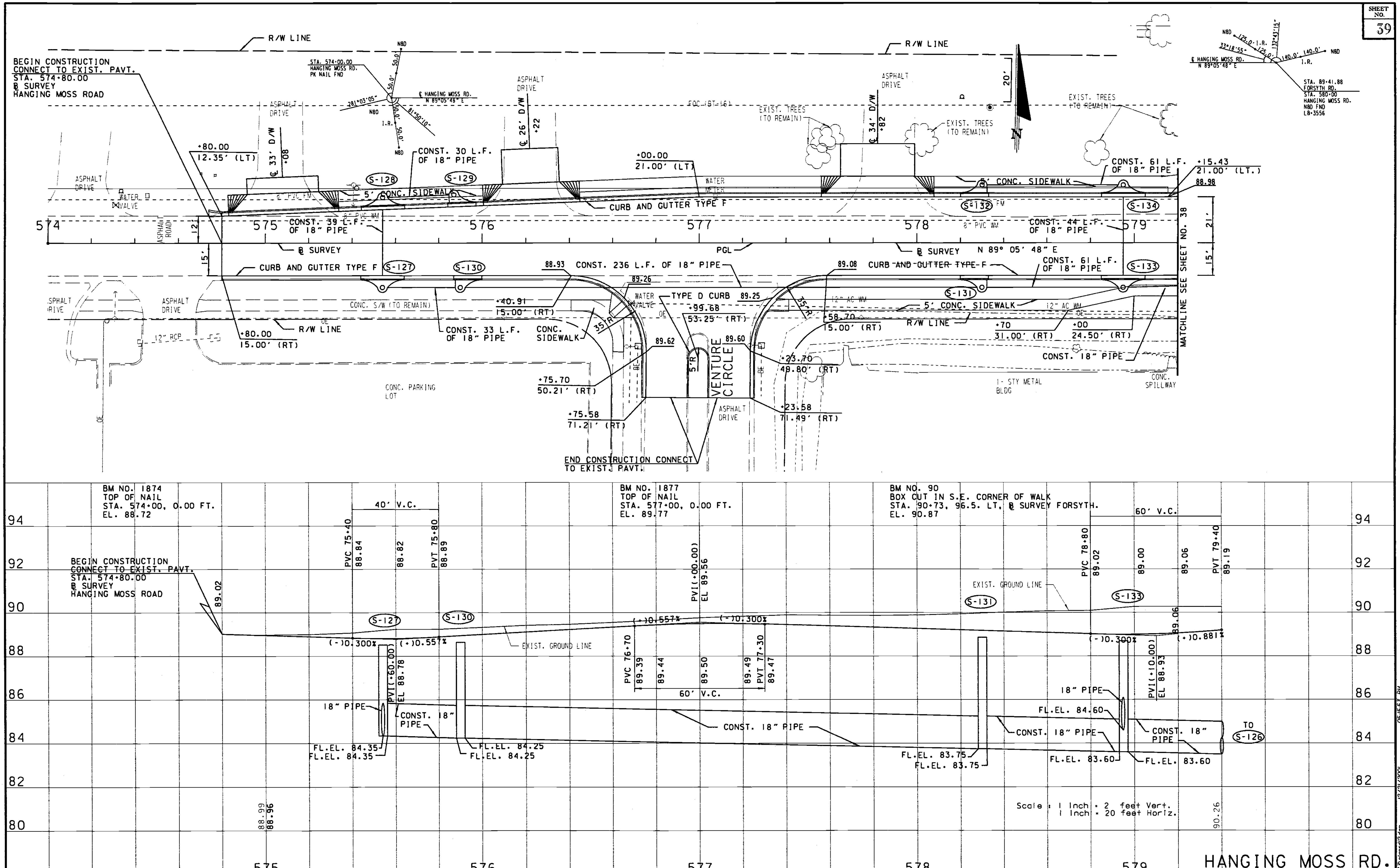
REVISIONS

ORANGE COUNTY FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

PLAN / PROFILE
284+00 to 290+00

01/08/2002 01:34:18 PM



REVISIONS

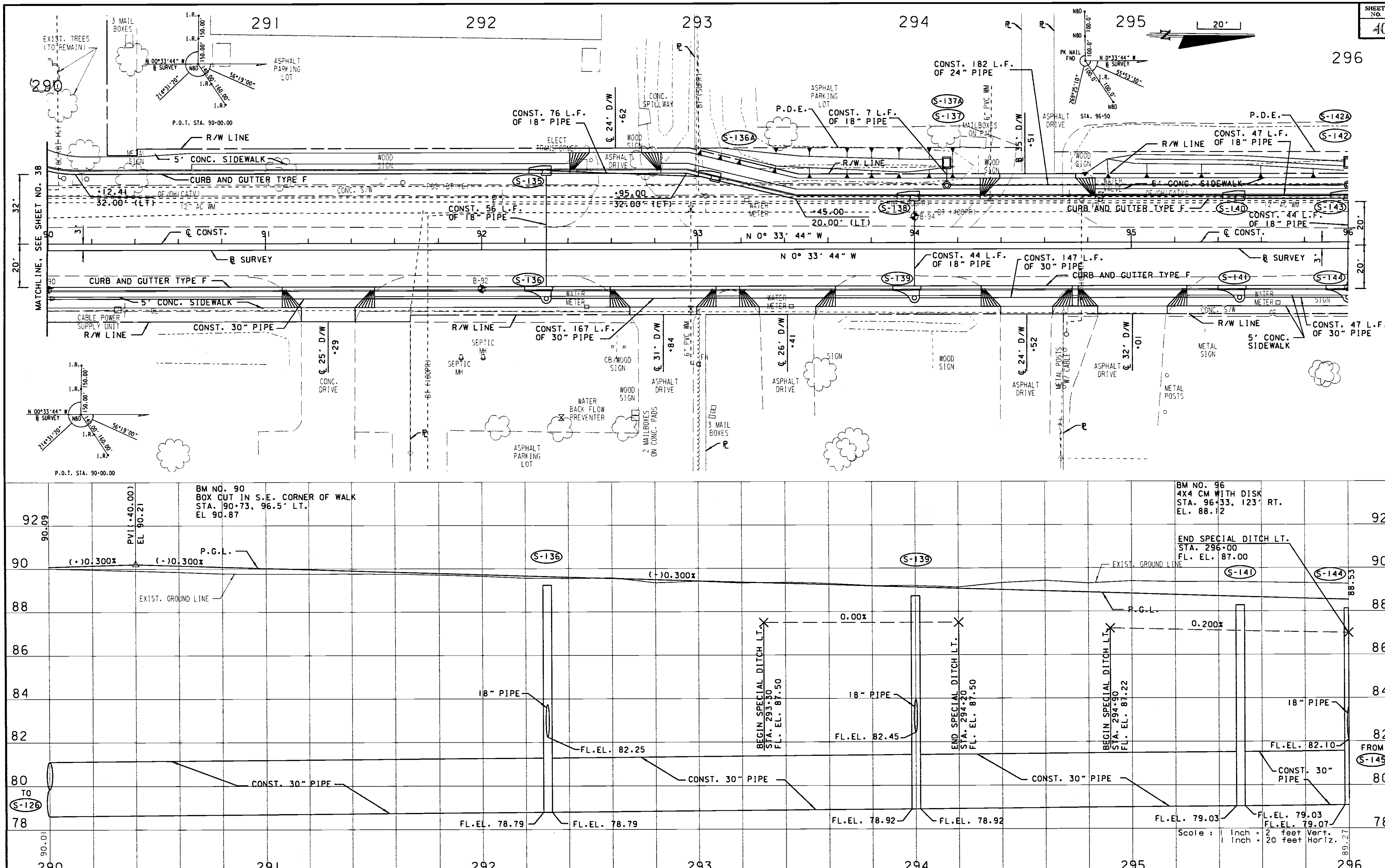
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

PLAN / PROFILE
574+00 to 579+20

12/21/2001 05:15:53 PM



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

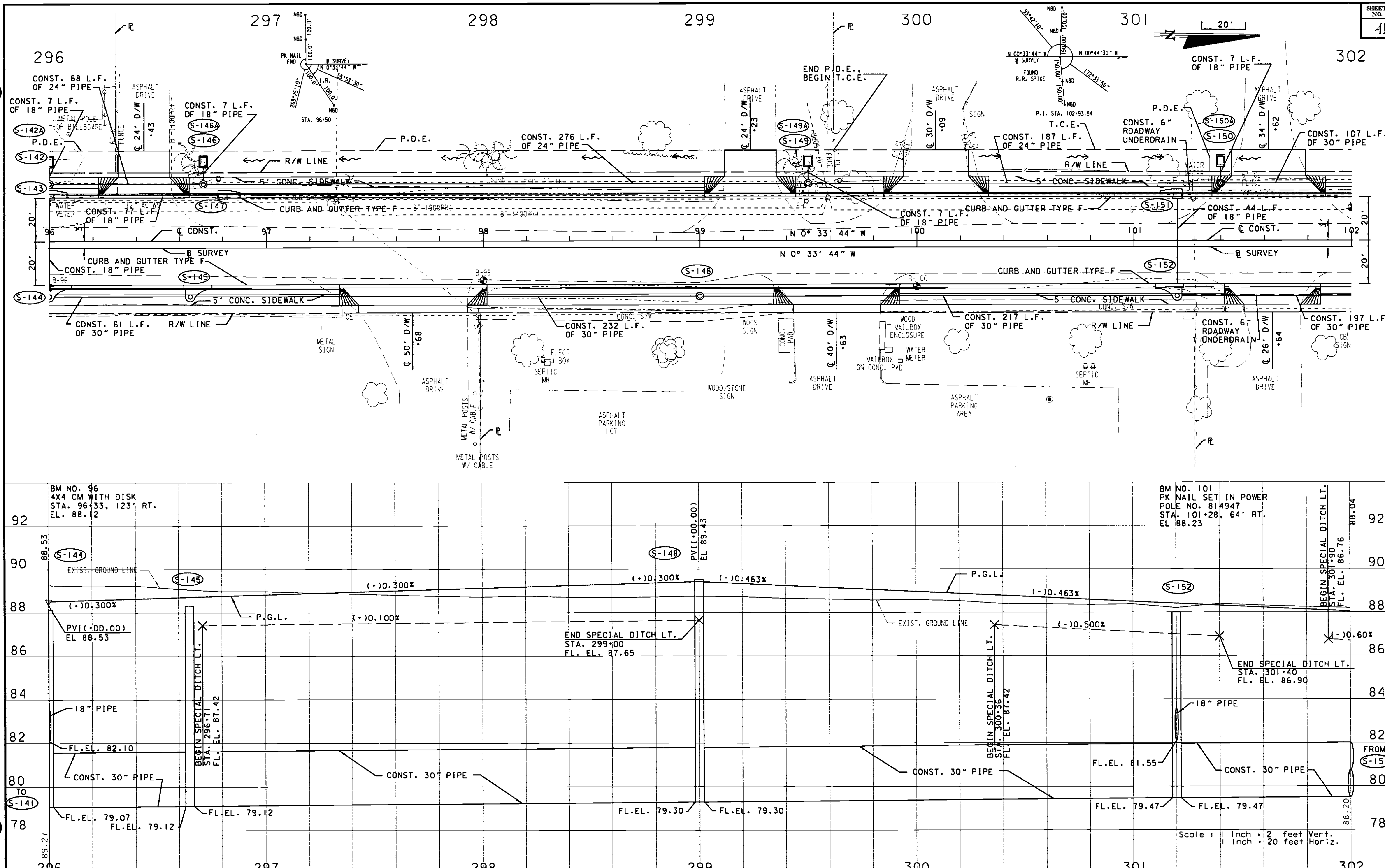
ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

PLAN / PROFILE
290+00 to 296+00

05:16:01 PM 12/21/2001

SHEET NO. 41



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

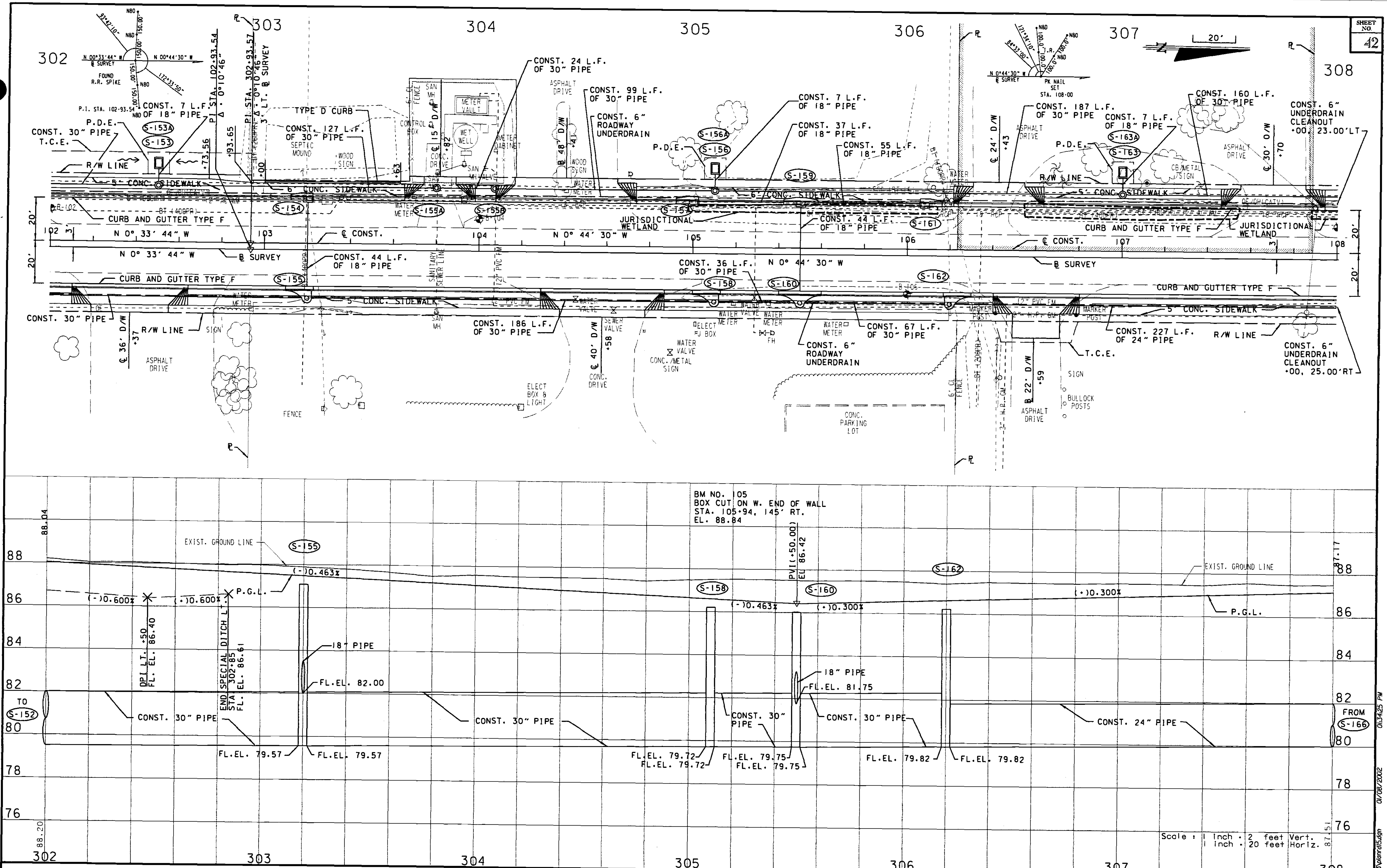
REVISIONS

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN / PROFILE 296+00 to 302+00

05:16:09 PM 12/21/2001



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

ORANGE COUNTY FLORIDA

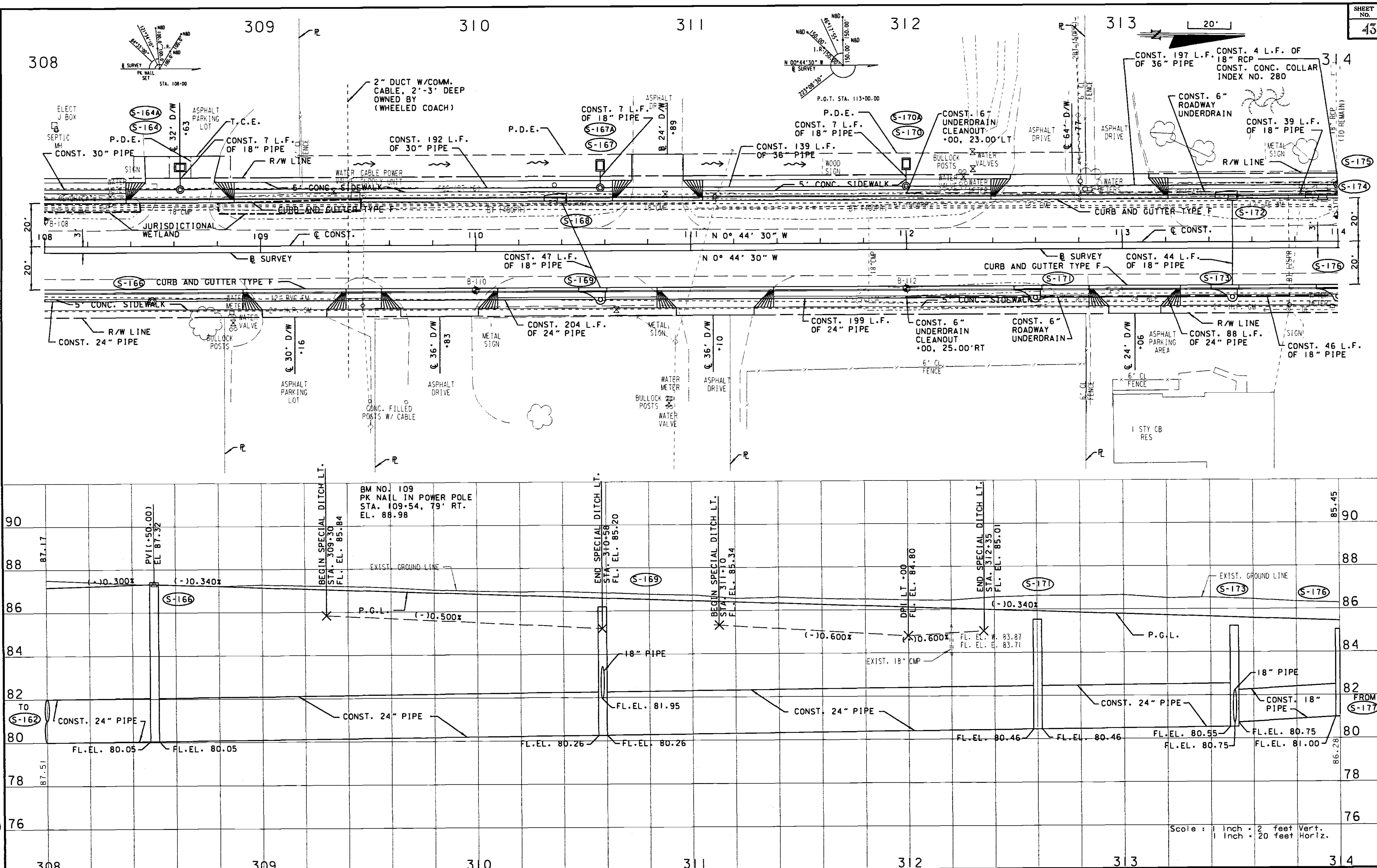
PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN / PROFILE
302+00 to 308+00

SHEET NO. 42

01/08/2002

SHEET NO. 43



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

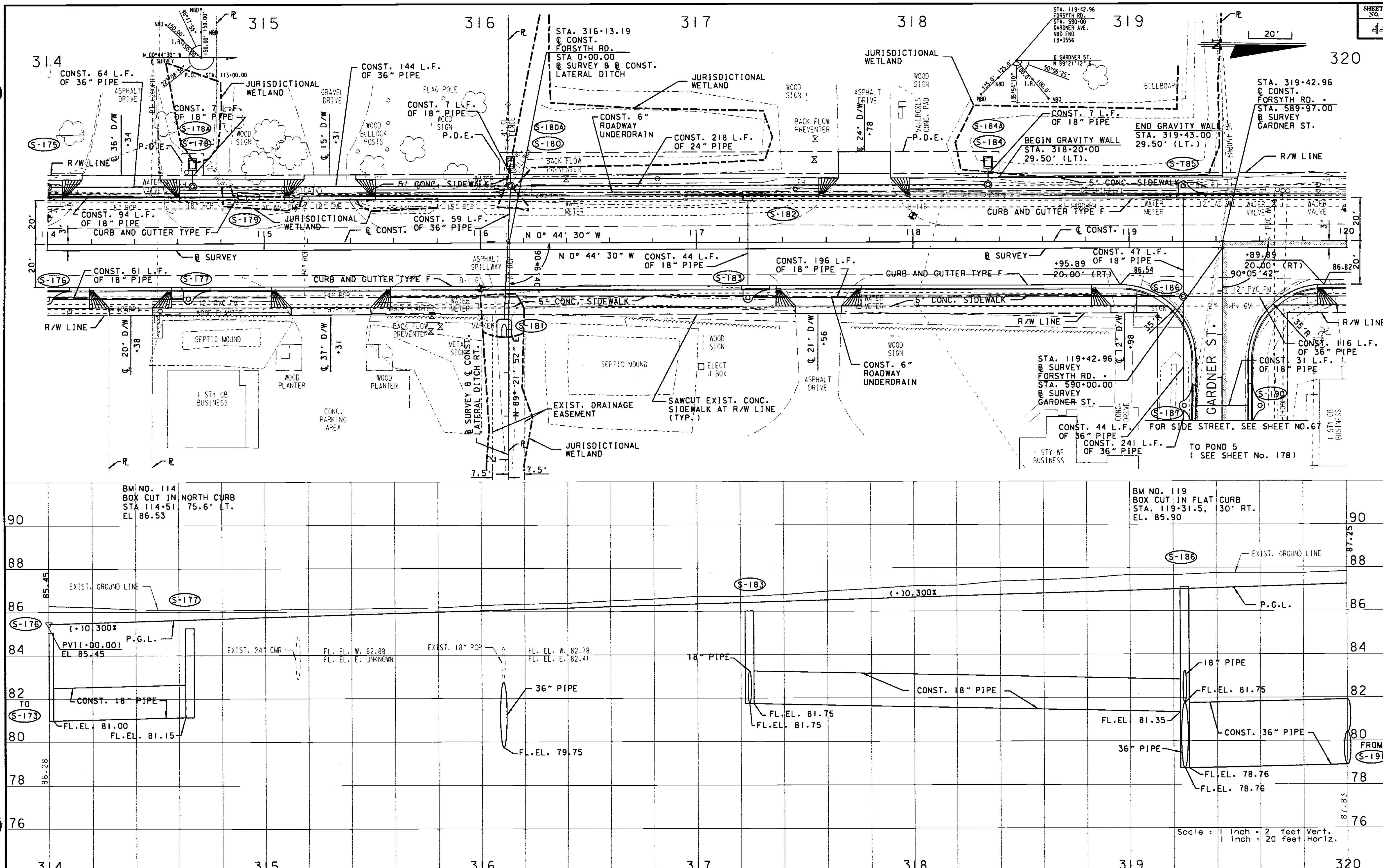
REVISIONS

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN / PROFILE 308+00 to 314+00

05:16:25 PM 12/21/2001



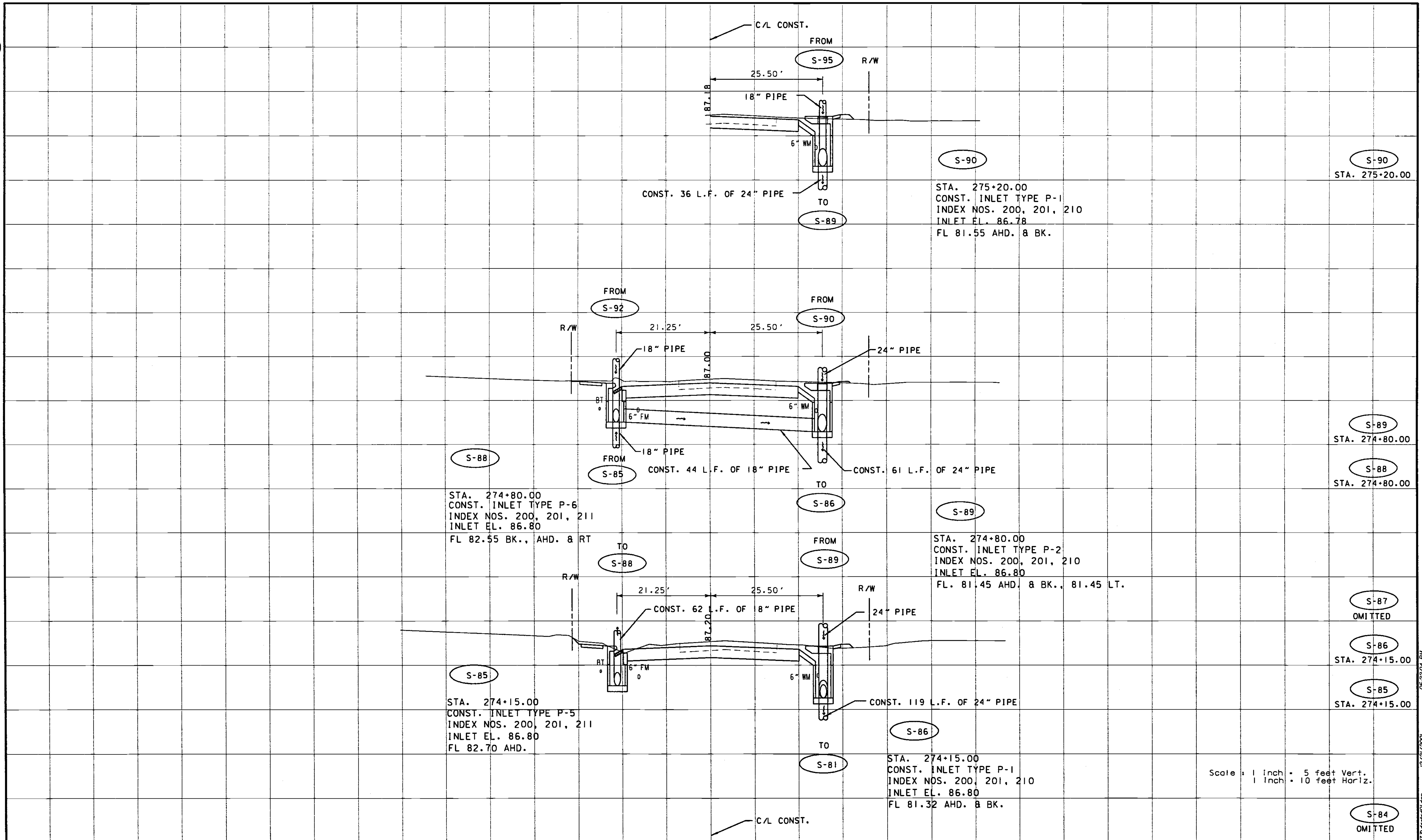
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN / PROFILE 314+00 to 320+00



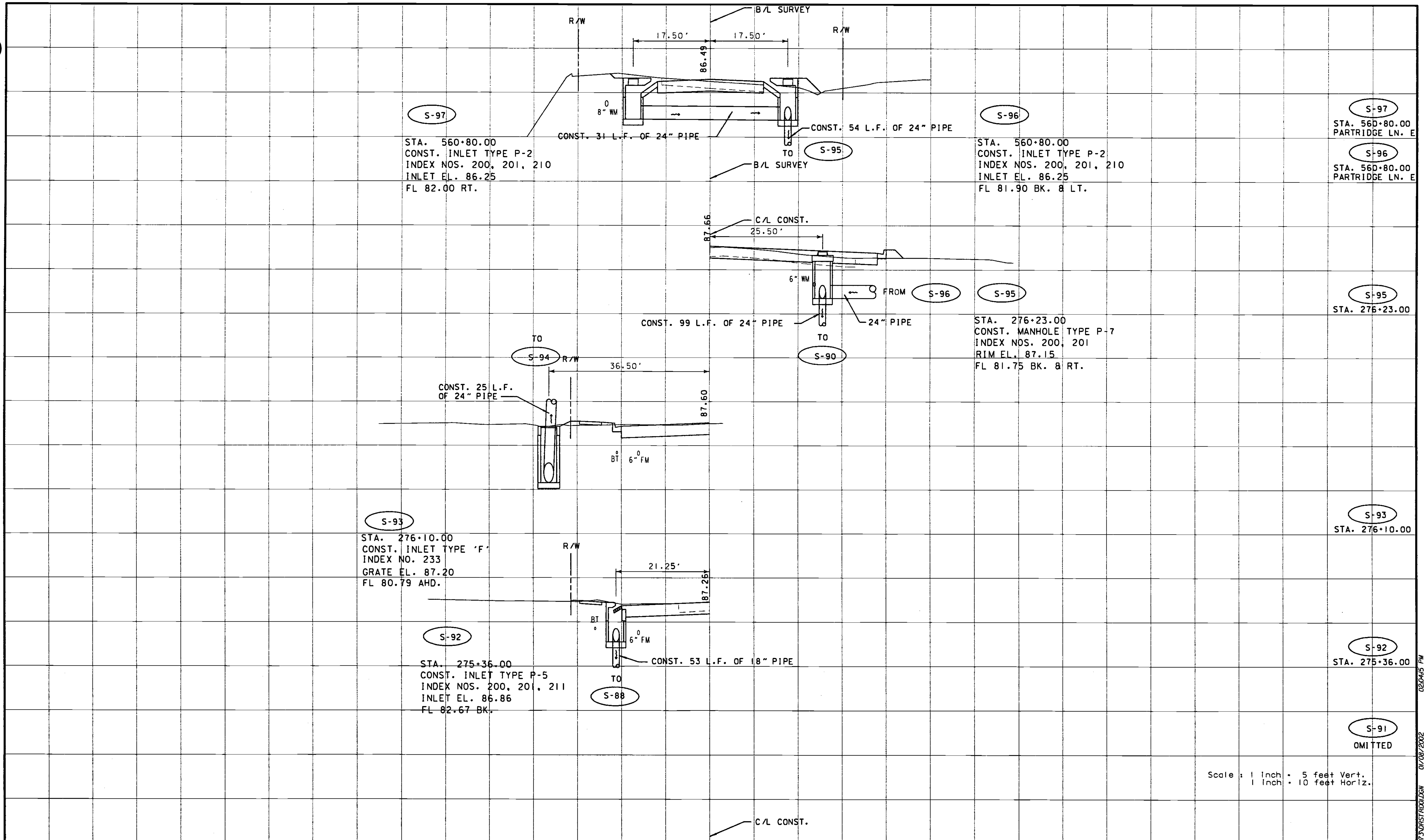
REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

05:22:04 PM 12/21/2001 n:\projects\oc073\drstrd01.dgn



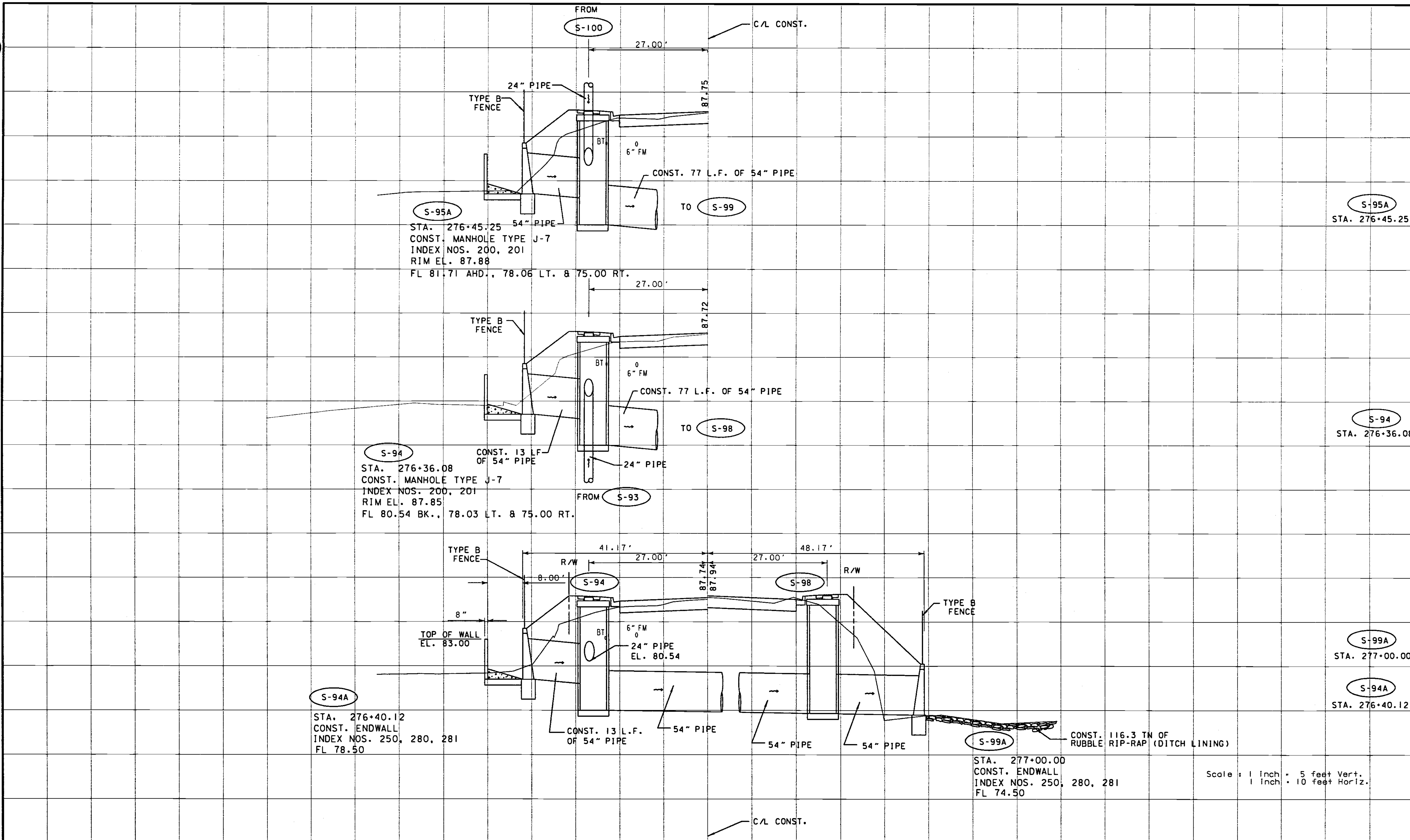
REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

N:\Projects\oc073\DRSTRO01.DGN 01/08/2002 02:04:15 PM



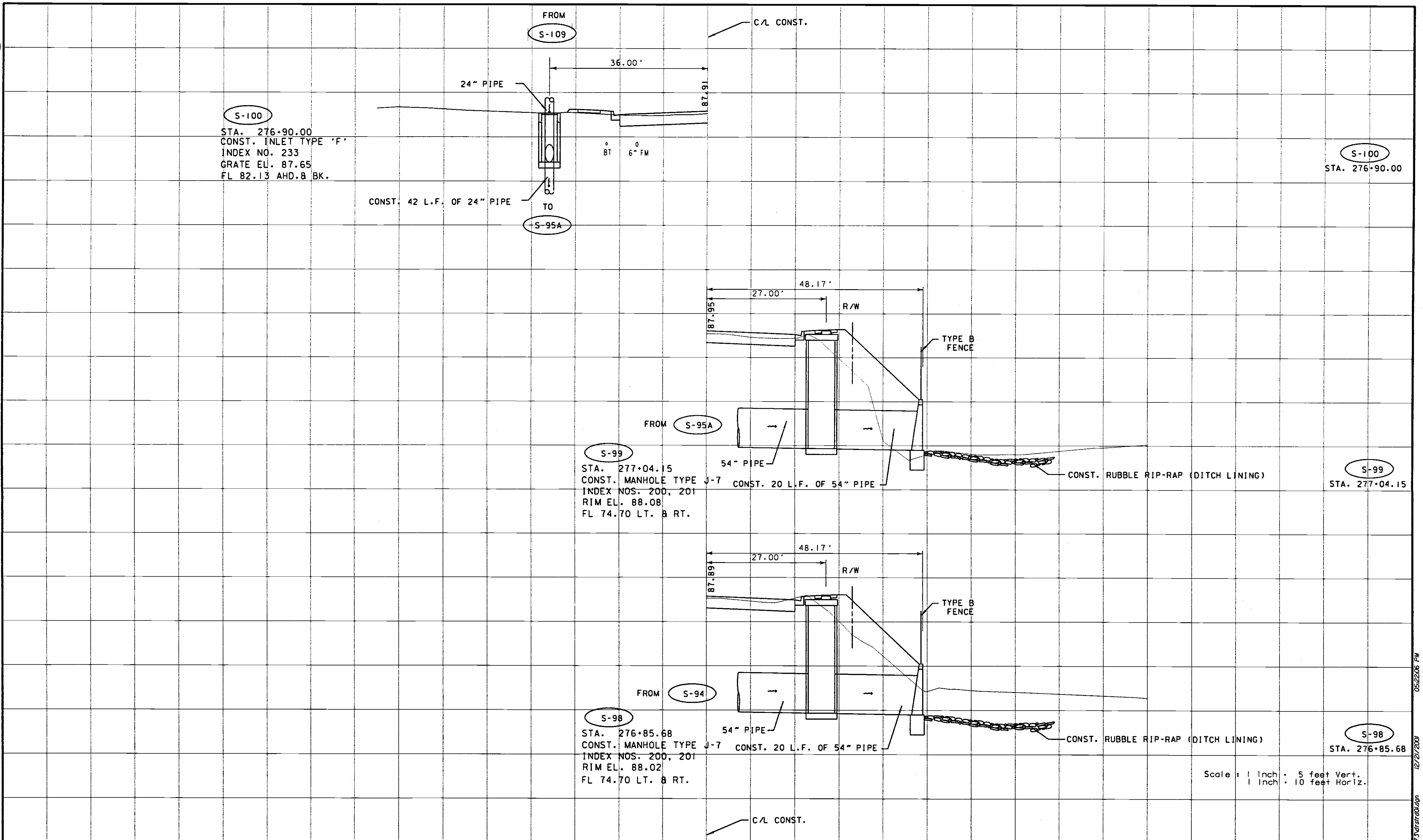
05:22:05 PM 12/21/2001 n:\projects\oc073\drs\rdr01.dgn

REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

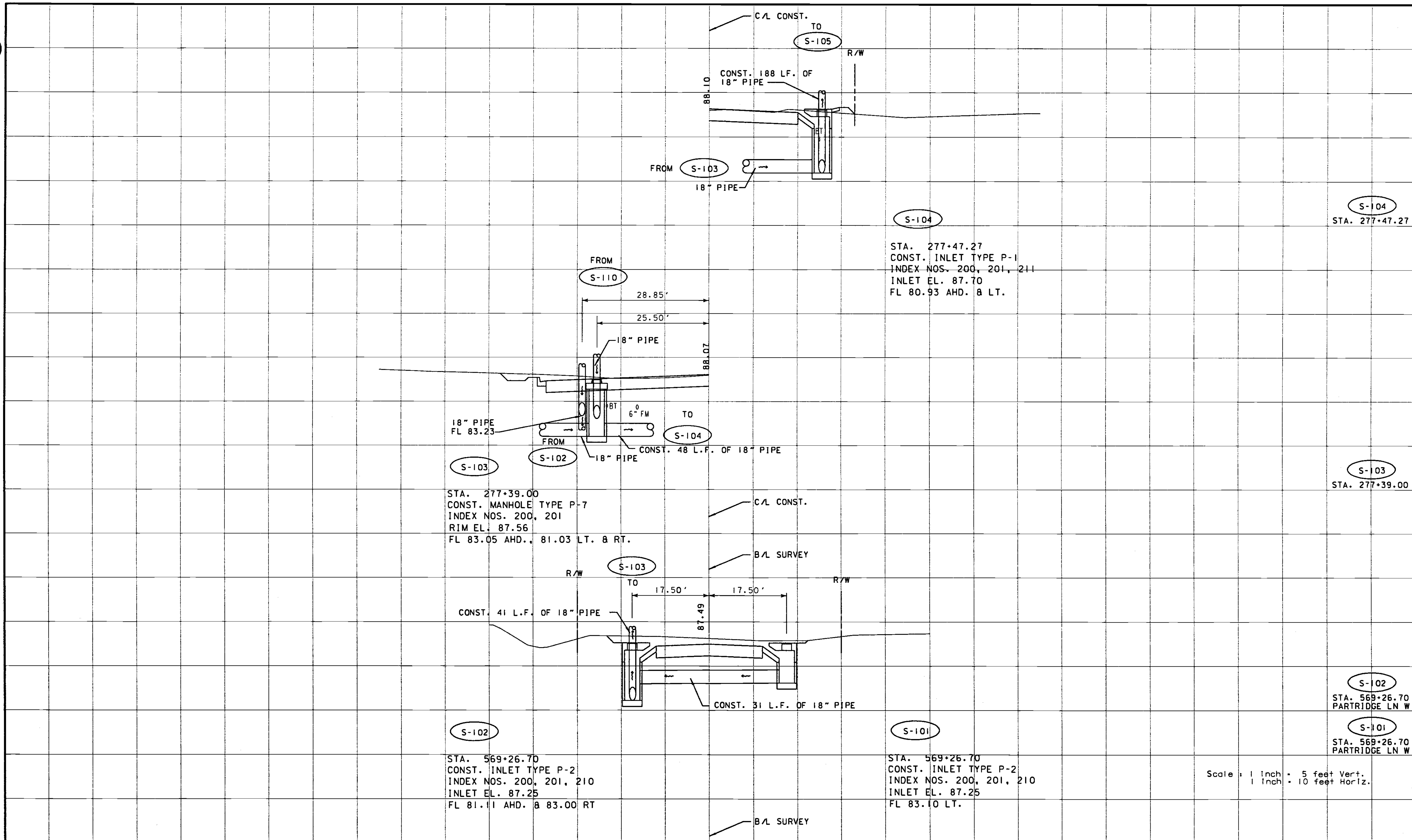
REVISIONS

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

12/21/2001 05:22:06 PM



REVISIONS

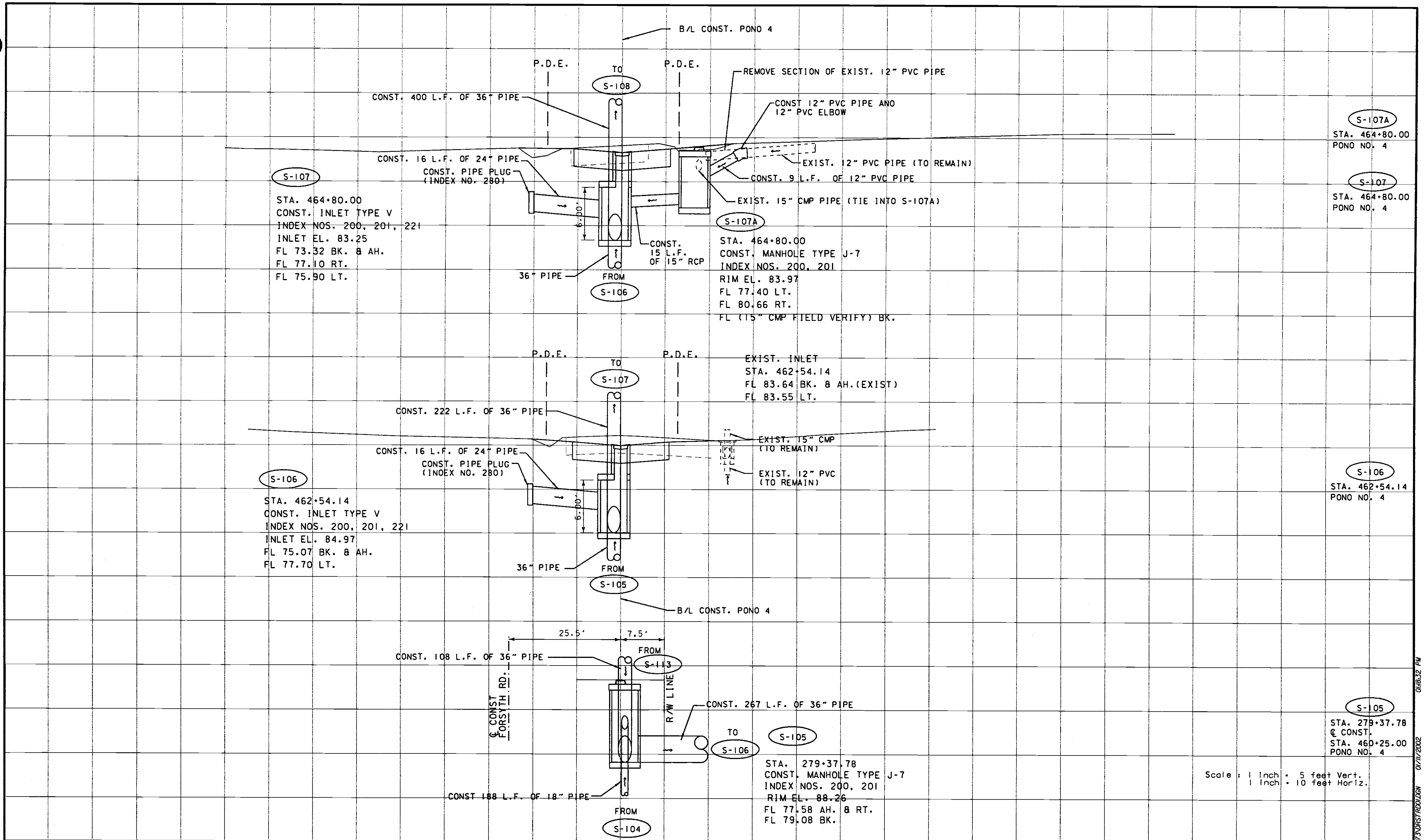
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

05:22:07 PM
12/21/2001



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

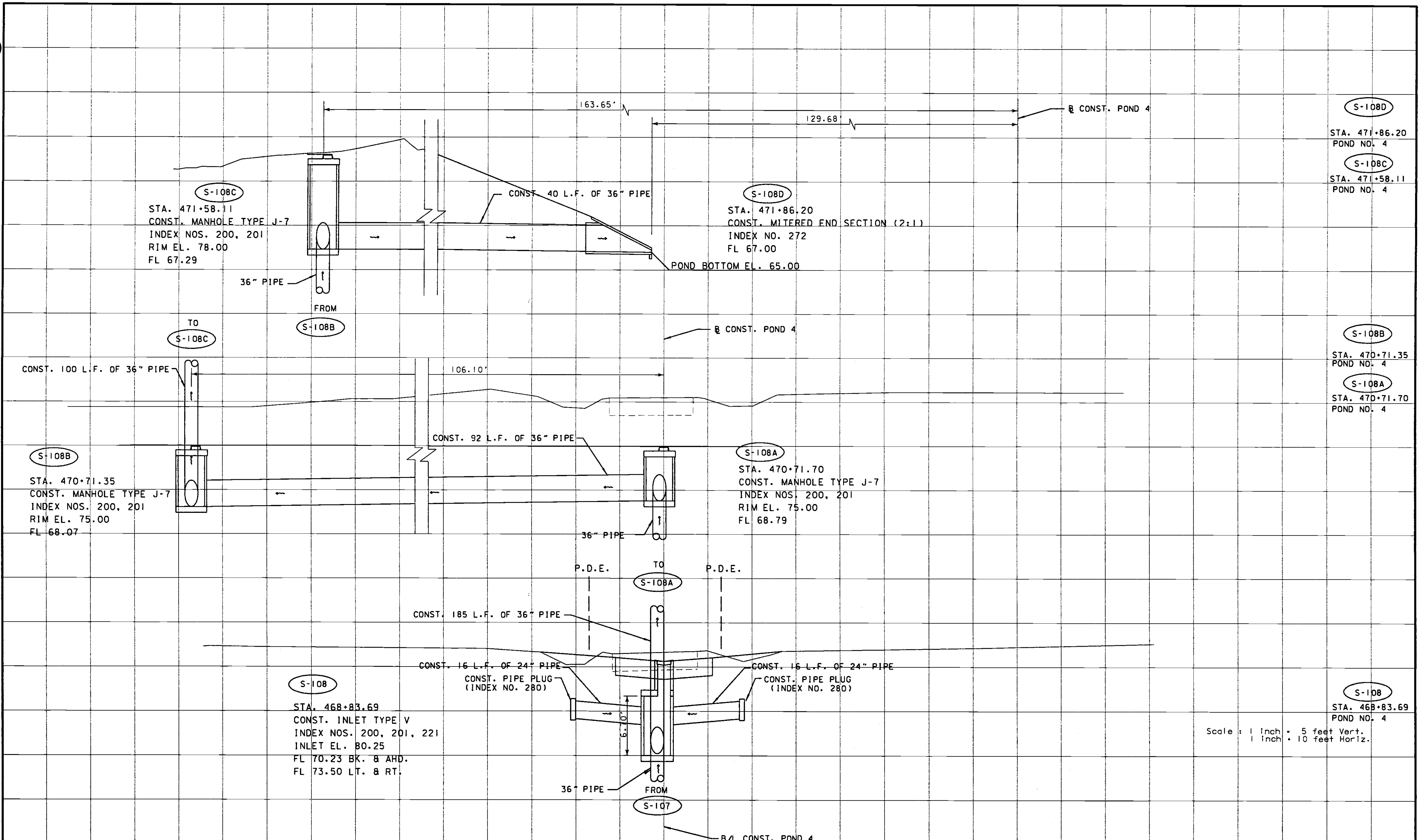
REVISIONS

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

DRAINAGE STRUCTURES

SHEET NO. 114A



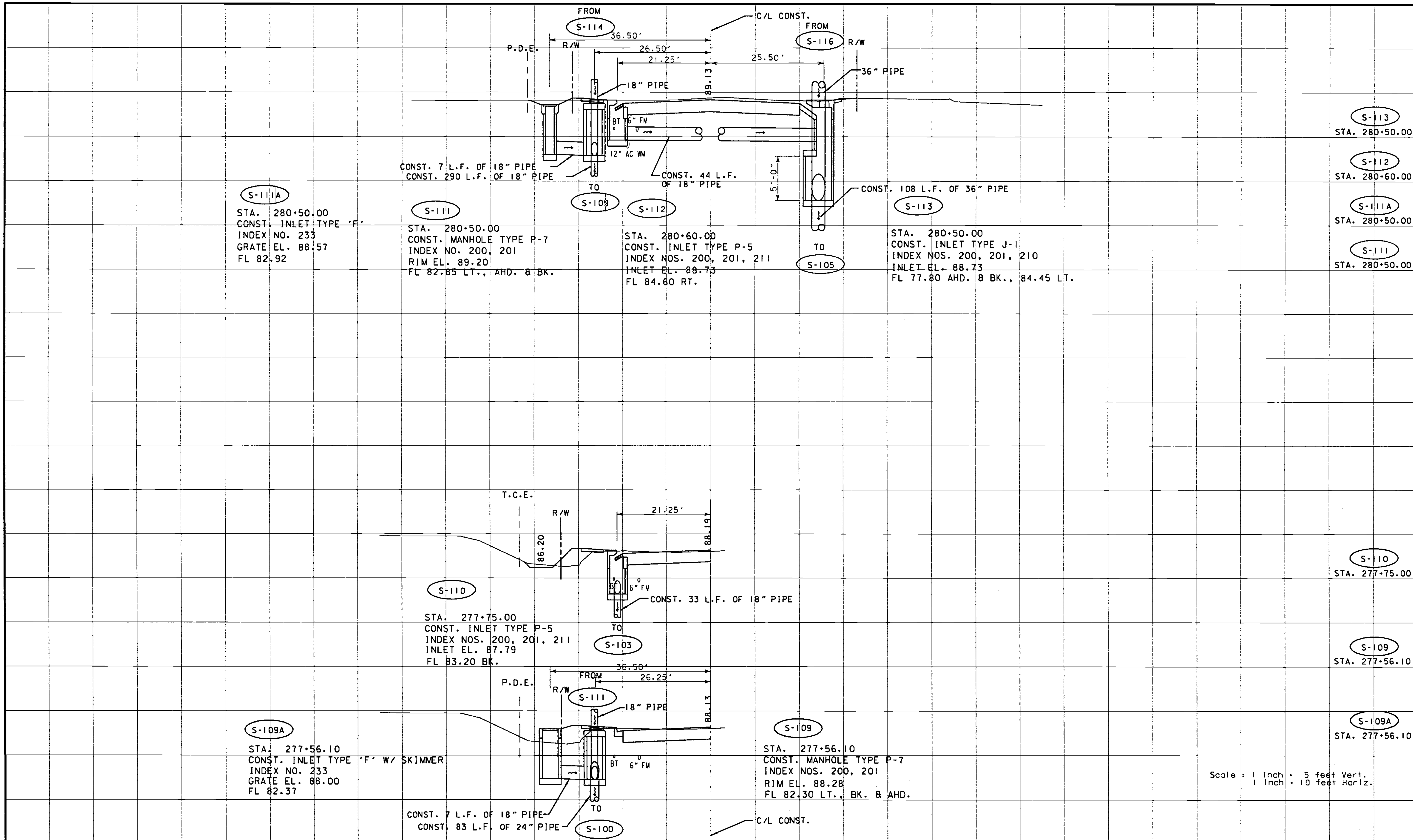
REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES



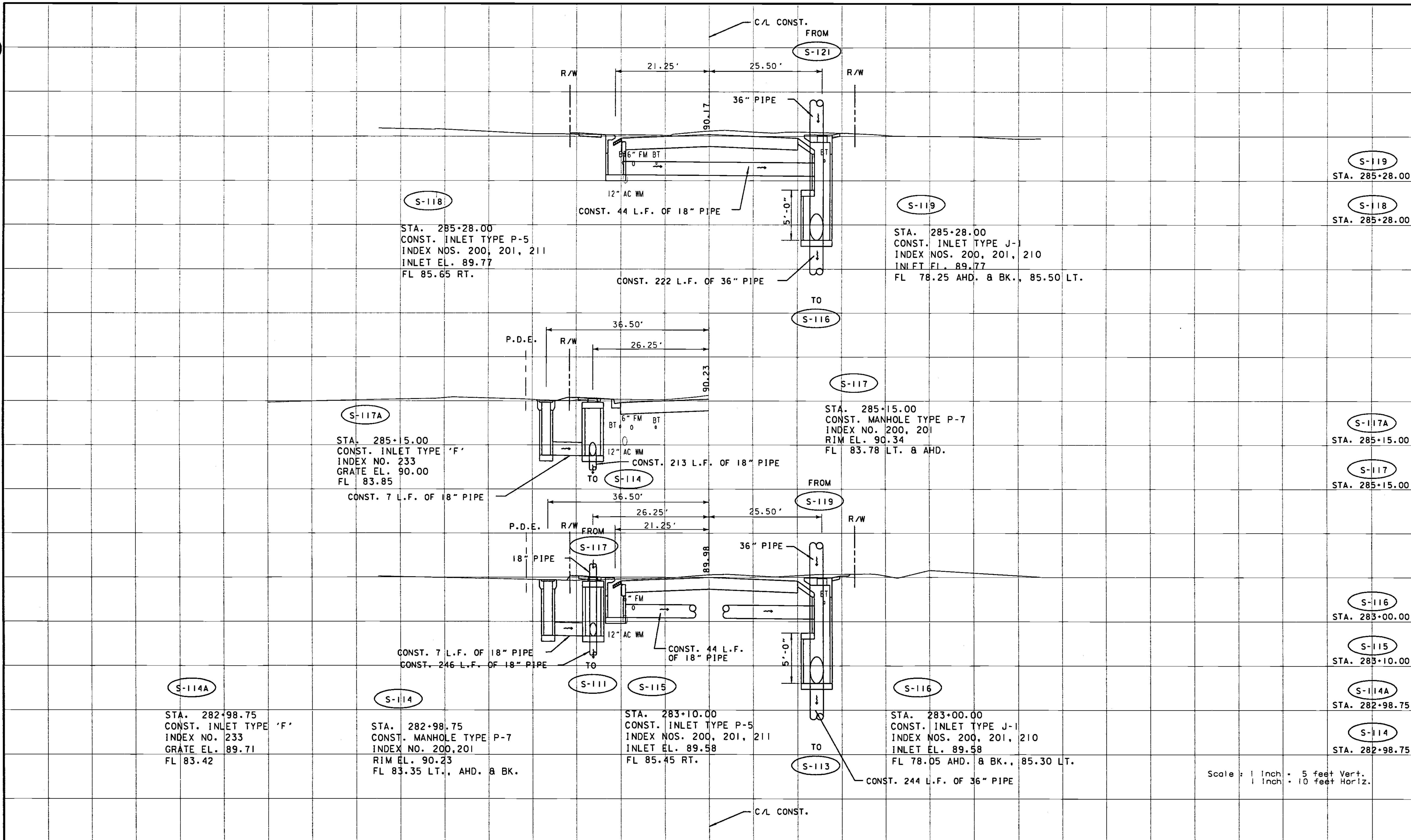
REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

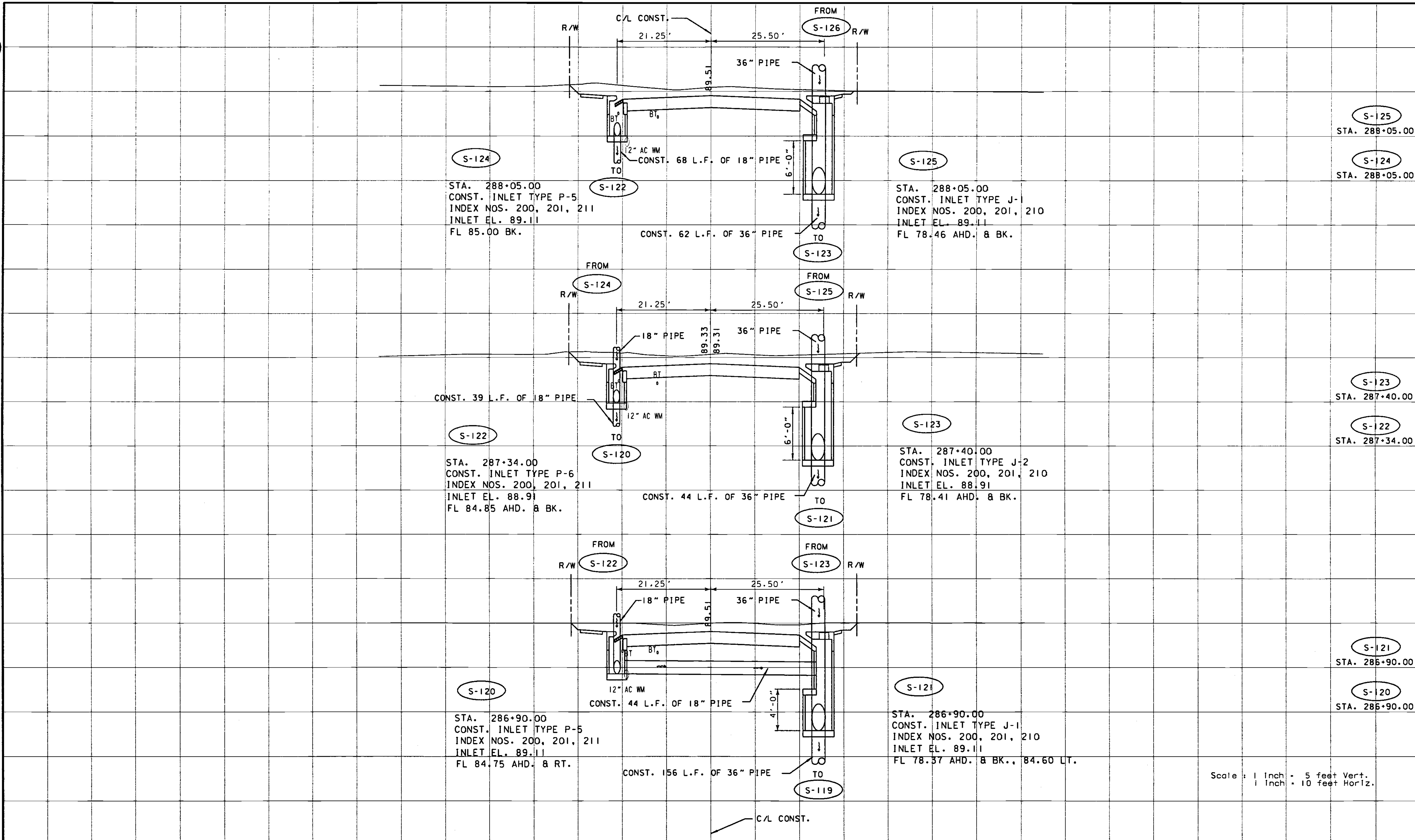
REVISIONS

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

12/21/2001 05:22:09 PM



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

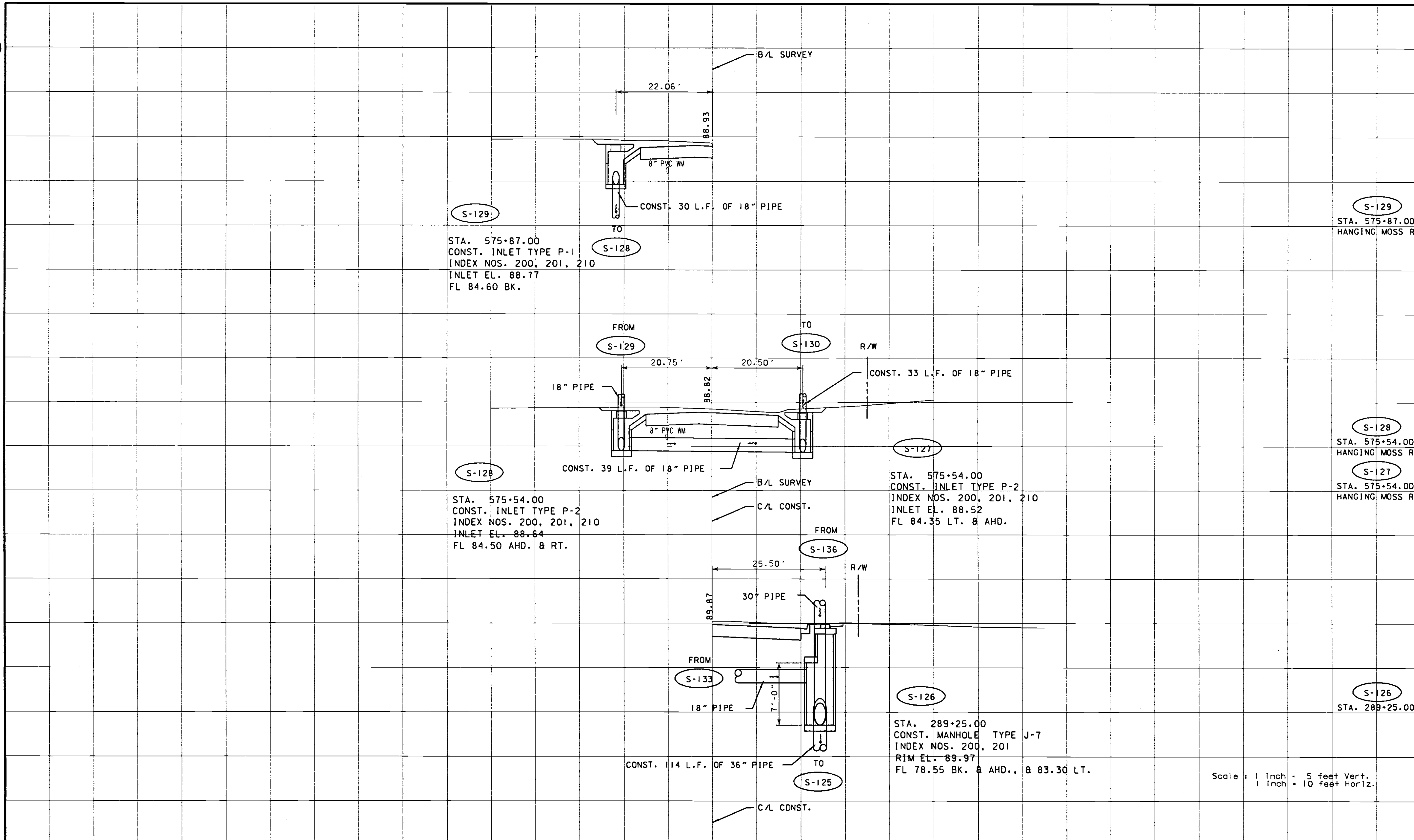
REVISIONS

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

05:22:10 PM 12/21/2001



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

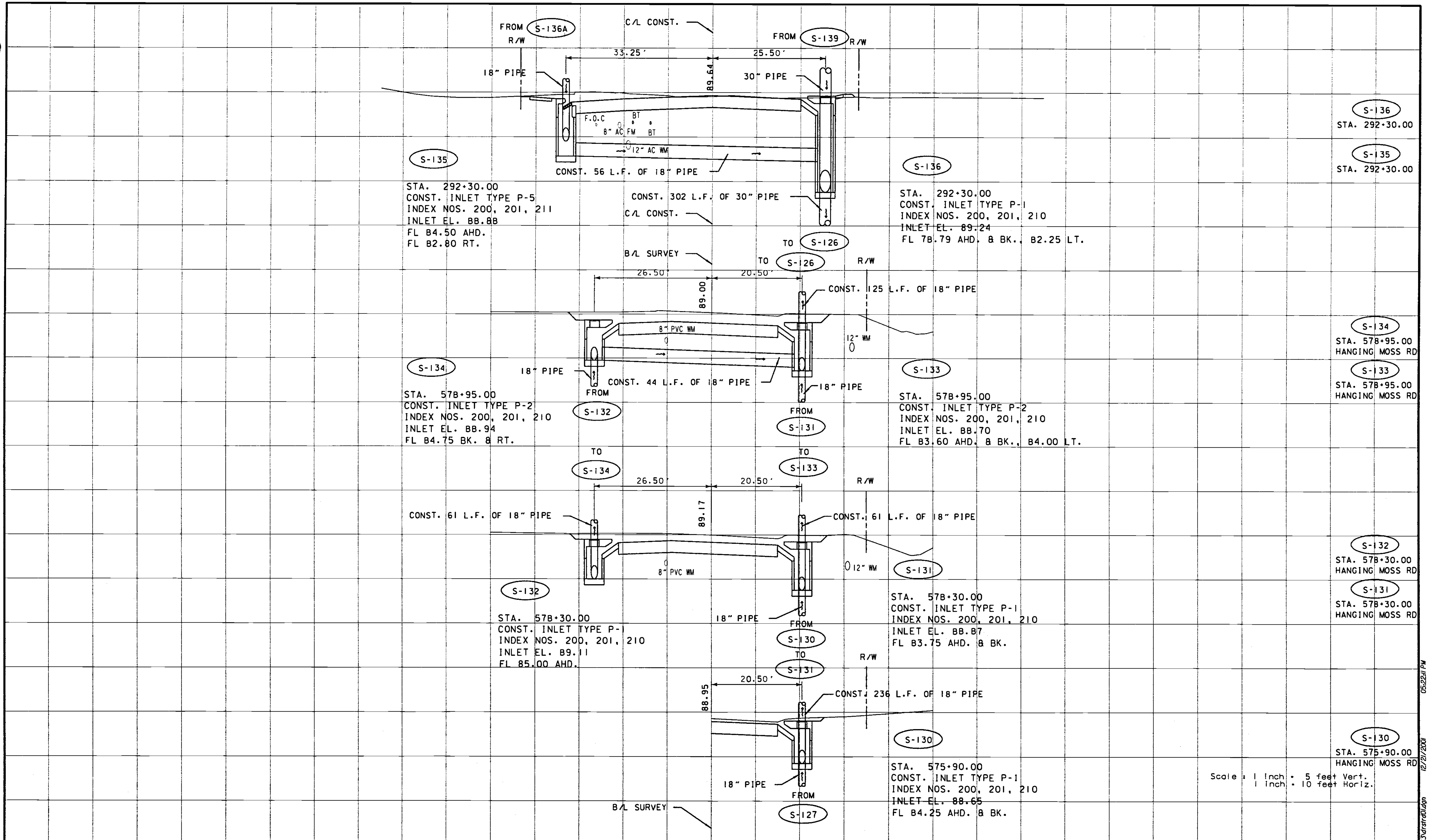
REVISIONS

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

n:\projects\oc-073\drstrd01.dgn 12/21/2001 05:22:10 PM



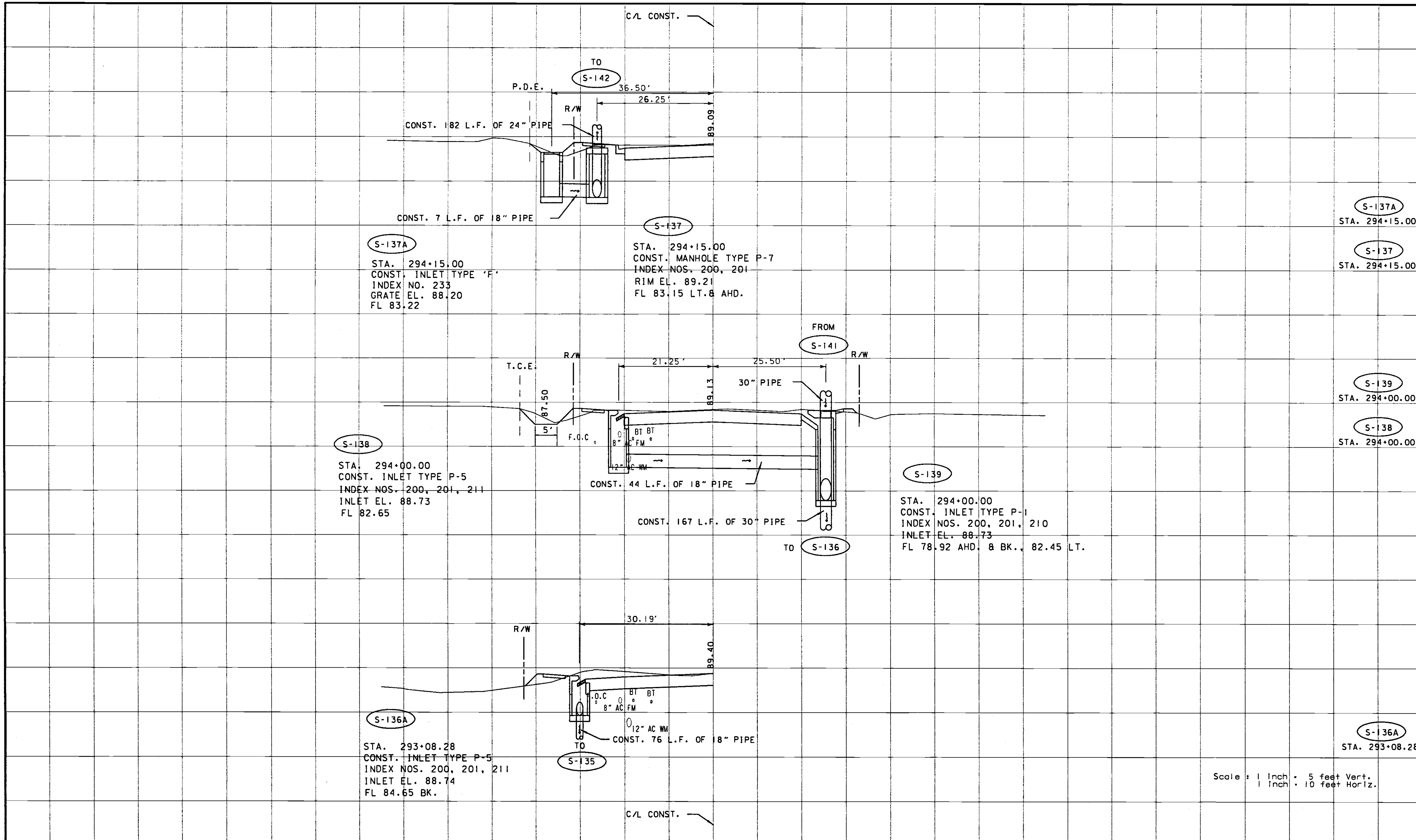
REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

