

DRAFT UTILITY ASSESSMENT PACKAGE

Florida Department of Transportation

District Five

SR 535 PD&E Study

Limits of Project: FROM US 192 TO NORTH OF WORLD CENTER DRIVE (SR 536)

Orange and Osceola Counties, Florida

Financial Management Number: 437174-2

ETDM Number: 14325

Date: November 2023

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT.

Authorized Signature

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Utility Responses

1.0 Introduction

1.1 Project Description

The Florida Department of Transportation (FDOT) is planning to provide roadway improvements along a 2.2 mile segment of State Road 535 (SR 535), a four-lane divided minor arterial facility located within unincorporated Osceola and Orange Counties in central Florida. SR 535 is known as Vineland Road in Osceola County and Kissimmee-Vineland Road in Orange County. The proposed improvements are needed to address serious existing and projected capacity and safety deficiencies prevalent within the study corridor.

SR 535 begins at the US 192 intersection in Kissimmee and extends generally in a northwest direction ending at the I-4 interchange in Lake Buena Vista. The project limits extend from the US 192 intersection to just north of the SR 536 intersection. It should be noted that the northernmost SR 535 segment from SR 536 to just south of I-4 was originally intended to also be widened but due to policy constraints from local jurisdictions, it was removed from consideration for this study.

Figure 1-1 depicts the project vicinity.

Principal crossing/intersecting roadway facilities:

As shown on **Figure 1-1**, there are four principal roadway facilities crossing or intersecting SR 535 within the project limits. A short description follows: 1) US 192 (W. Irlo Bronson Memorial Highway) US 192 is a 75 mile long four-to-six lane east-west divided facility extending from Four Corners in Lake County in the west to Indialantic in Brevard County in the east. Within the project vicinity, US 192 serves a significant proportion of tourist related traffic associated with Walt Disney World and Epcot Center, located north and west of the project limits. 2) Osceola Parkway (CR 522) provides a tolled alternate to US 192 between Walt Disney World and Kissimmee on the east. Within the project confines, Osceola Parkway features a modified split diamond interchange providing access to and from the west at Poinciana Boulevard (just west of the SR 535 intersection) and access to and from the east via SR 535 (on-ramp) and Poinciana Boulevard (off-ramp) just east of the SR 535 intersection. 3) SR 417 (Central Florida Greene Way) is a tolled limited-access facility owned by CFX and the Turnpike providing an eastern beltway around the city of Orlando. SR 417 overpasses SR 535 but does not provide any connections to it. 4) World Center Drive (SR 536) is an east-west 6-lane facility extending from an I-4 interchange near the Epcot theme park on the west to an interchange with SR 417 to the east.

Figure 1-1 Project Location



1.2 Purpose & Need

1.2.1 Purpose

The purpose of this study is to generate and evaluate alternate solutions to provide relief to the existing and projected congestion and operational conditions. These conditions coupled with the existing lack of effective corridor multimodal features are a major cause of serious safety issues for all facility users.

1.2.2 Need

The overall study was initiated with a detailed comprehensive analysis of existing/projected substandard conditions. In general terms, some of the most critical potential needs include Transportation Demand and Multimodalism.

1.3 Description of Preferred Alternative

Preferred Typical Section:

After a comprehensive alternative generation and evaluation process, one (1) alternative was selected as being the most effective option throughout the project corridor (see **Figure 1-2**). The preferred typical section consists of total reconstruction with the widening of the additional lane towards the median. This inside widening helps minimize potential impacts to the Florida Gas Transmission Line and at the various innovative intersections. The following information is a brief description of the preferred typical section. The typical section consists of three (3) 11-foot travel lanes in each direction with a 14-foot shared use path on the west side and a 12-foot sidewalk on the east side with a right-of-way varying between 200-feet to 224-feet.

Figure 1.2 Preferred Typical Section



Innovative Intersections

Alternative intersection evaluations are governed by the Intersection Control Evaluation (ICE) Process. A summary of the following innovative intersection results are provided below:

SR 535 and Poinciana Boulevard – Signalized Intersection Alternative

The SR 535 and Poinciana Boulevard traffic signal concept (see **Figure 1-3**) involves the installation of an additional lane along SR 535 for northbound and southbound movements and provision of triple eastbound left turn lanes.

Figure 1-3 SR 535 and Poinciana Blvd Signalized Intersection Alternative



SR 535 and Polynesian Boulevard– Partial Median U-Turn

The SR 535 and Polynesian Isle Boulevard Partial Median U-Turn concept (see **Figure 1-4**) involves the removal of northbound and southbound direct left turn movements on SR 535 and the addition of U-turn storage bays at the existing median openings located just north and south of the intersection.

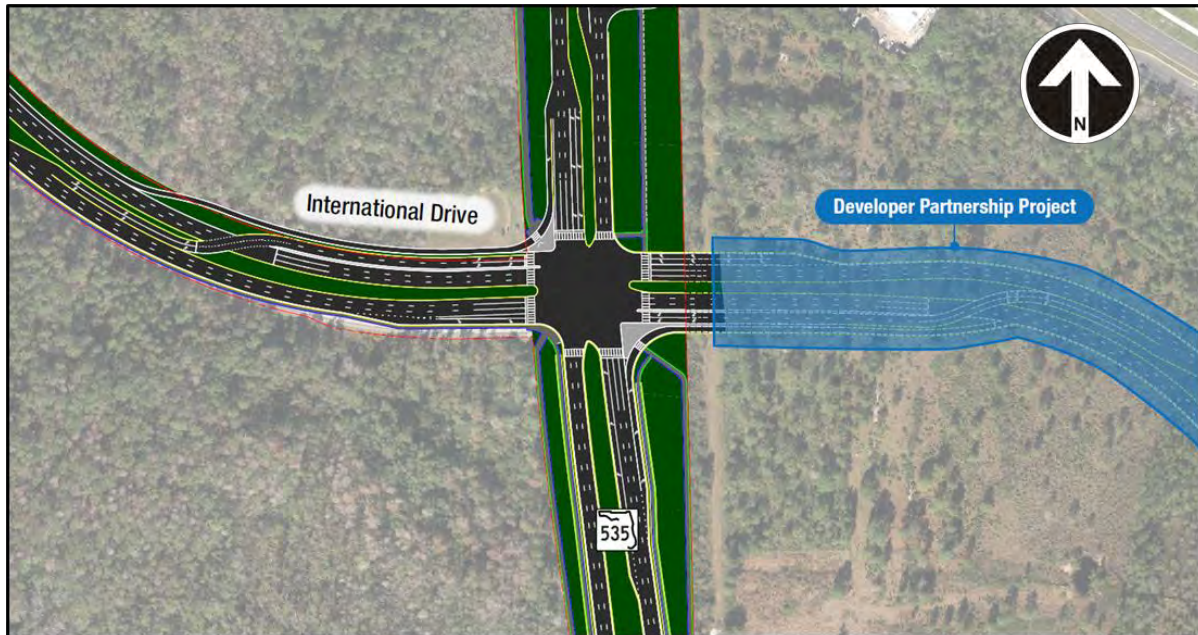
Figure 1-4 SR 535 and Polynesian Isle Blvd Partial Median U-Turn Alternative



SR 535 and International Drive Boulevard– Partial Displaced Left Turn (East-West) Alternative

The SR 535 and International Drive Partial Displaced Left Turn concept (see **Figure 1-5**) involves the removal of direct eastbound and westbound left turns on International Drive with the displaced left turns installed on both legs of this minor street. The northbound and southbound left turn movements for the major street on SR 535 continue to take place at the main intersection.

Figure 1-5 SR 535 and International Drive Partial Displaced Left Turn Alternative



SR 535 and SR 536/World Center Drive - Partial Displaced Left Turn Alternative

The SR 535 and SR 536/World Center Drive Partial Displaced Left Turn concept (see **Figure 1-6**) involves the removal and replacement of direct northbound and southbound left turns on SR 535 with the displaced left turns installed on both legs of SR 535 (major street). The eastbound and westbound left turn movements for the minor street on SR 536/World Center Drive continue to take place at the main intersection.

Figure 1-6 SR 535 and SR 536/World Center Dr Partial Displaced Left Turn Alternative



2.0 Existing Utilities

2.1 Utility Owners

A list of existing utility companies within the project limits was obtained from Sunshine 811. They are listed in **Table 2-1** along with their respective contact information. Preliminary utility coordination with the Utility Agency/Owners (UAO) was initiated through written communication. The contact informed the UAO of the PD&E study and requested that they provide documentation showing existing and proposed facilities within the limits of the project. They were also requested to submit any general concerns and/or comments that would be useful in the FDOT’s evaluation process. Utility companies have responded with as-builts, marked plans, GIS system maps or a letter indicating they have no facilities in the area.