05:22:11 PM 12/21/2001 h:\projects\xx-0173\drs\rd01.dgn



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

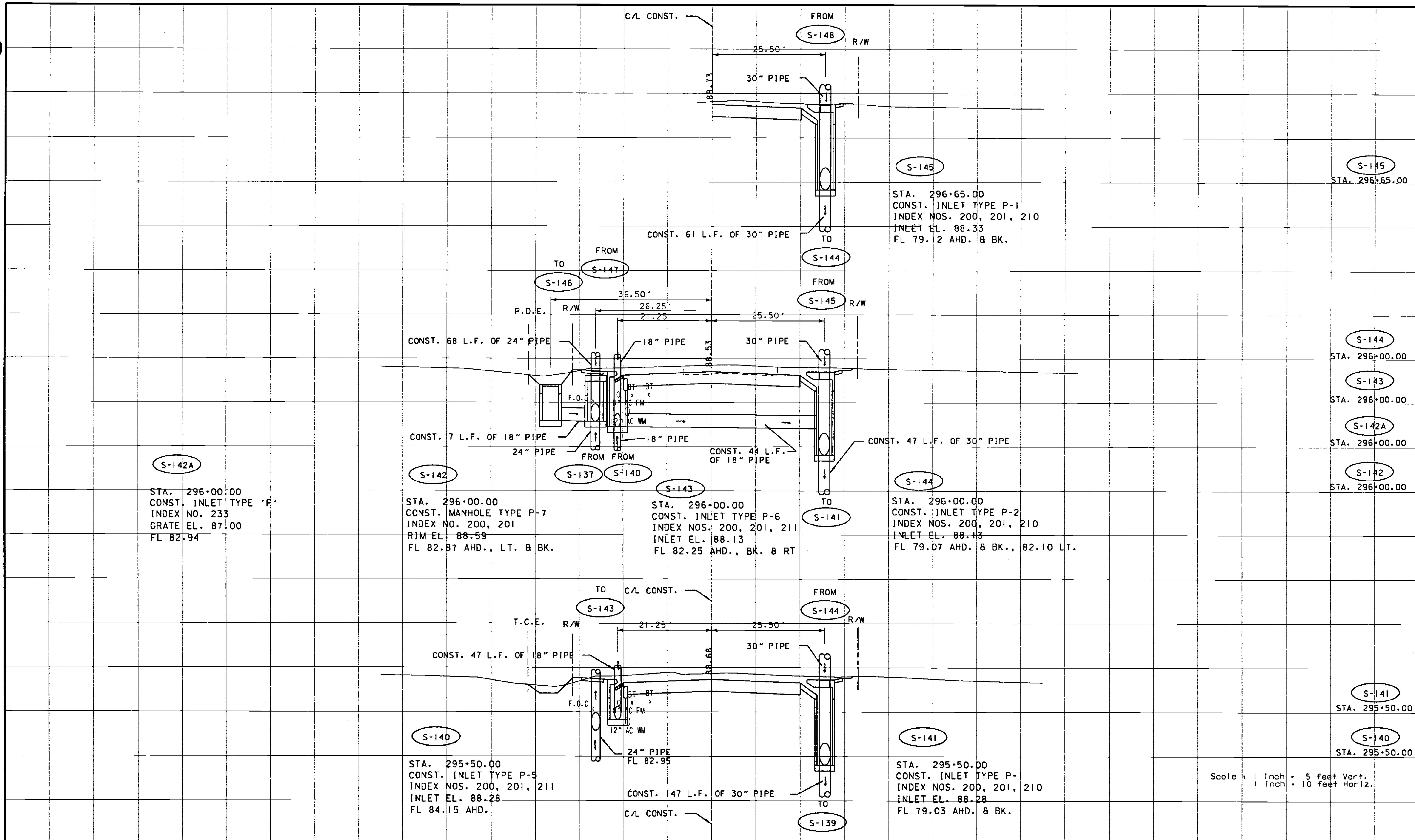
REVISIONS

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

n:\projects\oc073\drs\rd08.dgn 12/21/2001 05:22:25 PM



REVISIONS

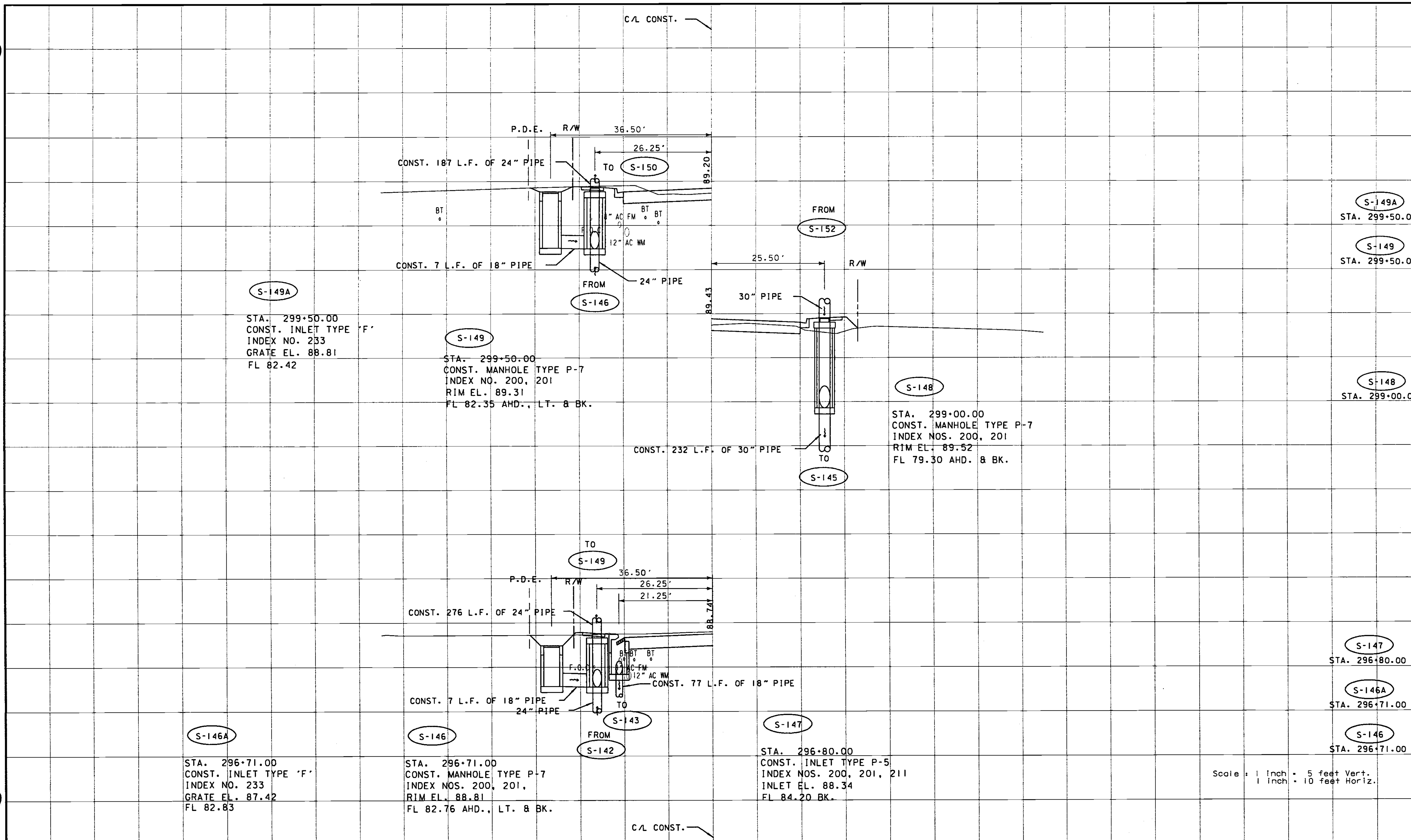
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

12/21/2001 05:22:25 PM



REVISIONS

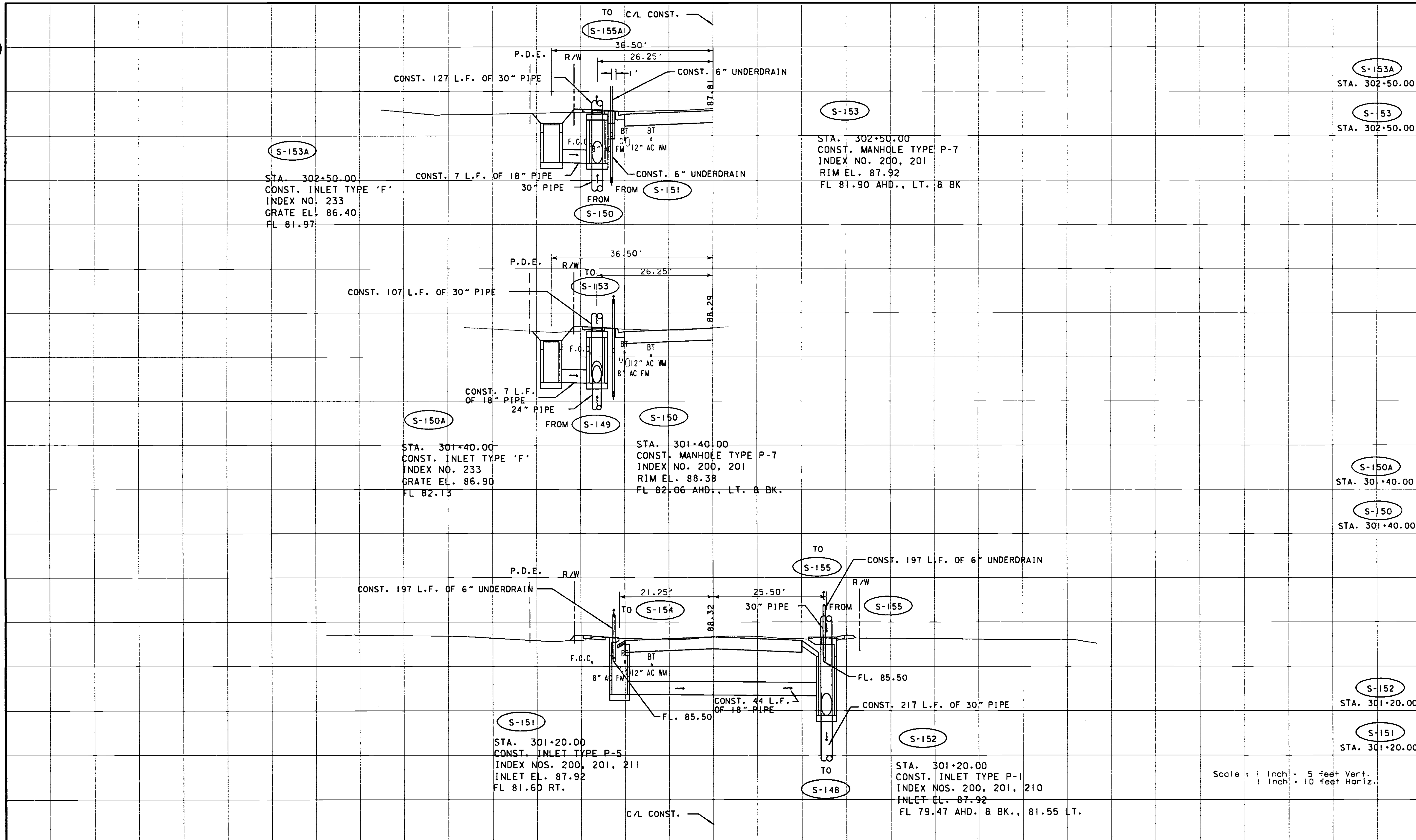
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

DRAINAGE STRUCTURES

05:22:26 PM 12/21/2001



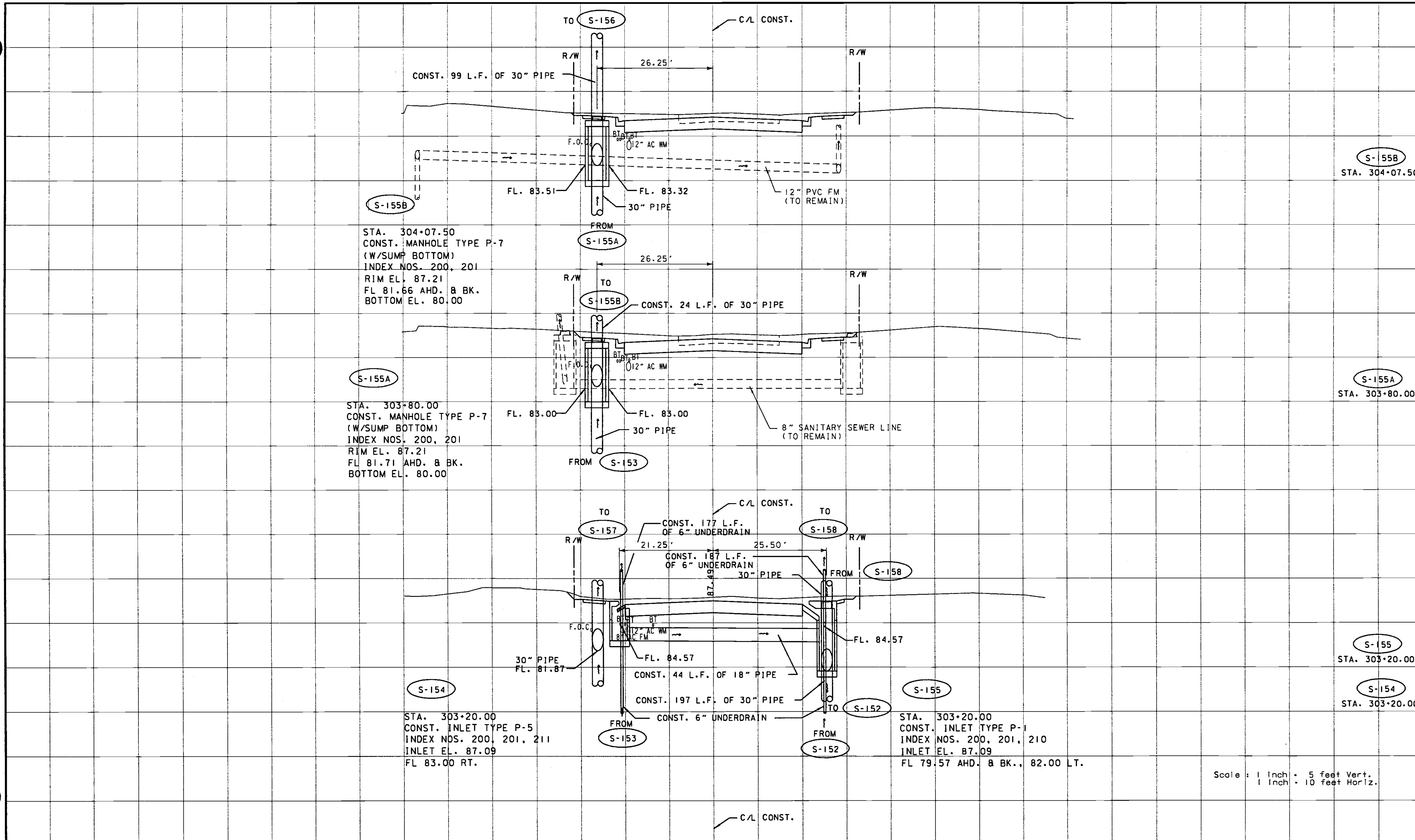
REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

DRAINAGE STRUCTURES

05:22:27 PM 12/21/2001



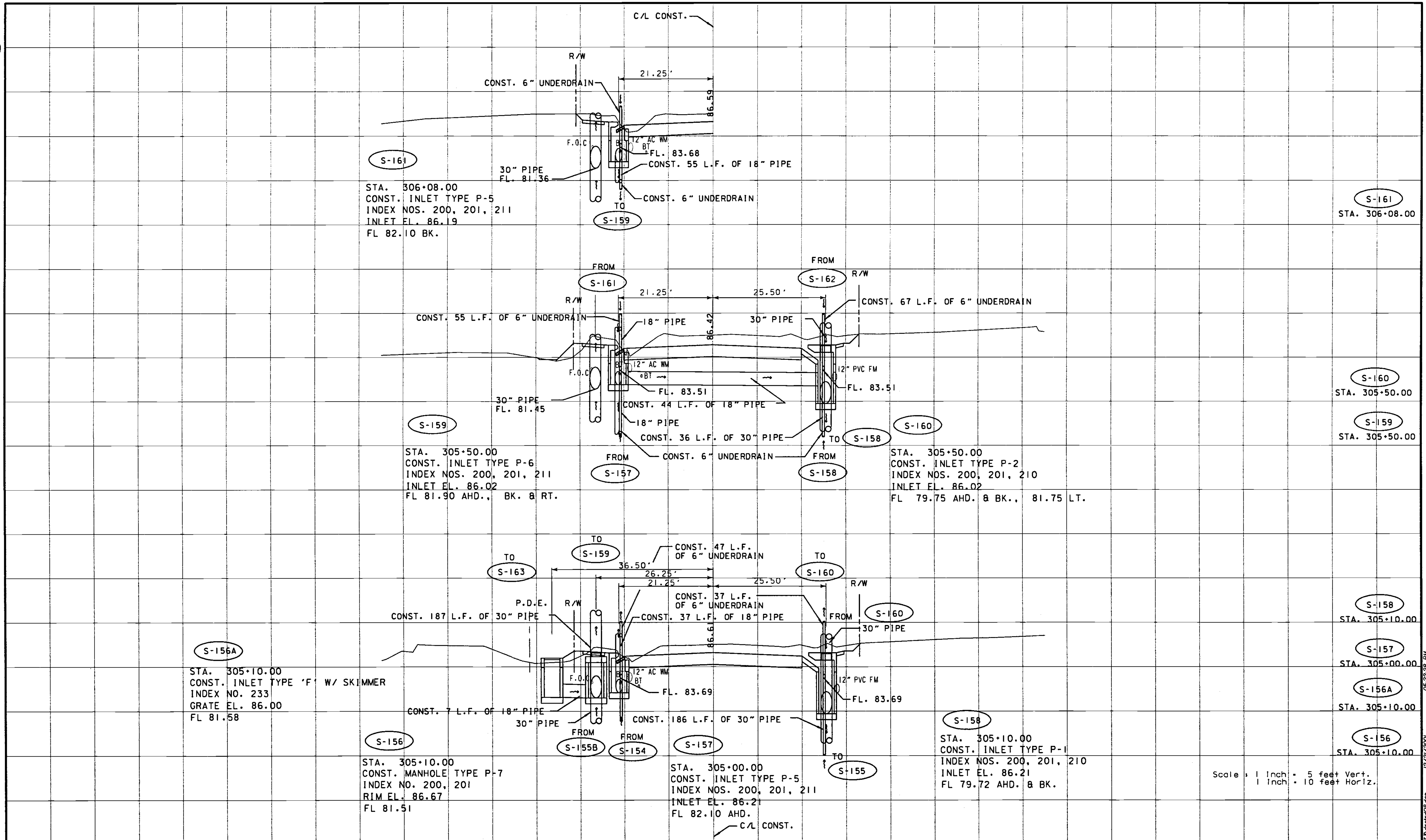
REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES

N:\Projects\sec-07\SDRSTR09.DGN 01/08/2002 01:47:26 PM



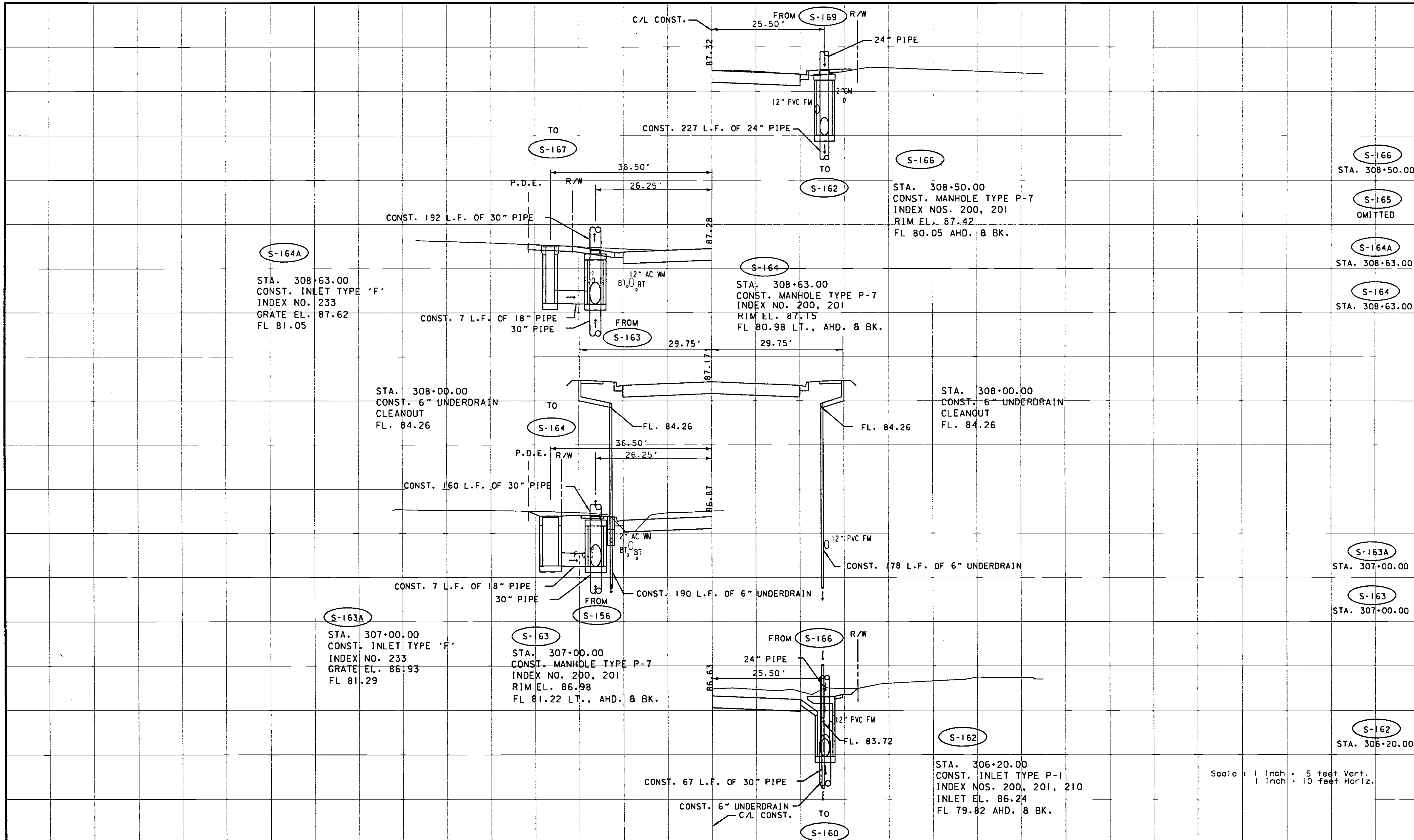
REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES



12/21/2001 05:22:28 PM

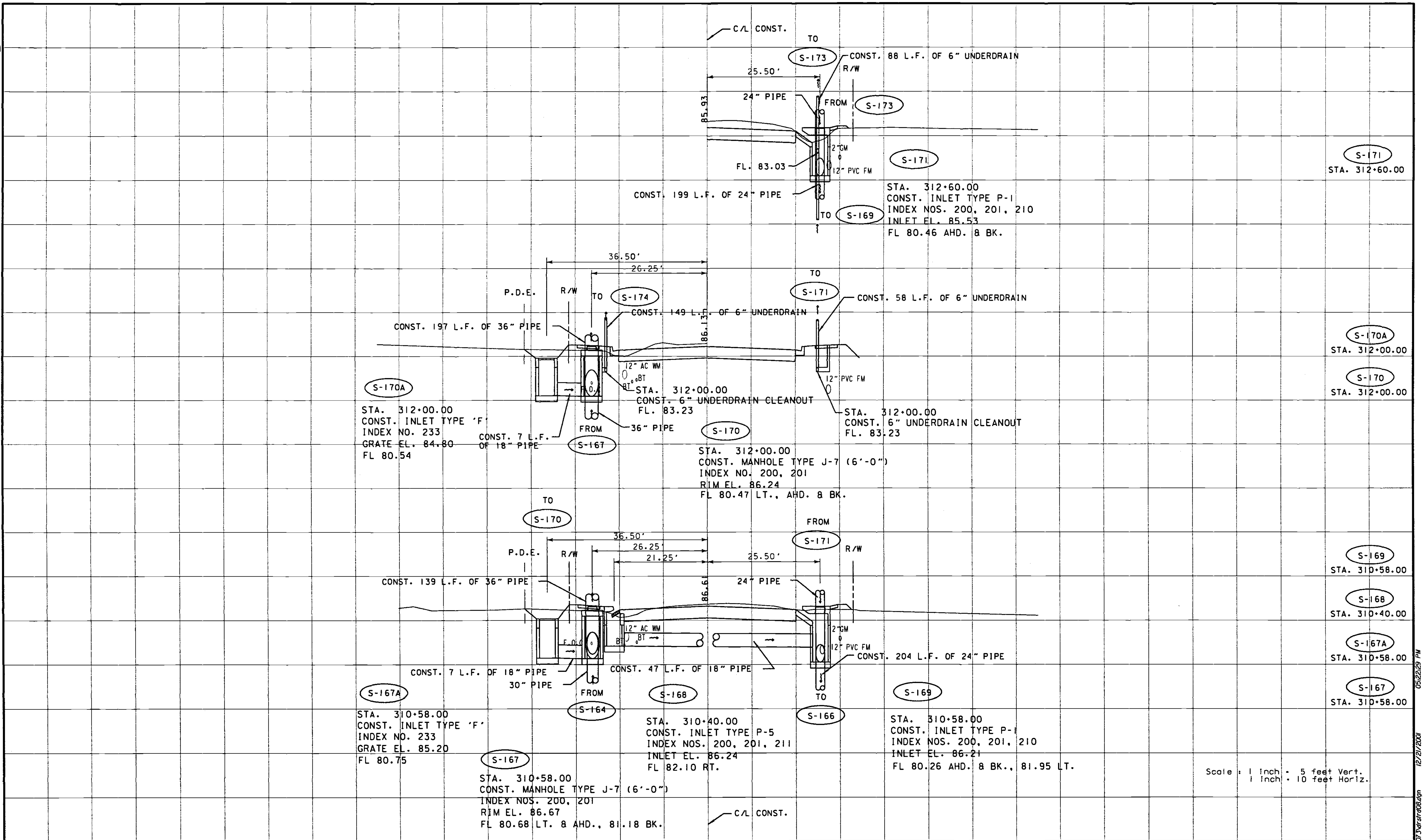
REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES



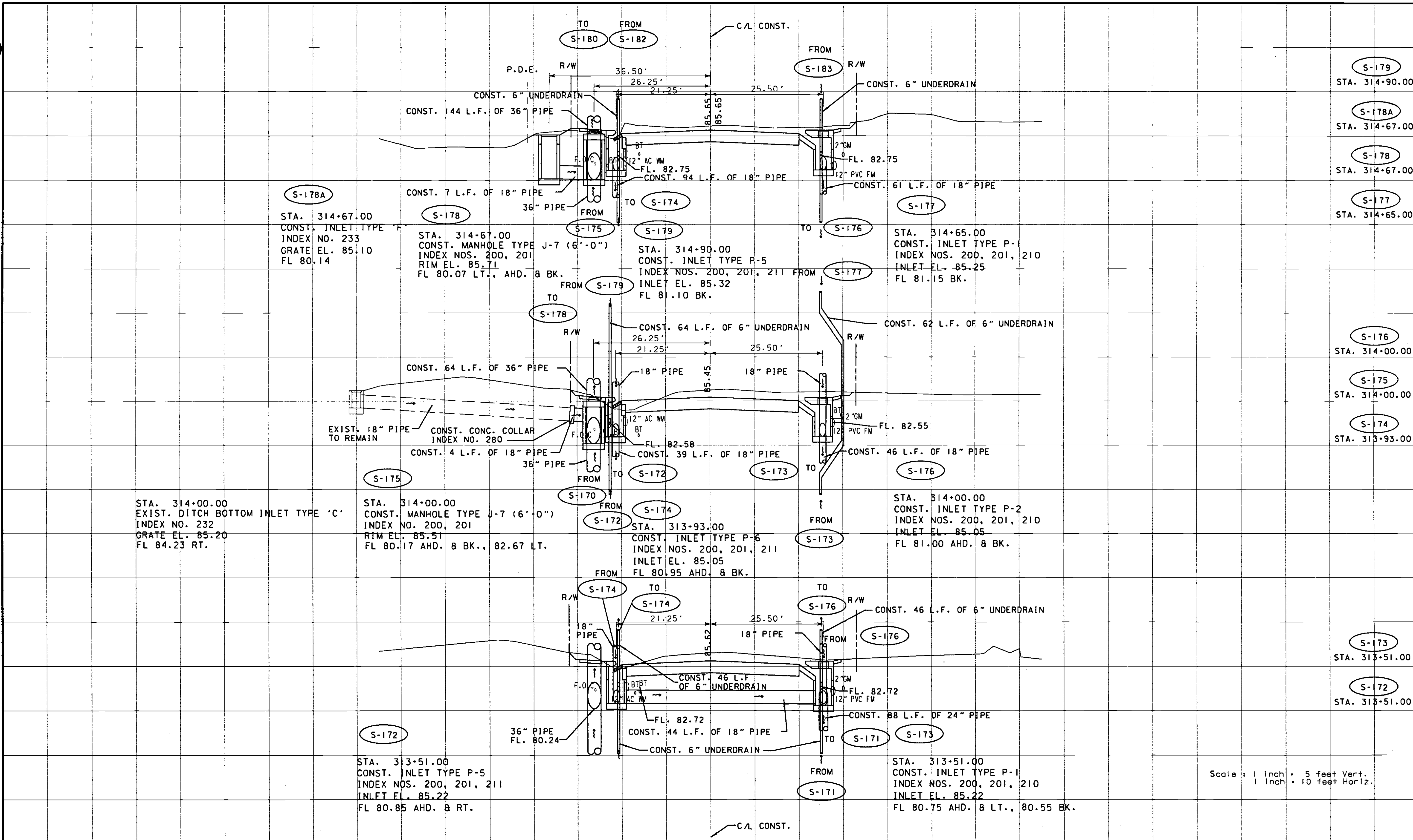
05:22:29 PM 12/21/2001 n:\projects\oc073\drsrd08.dgn

REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES



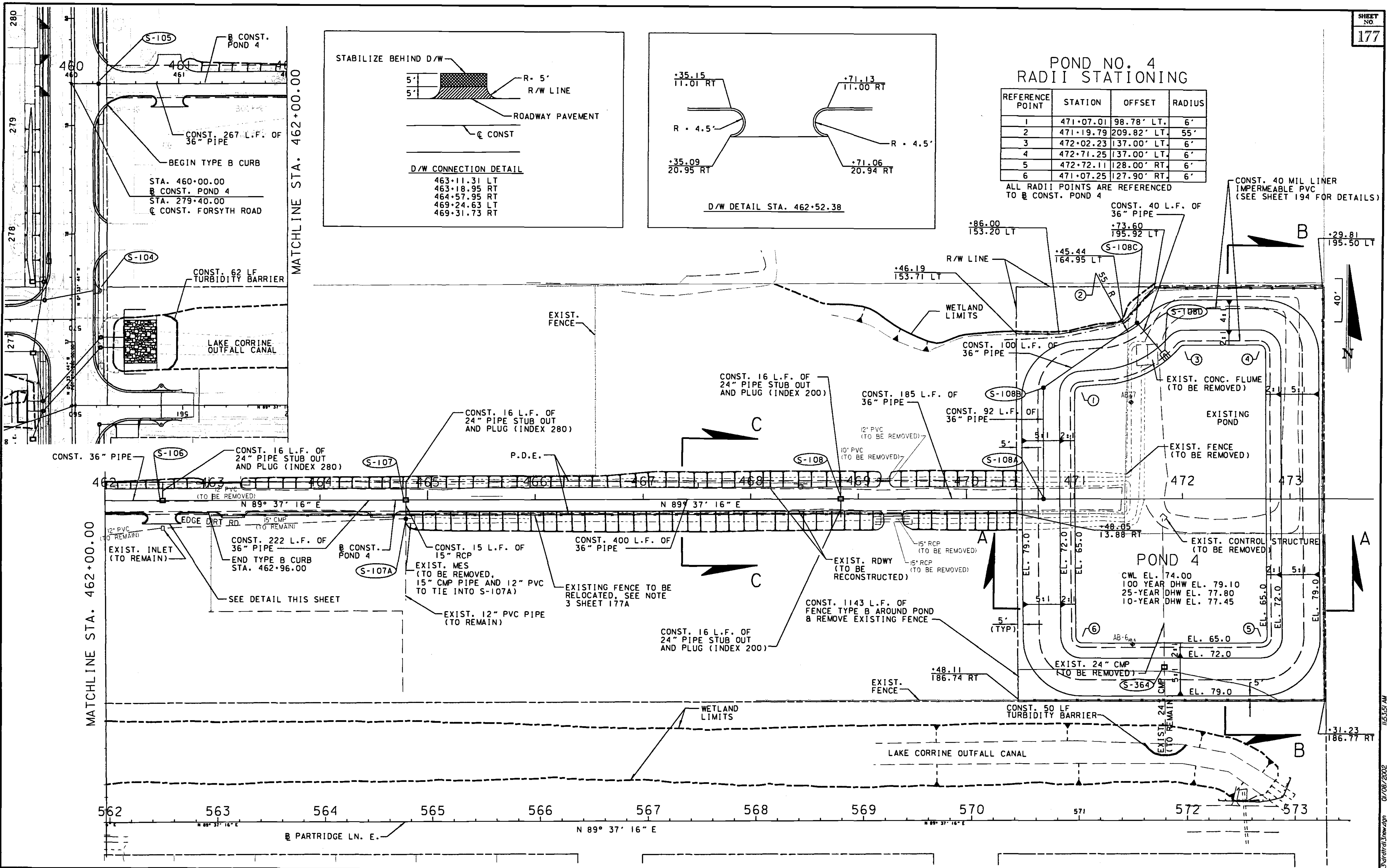
05:22:29 PM 12/21/2001 n:\projects\oc073\drstr08.dgn

REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE STRUCTURES



POND NO. 4 RADII STATIONING

REFERENCE POINT	STATION	OFFSET	RADIUS
1	471+07.01	98.78' LT.	6'
2	471+19.79	209.82' LT.	55'
3	472+02.23	137.00' LT.	6'
4	472+71.25	137.00' LT.	6'
5	472+72.11	128.00' RT.	6'
6	471+07.25	127.90' RT.	6'

ALL RADII POINTS ARE REFERENCED TO Ⓑ CONST. POND 4

REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

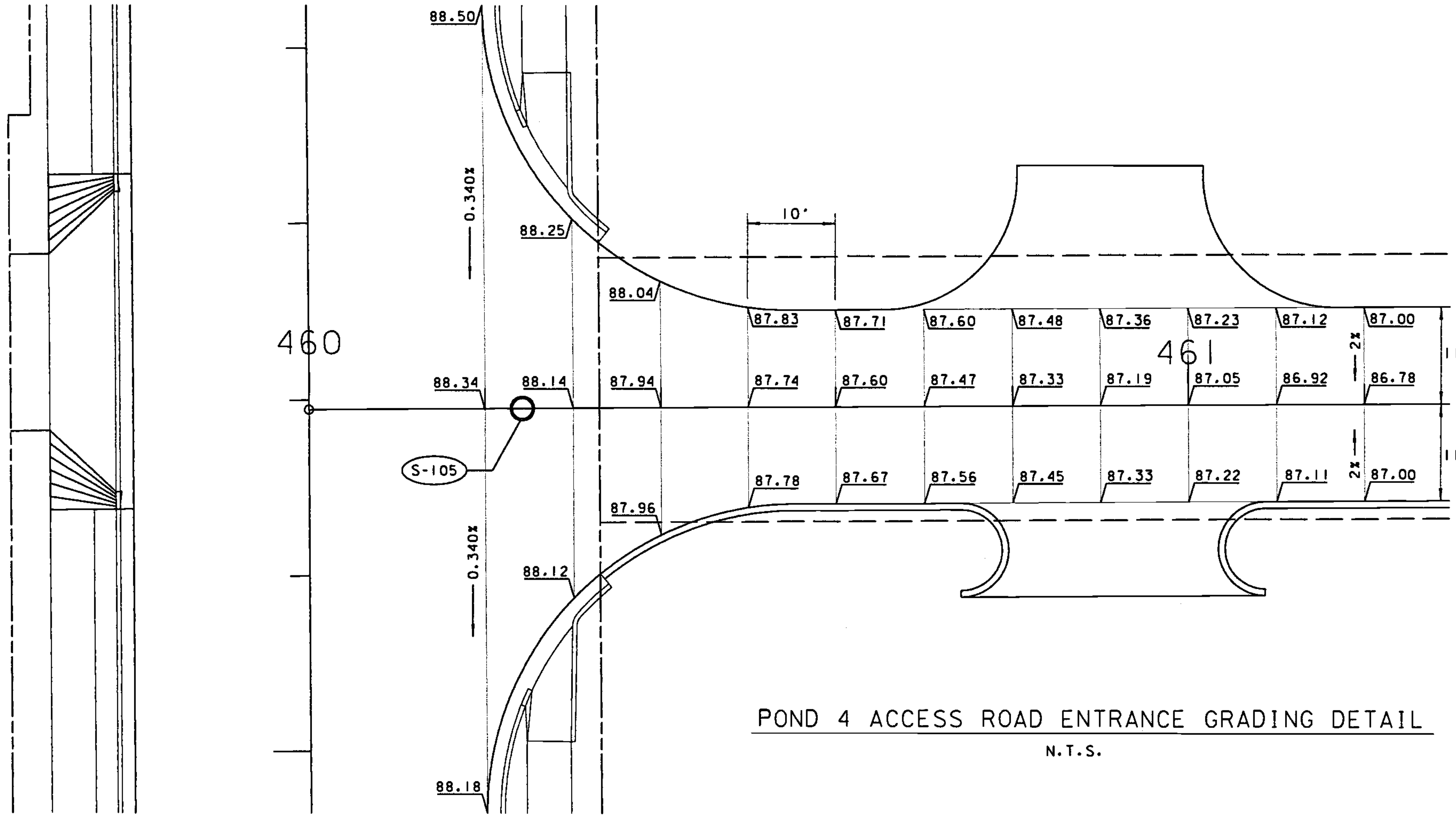
ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN
Pond 4

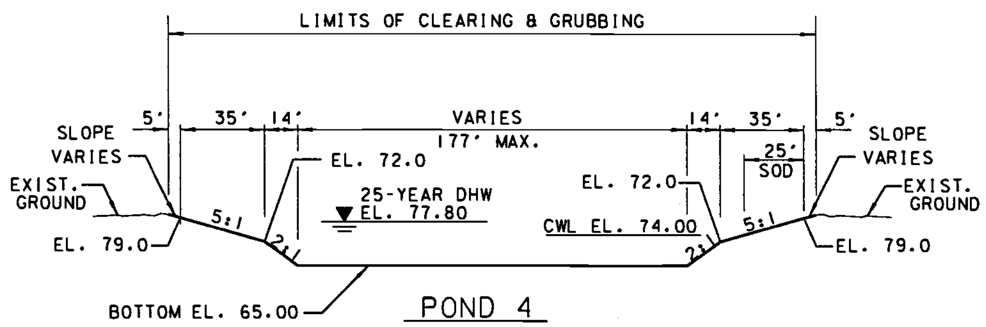
NOTES:

1. SEE POND 4 CROSS SECTIONS SHEET NOS. 276 - 283C FOR POND 4 ACCESS ROAD PGL ELEVATIONS.
2. SEE SHEET NO. 177 FOR LOCATION OF CROSS SECTION LINES A-A, B-B AND C-C.
3. THE EXISTING FENCE AND GATES ALONG THE POND 4 ACCESS ROAD (STA. 463+00.00 - STA. 470+47.00) IS TO BE REMOVED DURING CONSTRUCTION AND THEN RE-INSTALLED IN THE SAME LOCATION. COORDINATION WITH THE PROPERTY OWNER IS REQUIRED IN ORDER TO MAINTAIN ON-SITE SECURITY.



POND 4 ACCESS ROAD ENTRANCE GRADING DETAIL

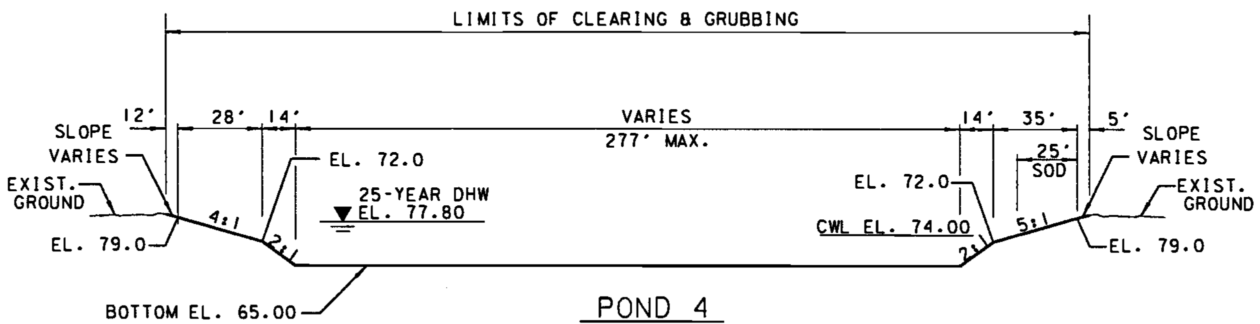
N.T.S.



POND 4

SECTION A-A

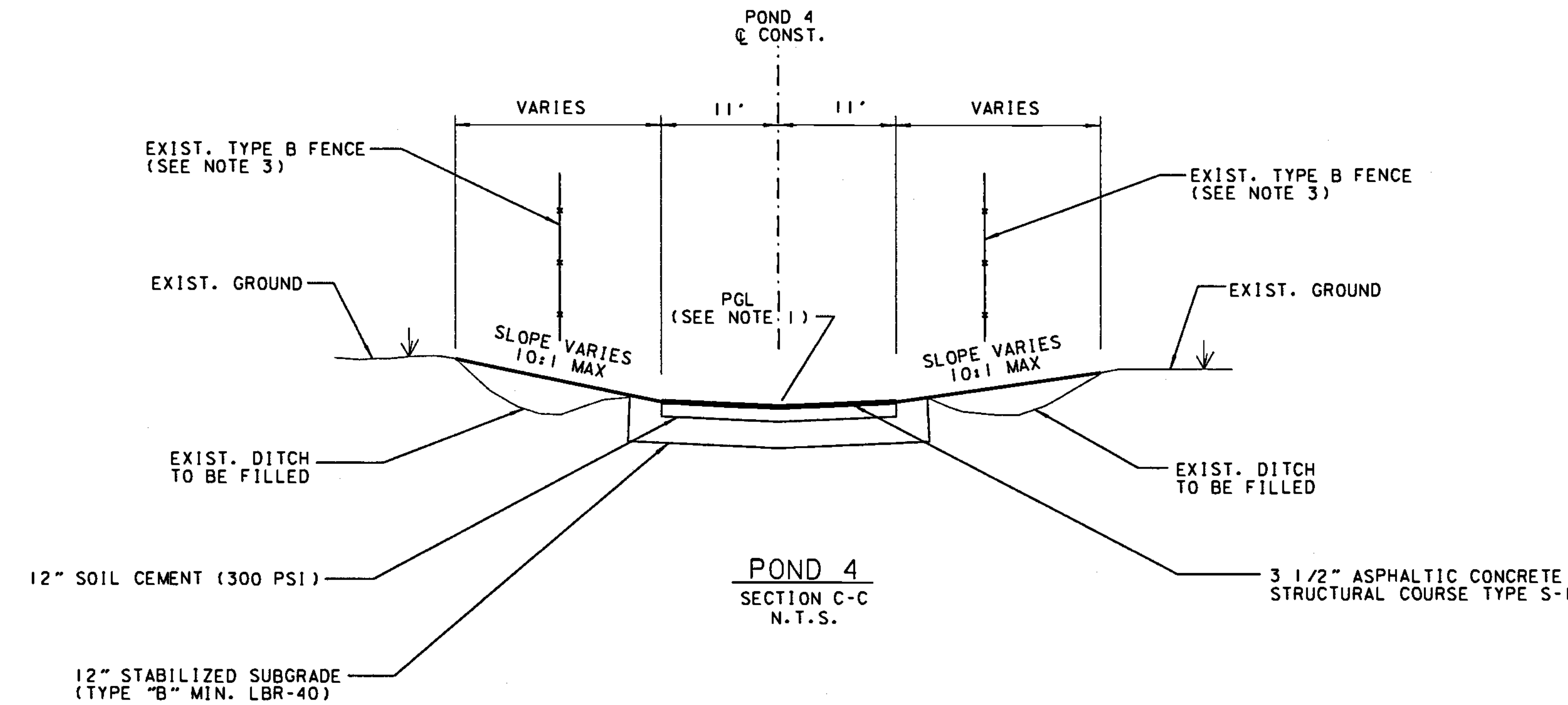
N.T.S.



POND 4

SECTION B-B

N.T.S.



POND 4

SECTION C-C

N.T.S.

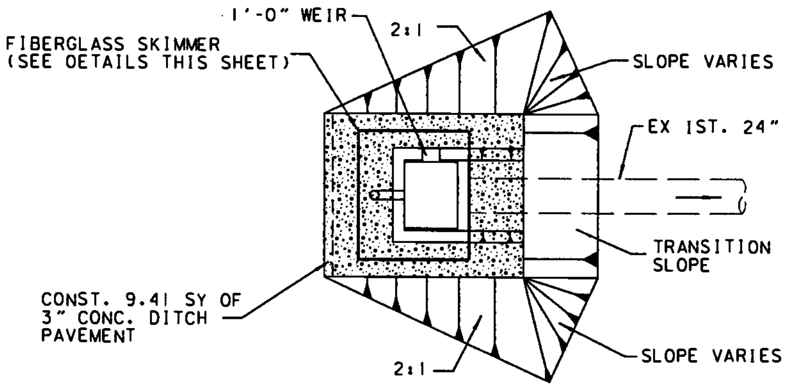
REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY FLORIDA

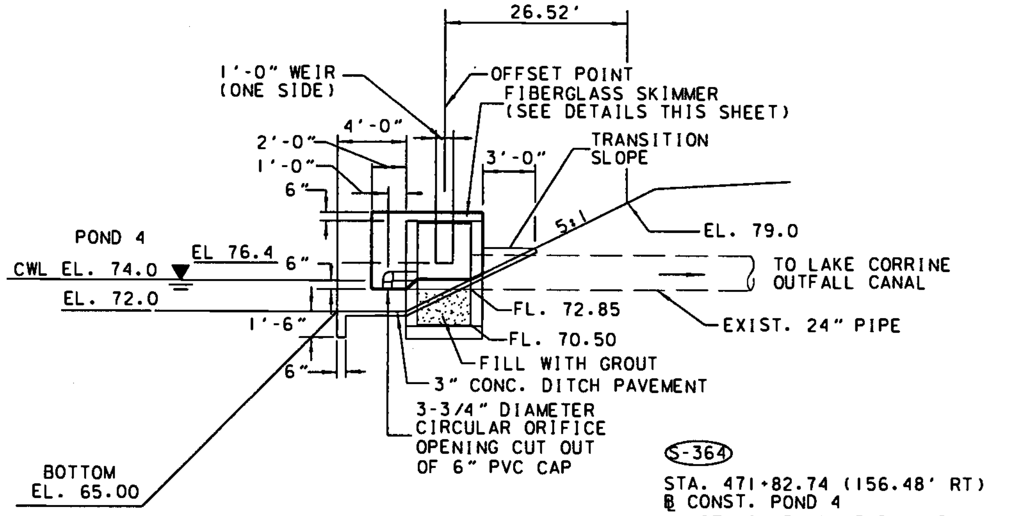
PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

PLAN Pond 4

n:\projects\oc-073\drl\rdl3anew.dgn 01/08/2002 11:53:57 AM

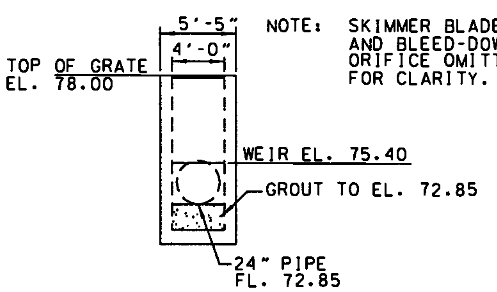


STRUCTURE S-364
PLAN
(POND 4)
N.T.S



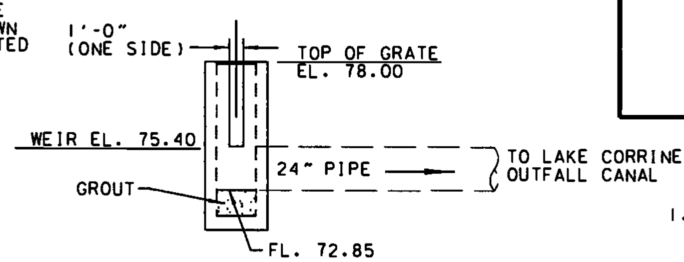
S-364
STA. 471+82.74 (156.48' RT)
℄ CONST. POND 4
CONST. INLET TYPE D (MODIFIED)
GRATE EL. 78.00
WEIR EL. 75.40
ORIFICE EL. 74.00
FL. 72.85
INDEX NO. 232

STRUCTURE S-364
SIDE ELEVATION
(POND 4)
N.T.S

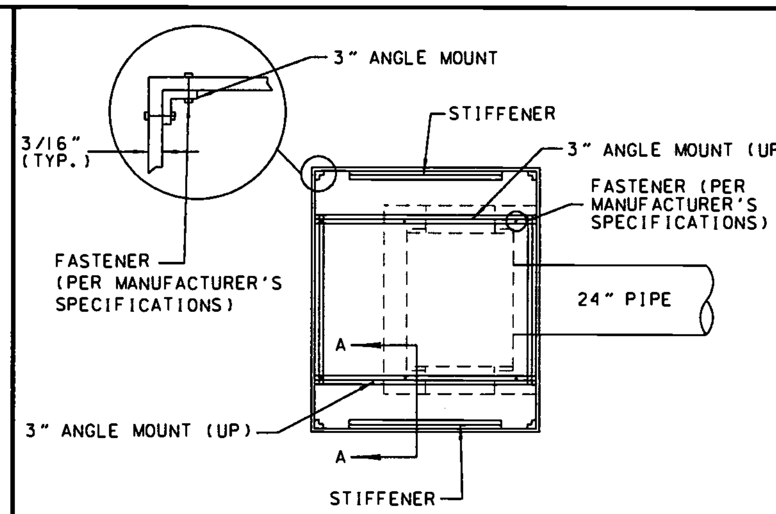


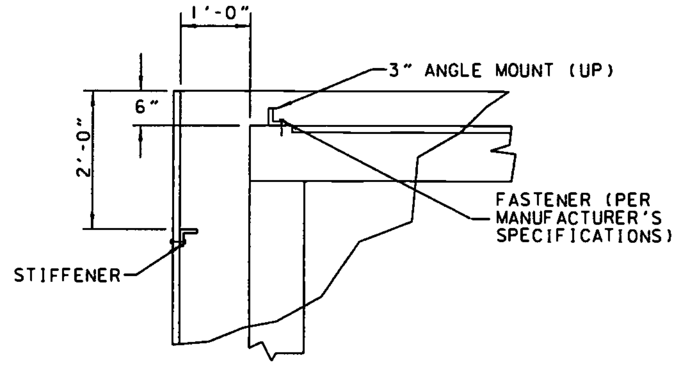
NOTE: SKIMMER BLADE AND BLEED-DOWN ORIFICE OMITTED FOR CLARITY.

STRUCTURE S-364
FRONT ELEVATION
(POND 4)
N.T.S



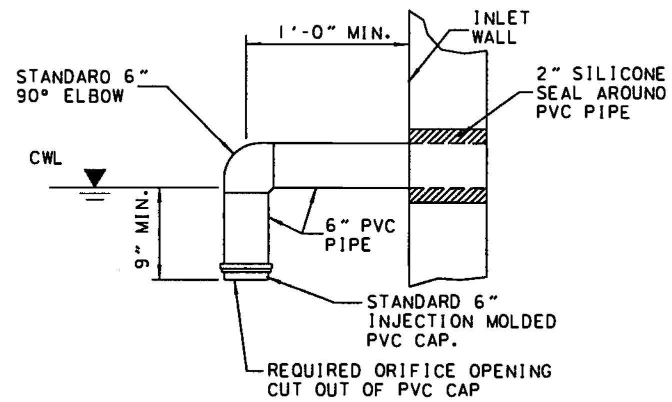
STRUCTURE S-364
SIDE ELEVATION
N.T.S



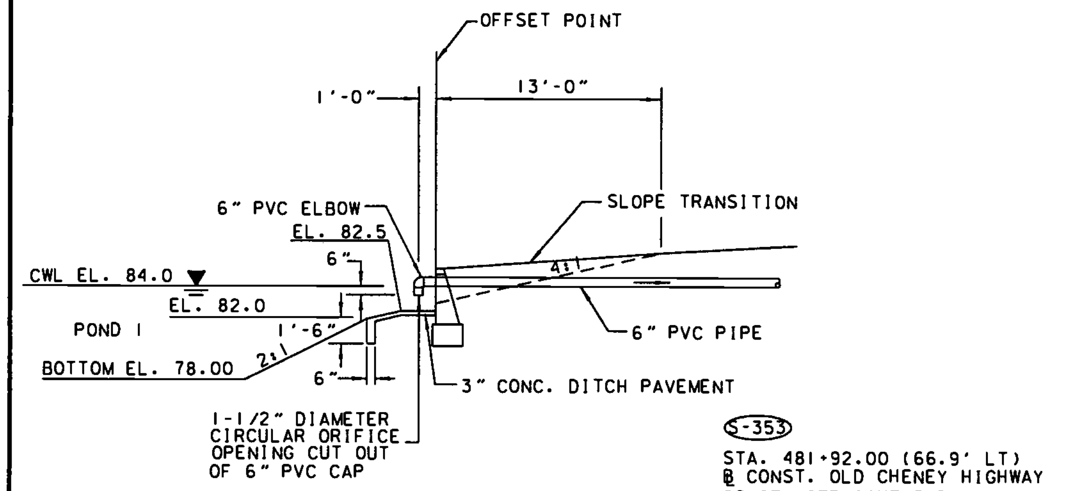


SECTION A-A

SKIMMER DETAIL
PLAN
N.T.S

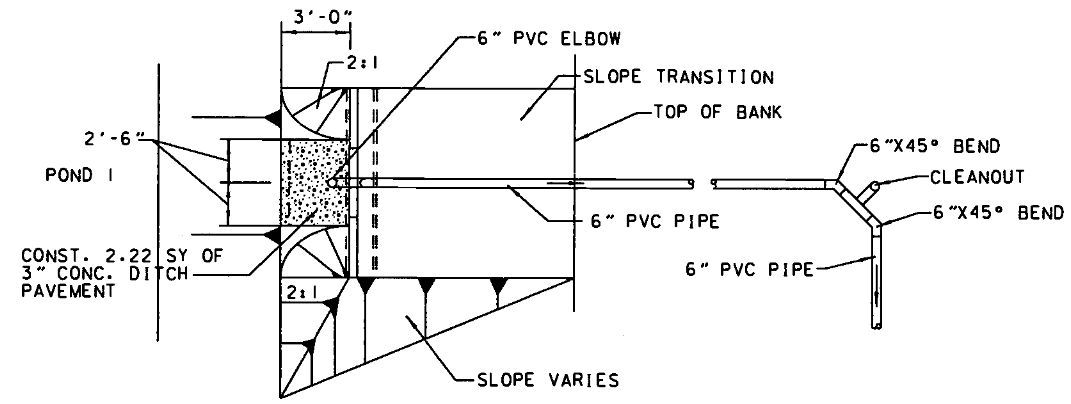


TYPICAL PVC BLEED-DOWN
DEVICE DETAIL

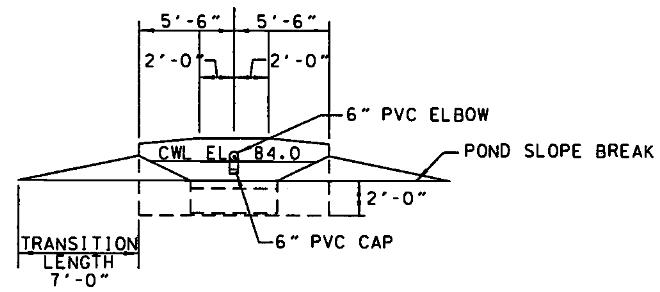


S-353
STA. 481+92.00 (66.9' LT)
℄ CONST. OLD CHENEY HIGHWAY
CONST. STRAIGHT ENDWALL (24")
INDEX NO. 250
ORIFICE EL. 84.00

STRUCTURE S-353
SIDE ELEVATION
(POND 1)
N.T.S



STRUCTURE S-353
PLAN
(POND 1)
N.T.S



STRUCTURE S-353
FRONT ELEVATION
(POND 1)
N.T.S

NOTES

1. ALL EXPOSED PVC PIPES AND FITTINGS SHALL BE PAINTED WITH TWO (2) COATS OF WHITE ENAMEL BASE PAINT. PAINT SHALL MEET ALL APPLICABLE STATE AND FEDERAL STANDARDS AND SPECIFICATIONS.

2. ALL NECESSARY GRADING AROUND THE CONTROL STRUCTURE SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "INLET" OR "ENDWALL".

3. THE COST OF THE BLEED DOWN ORIFICE, SKIMMER AND THE 3" CONC. DITCH PAVEMENT SHALL BE INCLUDED IN THE COST OF THE TYPE "D" DITCH BOTTOM INLET (POND 4) OR STRAIGHT ENDWALL (POND 1).

REVISIONS

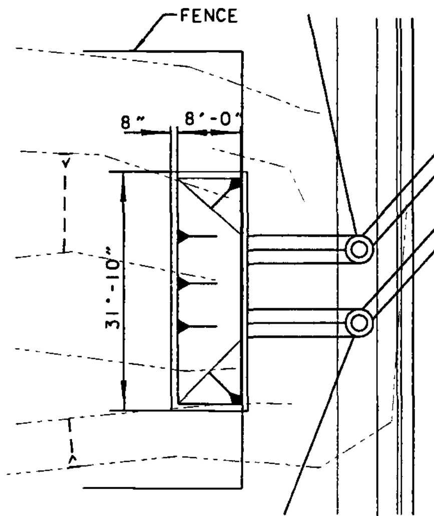
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

POND 1 & 4
DETAILS

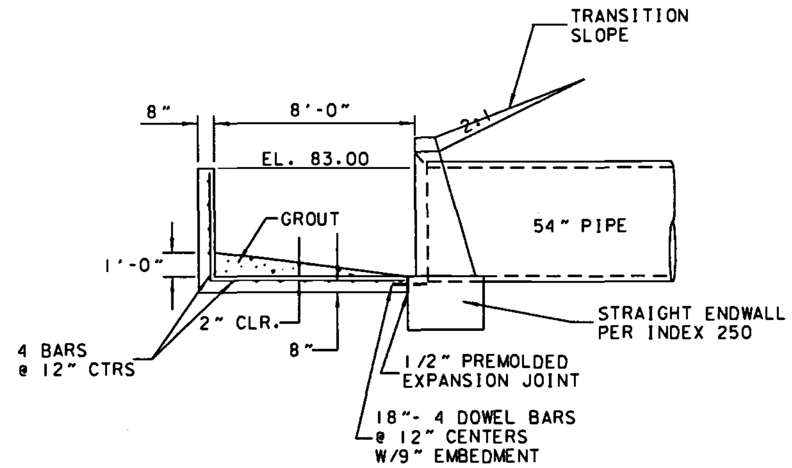
H:\Projects\oc-07.3\ORSTR003.DGN 01/14/2002 08:33:23 AM



PLAN
N.T.S

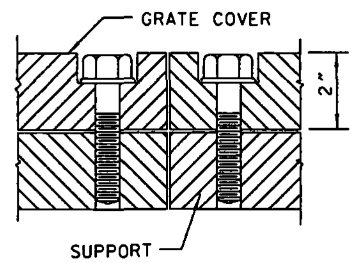
STRUCTURE	CONC CY	STEEL LBS
S-94A (ENDWALL)	15.23	*
WEIR STR.	12.13	489
TOTAL	27.36	489

* INCLUDED IN THE COST OF S-94A (ENDWALL)

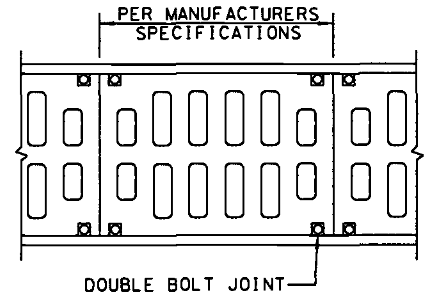


S-94A

WEIR STRUCTURE DETAILS REINFORCING
N.T.S

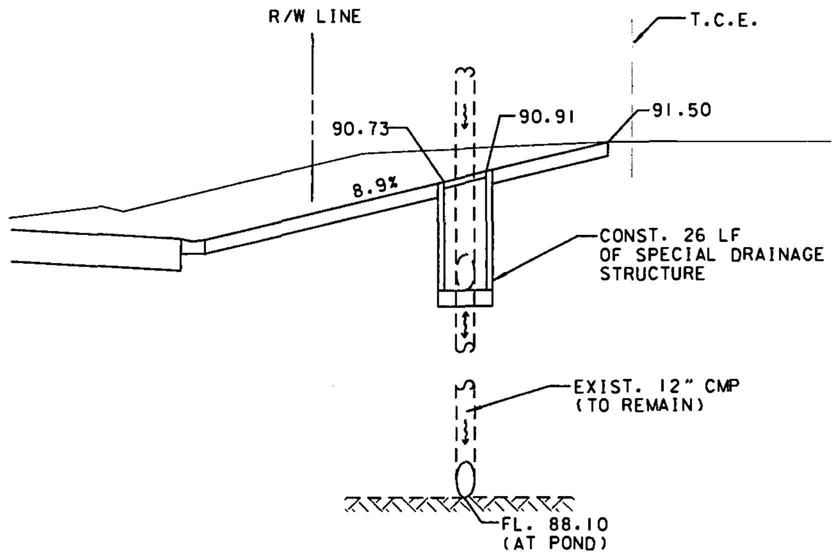


CONNECTION DETAIL
N.T.S

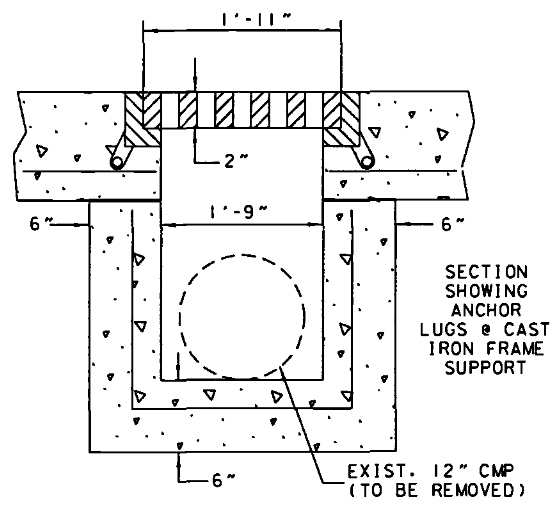


ILLUSTRATING TYPICAL GRATE WITH FRAME
N.T.S

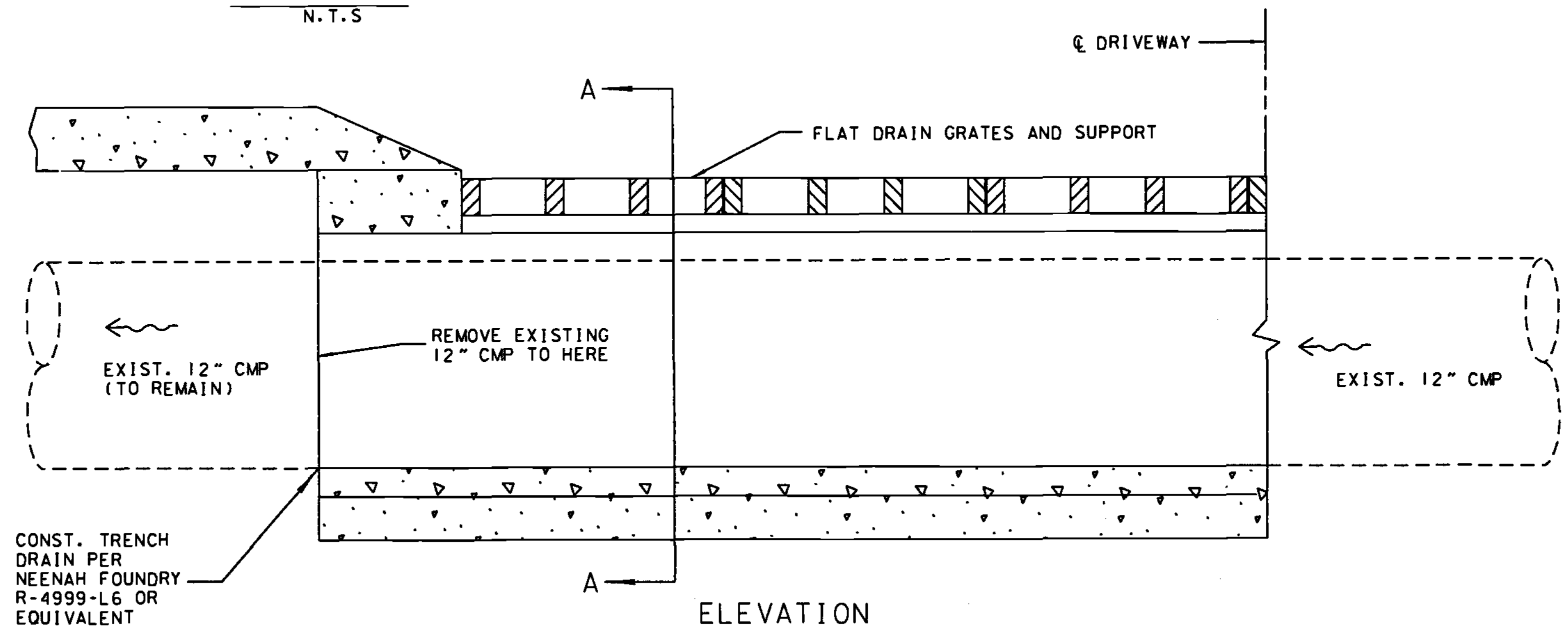
NOTE: ALL CONNECTIONS, SUPPORT APPURTENANCES, AND CONCRETE SHALL BE INCLUDED IN THE UNIT COST FOR "SPECIAL DRAINAGE STRUCTURE", EACH.



ELEVATION
N.T.S



ELEVATION SECTION A-A
N.T.S



ELEVATION
N.T.S

SPECIAL DRAINAGE STRUCTURE DETAILS

SEE PLAN & PROFILE SHEET NO. 52 (DRIVEWAY STA. 359+90 RT)

REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

MISCELLANEOUS DRAINAGE DETAILS

02:41:12 PM 12/28/2001 n:\Projects\oc-013\DRSTR001.dgn

RESPONSE TO COMMENTS
SJRWMD ERP
APPLICATION No. 4-095-20839-3

FORSYTH ROAD
Between Old Cheney Highway and Aloma Avenue

PREPARED FOR

THE ORANGE COUNTY
BOARD OF COUNTY COMMISSIONERS

ORANGE COUNTY GOVERNMENT
F L O R I D A

#1 of 2

20839-3

RECEIVED
MAR 0 8 2002
PDS
ALTAMONTE SVC CTR

MARCH 2002

PEC/ PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors
Suite 1560 Eola Park Centre 200 East Robinson Street Orlando, Florida 32801 407/422-8062

TABLE OF CONTENTS

20839-3

RESPONSE TO COMMENTS
Application No. 4-095-20839-3
Forsyth Road
Between Old Cheney Highway and Aloma Avenue (S.R. 426)
Orange County, Florida

1. **The proposed project is located within the Econlockhatchee River Hydrologic Basin. Please be advised that a system must not cause a net reduction in flood storage within the 100-year floodplain of the Econlockhatchee River or any of its tributaries, at a location with an upstream drainage area of 1 square mile or greater, except for structures elevated on pilings or traversing works that comply with conveyance requirements in subsection 10.5.2. Please clarify and submit any revised plans and calculations {40C-4.301(1)(a)(b)(c); 40C-41.063(5)(b), F.A.C.]**

   Please refer to **Section 3.0,** entitled *Culvert Analysis* of this *Response to Comments* document. This section describes each of the existing and proposed culvert improvements at these crossings. As described in the ERP application, Forsyth Road will traverse across the following waterways:

   - Tiffany Manor Canal;
   - Lake Corrine Outfall Canal;
   - Gardner Street Ditch;
   - Winter Park Pines Canal; and
   - CSX Railroad (south of Aloma Avenue).

   Of these five crossings, only the Lake Corrine Outfall Canal and the Winter Park Pines Canal have an upstream drainage area of one (1) square mile or greater and are considered "traversing works". The improvements for these two culvert crossings are described as follows:

   Lake Corrine Outfall Canal. The culvert improvements entail the removal and replacement in-kind of the existing double 54-inch RCP. The culvert length will be extended to accommodate the proposed roadway widening for Forsyth Road. The current structural condition of the existing pipes is poor, with the County having to repair roadway and pipe sections on numerous occasions. The Lake Corrine Outfall Canal is a major tributary to the Little Econlockhatchee River, originating at Lake Baldwin within the old Orlando Naval Training Center (NTC) and terminating at the Arcadia Acres weir, just east of Goldenrod Road (S.R. 551). This canal is considered to be one of Orange County's "primary" canal systems and is maintained by the Orange County Roads and Drainage Division.

   Winter Park Pines Canal. The culvert improvements entail the extension of the existing double 9-foot rise by 10-foot span reinforced concrete box (RCB). The extension of the existing box culvert is warranted due to the widening of Forsyth Road. This canal is a major tributary to the Crane Strand Canal that originates within [illegible]es subdivision, west of Semoran Boulevard (S.R. 436) and terminates at its confluence with the

20839-3

Crane Strand Canal, located between Forsyth Road and Goldenrod Road (S.R. 551), south of University Boulevard. This canal is also considered to be a "primary" canal system and is maintained by the Orange County Roads and Drainage Division.

Section 3.0, entitled *Culvert Analysis*, further describes the approach, methodology, and results of the culvert analysis for Forsyth Road. Refer to **Appendix 8.0** for the Water Surface Profile (HEC-2) calculations for the Lake Corrine Outfall Canal and the Winter Park Pines Canal; and **Appendix 9.0** for culvert analysis calculations at the Tiffany Manor Canal and the CSX Railroad..

2. **Pursuant to staff's telephone conversation with you on February 12, 2002, please be advised that the proposed treatment methodology is a wet-detention pond. Please be advised that the wet-detention system must be designed as follows:**

   a. **The proposed wet detention system must be designed such that the outfall structure shall bleed down one-half the required treatment volume within <u>24 to 30 hours</u> following a storm event, but no more than one-half of this volume should be discharged within the first 24-hours.**

   b. **The proposed system must be designed so that the mean depth of the permanent poll is between <u>2 and 8 feet</u>, and the maximum depth does not exceed 12 feet below the invert of the bleed down device.**

   c. **Be designed so the flow path through the pond has an <u>average length to width ratio of at least 2:1</u>. The alignment and location of inlets and outlets should be designed to maximize flow paths in the pond. If short flow paths are unavoidable, the effective flow path should be increased by adding diversion barriers such as islands, peninsulas, or baffles to the pond. Inlet structures shall be designed to dissipate the energy of water entering the pond.**

   d. **Be designed so that bleed down devices shall incorporate minimum dimensions no smaller than six square inches of cross section area, two inches wide, and 20 degrees for "v" notches. Bleed down devices incorporating dimensions smaller than six inches minimum width or less than 45 degrees for 'v" notches shall include a device to minimize clogging. Examples include baffles, grates, and pipe elbows.**

   e. **Be designed so that the bleed down structure invert elevations are at or above the estimated post-development normal ground water table elevation. If the structure is proposed to be set below this elevation, ground water inflow must be considered in the drawdown calculations, calculation of average residence**

RECEIVED
MAR 0 8 2002
PDS
ALTAMONTE SVC. CTR.

20839-3

time, estimated normal water level in the pond, and pollution removal efficiency of the system.

f. **Provide for permanent maintenance easements or other acceptable legal instruments to allow for access to and maintenance of the system, including the pond, littoral zone, inlets and outlets. The easement or other acceptable instrument must cover the entire littoral zone.**

g. **Be designed so that the average pond side slope measured between the control elevation and two feet below the control elevation is no steeper than 3:1 (horizontal:vertical).**

Please revise accordingly, and submit revised calculations and plans. {40C-42.023(a)(b); 40C-42.026(4)(b)(c)(e)(f)(g)(h)(i)(j), F.A.C.]

Section 2.0 of this *Response to Comments* document is a revised EXECUTIVE SUMMARY, which summarizes the revised orifice sizes for the seven (7) stormwater ponds, the revised drawdown time, and the revised peak discharge rate comparisons for the project.

Refer to **Appendix 1.0** through **Appendix 7.0** for the revised calculations for the seven (7) stormwater ponds proposed for Forsyth Road. These calculations reflect the revised bleed-down orifice size for each of the ponds to draw down ½ of the required pollution abatement volume within 24- to 30-hours, pursuant to Chapter 40C-42.026(4)(b), F.A.C. The calculations also include the results from the revised ICPR flood routing models for the drawdown analysis and the peak stages for the 2.33-, 10-, 25- and 100-year frequency, 24-hour duration storm events.

20839-3

The following table summarizes the water quality performance for the proposed stormwater ponds for Forsyth Road.

Water Quality Treatment Summary

Pond Name	Basin No.	Water Quality Treatment						
		Required Treatment Volume (af)	Provided Treatment Volume (af)	Required Permanent Pool Volume (af)	Provided Permanent Pool Volume (af)	Required Permanent Pool Volume to be bled down within 24- to 30-hours (af) *	Orifice Size (in)	Drawdown Time (hours)
POND-1	1	0.467	0.467	0.830	1.811	0.234	2.25	24.53
POND-2	2	0.470	0.470	0.740	0.740	0.235	2.50	25.09
POND-3	3	0.850	0.850	1.352	2.128	0.425	2.75	24.00
POND-4	4	2.700	2.700	4.650	10.660	1.350	4.75	28.34
POND-5	5	0.504	0.504	0.820	1.204	0.252	3.50	24.34
POND-6	6	1.508	1.508	2.387	2.467	0.754	3.00	24.75
POND-7	7	2.840	2.840	4.510	8.169	8.169	6.000	25.77

Note: * Reference: Chapter 40C-42.026(4)(b), F.A.C.
Required permanent pool volume is for 21-days (no littoral zone).

In addition, revised sheets of the construction plans reflecting the revised bleed-down orifice sizes are also included with this *Response to Comments* document.

The following table summarizes the revised peak discharge rates from the project based on the revised orifice sizes (for the water quality bleed-down).

20839-3

RECEIVED
MAR 0 8 2002
PDS
ALTAMONTE SVC. CTR.

Comparison of Peak Discharges (Q)

Node Name	Basin No.	2.3-Year Storm Event			25-Year Storm Event		
		Pre-Dev.	**Post-Dev.**	**Difference**	**Pre-Dev.**	**Post-Dev.**	**Difference**
SR50DTCH	1	4.37	1.97	-2.40	9.14	4.00	-5.14
NODE-99	1	1.78	1.48	-0.30	3.73	5.16	1.43
TMCANAL	2	9.47	6.82	-2.65	20.07	16.42	-3.65
LCORRINE	3/4	17.97	8.35	-9.62	42.17	28.84	-13.33
GARDOUT	5	12.50	10.62	-1.88	26.40	24.76	-1.64
WPPINES	6	7.98	2.48	-5.50	16.36	13.40	-2.96
CSTRAND	7	52.96	38.00	-14.96	107.67	91.42	-16.25
	Totals	**107.03**	**69.72**	**-37.31**	**225.54**	**184.00**	**-41.54**

Notes: 1. Difference is Post-Development minus Pre-Development discharge.
2. Post-development discharge to the Lake Corrine Outfall Canal (Node LCORRINE) is the summed total from Basins 3 and 4 for Pre- and Post-development conditions (including Ponds 3A/3B and Pond 4).

Based on the results of the revised flood routing analysis (to incorporate the revised orifice sizes for the pond control structures), the post-development peak discharge rate for the 2.33- and 25-year frequency, 24-hour duration storm event will still be less than the pre-development discharge rate, conforming to the District's discharge rate criteria.

20839-3
RECEIVED
MAR 0 8 2002
PDS
ALTAMONTE SVC. CTR.

SECTION 2.0

REVISED EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

The purpose of this report is to describe the drainage concepts, design standards and recommendations for the drainage improvements associated with the proposed roadway improvements for Forsyth Road between Old Cheney Highway and Aloma Avenue (S.R. 426). This report also includes supporting drainage calculations and summary of results.

Project Location

The roadway improvement project is located wholly within the unincorporated boundaries of Orange County in Sections 3, 10, 11, 14, 15, 22 and 23, Township 22 South, Range 30 East, Orange County, Florida.

NEED FOR PROJECT

Functional Classification

The segment of Forsyth Road between Colonial Drive and Aloma Avenue is classified as an Urban Collector according to the Orange County Comprehensive Plan dated July 1, 1991. Forsyth Road is a north-south facility principally providing access to the numerous commercial and industrial businesses found along the study segment. In addition to the high concentration of these land uses, there are also a number of residential neighborhoods along, and adjacent to the Forsyth Road corridor.

The Comprehensive Plan has identified Forsyth Road as an element within Corridor F. These corridors include roadways which tend to function as parallel groups within the transportation network. The other roads which are included in this corridor are: Semoran Boulevard, Goldenrod Road, Chickasaw Trail, and a portion of the Eastern Beltway. This is important to note since these facilities will tend to operate as a system and affect each other more than individual, isolated facilities.

Forsyth Road currently carries approximately 16,000 vehicles a day and operates at a Level of Service E in the Peak Hour. The posted speed limit is 35 mph with the exception of the curved alignment where advisory speeds of 30 mph are posted. There is also a speed zone in the vicinity of Cheney Elementary School which has been provided for increased safety.

Insert Location Map

PERMITTING CONSIDERATIONS AND HISTORY

The project was previously issued an MSSW permit (Permit No. 4-095-0448GM) and an WRM permit (Permit No. 12-095-0097GM) on July 11, 1995. Subsequently, a two (2) year extension for each permit was requested and issued on July 11, 2000 by the District (Permit No. 4-095-0448GME and 12-095-0097GM2). These permit extensions are scheduled to expire in July 2002. Since the beginning of construction for the project is anticipated to be in mid-2002, the permit coverage for the project will expire prior to the project construction being completed. Therefore, Orange County has decided to pursue an Environmental Resource Permit (ERP) to provide permit coverage for the project. The securing of an ERP from the District will allow the County to complete construction of Forsyth Road within five (5) years of issuance of the ERP.

OVERVIEW OF EXISTING DRAINAGE CONDITIONS

Currently, the project is drained by a series of roadside ditches and inlet/pipe collection systems, which were observed to be in moderate to poor condition. Localized flooding has continued to persist along the corridor.

EXISTING BASIN CHARACTERISTICS

The Project Area extends from Old Cheney Highway to Aloma Avenue (SR 426) and lies within the Little Econlockhatchee River Basin. This basin encompasses approximately 90 square miles located in north central Orange County and south central Seminole County. The terrain of the basin has been classified as generally flat and poorly drained except in those areas where the natural drainage patterns have been altered by man.

The existing drainage features within the Project Area consists of drainage ditches parallel to the existing roadway and cross drains that flow into lateral ditches or canals. There are seven (7) primary drainage basins that have been identified within the Project Area. These drainage basins are identified on the drainage maps included in this report. Primary drainage basins along Forsyth Road are described as follows:

Drainage Basin No. 1

Drainage Basin No. 1 consists of roadway drainage area extending north from Old Cheney Highway to Colonial Boulevard (SR 50) along Forsyth Road. The existing drainage system consists of sheet flow within the right-of-way into either a vacant lot located in the northeast corner of Forsyth Road and Old Cheney Highway or a drainage ditch located on the west side of the roadway. The stormwater runoff is transported north into an open ditch at Colonial Drive (SR 50). The land use in the basin is comprised of service stations, commercial businesses, and vacant lots. The Orange County Engineering Department has completed the construction for the roadway and drainage improvements to Forsyth Road south of Old Cheney Highway. This included the construction of

RECEIVED

MAR 0 8 2002

20839-3

PDS
ALTAMONTE SVC. CTR.

a stormwater management pond on the northeast quadrant of the intersection of Old Cheney Highway and Forsyth Road. The improvements to Forsyth Road under this project will modify and utilize this stormwater pond to provide water quality treatment of the section from Old Cheney Highway to State Road 50.

Drainage Basin No. 2

Drainage Basin No. 2 extends from the north side of Colonial Drive (SR 50) to the north side of Agate Lane (Sta. 255+50). The basin encompasses approximately 4.65 acres of contributing roadway drainage area. The existing drainage system consists of overland sheet flow within the right-of-way to drainage ditches on the west side of Forsyth Road and ditch bottom inlets on the east side. Offsite drainage from the west is conveyed by overland flow to a ditch on the west side, which combines with roadway runoff and flows underneath Forsyth Road via a double 48-inch diameter reinforced concrete pipe (RCP) cross drains. The current land use in the basin is comprised of small commercial businesses, vacant lots and single family residential housing.

Drainage Basin No. 3

Drainage Basin No. 3 extends from the north side of Agate Lane to the Lake Corrine (Baldwin) Outfall Canal. The basin encompasses of approximately 3.2 acres of contributing roadway drainage area. The existing drainage system consists of primarily sheet flow to existing ditches or inlets that convey runoff to roadside ditches which outfall into the canal. A small water quality detention pond serving the Cheney Elementary was observed to discharge to a ditch immediately adjacent to Forsyth Road. The current land use in the basin is comprised of small businesses, an elementary school, and single family residential homes. There is an existing commercial development located on the west side of Forsyth Road immediately south of Turquoise Lane that will also contribute to the drainage basin.

Drainage Basin No. 4

Drainage Basin No. 4 extends from the Lake Corrine (Baldwin) Outfall Canal to Sta. 299+00, north of Hanging Moss Road. The basin encompasses approximately 1.1 acres of contributing roadway drainage area and 5.6 acres of offsite area for a total drainage area of 6.7 acres. The existing drainage system flows south to the canal by way of overland flow from existing properties into roadside ditches. Some commercial businesses in the basin have dry retention ponds to treat runoff before discharging to roadside ditches. The current land use in the basin is comprised of commercial businesses, industrial parks, and vacant lots. This basin also includes the Ground Control, Inc. and Heddron Construction sites located on the east side of Forsyth Road, immediately north of the Lake Corrine Outfall Canal. The County has entered into an agreement with the owners to reconstruct their existing stormwater pond to accommodate both the Forsyth Road improvements and the "ultimate" development for these two parcels.

Drainage Basin No. 5

Drainage Basin No. 5 extends from Sta. 299+00, north of Hanging Moss Road to Sta. 322+50, just south of Stapoint Court. The basin encompasses approximately 4.75 acres of contributing roadway drainage area and 17.00 acres of offsite area for a total drainage basin of 21.75 acres. The existing drainage system flows primarily by overland flow into drainage ditches located on the west side of Forsyth Road. Stormwater runoff is then conveyed from the roadside ditches to a lateral drainage ditch located on the north side of Discount Self Storage. This ditch extends to the east and then to the north and connects with the lake system of the Hidden Oaks condominium community. Several commercial businesses have retention swales located on their property which contain the "first flush" of stormwater and overflow into the roadside ditches when the swale berms are exceeded. The land use in the basin is highly urbanized and contains several industrial parks and commercial businesses.

Drainage Basin No. 6

Drainage Basin No. 6 extends from Sta. 322+50, south of Stapoint Court to the south side of University Boulevard. The drainage basin contains approximately 7.45 acres of contributing drainage area. The drainage system is primarily contained within the right-of-way which flows north to south. Two subdivisions, Bel-Aire Pines and Terra Woods, adjacent to the Study Area, contain separate stormwater management and drainage systems. These subdivisions discharge directly into the Winter Park Pines Canal. The basin encompasses the Winter Park Pines Canal at Forsyth Road, which consist of double 9'x10' box culverts at the crossing. The current land use in the basin north of the canal contains small commercial businesses, a church, an animal hospital and a vacant lot.

Drainage Basin No. 7

Drainage Basin No. 7 extends from the north side of University Boulevard to the CSX railroad tracks. The basin contains approximately 9.2 acres of contributing roadway drainage area and 5.0 acres of offsite area for a total drainage basin area of 14.2 acres. Stormwater runoff is conveyed by sheet flow from the south to north along drainage ditches on the west side and storm sewer pipes on the east side to the CSX railroad right-of-way. Runoff is then conveyed to a ditch within the CSX railroad right-of-way and running parallel with the railroad tracks. The ditch is connected to the Crane Strand Canal to the east. This ditch was heavily vegetated and did not appear to have been maintained within recent time. This basin has experienced localized flooding on numerous occasions due to the condition of the CSX railroad ditch. This ditch is the primary means of drainage relief for the adjacent areas. The land use within the basin consists of various industrial and commercial businesses.

Drainage Basin No. 7 also extends from the CSX railroad tracks to Aloma Avenue (SR 426). The basin encompasses approximately 1.5 acres of contributing roadway drainage area and 6.6 acres of offsite area for a total drainage area of 8.1 acres. Stormwater runoff from the west side of Forsyth Road is collected by inlets located in front of local businesses and conveyed via storm sewer pipes to the ditch paralleling the CSX railroad tracks. This basin, experiences localized flooding due to the condition of the existing ditch along the CSX railroad. The land use in the basin consist of various commercial businesses and light industry.

Drainage Basin No. 7 also accepts stormwater runoff from the existing COSTCO site located at the intersection of Forsyth Road and University Boulevard. This commercial development provides their own stormwater management system, and discharges to Forsyth Road only for certain storm events.

SOILS CONDITION

Soil types encountered in the project vicinity were determined from the *Soil Survey of Orange County, Florida*, prepared by the Soil Conservation Service (SCS) for the United States Department of Agriculture. The document provides specific information about the soil in the survey area. This information includes a description of the soils and their location and a discussion of suitability of the soils for specific uses.

According to the United Sates Agriculture Department, Soil Conservation Service (SCS), the project area lies within the general classification of Urban land-Smyrna-Pomello. These soils are sandy throughout with nearly level to gently sloping terrain and poorly to moderately well drained. Some have an organic-stained subsoil at a depth of less than 30 inches and others ranging between 30 to 50 inches. Most areas have been modified for urban use.

From a review of the SCS *Soil Survey for Orange County*, nine distinct soil associations have been identified as follows:

- Basinger Fine Sand - depressional
- Pomello Fine Sand - 0-5% slope
- Pomello - Urban land complex - 0-5% slope
- Samsula-Hontoon-Basinger association - depressional
- Smyrna Fine Sand
- Smyrna - Urban land complex
- Urban Land
- Zolfo Fine Sand
- Zolfo - Urban land complex

The following sections provide a brief description of each soil type encountered within the Project Study Area.

flow attenuation to pre-development flow rates. The system then discharges to an existing ditch (known as the Tiffany Manor outfall canal), which flows east under Marcia Drive and into the Colonial Drive ditch system.

Pond 3A/3B

Pond 3A and 3B consist of an "online" wet detention system which utilizes the volume from both ponds to provide the necessary water quality treatment and peak flow attenuation. The ponds are located on two lots that are currently for sale (and subsequently purchased by Orange County). The two ponds are connected by a 36-inch diameter culvert under Turquoise Lane. A control structure in Pond 3B, consisting of a bleed-down orifice and overflow weir, controls the water level in the pond for the appropriate design storm events. The pond system outfalls to the Lake Corrine Outfall canal, located to the north of the ponds, west of Forsyth Road. The contributing drainage basin to this pond encompasses 4.84 acres, including offsite drainage along Amethyst Lane. This pond also accommodates the discharge from the future improvements for Cheney Elementary School (Permit No. 42-095-1120ANGM2-ERP) and the Forsyth Center development (Permit No. 40-095-0420AW). The flood routing calculations for Pond 3A/3B include the future improvements for the Cheney Elementary, and the connection from the existing Forsyth Center stormwater pond to Forsyth Road.

Pond 4

Pond 4 is an "on-line" wet detention system which provides water quality treatment and peak flow attenuation of runoff rates for the contributing drainage basin from Forsyth Road. This pond was originally to be located in a vacant lot, which consists of predominantly pine trees. This lot was subsequently developed (Ground Control Landscaping Office Building, by Heddron Construction - Permit No. 42-095-1745AN-ERP) and a stormwater pond serving only the development was constructed. **Due to the need for a stormwater pond with outfall access to the Lake Corrine Outfall Canal, Orange County entered into an agreement with both Ground Control Landscaping and Heddron Construction to construct a "joint use" stormwater pond. This pond would encompass the existing wet detention pond originally constructed for Ground Control/Heddron Construction and enlarged to accommodate the proposed Forsyth Road roadway improvements. It should be noted that this "joint use" pond is to also accommodate any future improvements for Ground Control Landscaping and Heddron Construction.**

This pond will utilize the 24-inch pipe from the existing Ground Control/Heddron Construction pond as the proposed Pond 4 outfall to the Lake Corrine Outfall Canal. This pond will have a control structure with a circular orifice to slowly release stormwater to the receiving water body. The Pond 4 drainage basin encompasses 7.35 acres of proposed Forsyth Road (including the pond area) and 4.84 acres of offsite area.

20839-3

SECTION 3.0

CULVERT ANALYSIS

CULVERT IMPROVEMENTS

CULVERT IMPROVEMENTS

The Forsyth Road project included five (5) cross-drain culverts that were to be evaluated for hydraulic and structural adequacy. Of the five, only two are considered within the District's "traversing works" criteria. The following sections brief summarizes of each of these "traversing works" culvert crossings.

Tiffany Manor Outfall Ditch (S-35)

This structure consisted of double 48-inch diameter reinforced concrete pipes with sand cement bag headwalls for end treatments. The structure was observed to be in physically good condition. The evaluation of this structure resulted in maintaining the same pipe size but horizontally realigning the pipes to better line up with the existing ditch on the east and west side of Forsyth Road. The double 48-inch diameter pipe at Forsyth Road is consistent with those east (downstream) at Marcia Drive.

The tailwater condition for the culvert was determined using the FHWA program HY-8, Version 4.0 to develop a rating curve at Marcia Drive for various tailwater and discharge conditions. The existing double 48-inch pipes at this crossing controlled the amount of stormwater released to Colonial Drive, subsequently affecting the staging effect in the existing ditch downstream of S-35. The rating curves were then input into adICPR to dynamically model the culvert performance during a 10-year frequency, 24-hour duration storm event.

The tailwater solution was determined using "HW-TW-Discharge" rating curves, which are a family of curves specified for up to six (6) discharge curves. Each curve is dependent upon a specific tailwater condition. This methodology of determining the tailwater solution was selected because of the restricting nature of the double 48-inch culverts at Marcia Drive. The adICPR program will determine the tailwater solution in this HW-TW-Discharge rating curve matrix. The following table summarizes the HW-TW-Discharge rating curve matrix. The adICPR input and output data is included in **Appendix 9.0** of this document.

20839-3

The following table summarizes the flood routing results for the culvert crossing

Summary of Cross Drain Design High Water Elevations (DHW)
Structure S-35 (Tiffany Manor Canal)

Structure No.	Station	Q_{10} cfs	10-Year DHW Elevation feet, NGVD		Diff. feet	Overtopping Elevation
			Existing	Proposed		
S-35	253+60.00 (1)	36.4	81.98	82.03	0.05	85.74

Although the pipe size and number of pipe barrels remain the same (double 48-inch RCP), there is an increase of 0.05-feet in the DHW on the upstream side of Forsyth Road. The slight increase in stage can be attributed to the increase in pipe length (friction losses) for the crossing due to the widening of Forsyth Road. The existing pipe length for the double 48-inch pipes is 41-feet, whereas the proposed pipe length is 84-feet. No flooding upstream of the proposed culvert improvements is expected due to the widening of Forsyth Road.

Lake Corrine Outfall Canal (S-98)

The Lake Corrine Outfall Canal cross-drain currently consists of double 54-inch diameter concrete pipes aligned in parallel to connect the canal on both sides of Forsyth Road. The culverts are connected by a manholes to account for a slight offset in the canal. Conversations with the Orange County Maintenance staff at their Forsyth Road office indicated that the culverts have been in service for over 20-years and that they are approaching their structural life. Apparently, the County has previously experienced leaking at the pipe joints. In addition, the culvert crossing has a weir/drop structure on the west side of Forsyth Road, which controls the water level in the canal upstream (west of Forsyth Road). This was also confirmed with Tom Perrine, Foreman, of the Orange County Roads and Drainage Division.

The proposed culvert improvements is to straighten the culvert horizontal alignment, maintaining the same pipe sizes and vertical alignment at the existing invert elevations east and west of Forsyth Road. Junction manholes will need to be provided on the west side of the culvert to allow connections from proposed bypass storm sewer lines. Rubble rip-rap will also be provide on the east side to provide stability of the canal bottom and erosion protection for the canal side slopes. The existing concrete weir and drop structure on the west side of Forsyth Road will be removed and relocated at the same existing elevations, in association with the roadway widening. This culvert was previously modeled by Miller & Miller for the *Little Econlockhatchee River Restoration Study*, prepared for the Orange County Board of County Commissioners in 1984. The upstream contributing drainage basin for this culvert crossing exceeds one (1) square mile, therefore the design accounted for any loss of flood storage that may result from the culvert replacement.

SUMMARY OF 100-YEAR WATER SURFACE ELEVATION COMPARISON LAKE CORRINE (E-4) OUTFALL CANAL						
Frequency	**Q cfs**	**Stream Station**	**Description**	**WSP Elevation feet, NGVD**		
				Exist.	**Prop.**	**Diff.**
10-Year	638	6020	D.S. of Forsyth Road	80.19	80.05	-0.14
10-Year	638	6120	U.S. of Forsyth Road	87.61	87.69	0.08
10-Year	606	7425	1,305-ft. U.S. of Forsyth Road	88.67	88.71	0.04
100-Year	946	6020	D.S. of Forsyth Road	81.11	81.07	-0.04
100-Year	946	6120	U.S. of Forsyth Road	88.64	88.64	0.00
100-Year	896	7425	1,305-ft. U.S. of Forsyth Road	89.63	89.63	0.00

Reference: <u>Little Econlockhatchee River Restoration Study</u>, Miller & Miller, 1984 (for the Orange County Board of County Commissioners)

Refer to **Appendix 8.0** for the water surface profile calculations (HEC-2) for the Lake Corrine Outfall Canal for Existing and Proposed conditions.

Gardner Street Outfall Ditch (S-181)

This cross-drain currently consists of a single 24-inch corrugated metal pipe (CMP) which discharges to a lateral ditch to the east of Forsyth Road. This ditch is encompassed in an existing 15-foot drainage easement. This ditch flows towards the Hidden Oaks Condominium development lake system and eventually to the Crane Strand Canal.

The proposed culvert improvements is to replace the existing 24-inch with a single 36-inch culvert and regrade the lateral ditch to match the pipe invert. The 36-inch culvert is connected to a bypass storm sewer line which collects stormwater from offsite areas between Hanging Moss Road and Stapoint Drive. The tailwater condition for the proposed culvert was estimated at the normal depth of the ditch for the 10-year frequency, 24-hour duration storm event. Forsyth Road is the headwaters of this culvert system, therefore the replacement of the single 24-inch CMP with a single 36-inch RCP is expected to result in a lowering of the DHW elevation at Forsyth Road. In addition, the downstream ditch is proposed to be improved as part of the project to improve conveyance of the stormwater runoff originating from Forsyth Road. No flooding of adjacent properties is expected as part of these improvements.

20839-3

Winter Park Pines Canal (S-232)

The existing cross-drain at the Winter Park Pines Canal consists of a double 9-foot rise by 10-foot span reinforced box culvert. This culvert was constructed by Orange County in 1982. The culvert horizontal alignment is slightly skewed with Forsyth Road, which is in a curvature at the culvert crossing. Fabric-formed rip-rap is provided on both the upstream and downstream side of the box culvert for erosion protection and canal bottom stability.

The proposed improvements to this box culvert will consist of an extension of the culvert barrels to accommodate the widening improvements. In addition, pedestrian handrails will be provided at the back of sidewalks for safety considerations. This culvert was previously modeled by Miller & Miller for the *Little Econlockhatchee River Restoration Study*, prepared for the Orange County Board of County Commissioners in 1984. Since the box culvert improvements entail only an extension of the culvert barrels, no further hydraulic analysis was warranted. **Appendix 8.0 - Water Surface Profile Calculations - Winter Park Pines Canal** contains the HEC-2 water surface profile analyses for the 10- and 100-year flood events (existing and proposed). The following table summarizes the results of the analyses.

10-YEAR WATER SURFACE ELEVATION							
Frequency	**Q cfs**	**Time hour**	**Stream Station**	**Description**	**WSP Elevation feet, NGVD**		
					Exist.	**Prop.**	**Diff.**
10-Year	215	10.0	3539	U.S. of Forsyth Road	82.76	82.76	0.00
10-Year	334	11.0	3539	U.S. of Forsyth Road	83.79	83.79	0.00
10-Year	457	12.0	3539	U.S. of Forsyth Road	84.60	84.60	0.00
10-Year	478	13.0	3539	U.S. of Forsyth Road	84.72	84.72	0.00
10-Year	454	14.0	3539	U.S. of Forsyth Road	84.58	84.58	0.00
10-Year	407	15.0	3539	U.S. of Forsyth Road	84.29	84.29	0.00
10-Year	337	16.0	3539	U.S. of Forsyth Road	83.81	83.81	0.00
10-Year	291	17.0	3539	U.S. of Forsyth Road	83.46	83.46	0.00

Reference: <u>*Little Econlockhatchee River Restoration Study*</u>, Miller & Miller, 1984 (for the Orange County Board of County Commissioners)

100-YEAR WATER SURFACE ELEVATION							
Frequency	**Q cfs**	**Time hour**	**Stream Station**	**Description**	**WSP Elevation feet, NGVD**		
					Exist.	**Prop.**	**Diff.**
100-Year	429	10.0	3539	U.S. of Forsyth Road	84.42	84.42	0.00
100-Year	623	11.0	3539	U.S. of Forsyth Road	85.46	85.60	0.14
100-Year	752	12.0	3539	U.S. of Forsyth Road	86.23	86.26	0.03
100-Year	766	13.0	3539	U.S. of Forsyth Road	86.30	86.33	0.03
100-Year	715	14.0	3539	U.S. of Forsyth Road	86.05	86.08	0.03
100-Year	429	10.0	3612	91-ft. U.S. Forsyth Road	84.47	84.47	0.00
100-Year	623	11.0	3612	91-ft. U.S. Forsyth Road	85.55	85.69	0.14
100-Year	752	12.0	3612	91-ft. U.S. Forsyth Road	86.36	86.39	0.03
100-Year	766	13.0	3612	91-ft. U.S. Forsyth Road	86.43	86.46	0.03
100-Year	715	14.0	3612	91-ft. U.S. Forsyth Road	86.17	86.20	0.03
100-Year	429	10.0	4212	691-ft. U.S. Forsyth Road	84.92	84.92	0.00
100-Year	623	11.0	4212	691-ft. U.S. Forsyth Road	86.03	86.13	0.10
100-Year	752	12.0	4212	691-ft. U.S. Forsyth Road	86.80	86.82	0.02
100-Year	766	13.0	4212	691-ft. U.S. Forsyth Road	86.87	86.89	0.02
100-Year	715	14.0	4212	691-ft. U.S. Forsyth Road	86.61	86.63	0.02

Reference: *Little Econlockhatchee River Restoration Study*, Miller & Miller, 1984 (for the Orange County Board of County Commissioners)

From the analysis, it can be seen that the proposed culvert extension will not have any affect on the water surface profile in the Winter Park Pines Canal for the 10- and 100-year flood events. This also satisfies the SJRWMD 100-year frequency flood criteria of no more than a 1-foot rise immediately upstream of project and 0.1-foot rise 500-feet upstream of the project, pursuant to their traversing works criteria.

CSX Railroad Ditch (S-301)

The cross-drain at the intersection of the CSX railroad ditch and Forsyth Road currently consists of a single 38-inch by 60-inch elliptical concrete pipe with sand-cement headwalls for end treatments. This culvert was observed to be partially full of water during field reviews. The railroad ditch on both sides of Forsyth Road were observed to be overgrown with vegetation, presumably retarding the flow capacity of the ditch. The culvert also appeared to be vertically aligned in a "sumped" condition, where the ditch inverts on either side of the culvert are higher than the culvert inverts. This is probably attributed to the existing low profile grade of Forsyth Road at the railroad crossing.

The proposed roadway profile grade line will maintain the "at-grade" crossing at the CSX railroad. This results in a potential conflict between an elliptical pipe of the same size as the existing and the bottom of the curb line. Rather than an "in-kind" replacement, an equivalent double pipe culvert is proposed. The equivalency is based on the cross-sectional area of the pipes in comparison. The selected pipe size is a double 29-inch by 45-inch elliptical pipe. The following table provides a hydraulic elements comparison of the existing to the proposed culvert.

Elliptical Pipe Comparison

Pipe Condition	Elliptical Pipe Dimensions				
	Nominal Dimensions		No. of Pipe	Equivalent Diameter (in.)	Area (Sq. Ft.)
	Horizontal				
	Rise (in.)	Span (in.)			
Existing	38	60	1	48	12.9
Proposed	29	45	2	36	14.8

The tailwater condition for the culvert was determined using a program entitled *Trapezoidal Channel Analysis*, Version 1.3, developed by Dodson & Associates, to create a rating curve at the existing railroad ditch east of Forsyth Road for various tailwater and discharge conditions. The rating curves were then input into adICPR to dynamically model the culvert performance during a 10-year frequency, 24-hour duration storm event.

The tailwater solution was determined using "HW-TW-Discharge" rating curves, which are a family of curves specified for up to six (6) discharge curves. Each curve is dependent upon a specific tailwater condition. This methodology of determining the tailwater solution was selected because of the absence of tailwater influence on the existing ditch from the Crane Strand Canal. The adICPR program will determine the tailwater solution in this HW-TW-Discharge rating curve matrix. The following table summarizes the HW-TW-Discharge rating curve ma

Summary of CSX Railroad Ditch Rating Curve

Tailwater El. 82.50		Tailwater El. 83.00		Tailwater El. 83.50		Tailwater El. 84.00		Tailwater El. 84.50		Tailwater El. 85.00	
HW	Q	HW	Q	HW	Q	HW	Q	HW	Q	HW	Q
82.50	0	83.00	0	83.50	0	84.00	0	84.50	0	85.00	0
83.92	20	83.92	20	84.05	20	84.28	20	84.62	20	85.05	20
86.93	50	84.70	50	84.60	50	84.71	50	84.92	50	85.23	50
89.21	75	85.77	75	85.03	75	85.02	75	85.16	75	85.40	75
89.27	100	87.64	100	85.54	100	85.31	100	85.38	100	85.57	100
89.34	125	89.34	125	86.23	125	85.63	125	85.60	125	85.74	125
89.42	150	89.42	150	87.20	150	85.98	150	85.82	150	85.91	150
89.59	200	89.59	200	89.59	200	86.91	200	86.30	200	86.24	200

The headwater elevations were determined using a backwater profile routine in the program based on a given discharge rate and tailwater elevation at the boundary condition (existing ditch) of the hydrodynamic model. The adICPR input and output data for this culvert is included in this section of the drainage report/calculations. The following table summarizes the 10-year DHW for both existing and proposed conditions.

Summary of Cross Drain Design High Water Elevations (DHW)

Structure No.	Station	Q_{10} cfs	10-Year DHW Elevation feet, NGVD		Diff. feet	Overtopping Elevation
			Existing	Proposed		
S-301	383+14.00	23.6	83.60	83.60	0.00	84.45

From the table it can be seen that the proposed culvert improvements associated with the widening of Forsyth Road will not result in any adverse flooding conditions upstream of Forsyth Road. The calculations in **Appendix 9.0** summarize the results of the Existing and Proposed conditions culvert analysis.

SUMMARY OF CROSS DRAIN DESIGN

Two (2) major cross drains were evaluated for the 10- and 100-year frequency storm events, pursuant to Section 10.5.2 of the *Applicant's Handbook - Management and Storage of Surface Waters* (SJRWMD) and the results summarized in the following table:

Summary of Cross Drain Design High Water Elevations (DHW)

Structure No.	Station	Q_{10} cfs	10-Year DHW Ele.	Q_{100} cfs	100-Year DHW Ele.	Overtopping Elevation
S-98	276+40.00 (1)	638 (3)	87.69	946 (3)	88.64	87.74
S-232	347+29.00 (2)	478 (3)	84.72	766 (3)	86.33	88.30

NOTES:

(1) Lake Corrine Outfall Canal
(2) Winter Park Pines Canal
(3) **Reference:** *Little Econlockhatchee River Restoration Study*, Orange County Board of County Commissioners, Miller & Miller, February 1984.

The results of the cross drain analyses indicate that the likelihood of the 10-year flood event overtopping the proposed roadway profile is at both locations negligible. The proposed roadway profiles and culvert capacities will not result in any significant increase in the 10-year flood elevation. Although roadway overtopping can be expected at the crossing at the Lake Corrine Outfall Canal, the proposed improvements will not result in a greater flood hazard than what already exists. The upsizing of pipes at the Lake Corrine Outfall crossing at Forsyth Road was not considered due largely to the restriction of the pipe sizes (double 72-inch CMP) at Dorris Drive, which is approximately 1,250-feet downstream. To reduce the 100-year flood stage for this reach of the Lake Corrine Outfall Canal, culvert improvements would have to be done at both locations concurrently.

In addition, the culvert improvements at the Lake Corrine Outfall Canal and the Winter Park Pines canal will not result in a decrease in the floodplain storage for a 100-year frequency flood event. The culvert improvements at the Lake Corrine Outfall Canal merely replace what currently exists (double 54-inch RCP), only lengthening the culvert crossing to accommodate the roadway widening improvements. The existing box culvert at the Winter Park Pines crossing will remain intact. The culvert improvements at this crossing will only entail the extension of the existing box culvert sections to accommodate the roadway widening improvements.

20839-3

APPENDIX 4.0
POND NO. 4

Post Development (Proposed) Conditions

WATER QUALITY CALCULATIONS - POND NO. 4

Post-Development (Proposed) Conditions

FORSYTH ROAD IMPROVEMENTS

WATER QUALITY CALCULATIONS
POND NO. 4

1. DETERMINE TOTAL AREA CONTRIBUTING TO FORSYTH ROAD POND NO. 4

FROM FORSYTH ROAD IMPROVEMENTS = 7.35 ACRES
FROM HEDDRON CONSTRUCTION SITE = 4.00 ACRES
FROM GROUND CONTROL SITE = 4.05 ACRES
FROM ACCESS ROAD EASEMENT = 0.69 ACRES
FROM POND 4 SITE (EXCLUDING POND AREA AT CONTROL WATER LEVEL) = 0.96 ACRES

TOTAL AREA TO POND 4 (EXCLUDING OPEN WATER) = 17.05 ACRES

2. DETERMINE PERCENT IMPERVIOUSNESS
TOTAL DRAINAGE AREA TO POND 4 = 17.05 ACRES
IMPERVIOUS AREA FROM FORSYTH ROAD IMPROVEMENTS = 6.03 ACRES
IMPERVIOUS AREA FROM HEDDRON CONSTRUCTION SITE (INCL. FUTURE) = 3.20 ACRES
IMPERVIOUS AREA FROM GROUND CONTROL SITE = 3.24 ACRES (FUTURE IMPROVE.)
IMPERVIOUS AREA FROM PROPOSED ACCESS ROAD = 0.51 ACRES
TOTAL IMPERVIOUS DRAINAGE AREA = 12.98 ACRES
TOTAL PERVIOUS DRAINAGE AREA = 4.07 ACRES

$$\text{PERCENTAGE IMPERVIOUSNESS} = \frac{\text{TOTAL IMPERVIOUS AREA}}{\text{TOTAL DRAINAGE AREA}}$$

$$\text{PERCENTAGE IMPERVIOUSNESS} = \frac{12.98 \text{ ACRES}}{17.05 \text{ ACRES}} = 76\ \%\ (0.76)$$

3. "WET DETENTION VOLUME SHALL BE PROVIDED FOR THE FIRST INCH OF RUNOFF FROM THE DEVELOPED PROJECT, OR THE TOTAL RUNOFF OF 2.5 INCHES TIMES THE PERCENTAGE OF IMPERVIOUSNESS, WHICHEVER IS GREATER."

(REFERENCE: 40C-42.026 - SPECIFIC DESIGN AND PERFORMANCE CRITERIA MANAGEMENT AND STORAGE OF SURFACE WATERS, PERMIT INFORMATION MANUAL, ST. JOHNS RIVER WATER MANAGEMENT DISTRICT)

ONE INCH CRITERIA: (1")(1/12)(17.05) = 1.42 ACRE-FEET
2.5 INCH TIMES % IMP. CRITERIA: (2.5")(1/12)(0.76)(17.05) = 2.70 ACRE-FEET

THE 2.5 INCHES TIMES % IMPERVIOUS AREA CRITERIA GOVERNS.
REQUIRED WET DETENTION VOLUME = 2.70 ACRE-FEET

4. STAGE STORAGE RELATIONSHIP FOR FORSYTH ROAD POND NO. 4

EFFECTIVE VOLUME / STAGE-STORAGE RELATIONSHIP

20839-3

ELEVATION	SURFACE AREA	AVG. VOL.	ACC. VOL.
74.00	1.6125	0.000	0.000
75.00	1.7324	1.672	1.672
76.00	1.8560	1.794	[illegible]
77.00	1.9832	1.920	5.38[illegible]
78.00	2.1140	2.049	7.435
79.00	2.2484	2.181	9.616

POLLUTION ABATEMENT VOLUME = ELE. 75.57 (INTERPOLATED)

4. STAGE STORAGE RELATIONSHIP FOR FORSYTH ROAD POND NO. 4 (Cont.)

PERMANENT POOL VOLUME / STAGE-STORAGE RELATIONSHIP

ELEVATION	SURFACE AREA	AVG. VOL.	ACC. VOL.
65.00	1.0598	0.000	0.000
66.00	1.1000	1.080	1.080
67.00	1.1408	1.120	2.200
68.00	1.1821	1.161	3.362
69.00	1.2241	1.203	4.565
70.00	1.2666	1.245	5.810
71.00	1.3097	1.288	7.098
72.00	1.3534	1.332	8.430
73.00	1.4651	1.409	9.839
74.00	1.5804	1.523	11.362
75.00	1.6993	0.000	11.362
76.00	1.8218	0.000	11.362
77.00	1.9479	0.000	11.362
78.00	2.0777	0.000	11.362
79.00	2.2110	0.000	11.362

5. DETERMINE RUNOFF COEFFICIENT

TOTAL AREA = 17.05 ACRES
IMPERVIOUS AREA = 12.98 ACRES   PERVIOUS AREA = 4.07 ACRES

RUNOFF COEFFICIENTS

IMPERVIOUS AREA RUNOFF COEFFICIENT = 0.95
PERVIOUS AREA RUNOFF COEFFICIENT = 0.20

$$\text{COMPOSITE RUNOFF COEFFICIENT} = \frac{[(A1)(C1) + (A2)(C2)]}{A1 + A2}$$

WHERE: A1 = IMPERVIOUS AREA, ACRES
A2 = PERVIOUS AREA, ACRES
C1 = IMPERVIOUS AREA RUNOFF COEFFICIENT
C2 = PERVIOUS AREA RUNOFF COEFFICIENT

A1 = 12.98 ACRES   C1 = 0.95
A2 = 4.07 ACRES   C2 = 0.20

$$\text{COMPOSITE RUNOFF COEFFICIENT} = \frac{[(12.98)(0.95) + (4.07)(0.20)]}{12.98 + 4.07}$$

COMPOSITE RUNOFF COEFFICIENT = 0.77

6. CALCULATE PERMANENT POOL VOLUMES

THE PERMANENT POOL IS THAT PORTION OF A POND WHICH IS DESIGNED TO HOLD WATER AT ALL TIMES (i.e., BELOW THE CONTROL ELEVATION). TYPICALLY THE PERMANENT POOL IS SIZED TO PROVIDE AT LEAST A TWO-WEEK (14-DAY) RESIDENCE TIME DURING THE WET SEASON (JUNE THROUGH OCTOBER).

IMPORTANT POLLUTANT REMOVAL PROCESSES WHICH OCCUR WITHIN THE PERMANENT POOL INCLUDE: UPTAKE OF NUTRIENTS BY ALGAE, ADSORPTION OF NUTRIENTS AND HEAVY METALS INTO BOTTOM SEDIMENTS, BIOLOGICAL OXIDATION OF ORGANIC MATERIALS AND SEDIMENTATION. UPTAKE BY ALGAE IS PROBABLY THE MOST IMPORTANT PROCESS FOR THE REMOVAL OF NUTRIENTS. SEDIMENTATION AND ADSORPTION INTO BOTTOM SEDIMENTS IS LIKELY THE PRIMARY MEANS OF REMOVING HEAVY METALS.

SINCE ONE OF THE MAJOR BIOLOGICAL MECHANISMS FOR POLLUTANT REMOVAL IN A WET DETENTION BASIN IS PHYTOPLANKTON GROWTH, THE AVERAGE HYDRAULIC RESIDENCE TIME OF THE POND MUST BE LONG ENOUGH TO ENSURE ADEQUATE ALGAL GROWTH. A RESIDENCE TIME OF TWO WEEKS IS CONSIDERED TO BE THE MINIMUM DURATION THAT ENSURES ADEQUATE OPPORTUNITY FOR ALGAL GROWTH.

RESIDENCE TIME OF A POND IS DEFINED AS THE AVERAGE TIME REQUIRED TO RENEW THE WATER VOLUME (PERMANENT POOL VOLUME) IN THE POND AND CAN BE EXPRESSED AS:

$$RT = PPV/FR \qquad (29\text{-}1)$$

WHERE:
RT = RESIDENT TIME (DAYS)
PPV = PERMANENT POOL VOLUME (ACRE-FEET)
FR = AVERAGE FLOW RATE (ACRE-FEET/DAY)

SOLVING EQUATION 29-1 FOR THE PERMANENT POOL VOLUME (PPV) GIVES:

$$PPV = (RT)(FR) \qquad (29\text{-}2)$$

THE AVERAGE FLOW RATE DURING THE WET SEASON (JUNE - OCTOBER) IS EXPRESSED AS FOLLOWS:

$$FR = \frac{DA\ C\ R}{WS} \qquad (29\text{-}3)$$

WHERE:
DA = DRAINAGE AREA TO POND (ACRES)
C = RUNOFF COEFFICIENT
R = WET SEASON RAINFALL DEPTH (INCHES)
(SEE FIGURE 29-1 ON FOLLOWING PAGE)
WS = LENGTH OF WET SEASON (DAYS) (JUNE - OCTOBER = 153 DAYS)

SUBSTITUTING EQUATION 29-3 INTO EQUATION 29-2 GIVES:

$$PPV = \frac{DA\ C\ R\ RT}{WS\ CF} \qquad (29\text{-}4)$$

WHERE: CF = CONVERSION FACTOR = 12 INCHES/FT

20839-3

RECEIVED
MAR 08 2002
PDS
ALTAMONTE SVC. CTR.

Reference: Applicants Handbook - Regulation of Stormwater Management Systems, Chapter 40C-42, F.A.C. Page 29-1, St. Johns River Water Management District, Palatka, Florida

6. CALCULATE PERMANENT POOL VOLUMES (Cont.)

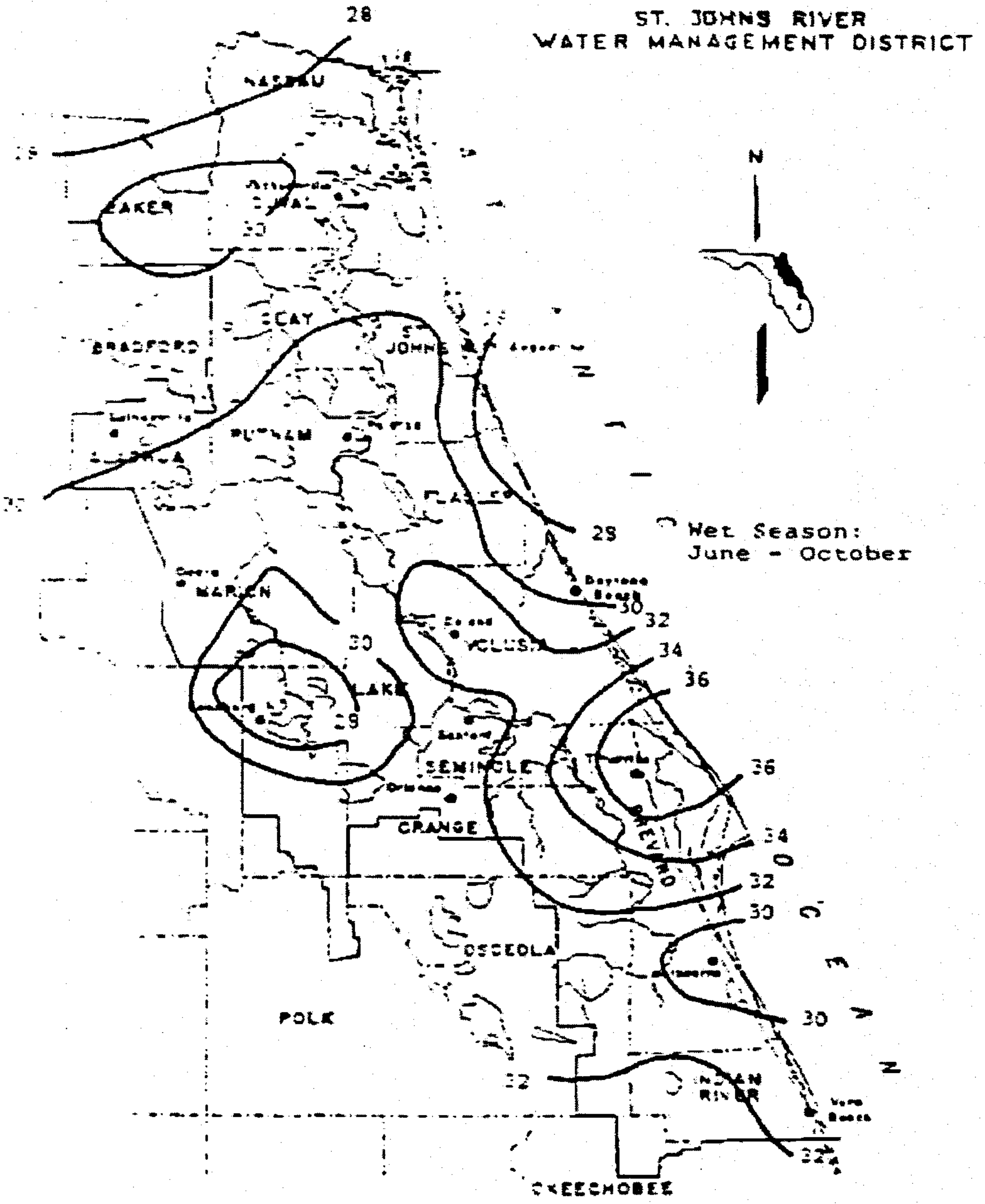


FIGURE 29-1 WET SEASON NORMAL RAINFALL, INCHES

Reference: Applicants Handbook - Regulation of Stormwater Management Systems, Chapter 40C-42, F.A.C.
St. Johns River Water Management District, Palatka, Florida

FORSYTH ROAD - POND NO. 4
WATER QUALITY CALCULATIONS

6. CALCULATE PERMANENT POOL VOLUMES (Cont.)

SOLVE FOR REQUIRED PERMANENT POOL VOLUME (PPV) ASSUMING A MINIMUM 14-DAY RESIDENCE TIME (LITTORAL ZONE OPTION).

FROM EQUATION 29-4, THE PERMANENT POOL VOLUME IS COMPUTED AS:

$$PPV = \frac{DA\ C\ R\ RT}{WS\ CF}$$

WHERE:
DA = 17.05 ACRES (SEE SECTION 1)
C = 0.77 (SEE SECTION 5)
R = 31-INCHES (SEE FIGURE 29-1, Applicant's Handbook, Regulation of Stormwater Management Systems, Chapter 30C-42, F.A.C., SJRWMD).
WS = 153 DAYS (JUNE - OCTOBER WET SEASON)
RT = 14 DAYS (Minimum required for wet ponds with littoral zones)

$$PPV = \frac{(17.05)(0.77)(31)(14)}{(153)(12)} = 3.10 \text{ ACRE-FEET}$$

PERMANENT POOL VOLUME AVAILABLE = 10.66 ACRE-FEET (SEE SECTION 4)

COMPUTE ACTUAL RESIDENCE TIME FOR POND NO. 4

REWRITING EQUATION 29-4

$$RT = \frac{PPV\ WS\ CF}{DA\ C\ R}$$

WHERE:
DA = 17.05 ACRES (SEE SECTION 1)
C = 0.77 (SEE SECTION 5)
R = 31-INCHES (SEE FIGURE 29-1, Applicant's Handbook, Regulation of Stormwater Management Systems, Chapter 30C-42, F.A.C., SJRWMD).
WS = 153 DAYS (JUNE - OCTOBER WET SEASON)
PPV = 11.362 ACRE-FEET (BELOW CWL ELE. 74.00)

$$RT = \frac{(11.362)(153)(12)}{(17.05)(0.77)(31)}$$

$$RT = 51.26 \text{ DAYS}$$

CHECK MEAN DEPTH OF POND

THE MEAN DEPTH OF THE PERMANENT POOL MUST BE BETWEEN 2 AND 8 FEET

$$MD = \frac{PPV}{Ap}$$

WHERE: MD = Mean depth of pond (ft)
Ap = Area of the pond measured at the control elevation (sf)

$$MD = \frac{11.362}{1.5804}$$

PPV = 11.362 AF
Ap = 1.5804 ACRES

$$MD = 7.19\text{-FEET } (2\text{-FEET} < MD < 8\text{-FEET})$$

POND NO. 4 PPV AVAILABLE > MINIMUM REQUIRED - 14 DAY (SJRWMD)

RECEIVED
MAR 08 2002
PDS
ALTAMONTE SVC. CTR.

20839-3

6. **CALCULATE PERMANENT POOL VOLUMES (Cont.)**

SOLVE FOR REQUIRED PERMANENT POOL VOLUME (PPV) ASSUMING A MINIMUM 21-DAY RESIDENCE TIME (NON-LITTORAL ZONE OPTION).

FROM EQUATION 29-4, THE PERMANENT POOL VOLUME IS COMPUTED AS:

$$PPV = \frac{DA\ C\ R\ RT}{WS\ CF}$$

WHERE:
DA = 17.05 ACRES (SEE SECTION 1)
C = 0.77 (SEE SECTION 5)
R = 31-INCHES (SEE FIGURE 29-1, Applicant's Handbook, Regulation of Stormwater Management Systems, Chapter 30C-42, F.A.C., SJRWMD).
WS = 153 DAYS (JUNE - OCTOBER WET SEASON)
RT = 14 DAYS (Minimum required for wet ponds with littoral zones)

$$PPV = \frac{(17.05)(0.77)(31)(21)}{(153)(12)} = 4.65 \text{ ACRE-FEET}$$

POND NO. 4 PERMANENT POOL VOLUME AVAILABLE = 10.660 ACRE-FEET

COMPUTE ACTUAL RESIDENCE TIME FOR POND NO. 4

REWRITING EQUATION 29-4

$$RT = \frac{PPV\ WS\ CF}{DA\ C\ R}$$

WHERE:
DA = 17.05 ACRES (SEE SECTION 1)
C = 0.77 (SEE SECTION 5)
R = 31-INCHES (SEE FIGURE 29-1, Applicant's Handbook, Regulation of Stormwater Management Systems, Chapter 30C-42, F.A.C., SJRWMD).
WS = 153 DAYS (JUNE - OCTOBER WET SEASON)
PPV = 11.362 ACRE-FEET (BELOW CWL ELE. 74.00)

$$RT = \frac{(11.362)(153)(12)}{(17.05)(0.77)(31)}$$

$$RT = 51.26 \text{ DAYS}$$

CHECK MEAN DEPTH OF POND

THE MEAN DEPTH OF THE PERMANENT POOL MUST BE BETWEEN 2 AND 8 FEET

$$MD = \frac{PPV}{Ap}$$

WHERE: MD = Mean depth of pond (ft)
Ap = Area of the pond measured at the control elevation (sf)

$$MD = \frac{11.362}{1.5804}$$

PPV = 11.362 AF
Ap = 1.5804 ACRES

$$MD = 7.19\text{-FEET} \ (2\text{-FEET} < MD < 8\text{-FEET})$$

• POND NO. 4 PPV AVAILABLE > MINIMUM REQUIRED - 21 DAY (SJRWMD)
THEREFORE NO LITTORAL ZONE REQUIRED

7. DETERMINE CONTROL DEVICE BLEED-DOWN VOLUME

"GRAVITY CONTROL DEVICES SHALL NORMALLY BE SIZED BASED ON A DESIGN DISCHARGE OF ONE-HALF (1/2) OF THE TREATMENT VOLUME IN THE FIRST 24 TO 30 HOURS. THE DEVICES SHALL INCORPORATE DIMENSIONS NO SMALLER THAN SIX (6) INCHES OF CROSS-SECTIONAL AREA, TWO (2) INCHES MINIMUM DIMENSION, AND 20 DEGREES FOR V-NOTCH WEIRS."

(REFERENCE: 40C-42.026 - SPECIFIC DESIGN AND PERFORMANCE CRITERIA MANAGEMENT AND STORAGE OF SURFACE WATERS, PERMIT INFORMATION MANUAL, ST. JOHNS RIVER WATER MANAGEMENT DISTRICT)

ALLOW. VOLUME TO BE RELEASED = (0.5) (TREATMENT VOLUME)
ALLOW. VOLUME TO BE RELEASED = (0.5) (2.70 ACRE-FEET) = 1.35 AF

8. SIZE CONTROL WEIR (BLEED-DOWN DEVICE)
(ASSUME V-NOTCH AS INITIAL CONFIGURATION)

COMPUTE V-NOTCH ANGLE

V-NOTCH ANGLE = 2(ARCTAN(0.492V/H^2.5))

WHERE: V = VOLUME TO BE RELEASED, 24-HOURS
H = HEAD ON VERTEX OF NOTCH, FEET
BLEED-DOWN CONTROL WATER LEVEL (CWL) = ELE. 74.00
POLLUTION ABATEMENT LEVEL = ELE. 75.57

H = POLLUTION ABATEMENT ELE. - CWL ELE.
H = 75.57 - 74.00 = 1.57 FEET
V = 1.35 ACRE-FEET

V-NOTCH ANGLE = 2(ARCTAN[(0.492*1.35) / 1.57^2.5])
V-NOTCH ANGLE = 2(ARCTAN[0.215])
V-NOTCH ANGLE = 2(12.134)
V-NOTCH ANGLE = 24.268 DEGREES > 20 DEGREES (Does Conform to SJRWMD Criteria)
TRY AN ALTERNATIVE BLEED-DOWN DEVICE (CIRCULAR ORIFICE)

9. SIZE CONTROL ORIFICE (BLEED-DOWN DEVICE)
(ASSUME CIRCULAR ORIFICE CONFIGURATION)

SIZE CONTROL ORIFICE OPENING DIMENSION USING FALLING HEAD EQUATION (EQ. 4-19 HANDBOOK OF HYDRAULICS, E.F. BRATER & H.W. KING, McGRAW-HILL BOOK COMPANY)

$$a = \frac{2A(\sqrt{h1} - \sqrt{h2})}{Ct\sqrt{2g}}$$

20 839-3

WHERE: a = AREA OF ORIFICE, SQUARE FEET
A = AVERAGE POND SURFACE AREA, SQUARE FEET
h1 = INITIAL HEAD ON ORIFICE, FEET
h2 = FINAL HEAD ON ORIFICE, FEET
C = DISCHARGE COEFFICIENT, (0.60 FOR ORIFICE)
g = GRAVITATIONAL CONSTANT, (32.2)
t = DRAWDOWN TIME, SECONDS

RECEIVED
MAR 0 8 2002
PDS
ALTAMONTE SVC. CTR.

9. SIZE CONTROL ORIFICE (BLEED-DOWN DEVICE) (Cont.)

EFFECTIVE TREATMENT VOLUME / STAGE-STORAGE

ELEVATION	SURFACE AREA	AVG. VOL.	ACC. VOL.
74.00	1.6125		0.000
		1.672	
75.00	1.7324		1.672
		1.794	
76.00	1.8560		3.467
		1.920	
77.00	1.9832		5.386
		2.049	
78.00	2.1140		7.435
		2.181	
79.00	2.2484		9.616

DESIGN PARAMETERS

CONTROL WATER LEVEL (CWL) = ELE. 74.00
TOP OF TREATMENT VOLUME = ELE. 75.57
VOLUME TO BE BLED DOWN = 1.35 ACRE-FEET (1/2 OF REQ'D TREATMENT VOLUME)
DRAWDOWN TIME = 24-HOURS = 86,400 SECONDS

AREA @ h1 = POND SURFACE AREA AT TOP OF TREATMENT VOLUME

$$\text{AREA @ h1} = \frac{[\text{ELE. RET. V - ELE. A}]}{\text{ELE. B - ELE. A}} (\text{AREA B - AREA A}) + \text{AREA A} \quad \text{(SEE SECTION 4)}$$

$$\text{AREA @ h1} = \frac{[75.57 - 75.00]}{76.00 - 75.00} (1.856 - 1.732) + 1.7324$$

AREA @ h1 = 1.803 ACRES

AREA @ h2 = POND SURFACE AREA AT ELEVATION WHERE BLEED-DOWN VOLUME IS RELEASED.

VOLUME @ h2 = TOTAL RETENTION VOLUME - ALLOWABLE VOLUME RELEASE
VOLUME @ h2 = 2.70 - 1.35 = 1.35 ACRE-FEET

$$\text{ELE. @ h2} = \frac{[\text{VOL. @ h2 - VOL. A}]}{[\text{VOL. B - VOL. A}]} (\text{ELE. B - ELE. A}) + \text{ELE. A}$$

VOLUME @ h2 = 1.35 ACRE-FEET
VOLUME AT A = 0.000 ACRE-FEET (ELE. 74.00)
VOLUME AT B = 1.672 ACRE-FEET (ELE. 75.00)

$$\text{ELE. @ h2} = \frac{[1.35 - 0.000]}{[1.672 - 0.000]} (75.00 - 74.00) + 74.00$$

ELE. @ h2 = 74.81

9. SIZE CONTROL ORIFICE (BLEED-DOWN DEVICE) (Cont.)

$$AREA\ @\ h2 = \frac{[ELE.\ @\ h2 - ELE.\ A]}{[ELE.\ B - ELE.\ A]}(AREA\ @\ B - AREA\ @\ A) + AREA\ @\ A$$

ELE. @ h2 = 74.81
ELE. @ A = 74.00 AREA @ A = 1.6125 ACRES
ELE. @ B = 75.00 AREA @ B = 1.7324 ACRES

$$AREA\ @\ h2 = \frac{[74.81 - 74.00]}{[75.00 - 74.00]}(1.7324 - 1.6125) + 1.6125$$

AREA @ h2 = 1.710 ACRES

10. DETERMINE ORIFICE SIZE

$$AVERAGE\ AREA = \frac{AREA\ @\ h1 + AREA\ @\ h2}{2}$$

AREA @ h1 = 1.803 ACRES
AREA @ h2 = 1.710 ACRES

$$AVERAGE\ AREA = \frac{(1.803 + 1.710)}{2}$$

AVERAGE AREA = 1.757 ACRES = 76,513 SQUARE FEET

h1 = (TOP OF TREATMENT VOLUME) - (BOTTOM OF POLLUTION ABATEMENT VOLUME)

WHERE: TOP OF TREATMENT VOLUME = ELE. 75.57
BOTTOM OF POLLUTION ABATEMENT VOLUME (CWL) = 74.00

h1 = 75.57 - 74.00 = 1.57 FEET

h2 = (ELEVATION WHERE BLEED-DOWN VOLUME HAS BEEN RELEASED) - (BOTTOM OF POLLUTION ABATEMENT VOLUME)

h2 = 74.81 - 74.00 = 0.81 FEET

SOLVE FOR ORIFICE AREA

$$a = \frac{2A(\sqrt{h1} - \sqrt{h2})}{Ct\sqrt{2g}}$$

A = 76,513 SQUARE FEET
h1 = 1.57 FEET
h2 = 0.81 FEET
C = 0.60 (DISCHARGE COEFFICIENT FOR CIRCULAR ORIFICE)
t = 86,400 SECONDS (24-HOURS)
g = 32.2 (GRAVITATIONAL CONSTANT)

FORSYTH ROAD - POND NO. 4
WATER QUALITY CALCULATIONS

10. DETERMINE ORIFICE SIZE (Cont.)

$$a = \frac{2(76{,}513)(\sqrt{1.57} - \sqrt{0.81})}{(0.60)(86{,}400)(\sqrt{2(32.2)})}$$

a = 0.1298 SQUARE FEET

SOLVE FOR ORIFICE DIAMETER

a = (PI*D^2)/4 $\quad$ $D = \sqrt{(4a)/PI}$ $\quad$ PI = 3.142

WHERE: D = ORIFICE DIAMETER, FEET

D = [4(0.1298)/3.142}^0.5

D = 0.4065 FEET
D = 4.878 INCHES

USE ORIFICE DIAMETER EQUIVALENT TO 4-3/4 INCHES

11. DETERMINE ACTUAL DRAWDOWN TIME FOR 4-3/4 INCH DIAMETER ORIFICE

D = 4-3/4 INCHES = 4.75 INCHES
D = 4-3/4 INCHES = 0.3958 FEET

a = (PI*D^2)/4
a = 0.1230 SQUARE FEET

$$a = \frac{2A(\sqrt{h1} - \sqrt{h2})}{Ct\sqrt{2g}}$$

A = 76,513 SQUARE FEET
h1 = 1.57 FEET
h2 = 0.81 FEET
C = 0.60 (DISCHARGE COEFFICIENT FOR CIRCULAR ORIFICE)
t = DRAWDOWN TIME, SECONDS
g = 32.2 (GRAVITATIONAL CONSTANT)
a = CROSS-SECTIONAL AREA OF ORIFICE, SQUARE FEET

REWRITING FORMULA TO SOLVE FOR t

$$t = \frac{2A(\sqrt{h1} - \sqrt{h2})}{Ca\sqrt{2g}}$$

$$t = \frac{2(76{,}513)(\sqrt{1.57} - \sqrt{0.81})}{(0.6)(0.1230)[\sqrt{(2)(32.2)}]}$$

t = 91,209 SECONDS

t = 25.33 HOURS

THEREFORE THE ORIFICE SIZE OF 4-3/4" DIA. CONFORMS TO THE SJRWMD REQUIREMENTS OF BLEEDING DOWN ONE-HALF OF THE WATER QUALITY VOLUME WITHIN 24 TO 30 HOURS.

FORSYTH ROAD - POND NO. 4
WATER QUALITY CALCULATIONS

12. BACKGROUND SEEPAGE ANALYSIS SUMMARY

	ROADWAY
GROUNDWATER CONTROL ELE. (FT ABOVE DATUM)	83.00
BOTTOM OF AQUIFER ELEVATION (FT ABOVE DATUM)	65.00
AQUIFER GROUNDWATER ELEVATION	83.00
HORIZONTAL PERMEABILITYOF AQUIFER (FT/DAY)	5.00
FILLABLE POROSITY OF AQUIFER (FT/FT)	0.25
DURATION OF WET SEASON (DAYS)	120.00
CONTROL ELEVATION PERIMETER (FT)	1204.00
BACKGROUND SEEPAGE RATE [Q] (CF/DAY)	1169
BACKGROUND SEEPAGE RATE [Q] (CFS)	0.0135

THE BACKGROUND SEEPAGE RATE WILL ADD APPROXIMATELY 0.05 ACRE-FEET TO THE POLLUTION ABATEMENT VOLUME IN A 24-HOUR PERIOD (TIME REQUIRED TO DRAWDOWN 1/2 OF THE POLLUTION ABATEMENT VOLUME).

THE BLEED-DOWN ORIFICE WILL BE REQUIRED TO BE SIZED TO DISCHARGE THE BASE FLOW FROM THE ROADWAY UNDERDRAINS AS WELL AS THE POLLUTION ABATEMENT VOLUME.

13. DRAWDOWN ANALYSIS

A DRAWDOWN ANALYSIS WAS DONE USING ADVANCED INTERCONNECTED POND ROUTING (ADICPR) TO CHECK THE ORIFICE SIZE DETERMINED USING THE FALLING HEAD EQUATIONS USED IN SECTION 9 AND 10 (REFERENCE: HANDBOOK OF HYDRAULICS, Brater and King, McGraw-Hill Book Company) OF THIS WATER QUALITY CALCULATION DOCUMENT. THIS WAS ACCOMPLISHED BY DEACTIVATING THE INFLOW HYDROGRAPHS TO POND 4 AND SETTING THE INITIAL STAGE IN THE POND TO THE WATER QUALITY LEVEL. IN ADDITION, A CONSTANT GROUNDWATER RATE WAS INTRODUCED BY USING A TIME-DISCHARGE RATING CURVE REACH TO POND 4. THE FLOOD ROUTING WAS THEN PERFORMED TO ALLOW ONLY THE ORIFICE TO DRAWDOWN THE REQUIRED WATER QUALITY VOLUME.

THE FOLLOWING ATTACHMENT IS A NODE STAGE/VOLUME/FLOW REPORT WHICH SUMMARIZES THE DRAWDOWN CURVE FOR THE BLEED-DOWN ORIFICE OVER A 60-HOUR PERIOD.

THE REQUIRED VOLUME RELEASE WITHIN THE 24 TO 30-HOUR PERIOD IS 1.35 ACRE-FEET FOR POND 4. THE ELEVATION WHERE ONE-HALF THE TREATMENT VOLUME IS TO BE RECOVERED IS ELEVATION 74.81.

14. CONCLUSIONS

THE ADICPR DRAWDOWN ANALYSIS INDICATES THAT A 4-3/4" DIAMETER ORIFICE WILL EVACUATE ONE-HALF OF THE WATER QUALITY VOLUME WITHIN 24 TO 30 HOURS, (INCLUDING BACKGROUND SEEPAGE) PURSUANT TO SJRWMD STANDARDS.

THE FLOOD ROUTING RESULTS ARE SUMMARIZED IN THE FOLLOWING TABLE.

TIME (hrs)	STAGE (ft)	CUMULATIVE VOLUME OUT (af)	[illegible] (cfs)
28.339	74.80	1.3526	[illegible]

ADICPR INPUT DATA - POND NO. 4

Post-Development (Proposed) Conditions

20839-3

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [1]

REVISED POND 4 - FORSYTH ROAD
INPUT DATA
PROJECT NO. OC-73   02/28/02

```
********** Input Report ***********************************************************
--------Class: Node----------------------------------------------------------------
   Name: LCORRINE   Base Flow(cfs): 0         Init Stage(ft): 73
  Group: BASE           Length(ft): 0         Warn Stage(ft): 76.6
Comment: TAILWATER BOUNDARY - LAKE CORRINE OUTFALL CANAL

Time(hrs)     Stage(ft)
0             73
10            74
13            76.6
18            74
30            73
--------Class: Node----------------------------------------------------------------
   Name: POND-4     Base Flow(cfs): 0.0135    Init Stage(ft): 74
  Group: BASE           Length(ft): 0         Warn Stage(ft): 79
Comment: REVISED POND 4 STAGE/AREA

Stage(ft)     Area(ac)
65            1.071
66            1.111
67            1.152
68            1.193
69            1.236
70            1.278
71            1.322
72            1.365
73            1.477
74            1.6125
75            1.7324
76            1.856
77            1.9832
78            2.2114
79            2.2484
--------Class: Basin---------------------------------------------------------------
Basin: FORSYTH    Node: POND-4     Status: On Site     Type: SCS Unit Hydr
Group: BASE
    Unit Hydrograph: UH256                   Peak Factor: 256
      Rainfall File: ORANGE           Storm Duration(hrs): 24
Rainfall Amount(in): 7.5
           Area(ac): 7.34         Concentration Time(min): 43
            Curve #: 94                    Lag Time(hrs): 0
            DCIA(%): 0

          DRAINAGE AREA FROM FORSYTH ROAD
```

20839-3

```
Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [2]
Copyright 1995, Streamline Technologies, Inc.

REVISED POND 4 - FORSYTH ROAD
INPUT DATA
PROJECT NO. OC-73    02/28/02

********** Input Report ************************************************************
--------Class: Basin-------------------------------------------------------------
Basin: HEDDRON     Node: POND-4     Status: On Site     Type: SCS Unit Hydr
Group: BASE
    Unit Hydrograph: UH256                     Peak Factor: 256
      Rainfall File: ORANGE           Storm Duration(hrs): 24
Rainfall Amount(in): 7.5
           Area(ac): 8.74        Concentration Time(min): 10
            Curve #: 93                    Lag Time(hrs): 0
            DCIA(%): 0

          DRAINAGE AREA FROM HEDDRON AND GROUND CONTROL

--------Class: Basin-------------------------------------------------------------
Basin: OFFSITE     Node: LCORRINE   Status: On Site     Type: SCS Unit Hydr
Group: BASE
    Unit Hydrograph: UH256                     Peak Factor: 256
      Rainfall File: ORANGE           Storm Duration(hrs): 24
Rainfall Amount(in): 7.5
           Area(ac): 4.84        Concentration Time(min): 44
            Curve #: 89                    Lag Time(hrs): 0
            DCIA(%): 0

          OFFSITE DRAINAGE AREA TO L. CORRINE OUTFALL CANAL

--------Class: Basin-------------------------------------------------------------
Basin: POND4BAS    Node: POND-4     Status: On Site     Type: SCS Unit Hydr
Group: BASE
    Unit Hydrograph: UH256                     Peak Factor: 256
      Rainfall File: ORANGE           Storm Duration(hrs): 24
Rainfall Amount(in): 7.5
           Area(ac): 2.39        Concentration Time(min): 10
            Curve #: 90                    Lag Time(hrs): 0
            DCIA(%): 0

          DRAINAGE AREA FROM POND 4
```

```
Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [3]
Copyright 1995, Streamline Technologies, Inc.

REVISED POND 4 - FORSYTH ROAD
INPUT DATA
PROJECT NO. OC-73   02/28/02

********** Input Report ***********************************************************
--------Class: Drop Structure-----------------------------------------------------
     Name: RDSPOND4       From Node: POND-4        Length(ft): 80
    Group: BASE             To Node: LCORRINE           Count: 1

    Outlet Cntrl Spec: Use dc or tw     Inlet Cntrl Spec: Use dn
    Upstream Geometry: Circular      Downstream Geometry: Circular
                                UPSTREAM              DOWNSTREAM
               Span(in): 24                     24
               Rise(in): 24                     24
             Invert(ft): 73.5                   73
            Manning's N: 0.013                  0.013
           Top Clip(in): 0                      0
        Bottom Clip(in): 0                      0

     Entrance Loss Coef: 0.5                  Flow: Both
         Exit Loss Coef: 1                Equation: Aver Conveyance

      Upstream FHWA Inlet Edge Description:
      Circular Concrete: Square edge w/ headwall              1     1
      Downstream FHWA Inlet Edge Description:
      Circular CMP: Mitered to slope                          2     2

               PROPOSED POND 4 OUTFALL
 *** Weir 1 of 3 for Drop Structure RDSPOND4 ***              [TABLE]
   Count: 1                    Bottom Clip(in): 0
    Type: Mavis                   Top Clip(in): 0
    Flow: Both             Weir Discharge Coef: 3
Geometry: Circular      Orifice Discharge Coef: 0.6

         Span(in): 4.75                    Invert(ft): 74
         Rise(in): 4.75              Control Elev(ft): 74

 *** Weir 2 of 3 for Drop Structure RDSPOND4 ***              [TABLE]
   Count: 1                    Bottom Clip(in): 0
    Type: Mavis                   Top Clip(in): 0
    Flow: Both             Weir Discharge Coef: 3.2
Geometry: Rectangular   Orifice Discharge Coef: 0.6

         Span(in): 12                      Invert(ft): 75.57
         Rise(in): 29.16             Control Elev(ft): 75.57
```

20839-3

RECEIVED

MAR 08 2002

RDS

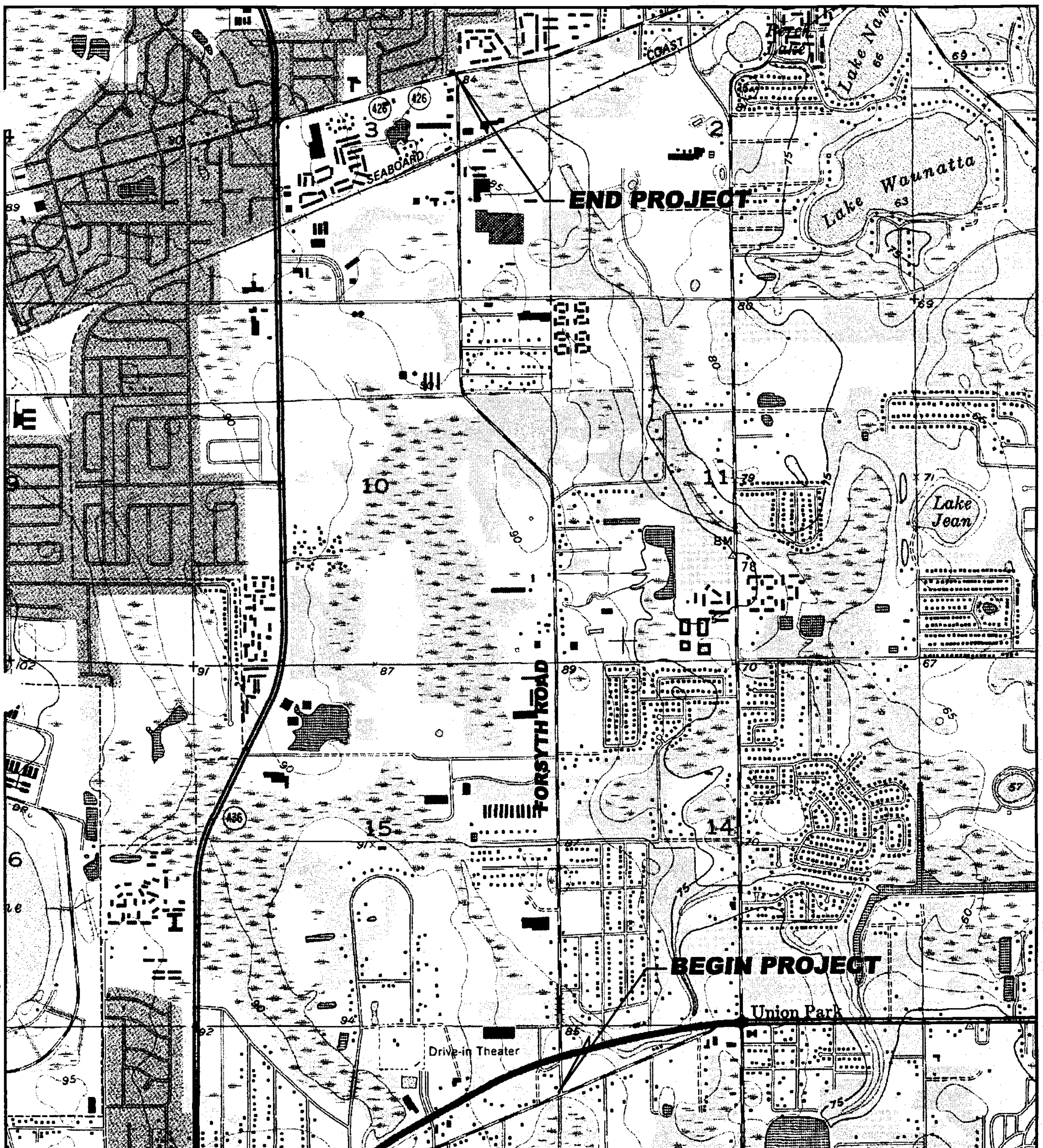
ALTAMONTE SVC. CTR.

```
Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [4]
Copyright 1995, Streamline Technologies, Inc.

REVISED POND 4 - FORSYTH ROAD
INPUT DATA
PROJECT NO. OC-73   02/28/02

********** Input Report ************************************************************
 *** Weir 3 of 3 for Drop Structure RDSPOND4 ***               [TABLE]
   Count: 1                    Bottom Clip(in): 0
    Type: Horiz                   Top Clip(in): 0
    Flow: Both              Weir Discharge Coef: 3.2
Geometry: Rectangular    Orifice Discharge Coef: 0.6

         Span(in): 49                      Invert(ft): 78
         Rise(in): 37                Control Elev(ft): 78


   --------Class: Simulation----------------------------------------------------
D:\WORKFILE\ICPR20\OC-73\CONVERT\POND-4\1
Execution: Both
   Header: REVISED POND 4 - FORSYTH ROAD
           10-YEAR FREQUENCY, 24-HOUR DURATION STORM EVENT
           PROJECT NO. OC-73        $$DATE$$
---------HYDRAULICS----------------------------HYDROLOGY--------------------
       Max Delta Z (ft): 1
         Delta Z Factor: 0.01         Override Defaults: No
    Time Step Optimizer: 10
Drop Structure Optimizer: 10
    Sim Start Time(hrs): 0
      Sim End Time(hrs): 30
     Min Calc Time(sec): 2
     Max Calc Time(sec): 5
       To Hour:   PInc(min):                  To Hour:   PInc(min):
       10         15                          24         15
       16         2
       30         15
---------GROUP SELECTIONS---------------------------------------------------
+ BASE     [02/28/02]
```

```
    Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [5]
    Copyright 1995, Streamline Technologies, Inc.

    REVISED POND 4 - FORSYTH ROAD
    INPUT DATA
    PROJECT NO. OC-73   02/28/02

    ********** Input Report ************************************************************
    --------Class: Simulation----------------------------------------------------------
 D:\WORKFILE\ICPR20\OC-73\CONVERT\POND-4\2
 Execution: Both
    Header: REVISED POND4 - FORSYTH ROAD
            25-YEAR FREQUENCY, 24-HOUR DURATION STORM EVENT
            PROJECT NO. OC-73        $$DATE$$
---------HYDRAULICS----------------------------HYDROLOGY-------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 10               Storm Dur(hrs): 24
Drop Structure Optimizer: 10             Rain Amount(in): 8.6
     Sim Start Time(hrs): 0                Rainfall File: ORANGE
       Sim End Time(hrs): 30
      Min Calc Time(sec): 2
      Max Calc Time(sec): 5
        To Hour:    PInc(min):                To Hour:    PInc(min):
        10          15                        24          15
        16          2
        30          15
---------GROUP SELECTIONS---------------------------------------------------
+ BASE     [02/28/02]
    --------Class: Simulation----------------------------------------------------------
 D:\WORKFILE\ICPR20\OC-73\CONVERT\POND-4\2
 Execution: Both
    Header: REVISED POND 4 - FORSYTH ROAD
            2.33-YEAR FREQUENCY, 24-HOUR DURATION STORM EVENT
            PROJECT NO. OC-73          $$DATE$$
---------HYDRAULICS----------------------------HYDROLOGY-------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01          Override Defaults: Yes
     Time Step Optimizer: 10               Storm Dur(hrs): 24
Drop Structure Optimizer: 10             Rain Amount(in): 4.5
     Sim Start Time(hrs): 0                Rainfall File: ORANGE
       Sim End Time(hrs): 30
      Min Calc Time(sec): 2
      Max Calc Time(sec): 5
        To Hour:    PInc(min):                To Hour:    PInc(min):
        10          15                        24          15
        16          2
        30          15
---------GROUP SELECTIONS---------------------------------------------------
+ BASE     [02/28/02]
```

20839-3

```
Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [6]
Copyright 1995, Streamline Technologies, Inc.

REVISED POND 4 - FORSYTH ROAD
INPUT DATA
PROJECT NO. OC-73   02/28/02

********** Input Report *********************************************************
--------Class: Simulation----------------------------------------------------------
D:\WORKFILE\ICPR20\OC-73\CONVERT\POND-4\1
Execution: Both
   Header: REVISED POND 4 - FORSYTH ROAD
           100-YEAR FREQUENCY, 24-HOUR DURATION STORM EVENT
           PROJECT NO. OC-73         $$DATE$$
---------HYDRAULICS----------------------------HYDROLOGY--------------------
        Max Delta Z (ft): 1
          Delta Z Factor: 0.01         Override Defaults: Yes
     Time Step Optimizer: 10              Storm Dur(hrs): 24
Drop Structure Optimizer: 10             Rain Amount(in): 10.6
     Sim Start Time(hrs): 0                Rainfall File: ORANGE
       Sim End Time(hrs): 30
      Min Calc Time(sec): 2
      Max Calc Time(sec): 5
        To Hour:   PInc(min):                To Hour:   PInc(min):
        10         15                        24         15
        16         2
        30         15
---------GROUP SELECTIONS----------------------------------------------------
+ BASE     [02/28/02]
```



REFERENCE: U.S.G.S. QUADRANGLE MAP
EAST ORLANDO, ORANGE COUNTY, FLORIDA
(PHOTOREVISED 1981)

Range 30 E

1"=2000'

Figure 1.1
Location Map
Forsyth Road

Professional Engineering Consultants, Inc.