Table 2-1				
Existing Utilities				
Utility Agency / Owner	Facility Type	Contact Person	Phone	Email
AT&T Distribution	Communications	Alan Reynolds	(407) 351-8180	ar2916@att.com
Charter Communications	Communications	Jonathan McLeroy	(407) 467-6147	jonathan.mcleroy@charter.com
Comcast	Communications	Cesar Rivera	(407) 312-5944	cesar_rivera@comcast.com
Duke Energy	Electric	Tomas Macias	(407) 938-6619	tomas.macias@duke-energy.com
Florida Gas Transmission	Gas	Joseph Sanchez	(407) 838-7171	joseph.e.sanchez@energytransfer.com
Kinder-Morgan (Central Florida Pipeline, LLC)	Fuel	Mark Clark	(727) 271-0024	mark_clark@kindermorgan.com
Kissimmee Utility Authority	Electric	Carlos Galindez	(407) 933-7777 x6153	cgalindez@kua.com
Lumen (Centurylink)	Communications	Bill McCloud	(850) 599-1444	william.mccloud@lumen.com
Orange County Utilities	Water/Sewer	Christina M. Crosby	(407) 254-9706	christina.crosby@ocfl.net
Osceola County	Irrigation	Juan Diaz	(407) 448-0761	juan.diaz@ferrovialservices.com
Orlando Utilities Commission	Electric	Robert Scheuerle	(407) 434-2107	rscheuerle@ouc.com
Summit Broadband	Communications	Michelle Daniel	(407) 920-7468	mdaniel@summit-broadband.com
TECO People's Gas Systems	Gas	Shawn Winsor	(407) 420-6663	swinsor@tecoenergy.com
TOHO Water Authority	Water/Sewer	Calvin Carrero	(407) 944-5044	ccarrero@tohowater.com
Uniti Fiber	Communications	James Mosley	(251) 654-8216	james.mosley@uniti.com
Verizon / MCI	Communications	Timothy Cole	(407) 506-8635	timothy.cole@verizon.com

2.2 Description of Existing Utilities

AT&T Distribution owns the following facilities within the project's study limits:

- 144-count fiber optic cable (FOC) commencing at the south project limits near US-192 along the west R/W of SR-535.
- 24-count FOC along the north R/W of Kyngs Heath Rd. west of SR-535.
- 144-count FOC along the east R/W of SR-535 north of Kyngs Heath Rd.
- 144-count FOC along the south R/W of Osceola Pkwy.
- 48-count FOC along the east R/W of SR-535 extending north of Poinciana Blvd.
- 48-count and 60-count FOC along the east R/W of SR-535 north of International Dr.
- 60-count FOC along north R/W of International Drive crossing SR-535.
- 216-count FOC along the east R/W of SR-535 between International Dr. and SR-536 (World Center Dr.) and extending east along the north R/W of SR-536.
- 48-count FOC west of SR-535 along the north R/W of SR-536.
- 96-count FOC along the east R/W of SR-535 north of SR-536.
- Various cabinets, handholes, manholes, related utility appurtenances, and joint-use attachments to existing utility poles.

Charter Communications owns the following facilities within the project's study limits:

- Aerial communications cable attached to utility poles along the east R/W of SR-535 south of Poinciana Blvd
- Aerial communications cable attached to utility poles along the east R/W of SR-535 north of Poinciana Blvd with concurrent underground facilities located within 1.5" to 2" conduit.
- Various handholes and related utility appurtenances.

Comcast owns the following facilities within the project's study limits:

- Underground facilities along the west R/W of SR-535 from Polynesian Isle Blvd. to north of SR-417.
- Underground facilities along the east R/W of SR-535 from north of SR-417 to SR-536.
- Underground facilities along the south R/W of SR-536 east of SR-535.

Duke Energy owns the following facilities within the project's study limits:

- 7.2/12.47 kV overhead electric (OE) distribution lines and poles along the west R/W of SR-535 between Polynesian Isle Blvd. to International Dr.
- OE underbuilt distribution (7.2/12.47 kV) and transmission pole line along the east R/W of SR-535 from Osceola County line to north of SR-536.
- 7.2/12.47 kV buried electric (BE) distribution along the south R/W of International Dr. west of SR-535.
- 7.2-12.47 kV BE extending from the Duke Energy substation located on the east side of SR-535 north of SR-536 crossing the SR-535/536 intersection and continuing west along the south R/W of SR-536
- OE underbuilt distribution (7.2/12.47 kV) and transmission lines crossing SR-535 north of SR-536 extending from the Duke Energy substation.
- BE distribution along the west R/W of SR-535 north of SR-536.
- Various distribution-type and transmission-type poles, handholes, switch cabinets, pole-mounted and pad-mounted transformers, pole risers, down guys and other related utility appurtenances.

Florida Gas Transmission Co. owns the following facilities within the project's study limits:

- 18" steel pipeline crossing SR-535 along the north R/W of Osceola Pkwy.
- FGT-Reedy Creek take-off valve and regulator station located east of SR-535 along the north R/W of Osceola Pkwy.
- 6.625" steel pipeline along the east R/W of SR-535 extending between the FGT-Reedy Creek take-off valve/regulator station and the FGT-TECO People Gas Systems Orlando Meter Station located north of SR-536 east of SR-535 (Orlando Southwest Measurement Station) within an FGT-owned easement.

Kinder Morgan/Central Florida Pipeline, LLC owns the following facilities within the project's study limits:

- 16" petroleum fuel pipeline crossing SR-535 at the Osceola County line, generally within an existing OUC transmission corridor located east and west of SR-535.

Kissimmee Utility Authority owns the following facilities within the project's study limits:

- 25kV BE crossing SR-535 along the south R/W of Kyngs Heath Rd.
- OE distribution line along the west R/W of SR-535 from north of Kyngs Heath Rd. to Osceola Pkwy.
- OE transmission line along the east R/W of SR-535 from south of Osceola Pkwy. to north of Osceola Pkwy.
- OE transmission line with underbuilt distribution along the east R/W of SR-535 from north of Osceola Pkwy. to Polynesian Isle Blvd.
- Various distribution-type and transmission-type poles, handholes, switch cabinets, pole-mounted and pad-mounted transformers, pole risers, down guys and other related utility appurtenances.

Lumen (Centurylink) owns the following facilities within the project's study limits:

- Local fiber/underground (UG) copper along the east R/W of SR-535 south of Kyngs Heath Rd.
- Local fiber/UG copper along the east R/W of SR-535 from north of Calypso Cay Way to Osceola County line.
- Local fiber/UG copper along west R/W of SR-535 from north of Osceola County line to SR-536. and continuing west along the south R/W of SR-536.
- Local fiber/UG copper along the east R/W of SR-535 continuing to the north project limits.
- Metro optical ground wire affixed to Duke Energy Transmission poles crossing SR-535 north of SR-536 and along the east R/W of SR-535 north of SR-536.
- Various handholes and related utility appurtenances.

Orange County Utilities owns the following facilities within the project's study limits:

- 4" ductile iron pipe (DIP) force main (FM) along the west R/W of SR-535 from south of SR-417 to SR-536 and continuing west along the south R/W of SR-536.
- 12" polyvinyl chloride pipe (PVC) FM along the west R/W of SR-535 north of SR-536.
- 20" DIP FM crossing SR-535 north of SR-536 within a 36" steel casing.
- 10" PVC FM along the east R/W of SR-535 from south of SR-417 to north of SR-536 with a crossing south of SR-417.
- 20" DIP FM along the north R/W of SR-536 east of SR-535.

- 8" PVC watermain (WM) along the west R/W of SR-535 from Osceola County line and crossing SR-535 within a 30" steel casing south of SR-417.
- 16" DIP WM along the east R/W of SR-535 from south of SR-417 to SR-536.
- 16" high density polyethylene (HDPE) WM pipe crossing SR-535 north of SR-417.
- 12" PVC WM along the south R/W of International Dr. crossing SR-535 within a 30" steel casing and connecting to the 16" DIP WM along the east R/W of SR-535.
- 24" DIP WM along the east R/W of SR-535 north of SR-536 within a casing across SR-536 and connecting to the 24" DIP WM along the south R/W of SR-536 east of SR-535.
- 4" PVC Reclaimed WM along International Dr. west of SR-535.
- 12" PVC Reclaimed WM along west R/W of SR-535 north of SR-536.
- 12" PVC Reclaimed WM within a 24" steel casing crossing SR-535 north of SR-536 and connecting to an existing 24" DIP Reclaimed WM along the east R/W of SR-535 continuing east long the north R/W of SR-536.
- 6" PVC Reclaimed WM along the east R/W of SR-535 connecting to an existing 12" PVC Reclaimed WM along SR-536 east of SR-535.

Orlando Utilities Commission owns the following facilities within the project's study limits:

- OE transmission lines crossing SR-535 along the Osceola County line north of Polynesian Isle Blvd. within an existing easement corridor located east and west of the SR-535 R/W.

Osceola County owns the following facilities within the project's study limits:

- Irrigation lines along the SR-535 east and west R/W and along the median between US-192 and SR-417.

Summit Broadband owns the following facilities within the project's study limits:

- 24-count fiber in (3) 1.25" HDPE conduit crossing SR-55 along the north R/W of Kyngs Heath Rd.
- 288-count fiber in (3) 1.25" HDPE conduit along the west R/W of SR-535 from Osceola Pkwy. to Poinciana Blvd.
- 144-count and 288-count aerial fiber along the east R/W of SR-535 from south of Poinciana Blvd. to south of SR-417.
- 144-count and 288-count aerial fiber along the east R/W of SR-535 from north of SR-417 to north of SR-536.

TECO Peoples Gas Systems owns the following facilities within the project's study limits:

- 4" coated steel (CS) gas main (GM) along the east R/W of SR-535 between Calypso Way and south of SR-417.
- 4" CS GM along the north R/W of US-192 crossing SR-535.
- 4" CS GM crossing SR-535 at Kyngs Heath Rd.
- 4" CS GM crossing SR-535 at Calypso Cay Way.
- 4" CS GM crossing SR-535 at Poinciana Blvd.
- 2" CS GM crossing SR-535 south of Polynesian Isle Blvd.
- 6" CS GM crossing SR-535 at International Dr.
- 6" CS GM along the east R/w of SR-535 from south of SR-417 to north of SR-536.
- 6" CS GM crossing SR-535 north of SR-536.
- 6" CS GM east along SR-536 connecting to the 6" CS GM along SR-535.

Toho Water Authority owns the following facilities within the project's study limits:

- 8" WM, valves, and appurtenances along the south R/W of US-192.
- 10" Gravity Sewer Main, manholes, and appurtenances.
- 12" Gravity Sewer Main and manholes across SR-535 at Kyngs Heath Rd.
- WM (unspecified diameter) across SR-535 at Kyngs Heath Rd.
- 10" WM along the west R/W of SR-535 from Kyngs Heath Rd. to south of Osceola Parkway.
- 12" FM crossing SR-535 south of Osceola Parkway and extending across Osceola Parkway to an existing lift station along N. Poinciana Blvd. west of SR-535.
- A 16" reclaimed WM along the north side of Osceola Parkway crossing SR-535.
- 24" WM along the north side of Osceola Parkway crossing SR-535.
- 6" WM along the west R/W of SR-535 from Poinciana Blvd. to the Osceola County line north of Polynesian Isle Blvd.
- 10" WM crossing SR-535 at Interior Street (south of Polynesian Isle Blvd.).
- 6" WM extending west along the south R/W of Polynesian Isle Blvd. from SR-535.
- 8" Gravity Sewer Main and manholes along the north and south R/W of Polynesian Isle Blvd. west of SR-535.

Uniti Fiber owns the following facilities within the project’s study limits:

- (3) 1.25” ducts with 3/4” cable along the east R/W of SR-535 north of SR-536 and extending from the existing Duke Energy substation.

Verizon/MCI owns the following facilities within the project’s study limits:

- Fiber optic cable along the SR-535 project limits.

3.0 Estimated Utility Relocation Costs

Table 2-2 Estimate Utility Relocation Costs

UAO	ITEMIZED COST	ESTIMATED RELOCATION COST
AT&T Distribution	<i>see breakout of items below</i>	\$ 675,000.00
Charter Communications	<i>see breakout of items below</i>	\$ 252,500.00
Comcast	<i>see breakout of items below</i>	\$ 144,500.00
Duke Energy	<i>see breakout of items below</i>	\$ 2,320,000.00
Florida Gas Transmission	<i>see breakout of items below</i>	\$ -
Kinder-Morgan (Central FL Pipeline)	<i>see breakout of items below</i>	\$ -
Kissimmee Utility Authority	<i>see breakout of items below</i>	\$ 1,090,000.00
Lumen Technologies	<i>see breakout of items below</i>	\$ 195,500.00
Orange County	<i>see breakout of items below</i>	\$ 1,170,000.00
Osceola County	<i>see breakout of items below</i>	\$ -
Orlando Utilities Commission	<i>see breakout of items below</i>	\$ -
Summit Broadband	<i>see breakout of items below</i>	\$ 141,000.00
TECO Peoples Gas	<i>see breakout of items below</i>	\$ 654,000.00
TOHO Water Authority	<i>see breakout of items below</i>	\$ 275,500.00
Uniti Fiber	<i>see breakout of items below</i>	\$ -
Verizon/MCI	<i>see breakout of items below</i>	\$ 110,000.00
TOTAL:		\$ 7,028,000.00

AT&T DISTRIBUTION					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
24-ct FOC (in 4" duct)	North R/W of Kyngs Heath Rd west of SR-535	380	300	\$ 125.00	\$ 37,500.00
48-ct FOC (in 4" duct)	Along north R/W Poinciana Blvd to east R/W SR-535	900	300	\$ 125.00	\$ 37,500.00
48-ct FOC (in 4" duct)	Along east R/W SR-535 from Poinciana Blvd to SR-536	6900	2400	\$ 125.00	\$ 300,000.00
60-ct FOC (in 4" duct)	Along north R/W International Dr and east R/W SR-535 to SR-536	1900	1400	\$ 125.00	\$ 175,000.00
216-ct FOC (in 4" duct)	Along east R/W SR-535 from International Dr to SR-536 and east of SR-535 along north R/W SR-536	2100	1000	\$ 125.00	\$ 125,000.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 675,000.00
CHARTER COMMUNICATIONS					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
Aerial Cable	Along east R/W SR-535 from from US-192 to Poinciana Blvd	3700	1000	\$ 50.00	\$ 50,000.00
Aerial Cable	Along east R/W SR-535 from from Poinciana Blvd to SR-536	7000	1500	\$ 50.00	\$ 75,000.00
2" Duct	Along east R/W SR-535 from from Poinciana Blvd to SR-536	7000	1500	\$ 85.00	\$ 127,500.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 252,500.00

COMCAST CABLE					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
UG Cable	Along west R/W SR-535 from Polynesian Isle Blvd to north of SR-417	2800	700	\$ 85.00	\$ 59,500.00
UG Cable	Along east R/W SR-535 from north of SR-417 to SR-536	2000	700	\$ 85.00	\$ 59,500.00
UG Cable	South R/W SR-536 east of SR-535	1000	300	\$ 85.00	\$ 25,500.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 144,500.00
DUKE ENERGY					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
7.2/12.47 kV OE	Along west R/W SR-535 from Polynesian Isle Blvd to International Dr.	3600	1000	\$ 200.00	\$ 200,000.00
transmission (underbuilt distribution)	Along east R/W SR-535 from Osceola County line to north of SR-536	5000	1000	\$ 2,000.00	\$ 2,000,000.00
7.2/12.47 kV BE	Crossing SR-535 north of SR-536 and west along SR-536 south R/W	1200	400	\$ 300.00	\$ 120,000.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 2,320,000.00
KISSIMMEE UTILITY AUTHORITY					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
25kV BE	Crossing SR-535 along south R/W Kyngs Heath Rd	310	300	\$ 300.00	\$ 90,000.00
OE transmission (underbuilt distribution)	Along east R/W SR-535 from north of Osceola Pkwy to Polynesian Isle Blvd	2500	500	\$ 2,000.00	\$ 1,000,000.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 1,090,000.00

LUMEN TECHNOLOGIES					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
UG Copper	Along east R/W SR-535 from north of Calypso Cay Way to Osceola County line	3500	1700	\$ 85.00	\$ 144,500.00
UG Copper	Along west R/W SR-535 from north of Osceola County line to SR-536 and west of SR-536	5100	300	\$ 85.00	\$ 25,500.00
UG Copper	Along east R/W SR-535 from south of SR-536 to north of SR-536	3400	300	\$ 85.00	\$ 25,500.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 195,500.00

ORANGE COUNTY UTILITIES					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
4" DIP FM	Along west R/W SR-535 from south of SR-417 to SR-536 and west along SR-536	4400	1700	\$ 195.00	\$ 331,500.00
10" PVC FM	Along east R/W SR-535 from south of SR-417 to north of SR-536	4000	600	\$ 140.00	\$ 84,000.00
20" DIP FM	Along north R/W of SR-536 east of SR-535	700	100	\$ 220.00	\$ 22,000.00
16" DIP WM	Along east R/W SR-535 from south of SR-417 to north of SR-536	4500	1100	\$ 215.00	\$ 236,500.00
24" DIP WM	Crossing SR-536 along east side of SR-535 and east along SR-536	900	400	\$ 230.00	\$ 92,000.00
4" PVC Reclaim WM	Along International Dr west of SR-535	700	100	\$ 240.00	\$ 24,000.00
12" PVC Reclaim WM	Along north R/W SR-536 going north along west R/W SR-535	1500	600	\$ 300.00	\$ 180,000.00
12" PVC Reclaim WM (24" steel casing)	Crossing SR-535 north of SR-536 and going east along SR-536	1200	400	\$ 500.00	\$ 200,000.00
ESTIMATED RELOCATION COST:					\$ 1,170,000.00

SUMMIT BROADBAND					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
24-ct FOC (in 3-1.25" HDPE)	Crossing SR-535 along north R/W Kyngs Heath Rd	380	300	\$ 110.00	\$ 33,000.00
288-ct FOC (in 3-1.25" HDPE)	Along west R/W SR-535 from Osceola Pkwy to Poinciana Blvd	800	300	\$ 110.00	\$ 33,000.00
144-ct & 288-ct aerial FOC	Along east R/W SR-535 from south of Poinciana Blvd to south of SR-417	3600	500	\$ 50.00	\$ 25,000.00
144-ct & 288-ct aerial FOC	Along east R/W SR-535 from north of SR-417 to north of SR-536	2300	1000	\$ 50.00	\$ 50,000.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 141,000.00

TECO PEOPLES GAS					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
4" Coated Steel GM	Crossing SR-535 at Kyngs Heath Rd	320	300	\$ 215.00	\$ 64,500.00
4" Coated Steel GM	Along east R/W SR-535 from Calypso Way to south of SR-417	5200	600	\$ 215.00	\$ 129,000.00
4" Coated Steel GM	Crossing SR-535 at Poinciana Blvd	250	300	\$ 215.00	\$ 64,500.00
6" Coated Steel GM	Crossing SR-535 at International Dr	500	400	\$ 220.00	\$ 88,000.00
6" Coated Steel GM	Along east R/W SR-535 from south of SR-417 to north of SR-536	4000	700	\$ 220.00	\$ 154,000.00
6" Coated Steel GM	Crossing SR-535 north of SR-536	1200	500	\$ 220.00	\$ 110,000.00
6" Coated Steel GM	Heading east of SR-535 along SR-536	650	200	\$ 220.00	\$ 44,000.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 654,000.00

TOHO WATER AUTHORITY					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
12" Gravity Sewer Main	Across SR-535 at Kyngs Heath Rd	400	300	\$ 375.00	\$ 112,500.00
12" WM	Across SR-535 at Kyngs Heath Rd	400	300	\$ 210.00	\$ 63,000.00
6" WM	Along west R/W of SR-535 from Poinciana Blvd to north of Polynesian Isle Blvd.	1900	300	\$ 200.00	\$ 60,000.00
6" WM	Extending west from SR-535 along south R/W Polynesian Isle Blvd	500	200	\$ 200.00	\$ 40,000.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 275,500.00
VERIZON-MCI					
DESCRIPTION	GENERAL LOCATION	TOTAL LENGTH (LF)	CONFLICT LENGTH (LF)	UNIT COST (\$)	TOTAL (\$)
Buried Fiber Optic Cable	Along Poinciana Blvd crossing SR-535	1000	300	\$ 100.00	\$ 30,000.00
Buried Fiber Optic Cable	Crossing SR-535 at International Dr and north along east R/W SR-535 to SR-536	2000	800	\$ 100.00	\$ 80,000.00
<i>ESTIMATED RELOCATION COST:</i>					\$ 110,000.00

4.0 Mitigation Recommendations

This is a preliminary evaluation of potential utility conflicts within the project corridor based on proposed improvements under the preferred Build Alternative. Additional conflicts may be identified during final design due to proposed drainage, signals, Maintenance of Traffic, etc.