200 E. Robinson Street, Suite 1560, Orlando, FL 32801

D:\Z_PEC\WORK\D2\ACAD\EAST ORLANDO OUTFALL.DWG 03/01 (gat)

SECTION 4.0 - PROPOSED CONDITIONS

4.1 PROPOSED ROADWAY IMPROVEMENTS

The traffic study indicates that the project can be divided into two distinct segments. There is a significant drop in traffic along Forsyth Road south of University Boulevard. The average daily traffic volumes (ADT) forecasted for the design year 2016 for Forsyth Road south of University will be 18,650 VPD. The ADT for Forsyth Road north of University will be 30,040 VPD.

4.1.1 Southern Segment

The traffic volumes for the southern segment of the project can be handled by a modified two-lane facility. Since the existing facility is a two-lane road and it is presently operating at unacceptable levels at times during the day, the recommended modification is the use of a continuous two-way left turn lane. Additionally, the existing road has substandard lane widths which reduce capacity.

The recommended typical section will increase the capacity beyond the existing two-lane road by providing 14-foot travel lanes and a 12-foot wide center turn lane. Providing the continuous center turn lane will also significantly improve the accessibility of the corridor to emergency vehicles. Congestion will be reduced by virtue of the dedicated left turn lanes which will allow for almost limitless storage lengths. Field observations support the value of this feature since traffic is often backed up behind vehicles attempting to make left turns against the flow of oncoming traffic. This section will therefore provide a safer facility by removing left turning vehicles from the thru lanes.

Additionally, the section will provide improved local access to the adjacent properties. While this will have an effect on the capacity of the road, the concept is consistent with the functional classification (urban collector) and the character of the land use along the corridor.

4.1.2 Northern Segment

The projected traffic volumes for the northern portion of the project are best handled by a four-lane facility providing two travel lanes in each direction. Both a four-lane divided typical and a five-lane typical using a continuous two-way left turn lane were evaluated.

Because of the existing and future land uses, the need for good local access to the adjacent properties is an important requisite. Additionally, R/W will be very expensive to acquire along this segment. This is due to the fact that the existing R/W is the same as the nominal R/W for the southern segment (60 ft) but the proposed roadway will include two additional travel lanes. This translates to a minimum of 24 additional feet of R/W alone just for the travel lanes. The northern segment also has more buildings that are closer to Forsyth Road. The wider typical section will have increased impacts on these existing businesses and potentially greater impacts on parking and internal traffic circulation. A four-lane undivided section is undesirable from a traffic operation and safety

4.3.4 Pond 4

Pond 4 is an "on-line" wet detention system which provides water quality treatment and peak flow attenuation of runoff rates for the contributing drainage basin from Forsyth Road. This pond was originally to be located in a vacant lot, which consists of predominantly pine trees. This lot was subsequently developed (Ground Control Landscaping Office Building, by Heddron Construction - Permit No. 42-095-1745AN-ERP) and a stormwater pond serving only the development was constructed. Due to the need for a stormwater pond with outfall access to the Lake Corrine Outfall Canal, Orange County entered into an agreement with both Ground Control Landscaping and Heddron Construction to construct a "joint use" stormwater pond. This pond would encompass the existing wet detention pond originally constructed for Ground Control/Heddron Construction and enlarged to accommodate the proposed Forsyth Road roadway improvements. It should be noted that this "joint use" pond is to also accommodate any future improvements for Ground Control Landscaping and Heddron Construction.

This pond will utilize the 24-inch pipe from the existing Ground Control/Heddron Construction pond as the proposed Pond 4 outfall to the Lake Corrine Outfall Canal. This pond will have a control structure with a circular orifice to slowly release stormwater to the receiving water body. The Pond 4 drainage basin encompasses 7.35 acres of proposed Forsyth Road (including the pond area) and 4.84 acres of offsite area.

4.3.5 Pond 5

Pond 5 is an "on-line" wet detention system which provides water quality treatment and peak flow attenuation of runoff rates for the contributing drainage basin from Forsyth Road. This pond is situated in a vacant lot south of Gardner Street, east of Forsyth Road. A portion of the lot is considered a wetland system (from a field review of the pond location with the SJRWMD and the U.S. Army Corps of Engineers). Pond 5 is to be located in only the upland portion of the lot. The existing wetland system will remain intact. The pond discharges to an existing lateral ditch on the south side of the lot. This ditch extends from the west side of Forsyth Road to the east, to the Hidden Oaks Condominium development. This ditch is encompassed by a 15-foot drainage easement and is currently maintained by Orange County. The contributing drainage area to Pond 5 encompasses 2.95 acres of the proposed Forsyth Road improvements.

4.3.6 Pond 6

Pond 6 is located west of Forsyth Road and south of the Winter Park Pines Canal, adjacent to the Bel-Air Pines development. This pond was originally rectangular in shape and aligned parallel to the canal, but has since been modified under this permit application. The modification was done in an effort to better coordinate vehicular access from Forsyth Road with a future development, located south of the Winter Park Pines Canal, west of Forsyth Road. The pond is situated in an area considered uplands by the regulatory agencies, and is mostly grassed. The pond provides water quality treatment and peak flow attenuation of runoff for the section of Forsyth Road between Astro bottom inlets were proposed in these ponds, which collect and convey the excess runoff to the bypass line, rather than into Forsyth Road.

Perpetual drainage easements (PDE's) are proposed to encompass the proposed inlets, with the bypass system being located under the proposed sidewalk. In areas of existing fill, roadside ditches were constructed to compliment the bypass storm sewer system in providing runoff conveyance to appropriate receiving water bodies.

4.4.1.3 Winter Park Pines Canal Crossing

A pipeline crossing is proposed in the vicinity of the Winter Park Pines canal to convey stormwater collected north of the existing double 9-foot by 10-foot box culvert to Pond 6. A review of the structural plans for the existing culvert revealed that a pipe crossing underneath the box would be difficult and expensive, therefore other alternatives were reviewed. A pipe crossing of the canal was deemed more appropriate, with special provisions. Orange County inspectors were contacted to determine the method of construction at the canal crossing. The County has recently been utilizing tongue and groove elliptical pipes with O-rings with a large degree of success for special conditions such as the Winter Park Pines canal crossing. The joints of the elliptical pipe are to be tightly wrapped with a geotextile material to insure a water-tight seal. In addition, a concrete cap is to be poured over the elliptical pipe in the vicinity of the canal crossing. The function of the concrete cap is to protect the elliptical pipe in the event that maintenance dredging occurs in the canal. The cap will immediately warn the dredging operator and inspector of the conflict once encountered.

4.4.2 University Boulevard to Aloma Avenue

This segment of Forsyth Road consists wholly of a mainline system to collect and convey both onsite and offsite runoff to Pond 7. Ditch bottom inlets are located in appropriate locations to collect the offsite runoff prior to discharging onto Forsyth Road. This becomes an important element in that these ditch bottom inlets reduce the number of curb inlets required to control excessive spread of stormwater on the roadway.

4.5 CROSS DRAIN SYSTEMS

The Forsyth Road project consists of five (5) cross-drains which convey onsite and offsite stormwater runoff flow to the east into the Little Econlockhatchee River. The following section briefly describes the cross-drains.

4.5.1 Tiffany Manor Outfall Ditch

This cross-drain is located south of Agate Lane and currently consists of a double 48-inch diameter culvert with sand-cement bag headwalls. The culverts connect existing ditches on both sides of Forsyth Road. The proposed culvert improvements consist of replacement in-kind, extending the culvert ends to accommodate the proposed roadway improvements. The proposed pipe sizes are identical to those downstream (to the east), underneath Marcia Drive. The existing culverts were observed to be in good condition, but because of the skew in relation to the roadway improvements, will be required to be removed and relocated to better align with the existing ditch on both sides of Forsyth Road.

4.5.2 Lake Corrine Outfall Canal

This cross-drain is located north of Partridge Lane (east) and consists of double 54-inch diameter pipes. The culvert also has a control weir on the west side of Forsyth Road. The weir functions to retain water in the canal. Discussions with the Orange County staff indicate that this structure is more than 20-years old and is probably at the end of its structural life. The County has previously encountered maintenance problems with this culvert crossing, particularly with leaking pipes. The proposed culvert improvements consist of replacement in-kind and the relocation of the existing concrete weir on the west side of Forsyth Road. In addition, handrails and guardrails will be provided at the back of the proposed sidewalk and endwall, respectively, for safety purposes.

4.5.3 Gardner Street Outfall

This cross-drain is located south of Gardner Street and discharges into an existing lateral ditch which runs in an easterly direction from Forsyth Road. This culvert currently consists of an 18-inch diameter concrete pipe with concrete endwalls on both sides. The County has previously experienced drainage problems in this vicinity, particularly with the Crummet Chemicals property on the west side of Forsyth Road, immediately north of the culvert. The proposed culvert improvements consist of constructing a "bypass" storm sewer system on the west side of Forsyth Road to collect offsite runoff which was previously discharging into adjacent roadside ditches. These roadside ditches will be eliminated by the proposed roadway improvements, therefore the bypass line will replace these ditches.

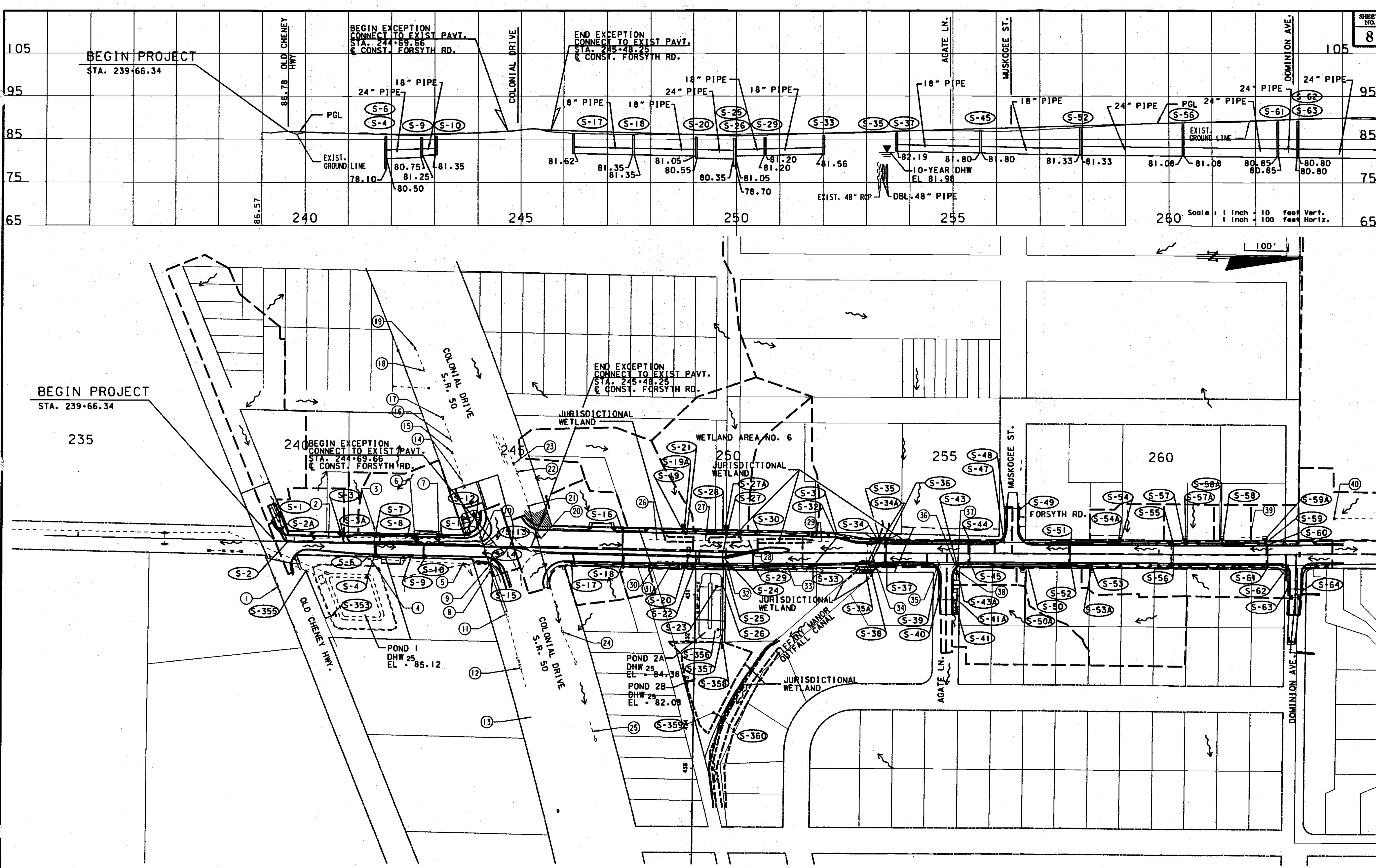
These bypass lines will converge at the Gardner Street Outfall culvert, which will be replaced by a single 36-inch diameter pipe. The existing ditch will also be required to be regraded to attain a positive gradient from the proposed culvert crossing to the existing ditch.

4.5.4 Winter Park Pines Canal

The culvert crossing for the Winter Park Pines Canal consists of a double 9-foot by 10-foot reinforced concrete box (RCB) culvert, which was constructed in 1982 by Orange County. Due to roadway horizontal alignment improvements for safety, this box culvert will be required to be extended on both sides of Forsyth Road to accommodate the proposed roadway improvements. The proposed box extensions will not have any effect on the established water surface elevations for the 10-, 25- and 100-year flood events.

DRAINAGE BASIN MAPS

Post-Development (Proposed) Conditions



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

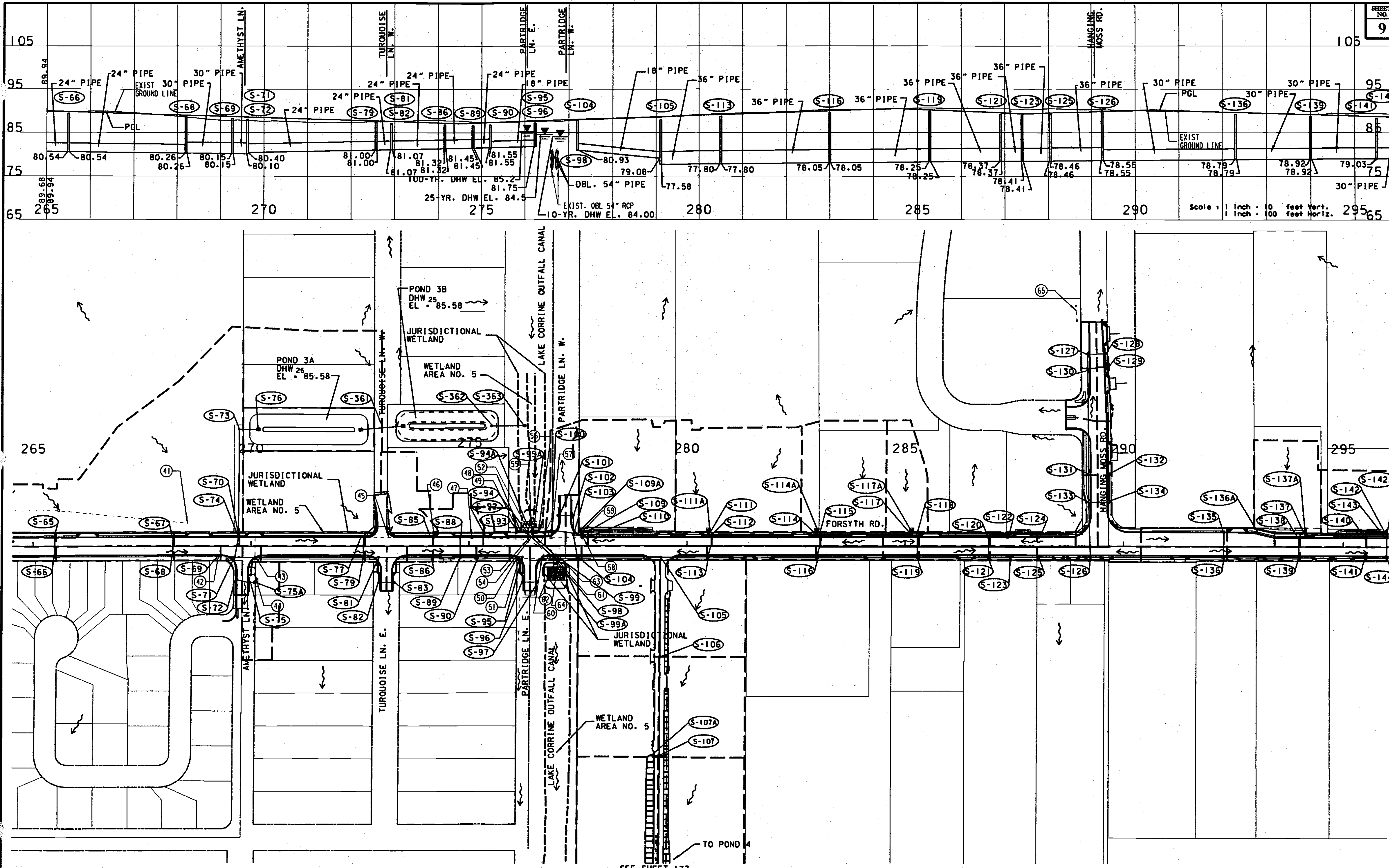
ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE MAP

11:50:34 AM 01/14/2002

SHEET NO. 9



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

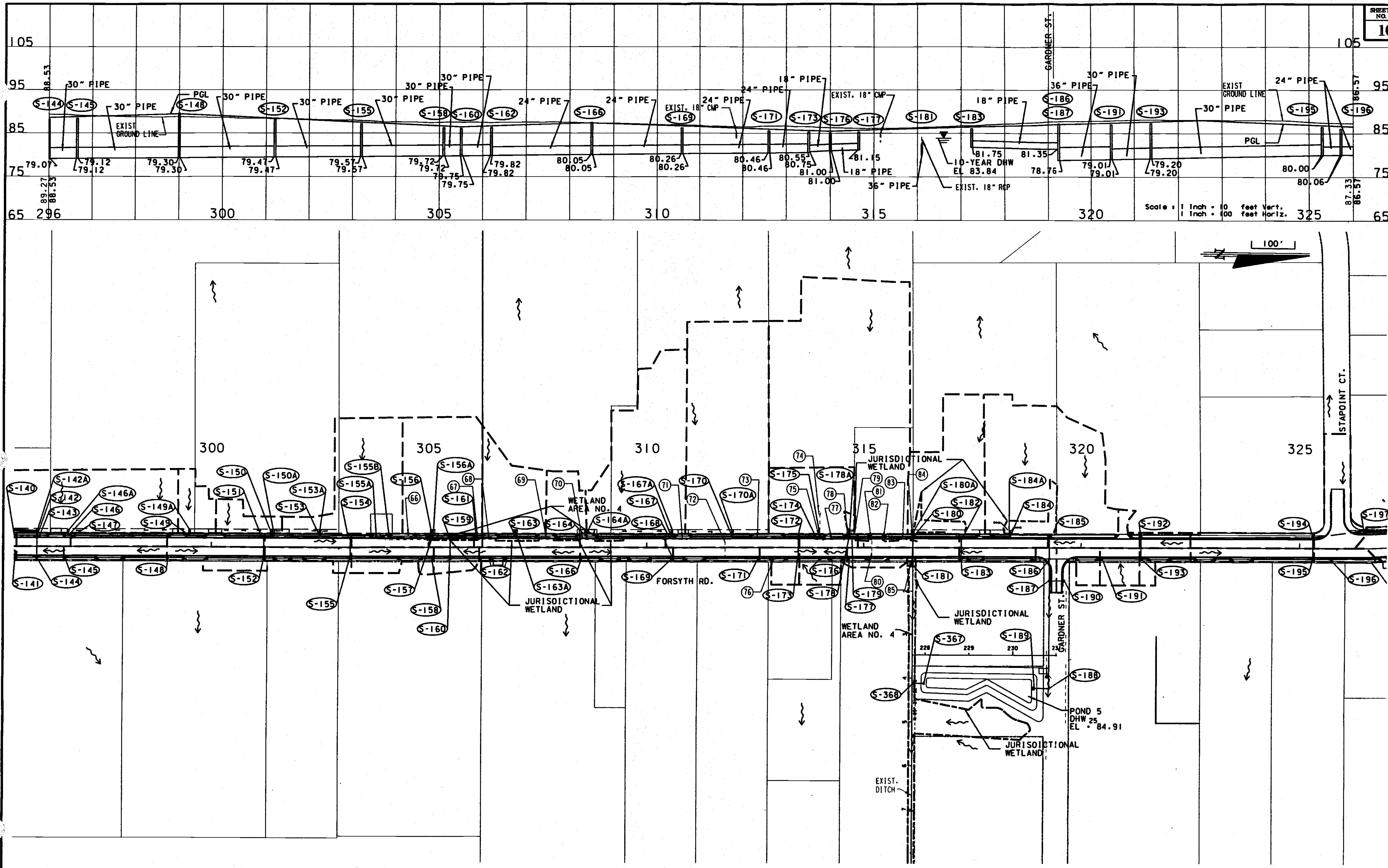
REVISIONS

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE MAP

01/14/2002 11:50:47 AM



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

REVISIONS

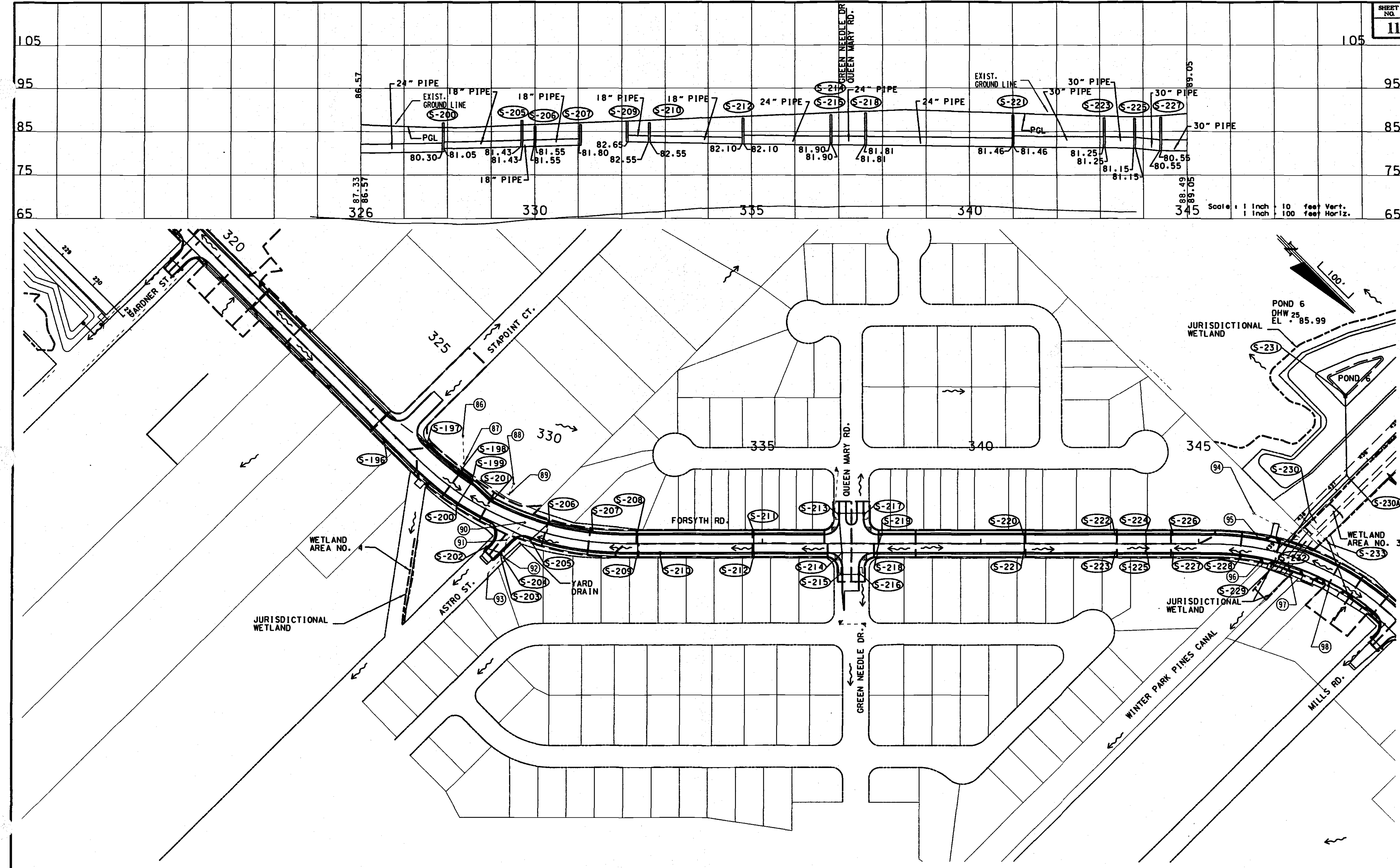
ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

DRAINAGE MAP

01/14/2002 11:50:56 AM

SHEET NO. 11



DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

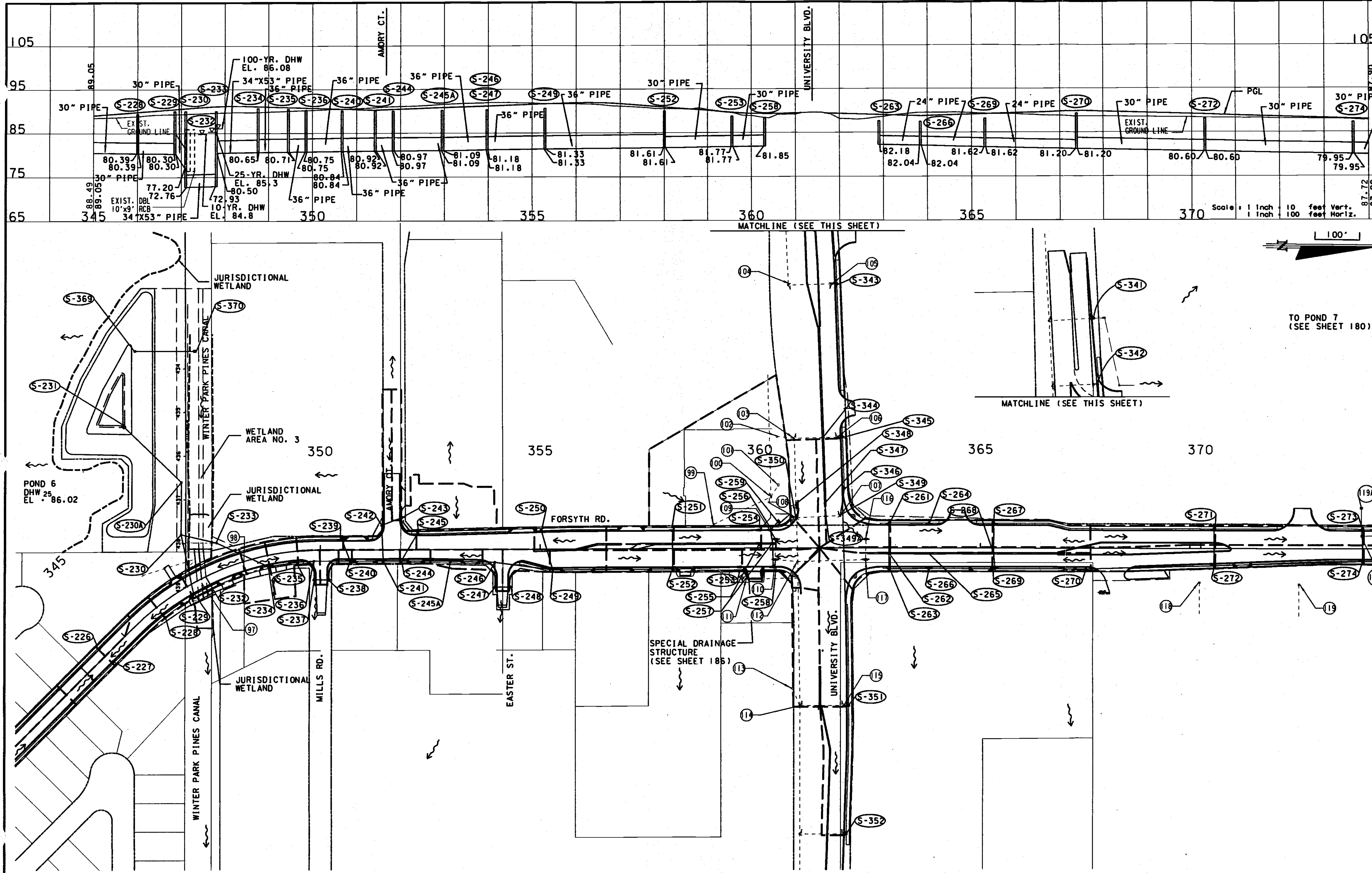
REVISIONS

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE MAP

SHEET NO. 12



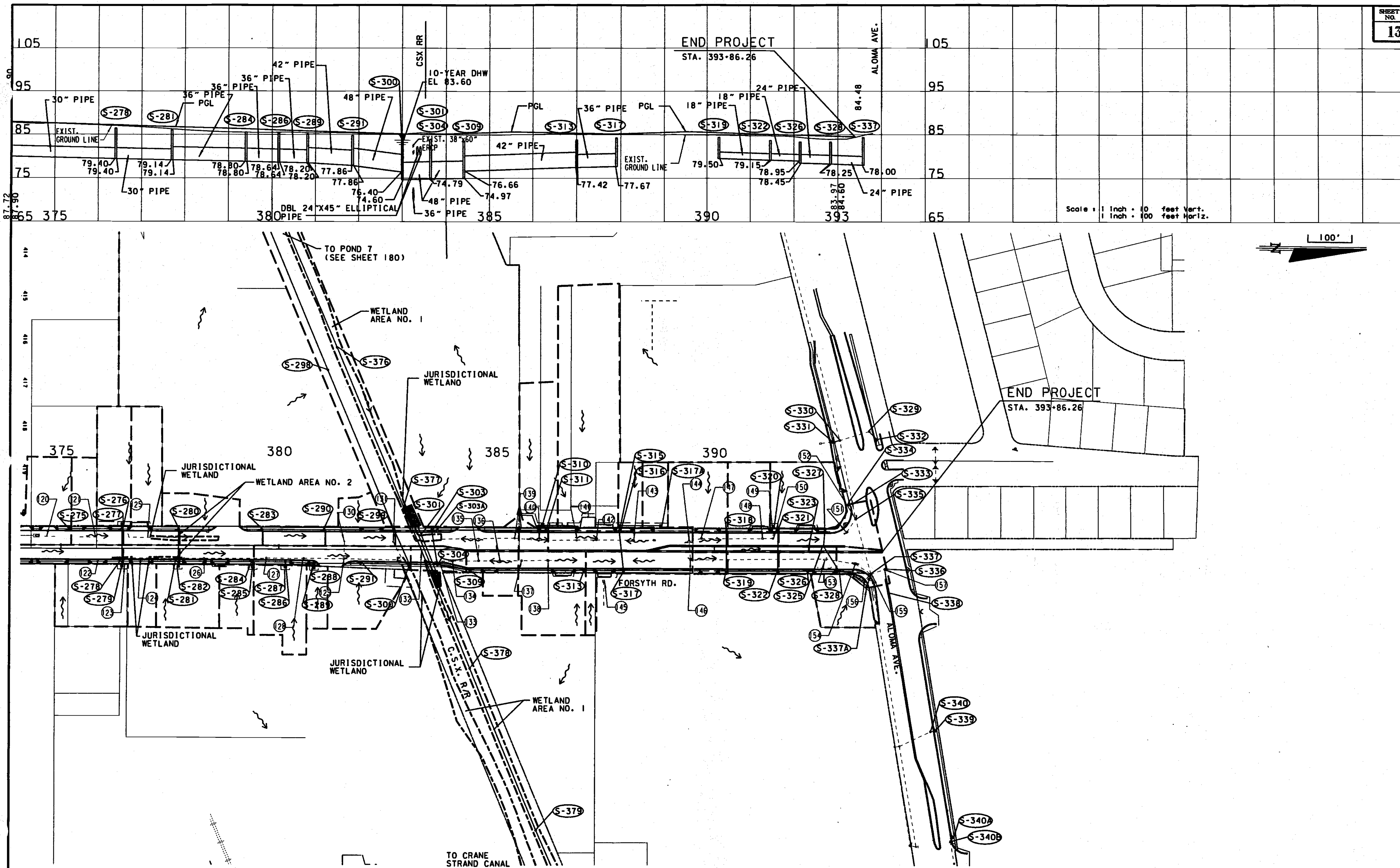
REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY FLORIDA

PEC PROFESSIONAL ENGINEERING CONSULTANTS, INC. engineers planners surveyors

DRAINAGE MAP

11:51:23 AM 01/14/2002



REVISIONS														
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ORANGE COUNTY
FLORIDA

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, INC.
engineers planners surveyors

DRAINAGE MAP

11:51:32 AM 01/14/2002

Baldwin Park – S.R.436 Connector Road
SJRWMD Permits #40-095-63752-29, #40-095-63752-38

2

BALDWIN PARK

CONSTRUCTION PACKAGE No. 4-6
S.R. 436 CONNECTOR ROAD

CONSULTANTS

OWNER
BALDWIN PARK DEVELOPMENT COMPANY
4776 NEW BROAD STREET - SUITE 110
ORLANDO, FLORIDA 32814
CONTACT: JOHN H. CLASSE JR., P.E.
PHONE (407) 206-7232
FAX (407) 208-7209

ENGINEER/SURVEYOR
PBS&J
482 SOUTH KELLER ROAD
ORLANDO, FLORIDA 32810
CONTACT: KATHY LEO, P.E.
PHONE (407) 647-7275
FAX (407) 647-0551

ECOLOGICAL SCIENCES
PBS&J
482 SOUTH KELLER ROAD
ORLANDO, FLORIDA 32810
CONTACT: LISA DURANT
PHONE (407) 647-7275
FAX (407) 647-0551

GEOTECHNICAL/ENVIRONMENTAL
PSI
1748 33RD STREET
ORLANDO, FLORIDA 32839
PHONE (407) 304-5560
FAX (407) 448-8486

UTILITIES

CITY OF ORLANDO
WASTEWATER ENVIRONMENTAL SERVICES DIVISION
5100 L.B. MCLEOD ROAD
ORLANDO, FLORIDA 32811
CONTACT: ALAN OYLER, P.E.
PHONE (407) 246-2213
FAX (407) 246-2886

ORLANDO UTILITIES COMMISSION
WATER DIVISION
3800 GARDENIA AVENUE
ORLANDO, FLORIDA 32839
CONTACT: MIKE MULLER
PHONE (407) 423-9100
FAX (407) 649-4420

ORLANDO UTILITIES COMMISSION
ELECTRICAL DIVISION
6003 PERSHING AVENUE - 2ND. FLOOR
ORLANDO, FLORIDA 32802
CONTACT: DAVE L. BRAMLETT
PHONE (407) 384-4111
FAX (407) 384-4126

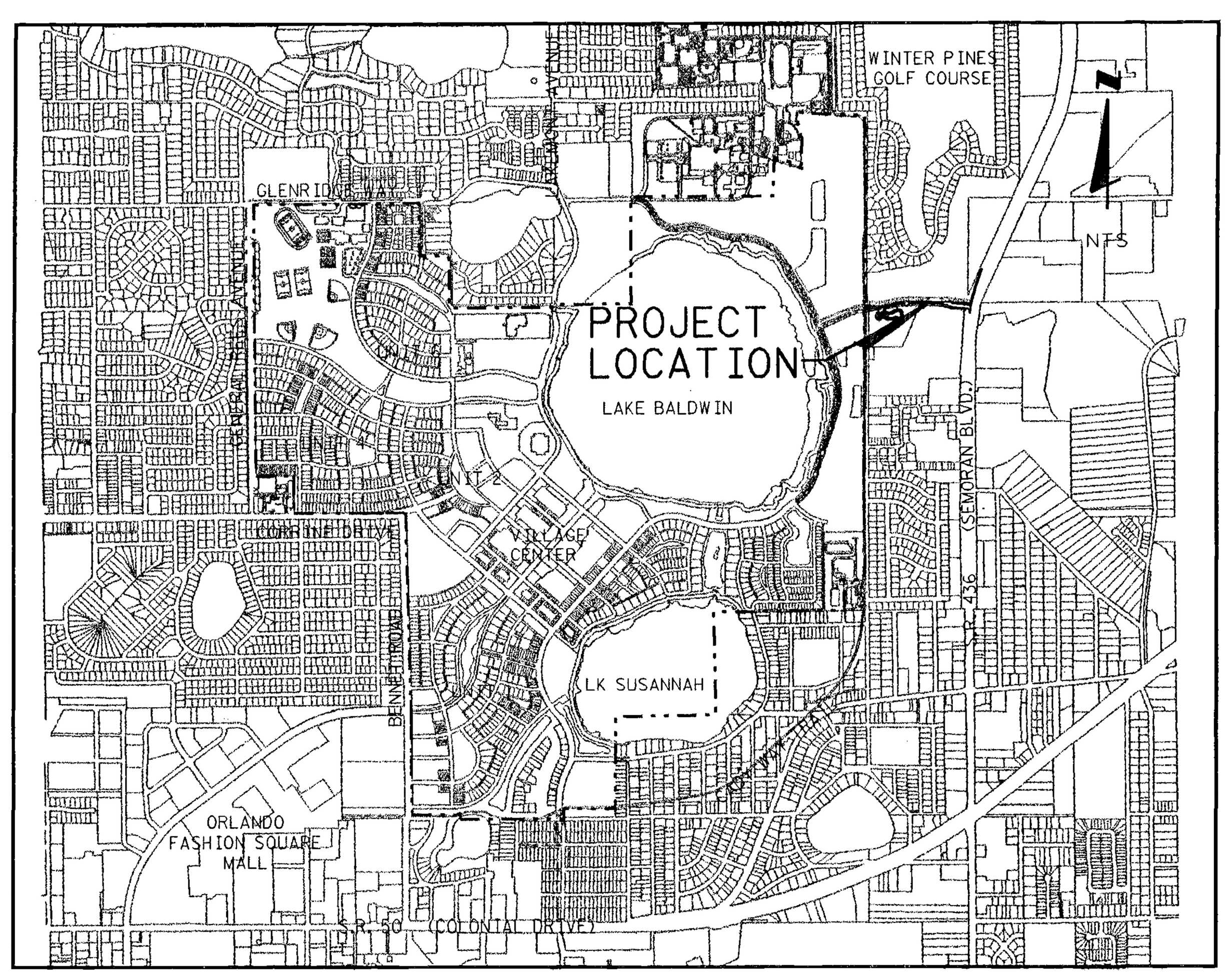
BELLSOUTH
5100 STOYR STREET
ORLANDO, FLORIDA 32819
CONTACT: PHIL RYAN
PHONE (407) 245-3068
FAX (407) 246-0269

SPRINT
952 FIRST STREET
ALTAMONTE SPRINGS, FLORIDA 32701
CONTACT: VICKY BROWN
PHONE (407) 830-3431
FAX (407) 206-2683

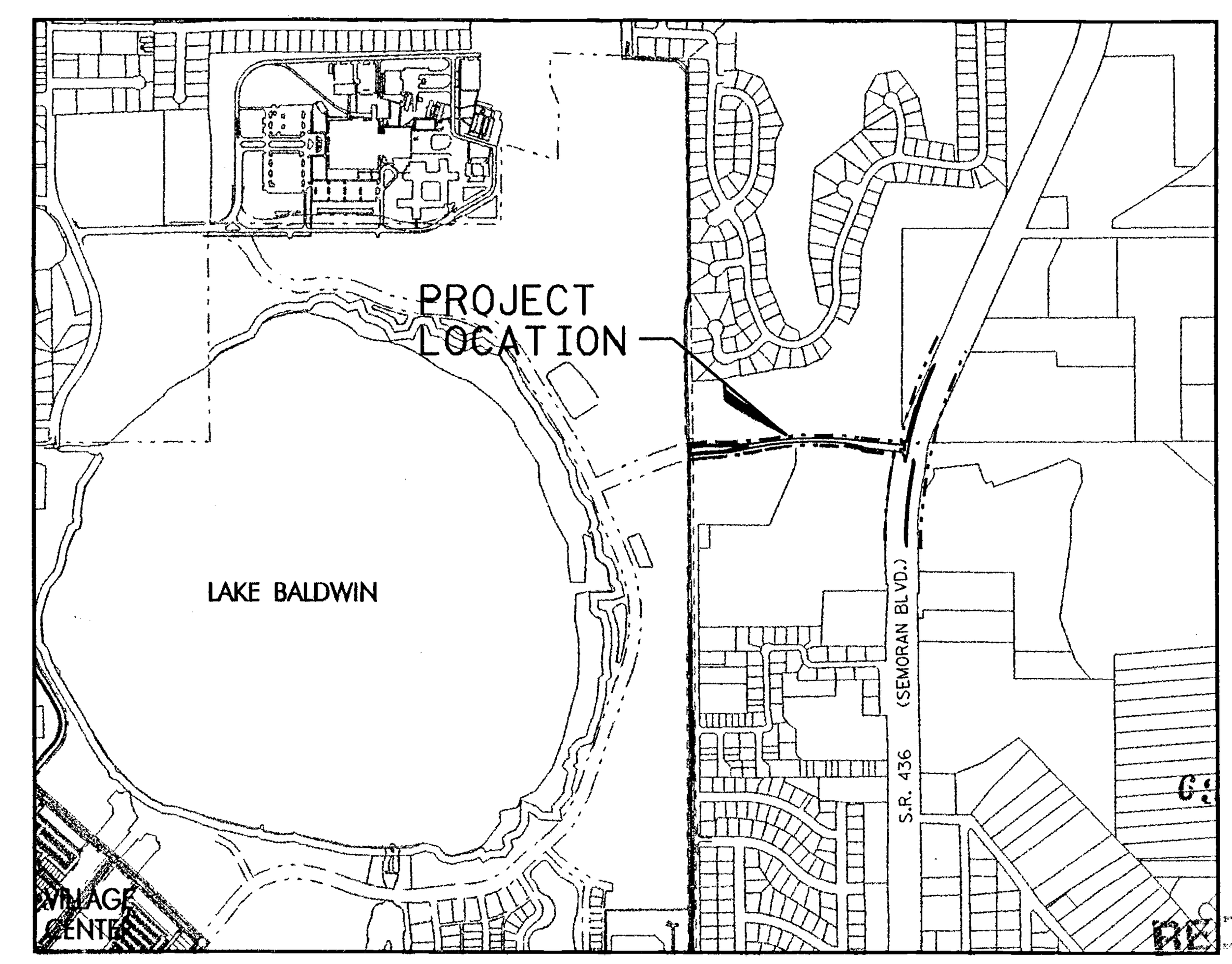
BRIGHT HOUSE NETWORKS
844 MAGUIRE ROAD
OCOEE, FLORIDA 32761-8508
CONTACT: P.J. KING
PHONE (407) 532-8508
FAX (407) 656-1162

TECO PEOPLES GAS
600 WEST ROBINSON STREET
ORLANDO, FL 32802
CONTACT: JIM ARNOLD
PHONE (407) 420-6658
FAX (407) 425-4673

VICINITY MAP



LOCATION MAP



PREPARED BY:

PBS&J
ENGINEERING * PLANNING * ARCHITECTURE
482 SOUTH KELLER ROAD
ORLANDO, FLORIDA 32810
(407) 647-7275

SJRWMD SUBMITTAL

1 of 4

C 752-29

RECEIVED
JUN 1 1 2004
PDS
ALTAMONTE

m:\Baldwin Park\436\436cov01.dgn 08-JUN-2004 14:45

GENERAL NOTES:

01. THESE GENERAL NOTES APPLY TO ALL WORK IN THIS SET OF DRAWINGS.

02. CONTRACTOR SHALL REVIEW ALL PERMITS PRIOR TO CONSTRUCTION FOR ANY CHANGES TO THE DESIGN INCLUDED THEREIN. NOTIFY ENGINEER/OWNER OF ANY REQUIRED CHANGES PRIOR TO CONSTRUCTION.

03. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR(S) TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND ARE IN HAND AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL CONDITIONS CONTAINED THEREIN. PERMITS INCLUDED (BUT NOT NECESSARILY LIMITED TO) ARE:

- WATER MANAGEMENT DISTRICT SURFACE WATER MANAGEMENT
- CITY OF ORLANDO ENGINEERING
- FLORIDA DEPARTMENT OF TRANSPORTATION

04. FLORIDA LAW (F.S. 553.851) PROTECTION OF UNDERGROUND GAS PIPELINES MANDATES THAT "NO EXCAVATOR SHALL COMMENCE OR PERFORM ANY EXCAVATION IN ANY PUBLIC OR PRIVATE STREET, ALLEY, RIGHT-OF-WAY DEDICATED TO THE PUBLIC USE, OR GAS UTILITY EASEMENT WITHOUT FIRST OBTAINING INFORMATION CONCERNING THE POSSIBLE LOCATION OF GAS PIPELINES IN THE AREA OF THE PROPOSED EXCAVATION." THIS INCLUDES ANY OPERATION UTILIZING HAND TOOLS OR POWER TOOLS WHICH MOVES OR REMOVES ANY STRUCTURE, EARTH, ROCK, OR OTHER MASS OF MATERIAL BY SUCH METHODS AS DIGGING, BACKFILLING, DEMOLITION, GRADING, DITCHING, DRILLING, BORING AND CABLE PLOWING. THE EXCAVATOR MUST NOTIFY THE GAS UTILITY A MINIMUM OF 48 HOURS AND A MAXIMUM OF 5 DAYS PRIOR TO EXCAVATING (EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS).

05. CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES OF PROPOSED START OF WORK IN ACCORDANCE WITH THEIR STANDARD REQUIREMENTS; INCLUDING BUT NOT LIMITED TO WATER, SEWER, POWER, TELEPHONE, GAS AND CABLE TV COMPANIES.

06. PRIOR TO COMMENCEMENT, CONTRACTOR SHALL PROVIDE THE OWNER AND PBS&J WITH CONSTRUCTION SCHEDULE FOR VARIOUS SITE WORK ELEMENTS SO THAT PERIODIC SITE VISITS MAY BE COORDINATED TO ENSURE TIMELY CERTIFICATION OF COMPLETION TO AGENCIES AND AVOID DELAYS IN ISSUANCE OF CERTIFICATES OF OCCUPANCY/COMPLETION.

07. CONTRACTOR SHALL FURNISH OWNER WITH ACCURATE RECORD DRAWINGS SURVEY SHOWING AS-CONSTRUCTED HORIZONTAL AND VERTICAL DIMENSIONING OF THE WORK. THE SUBMITTAL COPY OF THE RECORD DRAWING WILL NOT BE RETURNED. THE RECORD DRAWING OR A REPRODUCIBLE COPY PREPARED BY ENGINEER SHALL BE CERTIFIED BY THE CONTRACTOR AS CORRECT. ALL INFORMATION WHICH IS UNCHANGED AND CURRENT SHALL BE NOTED BY CHECKING OFF OR CLOUDING. ALL REVISED INFORMATION SHALL BE CROSSED THROUGH AND NEW DATA ADDED. ADDITIONAL REQUIREMENTS ARE NOTED IN PAVING, GRADING AND DRAINAGE, AND WATER AND SEWER NOTES.

08. THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE DRAWINGS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. ENGINEER ASSUMES NO RESPONSIBILITY FOR INACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR FIELD LOCATIONS AND FOR ANY RELOCATIONS OF THE VARIOUS EXISTING UTILITIES WITH THE UTILITY OWNERS, WHICH SHALL BE DONE IN A TIMELY FASHION TO MINIMIZE IMPACT ON THE CONSTRUCTION SCHEDULE. ANY DELAY OR INCONVENIENCE CAUSED THE CONTRACTOR BY THE RELOCATION OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.

09. ANY DIFFERING SITE CONDITIONS FROM THAT WHICH IS REPRESENTED HEREIN, WHETHER ABOVE, ON OR BELOW THE SURFACE OF THE GROUND, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND OWNER IN WRITING PRIOR TO CONSTRUCTION IN THE AREA IMPACTED BY THE CONFLICT. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO DIFFERING SITE CONDITIONS WILL BE ALLOWED IF CONTRACTOR FAILS TO PROVIDE THE REQUIRED WRITTEN NOTIFICATION OF SUCH CONDITIONS FOR REVIEW BY THE ENGINEER AND OWNER.

10. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF ANY DISCREPANCIES FOUND BETWEEN DRAWINGS AND THE FIELD CONDITIONS PRIOR TO CONSTRUCTION IN THE AREA IMPACTED BY THE CONFLICT.

11. ALL RECOMMENDATIONS AND REQUIREMENTS OF INSPECTION PERSONNEL OTHER THAN OWNER'S SHALL BE REPORTED TO ENGINEER/OWNER PRIOR TO IMPLEMENTATION. COMPENSATION WILL NOT BE ALLOWED FOR WORK WHICH IS NOT AUTHORIZED BY ENGINEER/OWNER.

12. CONTRACTOR SHALL PROTECT LAKE BALDWIN, LAKE GEAR, LAKE SUSANNAH, ADJACENT WETLANDS & ALL ADJACENT PROPERTIES FROM DAMAGE BY SEDIMENTATION OR OTHER POTENTIAL CONSTRUCTION RELATED CAUSES.

13. ALL WORK SHALL BE OPEN TO AND SUBJECT TO INSPECTION BY AUTHORIZED PERSONNEL OF THE CITY, OWNER, INVOLVED UTILITY COMPANIES, ENGINEER AND REGULATORY AGENCIES.

14. CONTRACTOR SHALL STAKE ALL IMPROVEMENTS USING THE INFORMATION PROVIDED IN THESE DRAWINGS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COMPLETELY STAKE AND CHECK ALL IMPROVEMENTS TO ENSURE ADEQUATE POSITIONING, BOTH HORIZONTAL AND VERTICAL PRIOR TO THE INSTALLATION OF ANY IMPROVEMENT.

15. CONTRACTOR SHALL CONFIRM COMPATIBILITY OF PIPE SLOPES AND INVERTS DURING SHOP DRAWING AND MATERIALS ORDERING PHASE OF PROJECT AND ADVISE ENGINEER OF ANY DISCREPANCIES.

16. NO EXISTING MATERIAL SHALL BE USED IN NEW CONSTRUCTION UNLESS APPROVED DURING THE SHOP DRAWING APPROVAL PROCESS.

17. CONTRACTOR TO REFERENCE CONSTRUCTION AND MATERIALS TECHNICAL SPECIFICATIONS CONTAINED WITHIN THE PROJECT MANUAL DISTRIBUTED BY THE OWNER.

18. CONTRACTOR TO PRESERVE ALL MONITORING WELLS IDENTIFIED ONSITE.

19. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPER TRAFFIC MAINTENANCE AND CONTROLS IN ACCORDANCE WITH REGULATORY STANDARDS. WHERE A TRAFFIC MAINTENANCE PLAN IS REQUIRED. IT SHALL BE PREPARED AND SUBMITTED BY CONTRACTOR FOR APPROVAL BY OWNER, ENGINEER AND CITY.

20. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE THE PROJECT SITE DURING CONSTRUCTION, TO PREVENT TRESPASSING OF UNAUTHORIZED PEDESTRIANS AND/OR VEHICLES IN ALL WORK AREAS. THE CONTRACTOR SHALL POST SIGNS, CONSTRUCT BARRIERS OR IMPLEMENT OTHER METHODS NECESSARY TO CONTROL ACCESS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR TRESPASSING ON THE CONSTRUCTION SITE OR DAMAGES TO ANY WORK RELATED THERETO.

HORIZONTAL GEOMETRY NOTES:

01. THESE GENERAL NOTES APPLY TO ALL WORK IN THIS SET OF DRAWINGS.

02. BOUNDARY BASED ON THE FOLLOWING:
SURVEYOR: REGIONAL ENGINEERS, PLANNERS & SURVEYORS, INC. (REPS)
DRAWING NO.: 98-126
DATED: 8-18-98

03. ALL SIGNAGE, PAVEMENT MARKING, AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH FDOT "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND CITY OF ORLANDO ESM/LDC REQUIREMENTS.

04. BLUE REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED OPPOSITE FIRE HYDRANTS IN THE CENTER OF THE NEAREST TRAVELED LANE TO MARK THEIR LOCATIONS.

GRADING & DRAINAGE NOTES:

01. THESE GENERAL NOTES APPLY TO ALL WORK IN THIS SET OF DRAWINGS.

02. EXISTING TOPOGRAPHY BASED ON DRAWING PROVIDED BY ENGINEER HAS BEEN FIELD VERIFIED.

03. SURVEYOR'S REFERENCE VERTICAL BENCHMARK: #5062 (CITY OF ORL. DATUM)
DESCRIPTION: 3" ALUMINUM DISK
ELEVATION: 100.028
LOCATION: C/L LAKEMONT AVE. ACROSS FROM LAKE BALDWIN PARK

04. BENCHMARK LOCATION AND ELEVATION ARE AS REPRESENTED BY SURVEYOR AT THE TIME OF THE SURVEY. CONTRACTOR SHALL VERIFY ITS CORRECTNESS AT TIME OF CONSTRUCTION.

05. SITE GRADING AND DRAINAGE MATERIALS AND CONSTRUCTION SHALL CONFORM TO FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2000, AND THE CITY OF ORLANDO ENGINEERING STANDARDS MANUAL AND STORMWATER MANAGEMENT (OUSWMM) REGULATIONS AND SPECIFICATIONS.

06. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SURVEY MONUMENTATION. DISTURBED MONUMENTATION SHALL BE RESTORED BY A FLORIDA-LICENSED LAND SURVEYOR SELECTED BY THE OWNER AT CONTRACTOR'S EXPENSE.

07. DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO INSURE AGAINST POLLUTING, SILTING, OR DISTURBING TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING ONSITE AND OFFSITE DRAINAGE SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL PERMIT REQUIREMENTS RELATED TO SUCH MEASURES. METHODS MAY INCLUDE, BUT ARE NOT LIMITED TO, CONSTRUCTION OF TEMPORARY EROSION CONTROL STRUCTURES SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS, SILT BARRIERS, OR SILT SCREENS. ANY MEASURES SHOWN OR DETAILED IN THESE DRAWINGS SHALL BE CONSIDERED MINIMUMS AND SHALL NOT ALLEVIATE CONTRACTOR FROM THE RESPONSIBILITY TO IMPLEMENT ANY MEASURES NECESSARY TO PROVIDE PROTECTION.

08. CONTRACTOR IS ADVISED THAT THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AGENCY REQUIRES THAT OPERATORS FILE A NOTICE OF INTENT (NOI) FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NPDES GENERAL PERMIT PRIOR TO BEGINNING WORK. IT IS CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE WHETHER SAID PERMIT IS REQUIRED AND TO OBTAIN SAME. A COPY SHALL BE SENT TO THE ENGINEER AND OWNER.

09. CONTRACTOR SHALL INCLUDE ACCURATE AS-BUILT DIMENSIONS AND ELEVATIONS OF THE STORMWATER MANAGEMENT AREAS IMMEDIATELY AFTER FINAL GRADING AND PRIOR TO GRASSING THE SLOPES. AT A MINIMUM, CONTRACTOR MUST PROVIDE TWO TYPICAL AS-BUILT CROSS-SECTIONS IN DIFFERENT DIRECTIONS. CONTRACTOR MUST OBTAIN ENGINEER'S APPROVAL PRIOR TO GRASSING. IF ANY MODIFICATIONS ARE NEEDED, ADDITIONAL AS-BUILTS MUST BE FURNISHED.

10. GEOTECHNICAL SERVICES HAVE BEEN PROVIDED AS REFERENCED BELOW. GEOTECHNICAL RECOMMENDATIONS ARE NOT THE RESPONSIBILITY OF PBS&J. PBS&J HAS RELIED ON THE BELOW REFERENCED GEOTECHNICAL REPORT'S IN PREPARATION OF THESE DRAWINGS. ANY CONFLICT BETWEEN INFORMATION WITHIN THE REPORT AND THESE DRAWINGS SHALL BE REPORTED TO ENGINEER/OWNER. PBS&J ASSUMES NO RESPONSIBILITY FOR THE CORRECTNESS, COMPLETENESS OR ACCURACY OF GEOTECHNICAL INFORMATION.

GEOTECHNICAL ENGINEER: PSI
PROJECT NO.: 757-35175
DATE: SEPTEMBER 18, 2003

11. ELEVATIONS OF GRASSED AREAS ARE GIVEN AT FINISHED GRADE (TOP OF SOD OR SEEDED SURFACE).

12. PIPE LENGTHS SHOWN REPRESENT SCALED DISTANCES BETWEEN CENTERLINES OF DRAINAGE STRUCTURES AND FROM INVERTS OF ENDWALLS AND/OR MITERED END SECTIONS. BIDDERS SHALL ADJUST FOR PIPE LENGTHS WHEN BIDDING MITERED END SECTIONS.

13. ALL OFF-SITE DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION, OR BETTER.

14. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND DISPOSING OF ALL WASTE MATERIALS CONSISTENT WITH ALL RULES AND REGULATIONS APPLICABLE TO THE SPECIFIC MATERIAL FOUND.

15. DISTURBED RIGHTS OF WAY SHALL BE RESTORED. BAHIA SOD SHALL BE PLACED FROM EDGE OF PAVEMENT TO THE TOE OF BANK.

GRADING AND DRAINAGE MATERIAL SPECIFICATIONS:

01. STORM DRAINS SHALL BE REINFORCED CONCRETE PIPE, PER ASTM C-76 CLASS III, UNLESS OTHERWISE SPECIFIED. LIFTING HOLES ARE PROHIBITED. JOINTS SHALL BE BELL AND SPIGOT WITH COMPRESSION GASKETS CONFORMING TO ASTM C443-85 AND WRAPPED PER FDOT INDEX 280.

02. ALL STORM STRUCTURES SHALL CONFORM WITH FDOT STANDARD INDEX DRAWINGS AND SPECIFICATIONS EXCEPT THAT DITCH BOTTOM INLETS IN PAVED AREAS SHALL HAVE TRAVERSABLE, TRAFFIC BEARING, GRATES SUPPORTED BY STEEL ANGLE SEATS OR SUPPORTED ON FOUR SIDES. GRATES SHALL BE CAST IRON UNLESS OTHERWISE SPECIFIED OR APPROVED.

03. ALL TYPE "P" STRUCTURE BOTTOMS SHALL BE ROUND UNLESS OTHERWISE SPECIFIED AND SHALL HAVE 4 FT. MINIMUM DIAMETER.

04. ALL CONCRETE WORK SHALL BE 3000 PSI MINIMUM, UNLESS OTHERWISE SPECIFIED.

05. CONTRACTOR HAS THE OPTION TO USE HDPE PIPE IN LIEU OF THE SPECIFIED REINFORCED CONCRETE PIPE FOR PIPE SIZES 15" THROUGH 48". PIPES SHALL HAVE SOIL TIGHT JOINTS WRAPPED PER FDOT INDEX 280.

06. HDPE PIPE (WHERE SPECIFIED) SHALL BE INSTALLED BY A CERTIFIED HDPE CONTRACTOR.

07. STORM SEWERS WILL BE TESTED ACCORDING TO THE REQUIREMENTS OF SECTION 9.03.05 OF THE CITY OF ORLANDO ESM, INCLUDING HIGH PRESSURE CLEANING, VIEDOTAPING AND MANDREL TESTING OF PLASTIC AND METAL PIPE.

DEMOLITION NOTES:

01. THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE DRAWINGS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. ENGINEER AND OWNER ASSUMES NO RESPONSIBILITY FOR INACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR FIELD LOCATIONS AND FOR ANY RELOCATIONS OF THE VARIOUS EXISTING UTILITIES WITH THE UTILITY OWNERS, WHICH SHALL BE DONE IN A TIMELY FASHION TO MINIMIZE IMPACT ON THE CONSTRUCTION SCHEDULE. ANY DELAY OR INCONVENIENCE CAUSED THE CONTRACTOR BY THE RELOCATION OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.

02. CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES OF PROPOSED START OF WORK IN ACCORDANCE WITH THEIR STANDARD REQUIREMENTS; INCLUDING BUT NOT LIMITED TO WATER, SEWER, POWER, TELEPHONE, GAS AND CABLE TV COMPANIES.

03. ANY DIFFERING SITE CONDITIONS FROM THAT WHICH IS REPRESENTED HEREON, WHETHER ABOVE, ON OR BELOW THE SURFACE OF THE GROUND, SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE OWNER IN WRITING. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO DIFFERING SITE CONDITIONS WILL BE ALLOWED.

04. CONTRACTOR SHALL PROTECT ADJACENT RIGHT-OF-WAYS AND ALL ADJACENT PROPERTIES FROM DAMAGE BY SEDIMENTATION OR OTHER POTENTIAL CONSTRUCTION RELATED CAUSES.

05. DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO INSURE AGAINST POLLUTING, SILTING, OR DISTURBING TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING DRAINAGE SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL PERMIT REQUIREMENTS RELATED TO SUCH MEASURES. METHODS MAY INCLUDE, BUT ARE NOT LIMITED TO, FLOATING TURBIDITY BARRIERS, CONSTRUCTION OF TEMPORARY EROSION CONTROL STRUCTURES SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS, SILT BARRIERS, OR SILT SCREENS. ANY MEASURES SHOWN OR DETAILED IN THESE DRAWINGS SHALL BE CONSIDERED MINIMUMS AND SHALL NOT ALLEVIATE CONTRACTOR FROM THE RESPONSIBILITY TO IMPLEMENT ANY MEASURES NECESSARY TO PROVIDE PROTECTION.

06. CONTRACTOR SHALL REMOVE ALL NON-REUSABLE WASTE MATERIAL, AT THE OWNERS DIRECTION, FOR DISPOSAL OFF-SITE. DISPOSAL SHALL CONFORM TO ALL APPLICABLE REGULATIONS.

07. CONTRACTOR SHALL ACQUAINT HIMSELF WITH THE CONSTRUCTION DOCUMENTS AND BE RESPONSIBLE FOR PROTECTING ANY EXISTING FACILITY SO DESIGNATED OR DESIGNATED TO BE UTILIZED IN THE WORK.

08. CONTRACTOR SHALL BE EXTREMELY CAUTIOUS WHEN WORKING NEAR TREES WHICH ARE TO BE SAVED, WHETHER SHOWN IN THE DRAWINGS OR DESIGNATED IN THE FIELD. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE ARCHITECT AND LANDSCAPE DRAWINGS REGARDING TREES AND OTHER LANDSCAPING TO BE SALVAGED.

09. SITE CONTRACTOR TO MAINTAIN UTILITY SERVICE (WATER, SEWER, POWER, TELEPHONE, CABLE, GAS) TO EXISTING BUILDINGS TO REMAIN. ANY DISRUPTIONS ARE TO BE PREVIOUSLY COORDINATED WITH THE TENANTS.

10. TIMING OF DEMOLITION IS SUBJECT TO THE LOGISTIC PLAN FROM OWNER.

11. CONTRACTOR SHALL BE ADVISED THAT WHILE EXCAVATING AND WORKING WITHIN PROJECT LIMITS, PREVIOUSLY DEMOLISHED OR UNDEMOLISHED MATERIAL MAY BE ENCOUNTERED. CONTRACTOR SHALL COLLECT AND STOCKPILE ENCOUNTERED DEMOLISHED MATERIAL WITHIN AN AREA DESIGNATED ONSITE BY THE OWNER.

MAINTENANCE OF TRAFFIC:

1. MAINTENANCE OF TRAFFIC FOR S.R. 436 SHALL BE IN ACCORDANCE WITH FDOT STANDARD INDEX 613; MULTILANE, DIVIDED OR UNDIVDED, RURAL NIGHT OPERATIONS OR OPERATIONS EXCEEDING ONE DAYLIGHT PERIOD.

Datum difference calculated to be -0.94 ft to convert to NAVD88 using information from City of Orlando.

APPLICABLE MOST CURRENT EDITION FDOT STANDARD DRAWINGS:

INDEX #	DESCRIPTION
102	BALED HAY OR STRAW BARRIERS AND SILT FENCES
103	TURBIDITY BARRIERS
200	STRUCTURE BOTTOMS TYPES J AND P
201	SUPPLEMENTARY DETAILS FOR MANHOLES AND INLETS
210	CURB INLET TOPS TYPES 1, 2, 3 & 4
211	CURB INLET TOPS TYPES 5 & 6
221	GUTTER INLET TYPE V
232	DITCH BOTTOM INLETS TYPES C, D, E AND H
233	DITCH BOTTOM INLETS TYPES F AND G
250	STRAIGHT CONCRETE ENDWALLS SINGLE & MULTIPLE PIPE
253	STRAIGHT CONCRETE ENDWALLS
264	U-TYPE CONCRETE ENDWALL ENERGY DISSIPATER; 30" TO 72" PIPE
266	WINGED CONCRETE ENDWALL SINGLE ROUND PIPE
272	CROSS DRAIN MITERED END SECTION
273	SIDE DRAIN MITERED END SECTION
280	MISCELLANEOUS DRAINAGE
281	DITCH PAVEMENT & SODDING
300	CURB & CURB AND GUTTER
304	CURB CUT RAMPS
380	CONCRETE SIDEWALK
500	REMOVAL OF ORGANIC & PLASTIC MATERIALS
515	TURNOUTS
600	GENERAL INFORMATION FOR TRAFFIC CONTROL THROUGH WORK ZONES
613	MULTILANE, DIVIDED AND UNDIVIDED RURAL NIGHT OPERATIONS OR OPERATIONS EXCEEDING ONE DAYLIGHT PERIOD
17346	SPECIAL MARKINGS
17349	TRAFFIC CONTROLS FOR STREET TERMINATION
17725	CONCRETE POLES

1 of 4

63752-29

RECEIVED
JUN 11 2004
PDS
ALTAMONTE SVC. CTR.

DATE	ISSUED BY	ISSUED FOR	APP. BY
6/09/04	JJM	SJRWMD	
5/12/04	JJM	100% SUBMITTAL	
5/19/04	JJM	90% SUBMITTAL	
11/5/03	JJM	60% SUBMITTAL	

WILLIAM H. TELFORD P.E.
FLORIDA REG. NO. 32067
DATE:

CLIENT: BALDWIN PARK

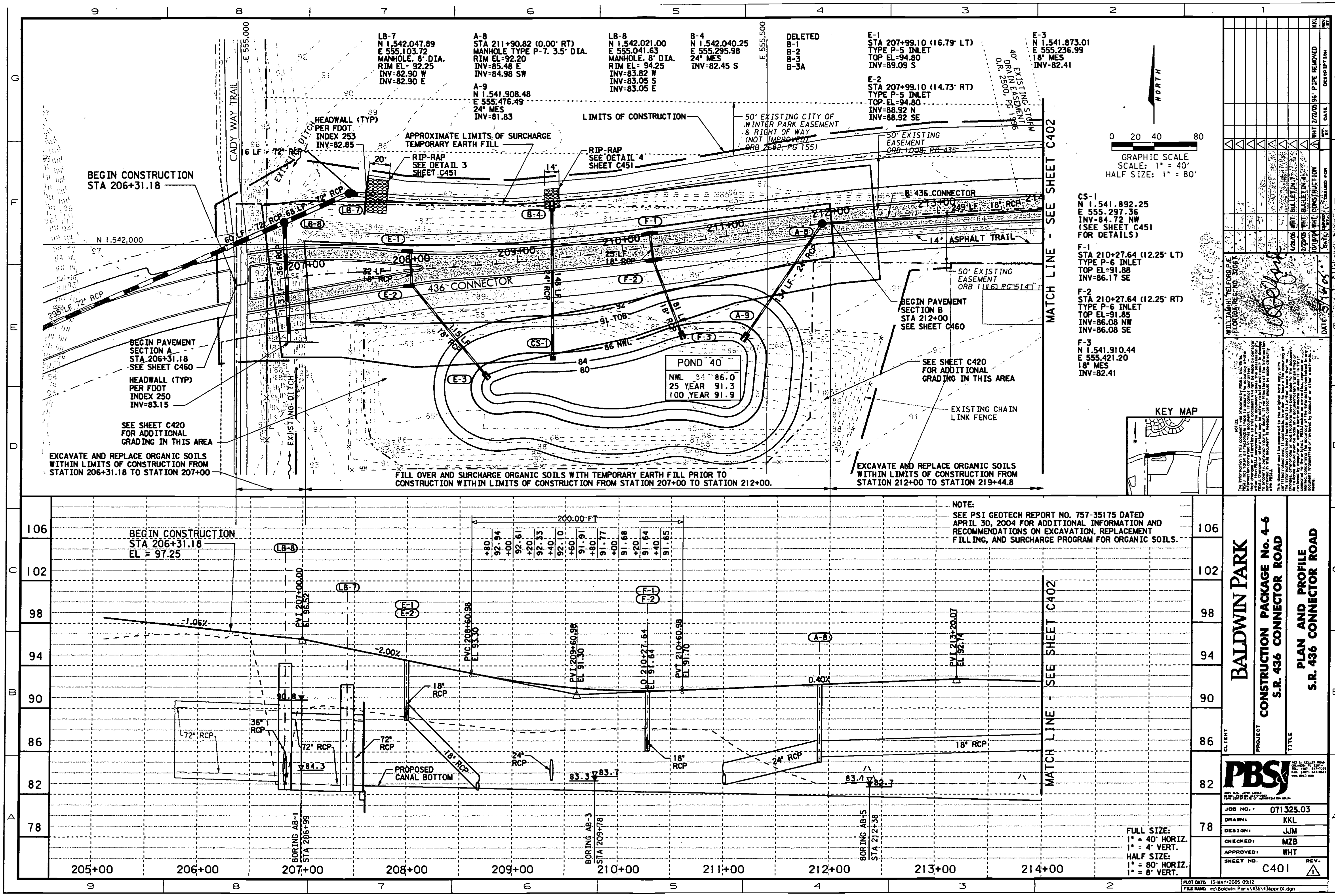
PROJECT: CONSTRUCTION PACKAGE No. 4-6 S.R. 436 CONNECTOR ROAD

TITLE: GENERAL NOTES

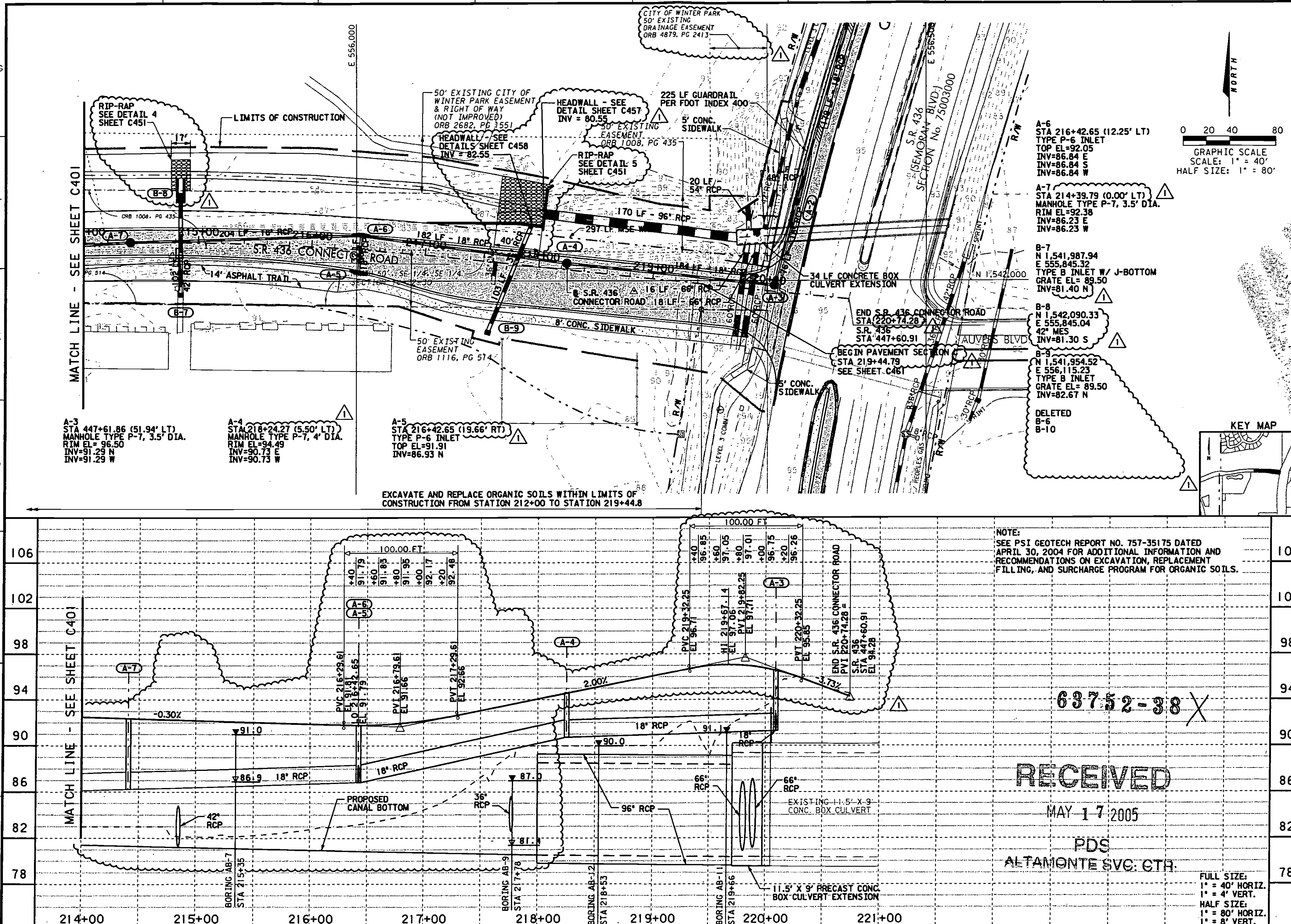
PBS&J
482 S. KELLER ROAD
ORLANDO, FL 32810

JOB NO.:	071325.03
DRAWN:	KKL
DESIGN:	JJM
CHECKED:	MZB
APPROVED:	WHT
SHEET NO.	G102
REV.:	

PLOT DATE: 08-JUN-2004 14:37
FILE NAME: M:\Baldwin Park\436\436gen01.dgn



LB-7
N 1,542,047.89
E 555,103.72
MANHOLE, 8' DIA.
RIM EL= 92.25
INV=82.90 W
INV=82.90 E
A-8
STA 211+90.82 (0.00' RT)
MANHOLE TYPE P-7, 3.5' DIA.
RIM EL=92.20
INV=85.48 E
INV=84.98 SW
A-9
N 1,541,908.48
E 555,476.49
24" MES
INV=81.83
LB-8
N 1,542,021.00
E 555,041.63
MANHOLE, 8' DIA.
RIM EL= 94.25
INV=83.82 W
INV=83.05 S
INV=83.05 E
B-4
N 1,542,040.25
E 555,295.98
24" MES
INV=82.45 S
DELETED
B-1
B-2
B-3
B-3A
E-1
STA 207+99.10 (16.79' LT)
TYPE P-5 INLET
TOP EL=94.80
INV=89.09 S
E-2
STA 207+99.10 (14.73' RT)
TYPE P-5 INLET
TOP EL=94.80
INV=88.92 N
INV=88.92 SE
E-3
N 1,541,873.01
E 555,236.99
18" MES
INV=82.41
NORTH
0 20 40 80
GRAPHIC SCALE
SCALE: 1" = 40'
HALF SIZE: 1" = 80'
CS-1
N 1,541,892.25
E 555,297.36
INV=84.72 NW
(SEE SHEET C451 FOR DETAILS)
F-1
STA 210+27.64 (12.25' LT)
TYPE P-6 INLET
TOP EL=91.88
INV=86.17 SE
F-2
STA 210+27.64 (12.25' RT)
TYPE P-6 INLET
TOP EL=91.85
INV=86.08 NW
INV=86.08 SE
F-3
N 1,541,910.44
E 555,421.20
18" MES
INV=82.41
CADY WAY TRAIL
E 555,000
E 555,500
N 1,542,000
HEADWALL (TYP)
PER FDOT
INDEX 253
INV=82.85
APPROXIMATE LIMITS OF SURCHARGE
TEMPORARY EARTH FILL
RIP-RAP
SEE DETAIL 3
SHEET C451
RIP-RAP
SEE DETAIL 4
SHEET C451
LIMITS OF CONSTRUCTION
50' EXISTING CITY OF WINTER PARK EASEMENT & RIGHT OF WAY (NOT IMPROVED) ORB 2582, PG 1551
50' EXISTING EASEMENT ORB 1008, PG 435
40' EXISTING STORM DRAIN EASEMENT O.R. 2500, PG 1956
BEGIN CONSTRUCTION
STA 206+31.18
EXISTING DITCH
436 CONNECTOR
SR 436 CONNECTOR
14' ASPHALT TRAIL
50' EXISTING EASEMENT ORB 1161 PG 514
BEGIN PAVEMENT
SECTION B
STA 212+00
SEE SHEET C460
BEGIN PAVEMENT
SECTION A
STA 206+31.18
SEE SHEET C460
HEADWALL (TYP)
PER FDOT
INDEX 250
INV=83.15
SEE SHEET C420
FOR ADDITIONAL
GRADING IN THIS AREA
EXCAVATE AND REPLACE ORGANIC SOILS
WITHIN LIMITS OF CONSTRUCTION FROM
STATION 206+31.18 TO STATION 207+00
FILL OVER AND SURCHARGE ORGANIC SOILS WITH TEMPORARY EARTH FILL PRIOR TO
CONSTRUCTION WITHIN LIMITS OF CONSTRUCTION FROM STATION 207+00 TO STATION 212+00.
EXCAVATE AND REPLACE ORGANIC SOILS
WITHIN LIMITS OF CONSTRUCTION FROM
STATION 212+00 TO STATION 219+44.8
EXISTING CHAIN
LINK FENCE
POND 40
NWL 86.0
25 YEAR 91.3
100 YEAR 91.9
86 NWL
91 TOB
MATCH LINE - SEE SHEET C402
KEY MAP
NOTE:
SEE PSI GEOTECH REPORT NO. 757-35175 DATED
APRIL 30, 2004 FOR ADDITIONAL INFORMATION AND
RECOMMENDATIONS ON EXCAVATION, REPLACEMENT
FILLING, AND SURCHARGE PROGRAM FOR ORGANIC SOILS.
BEGIN CONSTRUCTION
STA 206+31.18
EL = 97.25
200.00 FT
-1.06%
-2.00%
0.40%
PVI 207+00.00
EL 96.52
PVC 208+60.98
EL 93.30
PVI 209+60.98
EL 91.30
LO 210+27.64
EL 91.64
PVT 210+60.98
EL 91.70
PVI 213+20.07
EL 92.14
72" RCP
36" RCP
18" RCP
24" RCP
PROPOSED
CANAL BOTTOM
BORING AB-1
STA 206+99
BORING AB-3
STA 209+78
BORING AB-5
STA 212+38
FULL SIZE:
1" = 40' HORIZ.
1" = 4' VERT.
HALF SIZE:
1" = 80' HORIZ.
1" = 8' VERT.
205+00
206+00
207+00
208+00
209+00
210+00
211+00
212+00
213+00
214+00
BALDWIN PARK
CONSTRUCTION PACKAGE No. 4-6
S.R. 436 CONNECTOR ROAD
PLAN AND PROFILE
S.R. 436 CONNECTOR ROAD
PBSJ
JOB NO.: 071325.03
DRAWN: KKL
DESIGN: JJM
CHECKED: MZB
APPROVED: WHT
SHEET NO. C401
PLOT DATE: 13-MAY-2005 09:12



BALDWIN PARK

CONSTRUCTION PACKAGE No. 4-6
S.R. 436 CONNECTOR ROAD

PLAN AND PROFILE
S.R. 436 CONNECTOR ROAD

JOB NO.:	071325.03
DRAWN:	KKL
DESIGN:	JJM
CHECKED:	MZB
APPROVED:	WHT
SHEET NO.	C402

DATE	BY	ISSUED FOR
10/14/04	WHT	CONSTRUCTION
2/2/05	WHT	BULLETIN 3
4/4/05	WHT	BULLETIN 4
7/22/05	WHT	ADDED CANAL & RIP-RAP

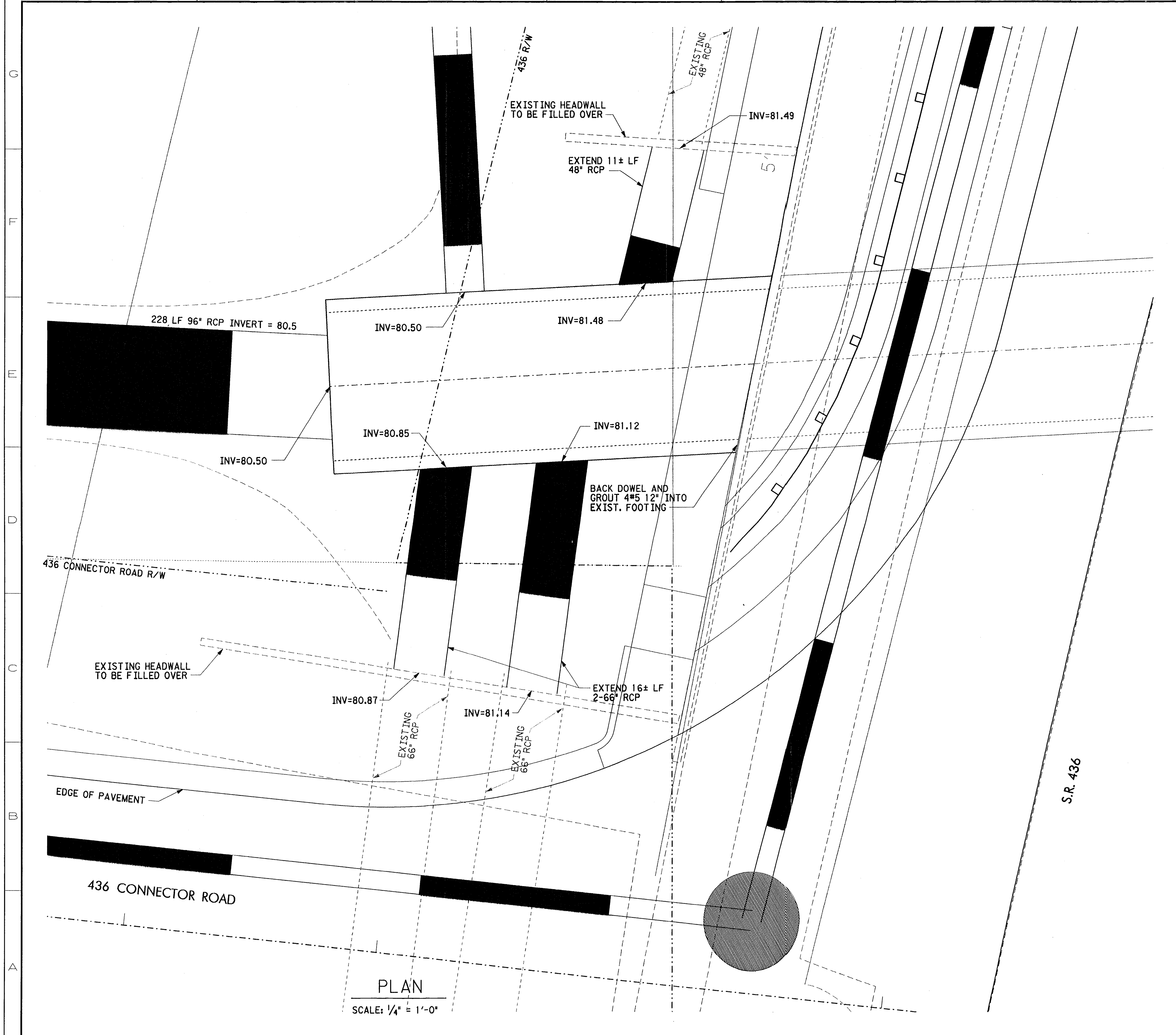
WILLIAM H. TELFORD, P.E. FLORIDA REG. NO. 32067

DATE: 5/16/05

63752-38

RECEIVED
MAY 17 2005
PDS
ALTAMONTE SVC. CTR.

PLOT DATE: 13-MAY-2005 09:12
FILE NAME: m:\Baldwin Park\436\436ppr02.dgn

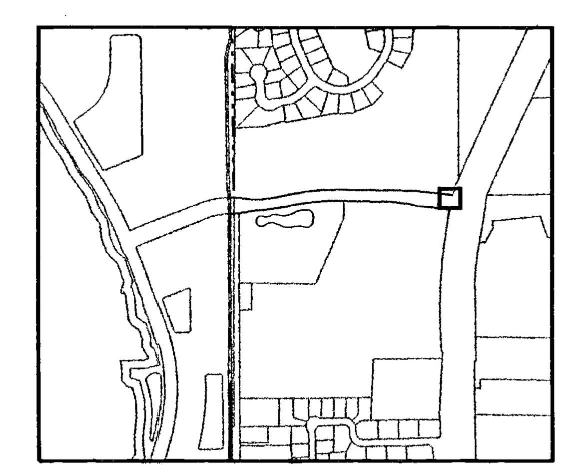


PLAN
SCALE: 1/4" = 1'-0"

NOTES:

1. FIELD VERIFY AND MATCH ALL EXISTING INVERTS.
2. SEE SHEET C455 FOR CULVERT ELEVATIONS.

4 of 4



KEY MAP

RECEIVED
JUN 1 1 2004
PDS
ALTAMONTE SVC. CTR.

DATE	ISSUED BY	ISSUED FOR
6/09/04	JJM	SJRWMD
5/12/04	JJM	100% SUBMITTAL
3/19/04	JJM	90% SUBMITTAL
11/5/03	JJM	60% SUBMITTAL

WILLIAM H. TELFORD, P.E.
FLORIDA REG. NO. 32067

CLIENT: BALDWIN PARK

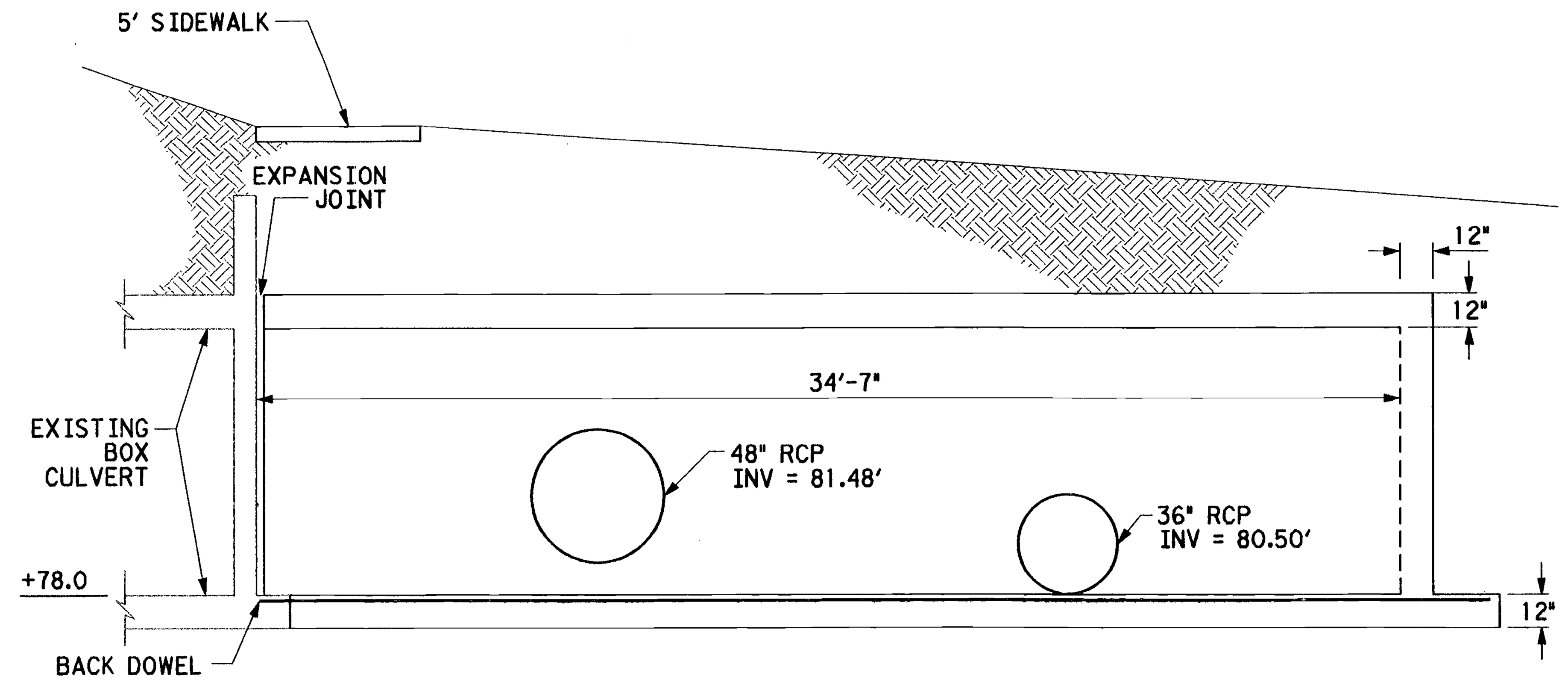
PROJECT: CONSTRUCTION PACKAGE No. 4-6
S.R. 436 CONNECTOR ROAD

TITLE: BOX CULVERT EXTENSION PLAN

PBS&J

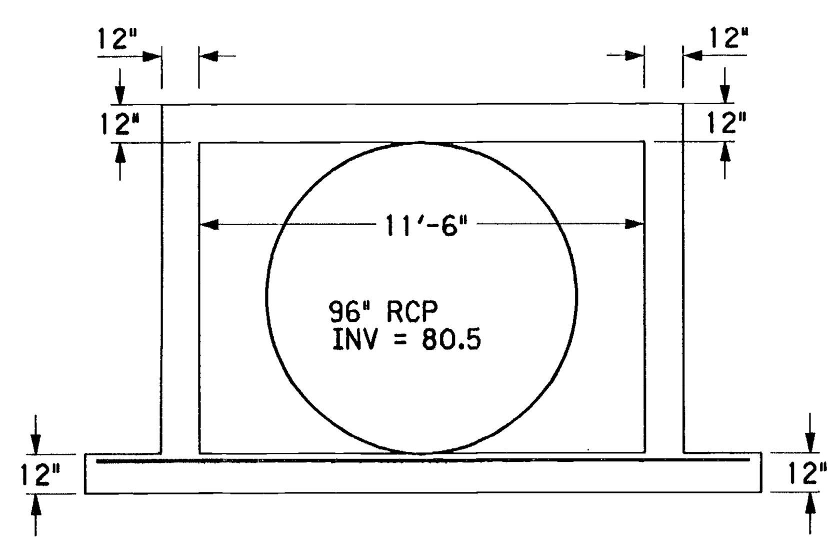
JOB NO.:	071325.03
DRAWN:	KKL
DESIGN:	JJM
CHECKED:	MZB
APPROVED:	WHT
SHEET NO.:	C454

PLOT DATE: 08-JUN-2004 14:36
FILE NAME: M:\Baldwin Park\436\436csde104.dgn



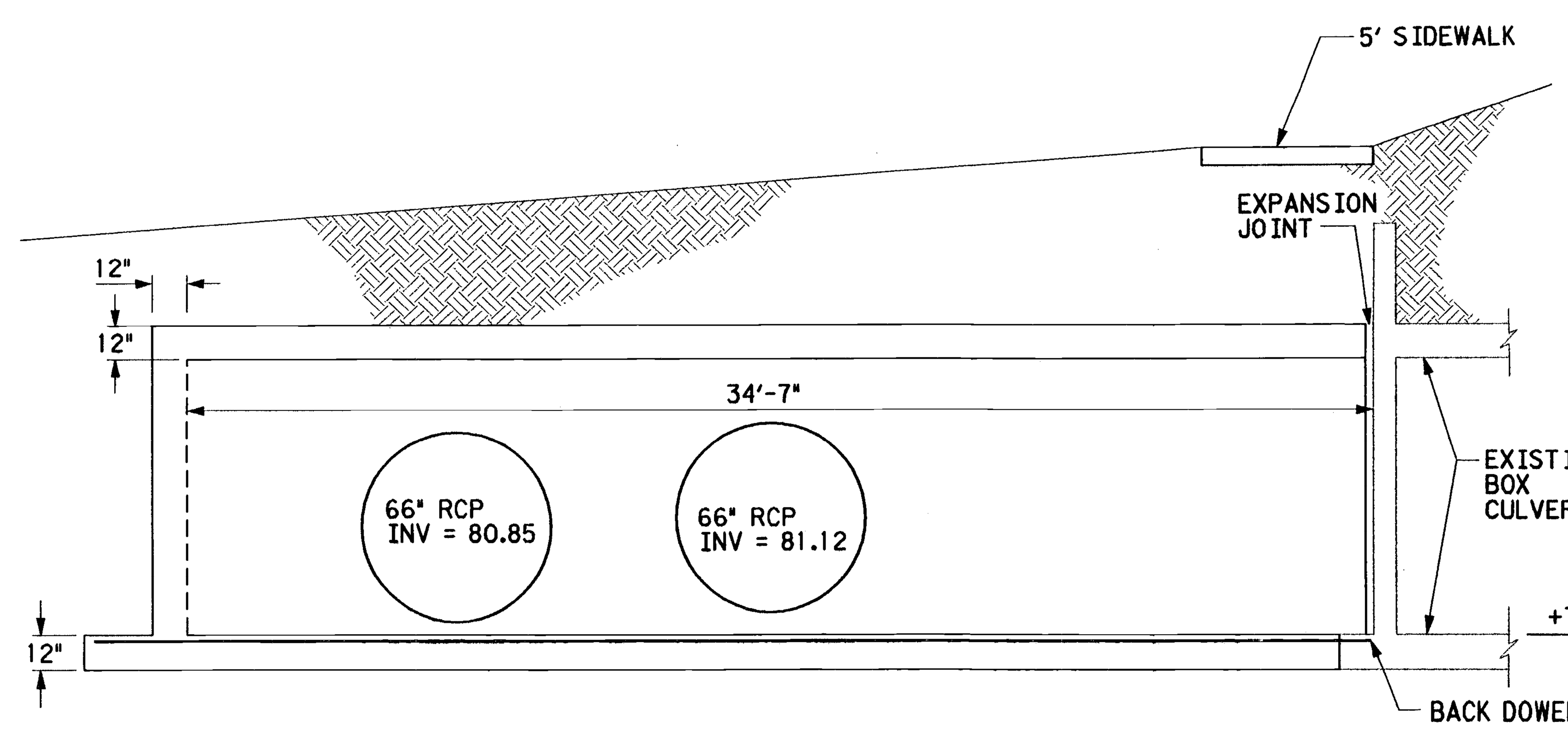
NORTH ELEVATION

SCALE: 1/4" = 1'-0"
HALF SIZE: 1/8" = 1'-0"



WEST ELEVATION

SCALE: 1/4" = 1'-0"
HALF SIZE: 1/8" = 1'-0"



SOUTH ELEVATION

SCALE: 1/4" = 1'-0"
HALF SIZE: 1/8" = 1'-0"

4 of 4

RECEIVED
JUN 1 1 2004

WILLIAM H. TELFORD, P.E.
FLORIDA REG. NO. 32067

DATE	ISSUED BY	ISSUED FOR
6/09/04	JJM	SJRWMD
5/12/04	JJM	100% SUBMITTAL
3/19/04	JJM	90% SUBMITTAL
11/5/03	JJM	60% SUBMITTAL

CLIENT: BALDWIN PARK

PROJECT: CONSTRUCTION PACKAGE No. 4-6 S.R. 436 CONNECTOR ROAD

TITLE: BOX CULVERT EXTENSION ELEVATIONS

PBS&J

JOB NO.:	071325.03
DRAWN:	KKL
DESIGN:	JJM
CHECKED:	MZB
APPROVED:	WHT
SHEET NO.	C455

PLOT DATE: 08-JUN-2004 14:36
FILE NAME: M:\Baldwin Park\436\436csdet05.dgn

Semoran Crossroads Mass Grading
SJRWMD Permit #4-095-74860-5

Excel Engineering
CONSULTANTS, LLC
Land Development Consultants

122 Wilshire Boulevard
Casselberry, Fl 32707
Telephone: (407) 260-2292
www.Excelengineers.com

July 30, 2013

Ratna S. Lee
SJRWMD
Engineer III
601 South Lake Destiny Road, Suite 200
Maitland, FL 32751

Subject: Semoran Crossroads Stormwater Pond, Application No. 4-095-74860-5 Response to February 23, 2012 Request for Information.

"Dear Ratna:

Please find attached the revised Plans, AdICPR model (Appendix E) and Spreadsheet calculations (Appendix B, which has not changed) as per our meeting with you and Margie Cook in your offices on June 25, 2013 and also per you subsequent conversations with Mr. Tim Schutz on July 26, 2013. We have updated the model for Alternate 2 (Proposed FEMA elevation per Singhofen revision); Method 2 (Includes the Wal-Mart Property). Results indicate that 4.1 Acre-Ft. of water backflows into the pond from the Corrine Canal during the 100-year storm event, exceeding the required 3.85 Acre-Ft. of compensating storage volume. Below is a list of the revisions to the model. These revisions closely correlate to the model that you presented in our June 25, 2013 meeting.

1.) The rainfall depth for the 100-year storm was increased to 11.3 inches.

2.) We only provided the results for the 25-year, 24-Hour and 100-year, 24-Hour storm events per your conversation with Mr. Tim Schutz on July 26, 2013.

3.) The weir on the control structure was separated into three weirs on three faces of the control structure. The weir for the treatment volume (El. 84.65') was increased to 7" in width and now goes to the top of the structure (El. 88.43'). The 36" weir (El. 86.03') was made into two weirs (both also 36" in length) and placed on the 2 walls.

4.) The earthen weir connecting the pond directly to the canal was reduced to 20' in length (bottom width) and set at an elevation of 88.5'.

5.) The latest update to the Corrine Canal stage-Time elevation was applied to the pond per data received from Singhofen and Associates on Thursday, July 25, 2013 for their FEMA flood plain revision.

We trust that the response will allow for a final permit to be issued. Thank you for your help and diligence in resolving the issues for this project. Please call us if there are any questions regarding this submittal."

Sincerely,

Excel Engineering Consultants, LLC

Julian R. Coto, P.E.
President for the Firm

JRC/mls

JEN01-0109- Semoran Crossroads-Wal-Mart Pond-Response to SJRWMD-07.30.13.docx

PROJECT:	**Hanging Moss**
BASIN DESIGNATION:	**Post-1 (Langford)**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

TYPE of EVALUATION: **POST-** DEVELOPMENT
(PRE- or POST-)

BASIN SIZE: 7.20 acres.

Determine Basin Runoff Curve Number: CN

Land Use Description	Hydrologic Soil Group	CN	AREA (ac.)	Product
Open Space, Good Condition	B/D	80		
Open Space, Good Condition	D	80		
Open Space, Poor Condition	B/D	89	1.44	128.16
Open Space, Poor Condition	D	89		
Water Surface	N/A	100		
Impervious Areas - Asphalt, Sidewalks, roofs, etc..	N/A	98	5.76	564.48
Wetland	N/A			
			7.20	692.64

(PRODUCT SUM) 692.64
WEIGHTED CN = ------------------------------ = ----------- = 96.20
(AREA) 7.20

USE CN = 96

PROJECT:	**Hanging Moss**
BASIN DESIGNATION:	**Post-2**

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

TYPE of EVALUATION: **POST-** DEVELOPMENT
(PRE- or POST-)

BASIN SIZE: 5.55 acres.

Determine Basin Runoff Curve Number: CN

Land Use Description	Hydrologic Soil Group	CN	AREA (ac.)	Product
Open Space, Good Condition	B/D	80	4.37	349.56
Gravel over Open Space, Good Condition	B/D	80		
Open Space, Poor Condition	D	89		
Gravel Open Space, Poor Condition	D	89		
Water Surface	N/A	100	1.18	118.05
Impervious Areas - Asphalt, Sidewalks, roofs, etc..	N/A	98		
Wetland	N/A			
			5.55	467.61

(PRODUCT SUM) 467.61
WEIGHTED CN = ------------------------------ = ----------- = 84.25
(AREA) 5.55

USE CN = 84

PROJECT:	**Hanging Moss**
POND DESIGNATION:	**Pond 1**

Water Quality Calculations:

Contributing Basins = Post-1 (Langford) & Post 2

Full Basin Area = 12.75 Ac.
Impervious Area = 5.76 Ac.

1.0" of Full Basin Area = 1.063 Ac.-Ft.
or
2.5" of Impervious Area = 1.200 Ac.-Ft.

Req. Water Quality Vol. = 1.200 Ac.-Ft.

Pond Stage-Storage:

Pond Type = Wet Detention
Control (Perm. Pool) Elevation 83.70
Water Quality (Weir) Elevation = 84.65

	Pond Stage (ft)	Increment (ft)	Area (sf)	Incremental Volume (cf)	Cumulative Volume (cf)	Cumulative Volume (Ac-ft)
Control Elevation:	83.70		51,422		-	-
		0.30		15,706		
	84.00		53,284		15,706	0.361
		1.00		56,439		
	85.00		59,593		72,144	1.656
		1.00		62,827		
	86.00		66,060		134,971	3.099
		1.00		69,372		
	87.00		72,683		204,342	4.691
		1.00		76,074		
	88.00		79,464		280,416	6.437
		1.00		82,925		
	89.00		86,386		363,341	8.341
		1.00		89,916		
	90.00		93,445		453,256	10.405

Permanent Pool:

Pond Bottom:	75.00		26,091		-	-
		1.00		26,995		
	76.00		27,899		26,995	0.620
		1.00		28,821		
	77.00		29,743		55,816	1.281
		1.00		30,683		
	78.00		31,623		86,499	1.986
		1.00		32,582		
	79.00		33,540		119,081	2.734
		1.00		34,518		
	80.00		35,495		153,598	3.526
		1.00		36,490		
	81.00		37,485		190,088	4.364
		1.00		39,311		
	82.00		41,137		229,399	5.266
		1.00		46,280		
	83.00		47,132		275,679	6.329
		0.70		34,494		
	83.70		51,422		310,172	7.121

PROJECT:	Hanging Moss
POND DESIGNATION:	Pond 1

Permanent Pool

Required PPV = $\frac{(DA)*(C)*(R)*(RT)}{(WS)*(CF)}$

Where:

DA =	Drainage Area (Acres)	=	12.75	
C =	Runoff Coefficient	=	0.59	
R =	Wet Season Rainfall Depth (Inches)	=	31.8	
RT =	Minimum Residence Time (Days)	=	14	
WS =	Length of Wet Season (Days)	=	153	
CF =	Conversion Factor (12 Inches/Ft.)	=	12	

	PPV	=	1.84	ac/ft
Additional 50% PPV (No Littoral Zone)	PPV_L	=	0.92	ac/ft
Additional PPV Due to Background Seepage	PPV_S	=		ac/ft

Required PPV =	**2.75**	**ac/ft**
Provided PPV =	**7.12**	**ac/ft**

Residence Time Calculation (21 Days Required - No littoral Zone)

Residence Time = $\frac{(PPV)*(WS)*(CF)}{(DA)*(C)*(R)}$

Residence Time (Actual)= $\frac{13073}{240.7}$ = **54 Days**

Mean Depth (2-8 Feet required, 12 feet maximum)

Mean Depth = $\frac{(PPV)}{(A_p)}$ = $\frac{7.12}{1.18}$ = **6.03 Feet**

WHERE:

A_p = Area of Pond At Control Elevation (Acres)

ORIFICE CALCULATIONS

SIZING OF ORIFICE FOR WET POND:

ORIFICE EQUATION

Q = C x A x SQRT (2 x g x h)

Q = RATE OF DISCHARGE
C = ORIFICE COEFFICIENT
A = ORIFICE AREA
g = GRAVITATIONAL CONSTANT
h = DEPTH OF WATER ABOVE THE FLOW LINE (CENTER) OF ORIFICE

AVERAGE DISCHARGE RATE TO DRAW DOWN ONE HALF OF THE TREATMENT VOLUME IN A DESIRED AMOUNT OF TIME (t) IS:

Q = TV / (2 x t x CF)

TV = TREATMENT VOLUME (Cubic Feet)

t = RECOVERY TIME (Hours)
CF = CONVERSION FACTOR = 3600 sec / hr

1/2TV =	26,136	$Ft.^3$
t_{30}=	30	hrs.
t_{24}=	24	hrs.
CF=	3600	sec/hr
Q_{30}=	0.242	cfs
Q_{24}=	0.303	cfs
$Q_{seepage}$=	0.000	cfs

DEPTH OF WATER (h):

WEIR EL.=	84.65
CONTROL EL.=	83.70
h_1=	0.95
h_2=	0.47
h=	0.71

AREA OF ORIFICE:

A = Q / (C x (SQRT (2 x g x h)))

C=	0.60						
g=	32.20						
A_{30}=	0.0596	sf	or	8.58	$in.^2$, or	3.31	in. diameter
A_{24}=	0.0745	sf	or	10.73	$in.^2$, or	3.70	in. diameter

USE : **3.50** -inch diameter orifice

```
================================================================================
==== Basins
============================================================================

         Name: Post-1 Langford           Node: Pond-1                 Status: Onsite
        Group: 25-Year 24 Hour           Type: Santa Barbara CN

        Rainfall File: Flmod                  Storm Duration(hrs): 24.00
    Rainfall Amount(in): 8.600                  Time of Conc(min): 12.00
             Area(ac): 7.200                      Time Shift(hrs): 0.00
         Curve Number: 96.00                  Time Increment(min): 5.00
              DCIA(%): 0.00                  Max Allowable Q(cfs): 999999.000



--------------------------------------------------------------------------------
Name: Post-1 Langford         Node: Pond-1                 Status: Onsite
        Group: 100-Year 24 Hou           Type: Santa Barbara CN

        Rainfall File: Flmod                  Storm Duration(hrs): 24.00
    Rainfall Amount(in): 8.600                  Time of Conc(min): 12.00
             Area(ac): 7.200                      Time Shift(hrs): 0.00
         Curve Number: 96.00                  Time Increment(min): 5.00
              DCIA(%): 0.00                  Max Allowable Q(cfs): 999999.000



--------------------------------------------------------------------------------
         Name: Post-2                    Node: Pond-1                 Status: Onsite
        Group: 25-Year 24 Hour           Type: Santa Barbara CN

        Rainfall File: Flmod                  Storm Duration(hrs): 24.00
    Rainfall Amount(in): 8.600                  Time of Conc(min): 10.00
             Area(ac): 5.550                      Time Shift(hrs): 0.00
         Curve Number: 86.00                  Time Increment(min): 5.00
              DCIA(%): 0.00                  Max Allowable Q(cfs): 999999.000



--------------------------------------------------------------------------------
         Name: Post-2                    Node: Pond-1                 Status: Onsite
        Group: 100-Year 24 Hou           Type: Santa Barbara CN

        Rainfall File: Flmod                  Storm Duration(hrs): 24.00
    Rainfall Amount(in): 8.600                  Time of Conc(min): 10.00
             Area(ac): 5.550                      Time Shift(hrs): 0.00
         Curve Number: 86.00                  Time Increment(min): 5.00
              DCIA(%): 0.00                  Max Allowable Q(cfs): 999999.000



================================================================================
==== Nodes
============================================================================

      Name: Lk Corr Canal       Base Flow(cfs): 0.000          Init Stage(ft): 83.600
     Group: 25-Year 24 Hour                                    Warn Stage(ft): 89.000
      Type: Time/Stage
```

Time(hrs)	Stage(ft)
0.00	83.600
6.00	84.050
8.00	85.440
9.00	86.430
10.00	87.250
14.00	87.910
16.00	87.780
18.00	87.510
20.00	87.150
22.00	86.780
24.00	86.460

Name: Lk Corr Canal   Base Flow(cfs): 0.000   Init Stage(ft): 83.600
Group: 100-Year 24 Hou   Warn Stage(ft): 89.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	83.600
6.00	83.870
8.00	85.990
9.00	87.140
10.00	87.960
13.75	88.650
16.00	88.510
18.00	88.200
20.00	88.040
22.00	87.750
24.00	87.420

Name: Pond-1   Base Flow(cfs): 0.000   Init Stage(ft): 83.700
Group: 25-Year 24 Hour   Warn Stage(ft): 90.000
Type: Stage/Area

Stage(ft)	Area(ac)
83.700	1.6660
84.000	1.7150
85.000	1.8800
86.000	2.0490
87.000	2.2210
88.000	2.3980
89.000	2.5790
89.140	2.6030
90.000	2.7610

Name: Pond-1   Base Flow(cfs): 0.000   Init Stage(ft): 83.700
Group: 100-Year 24 Hou   Warn Stage(ft): 90.000
Type: Stage/Area

Stage(ft)	Area(ac)
83.700	1.6660
84.000	1.7150
85.000	1.8800
86.000	2.0490
87.000	2.2210
88.000	2.3980
89.000	2.5790
89.140	2.6030
90.000	2.7610

==== Cross Sections

Name: Group: 25-Year 24 Hour
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N

Name: Group: 100-Year 24 Hou
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N

==== Operating Tables

Name: Group: 25-Year 24 Hour
Type: Bottom Clip
Function: Time vs. Depth of Clip

Time(hrs)	Clip Depth(in)

Name: Group: 100-Year 24 Hou
Type: Bottom Clip
Function: Time vs. Depth of Clip

Time(hrs)	Clip Depth(in)

```
==== Drop Structures
==========================================================================================
         Name: CS-1                  From Node: Pond-1            Length(ft): 203.00
        Group: 25-Year 24 Hour         To Node: Lk Corr Canal          Count: 1

               UPSTREAM       DOWNSTREAM                     Friction Equation:
Automatic
     Geometry: Circular       Circular                     Solution Algorithm: Most
Restrictive
     Span(in): 24.00          24.00                                      Flow: Both
     Rise(in): 24.00          24.00                        Entrance Loss Coef: 0.000
   Invert(ft): 83.500         81.000                           Exit Loss Coef: 1.000
  Manning's N: 0.013000       0.013000                      Outlet Ctrl Spec: Use dc
or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                            Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall



*** Weir 1 of 4 for Drop Structure CS-1 ***

TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 7.00                          Invert(ft): 84.650
               Rise(in): 45.36                   Control Elev(ft): 84.650

*** Weir 2 of 4 for Drop Structure CS-1 ***

TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 37.00                         Invert(ft): 88.430
               Rise(in): 49.00                   Control Elev(ft): 88.430

*** Weir 3 of 4 for Drop Structure CS-1 ***

TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.200
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 3.50                          Invert(ft): 83.700
               Rise(in): 3.50                    Control Elev(ft): 83.700

*** Weir 4 of 4 for Drop Structure CS-1 ***
```

```
TABLE
                 Count: 2                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.200
              Geometry: Rectangular          Orifice Disc Coef: 0.600

              Span(in): 36.00                      Invert(ft): 86.030
              Rise(in): 28.80                Control Elev(ft): 86.030


-------------------------------------------------------------------------------------
         Name: CS-1                From Node: Pond-1           Length(ft): 203.00
        Group: 100-Year 24 Hou       To Node: Lk Corr Canal         Count: 1

              UPSTREAM      DOWNSTREAM                  Friction Equation:
Automatic
     Geometry: Circular      Circular                  Solution Algorithm: Most
Restrictive
     Span(in): 24.00         24.00                                   Flow: Both
     Rise(in): 24.00         24.00                     Entrance Loss Coef: 0.000
   Invert(ft): 83.500        81.000                        Exit Loss Coef: 1.000
  Manning's N: 0.013000      0.013000                   Outlet Ctrl Spec: Use dc
or tw
 Top Clip(in): 0.000         0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000         0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall



*** Weir 1 of 4 for Drop Structure CS-1 ***

TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.200
              Geometry: Rectangular          Orifice Disc Coef: 0.600

              Span(in): 7.00                       Invert(ft): 84.650
              Rise(in): 45.36                Control Elev(ft): 84.650

*** Weir 2 of 4 for Drop Structure CS-1 ***

TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.200
              Geometry: Rectangular          Orifice Disc Coef: 0.600

              Span(in): 37.00                      Invert(ft): 88.430
              Rise(in): 49.00                Control Elev(ft): 88.430

*** Weir 3 of 4 for Drop Structure CS-1 ***

TABLE
```

```
              Count: 1                      Bottom Clip(in): 0.000
               Type: Horizontal                Top Clip(in): 0.000
               Flow: Both                    Weir Disc Coef: 3.200
           Geometry: Circular              Orifice Disc Coef: 0.600

           Span(in): 3.50                       Invert(ft): 83.700
           Rise(in): 3.50                 Control Elev(ft): 83.700

*** Weir 4 of 4 for Drop Structure CS-1 ***

TABLE
              Count: 2                      Bottom Clip(in): 0.000
               Type: Vertical: Mavis           Top Clip(in): 0.000
               Flow: Both                    Weir Disc Coef: 3.200
           Geometry: Rectangular           Orifice Disc Coef: 0.600

           Span(in): 36.00                      Invert(ft): 86.030
           Rise(in): 28.80                Control Elev(ft): 86.030


=====================================================================================
==== Weirs
=====================================================================================

        Name: W-1                   From Node: Pond-1
       Group: 100-Year 24 Hou         To Node: Lk Corr Canal
        Flow: Both                      Count: 1
        Type: Vertical: Mavis        Geometry: Trapezoidal

           Bottom Width(ft): 20.00
       Left Side Slope(h/v): 4.00
      Right Side Slope(h/v): 4.00
                 Invert(ft): 88.500
      Control Elevation(ft): 88.500
     Struct Opening Dim(ft): 1.50
                                               TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 3.200
     Orifice Discharge Coef: 0.600



-------------------------------------------------------------------------------------
        Name: W-1                   From Node: Pond-1
       Group: 25-Year 24 Hour         To Node: Lk Corr Canal
        Flow: Both                      Count: 1
        Type: Vertical: Mavis        Geometry: Trapezoidal

           Bottom Width(ft): 20.00
       Left Side Slope(h/v): 4.00
      Right Side Slope(h/v): 4.00
                 Invert(ft): 88.500
      Control Elevation(ft): 88.500
     Struct Opening Dim(ft): 1.50
                                               TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 3.200
     Orifice Discharge Coef: 0.600
```

```
================================================================================
==== Hydrology Simulations
================================================================================

         Name: Post 100yr-24hr
     Filename: C:\Tim\Backup Files\Timothy Schutz PE\Projects\100903-10 (Jennings
SWM)\Calculations\3.04.13 New Calcs for SJRWMD With Singhoffen backup\3.05.13 Phase I
Proposed FEMA\Postdevelopment\AdICPR\SJRWMD Post\Post 100yr-24hr.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 11.30

Time(hrs)       Print Inc(min)
--------------- ---------------
2.500           5.00
19.000          2.00
24.000          5.00

--------------------------------------------------------------------------------
         Name: Post 25yr-24hr
     Filename: C:\Tim\Backup Files\Timothy Schutz PE\Projects\100903-10 (Jennings
SWM)\Calculations\3.04.13 New Calcs for SJRWMD With Singhoffen backup\3.05.13 Phase I
Proposed FEMA\Postdevelopment\AdICPR\SJRWMD Post\Post 25yr-24hr.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.60

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           30.00
12.000          5.00
24.000          30.00

================================================================================
==== Routing Simulations
================================================================================

         Name: Post 100yr-24hr     Hydrology Sim: Post 100yr-24hr
     Filename: C:\Tim\Backup Files\Timothy Schutz PE\Projects\100903-10 (Jennings
SWM)\Calculations\3.04.13 New Calcs for SJRWMD With Singhoffen backup\3.05.13 Phase I
Proposed FEMA\Postdevelopment\AdICPR\SJRWMD Post\Post 100yr-24hr.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 0.50                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                    End Time(hrs): 24.00
      Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:
```

Time(hrs)	Print Inc(min)
2.500	5.000
19.000	2.000
24.000	5.000

Group	Run
100-Year 24 Hou	Yes

Name: Post 25yr-24hr Hydrology Sim: Post 25yr-24hr
Filename: C:\Tim\Backup Files\Timothy Schutz PE\Projects\100903-10 (Jennings SWM)\Calculations\3.04.13 New Calcs for SJRWMD With Singhoffen backup\3.05.13 Phase I Proposed FEMA\Postdevelopment\AdICPR\SJRWMD Post\Post 25yr-24hr.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 0.50 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	30.000
12.000	5.000
24.000	30.000

Group	Run
25-Year 24 Hour	Yes

Basin Name: Post-1 Langford
Group Name: 100-Year 24 Hou
Node Name: Pond-1
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Flmod
Rainfall Amount (in): 11.300
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 12.00
Time Shift (hrs): 0.00
Area (ac): 7.200
Curve Number: 96.000
DCIA (%): 0.000

Time Max (hrs): 11.92
Flow Max (cfs): 49.612
Runoff Volume (in): 10.815
Runoff Volume (ft3): 282658.838

Basin Name: Post-2
Group Name: 100-Year 24 Hou
Node Name: Pond-1
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Flmod
Rainfall Amount (in): 11.300
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 5.550
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 11.92
Flow Max (cfs): 38.138
Runoff Volume (in): 9.557
Runoff Volume (ft3): 192536.001

Basin Name: Post-1 Langford
Group Name: 25-Year 24 Hour
Node Name: Pond-1
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Flmod
Rainfall Amount (in): 8.600
Storm Duration (hrs): 24.00

Status: Onsite
Time of Conc (min): 12.00
Time Shift (hrs): 0.00
Area (ac): 7.200
Curve Number: 96.000
DCIA (%): 0.000

Time Max (hrs): 11.92
Flow Max (cfs): 37.617
Runoff Volume (in): 8.119
Runoff Volume (ft3): 212209.523

Basin Name: Post-2
Group Name: 25-Year 24 Hour
Node Name: Pond-1
Basin Type: Santa Barbara

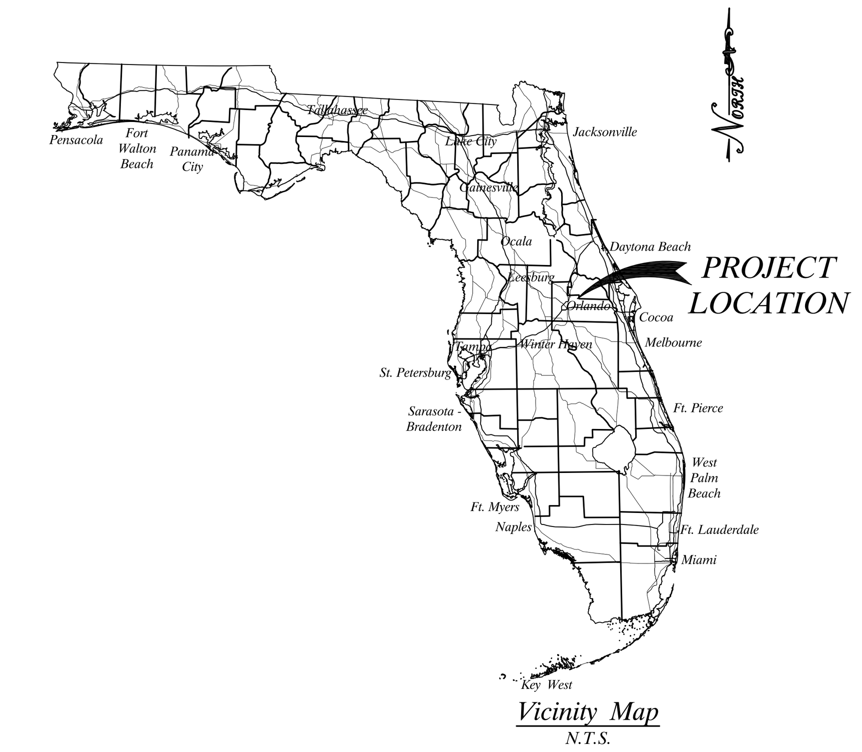
Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Flmod
Rainfall Amount (in): 8.600
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 5.550
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 11.92
Flow Max (cfs): 28.055
Runoff Volume (in): 6.914
Runoff Volume (ft3): 139295.590

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Lk Corr Canal	100-Year 24 Hou	Post 100yr-24hr	13.75	88.650	89.000	0.0177	0	12.54	22.642	0.00	0.000
Pond-1	100-Year 24 Hou	Post 100yr-24hr	12.56	88.852	90.000	0.0025	111171	11.93	86.803	12.54	22.642
Lk Corr Canal	25-Year 24 Hour	Post 25yr-24hr	14.01	87.910	89.000	0.0132	0	12.86	6.678	0.00	0.000
Pond-1	25-Year 24 Hour	Post 25yr-24hr	14.12	88.043	90.000	0.0025	104793	11.92	65.665	12.86	6.678

Construction Plans For Semoran Crossroads Stormwater Pond

Section 15, Township 22 South, Range 30 East
Orange County, Florida



Vicinity Map
N.T.S.

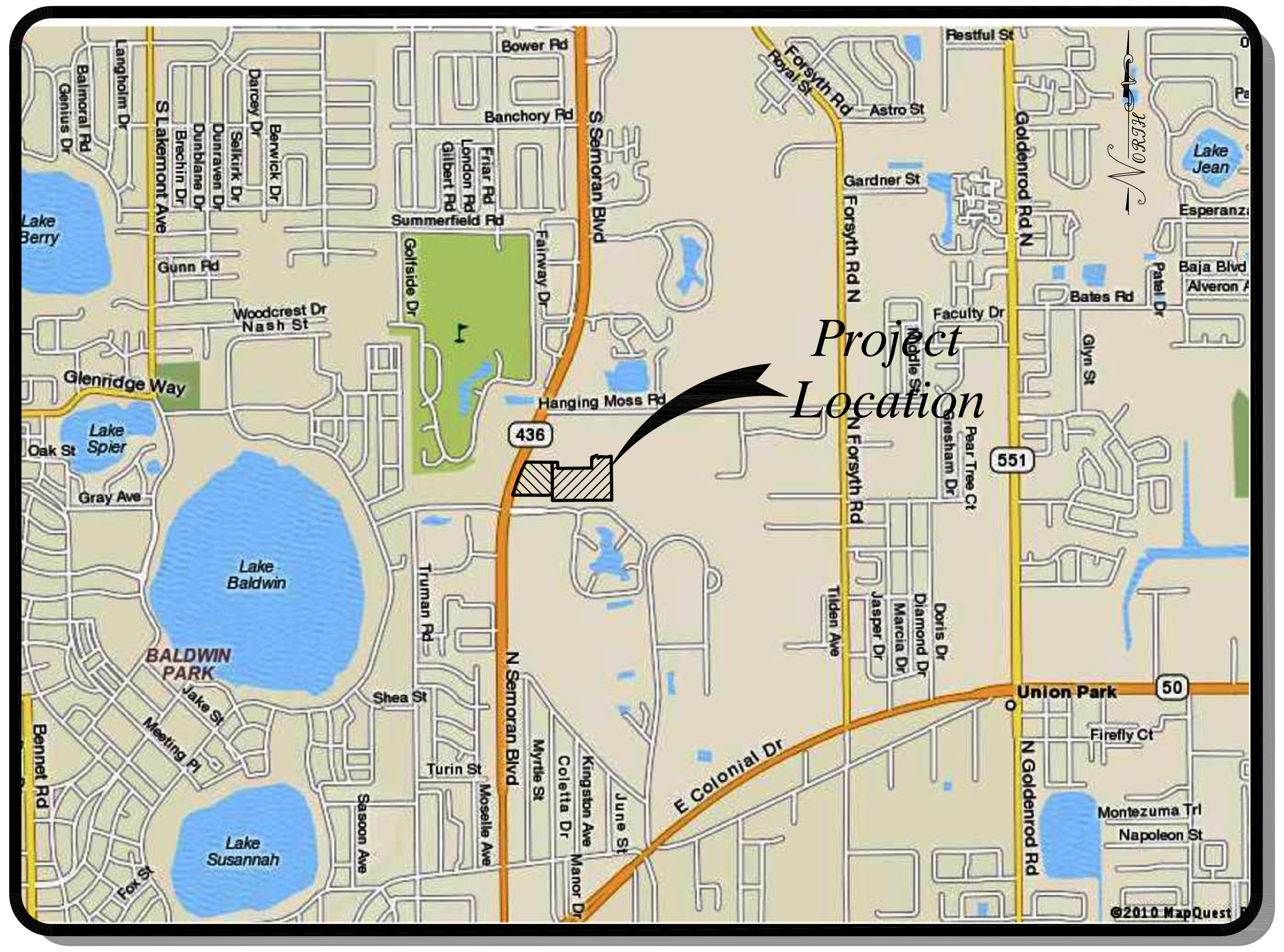
Jennings Property Description

Parcel 15-22-30-0000-00-014

A parcel of land being a portion of the Northwest ¼ of Section 15, Township 22 South, Range 30 East in Orange County, Florida. Being more particularly described as follows:

COMMENCE at the Southwest corner of said Northwest ¼ of Section 15, Township 22 South, Range 30 East, thence North 89°36'56" East, along the South line of said Northwest ¼, for a distance of 910.26 feet to the POINT OF BEGINNING; thence North 00°23'32" West for a distance of 550.98 feet; thence North 89°47'21" East, for a distance of 79.79 feet; thence South 00°32'39" East for a distance of 88.84 feet; thence North 89°23'49" East for a distance of 490.35 feet to a point on the West line of a parcel of land described in Official Records Book 6787, Page 1726, public records of Orange County, Florida; thence along said West line, South 00°34'03" East for a distance of 463.77 feet to said South line; thence South 89°36'56" West, along said South line, a distance of 571.79 feet to the POINT OF BEGINNING.

Contains 6.229 acres, more or less.



LOCATION MAP
NOT TO SCALE

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
SUBMITTAL

DRAWING INDEX

Drawing Number	Drawing Description
1	Cover Sheet and Drawing Index
2	General Notes & Engineering Notes
3	Pre-Development Drainage Basins
4	Post-Development Drainage Basins & Grading Plan
5	Critical Cross Sections
6	Miscellaneous Details
7	Miscellaneous Details
8	Miscellaneous Details
2 9	Stage/Storage of Pond And Canal

OWNER

Jennings Investments I, LLC
C/O Excel Engineering Consultants LLC

Excel Engineering
CONSULTANTS, LLC.
ENVIRONMENTAL & CIVIL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. 27541
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL: (407) 260-2292
FAX: (407) 260-1193
WWW.EXCELENGINEERS.COM

CALL 48 HOURS BEFORE YOU DIG IN FLORIDA
IT'S THE LAW!
1-800-432-4770
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

SURVEY PROVIDED BY:

Benchmark Surveying & Mapping Consultants, Inc.
Certificate of Authorization Number – LB-6796

Post Office Box 771065, Winter Garden, Florida 34777-1065
557 West Plant Street, Winter Garden, Florida 34787

NO.	REVISION	DATE
1	Revised Sheets 3,4,5,7 and 8 Due To Reshaping	12/13/11
	Stormwater Pond	
2	Revised Sheets 4 and 9 per SJRWMD Comments	3/29/12
3	Revised Sheets 4, 5, 8 and 9 per SJRWMD Comments	8/1/13

JULIAN R. COTO DATE
P.E. LICENSE #0033635

JEN01-0109 DATE: 8/1/13

Excel Engineering
CONSULTANTS, LLC

GENERAL NOTES:

1.0 CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION, NATURE AND CHARACTER OF ALL EXISTING UTILITIES, PRIOR TO BEGINNING CONSTRUCTION. LOCATIONS AND CHARACTER OF EXISTING UTILITIES SHOWN ON PLANS ARE BASED ON THE AVAILABLE INFORMATION.

2.0 CONTRACTOR SHALL VERIFY ALL DIMENSIONS WHERE STRUCTURES SHALL BE IMPACTED BY THE CONSTRUCTION PRIOR TO SUBMITTALS AND FABRICATION OF COMPONENTS AND MATERIALS.

3.0 CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT, THESE PLANS AND SPECIFICATIONS, GEOTECHNICAL INVESTIGATION, AND ALL LOCAL, STATE AND FEDERAL AGENCY REQUIREMENTS FOR CONSTRUCTION OF THE PROPOSED IMPROVEMENTS PRIOR TO BEGINNING THE CONSTRUCTION.

4.0 CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR TRENCH CONSTRUCTION.

5.0 CONTRACTOR SHALL PROVIDE SHORING AND DEWATERING AT ALL LOCATIONS WHERE NECESSARY TO ASSURE COMPLIANCE WITH OSHA, AND PROTECTION OF PROPERTY AND SAFETY OF RESIDENTS AND WORKERS.

6.0 THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN PROXIMITY OF ANY UTILITIES, NOT LIMITED TO: WATER, SEWER, GAS, ELECTRIC, AND/OR COMMUNICATIONS. UTILITY LOCATIONS SHOWN ON PLANS ARE NOT EXACT OR GUARANTEED. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING PRIOR TO CONSTRUCTION.

7.0 CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS TO COMPLETE THE CONSTRUCTION OF THIS PROJECT, INCLUDING PERMITS FROM THE CITY, COUNTY, AND/OR STATE.

8.0 CONTRACTOR SHALL VERIFY THE PROPERTY BOUNDARIES AND LOCATE ALL PROPERTY CORNERS, ELEVATIONS, BUILDING CORNERS, PARKING LOT CORNERS, PONDS AND OTHER IMPROVEMENTS PRIOR TO INITIATING THE CONSTRUCTION. CONTRACTOR SHALL ALSO VERIFY EXISTING GRADES SHOWN IN THE PLANS. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES WITH THE FIELD CONDITIONS AND THESE PLANS AND SPECIFICATIONS.

9.0 THE CONTRACTOR SHALL THOROUGHLY REVIEW AND APPROVE SHOP DRAWINGS, PRIOR TO SUBMITTING, TO EXCEL ENGINEERING CONSULTANTS (ENGINEER). CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL ITEMS OF WORK FOR REVIEW PRIOR TO ORDERING OR FABRICATION OF COMPONENTS OR SYSTEMS. THE CONTRACTOR SHALL ALLOW TEN WORKING DAYS FOR REVIEW OF EACH SUBMITTAL OR REQUEST FOR CLARIFICATION AND SHALL NOT ORDER OR FABRICATE COMPONENTS OF SYSTEM UNTIL ALL QUESTIONS RAISED BY THE ENGINEER HAVE BEEN ADDRESSED IN WRITING AND ACCEPTED.

10.0 ALL SUBMITTALS AND REQUESTS FOR INFORMATION SHALL BE SUBMITTED TO ENGINEER:
MR. JULIAN R. COTO, P.E.
EXCEL ENGINEERING CONSULTANTS, LLC.
122 WILSHIRE BLVD.
CASSELBERRY, FLORIDA 32707

11.0 CONTRACTOR SHALL NOT TAKE ADVANTAGE OF ANY OMISSION OR CONFLICT. CONTRACTOR SHALL INFORM ENGINEER OF ANY OMISSION OR CONFLICT AS SOON AS IT IS DISCOVERED AND BEFORE ANY WORK IS DONE.

12.0 CONTRACTOR SHALL PAY FOR AND OBTAIN A CITY AND/OR STATE SITE CONSTRUCTION PERMIT; THE COUNTY SITE PERMIT AND/OR UNDERGROUND UTILITY PERMIT AND HOLD A PRE–CONSTRUCTION CONFERENCE WITH THE TOWN AND/OR THE COUNTY BEFORE STARTING WORK. CONTACT DEVELOPMENT REVIEW DIVISION, FOR INFORMATION ON SETTING THE PRE CONSTRUCTION MEETING, ISSUANCE OF COUNTY PERMITS AND OTHER REQUIREMENTS.

13.0 CONTRACTOR SHALL CONTACT THE COUNTY TRAFFIC OPERATIONS ENGINEER PRIOR TO INITIATING ANY CONSTRUCTION IN THE ROW.

14.0 CONTRACTOR SHALL MAINTAIN ALL SETBACK DISTANCES SHOWN IN THE PLANS.

15.0 WORK PERFORMED UNDER THIS PROJECT SHALL NOT BE CONSIDERED AS COMPLETE UNTIL FINAL ACCEPTANCE OF THE SYSTEM BY THE CITY, COUNTY, WATER MANAGEMENT DISTRICT, FDEP, AND OWNER AND UNTIL ALL OF THE FOLLOWING DOCUMENTS ARE RECEIVED BY THE OWNER:
A. THE CONTRACTOR'S WAIVERS AND RELEASES OF LIENS.
B. THE CONTRACTOR'S LETTER OF WARRANTY.
C. ONE SET OF PAPER AND ELECTRONIC (AUTOCAD) "AS–BUILT" DRAWINGS PREPARED BY AND CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR.

16.0 ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS AND SPECIFICATIONS OF THE CITY, COUNTY, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.

17.0 NOTIFY SUNSHINE, THE COUNTY PUBLIC UTILITIES AND ALL UTILITY COMPANIES AT LEAST FORTY–EIGHT HOURS PRIOR TO COMMENCING THE CONSTRUCTION .

18.0 ALL RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1:12 AND MAXIMUM CROSS SLOPE OF 1:50 AS PER FHAC CODE.

19.0 ALL MARKINGS TO COMPLY WITH THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, OF THE TOWN AND THE COUNTY.

20.0 MINIMUM COVER OVER ALL UTILITIES SHALL BE 36 INCHES UNLESS NOTED OTHERWISE. CONTRACTOR SHALL INSTALL DUCTILE IRON PIPE WHERE DEPTH OF COVER IS LESS THAN 30 INCHES.

21.0 MINIMUM COVER OVER ALL DRAINAGE PIPES SHALL BE 24 INCHES UNLESS NOTED OTHERWISE.

22.0 UTILITY SEPARATION REQUIREMENTS:
THE MINIMUM HORIZONTAL AND VERTICAL SEPARATIONS REQUIRED FOR POTABLE WATER SHALL COMPLY WITH RULES 62–555.314(1), (2), (3), AND (4) F.A.C.

HORIZONTAL SEPARATION REQUIREMENTS:
NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62–610, F.A.C. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM–TYPE SANITARY SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY– OR PRESSURE–TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62–610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY–TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON–SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E–6.002, F.A.C.

VERTICAL SEPARATION REQUIREMENTS:
NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY– OR VACUUM–TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE–TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM–TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62–610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY– OR PRESSURE–TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62–610, F.A.C.

NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

NO VARIANCES OR EXCEPTIONS TO THE ABOVE REQUIREMENTS WILL BE PERMITTED UNLESS APPROVAL FOR THE EXCEPTION OR VARIANCE IS OBTAINED FROM THE FDEP.

23.0 CONTRACTOR SHALL PROVIDE ALL FITTINGS, APPURTENANCES AND INCIDENTALS FOR A COMPLETE AND FUNCTIONAL SYSTEM IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND LOCAL, STATE AND FEDERAL AGENCIES.

24.0 CONFORM TO THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATION WHICH IS MADE PART OF THESE PLANS AND SPECIFICATIONS BY REFERENCE.

25.0 PRIOR TO CONSTRUCTION, CONTRACTOR SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE FDEP. CONTRACTOR, AT ALL TIMES, SHALL KEEP AT THE PROJECT SITE, A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPP). DURING CONSTRUCTION, THE CONTRACTOR SHALL BE IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE NPDES AS REQUIRED BY F.A.C. 62–620.305.

26.0 CONTRACTOR SHALL COORDINATE ELECTRICAL, TELEPHONE, CABLE, ETC. FOR PROVISION OF SERVICE REQUIRED FOR PROJECT.

ENGINEER'S NOTES

1.0 CLEARING AND GRUBBING
A. CLEAR AND GRUB SITE. REMOVE ALL EXISTING GRASS, TREES, STUMPS AND ORGANICS. SHRUB AND TREE STUMPS SHALL BE REMOVED TO A MINIMUM DEPTH OF 12 INCHES BELOW EXISTING GRADE. GRASS SHALL BE REMOVED TO A MINIMUM DEPTH OF 6 INCHES BELOW EXISTING GRADE.

2.0 SITE PREPARATION/EROSION CONTROL
A. ALL AREAS WHERE CONSTRUCTION IS TO OCCUR SHALL BE PROPERLY PROTECTED WITH EROSION CONTROL MEASURES TO PREVENT THE MIGRATION OF SOILS AND FINES OFF–SITE, OR INTO DRAINAGE DITCHES.
B. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH WATER MANAGEMENT DISTRICT REQUIREMENTS. AT A MINIMUM, PROVIDE SILT CURTAINS TO PRECLUDE THE MIGRATION OF SOILS AND FINES INTO THE RIGHT OF WAY OR SURFACE WATERS.
C. ALL AREAS UNDER STRUCTURES AND PAVEMENTS SHALL BE PROOF ROLLED. ALL ORGANIC MATERIALS SHALL BE REMOVED FROM SOFT SPOTS AND BACKFILLED WITH SUITABLE MATERIALS AND COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.

3.0 SITE GRADING
A. SITE SHALL BE GRADED TO THE SLOPES AND GRADES SHOWN IN THE PLANS.
B. FILLING OF THE SITE SHALL BE ACCOMPLISHED WITH CLEAN NATURAL SANDS WHICH SHALL BE COMPOSED OF HARD, DURABLE PARTICLES. THE SANDS SHALL NOT CONTAIN ANY ROOTS, CANS, DEBRIS, ETC., SHALL NOT CONTAIN MORE THAN 5% ORGANICS AND SHALL CONTAIN A MAXIMUM AMOUNT OF FINES PASSING THE 200 SIEVE OF 5 %. THE MATERIAL SHALL COMPLY WITH THE GRADATION REQUIREMENTS OF FDOT 902–6. FILLING OF THE SITE SHALL PROCEED AFTER CLEARING AND GRUBBING OPERATIONS ARE COMPLETE.
C. FILL MATERIAL SHALL BE COMPACTED TO 98% OF ITS MAXIMUM DENSITY UNDER PAVED AREAS AND TO 90% OF ITS MAXIMUM DENSITY UNDER LANDSCAPED AREAS (AASHTO T–180). FILL MATERIAL SHALL BE COMPACTED IN MAXIMUM LIFTS OF 12 INCHES.

4.0 WATER PIPES AND FITTINGS
LEFT BLANK INTENTIONALLY

5.0 GRAVITY SANITARY SEWER PIPE AND MANHOLES
LEFT BLANK INTENTIONALLY

6.0 SANITARY SEWER FORCEMAINS
LEFT BLANK INTENTIONALLY

7.0 RECLAIMED WATER PIPE AND FITTINGS
LEFT BLANK INTENTIONALLY

8.0 DRAINAGE PIPES, MANHOLES AND CATCH BASINS
A. DRAINAGE PIPE WITHIN THE PROJECT SITE SHALL MEET ALL REQUIREMENTS BY THE TOWN, COUNTY AND/OR STATE, UNLESS NOTED OTHERWISE.
B. MANHOLES AND CATCH BASINS SHALL MEET THE MINIMUM REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION. THE DRAINAGE STRUCTURES SHALL BE OF THE TYPES SPECIFIED IN THE PLANS.

9.0 PAVEMENT
A. ASPHALTIC CONCRETE SURFACE COURSE SHALL BE OF THE TYPES AND THICKNESSES SPECIFIED IN THE PLANS AND SHALL MEET THE REQUIREMENTS OF THE FDOT SPECIFICATIONS SECTION 331, LATEST EDITION. ASPHALTIC CONCRETE SHALL ATTAIN A MINIMUM DENSITY OF 98% OF ITS MAXIMUM DENSITY AS DETERMINED BY THE FDOT SPECIFICATIONS.
B. BASE COURSE SHALL BE LIMEROCK, OR SOIL CEMENT CONFORMING TO THE THICKNESSES SHOWN IN THE PLANS. LIMEROCK SHALL MEET THE REQUIREMENTS OF FDOT SPECIFICATIONS SECTION 200, LATEST EDITION. SOIL CEMENT SHALL MEET THE REQUIREMENTS OF FDOT SPECIFICATIONS SECTION 270, LATEST EDITION.
C. BASE COURSE SHALL BE COMPACTED TO 97% OF ITS MAXIMUM DENSITY (AASHTO T–180) AND IT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 300 PSI, (SOIL CEMENT).
D. SUB–BASE SHALL BE STABILIZED TO THE THICKNESSES SHOWN IN THE PLANS. SUB–BASE STABILIZATION SHALL BE ACCOMPLISHED IN CONFORMANCE WITH FDOT SPECIFICATIONS SECTIONS 160 AND 914, LATEST EDITIONS. THE STABILIZED SUB–BASE SHALL BE COMPACTED TO 98% OF ITS MAXIMUM DENSITY (AASHTO T–180) AND IT SHALL HAVE A MINIMUM FBV OF 75 PSI.

10.0 PAVEMENT STRIPING AND SIGNAGE
LEFT BLANK INTENTIONALLY

11.0 CONCRETE
A. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI WITH A MAXIMUM SLUMP OF 5 INCHES, UNLESS NOTED OTHERWISE. CONCRETE FOR WALLS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI WITH A MAXIMUM SLUMP OF 5 INCHES.
B. CONCRETE FOR DRAINAGE AND SANITARY SEWER STRUCTURES SHALL BE TYPE II CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

12.0 QUALITY CONTROL
A. PROVIDE ONE DENSITY AND ONE FBV TEST ON THE SUB–BASE AT 300' INTERVALS FOR ROADWAYS AND DRIVEWAYS AND AT EVERY 10,000 S.F. FOR PARKING LOTS.
B. PROVIDE ONE DENSITY TEST FOR FILL MATERIAL FOR EVERY 12" LIFT INTERVALS FOR ROADWAYS AND DRIVEWAYS AND AT EVERY 10,000 S.F. FOR PARKING LOTS.
C. PROVIDE ONE ASPHALT CORE TEST AT 10,000 S.F. ASPHALT CORES SHALL BE TESTED FOR DENSITY, THICKNESS, GRADATION, ASPHALT CONTENT AND MARSHALL STABILITY AND SHALL BE COMPARED TO THAT OF THE FDOT SPECIFICATIONS AND THESE PLANS AND SPECIFICATIONS AND SHALL MEET OR EXCEED THE MINIMUM REQUIRMENTS.
D. A MINIMUM OF TWO(2) TESTS ARE REQUIRED FOR ANY SECTION SMALLER THAN NOTED.
E. PRESSURE TEST FIRE MAINS, WATERMAINS & FORCEMAINS

E.1 PRESSURE TEST FIRE MAINS, WATER MAINS AND FORCEMAINS BY PUMPING TO 200 PSI FOR FIRE MAINS, 150 PSI FOR WATER MAINS AND RECLAIM WATER MAINS, AND 100 PSI FOR SS FORCEMAINS, AND MAINTAINING THE PRESSURE FOR A MINIMUM PERIOD OF 2 HOURS. PRIOR TO PRESSURE TESTING, FLUSH OUT PIPES TO REMOVE ALL DEBRIS AND AIR POCKETS. ENGINEER MUST BE PRESENT FOR ALL PRESSURE TESTS. CONTRACTOR TO PROVIDE ENGINEER WITH A MINIMUM 48 HOURS OF NOTICE PRIOR TO COMMENCEMENT OF ANY PRESSURE TEST.

E.2 THE MAXIMUM ALLOWABLE LEAKAGE FOR PIPES AND WATER MAINS OVER THE 2 HOUR PERIOD IS AS FOLLOWS:

1.) PVC: $L = \frac{N D \sqrt{P}}{7,400}$

2.) DIP: $L = \frac{S D \sqrt{P}}{133,200}$

L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
N = NUMBER OF JOINTS
S = LENGTH OF PIPE TESTED, IN FEET
D = NOMINAL DIAMETER OF PIPE
P = AVERAGE TEST PRESSURE MAINTAINED DURING THE TEST, IN POUNDS PER IN^2 GAUGE

F. SANITARY SEWER GRAVITY LINES WILL BE TESTED BY LAMPING AND LOW PRESSURE AIR TEST. WHEN THE LAMPING PROCEDURE IS PERFORMED, EACH TEST SECTION OF PIPE (BETWEEN MANHOLES) WITH A FULL CIRCLE SHOWING SHALL BE CONSIDERED TO BE ACCEPTABLE. SANITARY SEWER LINES WILL BE LOW PRESSURE AIR TESTED USING THE LATEST UNI–BELL STANDARD. ENGINEER MUST BE PRESENT FOR ALL LAMPING AND LOW PRESSURE AIR TESTS. CONTRACTOR TO PROVIDE ENGINEER WITH A MINIMUM 48 HOURS OF NOTICE PRIOR TO COMMENCEMENT OF ANY LAMPING OR LOW PRESSURE AIR TEST.

G. WATER, SEWER, RECLAIMED AND DRAINAGE COMPACTION TEST OF BACKFILL AND PIPE BEDDING MATERIAL SHALL BE OBTAINED AT 300 FOOT INTERVALS ALONG THE CENTERLINE OF THE PIPE STARTING AT THE BOTTOM OF THE PIPE AND PROCEEDING AT 1 FOOT INTERVALS TO FINISHED GRADE. A MINIMUM OF 2 TESTS PER EXCAVATION SHALL BE REQUIRED.

H. ALL STORMWATER LINES WILL BE LAMP TESTED. WHEN THE LAMPING PROCEDURE IS PERFORMED, EACH TEST SECTION OF PIPE (BETWEEN MANHOLES OR CATCH BASINS) WITH A FULL CIRCLE SHOWING SHALL BE CONSIDERED TO BE ACCEPTABLE. ENGINEER MUST BE PRESENT FOR ALL LAMPING TESTS. CONTRACTOR TO PROVIDE ENGINEER WITH A MINIMUM 48 HOURS OF NOTICE PRIOR TO COMMENCEMENT OF ANY LAMPING TEST.

13.0 RESTORATION
A. ALL DISTURBED AREAS SHALL BE RESTORED IN LIKE KIND WITH NEW MATERIALS, UNLESS NOTED OTHERWISE. AT A MINIMUM ALL DISTURBED AREAS SHALL BE STABILIZED IN AN APPROVED MANNER. ALL SIDEWALKS AND PAVEMENTS THAT NEED TO BE DISTURBED SHALL BE SAW CUT TO ITS FULL DEPTH PRIOR TO CONSTRUCTION. SUBSEQUENTLY, PAVEMENTS SHALL BE RESTORED IN ACCORDANCE WITH THE PAVEMENT RESTORATION DETAILS EXCEPT THAT CONCRETE DRIVEWAYS SHALL BE RESTORED WITH CONCRETE WITH A MINIMUM THICKNESS OF 6 INCHES. SIDEWALKS SHALL BE RESTORED IN ACCORDANCE WITH THE SIDEWALK DETAILS.
C. RESTORATION OF GRASSED AREAS WITHIN RIGHTS OF WAY SHALL BE ACCOMPLISHED BY SOLID SODDING WITH BAHIA SOD UNLESS NOTED OTHERWISE.
D. CONTRACTOR SHALL WATER ALL GRASSED AREAS AND APPLY FERTILIZERS, ETC. AS NECESSARY TO MAINTAIN THE VIABILITY OF THE GRASS UNTIL IT BECOMES ESTABLISHED.
E. THE PLANS SHOW EXISTING FEATURES TO THE GREATEST EXTENT POSSIBLE. ALL DISTURBED FEATURES ALONG THE RIGHTS OF WAY SHALL BE RESTORED WHETHER SPECIFICALLY CALLED OUT ON THE PLANS OR NOT. CONTRACTOR SHALL WALK THE SITE TO FIELD VERIFY ALL SURFACE FEATURES AND INCLUDE ALL THOSE THAT WILL BE DISTURBED BY THE CONSTRUCTION IN ITS BID.

14.0 UNDERGROUND UTILITIES
A. ALL UTILITIES ARE TO BE INSTALLED UNDERGROUND INCLUDING ELECTRIC, PHONE, CABLE, NATURAL GAS, SANITARY SEWER, STORMWATER AND POTABLE WATER.