Conflict mitigation strategies should include the following:

- Subsurface Utility Engineering (SUE) for verified vertical and horizontal (Vvh) information on existing underground utilities to confirm conflicts.
- Obtaining Vvh information will also help guide the final design phase and ensure that informed decisions are made where practical to reduce potential utility relocations.
- Accurate location of all aerial utility facilities to confirm conflicts with the project final design, temporary work, MOT, and constructability of project improvements.
- Consideration of final design location to maintain Occupational Safety and Health Administration (OSHA) and National Electric Safety Code (NESC) final and temporary clearance requirements from energized overhead powerlines.
- Implementation of Utility Work by Highway Contractor Agreement (UWHCA) for any necessary relocation of water and sewer facilities.
- Completion of utility relocation work prior to the start of roadway construction activities.
- Most UAOs have the capability to adjust their facilities without causing major inconvenience to their customers. Mitigation measures to minimize service disruptions should include the following:
 - Installation and activation of new facilities prior to removal of existing.
 - Allowing service disruptions only during periods of minimum usage.
 - Limiting the duration of service disruptions.
 - Evaluation of innovative approaches to maintaining utility services in temporary work areas.

APPENDIX

AT&T Distribution

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact
Attachments: 437174-2-22-01_ATT_GREENLINES.pdf

From: REYNOLDS, ALAN <ar2916@att.com>
Sent: Friday, July 16, 2021 5:16 PM
To: AT&T_FL_811 <g27896@att.com>
Cc: Rick Duran <rduran@bcceng.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Rick,
Attached are AT&T Florida facility (preliminary) markups for this project. Let me know if you have any questions.
Thanks,

Alan Reynolds

Manager OSP PIng & Eng Design
ACE- East Region, Florida Construction & Engineering

AT&T

5100 Steyr St Orlando, FL 32819
O: 407-351-8180
M: 352-442-1106 / ar2916@att.com

- **All correspondence and coordination herein is with regards to BellSouth Telecommunications, LLC d/b/a AT&T Florida (ATT-D) which is not responsible for facilities owned and managed by AT&T Corp (ATT-T). Any questions with regards to ATT-T facilities should be addressed to Inquiries@pea-inc.net**

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From: AT&T_FL_811 <g27896@att.com>
Sent: Thursday, July 15, 2021 11:18 AM
To: REYNOLDS, ALAN <ar2916@att.com>
Cc: rduran@bcceng.com
Subject: FW: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Alan,

Good morning. I am assisting Dino Farruggio by referring the **Drawing/Map Markup Request-Road** below to you for handling. Please respond directly to rduran@bcceng.com.

Thanks,

Juana Curtis

Engineering Assistant
Wireline Access-Southeast, Florida Engineering

AT&T

600 NW 79 AVE, RM 356, Miami, FL 33126

ofc 786-792-54** | jc2399@att.com

**temporarily working from home-please use jc2399@att.com

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AT&T Florida
Greenlines

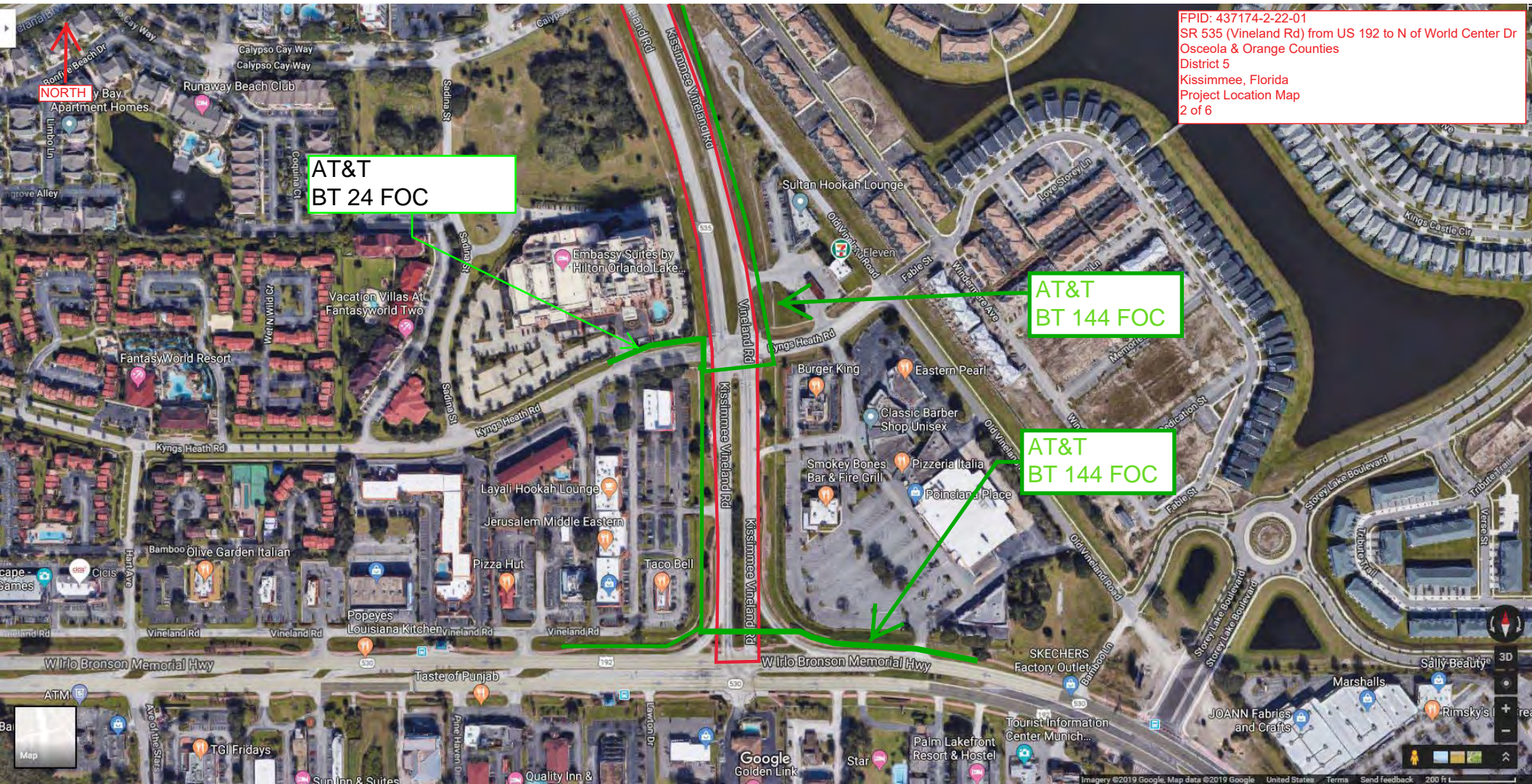


FPID: 437174-2-22-01
SR 535 (Vineland Rd) from US 192 to N of World Center Dr
Osceola & Orange Counties
District 5
Kissimmee, Florida
Overall Project Location Map
1 of 6

Level "D" markups from records only. Not field verified. Call for locates prior to digging.

- **All correspondence and coordination herein is with regards to BellSouth Telecommunications, LLC d/b/a AT&T Florida (ATT-D) which is not responsible for facilities owned and managed by AT&T Corp (ATT-T). Any questions with regards to ATT-T facilities should be addressed to Inquiries@pea-inc.net**

PTE 6-24-19



FPID: 437174-2-22-01
SR 535 (Vineland Rd) from US 192 to N of World Center Dr
Osceola & Orange Counties
District 5
Kissimmee, Florida
Project Location Map
2 of 6

- **All correspondence and coordination herein is with regards to BellSouth Telecommunications, LLC d/b/a AT&T Florida (ATT-D) which is not responsible for facilities owned and managed by AT&T Corp (ATT-T). Any questions with regards to ATT-T facilities should be addressed to Inquiries@pea-inc.net**



FPID: 437174-2-22-01
SR 535 (Vineland Rd) from US 192 to N of World Center Dr
Osceola & Orange Counties
District 5
Kissimmee, Florida
Project Location Map
3 of 6

AT&T
BT 48 FOC

AT&T
BT 144 FOC

- **All correspondence and coordination herein is with regards to BellSouth Telecommunications, LLC d/b/a AT&T Florida (ATT-D) which is not responsible for facilities owned and managed by AT&T Corp (ATT-T). Any questions with regards to ATT-T facilities should be addressed to Inquiries@pea-inc.net**



FPID: 437174-2-22-01
SR 535 (Vineland Rd) from US 192 to N of World Center Dr
Osceola & Orange Counties
District 5
Kissimmee, Florida
Project Location Map
4 of 6

AT&T
BT 48 FOC

- **All correspondence and coordination herein is with regards to BellSouth Telecommunications, LLC d/b/a AT&T Florida (ATT-D) which is not responsible for facilities owned and managed by AT&T Corp (ATT-T). Any questions with regards to ATT-T facilities should be addressed to Inquiries@pea-inc.net**



FPID: 437174-2-22-01
SR 535 (Vineland Rd) from US 192 to N of World Center Dr
Osceola & Orange Counties
District 5
Kissimmee, Florida
Project Location Map
5 of 6

- **All correspondence and coordination herein is with regards to BellSouth Telecommunications, LLC d/b/a AT&T Florida (ATT-D) which is not responsible for facilities owned and managed by AT&T Corp (ATT-T). Any questions with regards to ATT-T facilities should be addressed to Inquiries@pea-inc.net**



FPID: 437174-2-22-01
 SR 535 (Vineland Rd) from US 192 to N of World Center Dr
 Osceola & Orange Counties
 District 5
 Kissimmee, Florida
 Project Location Map
 6 of 6

- All correspondence and coordination herein is with regards to BellSouth Telecommunications, LLC d/b/a AT&T Florida (ATT-D) which is not responsible for facilities owned and managed by AT&T Corp (ATT-T). Any questions with regards to ATT-T facilities should be addressed to Inquiries@pea-inc.net**

Charter Communications

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact
Attachments: 535 192 TO OSCEOLA .pdf; 535 OSCEOLA TO 417.pdf; 535 417 TO 536.pdf

From: McLeroy, Jonathan <Jonathan.McLeroy@charter.com>
Sent: Monday, August 9, 2021 7:59 AM
To: Rick Duran <rduran@bcceng.com>
Cc: Leachman, Dwayne D <Dwayne.Leachman@charter.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

See attached maps.