Excel Engineering
CONSULTANTS, LLC.
ENVIRONMENTAL & CIVIL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. 27541
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL: (407) 260–2292
FAX: (407) 260–1193
WWW.EXCELENGINEERS.COM

General Notes & Engineering Notes

Semoran Crossroads Stormwater Pond

REVISIONS:

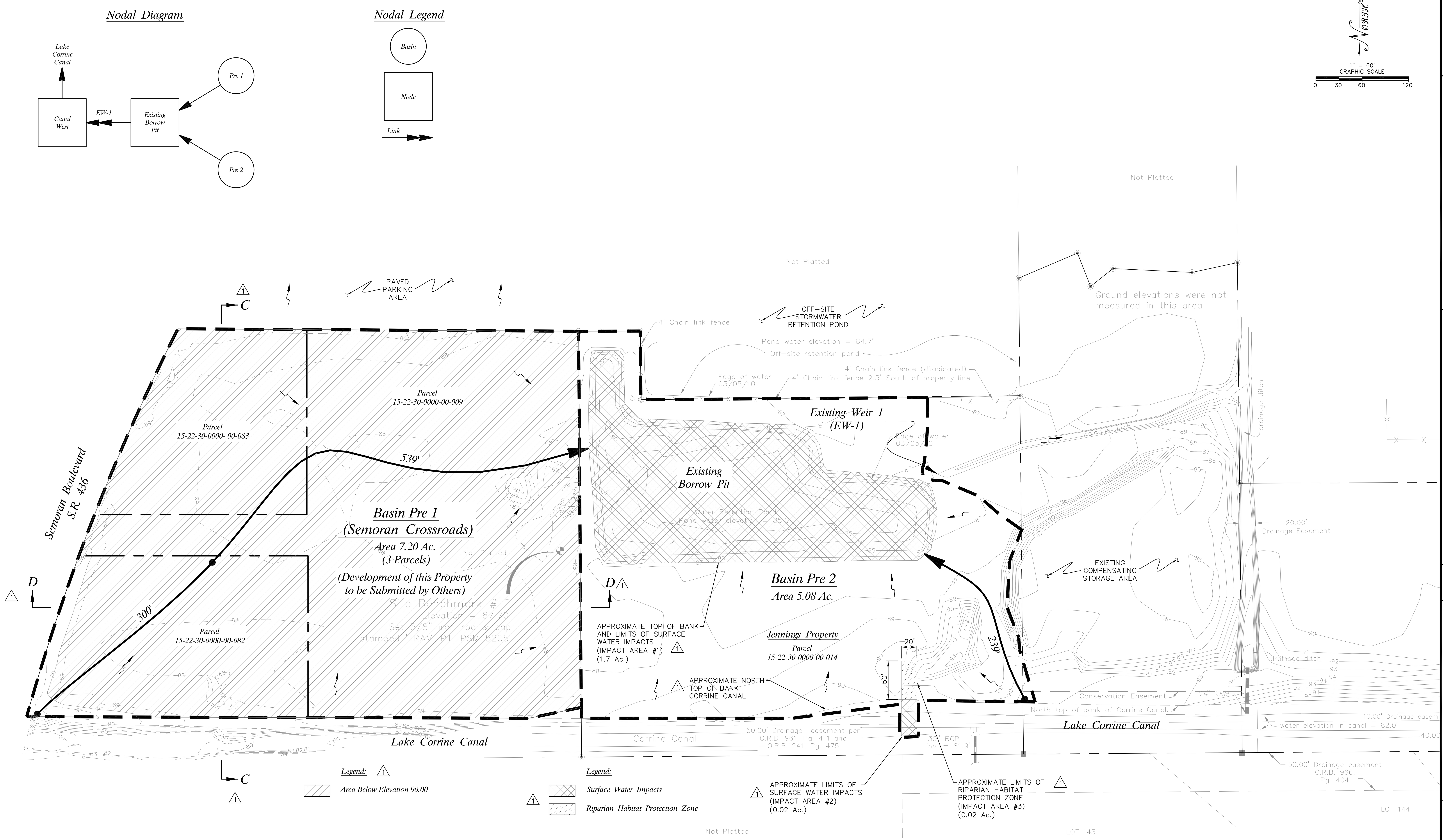
NUMBER	DESCRIPTION	DATE

JULIAN R. COTO DATE
P.E. LICENSE #0033635

PROJECT NUMBER
JEN01-0109

SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 8/1/13

Pre-Development



ENVIRONMENTAL IMPACT AREAS		
IMPACT AREA #1	SURFACE WATER IMPACT	1.70 Ac.
IMPACT AREA #2	SURFACE WATER IMPACT	0.02 Ac.
IMPACT AREA #3	RIPARIAN HABITAT PROTECTION ZONE	0.02 Ac.
TOTAL IMPACT		1.74 Ac.

Legend

Direction Of Flow Pre-Basin

300' Sheet Flow — 300' Shallow Concentrated Flow

(For Calculation of Tc)

Excel Engineering
ENVIRONMENTAL & CIVIL ENGINEERS
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL: (407) 260-2292
FAX: (407) 260-1193
WWW.EXCELENGINEERS.COM

Pre-Development Drainage Basins

Semoran Crossroads Stormwater Pond

ENGINEER HEREBY EXPRESSLY RESERVES HIS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE DRAWINGS. THESE DRAWINGS SHALL NOT BE REPRODUCED OR ASSIGNED TO ANOTHER PARTY WITHOUT THE WRITTEN PERMISSION AND CONSENT OF THE ENGINEER.

REVISIONS:

NUMBER	DESCRIPTION	DATE
1	Added Area Under El. 90, Surface Water Impacts and RPZ. Added Sections.	12/13/11

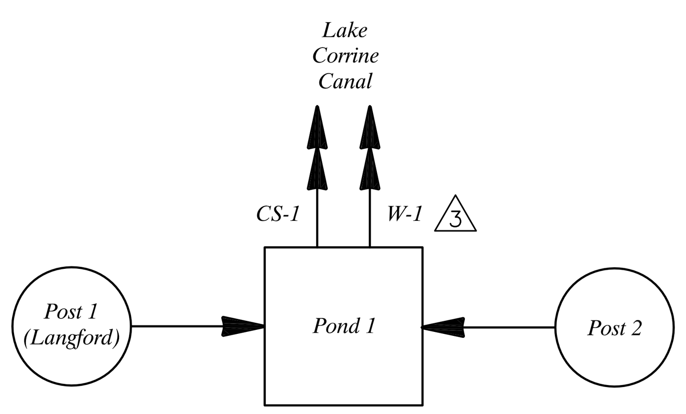
JULIAN R. COTO
P.E. LICENSE #0033635
DATE

PROJECT NUMBER JEN01-0109

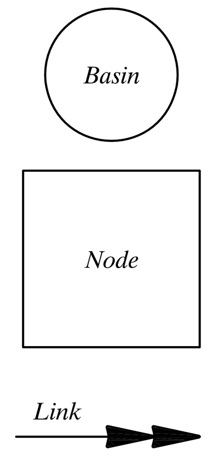
SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 8/1/13

SHEET NO. 3 OF 9

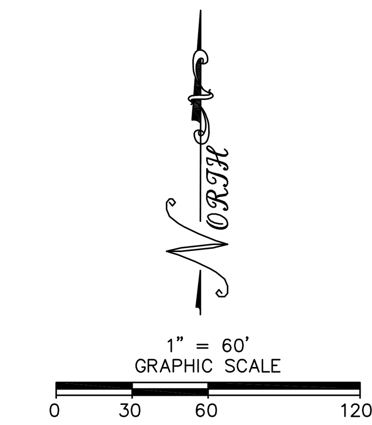
Nodal Diagram

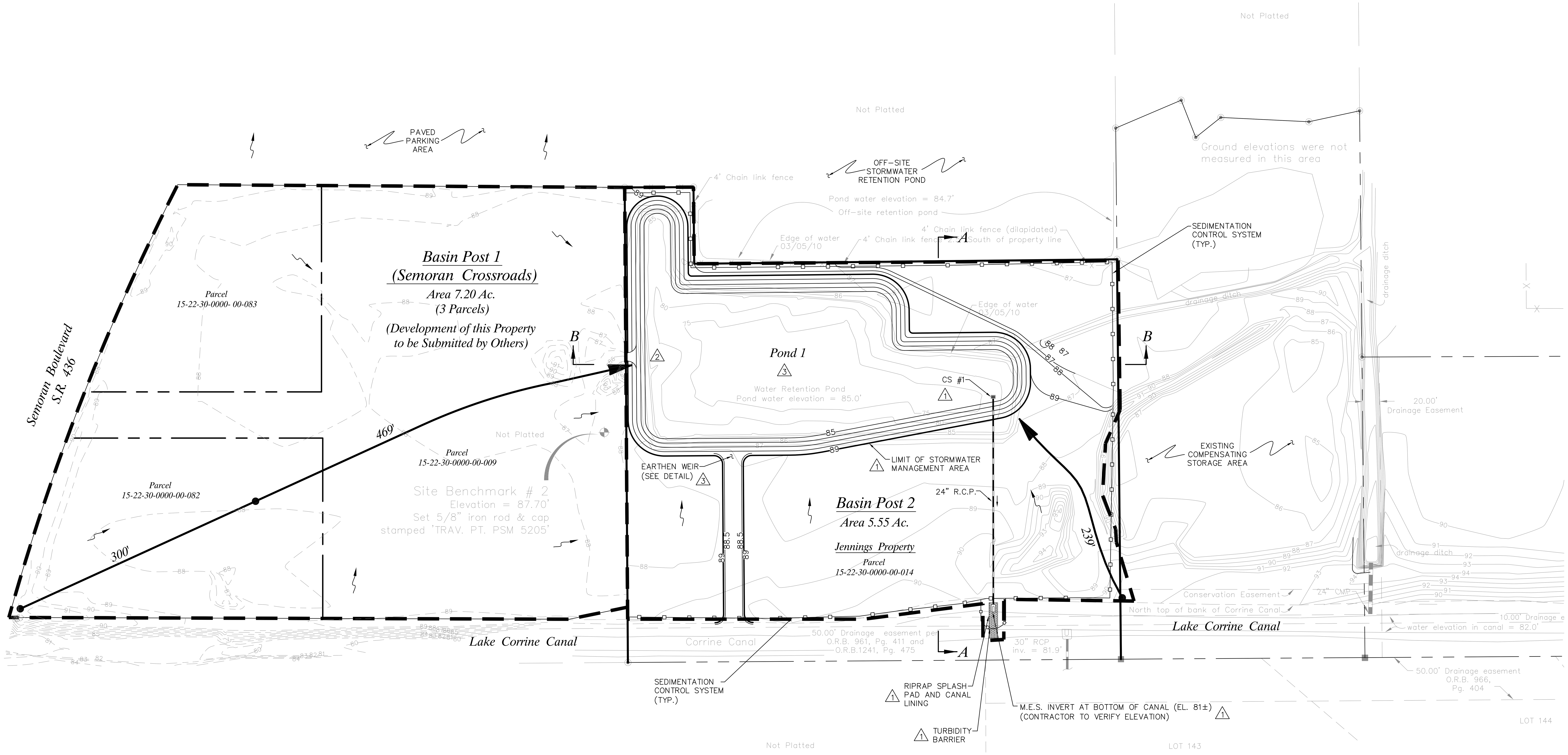


Nodal Legend:



Post Development

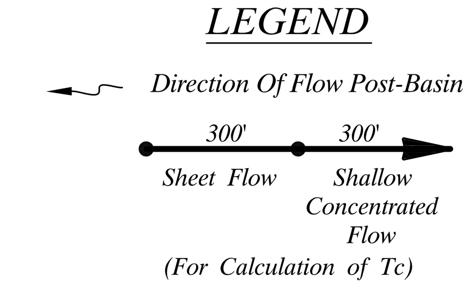




NOTES:

1. LOCATION OF UNDERGROUND PIPING AND OTHER UTILITIES ASSUMED.
2. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINING CONSTRUCTION

LEGEND



Excel Engineering
ENVIRONMENTAL & CIVIL ENGINEERS
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL (407) 260-2292
FAX (407) 260-1193
WWW.EXCELENGINEERS.COM

Post-Development Drainage Basins and Grading Plan

Semoran Crossroads Stormwater Pond

REVISIONS:

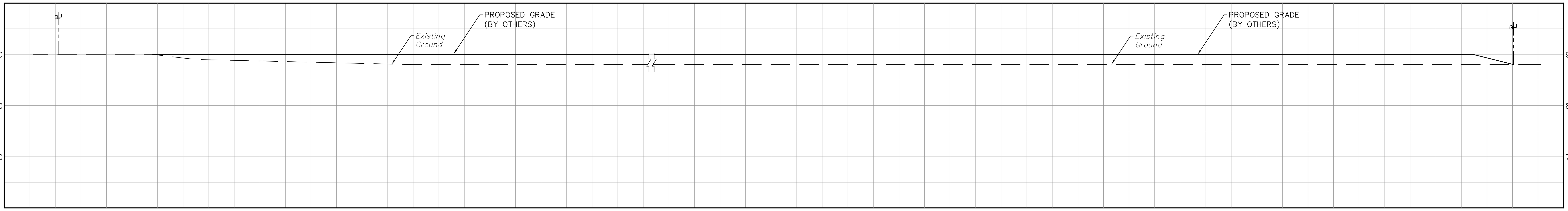
NUMBER	DESCRIPTION	DATE
1	Reshape Pond and Move Control Structure	12/13/11
2	Revised Pond Berm	3/29/12
3	Revised Pond and Added Earthen Weir	8/1/13

JULIAN R. COTO DATE
P.E. LICENSE #0033635

PROJECT NUMBER
JEN01-0109

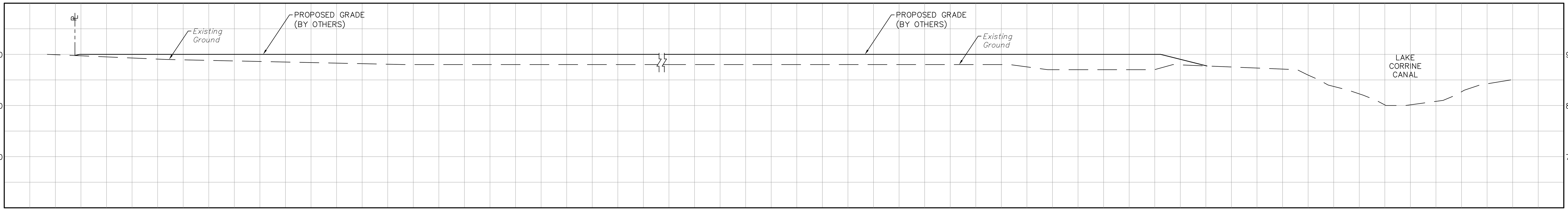
SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 8/1/13

SHEET NO. 4
OF 9



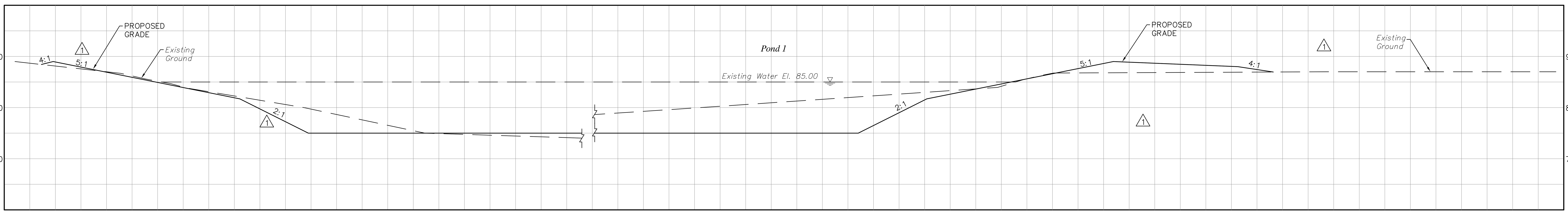
SECTION D-D

SCALE: 1"=10' 1



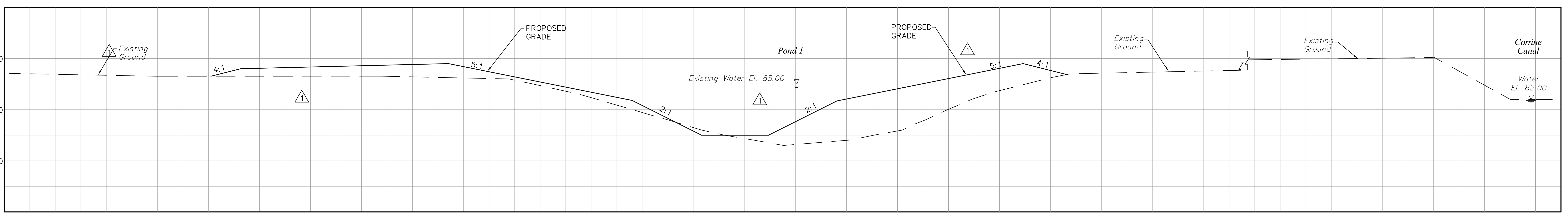
SECTION C-C

SCALE: 1"=10' 1



SECTION B-B

SCALE: 1"=10' 3



SECTION A-A

SCALE: 1"=10' 3

1 *Note:*
For Typical Pond Cross Section With Storm Stages and Construction Specifications, See Sheet 8 of 8.

Excel Engineering
ENVIRONMENTAL & CIVIL ENGINEERS
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL (407) 260-2292
FAX (407) 260-1193
WWW.EXCELENGINEERS.COM

Critical Cross Sections

Semoran Crossroads Stormwater Pond

REVISIONS:

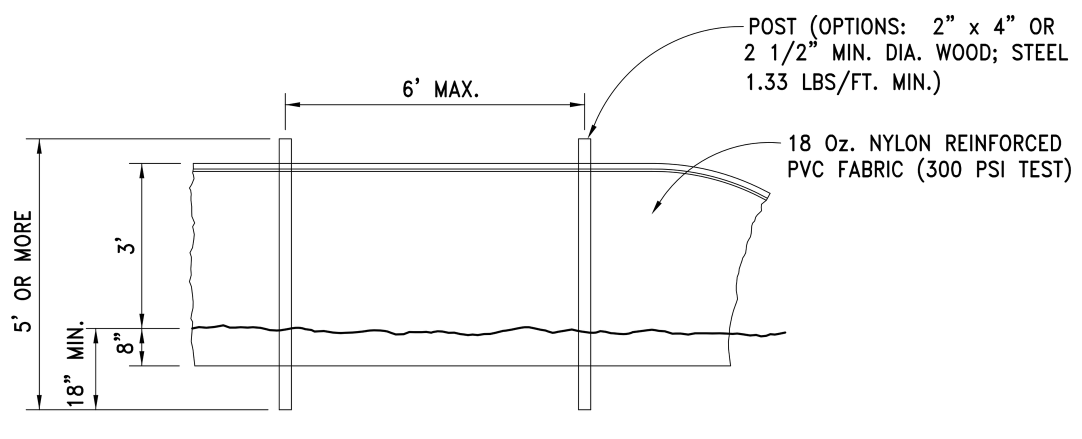
NUMBER	DESCRIPTION	DATE
1	Reshape Pond. Add Sections C-C & D-D	12/13/11
3	Reshape Pond. Revise Sections A-A & B-B	8/1/13

JULIAN R. COTO DATE
P.E. LICENSE #0033635

PROJECT NUMBER
JEN01-0109

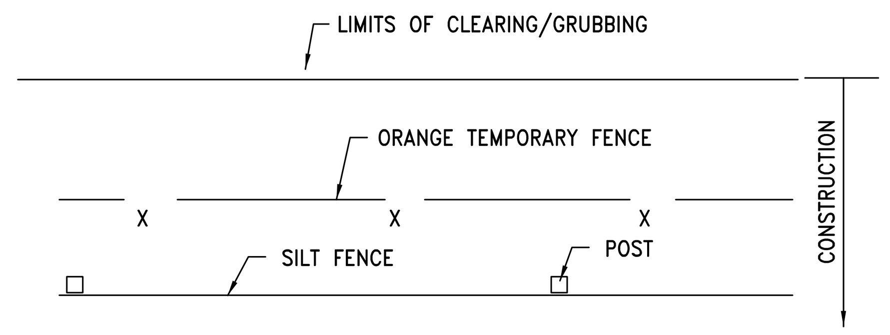
SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 8/1/13

SHEET NO. 5
OF 9



STAKED TURBIDITY BARRIER

N.T.S.



NOTES:

1. WHERE INDICATED ON THE PLANS, CONSTRUCT A 4FT HIGH ORANGE TEMPORARY FENCE ALONG THE LIMITS OF CLEARING/GRUBBING.
2. CONSTRUCT A STAKED SILT FENCE 1FT OFF THE ORANGE TEMPORARY FENCE, OR ALONG THE LIMITS OF CLEARING/GRUBBING WHERE APPLICABLE.

ORANGE TEMPORARY FENCE AND SILT FENCE LOCATION DETAIL

N.T.S.

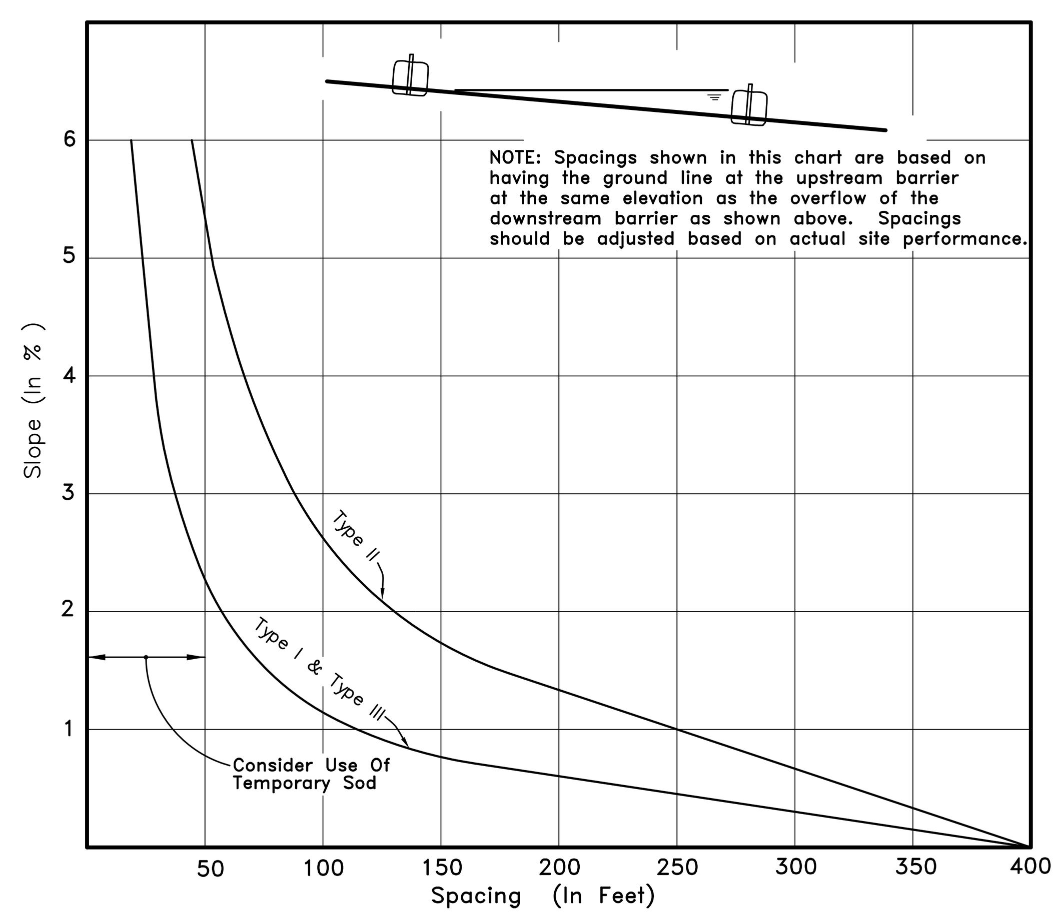
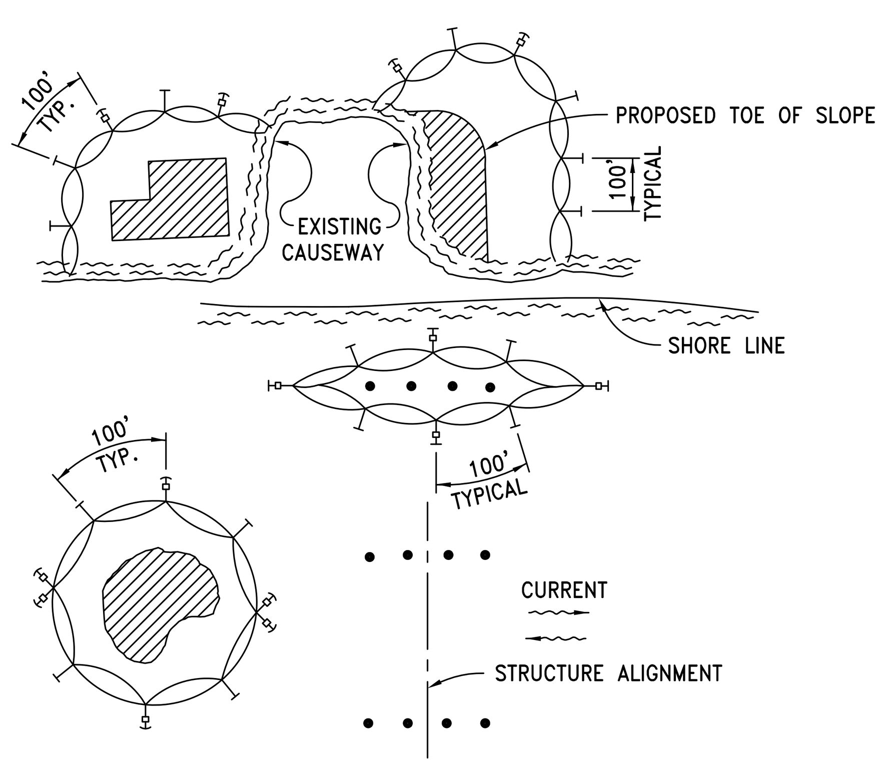
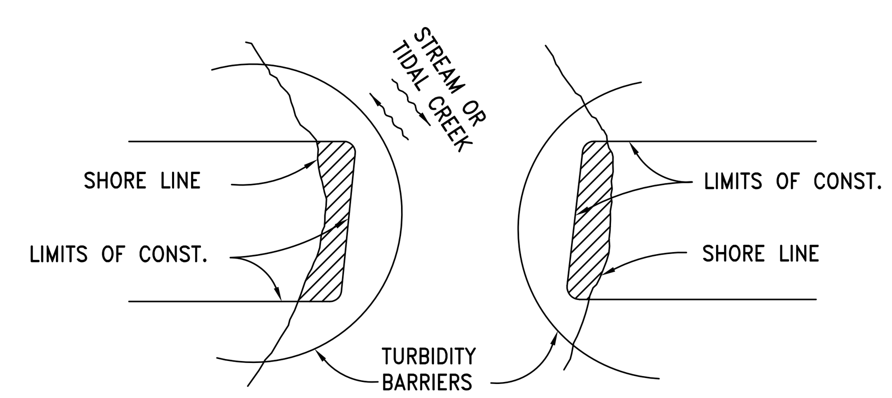


CHART 1

RECOMMENDED SPACING FOR TYPE III SILT FENCE





NOTE: TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS, HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

LEGEND

- PILE LOCATIONS
- DREDGE OR FILL AREA
- MOORING BUOY W/ANCHOR
- ANCHOR
- BARRIER MOVEMENT DUE TO CURRENT ACTION

NOTES:

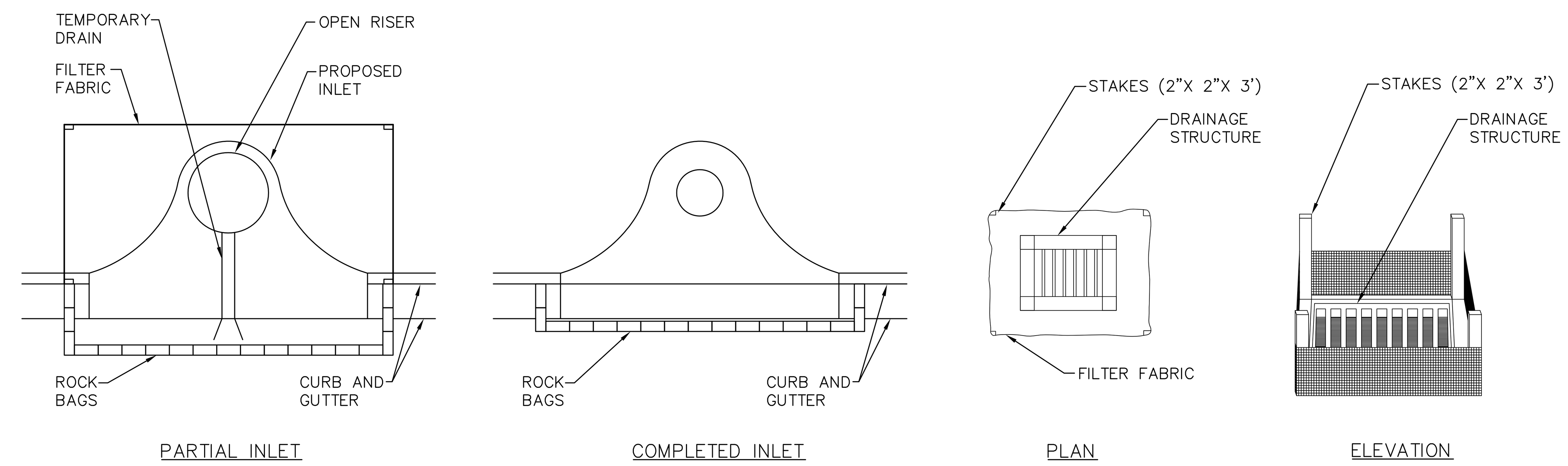
1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
3. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
4. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
5. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

GENERAL NOTES

1. FLOATING TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR FLOATING TURBIDITY BARRIERS, LF.
2. STAKED TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED TURBIDITY BARRIER, LF.

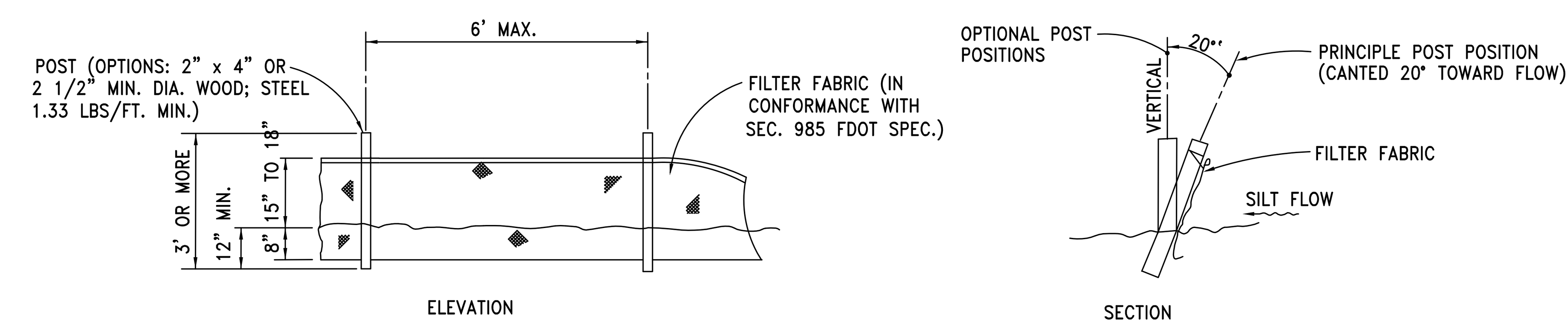
TURBIDITY BARRIER APPLICATIONS

N.T.S.



PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

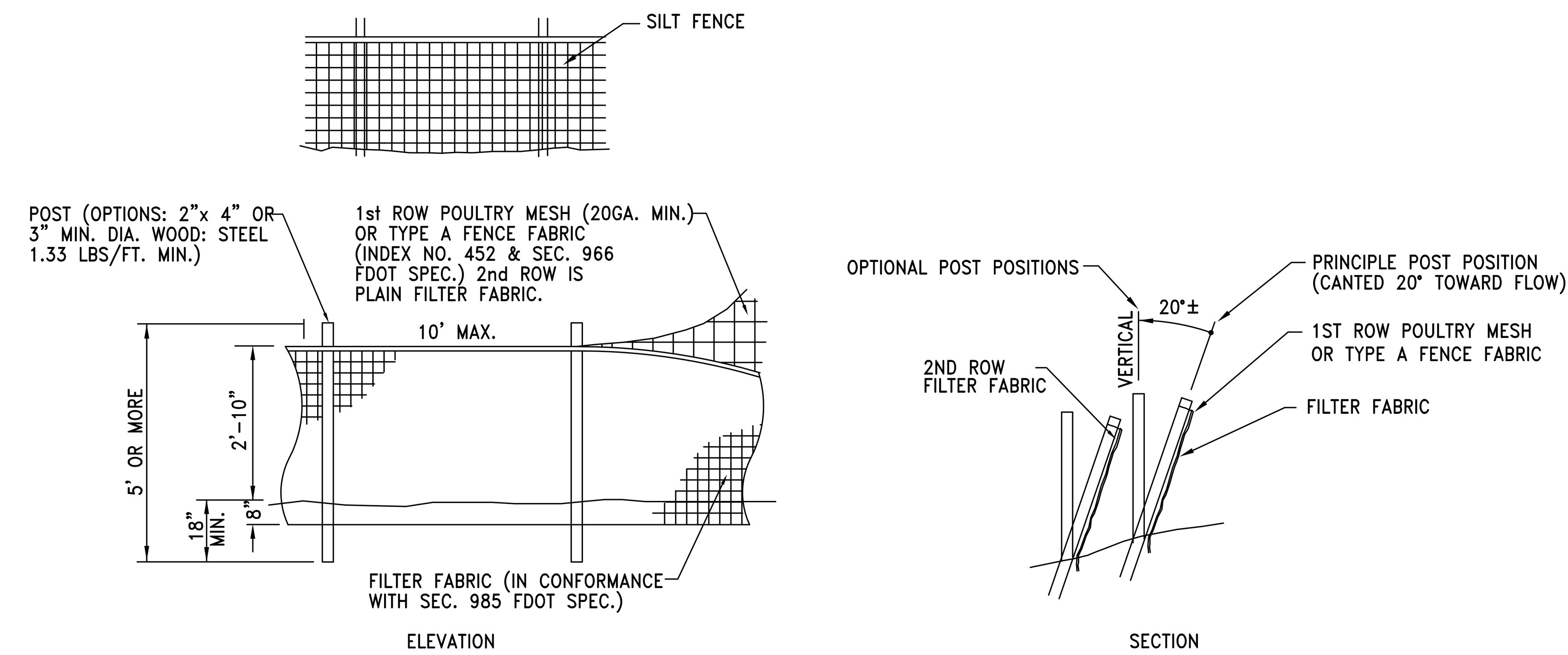
N.T.S.



NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (LF).

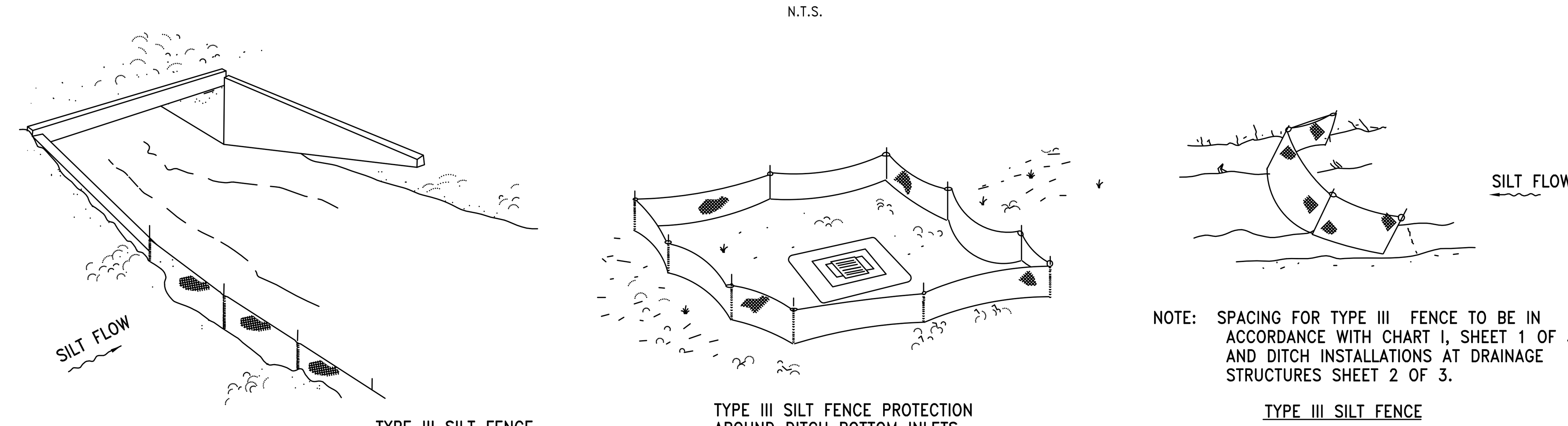
TYPE III SILT FENCE

N.T.S.



TYPE IV SILT FENCE

N.T.S.



NOTE: SPACING FOR TYPE III FENCE TO BE IN ACCORDANCE WITH CHART I, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3.

DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATION AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS

N.T.S.

Excel Engineering
ENVIRONMENTAL & CIVIL ENGINEERS
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL (407) 260-2292
FAX (407) 260-1193
WWW.EXCELENGINEERS.COM

Miscellaneous Details

Semoran Crossroads Stormwater Pond

REVISIONS:

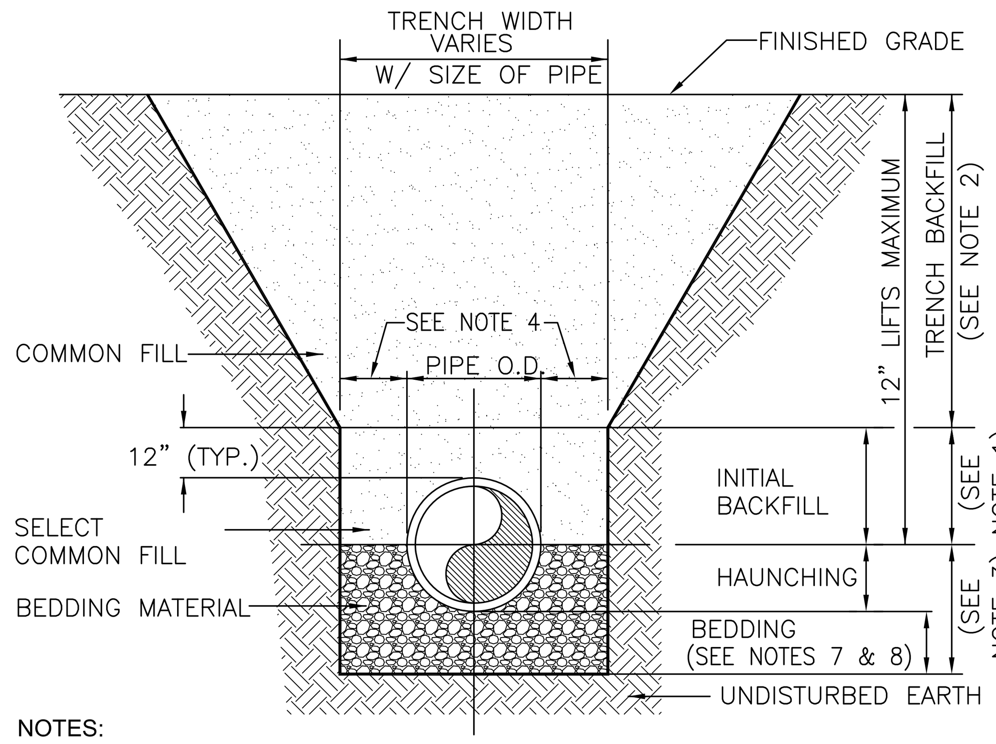
NUMBER	DESCRIPTION	DATE

JULIAN R. COTO — DATE
P.E. LICENSE #0033635

PROJECT NUMBER JEN01-0109

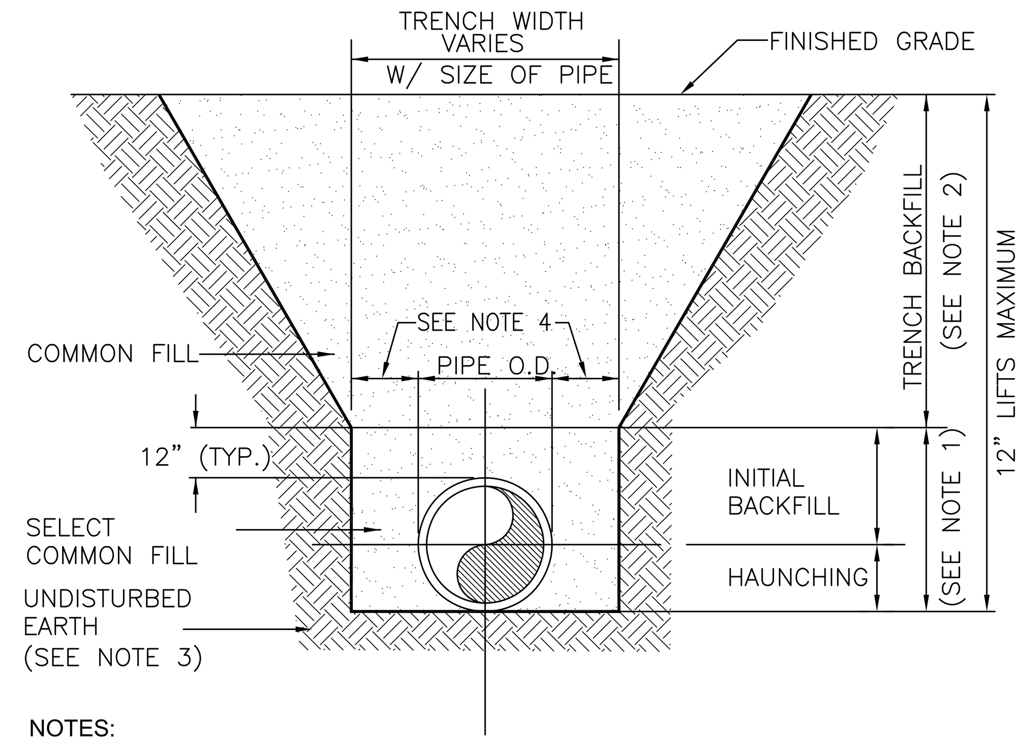
SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 8/1/13

SHEET NO. 6 OF 9



NOTES:
1. INITIAL BACKFILL: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. TYPE A BEDDING MATERIAL SHALL CONFORM TO FDOT NO. 57 AGGREGATE.
4. 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX (12" MIN.) FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER UP TO 12", AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
8. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. TOWN SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.
9. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

TYPE "A" BEDDING AND TRENCHING

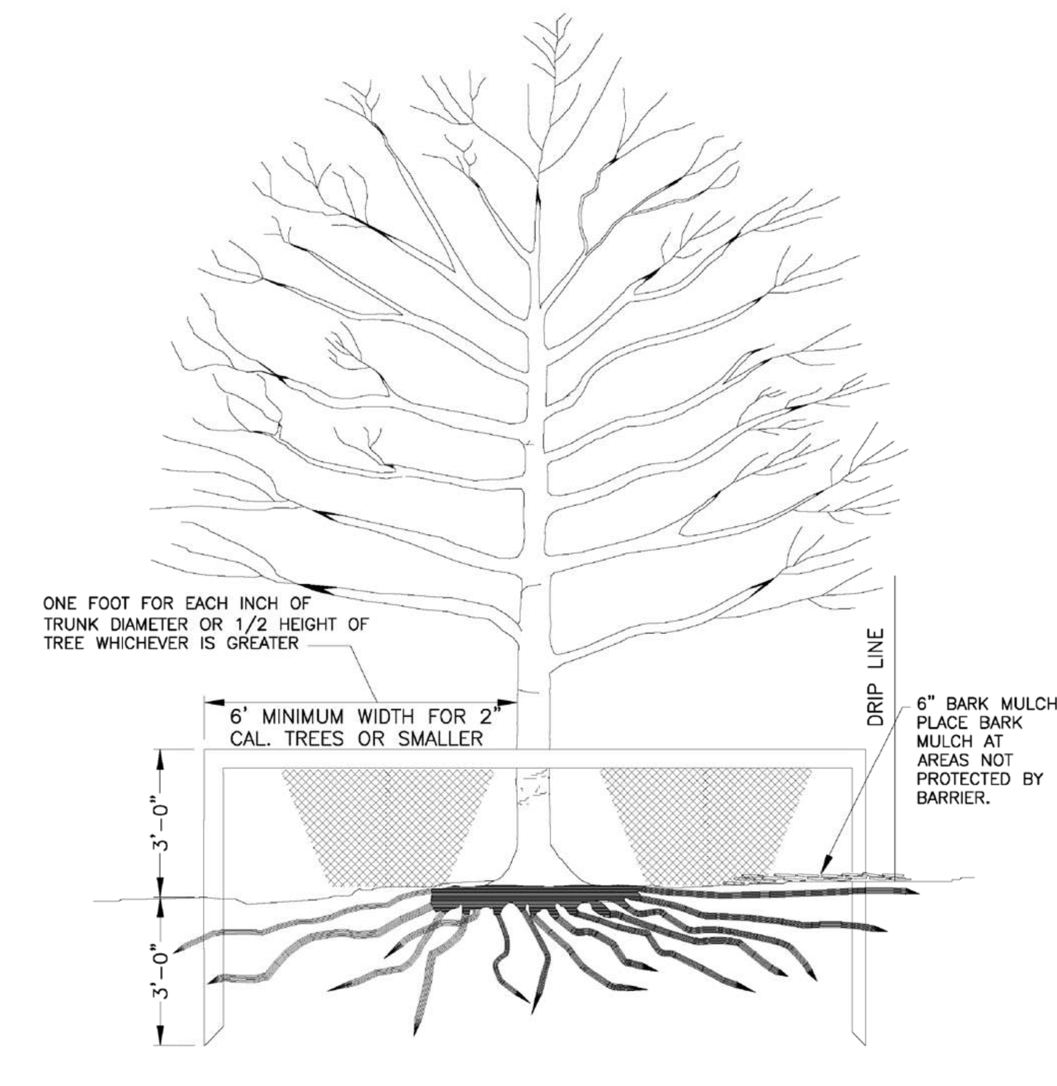


NOTES:
1. INITIAL BACKFILL AND HAUNCHING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE TOWN.
4. 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX (12" MIN.) FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

TYPE "B" BEDDING AND TRENCHING

PIPE BEDDING & TRENCHING DETAILS

N.T.S.



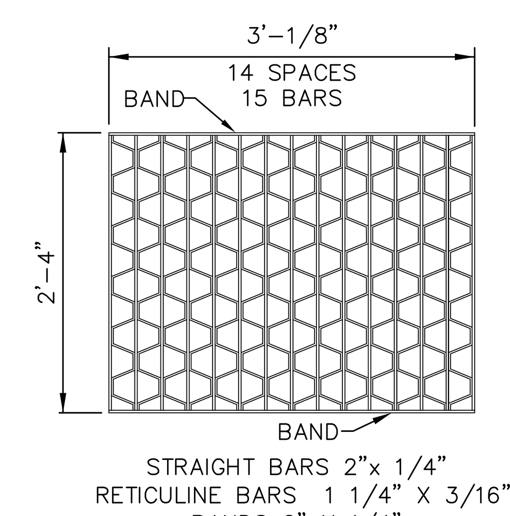
NOTE:
2"x4" STANDARDS + 1"x4" RAILS OR ORANGE SAFETY FENCING MAY BE USED.

TREE PROTECTION BARRIER DETAIL

N.T.S.

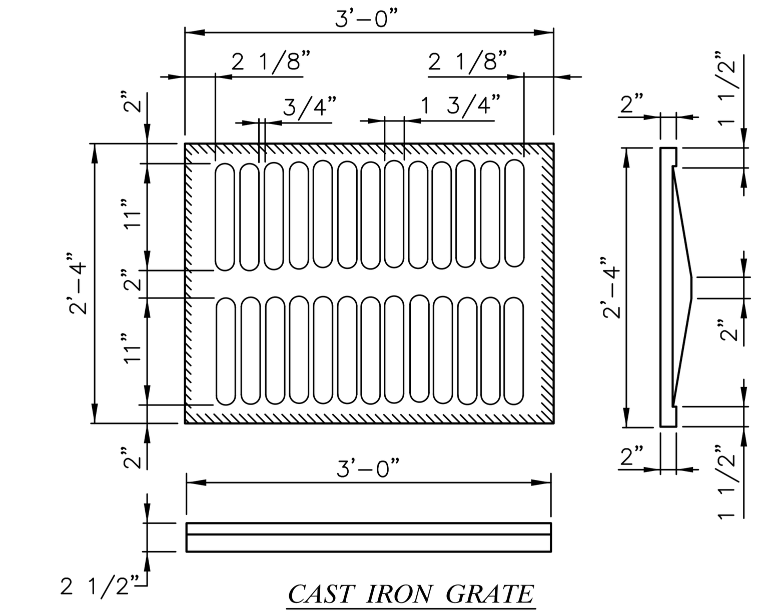
DIMENSIONS & QUANTITIES																						
D	X	A	B	C	E	F	G	M				N	GRATE SIZES		CONCRETE (Cu. Yds.)				SODDING (Sq. Yds.)			
								Single Pipe	Double Pipe	Triple Pipe	Quad Pipe		Standard WeightPipe	Extra Strong Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad Pipe
15"	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.63'	7.21'	9.79'	12.37'	1.19'			0.76	1.16	1.54	1.94	8	10	11	12
18"	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.92'	7.75'	10.58'	13.42'	1.21'			0.85	1.28	1.71	2.17	9	10	12	13
24"	3'-5"	2.53'	7.18'△	9.71'	7.03'△	11'	1.73'	5.50'	8.92'	12.33'	15.75'	1.25'			1.02	1.58	2.15	2.75	10	12	13	15
30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	6.08'	10.33'	14.58'	18.83'	1.29'	$2\frac{1}{2}$"	3"	1.23	1.98	2.74	3.50	12	14	15	17
36"	5'-1"	2.87'	11.31◇	14.18'	11.03◇	15'	2.24'	6.67'	11.75'	16.83'	21.92'	1.33'	$2\frac{1}{2}$"	3"	1.40	2.38	3.33	4.24	13	15	17	20
42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	7.25'	13.25'	19.25'	25.25'	1.38'	$2\frac{1}{2}$"	$3\frac{1}{2}$"	1.60	2.83	4.04	5.26	14	17	19	22
48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	7.83'	14.58'	21.33'	28.08'	1.42'	$2\frac{1}{2}$"	$3\frac{1}{2}$"	1.81	3.26	4.70	6.14	15	18	21	24
54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	8.42'	16.08'	23.75'	31.42'	1.46'	3"	4"	2.03	3.78	5.54	7.28	17	20	23	27
60"	8'-6"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	9.00'	17.50'	26.00'	34.50'	1.50'	3"	4"	2.28	4.36	6.43	8.50	18	22	25	29

△ 6.42' △ 6.25' Dimensions permitted to allow use of 8' standard pipe lengths.
◇ 10.40' ◇ 10.10' Dimensions permitted to allow use of 12' standard pipe lengths.
△ ◇ Concrete slab shall be deepened to form bridge across crown of pipe. See section below.



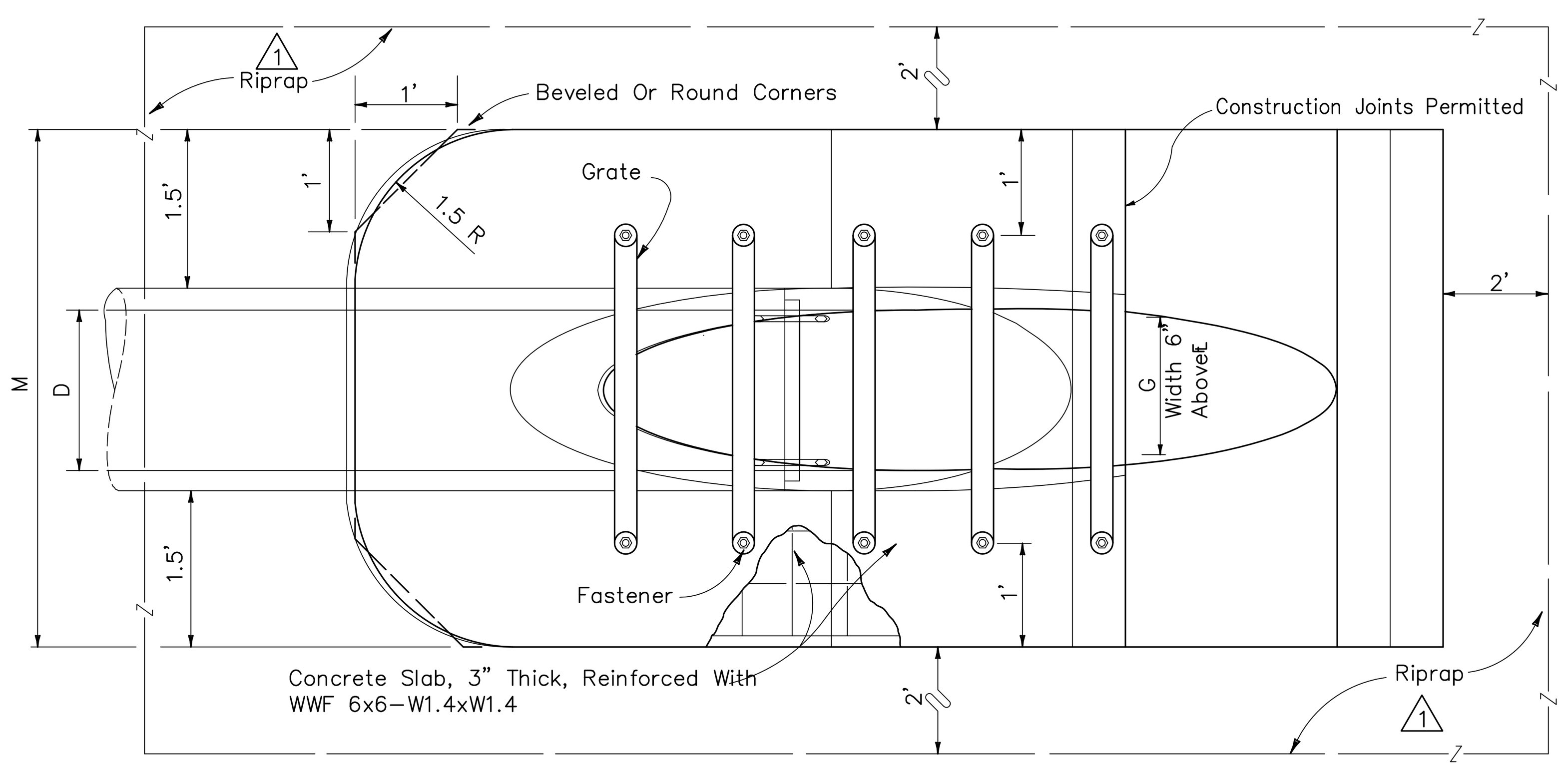
STRAIGHT BARS 2"x 1/4"
RETICULINE BARS 1 1/4" X 3/16"
BANDS 2" X 1/4"
WEIGHT 104 LBS.

STEEL GRATE

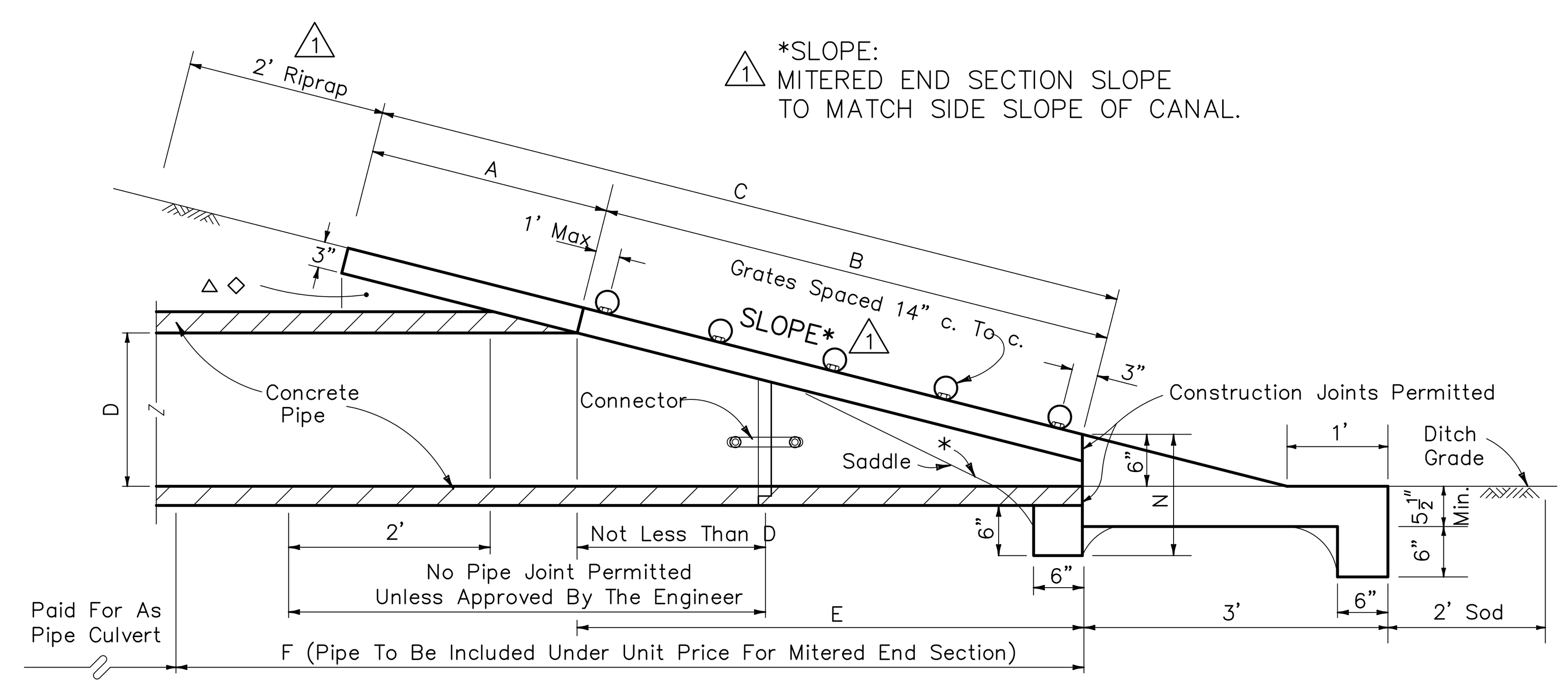


CAST IRON GRATE

Approx. Weight 235 Lbs.



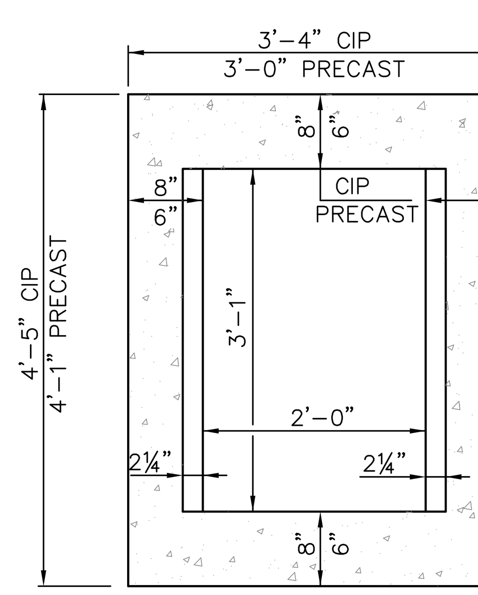
TOP VIEW-SINGLE PIPE



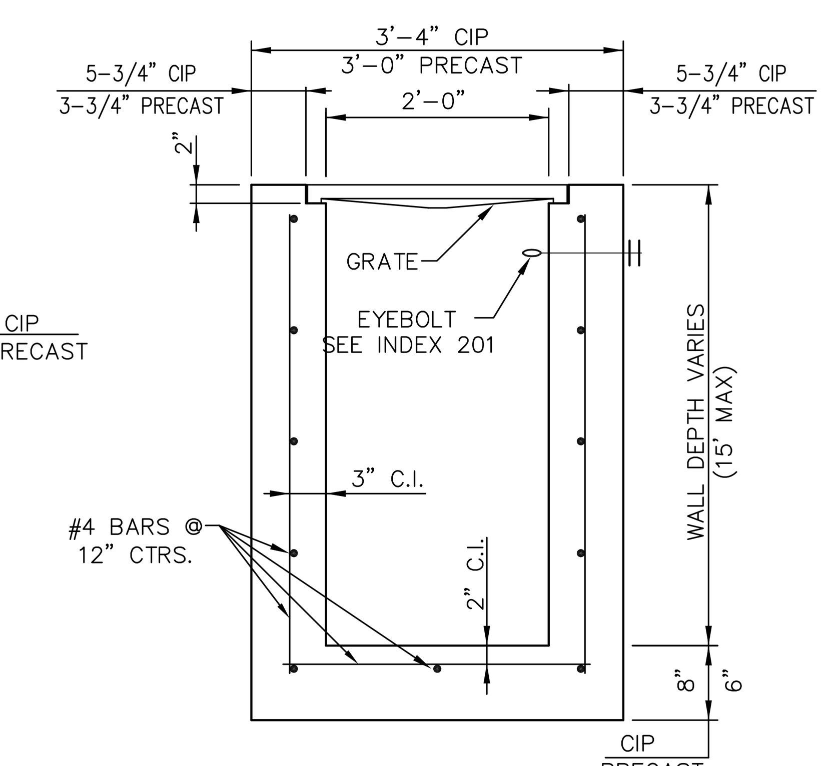
SECTION

MITERED END SECTION
FDOT INDEX NO. 273

N.T.S.



PLAN



SECTION

RECOMMENDED MAXIMUM PIPE SIZE:
2'-0" WALL – 18" PIPE
3'-1" WALL – 24" PIPE

TYPE "C" INLET
FDOT INDEX NO. 232

N.T.S.

Excel Engineering
ENVIRONMENTAL & CIVIL ENGINEERS
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL (407) 260-2292
FAX (407) 260-1193
WWW.EXCELENGINEERS.COM

Miscellaneous Details

Semoran Crossroads Stormwater Pond

REVISIONS:

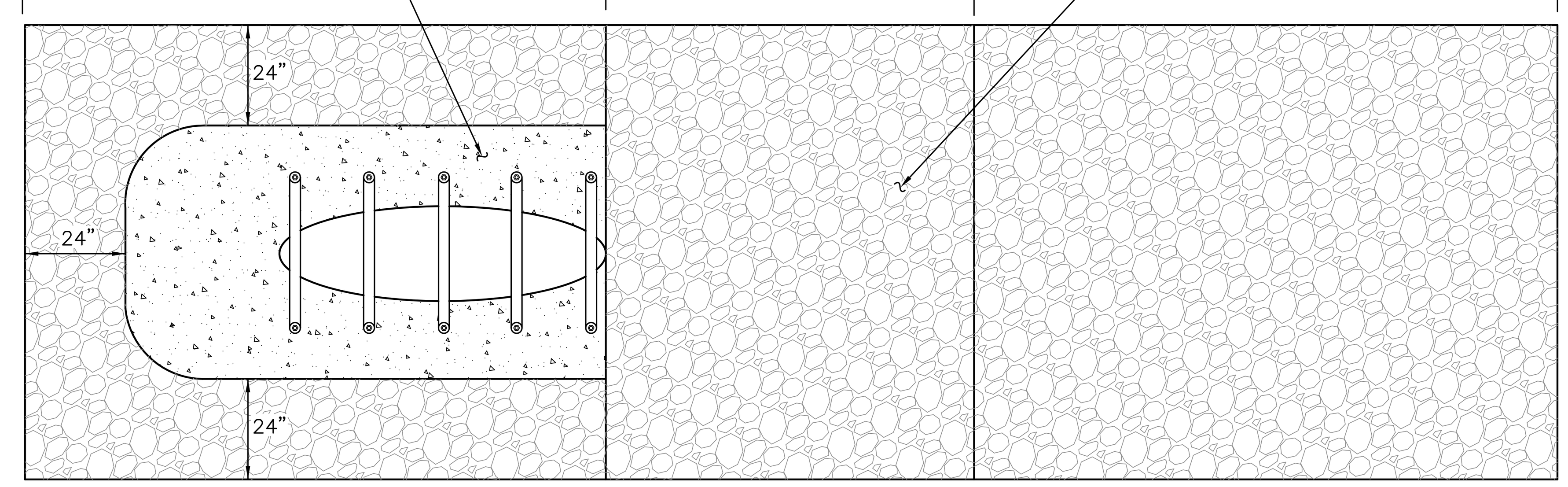
NUMBER	DESCRIPTION	DATE
1	Revised M.E.S. Detail	12/13/11

JULIAN R. COTO DATE
P.E. LICENSE #0033635

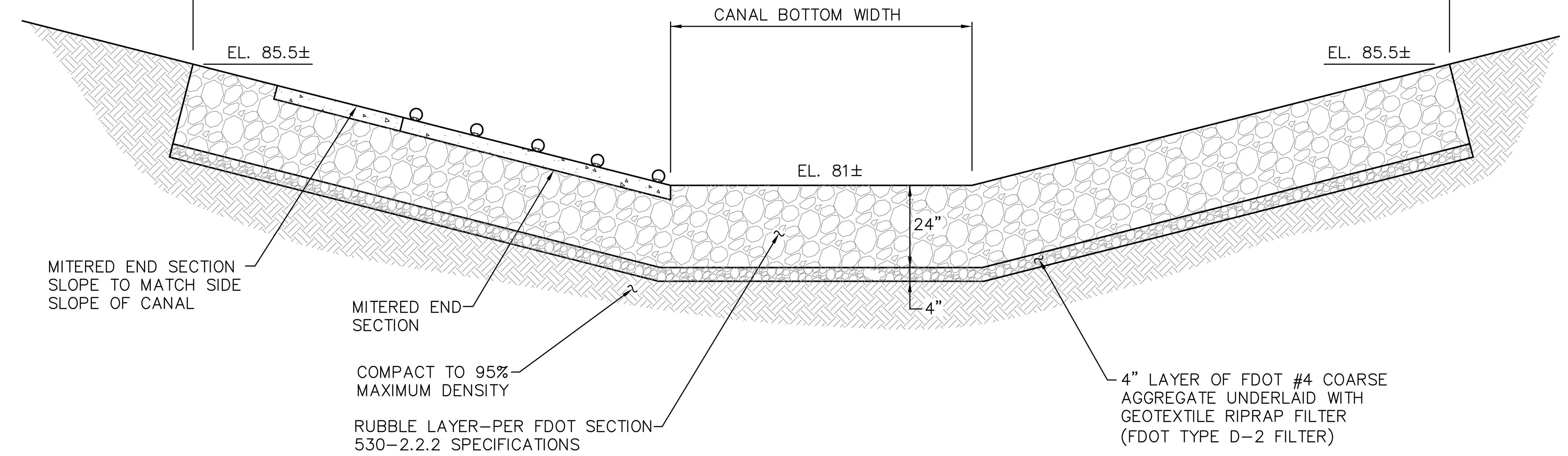
PROJECT NUMBER
JEN01-0109

SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 8/1/13

SHEET NO. 7
OF 9

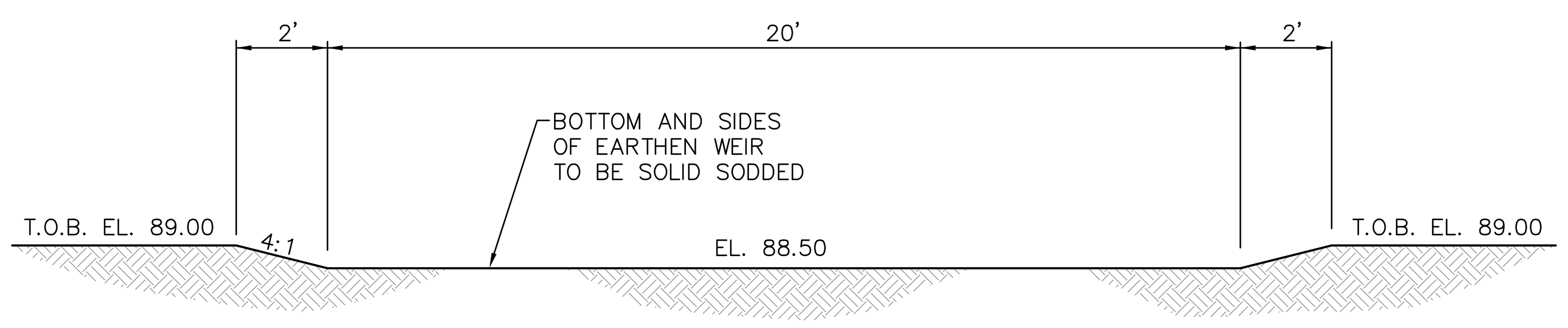


PLAN VIEW

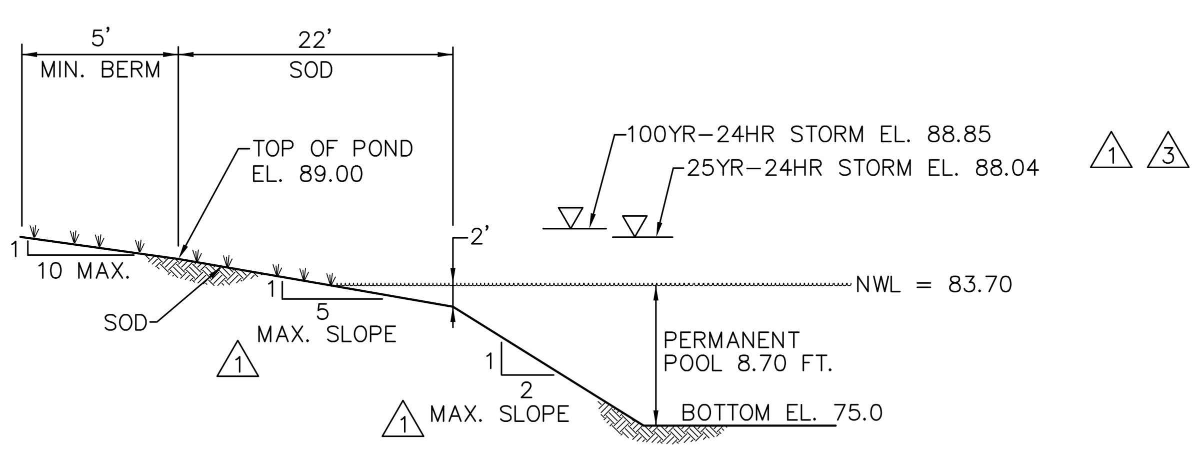


SECTION VIEW

RIPRAP SPLASH PAD AND CANAL LINING 1
N.T.S.

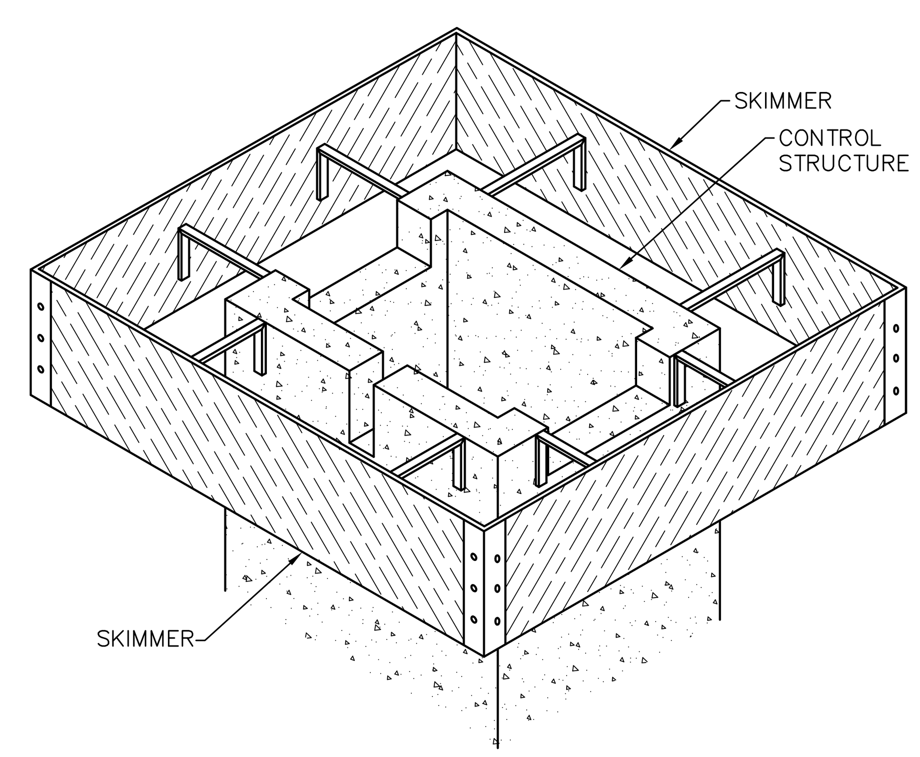


EARTHEN WEIR DETAIL
N.T.S.
3

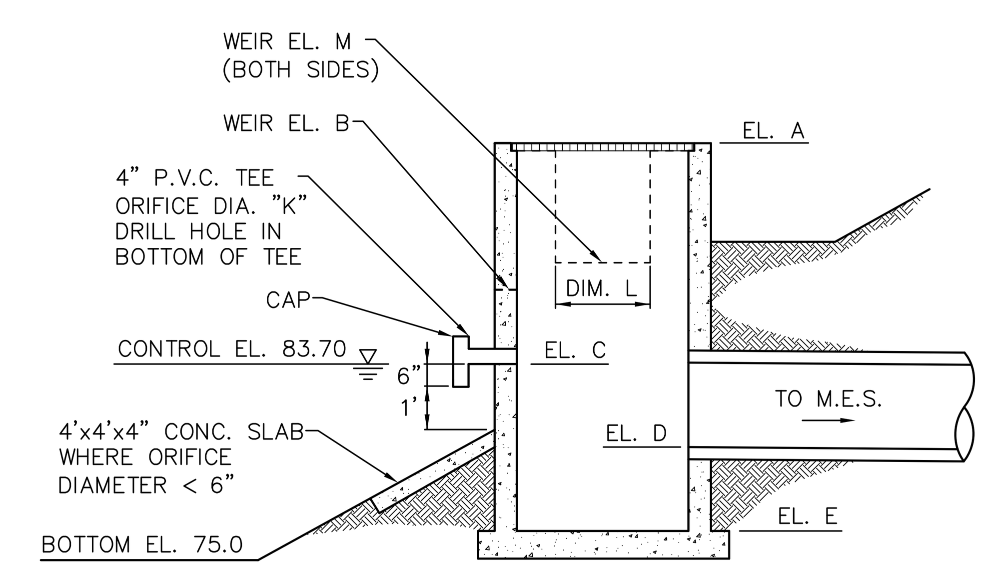


NOTES:
1. SOD IS TO BE PLACED TO EDGE OF WATER.
2. EXTEND LIMITS OF SODDING TO A MINIMUM OF TWO (2') BEYOND TOP OF BANK.
3. PERMANENT POOL VOLUME SHALL MEET THE REQUIREMENTS OF THE SJRWMD.

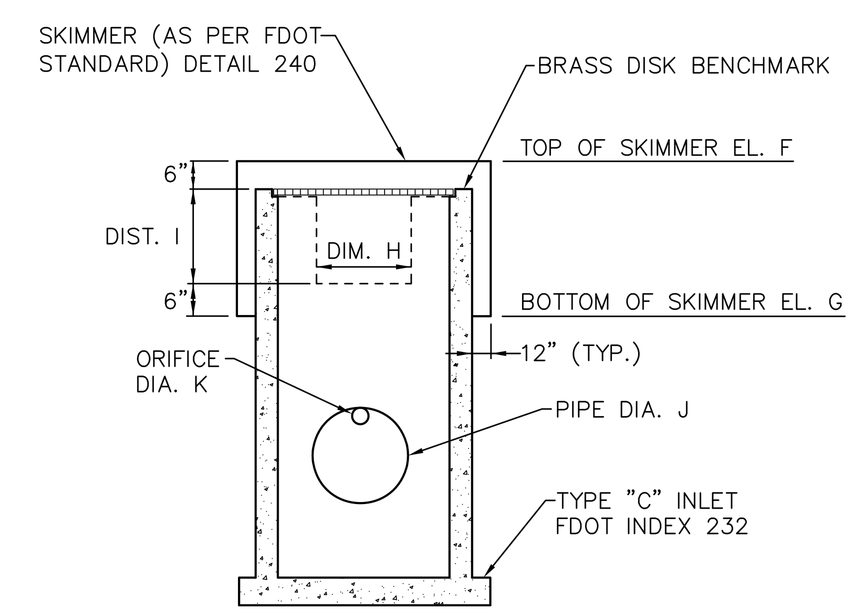
TYPICAL WET POND 1 SECTION 1 3
N.T.S.



SKIMMER ISOMETRIC VIEW
N.T.S.
3



SECTION VIEW
3



FRONT VIEW
3

CONTROL STRUCTURE DIMENSIONS AND ELEVATIONS 1 3

POND	STRUCTURE	EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G	DIM. H	DIST. I	DIA. J	DIA. K	DIM. L	EL. M
POND 1	CS-1	88.43	84.65	83.70	83.50	80.50	88.93	84.15	7.00"	3.78'	24"	3.5"	36" (2 EACH)	86.03

CONTROL STRUCTURE (CS-1) 1
N.T.S.

Excel Engineering Consultants, LLC
ENVIRONMENTAL & CIVIL ENGINEERS
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL: (407) 260-2292
FAX: (407) 260-1193
WWW.EXCELENGINEERS.COM

Miscellaneous Details

Semoran Crossroads Stormwater Pond

REVISIONS:

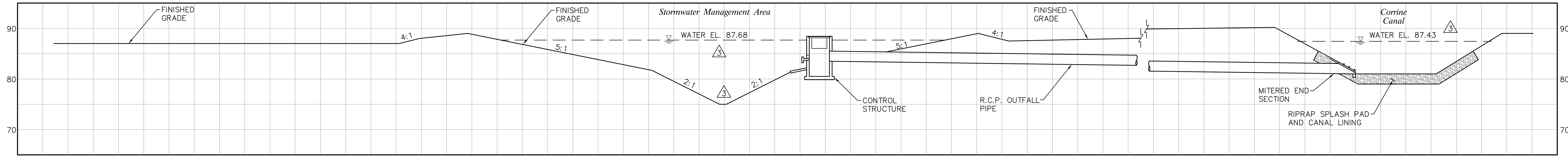
NUMBER	DESCRIPTION	DATE
1	Revised Control Structure Detail, Typical Wet Pond Section and Riprap Splash Pad and Channel Lining Detail	12/13/11
3	Revised Control Structure Detail, Typical Wet Pond Section and Added Earthen Weir Detail	8/1/13

JULIAN R. COTO DATE
P.E. LICENSE #0033635

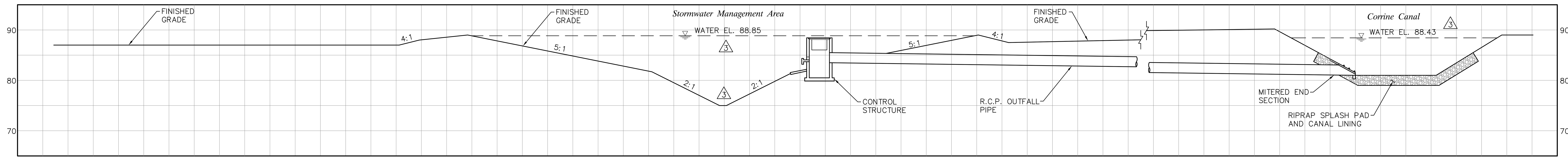
PROJECT NUMBER
JEN01-0109

SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 8/1/13

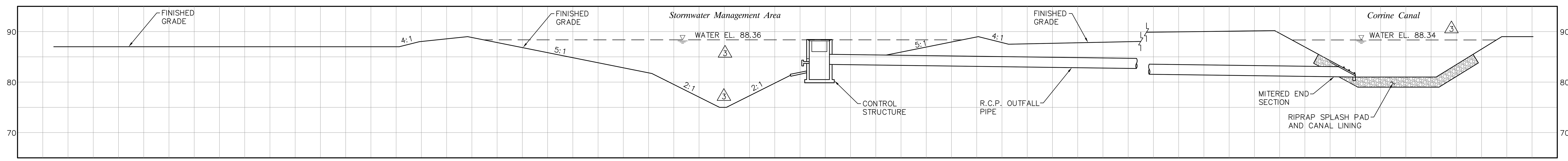
SHEET NO. 8 OF 9



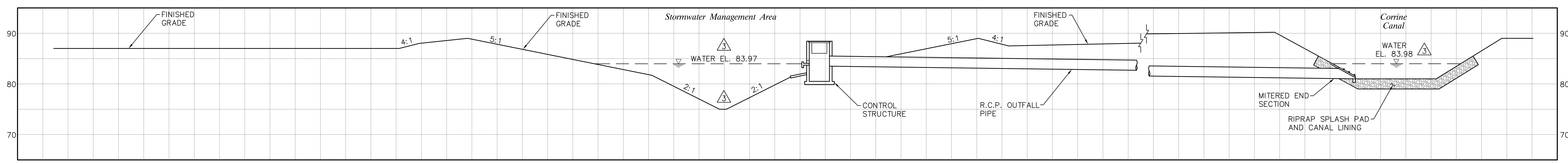
SECTION THROUGH CONTROL STRUCTURE
TIME: 24.00 HOURS
SCALE: 1"=10'



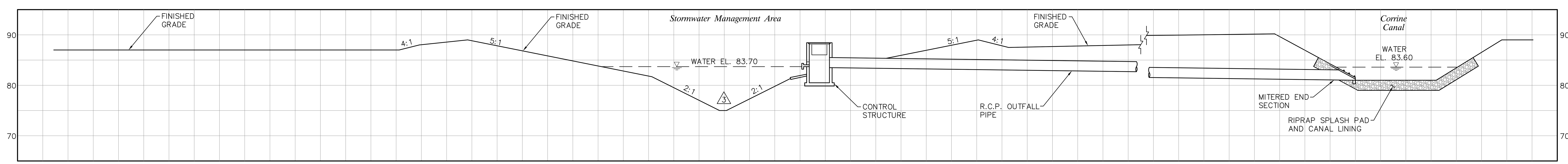
SECTION THROUGH CONTROL STRUCTURE
TIME: 12.56 HOURS - PEAK STAGE POND
3
SCALE: 1"=10'



SECTION THROUGH CONTROL STRUCTURE
TIME: 12.05 HOURS - END CANAL INFLOW TO POND
3
SCALE: 1"=10'



SECTION THROUGH CONTROL STRUCTURE
TIME: 6.10 HOURS - BEGIN CANAL INFLOW TO POND
3
SCALE: 1"=10'



SECTION THROUGH CONTROL STRUCTURE
TIME: 0.00 HOURS
SCALE: 1"=10'

Excel Engineering Consultants, LLC.
ENVIRONMENTAL & CIVIL ENGINEERS
CERTIFICATE OF AUTHORIZATION NO. 27541
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL: (407) 260-2292
FAX: (407) 260-1193
WWW.EXCELENGINEERS.COM

Stage/Storage Of Pond And Canal

Semoran Crossroads Stormwater Pond

REVISIONS:

NUMBER	DESCRIPTION	DATE
1	Revised Control Structure Detail, Typical Wet Pond Section and Riprap Splash Pad and Channel Lining Detail	12/13/11
2	Added New Sheet For Stage/Storage	3/29/12
3	Revised Pond. Revised Pond and Canal Time – Storage Information	8/1/13

JULIAN R. COTO DATE
P.E. LICENSE #0033635

PROJECT NUMBER
JEN01-0109

SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 8/1/13

SHEET NO. 9
OF 9

Wal-Mart Neighborhood Market (Semoran Crossings)
SJRWMD Permit #4-095-74860-6

STORMWATER DRAINAGE DESIGN REPORT

FOR

WAL-MART NEIGHBORHOOD MARKET STORE NO. 5988-01
N.E. QUADRANT OF NORTH SEMORAN BLVD. AND AUVERS BLVD.
CITY OF ORLANDO, ORANGE COUNTY, FLORIDA

cph

Engineers
Planners
Landscape Architects
Surveyors
Construction Management
Design/Build

Certificate of Authorization No. 00003215

500 WEST FULTON STREET
SANFORD, FLORIDA 32771
PHONE: 407-322-6841
FAX: 407-330-0639

DENVER M. MARLOW
LICENSE
No. 60900
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Denver M. Marlow, P.E.
60900
P.E. Number
April 6, 2012
Date

TABLE OF CONTENTS

APPENDICES

Executive Summary

Executive Summary

Introduction:

The proposed Wal-Mart Neighborhood Market is located on 7.74 acres of land at the northeast corner of N. Semoran Boulevard and Auvers Boulevard in Orlando, FL (unincorporated Orange County) in Section 15 Township 22S Range 30E. The site is bounded by North Semoran Blvd. to the west, Auvers Blvd. and Orange County's Corrine Canal to the south, a warehouse/storage facility to the north and vacant industrially zoned property and stormwater pond to the east. Please reference the Location map within Appendix A for further information. The proposed development will provide for the construction of a 43,011 +/- SF store, associated parking, utilities and a stormsewer conveyance system to connect to the stormwater pond to the east currently under review with SJRWMD (Application No. 4-095-74860-5).

Existing Stormwater Drainage Conditions:

The site is currently undeveloped and consists primarily of relatively flat open pasture grasslands that overland drain generally to the south and east to the Corrine Canal and the property containing the stormwater pond the site is to connect to. This stormwater pond ultimately discharges to the Corrine Canal. Please reference the USGS Quad map within Appendix B for further information.

According to the SCS Soil Survey for Orange County, the predominant soil type is identified as Samsula-Hontoon Basinger Association, Depressional (#41). Please reference Appendix C for the SCS Soil Survey figure for the site. For additional site specific soil details and boring/soil profile information please refer to the geotechnical soils report completed by ECS Florida, LLC.

The site is within the 100-year flood plain according to the US FEMA maps (FIRM Panel #12095C0260F) which is provided within Appendix D. The base flood elevation for the property is 90.0' and the minimum finished floor elevation for the site shall be 91.0'. The proposed finished floor of the Wal-Mart Neighborhood Market is 92.0'.

There are no wetlands located within the proposed development. However, a 0.10-acre impact is proposed to the Corrine Canal for construction of a 12' (w) x 9' (h) box culvert and associated headwalls. This impact is needed to construct an access driveway to Auvers Boulevard.

Stormwater Management System Design:

Runoff from the Wal-Mart Neighborhood Market site as well as the runoff from a potential future outparcel located at the southwest corner of the parcel will be conveyed through a series of storm pipes to the stormwater pond under review in the "Semoran Crossroads Stormwater Pond" project, (SJRWMD Application No. 4-095-74860-5) for treatment and attenuation.

Excerpts of this report are included within Appendix E including the pre and post-development drainage maps, the post development curve number determination and the water quality calculations for the Semoran Crossings stormwater pond. The proposed development associated with this report and application is within the basins labeled "Basin Pre-1" and "Basin-Post 1" in the report shown in Appendix E.

Proposed Stormwater Management System:

Please reference the full stormwater report and calculations under review in the mentioned application for the complete design information including the flood zone compensating storage, complete water quality determination, peak design storm pond elevations and the flow rate attenuation values. This project will connect to the permitted stormwater pond as shown on the grading and storm drainage plan within Appendix F.

The table below depicts the amount of impervious area that the Semoran Crossings stormwater pond has been designed for and the amount of proposed impervious area associated with this development and the remaining amount of future impervious area that the Semoran Crossings stormwater pond has been designed to accommodate:

Proposed Impervious Area and Impact to Semoran Crossings Stormwater Pond	
Amount of Impervious Area Semoran Crossings Stormwater Pond Designed To Accommodate*	5.76 acres
Amount of Impervious Area Proposed with this Development to Discharge to Semoran Crossing Stormwater Pond	4.59 acres
Remaining Amount of Impervious Area Permitted to Discharge to Semoran Crossings Stormwater Pond	1.17 acres

*Please reference the post-development curve number determination and water quality calculations submitted for the Semoran Crossings stormwater pond within Appendix E.

The table below depicts the amount of compensating storage provided within the Semoran Crossings stormwater pond and the amount of storage required for the proposed Wal-Mart development:

Proposed Compensating Storage	
Amount of Compensating Storage Provided within the Semoran Crossings Stormwater Pond	11.56 ac-ft
Amount of Compensating Storage Required for the Proposed Wal-Mart Development*	11.27 ac-ft

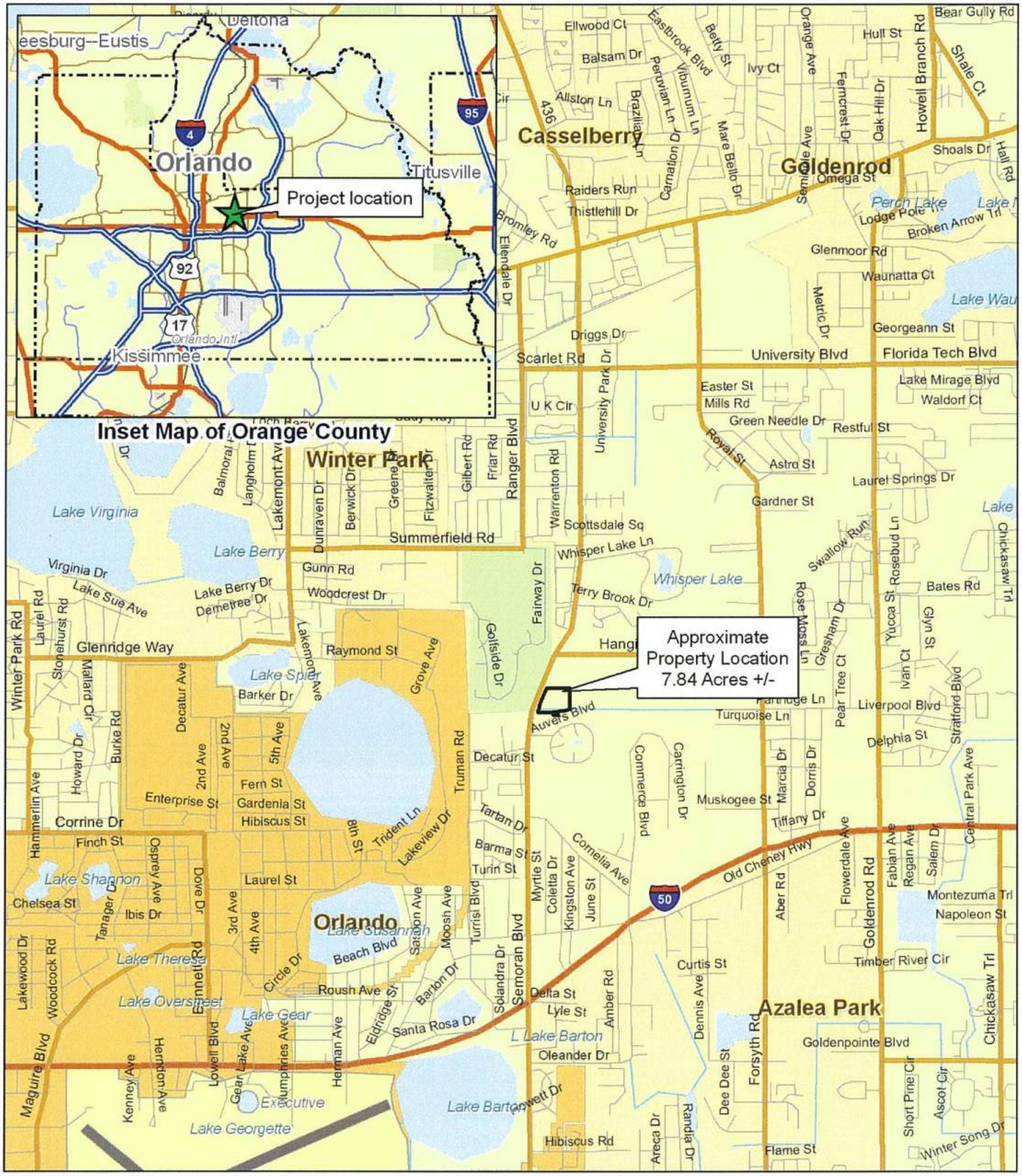
*The amount of required compensating storage was calculated as the volume between existing grade and a flood elevation of 90.00 using surface attributes within the AutoCAD program.

A stormsewer analysis has been completed to adequately size the stormsewer conveyance system that will be constructed to route both the Wal-Mart facility and parking lot as well as provide a future connection for an outparcel located at the southwest quadrant of the property. A copy of this analysis is included within Appendix

G for reference. A tailwater elevation of 88.06' was used based on the 10-year 24-hour peak stage for the Semoran Crossings stormwater pond.

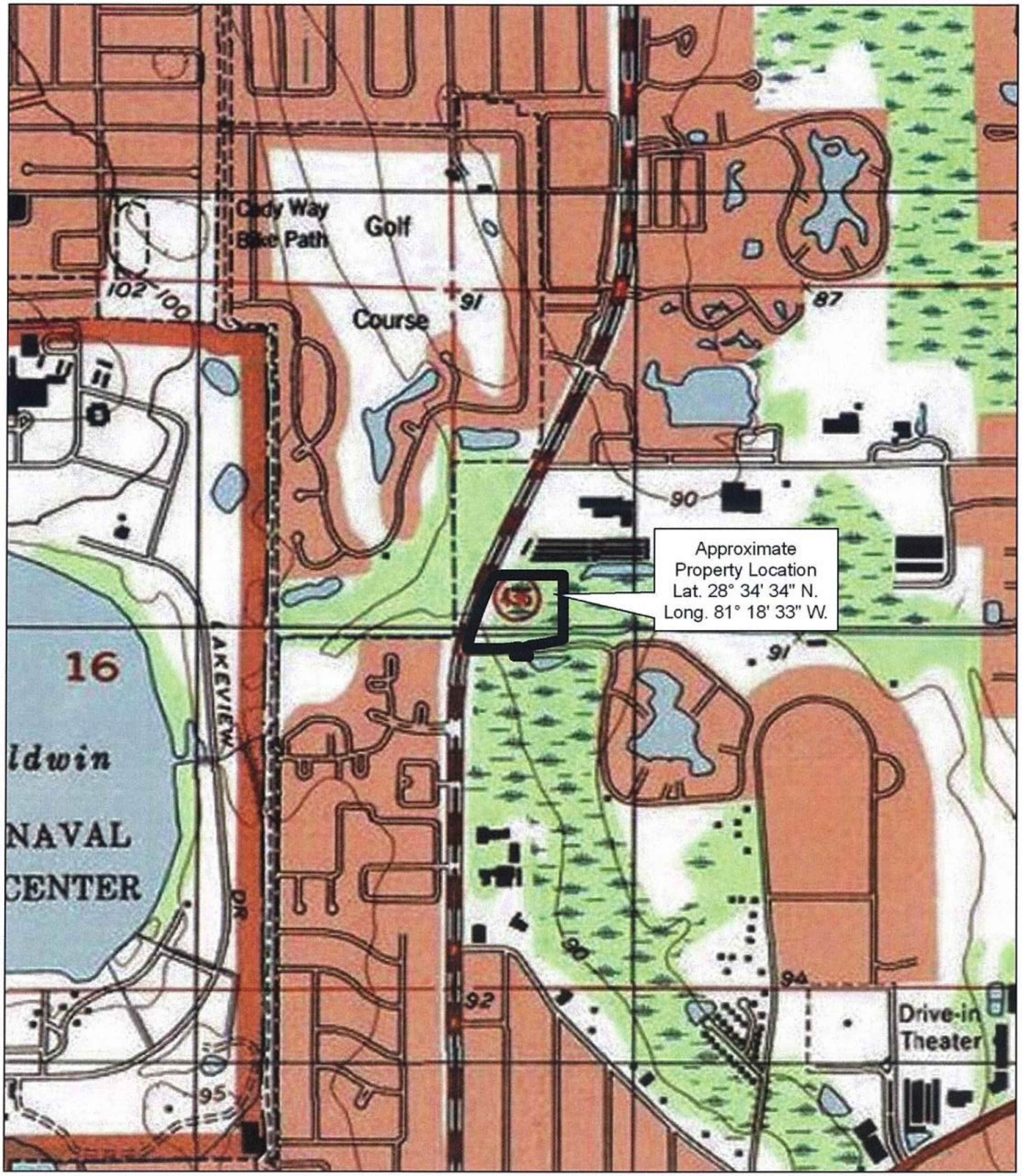
The proposed 12'x9' Corrine Canal box culvert was sized to match the existing upstream culvert under SR436.

Appendix A
Location Map



cph	Scale: 1" = 3000'	N	LOCATION MAP	FIGURE 1
	Date: March 2012		WALMART NEIGHBORHOOD MARKET STORE #5988-00	
	Photo Date: N/A		SECTION 15, TOWNSHIP 22 SOUTH, RANGE 30 EAST	
	Project No. W13405.2		ORANGE COUNTY, FLORIDA	
	Biologist: GIS: DEM			

Appendix B
USGS Quad Map



Scale: 1" = 1000' Date: March 2012 Photo Date: N/A Project No. W13405.2 Biologist: GIS: DEM	N	USGS QUAD SHEET - ORLANDO EAST WALMART NEIGHBORHOOD MARKET STORE #5988-00 SECTION 15, TOWNSHIP 22 SOUTH, RANGE 30 EAST ORANGE COUNTY, FLORIDA	FIGURE 2

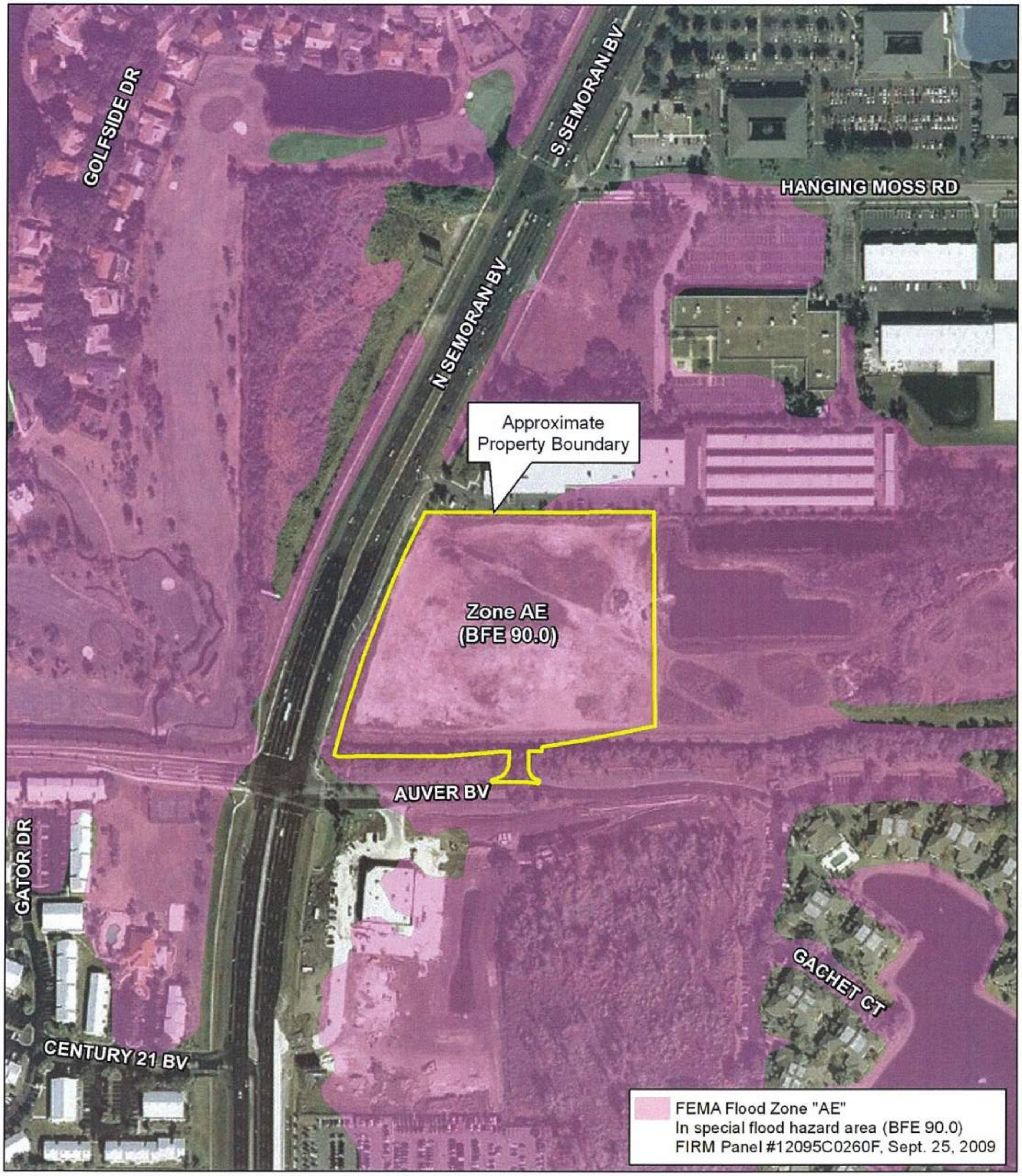
Appendix C
SCS Soils Map

SOIL No.	SOIL TYPE
41	SAMSULA-HONTOON-BASINGER ASSOCIATION, DEPRESSIONAL

USDA Natural Resources Conservation Service

cph	Scale: 1" = 300' Date: March 2012 Photo Date: 2009 Project No. W13405.2 Biologist: GIS: DEM	N	SOILS MAP WALMART NEIGHBORHOOD MARKET STORE #5988-00 SECTION 15, TOWNSHIP 22 SOUTH, RANGE 30 EAST ORANGE COUNTY, FLORIDA	FIGURE 3

Appendix D
FEMA Flood Map



cph

Scale: 1" = 300'
Date: March 2012
Photo Date: 2009
Project No. W13405.2
Biologist: GIS: DEM

N

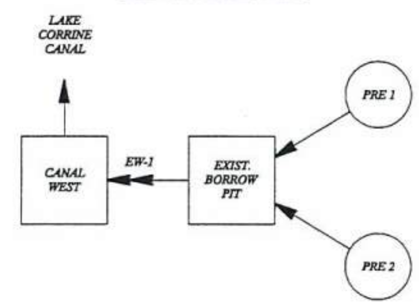
FEMA FLOOD MAP

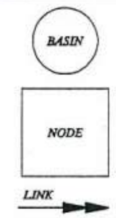
WALMART NEIGHBORHOOD MARKET STORE #5988-00
SECTION 15, TOWNSHIP 22 SOUTH, RANGE 30 EAST
ORANGE COUNTY, FLORIDA

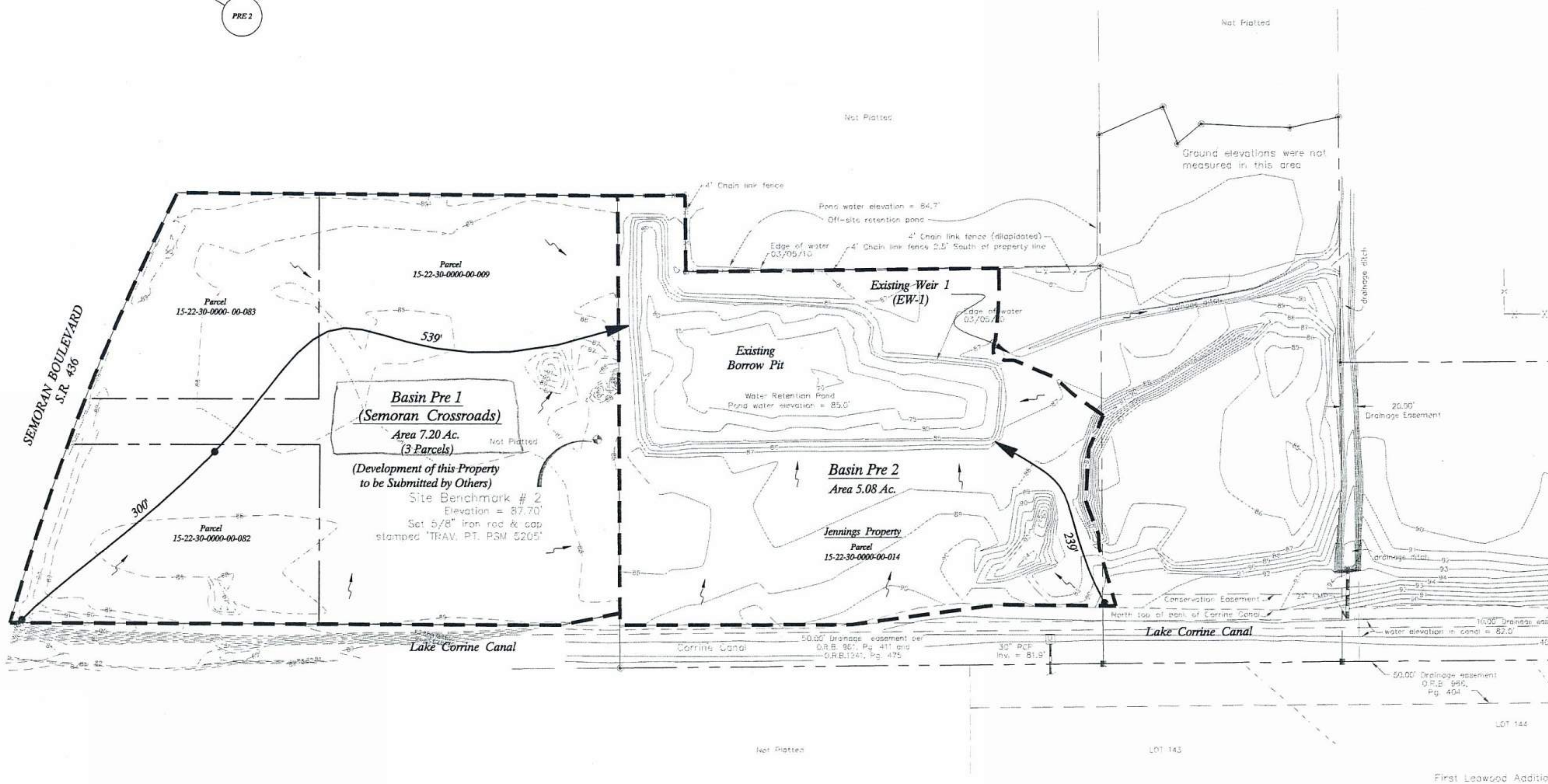
FIGURE 4

Appendix E
Excerpts of Submitted "Semoran Crossings Stormwater Pond" Report and Calculations (SJRWMD Application #4-095-47860-5)

PRE-DEVELOPMENT







LEGEND

Direction Of Flow Pre-Basin

300' Sheet Flow — 300' Shallow Concentrated Flow

(For Calculation of Tc)

Excel Engineering
ENVIRONMENTAL & CIVIL ENGINEERS
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL: (407) 260-2292
FAX: (407) 260-1193
WWW.EXCELENGINEERS.COM

Pre-Development Drainage Basins

Semoran Crossings Stormwater Pond

REVISIONS:

DATE	DESCRIPTION

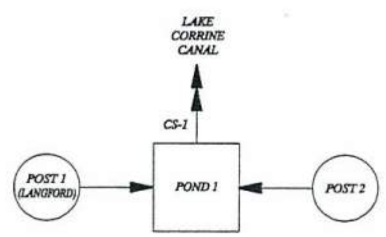
JULIAN R. COTO — DATE
P.E. LICENSE #0033635

PROJECT NUMBER JEN01-0109

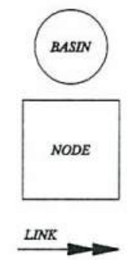
SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 10/13/11

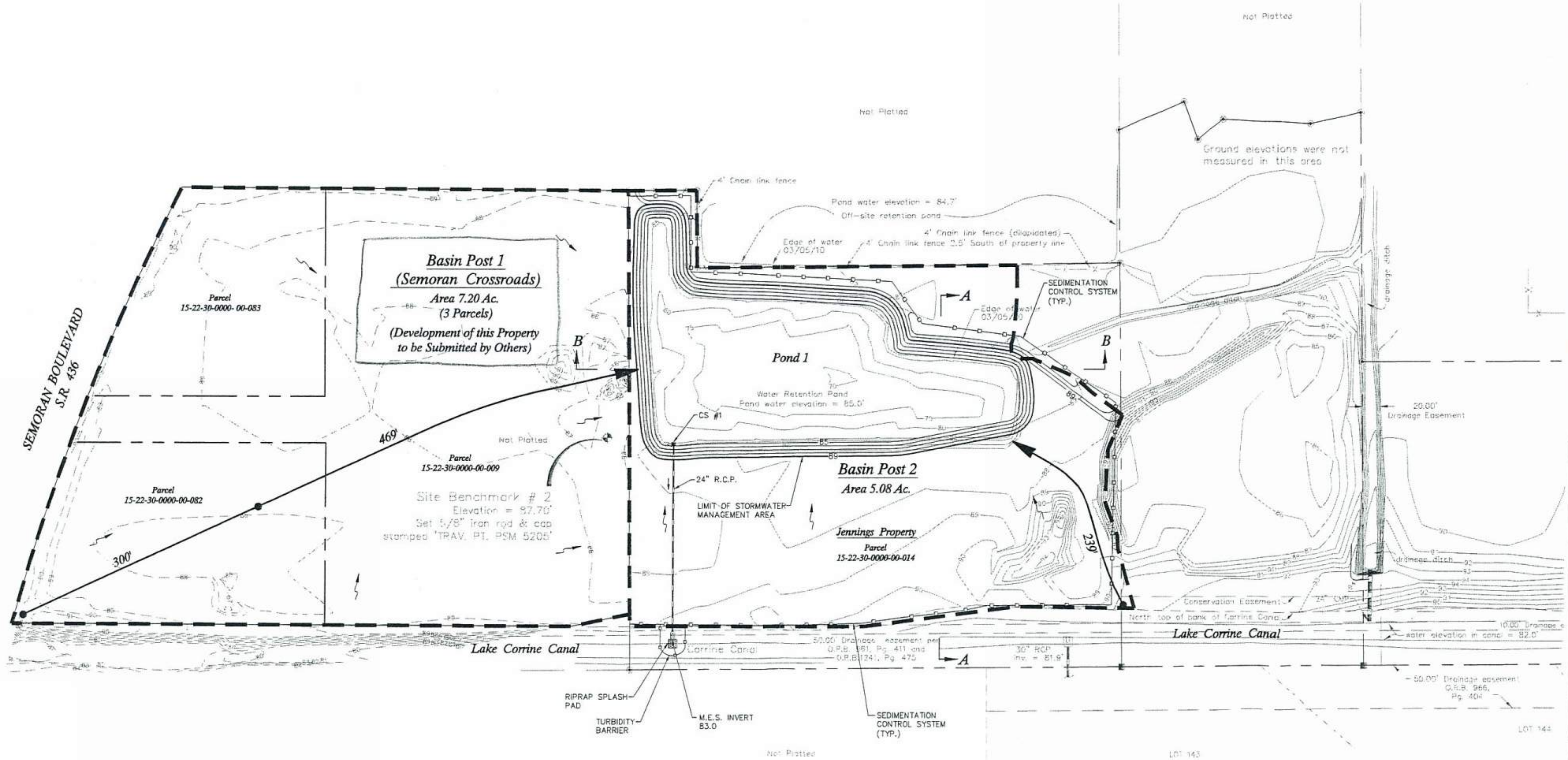
POST DEVELOPMENT

NODAL DIAGRAM



NODAL LEGEND:





NOTES:

1. LOCATION OF UNDERGROUND PIPING AND OTHER UTILITIES ASSUMED.
2. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINING CONSTRUCTION

LEGEND

Direction Of Flow Post-Basin

300' Sheet Flow

300' Shallow Concentrated Flow

(For Calculation of Tc)

Excel Engineering
ENVIRONMENTAL & CIVIL ENGINEERS
122 WILSHIRE BOULEVARD
CASSELBERRY, FL 32707
TEL: (407) 260-2292
FAX: (407) 260-1163
WWW.EXCELENGINEERS.COM

Post-Development Drainage Basins and Grading Plan

Semoran Crossings Stormwater Pond

REVISIONS:

DATE	DESCRIPTION

JULIAN R. COTO P.E. LICENSE #0033635 DATE

PROJECT NUMBER JEN01-0109

SCALE: AS SHOWN
DRAWN: T.N.S.
CHECKED: M.R.
APPROVED: J.C.
DATE: 10/13/11

SHEET NO. 4 OF 8

PROJECT: Hanging Moss
BASIN DESIGNATION: Post-1 (Langford)

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

TYPE of EVALUATION: POST- DEVELOPMENT
(PRE- or POST-)

BASIN SIZE: 7.20 acres.

Determine Basin Runoff Curve Number: CN

Land Use Description	Hydrologic Soil Group	CN	AREA (ac.)	Product
Open Space, Good Condition	B/D	80		
Open Space, Good Condition	D	80		
Open Space, Poor Condition	B/D	89	1.44	128.16
Open Space, Poor Condition	D	89		
Water Surface	N/A	100		
Impervious Areas - Asphalt, Sidewalks, roofs, etc..	N/A	98	5.76	564.48
Wetland	N/A			
			7.20	692.64

(PRODUCT SUM) 692.64
WEIGHTED CN = ------------------------------ = ---------- = 96.20
(AREA) 7.20

USE CN = 96

PROJECT:	Hanging Moss
BASIN DESIGNATION:	Post-2

SUB-BASIN ANALYSIS & CURVE NUMBER DETERMINATION

TYPE of EVALUATION: POST- DEVELOPMENT
(PRE- or POST-)

BASIN SIZE: 5.08 acres.

Determine Basin Runoff Curve Number: CN

Land Use Description	Hydrologic Soil Group	CN	AREA (ac.)	Product
Open Space, Good Condition	B/D	80	3.89	310.90
Gravel over Open Space, Good Condition	B/D	80		
Open Space, Poor Condition	D	89		
Gravel Open Space, Poor Condition	D	89		
Water Surface	N/A	100	1.19	119.38
Impervious Areas - Asphalt, Sidewalks, roofs, etc..	N/A	98		
Wetland	N/A			
			5.08	430.28

(PRODUCT SUM) 430.28
WEIGHTED CN = ------------------------------ = ---------- = 84.70
(AREA) 5.08

USE CN = 85

PROJECT: Hanging Moss
POND DESIGNATION: Pond 1

Water Quality Calculations:

Contributing Basins = Post-1 (Langford) & Post 2

Full Basin Area =	12.28 Ac	1.0" of Full Basin Area =	1.023 Ac.-Ft
Impervious Area =	5.76 Ac.	or	
		2.5" of Impervious Area =	1.200 Ac.-Ft.
		Req. Water Quality Vol. =	**1.200 Ac.-Ft.**

Pond Stage-Storage:

Pond Type = Wet Detention

Control (Perm. Pool) Elevation 83.50

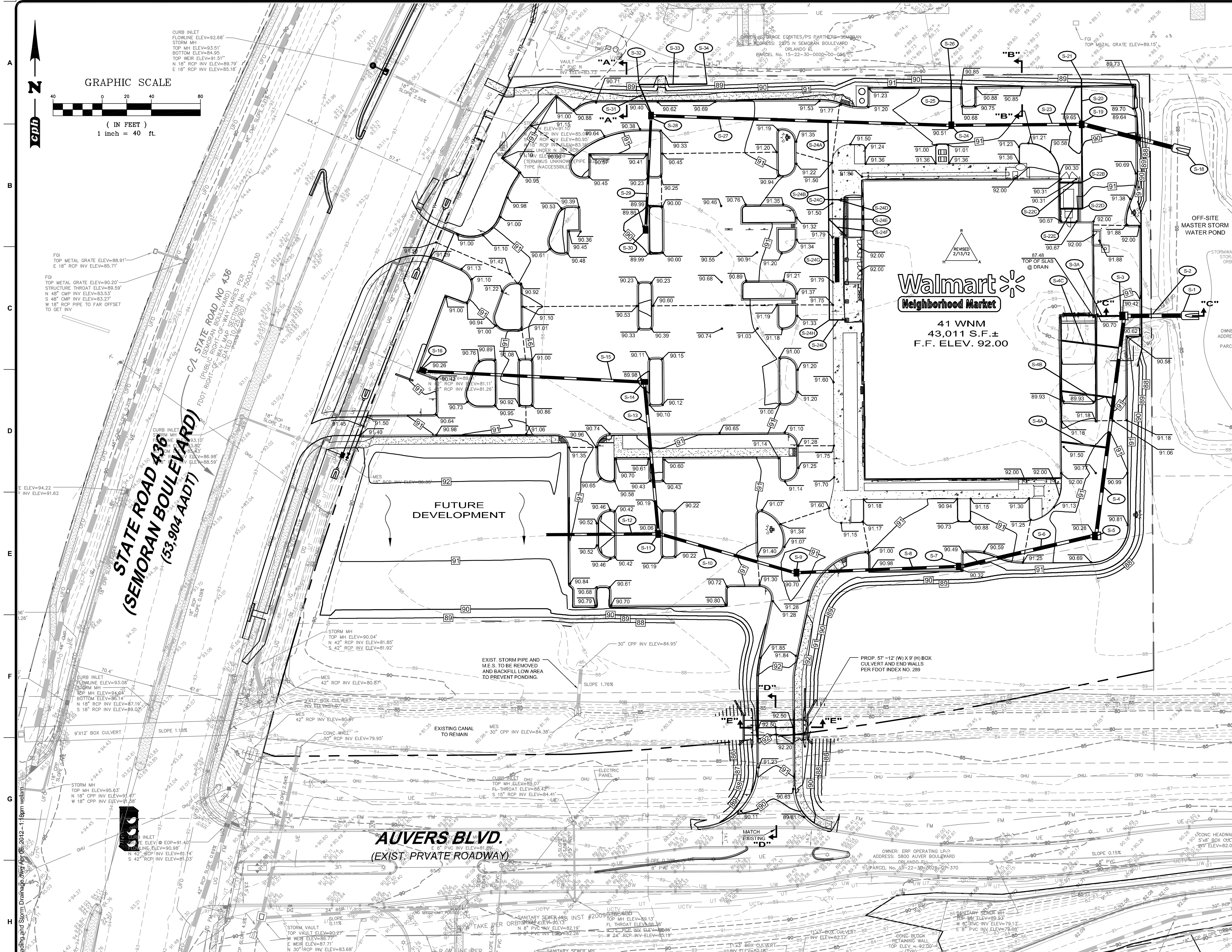
Water Quality (Weir) Elevation = 84.50

	Pond Stage (ft)	Increment (ft)	Area (sf)	Incremental Volume (cf)	Cumulative Volume (cf)	Cumulative Volume (Ac-ft)
Control Elevation:	83.50		52,002		-	-
		0.50		26,442		
	84.00		53,766		26,442	0.607
		1.00		55,679		
	85.00		57,591		82,121	1.885
		1.00		59,625		
	86.00		61,659		141,746	3.254
		1.00		64,813		
	87.00		67,966		206,558	4.742
		1.00		105,924		
	88.00		143,881		312,482	7.174
		1.00		164,846		
	89.00		185,810		477,327	10.958

Permanent Pool:

	Pond Stage (ft)	Increment (ft)	Area (sf)	Incremental Volume (cf)	Cumulative Volume (cf)	Cumulative Volume (Ac-ft)
Pond Bottom	70.00		446		-	-
		1.00		3,525		
	71.00		6,604		3,525	0.081
		1.00		9,593		
	72.00		12,582		13,118	0.301
		1.00		14,204		
	73.00		15,826		27,322	0.627
		1.00		17,693		
	74.00		19,559		45,015	1.033
		1.00		21,215		
	75.00		22,871		66,230	1.520
		1.00		24,578		
	76.00		26,284		90,807	2.085
		7.00		105,900		
	77.00		29,811		105,900	2.431
		1.00		31,568		
	78.00		33,325		137,468	3.156
		1.00		35,103		
	79.00		36,880		172,570	3.962
		1.00		38,682		
	80.00		40,484		211,252	4.850
		1.00		42,129		
	81.00		43,774		253,381	5.817
		1.00		45,422		
	82.00		47,069		298,803	6.860
		1.00		49,536		
	83.00		50,238		348,338	7.997
		0.50		12,560		
	83.50		52,002		348,338	7.997

Appendix F
Proposed Grading and Storm Drainage Plan



STORM SEWER SCHEDULE

S-1 CONCRETE MITERED END SECTION
F.D.O.T. INDEX NO'S. 272
F. L. 80.40

S-2 47'~36" RCP @ 0.40%

S-3 TYPE E INLET W/ TYPE J BOTTOM
F.D.O.T. INDEX NO'S. 232 & 200
TOP ELEV. 90.42
E. F. L. 80.60
S. F. L. 82.80
W. F. L. 86.40

S-3A 19'~6" STORM PIPE @ 0.40%

S-4 176'~30" STORM PIPE @ 0.40%

S-4A SUB-SURFACE DOWNSPOUT CONNECTION
RE. TO ARCH. PLANS, F.L. 86.50 @ BLDG.
(36'~10" STORM PIPE @ 6.81%) CONNECT TO S-4
W/ INSERT-A-TEE CONNECTION OR APPROVED
EQUAL @ F.L. 84.02±

S-4B SUB-SURFACE DOWNSPOUT CONNECTION
RE. TO ARCH. PLANS, F.L. 86.50 @ BLDG.
(42'~10" STORM PIPE @ 6.21%) CONNECT TO S-4
W/ INSERT-A-TEE CONNECTION OR APPROVED
EQUAL @ F.L. 83.86±

S-4C SUB-SURFACE DOWNSPOUT CONNECTION
RE. TO ARCH. PLANS, F.L. 86.50 @ BLDG.
(47'~10" STORM PIPE @ 5.91%) CONNECT TO S-4
W/ INSERT-A-TEE CONNECTION OR APPROVED
EQUAL @ F.L. 83.69±

S-5 TYPE E INLET W/ TYPE J BOTTOM
F.D.O.T. INDEX NO'S. 232 & 200
TOP ELEV. 90.28
N. F. L. 83.50
S.W. F. L. 83.60

S-6 111'~30" STORM PIPE @ 0.40%

S-7 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 90.32
W. F. L. 84.10
E. F. L. 84.00

S-8 129'~24" STORM PIPE @ 0.40%

S-9 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 90.70
E. F. L. 84.74
N.W. F. L. 84.60

S-10 114'~24" STORM PIPE @ 0.40%

S-11 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 90.06
S.E. F. L. 85.20
W. F. L. 85.30
N. F. L. 85.30

S-12 90'~24" STORM PIPE @ 0.40%, WITH PLUG
PER F.D.O.T. INDEX NO. 280

S-13 121'~24" STORM PIPE @ 0.40%

S-14 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 89.98
S. F. L. 85.80
W. F. L. 85.90

S-15 177'~18" STORM PIPE @ 0.40%

S-16 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 90.26
E. F. L. 86.60

S-17 CONCRETE MITERED END SECTION
F.D.O.T. INDEX NO'S. 272
F. L. 83.60

S-18 72'~36" STORM PIPE @ 0.40%

S-19 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 89.65
N. F. L. 85.00
E. F. L. 83.90
S. F. L. 84.53
W. F. L. 84.00

S-19A 95'~10" PVC @ 2.59%, CONNECT TO
S-19 W/ INSERT-A-TEE CONNECTION OR
APPROVED EQUAL @ F. L. 84.53

S-19B 10" X 10" TEE

S-19C 18'~10" PVC @ 0.40%
CONNECT TO BLDG. @ 86.50

S-19D 10" 90° BEND W/ C.O.

S-19E 18'~10" PVC @ 0.40%
CONNECT TO BLDG. @ 86.50

S-20 34'~6" STORM PIPE @ 0.40%

S-21 6" ADS YARD DRAIN
TOP ELEV. 88.90
S. F. L. 85.20

S-22 138'~30" STORM PIPE @ 0.40%

S-23 103'~24" STORM PIPE @ 0.40%

S-24 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 90.51
E. F. L. 84.40
N. F. L. 85.00
W. F. L. 84.50

S-25 34'~6" STORM PIPE @ 0.40%

S-26 6" ADS YARD DRAIN
TOP ELEV. 88.90
S. F. L. 85.90

S-27 236'~24" STORM PIPE @ 0.40%

S-27A 40'~4" PVC @ 0.50%, CONNECT TO
S-24 W/ INSERT-A-TEE CONNECTION OR
APPROVED EQUAL @ F. L. 86.40

S-27B 4" 22.5° BEND

S-27C 4" X 4" TEE

S-27D 14'~4" PVC @ 0.40%
CONNECT TO BLDG. @ 87.00

S-27E 4" X 4" WYE CONNECTION

S-27F 20'~4" PVC @ 0.40%
CONNECT TO BLDG. @ 87.00

S-27G 108'~4" PVC @ 0.40%

S-27H 4" 90° BEND W/ C.O.

S-27I 14'~4" PVC @ 0.40%
CONNECT TO BLDG. @ 87.00

S-28 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 90.40
E. F. L. 85.40
S. F. L. 85.50
N. F. L. 85.80

S-29 88'~18" STORM PIPE @ 0.40%

S-30 TYPE E INLET
F.D.O.T. INDEX NO. 232
TOP ELEV. 89.86
N. F. L. 85.90

S-31 25'~6" STORM PIPE @ 0.40%

S-32 6" ADS YARD DRAIN
TOP ELEV. 88.95
S. F. L. 85.95
E. F. L. 85.98

S-33 55'~6" STORM PIPE @ 0.40%

S-34 6" ADS YARD DRAIN
TOP ELEV. 88.95
W. F. L. 86.20

NOTES:

1. ALL PIPES IN LEGEND SPECIFIED AS "STORM PIPE" SHALL BE SELECTED FROM THOSE LISTED UNDER GENERAL GRADING NOTES, NOTE 12, SHEET C-2A.
2. PIPE LENGTHS ASSOCIATED WITH MITERED END AND FLARED END SECTIONS DO NOT INCLUDE SEGMENT TO BE INCLUDED UNDER UNIT PRICE FOR M.E.S. OR F.E.S. (A.K.A. DIMENSION F & D, F.D.O.T. INDEX NO. 272 & 270, RESPECTIVELY)
3. FOR INLET BOTTOMS SEE FDOT INDEX NO. 200
4. FOR SUPPLEMENTAL DETAILS SEE FDOT INDEX NO. 200.
5. ALL DRAINAGE STRUCTURES, INCLUDING CLEAN-OUTS, SHALL BE INSTALLED WITH TRAFFIC BEARING GRATES, TOPS, RINGS AND COVERS, ETC. AS APPLICABLE.
6. ALL PROPOSED INLET GRATES SHALL BE TRAFFIC BEARING RETICULINE STEEL.
7. ALL PIPE END TREATMENTS SHALL BE INSTALLED WITH "RIP-RAP" EROSION DISSIPATERS OR APPROVED EQUAL
8. SEE SHEET C-10 FOR SECTIONS.
9. REFER TO ROADWAY IMPROVEMENTS PLANS FOR S.R. 436 (SEMORAN BLVD.) PREPARED BY CPH ENGINEERS, INC. DATED MARCH 21, 2002 FOR OFFSITE IMPROVEMENTS.

FOUNDATION SUBSURFACE PREPARATION
WAL-MART NEIGHBORHOOD MARKET #5988
ORLANDO (BALDWIN), FL

UNLESS SPECIFICALLY INDICATED OTHERWISE IN THE DRAWINGS AND/OR SPECIFICATIONS, THE LIMITS OF THIS SUBSURFACE PREPARATION ARE CONSIDERED TO BE THAT PORTION OF THE SITE DIRECTLY BENEATH AND 5 FEET BEYOND THE BUILDING AND APPURTENANCES.

APPURTENANCES ARE THOSE ITEMS ATTACHED TO THE BUILDING PROPER (REFER TO DRAWING SHEET SP1), TYPICALLY INCLUDING, BUT NOT LIMITED TO, THE BUILDING SIDEWALKS, GARDEN CENTER, PORCHES, RAMPS, STOOPS, TRUCK WELLS/DOCKS, CONCRETE APRONS, COMPACTOR PAD, ETC. INSTALL A MINIMUM 10-MIL VAPOR RETARDER, MEETING ASTM E 1745, "CLASS A" REQUIREMENTS, PLACED ABOVE THE BASE AND DIRECTLY BELOW THE SLAB. NOTE: VAPOR BARRIER AS REQUIRED BY FLORIDA BUILDING CODE. DO NOT EXTEND BEYOND THE LIMITS OF THE ACTUAL BUILDING AND THE APPURTENANCES.

ESTABLISH THE INITIAL SUBGRADE ELEVATION TO ALLOW FOR THE CONCRETE SLAB AND BASE. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR REQUIRED SLAB THICKNESS. THE 4 INCH THICK BASE MATERIAL SHALL CONFORM TO SECTION 200 AND SECTION 911 OF THE 2000 FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. LIMEROCK MATERIAL SHALL HAVE AT LEAST 97% (BY WEIGHT) PASSING A 3.5 INCH SIEVE AND SHALL BE GRADED UNIFORMLY DOWN TO DUST. THE FINE MATERIAL SHALL CONSIST ENTIRELY OF DUST OF FRACTURE. THE LIMEROCK MATERIAL SHALL HAVE A LIMEROCK BEARING RATIO (LBR) OF AT LEAST 100. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ACCURATE MEASUREMENTS FOR ALL CUT AND FILL DEPTHS AND SUITABILITY OF EXISTING ONSITE SOILS. ANY PROPOSED EQUIVALENT ALTERNATIVE BASE MATERIAL MUST BE SUBMITTED FOR APPROVAL WITHIN 30 DAYS AFTER AWARD OF CONTRACT. ANY EQUIVALENT ALTERNATIVE SHALL ONLY BE USED IF APPROVED IN WRITING BY THE CEC AND AOR.

EXISTING FOUNDATIONS, SLABS, PAVEMENTS, AND BELOW-GRADE STRUCTURES SHALL BE REMOVED FROM THE BUILDING AREA. REMOVE ALL SURFACE VEGETATION, TOPSOIL, ROOT SYSTEMS, ORGANIC MATERIAL, EXISTING FILL, AND SOFT OR OTHERWISE UNSATISFACTORY MATERIAL (AS DEFINED IN SPECIFICATION SECTION 2300) FROM THE BUILDING AREA. PROOFROLL EXPOSED SUBGRADE. REMOVE AND REPLACE ALL UNSATISFACTORY AREAS WITH SATISFACTORY MATERIAL. SUBGRADE MATERIAL SHALL BE SATISFACTORY MATERIAL FREE OF ORGANICS, NON-PLASTIC, AND GRANULAR SOIL WITH LESS THAN 10 PERCENT PASSING THE NO. 200 MESH SIEVE.

SUBGRADE MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND COMPACTED TO AT LEAST 98 PERCENT IN THE TOP 2 FEET AND 95 PERCENT BELOW THE TOP TWO FEET OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557) AT A MOISTURE CONTENT WITHIN +/-2 PERCENT OF THE OPTIMUM MOISTURE CONTENT.

THE FOUNDATION SYSTEM SHALL BE ISOLATED SPREAD FOOTINGS AT COLUMNS AND CONTINUOUS SPREAD FOOTINGS AT WALLS. PERIMETER DRAINS WILL BE REQUIRED IN THE TRUCK DOCK AREA AS INDICATED IN THE GEOTECHNICAL REPORT.

THIS FOUNDATION SUBSURFACE PREPARATION DOES NOT CONSTITUTE A COMPLETE SITE WORK SPECIFICATION. INFORMATION COVERED IN THIS PREPARATION SHALL TAKE PRECEDENCE OVER THE WAL-MART SPECIFICATIONS.

REFER TO THE SPECIFICATIONS FOR SPECIFIC INFORMATION NOT COVERED IN THIS PREPARATION. THIS INFORMATION WAS TAKEN FROM A GEOTECHNICAL REPORT PREPARED BY ECS-FLORIDA, LLC, DATED NOVEMBER 23, 2001 (GEOTECHNICAL REPORT IS FOR INFORMATION ONLY AND IS NOT A CONSTRUCTION SPECIFICATION).

03/29/12

BEFORE YOU DIG !
CALL SUNSHINE STATE ONE CALL OF FLORIDA
AT LEAST TWO FULL BUSINESS DAYS BEFORE DIGGING OR DISTURBING EARTH
Sunshine State One Call 811
Know what's below. Call before you dig.
www.callsunshine.com

PROPOSED LEGEND

(E.P.) EDGE OF PVMT. ELEV.
FLOW DIRECTION
STORM SEWER PIPE
DITCH BOTTOM INLET PER FDOT INDEX NO. 232
TYPE 5 INLET PER FDOT INDEX NO. 211

100 YR. FLOOD PLAIN:

ACCORDING TO THE FIRM FLOOD INSURANCE RATE MAP FOR ORANGE COUNTY, FL. MAP NUMBER 12095C0260F EFFECTIVE DATE SEPTEMBER 25, 2009, THE SITE LIES WITHIN A DESIGNATED ZONE AE (AREAS DETERMINED TO BE SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD).

COMPENSATING STORAGE FOR IMPACTS TO THE 100 YEAR FLOOD PLAIN SHALL BE PROVIDED IN THE MASTER STORM WATER POND LOCATED TO THE EAST.

EROSION AND SEDIMENTATION FINISHED GRADE

GRADES AT THE PERIMETER OF THE PROPERTY MAY VARY MORE THAN ONE FOOT ABOVE OR BELOW EXISTING GRADES.

CONTROL NOTES

MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO WAL*MART. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. THE EROSION CONTROL SYSTEM DESCRIBED WITHIN THE CONSTRUCTION DOCUMENTS SHOULD BE CONSIDERED TO REPRESENT THE MINIMUM ACCEPTABLE STANDARDS FOR THIS PROJECT. ADDITIONAL EROSION CONTROLS MEASURES MAY BE REQUIRED DEPENDENT UPON THE STAGE OF CONSTRUCTION, THE SEVERITY OF THE RAINFALL EVENT AND/OR AS DEEMED NECESSARY AS A RESULT OF ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES OR THE JURISDICTIONAL AUTHORITIES. THESE ADDITIONAL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER. IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO ASSURE THAT THE STORM WATER DISCHARGE FROM THE SITE DOES NOT EXCEED THE TOLERANCES ESTABLISHED BY ANY OF THE JURISDICTIONAL AUTHORITIES.

STORMWATER MANAGEMENT

THE EXISTING MASTER STORM WATER DETENTION POND LOCATED ON THE ADJACENT PROPERTY TO THE EAST HAS BEEN DESIGNED AND IS CURRENTLY UNDER REVIEW WITH ORANGE COUNTY (PERMIT NO. B11902399) AND SJRWMD (APPLICATION NO. 129099-1) TO ACCEPT THE STORM WATER RUNOFF AND COMPENSATING STORAGE FOR THIS PROPERTY DEVELOPED UP TO 5.42 AC. (70%) OF IMPERVIOUS AREA. THE DEVELOPMENT UNDER THIS PLAN PROPOSES TO CONSTRUCT LESS IMPERVIOUS AREA THAN PERMITTED AND THEREFORE COMPLIES WITH THE OVERALL STORMWATER CRITERIA FOR THE PD. THE RETENTION POND WAS DESIGNED TO MEET ORANGE COUNTY AND SJRWMD CODE.

cph
500 West Fulton Street
Sanford, Florida 32771
P. O. Box 2808
Sanford, Florida 32772-2808
Phone 407 322-6841
Fax 407 330-0639

Engineers
Surveyors
Architects
Planners
Landscape Architects
Environmental Scientists
Construction Management
Traffic/Transportation

Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Landscp. Lic. No. LC0000298

DENVER M. MARLOW, P.E. 60900

Designed by:	L.J.A.
Drawn by:	T.W.E.
Checked by:	L.J.A.
Approved by:	D.M.M.
Scale:	1" = 40'
Date:	4/6/12
Job No.:	W13405.2

Revision | By | Date

GRADING AND STORM DRAINAGE PLAN

Walmart Neighborhood Market

STORE NO. 5988-01, ORANGE COUNTY

Sheet No.

C-7

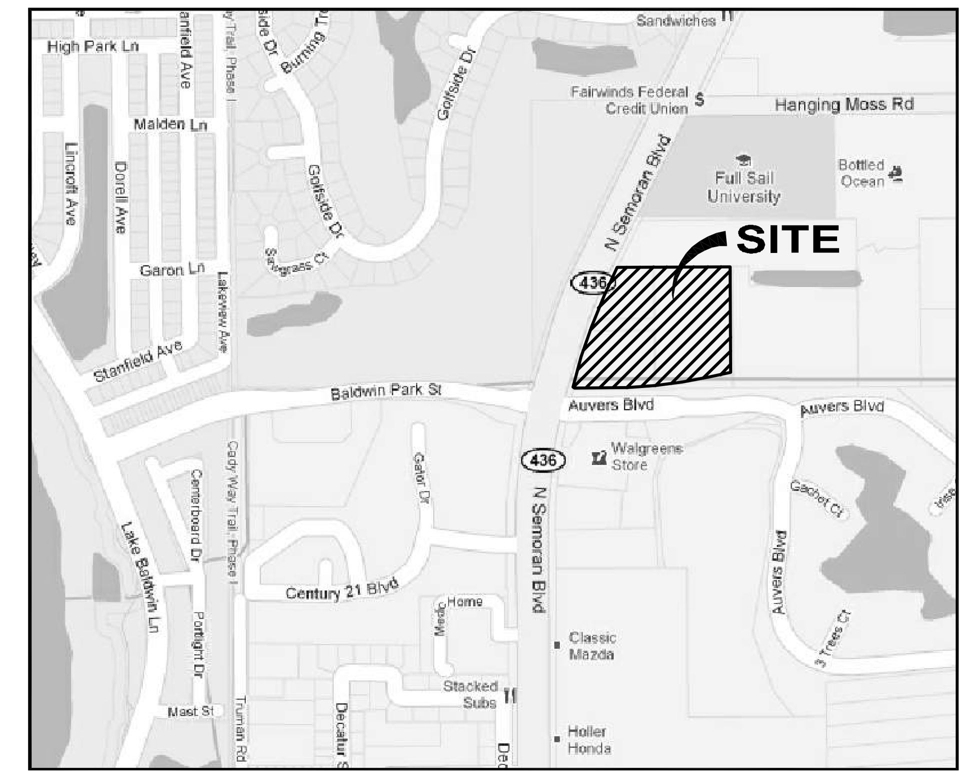
CONSTRUCTION PLANS FOR SEMORAN CROSS ROADS PD

Walmart Neighborhood Market

NORTH SEMORAN BOULEVARD ORANGE COUNTY, FL 32807

TAX PARCEL ID NUMBERS:

15-22-30-0000-00-082
15-22-30-0000-00-083
15-22-30-0000-00-009



VICINITY MAP
N.T.S.

OWNER
WAL-MART STORES EAST, LP
2001 S.E. 10TH STREET
BENTONVILLE, AR 72716-0550
PHONE: (479) 273-4000
ATTN: DESIGN MANAGER-FLORIDA

DEVELOPER
WAL-MART STORES EAST, LP
2001 S.E. 10TH STREET
BENTONVILLE, AR 72716-0550
PHONE: (479) 273-4000
ATTN: DESIGN MANAGER-FLORIDA

ENGINEER
CPH ENGINEERS, INC.
500 WEST FULTON STREET
POST OFFICE BOX 2808
SANFORD, FLORIDA 32772-2808
PHONE: (407) 322-6841
ATTN: DENVER M. MARLOW, P.E.

ARCHITECTS
RAYMOND HARRIS AND ASSOCIATES
211 N. RECORD ST., SUITE 222
DALLAS, TX 75202
PHONE: (214) 749-0626
ATTN: BRIAN CRAWFORD

ENVIRONMENTAL CONSULTANT
CPH ENGINEERS, INC.
500 W. FULTON STREET
SANFORD, FLORIDA 32771
PHONE: (407) 322-6841
ATTN.: AMY E. WRIGHT

SURVEYOR
CPH ENGINEERS, INC.
500 W. FULTON STREET
SANFORD, FLORIDA 32771
PHONE: (407) 322-6841
ATTN.:

LANDSCAPE ARCHITECT
CPH ENGINEERS, INC.
500 W. FULTON STREET
POST OFFICE BOX 2808
SANFORD, FLORIDA 32771
PHONE: (407) 322-6841
ATTN: GALEN J. PUGH, RLA, AICP

SOILS CONSULTANT
ECS FLORIDA, LLC.
2815 DIRECTORS ROW, SUITE 500
POST OFFICE BOX 2808
ORLANDO, FLORIDA 32809
PHONE: (407) 859-8378
ATTN: SUNIL SUNDARAM

UTILITY RESPONSIBILITY MATRIX FOR THIS PROJECT

	UTILITY/ GOVERNING AGENCIES CONTACTS	* CONTRACTOR RESPONSIBILITY–	* OTHERS RESPONSIBILITY–
GAS	TECO PEOPLES GAS – ORLANDO 600 W. ROBINSON ST. ORLANDO, FL 32801 PHONE: (407) 420-6609 ATTN: DEBORAH FRAZIER	–COORDINATE CONSTRUCTION ACTIVITIES WITH GAS COMPANY TO ENSURE THE EXISTING GAS LINES ARE PROTECTED PRIOR TO ASPHALT OR CURB PLACEMENT –MAY REQUIRE A CLEARANCE FROM ANY OTHER UTILITY	–ANY RELOCATION OF EXISTING WILL BE DONE BY GAS COMPANY.
CABLE	BRIGHT HOUSE NETWORKS 3767 ALL AMERICAN BLVD. ORLANDO, FLORIDA 32810 CONTACT: MARVIN USRY PHONE: (407) 532-8509	–COORDINATE CONSTRUCTION ACTIVITIES WITH CABLE COMPANY TO ENSURE THE EXISTING CABLE LINES ARE PROTECTED PRIOR TO ASPHALT OR CURB PLACEMENT	–ANY RELOCATION OF EXISTING WILL BE DONE BY CABLE COMPANY.
TELEPHONE	CENTURY LINK 5812 RED BUG LAKE RD. WINTER PARK, FL 32708 PHONE: (407) 814-5321 ATTN: DAVID ROY	–COORDINATE CONSTRUCTION ACTIVITIES WITH TELEPHONE COMPANY TO ENSURE INSTALLATION OF UNDERGROUND LINES ARE COMPLETED PRIOR TO ASPHALT OR CURB PLACEMENT –PROVIDE AND INSTALL (X)–4" SCHEDULE 40 PVC CONDUITS WITH PULL ROPES, INCLUDING ALL TRENCHING AND BACKFILLING, FROM THE RISER POLE UP TO THE BUILDING –PROVIDE AND INSTALL PULL BOXES AS PER TELEPHONE COMPANY REQUIREMENTS	–TELEPHONE COMPANY WILL PROVIDE AND INSTALL ALL TELEPHONE CABLES FROM THE POINT OF CONNECTION UP TO THE BUILDING –ANY RELOCATION OF EXISTING WILL BE DONE BY CENTURY LINK.
ELECTRIC	PROGRESS ENERGY 452 EAST CROWN POINT ROAD WINTER GARDEN, FLORIDA 34787 PHONE: (407) 905-3303 ATTN: JEFF ZAHARIS	–PRIOR TO ANY DEMOLITION OR CONSTRUCTION, CONTRACTOR TO CONTACT PROG. EN. TO DISCUSS THE SCOPE OF WORK RELATING TO THE RELOCATION OF OUC SERVICES INCLUDING BUT NOT LIMITED TO THE EXISTING UTILITY POLES, OVERHEAD LINES ETC. BOTH ONSITE AND OFFSITE. AN APPLICATION NEEDS TO BE FILED WITH PROG. EN., CONTRACTOR SHALL CONTACT JEFF ZAHARIS WITH OUC AT 407-905-3303 –COORDINATE CONSTRUCTION ACTIVITIES WITH ELECTRIC COMPANY TO ENSURE INSTALLATION OF UNDERGROUND LINES ARE COMPLETED PRIOR TO ASPHALT OR CURB PLACEMENT –PROVIDE AND INSTALL (X)–4" SCHEDULE 40 PVC CONDUITS WITH PULL ROPES, INCLUDING TRENCHING AND BACKFILLING, FOR THE UNDERGROUND PORTIONS OF THE PRIMARY SERVICE FROM THE RISER POLE UP TO THE TRANSFORMER. SCHEDULE 80 PVC CONDUITS SHALL BE USED ON THE RISER POLE AND RIGID METAL, LONG RADIUS, ELBOWS SHALL BE USED WHERE THE UNDERGROUND PORTION MEETS THE RISER POLE AND TRANSFORMER –CONSTRUCT TRANSFORMER PAD AS PER THE ELECTRIC COMPANY'S SPECIFICATIONS –PROVIDE AND INSTALL ALL SECONDARY SERVICE AND MATERIALS –ALL COSTS OF POLE RELOCATION WILL BE THE CONTRACTORS RESPONSIBILITY.	–ELECTRIC COMPANY WILL PROVIDE AND INSTALL PRIMARY CABLE FOR ALL UNDERGROUND LINES UP TO THE TRANSFORMER –ANY RELOCATION OF EXISTING LINES OR POLES WILL BE DONE BY PROGRESS ENERGY.
SANITARY SEWER	CITY OF WINTER PARK UTILITIES 401 PARK AVE. SOUTH WINTER PARK, FL 32789 PHONE: (407) 599-3399 ATTN: SUELLEN SANDERS	–PROVIDE AND INSTALL SANITARY SEWER LINES AND ASSOCIATED APPURTENANCES PER THE PLANS AND SPECIFICATIONS –ALL PUBLIC AND PRIVATE SANITARY SEWER LINES SHALL BE PVC AND RATED SDR 35	
WATER	CITY OF WINTER PARK UTILITIES 401 PARK AVE. SOUTH WINTER PARK, FL 32789 PHONE: (407) 599-3399 ATTN: SUELLEN SANDERS	–PROVIDE AND INSTALL ALL WATER MAINS AND ASSOCIATED APPURTENANCES PER THE PLANS AND SPECIFICATIONS –ALL PUBLIC WATER MAINS SHALL BE D.I.P. –ALL PRIVATE WATER MAINS SHALL BE C-900 PVC, DR18 CLASS 150 OR DR14 CLASS 200 FOR OTHER MAINS. –ALL COSTS OF UTILITY RELOCATIONS WILL BE THE CONTRACTORS RESPONSIBILITY	–INSPECT THE POINT OF CONNECTION AT WATER MAIN AND UP TO POINT OF SERVICE, METER/VALVES. WATER METER WILL BE PROVIDED BY THE WATER COMPANY AT A COST. METER WILL BE EITHER INSTALLED BY THE WATER COMPANY OR THE CONTRACTOR WILL INSTALL UNDER THE INSEPECTION OF THE WATER COMPANY.
STORM SEWER	SJRWMD 975 KELLER ROAD ALTAMONTE SPRINGS, FLORIDA 32714 (407) 659-4837 ATTN: MARJORIE COOK	–PROVIDE AND INSTALL ALL STORM SEWER LINES AND ASSOCIATED APPURTENANCES PER THE PLANS AND SPECIFICATIONS –REFER TO GRADING PLAN FOR INFORMATION ON ALLOWABLE STORM SEWER MATERIALS	

THIS MATRIX HAS BEEN PROVIDED FOR INFORMATIONAL PURPOSES. THE CONTRACTOR SHALL PROVIDE ANY AND ALL APPURTENANCES, TRENCHING AND BACKFILL, AND OTHER INCIDENTALS TO MEET OR EXCEED THE SPECIFICATIONS OF THE ITEMS LISTED.

* RESPONSIBILITIES TO BE DETERMINED UPON COORDINATION WITH THE APPROPRIATE ENTITIES

INDEX OF SHEETS

NOTES:

1. THE SITEWORK FOR THIS PROJECT SHALL MEET OR EXCEED THE "WAL-MART STANDARD SITEWORK SPECIFICATIONS."
2. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.

N

cph
500 West Fulton Street
Sanford, Florida 32771
P. O. Box 2808
Sanford, Florida 32772-2808
Phone 407 322-6841
Fax 407 330-0639
Engineers
Surveyors
Architects
Planners
Landscape Architects
Environmental Scientists
Construction Management
Traffic / Transportation
Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Landscp. Lic. No. LC0000298

DENVER M. MARLOW, LICENSE No. 60900, STATE OF FLORIDA, PROFESSIONAL ENGINEER

DENVER M. MARLOW, P.E.
60900

No.	Date	Revision	By
7			
6			
5			
4			
3			
2			
1			

Designed by:	L.J.A.
Drawn by:	T.W.E.
Checked by:	L.J.A.
Approved by:	D.M.M.
Scale:	N.T.S.
Date:	4/6/12
Job No.:	W13405.2
File: W13405.2 C-1 Cover Sheet.dwg	

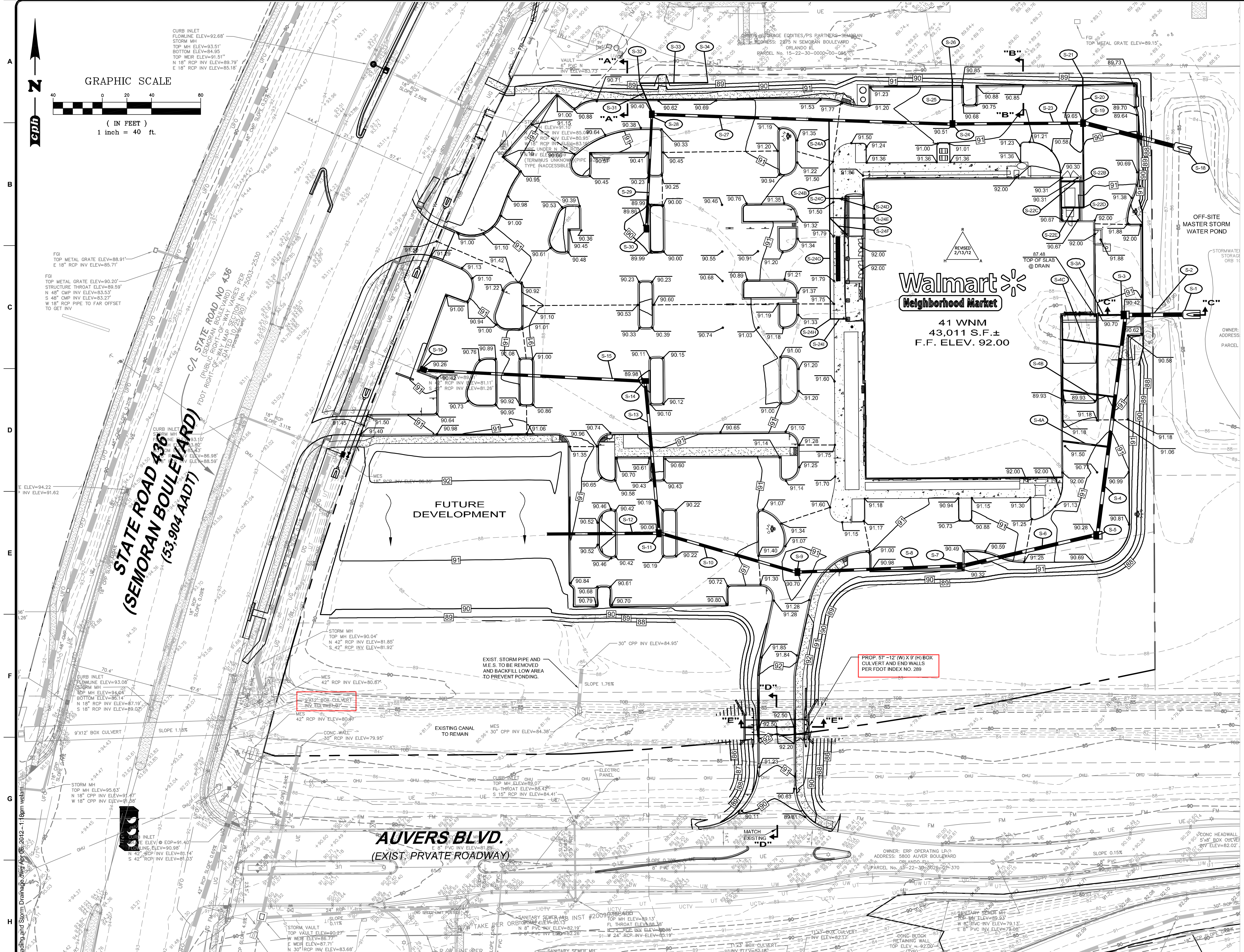
COVER SHEET

Walmart Neighborhood Market

STORE NO. 5988-01, ORANGE COUNTY

Sheet No.