Thanks,

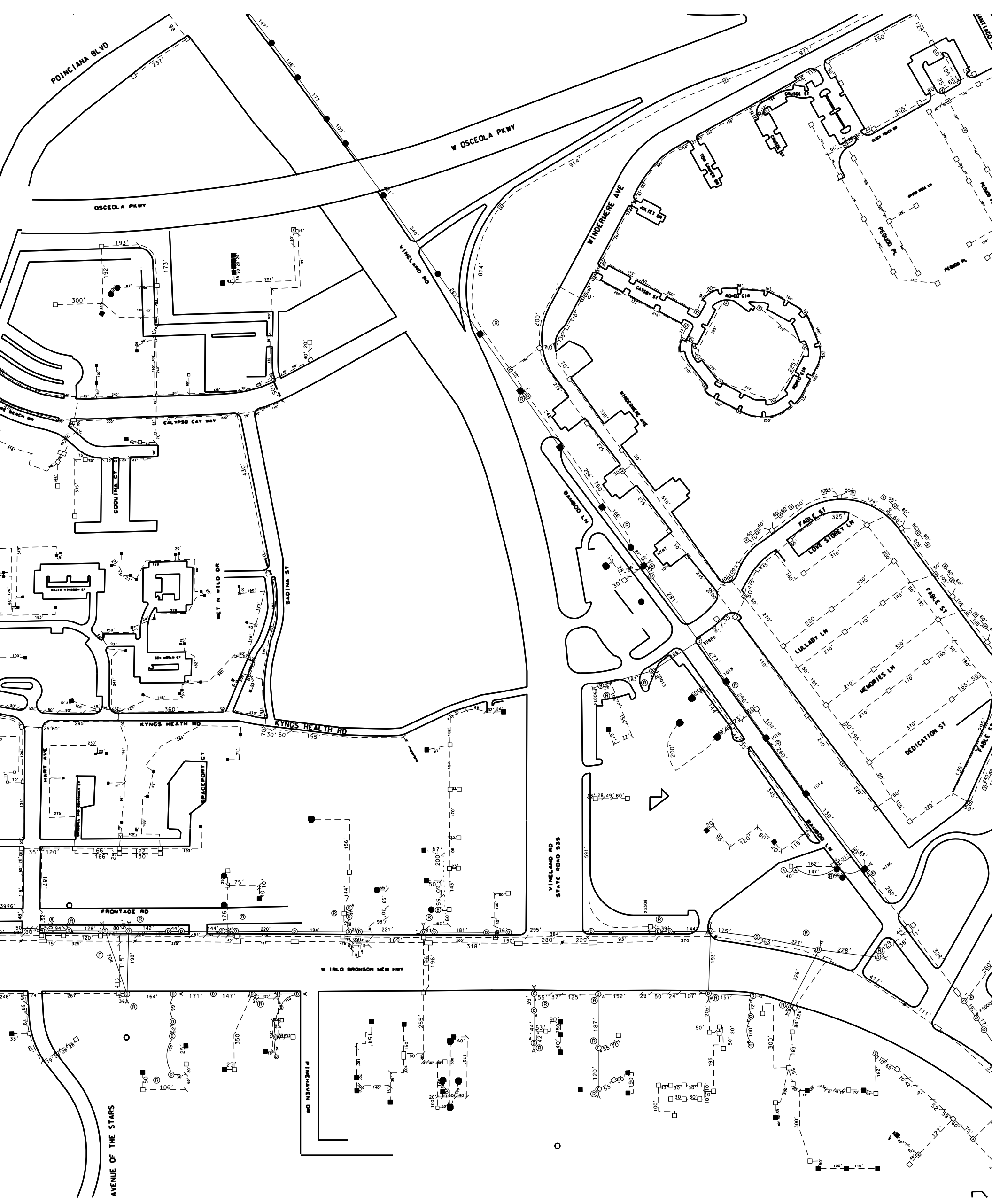


Jonathan McLeroy | Construction Coordinator III | 407-532-8517
3767 All American Blvd. | Orlando, FL 32810

= Aerial Facilities

= Underground or Buried Facilities

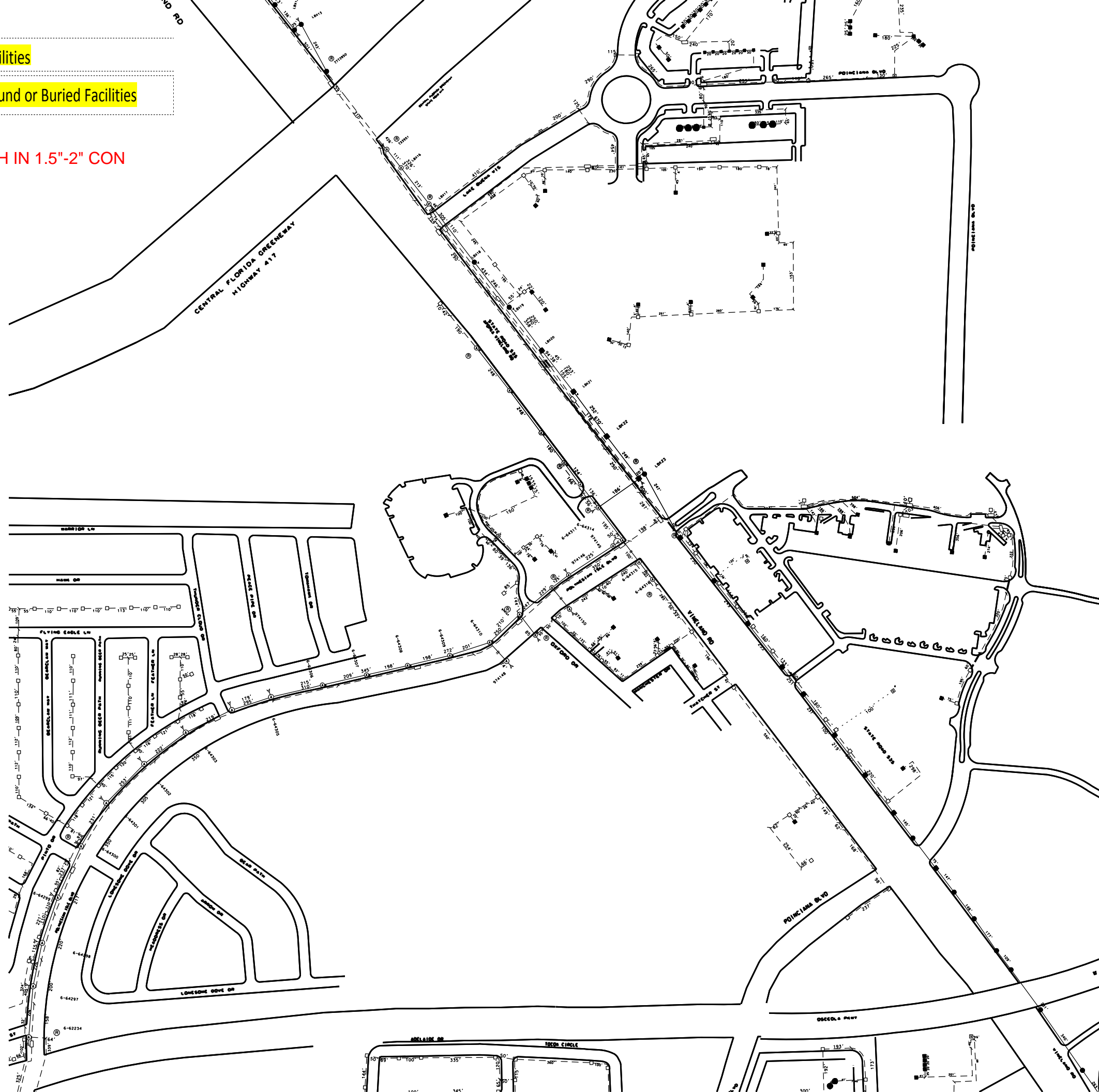
UG 30"-36" DEPTH IN 1.5"-2" CON

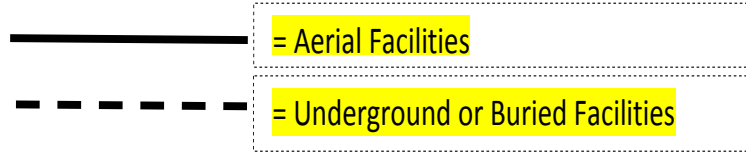


= Aerial Facilities

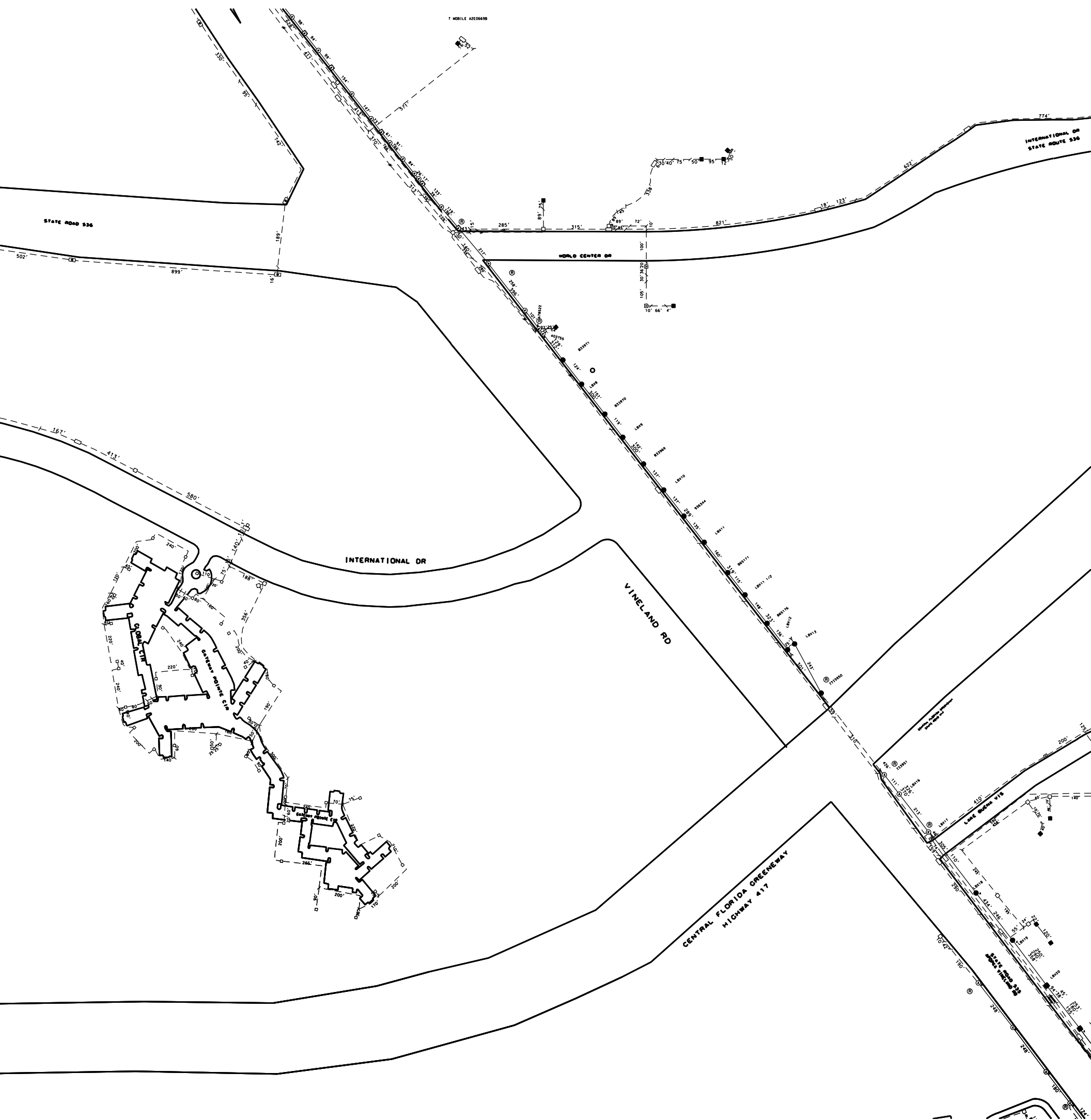
= Underground or Buried Facilities

UG 30"-36" DEPTH IN 1.5"-2" CON





UG 30"-36" DEPTH IN 1.5"-2" CON



Comcast

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

From: WeTransfer <noreply@wetransfer.com>

Sent: Tuesday, August 31, 2021 2:26 PM

To: Rick Duran <rduran@bcceng.com>

Subject: swilliams@truenetcommunications.com sent you FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact via WeTransfer

img



swilliams@truenetcommunications.com
sent you FDOT FM # 437174-2: SR 535
PD&E Study from US 192 to n/o of
World Center Drive (SR 536)_Initial
Contact

1 item, 53.3 MB in total • Expires on 7 September, 2021

**FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of
World Center Drive (SR 536)_Initial Contact** Rick,

Attached are the green line markups you requested. **Comcast** has existing underground with the project limits.

Please use the attached plans for any future meetings and/or discussions regarding Comcast involvement

Let me know if you have any questions, concerns, or need additional information as the project moves forward.

Thank You,
Sean Williams

Get your files

Download link

https://wetransfer.com/downloads/d3a676865054940a7bafe62f07a6e0b420210831182527/ccbc78c69c7b8f2f5ffa7baf0ddb757020210831182543/08ae68_

1 item

SR 535 PD&E Study Roll Plot - Comcast.pdf
53.3 MB

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SR 535

Lake Bryan Beach Blvd

END PROJECT

NO COMCAST FACILITIES

NO COMCAST FACILITIES

536

EXISTING UNDERGROUND COMCAST FACILITIES

International Drive

World Center Drive

EXISTING UNDERGROUND COMCAST FACILITIES

TOLL 417

International Drive

EXISTING UNDERGROUND COMCAST FACILITIES

LBV Factory Stores Drive

TOLL 417

EXISTING UNDERGROUND COMCAST FACILITIES

Polynesian Isle Blvd

NO COMCAST FACILITIES

NO COMCAST FACILITIES

SR 535

NO COMCAST FACILITIES

Poinciana Blvd

OSCEOLA COUNTY 522

NO COMCAST FACILITIES

NO COMCAST FACILITIES

Calypso Cay Way

NO COMCAST FACILITIES

Kyngs Heath Rd

NO COMCAST FACILITIES

BEGIN PROJECT

EXISTING UNDERGROUND COMCAST FACILITIES

192

Duke Energy

Rick Duran

Subject: FW: 42027767 RGB_DOT_ORANGE_COUNTY_437174-2_PD_&_E_STUDY_US_192_&_SR_536
Attachments: SR 535_OC_437174-2_Duke Energy Green Lines.pdf

From: Macias, Tomas <Tomas.Macias@duke-energy.com>
Sent: Thursday, August 19, 2021 3:57 PM
To: Rick Duran <rduran@bcceng.com>
Cc: DEFDistributionGOV <DEFDistributionGOV@duke-energy.com>; Macias, Tomas <Tomas.Macias@duke-energy.com>
Subject: RE: 42027767 RGB_DOT_ORANGE_COUNTY_437174-2_PD_&_E_STUDY_US_192_&_SR_536

Rick,

I have marked up Green Plans on your conceptual layout. Please forward your future plans for more precise RGB's.

Sincerely,

Tomas Macias
Engineering | South Central Asset Design | Customer Delivery - Duke Energy Florida
3250 Bonnet Creek Rd | Lake Buena Vista, FL 32830 | Office: (407) 938-6619 | Mobile: (520) 366-7254
Tomas.Macias@Duke-Energy.com



"Attitude is a little thing that makes a big difference." – Sir Winston Churchill

From: Rick Duran <rduran@bcceng.com>
Sent: Wednesday, August 18, 2021 9:48 AM
To: DEFDistributionGOV <DEFDistributionGOV@duke-energy.com>
Subject: [EXTERNAL] FW: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Good morning, please be advised that responses for the subject contact are due today. Link to plans can be found below:

 <https://bcceng-my.sharepoint.com/:b/p/rduran/ETb47eUtYhpArqueGRr9koYBGq3j5HMQp6xitevKcHgkLg?e=x4qZwU>

Thanks.

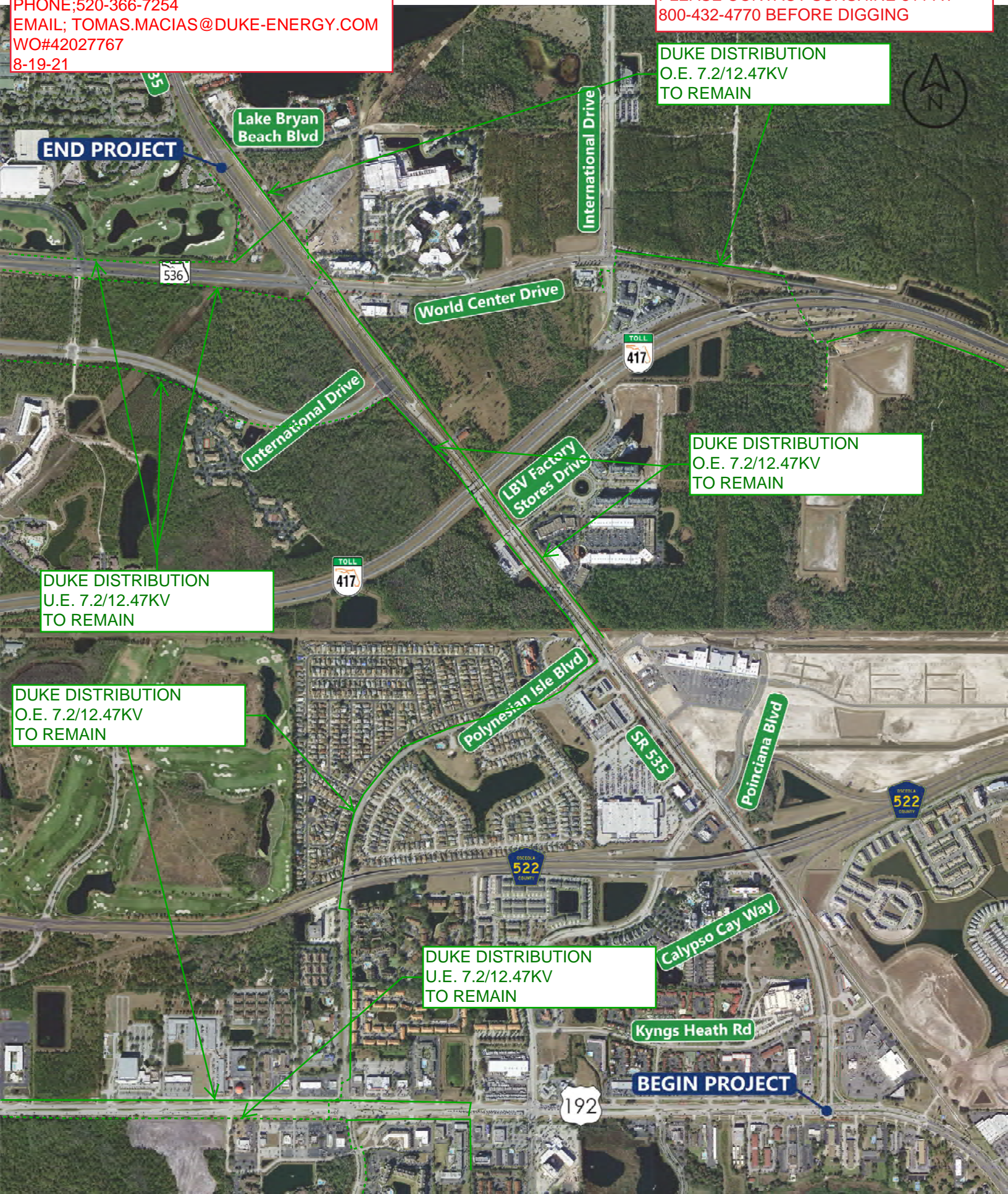
Rick Duran
Senior Utilities Coordinator



t. 305.670.2350 | www.bcceng.com

DUKE DISTRIBUTION
POC:TOMAS MACIAS
PHONE:520-366-7254
EMAIL; TOMAS.MACIAS@DUKE-ENERGY.COM
WO#42027767
8-19-21

UNDERGROUND FACILITIES IN AREA.
PLEASE CONTACT SUNSHINE 811 AT
800-432-4770 BEFORE DIGGING



DUKE DISTRIBUTION
O.E. 7.2/12.47KV
TO REMAIN

DUKE DISTRIBUTION
O.E. 7.2/12.47KV
TO REMAIN

DUKE DISTRIBUTION
U.E. 7.2/12.47KV
TO REMAIN

DUKE DISTRIBUTION
O.E. 7.2/12.47KV
TO REMAIN

DUKE DISTRIBUTION
U.E. 7.2/12.47KV
TO REMAIN

END PROJECT

BEGIN PROJECT





Florida Gas Transmission

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

From: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>

Sent: Wednesday, July 21, 2021 11:32 AM

To: Rick Duran <rduran@bcceng.com>; Coleman, Terry <Terry.Coleman@energytransfer.com>; Powell, Amy <Amy.Powell@energytransfer.com>