C-1



STORM SEWER SCHEDULE

- S-1 CONCRETE MITERED END SECTION
  F.D.O.T. INDEX NO'S. 272
  F. L. 80.40
- S-2 47'~36" RCP @ 0.40%
- S-3 TYPE E INLET W/ TYPE J BOTTOM
  F.D.O.T. INDEX NO'S. 232 & 200
  TOP ELEV. 90.42
  E. F. L. 80.60
  S. F. L. 82.80
  W. F. L. 86.40
- S-3A 19'~6" STORM PIPE @ 0.40%
- S-4 176'~30" STORM PIPE @ 0.40%
- S-4A SUB-SURFACE DOWNSPOUT CONNECTION
  RE. TO ARCH. PLANS, F.L. 86.50 @ BLDG.
  (36'~10" STORM PIPE @ 6.81%) CONNECT TO S-4
  W/ INSERT-A-TEE CONNECTION OR APPROVED
  EQUAL @ F.L. 84.02±
- S-4B SUB-SURFACE DOWNSPOUT CONNECTION
  RE. TO ARCH. PLANS, F.L. 86.50 @ BLDG.
  (42'~10" STORM PIPE @ 6.21%) CONNECT TO S-4
  W/ INSERT-A-TEE CONNECTION OR APPROVED
  EQUAL @ F.L. 83.86±
- S-4C SUB-SURFACE DOWNSPOUT CONNECTION
  RE. TO ARCH. PLANS, F.L. 86.50 @ BLDG.
  (47'~10" STORM PIPE @ 5.91%) CONNECT TO S-4
  W/ INSERT-A-TEE CONNECTION OR APPROVED
  EQUAL @ F.L. 83.69±
- S-5 TYPE E INLET W/ TYPE J BOTTOM
  F.D.O.T. INDEX NO'S. 232 & 200
  TOP ELEV. 90.28
  N. F. L. 83.50
  S.W. F. L. 83.60
- S-6 111'~30" STORM PIPE @ 0.40%
- S-7 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 90.32
  W. F. L. 84.10
  E. F. L. 84.00
- S-8 129'~24" STORM PIPE @ 0.40%
- S-9 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 90.70
  E. F. L. 84.74
  N.W. F. L. 84.60
- S-10 114'~24" STORM PIPE @ 0.40%
- S-11 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 90.06
  S.E. F. L. 85.20
  W. F. L. 85.30
  N. F. L. 85.30
- S-12 90'~24" STORM PIPE @ 0.40%, WITH PLUG
  PER F.D.O.T. INDEX NO. 280
- S-13 121'~24" STORM PIPE @ 0.40%
- S-14 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 89.98
  S. F. L. 85.80
  W. F. L. 85.90
- S-15 177'~18" STORM PIPE @ 0.40%
- S-16 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 90.26
  E. F. L. 86.60
- S-17 CONCRETE MITERED END SECTION
  F.D.O.T. INDEX NO'S. 272
  F. L. 83.60
- S-18 72'~36" STORM PIPE @ 0.40%
- S-19 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 89.65
  N. F. L. 85.00
  E. F. L. 83.90
  S. F. L. 84.53
  W. F. L. 84.00
- S-19A 95'~10" PVC @ 2.59%, CONNECT TO
  S-19 W/ INSERT-A-TEE CONNECTION OR
  APPROVED EQUAL @ F. L. 84.53
- S-19B 10" X 10" TEE
- S-19C 18'~10" PVC @ 0.40%
  CONNECT TO BLDG. @ 86.50
- S-19D 10" 90° BEND W/ C.O.
- S-19E 18'~10" PVC @ 0.40%
  CONNECT TO BLDG. @ 86.50
- S-20 34'~6" STORM PIPE @ 0.40%
- S-21 6" ADS YARD DRAIN
  TOP ELEV. 88.90
  S. F. L. 85.20
- S-22 138'~30" STORM PIPE @ 0.40%
- S-23 103'~24" STORM PIPE @ 0.40%
- S-24 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 90.51
  E. F. L. 84.40
  N. F. L. 85.00
  W. F. L. 84.50
- S-25 34'~6" STORM PIPE @ 0.40%
- S-26 6" ADS YARD DRAIN
  TOP ELEV. 88.90
  S. F. L. 85.90
- S-27 236'~24" STORM PIPE @ 0.40%
- S-27A 40'~4" PVC @ 0.50%, CONNECT TO
  S-24 W/ INSERT-A-TEE CONNECTION OR
  APPROVED EQUAL @ F. L. 86.40
- S-27B 4" 22.5° BEND
- S-27C 4" X 4" TEE
- S-27D 14'~4" PVC @ 0.40%
  CONNECT TO BLDG. @ 87.00
- S-27E 4" X 4" WYE CONNECTION
- S-27F 20'~4" PVC @ 0.40%
  CONNECT TO BLDG. @ 87.00
- S-27G 108'~4" PVC @ 0.40%
- S-27H 4" 90° BEND W/ C.O.
- S-27I 14'~4" PVC @ 0.40%
  CONNECT TO BLDG. @ 87.00
- S-28 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 90.40
  E. F. L. 85.40
  S. F. L. 85.50
  N. F. L. 85.80
- S-29 88'~18" STORM PIPE @ 0.40%
- S-30 TYPE E INLET
  F.D.O.T. INDEX NO. 232
  TOP ELEV. 89.86
  N. F. L. 85.90
- S-31 25'~6" STORM PIPE @ 0.40%
- S-32 6" ADS YARD DRAIN
  TOP ELEV. 88.95
  S. F. L. 85.95
  E. F. L. 85.98
- S-33 55'~6" STORM PIPE @ 0.40%
- S-34 6" ADS YARD DRAIN
  TOP ELEV. 88.95
  W. F. L. 86.20

NOTES:

1. ALL PIPES IN LEGEND SPECIFIED AS "STORM PIPE" SHALL BE SELECTED FROM THOSE LISTED UNDER GENERAL GRADING NOTES, NOTE 12, SHEET C-2A.
2. PIPE LENGTHS ASSOCIATED WITH MITERED END AND FLARED END SECTIONS DO NOT INCLUDE SEGMENT TO BE INCLUDED UNDER UNIT PRICE FOR M.E.S. OR F.E.S. (A.K.A. DIMENSION F & D, F.D.O.T. INDEX NO. 272 & 270, RESPECTIVELY)
3. FOR INLET BOTTOMS SEE FDOT INDEX NO. 200
4. FOR SUPPLEMENTAL DETAILS SEE FDOT INDEX NO. 200.
5. ALL DRAINAGE STRUCTURES, INCLUDING CLEAN-OUTS, SHALL BE INSTALLED WITH TRAFFIC BEARING GRATES, TOPS, RINGS AND COVERS, ETC. AS APPLICABLE.
6. ALL PROPOSED INLET GRATES SHALL BE TRAFFIC BEARING RETICULINE STEEL.
7. ALL PIPE END TREATMENTS SHALL BE INSTALLED WITH "RIP-RAP" EROSION DISSIPATERS OR APPROVED EQUAL
8. SEE SHEET C-10 FOR SECTIONS.
9. REFER TO ROADWAY IMPROVEMENTS PLANS FOR S.R. 436 (SEMORAN BLVD.) PREPARED BY CPH ENGINEERS, INC. DATED MARCH 21, 2002 FOR OFFSITE IMPROVEMENTS.

FOUNDATION SUBSURFACE PREPARATION
WAL-MART NEIGHBORHOOD MARKET #5988
ORLANDO (BALDWIN), FL

UNLESS SPECIFICALLY INDICATED OTHERWISE IN THE DRAWINGS AND/OR SPECIFICATIONS, THE LIMITS OF THIS SUBSURFACE PREPARATION ARE CONSIDERED TO BE THAT PORTION OF THE SITE DIRECTLY BENEATH AND 5 FEET BEYOND THE BUILDING AND APPURTENANCES.

APPURTENANCES ARE THOSE ITEMS ATTACHED TO THE BUILDING PROPER (REFER TO DRAWING SHEET SP1), TYPICALLY INCLUDING, BUT NOT LIMITED TO, THE BUILDING SIDEWALKS, GARDEN CENTER, PORCHES, RAMPS, STOOPS, TRUCK WELLS/DOCKS, CONCRETE APRONS, COMPACTOR PAD, ETC. INSTALL A MINIMUM 10-MIL VAPOR RETARDER, MEETING ASTM E 1745, "CLASS A" REQUIREMENTS, PLACED ABOVE THE BASE AND DIRECTLY BELOW THE SLAB. NOTE: VAPOR BARRIER AS REQUIRED BY FLORIDA BUILDING CODE. DO NOT EXTEND BEYOND THE LIMITS OF THE ACTUAL BUILDING AND THE APPURTENANCES.

ESTABLISH THE INITIAL SUBGRADE ELEVATION TO ALLOW FOR THE CONCRETE SLAB AND BASE. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR REQUIRED SLAB THICKNESS. THE 4 INCH THICK BASE MATERIAL SHALL CONFORM TO SECTION 200 AND SECTION 911 OF THE 2000 FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. LIMEROCK MATERIAL SHALL HAVE AT LEAST 97% (BY WEIGHT) PASSING A 3.5 INCH SIEVE AND SHALL BE GRADED UNIFORMLY DOWN TO DUST. THE FINE MATERIAL SHALL CONSIST ENTIRELY OF DUST OF FRACTURE. THE LIMEROCK MATERIAL SHALL HAVE A LIMEROCK BEARING RATIO (LBR) OF AT LEAST 100. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ACCURATE MEASUREMENTS FOR ALL CUT AND FILL DEPTHS AND SUITABILITY OF EXISTING ONSITE SOILS. ANY PROPOSED EQUIVALENT ALTERNATIVE BASE MATERIAL MUST BE SUBMITTED FOR APPROVAL WITHIN 30 DAYS AFTER AWARD OF CONTRACT. ANY EQUIVALENT ALTERNATIVE SHALL ONLY BE USED IF APPROVED IN WRITING BY THE CEC AND AOR.

EXISTING FOUNDATIONS, SLABS, PAVEMENTS, AND BELOW-GRADE STRUCTURES SHALL BE REMOVED FROM THE BUILDING AREA. REMOVE ALL SURFACE VEGETATION, TOPSOIL, ROOT SYSTEMS, ORGANIC MATERIAL, EXISTING FILL, AND SOFT OR OTHERWISE UNSATISFACTORY MATERIAL (AS DEFINED IN SPECIFICATION SECTION 2300) FROM THE BUILDING AREA. PROOFROLL EXPOSED SUBGRADE. REMOVE AND REPLACE ALL UNSATISFACTORY AREAS WITH SATISFACTORY MATERIAL. SUBGRADE MATERIAL SHALL BE SATISFACTORY MATERIAL FREE OF ORGANICS, NON-PLASTIC, AND GRANULAR SOIL WITH LESS THAN 10 PERCENT PASSING THE NO. 200 MESH SIEVE.

SUBGRADE MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND COMPACTED TO AT LEAST 98 PERCENT IN THE TOP 2 FEET AND 95 PERCENT BELOW THE TOP TWO FEET OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557) AT A MOISTURE CONTENT WITHIN +/-2 PERCENT OF THE OPTIMUM MOISTURE CONTENT.

THE FOUNDATION SYSTEM SHALL BE ISOLATED SPREAD FOOTINGS AT COLUMNS AND CONTINUOUS SPREAD FOOTINGS AT WALLS. PERIMETER DRAINS WILL BE REQUIRED IN THE TRUCK DOCK AREA AS INDICATED IN THE GEOTECHNICAL REPORT.

THIS FOUNDATION SUBSURFACE PREPARATION DOES NOT CONSTITUTE A COMPLETE SITE WORK SPECIFICATION. INFORMATION COVERED IN THIS PREPARATION SHALL TAKE PRECEDENCE OVER THE WAL-MART SPECIFICATIONS.

REFER TO THE SPECIFICATIONS FOR SPECIFIC INFORMATION NOT COVERED IN THIS PREPARATION. THIS INFORMATION WAS TAKEN FROM A GEOTECHNICAL REPORT PREPARED BY ECS-FLORIDA, LLC, DATED NOVEMBER 23, 2001 (GEOTECHNICAL REPORT IS FOR INFORMATION ONLY AND IS NOT A CONSTRUCTION SPECIFICATION).

03/29/12

BEFORE YOU DIG !
CALL SUNSHINE STATE ONE CALL OF FLORIDA
AT LEAST TWO FULL BUSINESS DAYS BEFORE DIGGING OR DISTURBING EARTH

Sunshine State One Call 811 OF FLORIDA, INC.
Know what's below. Call before you dig.
www.callsunshine.com

PROPOSED LEGEND

- (E.P.) EDGE OF PVMT. ELEV.
- FLOW DIRECTION
- STORM SEWER PIPE
- DITCH BOTTOM INLET PER FDOT INDEX NO. 232
- TYPE 5 INLET PER FDOT INDEX NO. 211

100 YR. FLOOD PLAIN:

ACCORDING TO THE FIRM FLOOD INSURANCE RATE MAP FOR ORANGE COUNTY, FL MAP NUMBER 12095C0260F EFFECTIVE DATE SEPTEMBER 25, 2009, THE SITE LIES WITHIN A DESIGNATED ZONE AE (AREAS DETERMINED TO BE SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD).

COMPENSATING STORAGE FOR IMPACTS TO THE 100 YEAR FLOOD PLAIN SHALL BE PROVIDED IN THE MASTER STORM WATER POND LOCATED TO THE EAST.

EROSION AND SEDIMENTATION

FINISHED GRADE

GRADES AT THE PERIMETER OF THE PROPERTY MAY VARY MORE THAN ONE FOOT ABOVE OR BELOW EXISTING GRADES.

CONTROL NOTES

MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO WAL*MART. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. THE EROSION CONTROL SYSTEM DESCRIBED WITHIN THE CONSTRUCTION DOCUMENTS SHOULD BE CONSIDERED TO REPRESENT THE MINIMUM ACCEPTABLE STANDARDS FOR THIS PROJECT. ADDITIONAL EROSION CONTROLS MEASURES MAY BE REQUIRED DEPENDENT UPON THE STAGE OF CONSTRUCTION, THE SEVERITY OF THE RAINFALL EVENT AND/OR AS DEEMED NECESSARY AS A RESULT OF ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES OR THE JURISDICTIONAL AUTHORITIES. THESE ADDITIONAL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER. IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO ASSURE THAT THE STORM WATER DISCHARGE FROM THE SITE DOES NOT EXCEED THE TOLERANCES ESTABLISHED BY ANY OF THE JURISDICTIONAL AUTHORITIES.

STORMWATER MANAGEMENT

THE EXISTING MASTER STORM WATER DETENTION POND LOCATED ON THE ADJACENT PROPERTY TO THE EAST HAS BEEN DESIGNED AND IS CURRENTLY UNDER REVIEW WITH ORANGE COUNTY (PERMIT NO. B11902399) AND SJRWMD (APPLICATION NO. 129099-1) TO ACCEPT THE STORM WATER RUNOFF AND COMPENSATING STORAGE FOR THIS PROPERTY DEVELOPED UP TO 5.42 AC. (70%) OF IMPERVIOUS AREA. THE DEVELOPMENT UNDER THIS PLAN PROPOSES TO CONSTRUCT LESS IMPERVIOUS AREA THAN PERMITTED AND THEREFORE COMPLIES WITH THE OVERALL STORMWATER CRITERIA FOR THE PD. THE RETENTION POND WAS DESIGNED TO MEET ORANGE COUNTY AND SJRWMD CRITERIA.

cph
500 West Fulton Street
Sanford, Florida 32771
P. O. Box 2808
Sanford, Florida 32772-2808
Phone 407 322-6841
Fax 407 330-0639
Engineers
Surveyors
Architects
Planners
Landscape Architects
Environmental Scientists
Construction Management
Traffic/Transportation
Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Landscp. Lic. No. LC0000298

DENVER M. MARLOW PROFESSIONAL ENGINEER LICENSE No. 60900 STATE OF FLORIDA
DENVER M. MARLOW, P.E.
60900

No.	Date	Revision	By

Designed by:	L.J.A.
Drawn by:	T.W.E.
Checked by:	D.M.M.
Approved by:	
Scale:	1" = 40'
Date:	4/6/12
Job No.:	W13405.2
File:	W13405.2 C-7 Grading and Storm

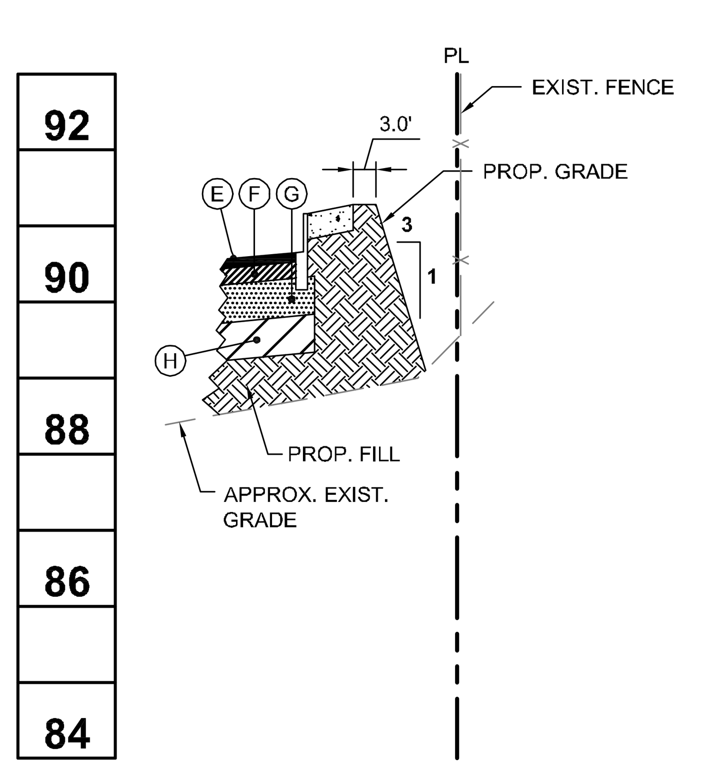
GRADING AND STORM DRAINAGE PLAN

Walmart Neighborhood Market

STORE NO. 5988-01, ORANGE COUNTY

Sheet No.

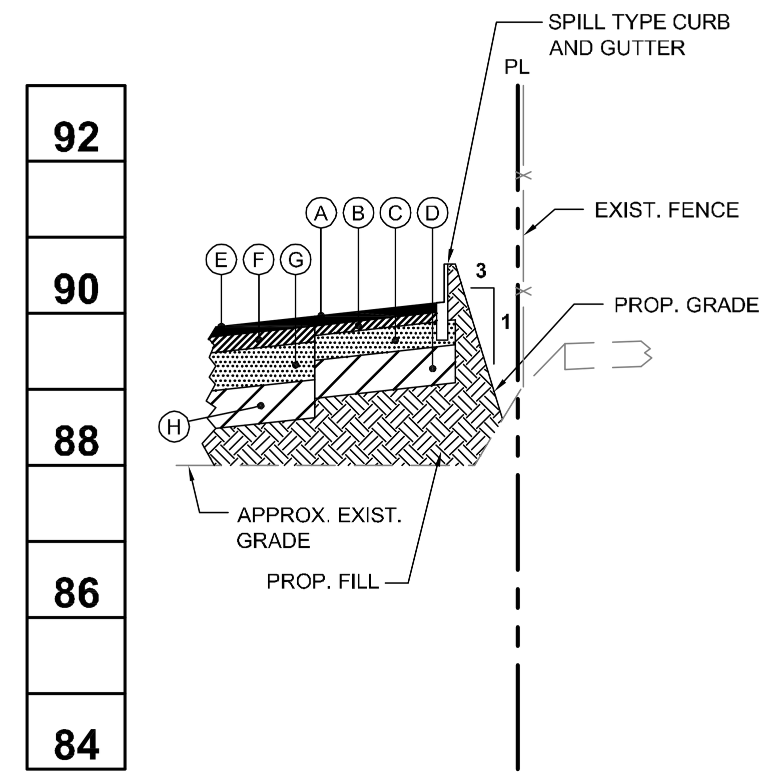
C-7



NOTE:
1. SOD ALL SIDE SLOPES AND ALL DISTURBED AREAS
2. SEE SHEET C-13 FOR PAVEMENT MATERIALS.

SECTION "A"-"A"

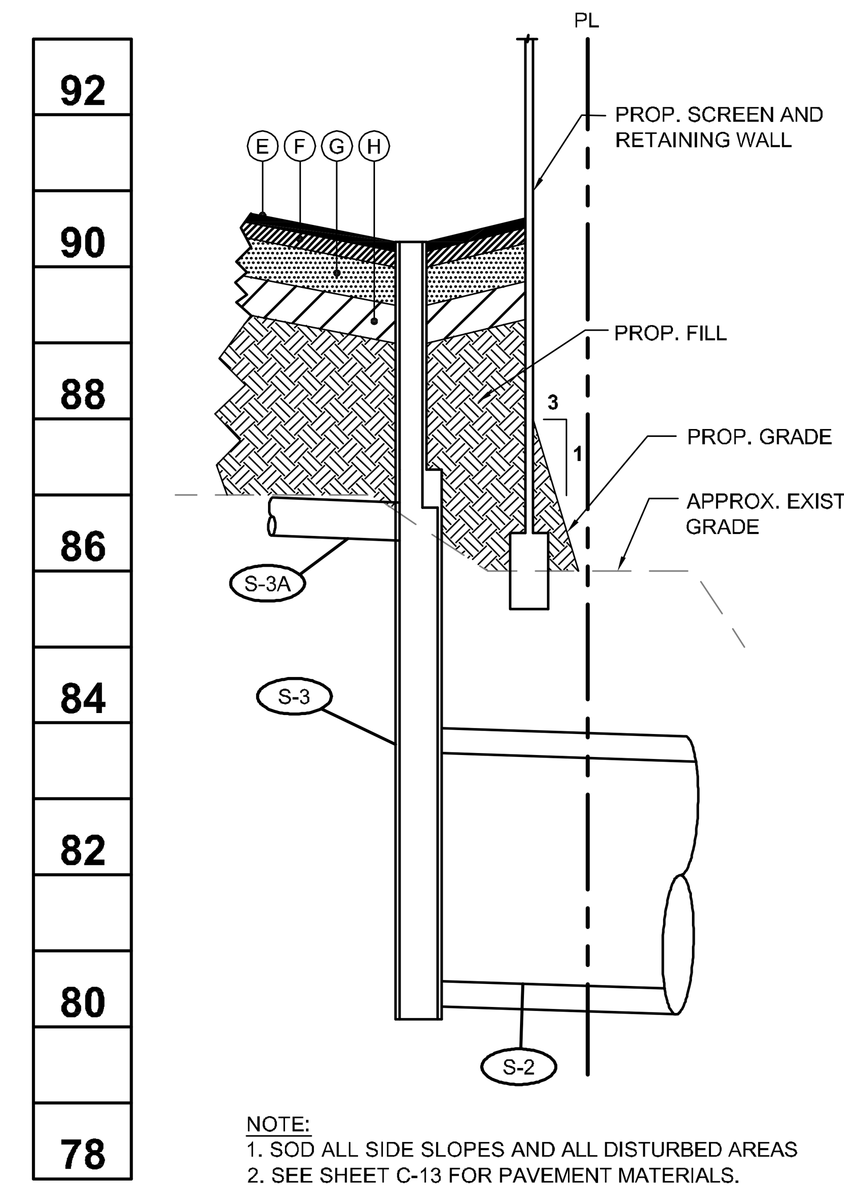
SCALE: H. 1" = 20', V. 1" = 2'



NOTE:
1. SOD ALL SIDE SLOPES AND ALL DISTURBED AREAS
2. SEE SHEET C-13 FOR PAVEMENT MATERIALS.

SECTION "B"-"B"

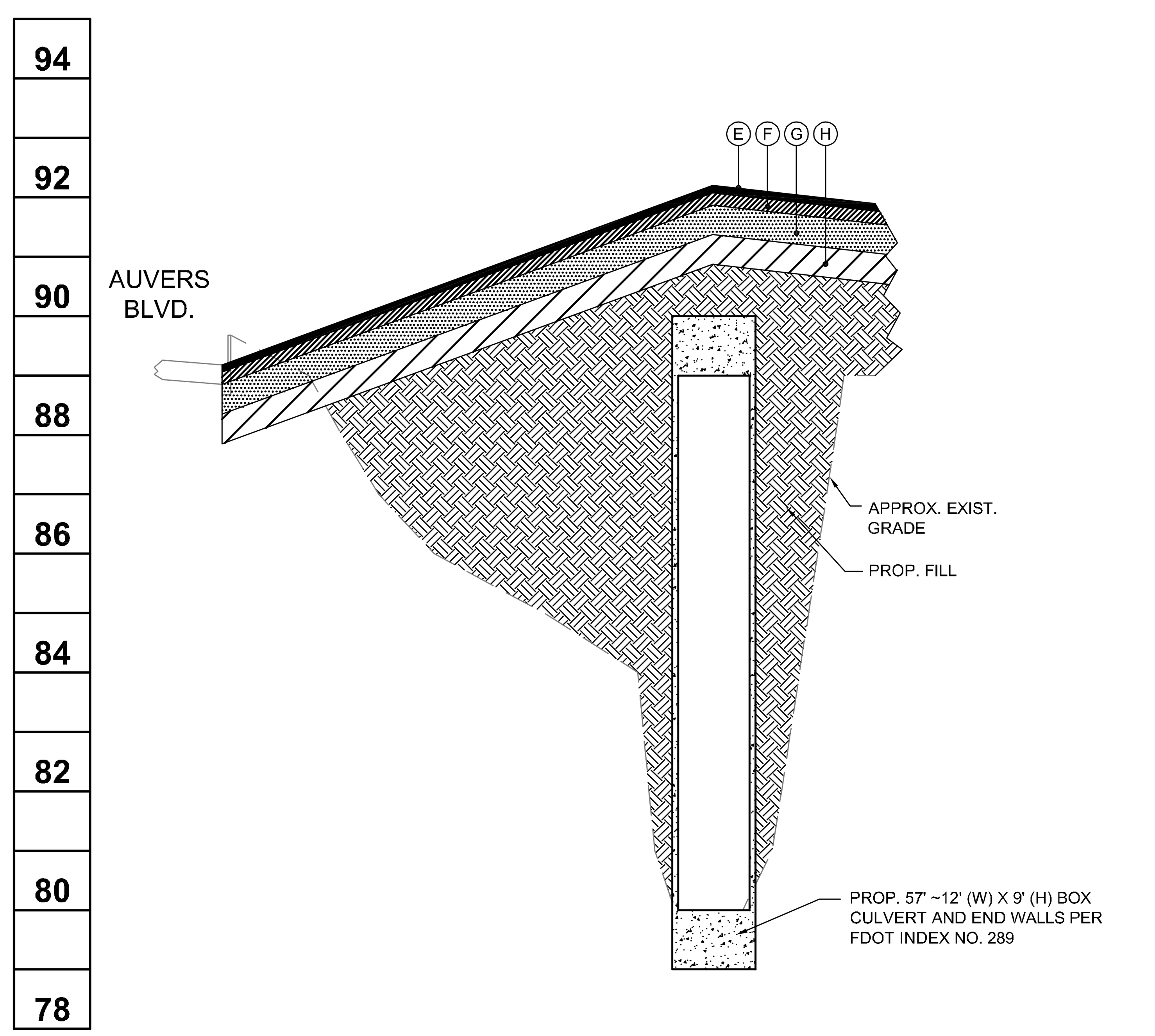
SCALE: H. 1" = 20', V. 1" = 2'



NOTE:
1. SOD ALL SIDE SLOPES AND ALL DISTURBED AREAS
2. SEE SHEET C-13 FOR PAVEMENT MATERIALS.

SECTION "C"-"C"

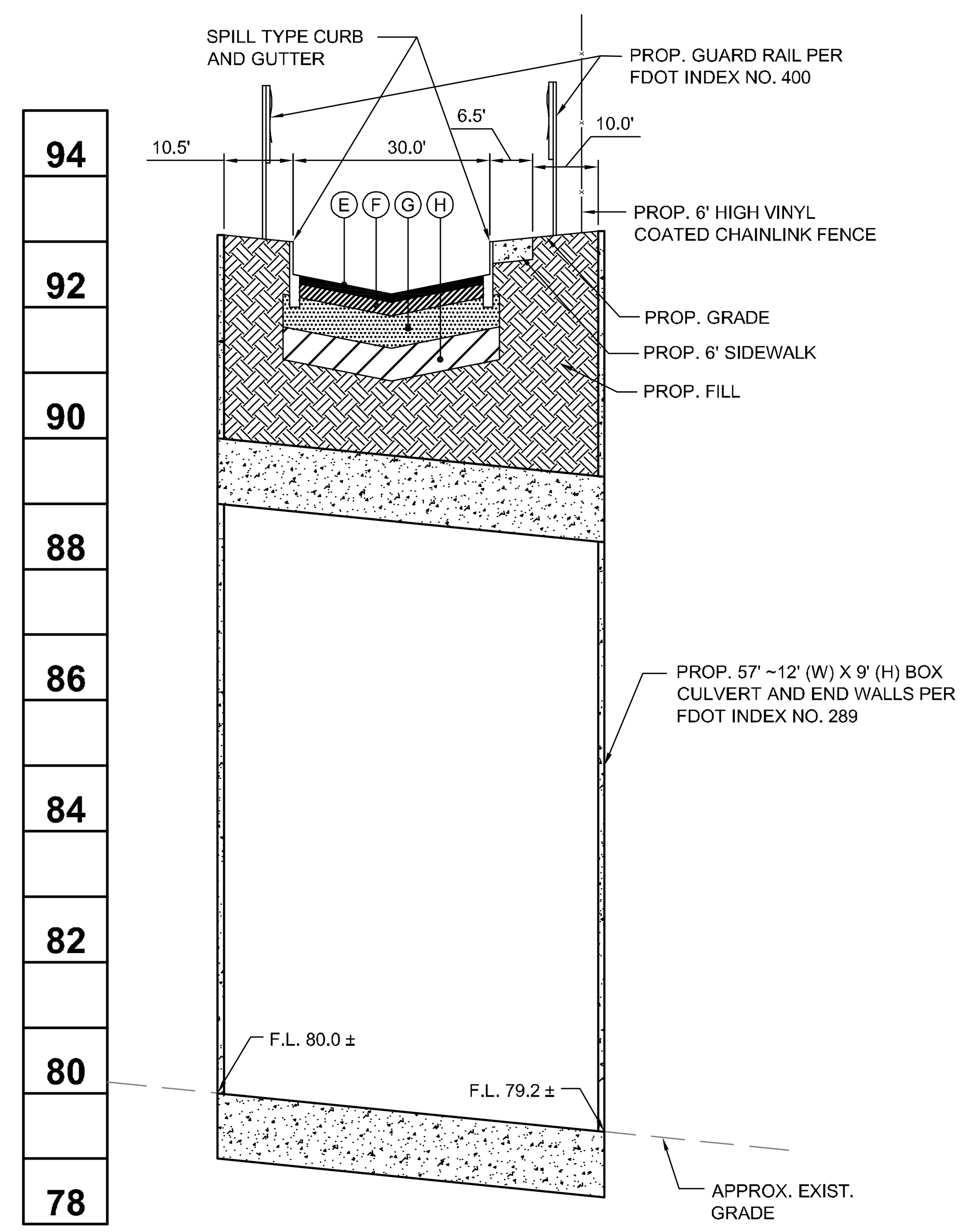
SCALE: H. 1" = 20', V. 1" = 2'



NOTE:
1. SOD ALL SIDE SLOPES AND ALL DISTURBED AREAS
2. SEE SHEET C-13 FOR PAVEMENT MATERIALS.

SECTION "D"-"D"

SCALE: H. 1" = 20', V. 1" = 2'



NOTE:
1. SOD ALL SIDE SLOPES AND ALL DISTURBED AREAS
2. SEE SHEET C-13 FOR PAVEMENT MATERIALS.

SECTION "E"-"E"

SCALE: H. 1" = 20', V. 1" = 2'

J:\W13405.2\dwg\design\W13405.2 - BASE_SECTIONS1.dwg Apr 06, 2012 - 1:35pm wellam

cph

500 West Fulton Street
Sanford, Florida 32771
P. O. Box 2808
Sanford, Florida 32772-2808
Phone 407 322-6841
Fax 407 330-0639

Engineers
Surveyors
Architects
Planners
Landscape Architects
Environmental Scientists
Construction Management
Traffic / Transportation

Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Landsp. Lic. No. LC0000298

DENVER M. MARLOW · LICENSE No. 60900 · STATE OF FLORIDA · PROFESSIONAL ENGINEER

DENVER M. MARLOW, P.E. 60900

No	Date	Revision	By

Designed by:	L.J.A.
Drawn by:	T.W.E.
Checked by:	L.J.A.
Approved by:	D.M.M.
Scale:	AS SHOWN
Date:	4/6/12
Job No.:	W13405.2
File:	W13405.2 - BASE_SECTIONS1.dwg

SECTIONS SHEET

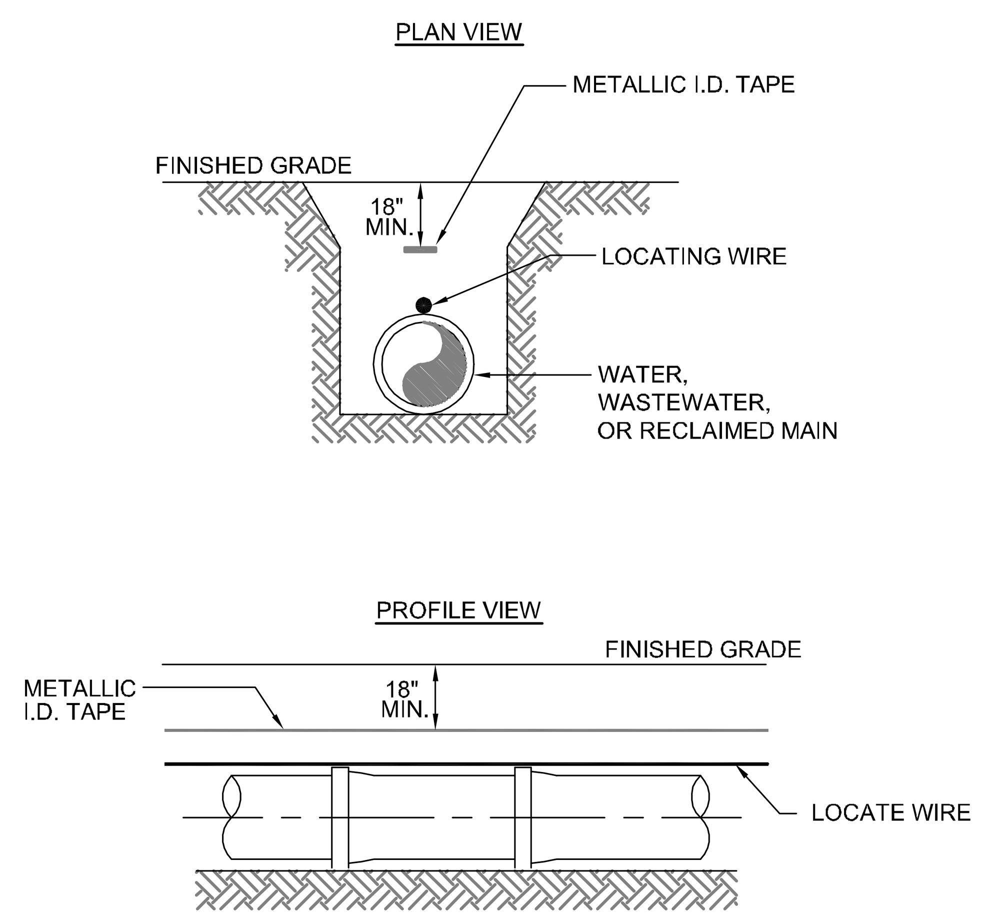
Walmart Neighborhood Market

STORE NO. 5988-01, ORANGE COUNTY

Sheet No.

C-10

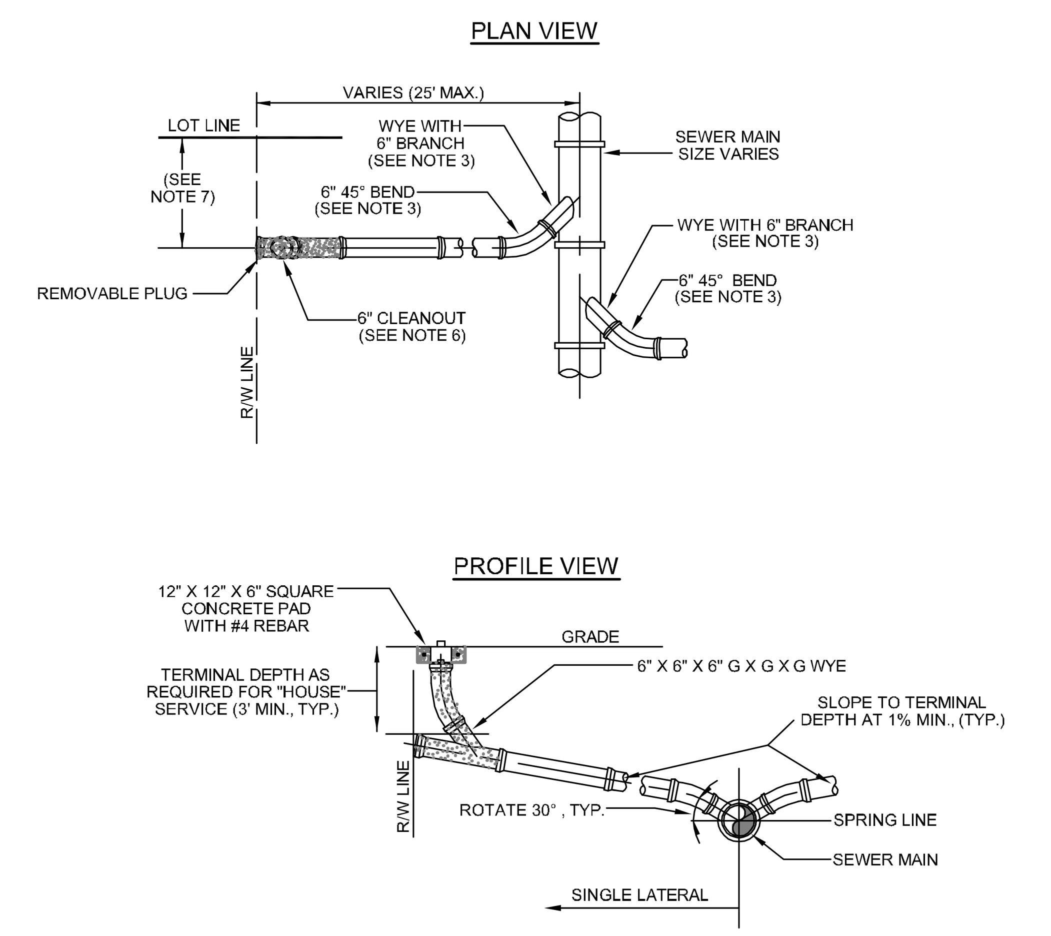
DATE: January 2, 2008	PIPE LOCATING WIRE & METALLIC TAPE	SCALE: N.T.S



NOTES:
1. ALL PIPES REQUIRE INSULATED WIRE (10 GAUGE SOLID COPPER OR 12 GAUGE COPPERHEAD COPPER COAST STEEL) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE SECURED TO THE TOP CENTERLINE OF THE PIPE.
2. THE LOCATING WIRE SHALL TERMINATE INSIDE THE TEST BOX AND SHALL EXTEND 12" ABOVE FINISHED GRADE.
3. METALLIC I.D. TAPE SHALL BE INSTALLED AT THE CENTERLINE OF THE BURIED MAIN AND A MINIMUM OF 18" BELOW FINISHED GRADE.

FIGURE 3

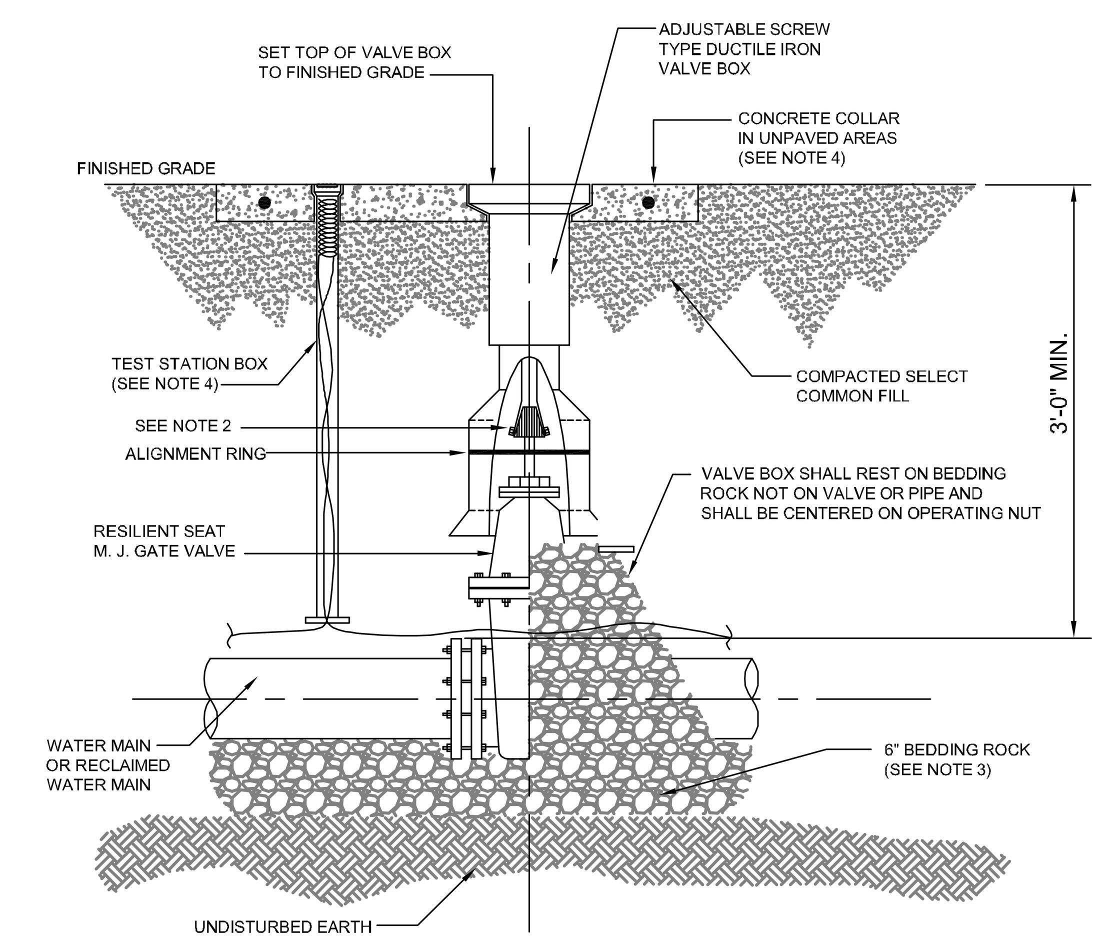
DATE: January 2, 2008	SERVICE LATERAL	SCALE: N.T.S



NOTES:
1. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
2. SERVICE LATERAL SHALL BE CAPPED BY DEVELOPER'S CONTRACTOR.
3. ALL FITTINGS SHOWN ARE TO BE INSTALLED.
4. SERVICE CONNECTIONS SHALL BE PERMANENTLY MARKED BY CUTTING AN "S" INTO THE CURB DIRECTLY OVER THE LATERAL.
5. BUILDER'S PLUMBER WILL REMOVE PLUG, INSTALL CLEANOUT AND CONNECT LATERAL TO HOUSE.
6. 6" CLEANOUT (SHOWN SHADED) SHALL BE INSTALLED BY THE BUILDER AND/OR CONTRACTOR AT THE PROPERTY LINE IN ACCORDANCE WITH UTILITY STANDARDS.
7. SINGLE LATERALS ARE TO BE INSTALLED PER CITY UTILITY REQUIREMENTS.

FIGURE 4

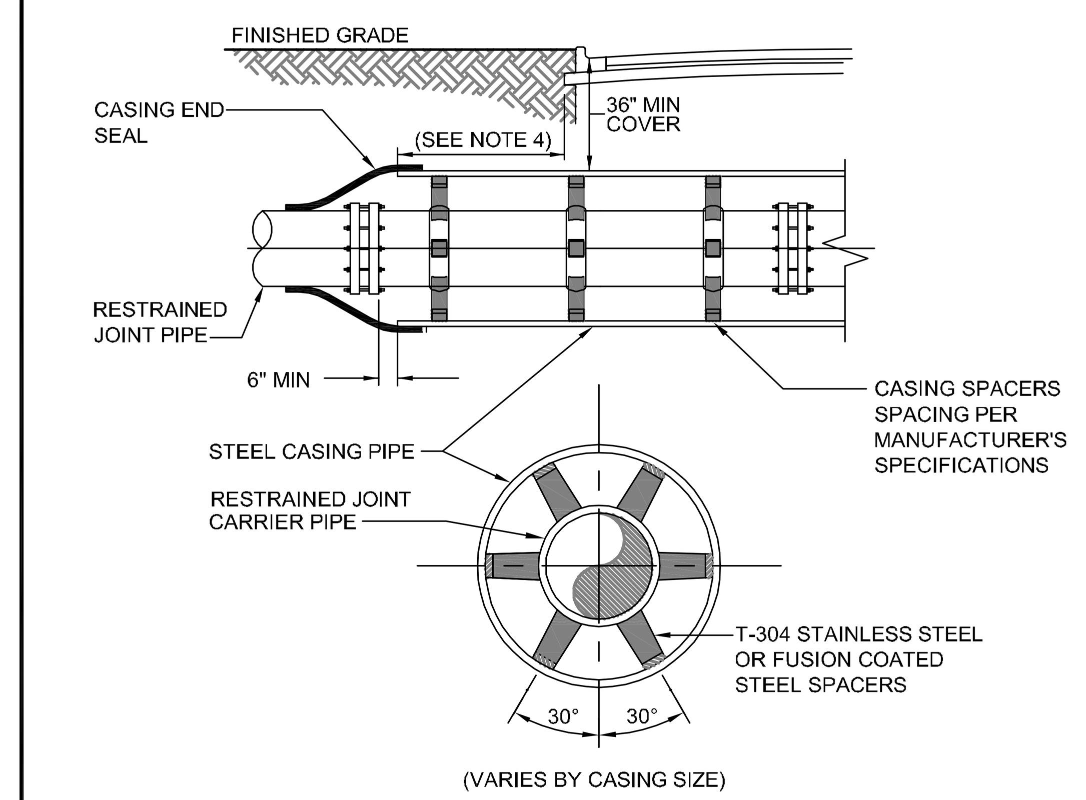
DATE: January 2, 2008	GATE VALVE & BOX-WATER & RECLAIMED	SCALE: N.T.S



NOTES:
1. C900 PVC OR DUCTILE IRON PIPE SHALL BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE EXTENDED TO BE WITHIN 3' BELOW FINISHED GRADE.
3. BEDDING MATERIAL SHALL CONFORM TO FDOT NO. 57 AGGREGATE.
4. SEE FIGURE 10 AND 42 FOR DETAILED SPECIFICATIONS.
5. THE VALVE COVER BOX SHALL BE MARKED " WATER OR RECLAIMED".

FIGURE 6

DATE: January 2, 2008	CASING SPACERS	SCALE: N.T.S

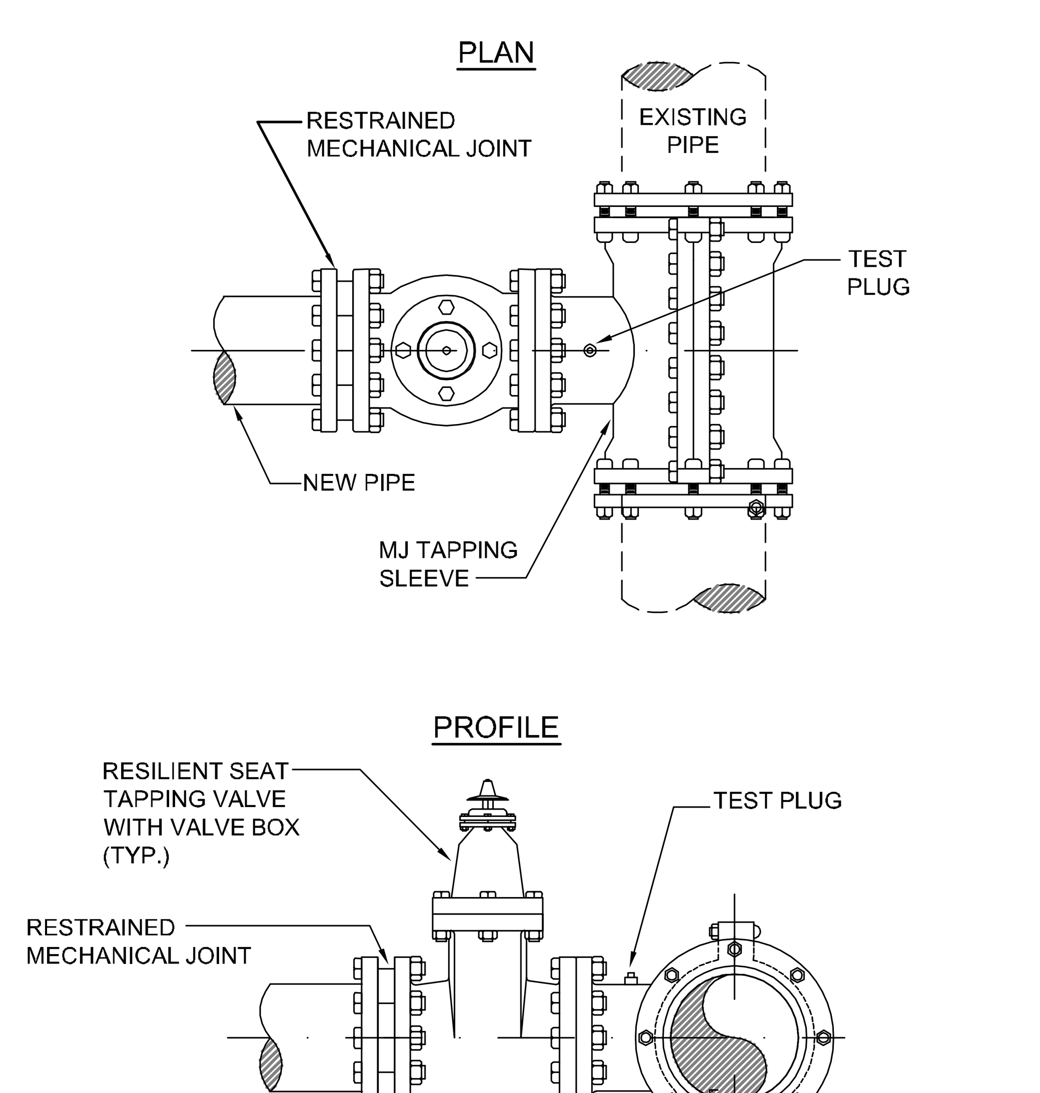


NOTES:
1. WHEN CONSTRUCTION IS WITHIN FDOT JURISDICTION, ADDITIONAL REQUIREMENTS OF THE UTILITY ACCOMMODATION GUIDE SHALL BE MET.
2. DISTANCE BETWEEN SPACERS TO BE PER MANUFACTURER'S SPECIFICATIONS.
3. NO FLOWABLE FILL IN THE ANNULAR SPACE BETWEEN THE CASING AND CARRIER PIPE.
4. CASING SHALL EXTEND A MINIMUM OF 5' FROM THE EDGE OF THE ROADWAY OR MEET FDOT REQUIREMENTS, WHICHEVER IS GREATER.

FIGURE 8

DATE: January 2, 2008	MJ TAPPING SLEEVE & TAPPING VALVE	SCALE: N.T.S

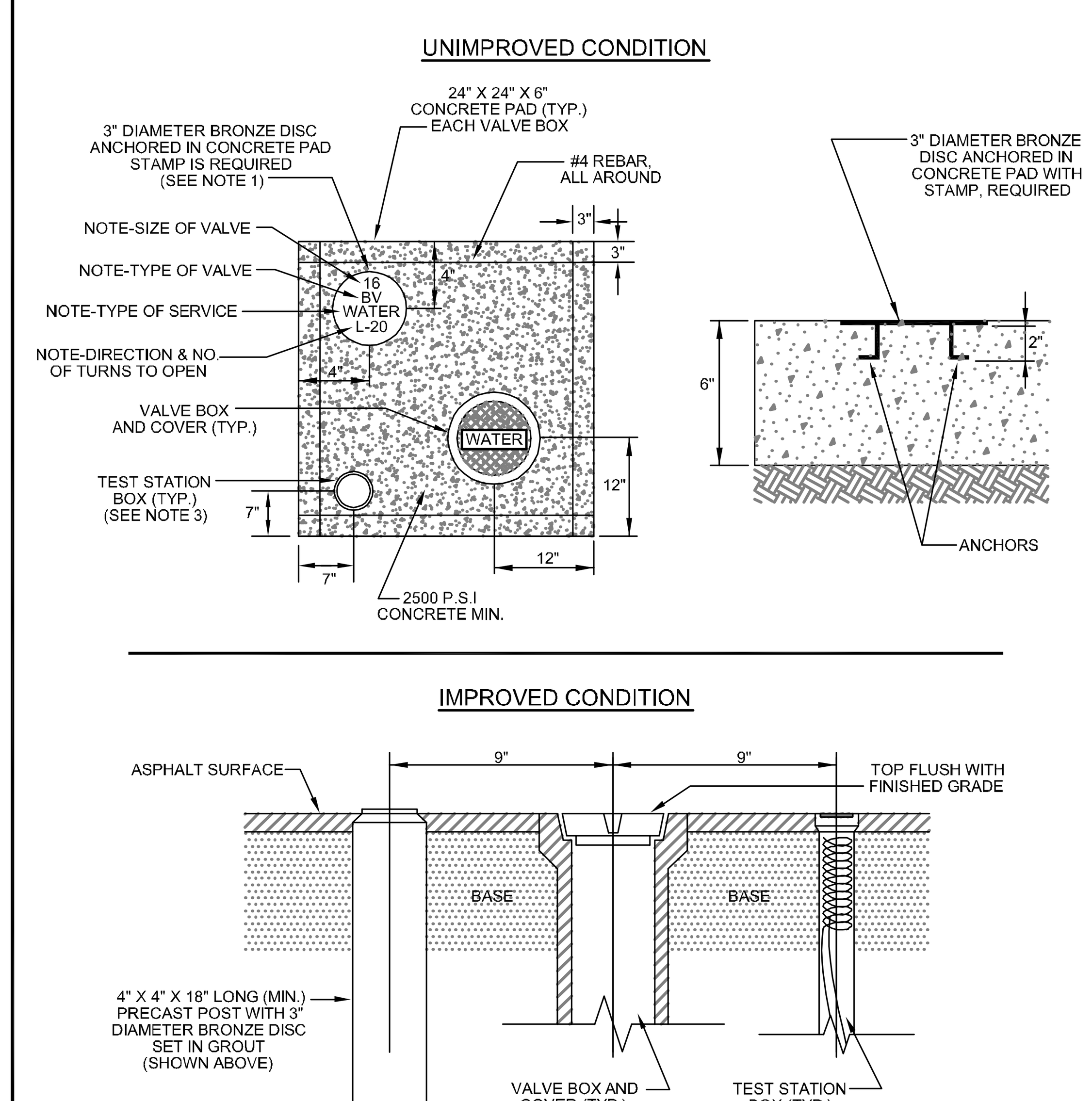
(APPROVED FOR UNIVERSAL CAST IRON PIPE)



NOTES:
1. AC PIPE REQUIRES SMITH BLAIR MODEL - 655 OR JCM MODEL - 432 TAPPING SLEEVE.

FIGURE 9

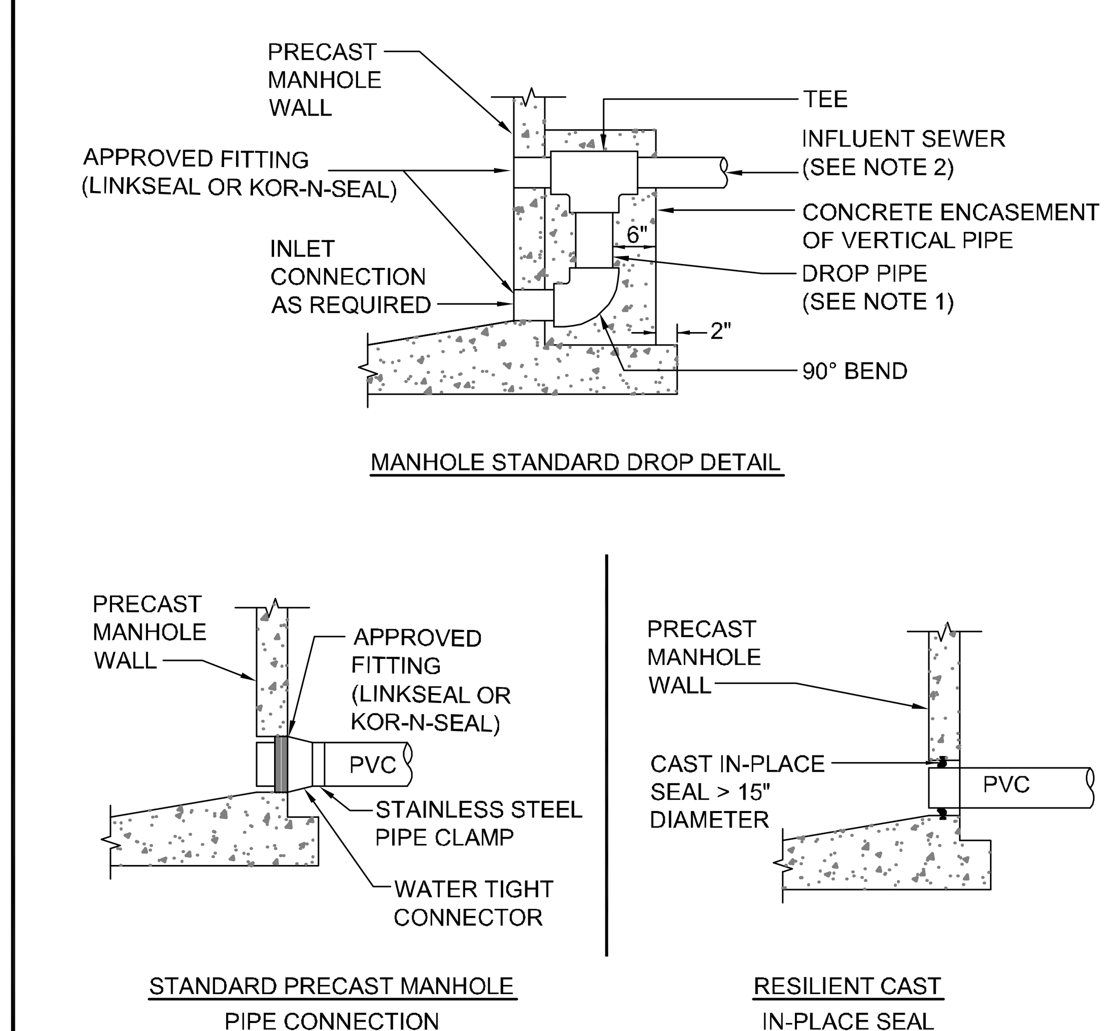
DATE: January 2, 2008	VALVE COLLAR PAD	SCALE: N.T.S



NOTES:
1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES GREATER THAN 2", OR AS REQUIRED BY THE CITY.
2. VALVE COLLAR DIMENSIONS MAY BE REDUCED TO 18" X 18" X 6" ON A 2" ARCH PATTERN CURB BOX.
3. SEE FIGURE 42 FOR DETAILED SPECIFICATIONS.

FIGURE 10

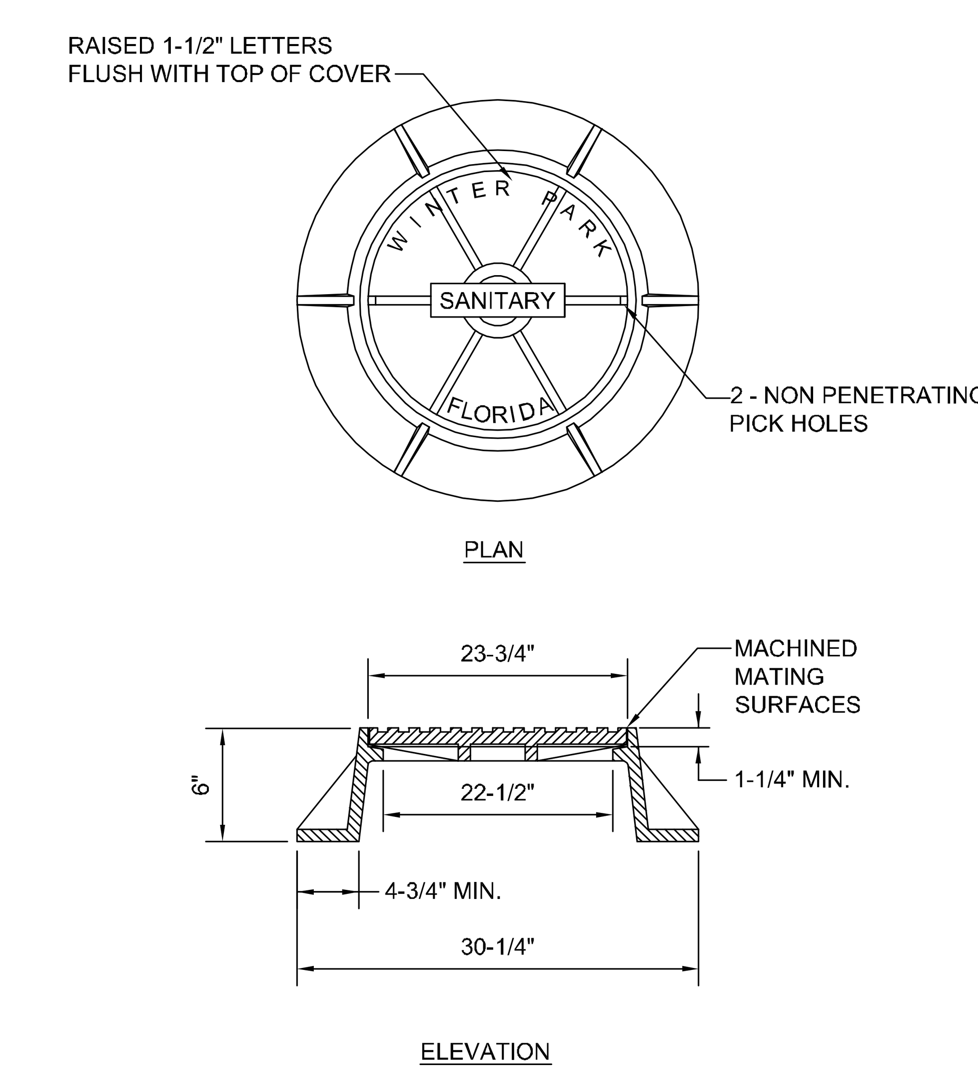
DATE: January 2, 2008	MANHOLE CONNECTION	SCALE: N.T.S



NOTES:
1. DROP PIPE AND FITTINGS SHALL BE OF EQUAL SIZE AND MATERIAL AS THE INFLUENT MAIN.
2. AN OUTSIDE DROP CONNECTION SHALL BE REQUIRED FOR ALL INFLUENT LINES WHICH HAVE AN INVERT 2' OR MORE ABOVE THE MANHOLE INVERT.
3. ALTERNATE WATER-TIGHT CONNECTION DETAILS FOR CONNECTION WITH 24" DIAMETER PIPES AND LARGER MUST BE APPROVED BY UTILITIES.
4. INSIDE SERVICE DROP CONNECTIONS ARE PERMITTED ON EXISTING MANHOLES, FOLLOWING REVIEW AND ACCEPTANCE BY THE UTILITY DEPARTMENT.

FIGURE 11

DATE: January 2, 2008	USF 170E MANHOLE FRAME & COVER	SCALE: N.T.S



NOTES:
1. ONLY APPLIES TO THE CITY OF WINTER PARK UTILITIES OWNED AND MAINTAINED MANHOLES. "WINTER PARK" SHALL NOT APPEAR ON PRIVATE MANHOLES.
2. DEPENDENT UPON SITE LOCATION DECORATIVE LOGO MANHOLE COVERS MAY BE REQUIRED; USF 170 FRAME W/ EI. STANDARD MANHOLE COVER; USF 170 FRAME W/ CE.

FIGURE 12

cph
500 West Fulton Street
Sanford, Florida 32771
P. O. Box 2808
Sanford, Florida 32772-2808
Phone 407 322-6841
Fax 407 330-0639
Engineers
Surveyors
Architects
Planners
Landscape Architects
Environmental Scientists
Construction Management
Traffic/Transportation
Eng. C.O.A. No. 3215
Survey L.B. No. 7143
Arch. Lic. No. AA2600926
Landsp. Lic. No. LC0000298

No	Date	Revision	By

Designed by:	--
Drawn by:	--
Checked by:	--
Approved by:	--
Scale:	NONE
Date:	4/6/12
Job No.:	W13405.2
File:	W13405.2 C-14 Winter Park Utility Details.dwg

WINTER PARK UTILITY DETAIL SHEET

Walmart Neighborhood Market

STORE NO. 5988-01, ORANGE COUNTY

Sheet No.

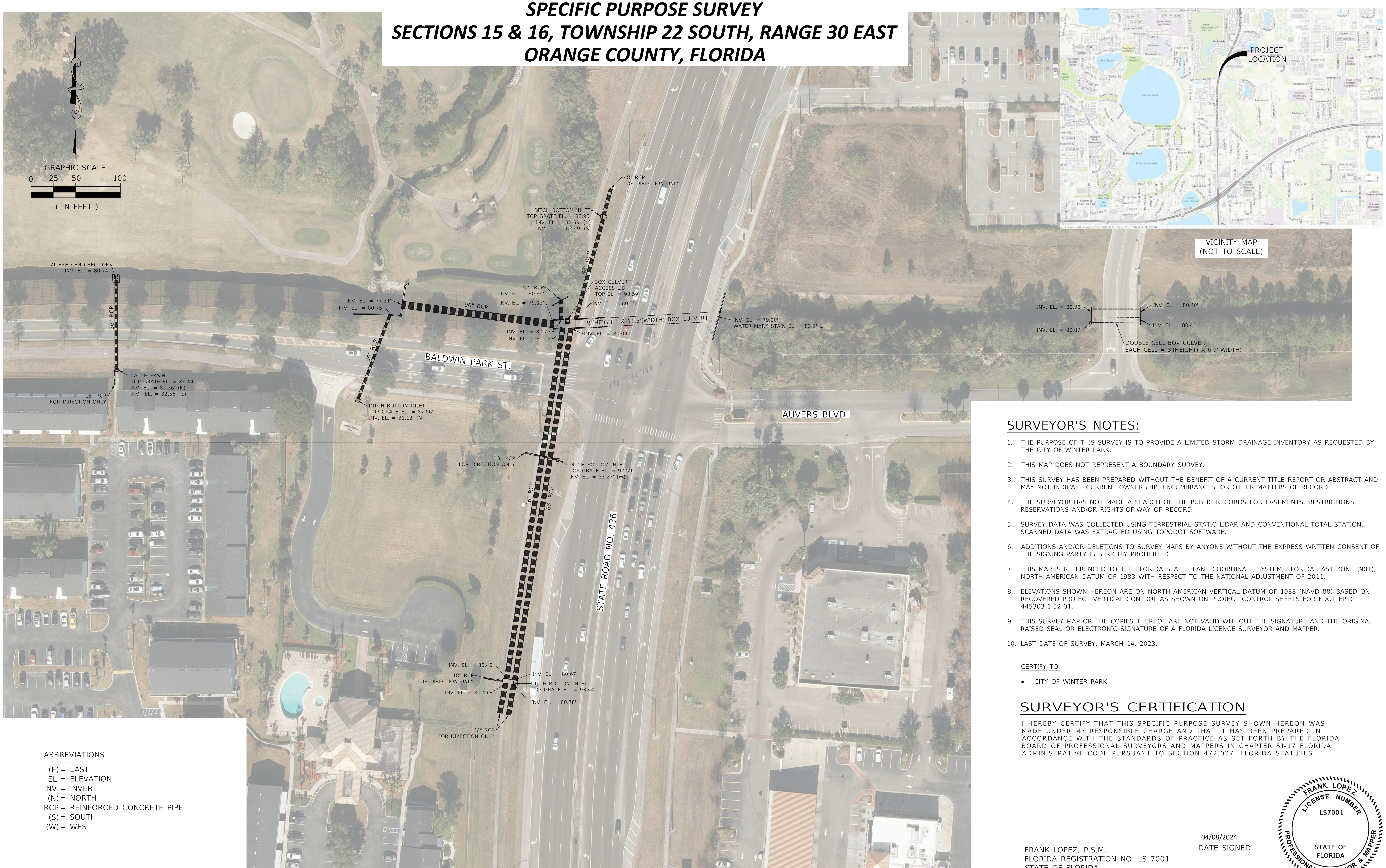
C-14

J:\W13405.2\dwg\design\W13405.2 C-14 Winter Park Utility Details.dwg Apr 06, 2012 - 1:37pm rcarpenter

Updated Survey from DRMP

CITY OF WINTER PARK - EASTERN BASIN STUDY

SPECIFIC PURPOSE SURVEY
SECTIONS 15 & 16, TOWNSHIP 22 SOUTH, RANGE 30 EAST
ORANGE COUNTY, FLORIDA



SURVEYOR'S NOTES:

1. THE PURPOSE OF THIS SURVEY IS TO PROVIDE A LIMITED STORM DRAINAGE INVENTORY AS REQUESTED BY THE CITY OF WINTER PARK.
2. THIS MAP DOES NOT REPRESENT A BOUNDARY SURVEY.
3. THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT OR ABSTRACT AND MAY NOT INDICATE CURRENT OWNERSHIP, ENCUMBRANCES, OR OTHER MATTERS OF RECORD.
4. THE SURVEYOR HAS NOT MADE A SEARCH OF THE PUBLIC RECORDS FOR EASEMENTS, RESTRICTIONS, RESERVATIONS AND/OR RIGHTS-OF-WAY OF RECORD.
5. SURVEY DATA WAS COLLECTED USING TERRESTRIAL STATIC LIDAR AND CONVENTIONAL TOTAL STATION. SCANNED DATA WAS EXTRACTED USING TOPODOT SOFTWARE.
6. ADDITIONS AND/OR DELETIONS TO SURVEY MAPS BY ANYONE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE SIGNING PARTY IS STRICTLY PROHIBITED.
7. THIS MAP IS REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA EAST ZONE (901), NORTH AMERICAN DATUM OF 1983 WITH RESPECT TO THE NATIONAL ADJUSTMENT OF 2011.
8. ELEVATIONS SHOWN HEREON ARE ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) BASED ON RECOVERED PROJECT VERTICAL CONTROL AS SHOWN ON PROJECT CONTROL SHEETS FOR FDOT FPID 445303-1-52-01.
9. THIS SURVEY MAP OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE OF A FLORIDA LICENCE SURVEYOR AND MAPPER.
10. LAST DATE OF SURVEY: MARCH 14, 2023.

CERTIFY TO:

- CITY OF WINTER PARK

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT THIS SPECIFIC PURPOSE SURVEY SHOWN HEREON WAS MADE UNDER MY RESPONSIBLE CHARGE AND THAT IT HAS BEEN PREPARED IN ACCORDANCE WITH THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17 FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

FRANK LOPEZ, P.S.M.
FLORIDA REGISTRATION NO: LS 7001
STATE OF FLORIDA

04/08/2024
DATE SIGNED

FRANK LOPEZ
LICENSE NUMBER
LS7001
STATE OF FLORIDA
PROFESSIONAL SURVEYOR & MAPPER

ABBREVIATIONS

(E) = EAST
EL. = ELEVATION
INV. = INVERT
(N) = NORTH
RCP = REINFORCED CONCRETE PIPE
(S) = SOUTH
(W) = WEST

DATE	REVISIONS	REVISED BY	CHECKED BY	DATE	REVISIONS	REVISED BY	CHECKED BY

SECTION	FIELD BY	LM	03/14
15,16	DRAWN BY	SP	04/24
TOWNSHIP	CHECKED BY	FL	04/24
22 S	FIELD BOOK	22/19	
RANGE	PAGE(S)	28 - 32	
30 E	FILE: 0124.014_TWinter Park_Eastern_Basin_Study_Survey.dwg		

DRMP
ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS
Certificate of Authorization No 2648
941 Lake Baldwin Lane - Orlando, Florida 32814
Telephone (407) 896-0594

TOPOGRAPHIC SURVEY
CITY OF WINTER PARK - EASTERN BASIN STUDY
STATE ROAD NO. 436 & BALDWIN PARK STREET
ORLANDO, FLORIDA

PROJECT NO. 301.1800124.014
DATE 04/08/2024
SCALE 1" = 50'
SHEET 1 OF 1