Cc: Mulhausen, Douglas <Douglas.Mulhausen@energytransfer.com>

Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Rick,

The 6" transmission pipeline from the Orange/Osceola County Line to the FGT – TECO PGS Meter Station resides within a 30' FGT Easement. In addition, FGT owns the Meter Station Site (the limits are show in Cyan below).



Hope this helps.

Thank you,



Joseph E. Sanchez
Sr. Technical Specialist
Engineering and Construction
Encroachments

Florida Gas Transmission Company
Southeast Division
Energy Transfer
2405 Lucien Way, Suite 200
Maitland, FL. 32751

office: 407.838.7171
cell: 407.808.4607

From: Rick Duran <rduran@bcceng.com>
Sent: Tuesday, July 20, 2021 2:26 PM
To: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>; Coleman, Terry <Terry.Coleman@energytransfer.com>; Powell, Amy <Amy.Powell@energytransfer.com>
Cc: Mulhausen, Douglas <Douglas.Mulhausen@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Joe – one more thing and I apologize for all the pestering... although there are no maps/survey available of the easement areas, would you happen to have on hand the easement width?

Rick Duran
Senior Utilities Coordinator



t. 305.670.2350 | http://secure-web.cisco.com/1COpV-HG2JUv-yeegG0N3wlheAe0-af_YBS5qSW3LS9vM2KgZrBdZclv9vNVZKiknDLPrejixYhCsUlrzOalm1-fNa7Z9JwWRnYX26mZHIKJYtflC63j9Obd483wezWXkwg2Y6WJIBzE7W264cNJI5xPxykfBpLPCBcCDaOHJ3sgbyvCYEHmfVsuJ1XwBCGPkqXdDqz3wL5qiPdnus-CkmcY38XCRdqUu16RwETVLVSmgMBnv99fOaRf8Dyj0W4be/http%3A%2F%2Fwww.bcceng.com

From: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>
Sent: Tuesday, July 20, 2021 10:55 AM
To: Rick Duran <rduran@bcceng.com>; Coleman, Terry <Terry.Coleman@energytransfer.com>; Powell, Amy <Amy.Powell@energytransfer.com>
Cc: Mulhausen, Douglas <Douglas.Mulhausen@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Rick,

It appears the pipeline segment in question (6" Reedy Creek Lateral) was installed within the limits of an old railroad corridor that was turned over to Osceola County, so the installation of the FGT transmission pipeline was via an Osceola County Permit.

From: Rick Duran <rduran@bcceng.com>
Sent: Monday, July 19, 2021 3:17 PM
To: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>; Coleman, Terry <Terry.Coleman@energytransfer.com>; Powell, Amy <Amy.Powell@energytransfer.com>
Cc: Mulhausen, Douglas <Douglas.Mulhausen@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Good afternoon, Terry & Amy – have you been able to confirm if the 6” transmission pipeline depicted in blue on the attached map is in by permit or subordination? (between north Osceola Co. line and W. Osceola Pkwy along the east side of SR-535)

Rick Duran
Senior Utilities Coordinator



**GETTING THERE
JUST GOT EASIER™**

t. 305.670.2350 | http://secure-web.cisco.com/1A8TXL6c5su7CRzeec0HkMYVxQSYqYSTqell091FKeStrMkWI7g-RdpC5JEGXdJnUDQKzxZJeeiaaPYGaynFR_G77qFYOSKI8F1z-oe3J--tVxWOiFn_f5vy6BAOLXNOITwCe8txpfoLHY2W26rxKjq6FYio6Jqo5IQRnaTw9tDskK3giMHvGycO0xVmsdf4Wjb2yXNWLtGlgRXXN TX154uQN6BsnAnmuN_9Yk83QVwUCdAao5oiBD69kPWPQY0/http%3A%2F%2Fwww.bcceng.com

From: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>
Sent: Thursday, July 15, 2021 4:34 PM
To: Rick Duran <rduran@bcceng.com>; Coleman, Terry <Terry.Coleman@energytransfer.com>; Powell, Amy <Amy.Powell@energytransfer.com>
Cc: Mulhausen, Douglas <Douglas.Mulhausen@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Rick,

As requested, please see the attached revised FGT GIS screen shot map for the areas of the pipeline that reside within easement and shown as Highlighted in Red. Amy and Terry will confirm the remaining 6” transmission pipeline shown as being within Osceola County limits resides by permit or by subordination agreement.

Thank you,



Joseph E. Sanchez
Sr. Technical Specialist
Engineering and Construction
Encroachments

Florida Gas Transmission Company
Southeast Division
Energy Transfer
2405 Lucien Way, Suite 200
Maitland, FL. 32751

office: 407.838.7171
cell: 407.808.4607

From: Rick Duran <rduran@bcceng.com>
Sent: Thursday, July 15, 2021 3:28 PM
To: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>; Coleman, Terry <Terry.Coleman@energytransfer.com>
Cc: Powell, Amy <Amy.Powell@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Thank you, sir.

Rick Duran
Senior Utilities Coordinator



t. 305.670.2350 | http://secure-web.cisco.com/1f73MR5BUK5dzfwEO-KIO0AQHoe_e0MZbhGaBEOjVuVdz_O8cIN2lwT-Z9YDAYLhP7HpltvSErE4yNy0atBwWDBte33NGcA0m3StOi4KM2pjzpbMU6QY31ZGia9VmFhvq30FIGfrZOOg-MR9HwX2HUP5GTIIDpY2vCrIU6dWTHdmhQP0KQDLsKd15euoMCUh99c1jqH41DPKo0L1KHw33G8kwydpK9niqiMaqUBiKW-XdFqS6wk_kNXmYhEm-F0lf/http%3A%2F%2Fwww.bcceng.com

From: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>
Sent: Thursday, July 15, 2021 3:19 PM
To: Rick Duran <rduran@bcceng.com>; Coleman, Terry <Terry.Coleman@energytransfer.com>
Cc: Powell, Amy <Amy.Powell@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Rick,

We do not have maps that depict easement limits, however, I will provide a similar map with the pipelines highlighted that reside within easements.

Thank you

From: Rick Duran <rduran@bcceng.com>
Sent: Thursday, July 15, 2021 2:50 PM
To: Coleman, Terry <Terry.Coleman@energytransfer.com>; Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>
Cc: Powell, Amy <Amy.Powell@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Great to hear from both of you. I may be up around that way in the near future maybe we can grab some lunch.

Is there a map or survey available that denotes the limits of the easement?

Rick Duran
Senior Utilities Coordinator



t. 305.670.2350 | http://secure-web.cisco.com/1Ra2Zsvh6vMO5XwnNv0QLq13_8pdRZbqW0Yg6Shajv41ChA-Re-b2-RPqPEyYIXmXhcRPBD_Sg-ht6CCa54MRr4amAclqMhUFO4Fkqr1-ESp80JyHHdjLbWckVWak3tq6rHsAaPhzxV9hG9S3dF2L90zPjQhxs5OGczFW78asbE3WHWBJRCJ94ZdNwVol24dzmhWMqYXlqW aAeWO5damKjJfXfKNaugmrQLjCp6_VWRaobLrOtVCCzn5tyQrOnub/http%3A%2F%2Fwww.bcceng.com

From: Coleman, Terry <Terry.Coleman@energytransfer.com>
Sent: Thursday, July 15, 2021 2:46 PM
To: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>; Rick Duran <rduran@bcceng.com>
Cc: Powell, Amy <Amy.Powell@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Hey Rick, long time no see. Hope your doing well.



Terry D. Coleman
Sr. Representative – Right-of-Way
Florida Gas Transmission Company, LLC
2405 Lucien Way, Suite 200
Maitland, FL 32751
O: 407-838-7054
C: 407-448-7123

From: Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>
Sent: Thursday, July 15, 2021 2:41 PM
To: Rick Duran <rduran@bcceng.com>
Cc: Powell, Amy <Amy.Powell@energytransfer.com>; Coleman, Terry <Terry.Coleman@energytransfer.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Hey Rick,

Hope all is well with you and all the good folks down there. It is always nice to hear from you.

Anyway, as requested, please see the attached FGT GIS screen shot of the natural gas transmission facilities located within the project limits known as being on SR 535 from North of SR 536 to US 192. In addition, almost the all the FGT transmission pipeline shown on the GIS screenshot does reside within FGT easement.

Thank you,



Joseph E. Sanchez

Sr. Technical Specialist
Engineering and Construction
Encroachments


Florida Gas Transmission Company
Southeast Division
Energy Transfer
2405 Lucien Way, Suite 200
Maitland, FL 32751

office: 407.838.7171
cell: 407.808.4607

From: Rick Duran <rduran@bcceng.com>
Sent: Wednesday, July 14, 2021 4:42 PM
To: g27896@att.com; relocations@lumen.com; jonathan.mcleroy@charter.com; DEFDistributionGOV@duke-energy.com; Sanchez, Joseph <Joseph.E.Sanchez@energytransfer.com>; investigations@verizon.com; jose.hernandez2@ocfl.net; mdaniel@summit-broadband.com; swinsor@tecoenergy.com; rpelham@tohowater.com; michel-lee.chapuseaux@uniti.com; matt.richards@zayo.com; juan.diaz@ferrovialservices.com
Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Good afternoon, UAOs:

Please use the link below to access the *Initial Contact* roll plot for the subject FDOT project. Your response to this request by **08/18/2021** is appreciated.

 https://secure-web.cisco.com/1jRnsBsMuAFCceOfR66F8ERa6PO-cqWpyOARVh56Yq4UMIq58U-ZaFMkyGOAGTyJDzOPhCVHbJVitxPghBOUhMoewR9gRLMWmORCNhTO-4fAY2-OAPIORj0u9K00BumKpAvhUK66y4Z9jlgQsNRhP42Owneog0RbNinhUFdfPJT3Y15Zq8wnCMrEr92t_5SLQtxfj8vkfedfbqVuYCsfyDnPxVtQ43v3Vi8tho92xzPuxPnTXT3Wjz78ea9t2w9YD/https%3A%2F%2Fbcceng-my.sharepoint.com%2F%3Ab%3A%2Fp%2Frduran%2FETb47eUtYhpArqueGRr9koYBGq3j5HMqp6xitevKcHgkLg%3Fe%3Dx4qZwU

Should you have any questions, please feel free to contact me.

Thank you.

Rick Duran

Senior Utilities Coordinator



Florida | Georgia | Texas | Puerto Rico

6401 SW 87th Avenue, Suite 200, Miami, FL 33173

t. 305.670.2350 | <http://secure-web.cisco.com/1u2jUqIvOxlecklmh->

[vdIFsCIJ9942Yz569dojkaztJin1Fa44gLOBIL0ob2i72e3z3sNYd9dd_1BxsM8WTjfrV7X87sGiGJfJ2cJWaeXYvaKivr57ICS_zAdD2lclL5vxlfo1o5qRavt1wGmpw84VoSLZ_NhKqjilVPcdDx5-AoTuCOqMdZ5blfsqJOzvCByVak0fPsM-zMb7UVloNpiPJwgX9SfirEaVVHsqjquNNs63my-gHYjz20mW4_7Wga/http%3A%2F%2Fwww.bcceng.com](https://secure-web.cisco.com/1u2jUqIvOxlecklmh-vdIFsCIJ9942Yz569dojkaztJin1Fa44gLOBIL0ob2i72e3z3sNYd9dd_1BxsM8WTjfrV7X87sGiGJfJ2cJWaeXYvaKivr57ICS_zAdD2lclL5vxlfo1o5qRavt1wGmpw84VoSLZ_NhKqjilVPcdDx5-AoTuCOqMdZ5blfsqJOzvCByVak0fPsM-zMb7UVloNpiPJwgX9SfirEaVVHsqjquNNs63my-gHYjz20mW4_7Wga/http%3A%2F%2Fwww.bcceng.com)

**FGT - TECO PGS ORLANDO
METER STATION**

**EXISTING 6.625" O.D. x 0.188" W.T.,
GRADE X - 42, NATURAL GAS
TRANSMISSION PIPELINE (FLBPP)**

WARNING:
THESE MATERIALS ARE FOR INFORMATIONAL PURPOSES ONLY AND MUST NOT BE USED OR RELIED ON AS AN EXACT REPRESENTATION OF EXISTING CONDITIONS AND/OR PIPELINE LOCATIONS. FIELD CONDITIONS OR THE EXACT LOCATIONS OF THESE FACILITIES MUST BE ESTABLISHED SOLELY BY FIELD VERIFICATION. STATE LAW REQUIRES AN EXCAVATOR CONTACT THE STATE ONE-CALL CENTER AT ITS 800 NUMBER OR THE NATIONAL RESPONSE 811 NUMBER BEFORE DIGGING TO ALLOW AN ON-SITE INSPECTION BY A PIPELINE COMPANY FIELD REPRESENTATIVE.

THIS INFORMATION IS CONFIDENTIAL AND MUST BE PROTECTED. DISCLOSURE, COPYING, DISTRIBUTION, OR USE OF THE CONTENTS OF THIS AND/OR THE ATTACHMENTS IF YOU ARE NOT THE INTENDED RECIPIENT IS PROHIBITED.

**EXISTING 6.625" O.D. x 0.188" W.T.,
GRADE X - 42, NATURAL GAS
TRANSMISSION PIPELINE (FLBPP)**

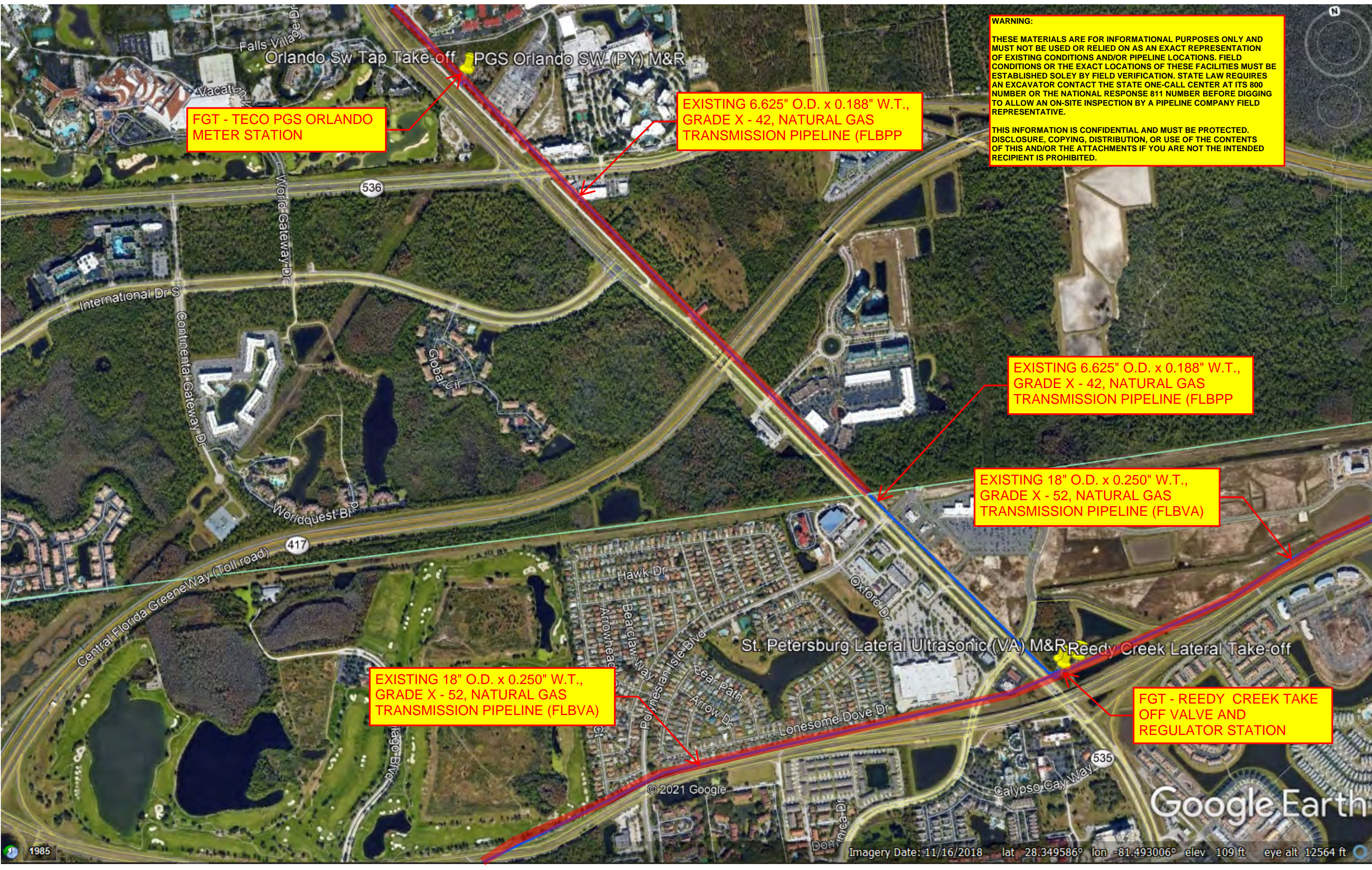
**EXISTING 18" O.D. x 0.250" W.T.,
GRADE X - 52, NATURAL GAS
TRANSMISSION PIPELINE (FLBVA)**

**EXISTING 18" O.D. x 0.250" W.T.,
GRADE X - 52, NATURAL GAS
TRANSMISSION PIPELINE (FLBVA)**

**FGT - REEDY CREEK TAKE
OFF VALVE AND
REGULATOR STATION**

Orlando Sw Tap Take-off PGS Orlando SW (PY) M&R

St. Petersburg Lateral Ultrasonic (VA) M&R Reedy Creek Lateral Take-off



ORIGINAL

Reedy Creek Lateral
Osceola County, Florida
694-OSCE-1

Upon motion of Commissioner Barber, duly seconded by Commissioner Lockhart, the following resolution was unanimously adopted:

BE IT RESOLVED by the Board of County Commissioners of Osceola County, Florida, that Florida Gas Transmission Company, a corporation, its successors and assigns, be and it is hereby given and granted a permit granting the right to construct, reconstruct, enlarge, maintain and operate natural gas pipelines hereinafter called "facility," together with the necessary appurtenances, underground, across and along county owned lands abutting State Road 535, subject to the following conditions:

1. The Licensee shall prevent the creation of any obstructions or conditions which are or may become dangerous to the traveling public.
2. The Licensee shall repair any damage or injury to the roads, streets, highways and easements occasioned by reason of the exercise of the privileges granted by this resolution and to repair said roads, streets, highways and easements promptly, restoring the same to a condition at least equal to that which existed immediately prior to the infliction of such damage or injury.
3. The Licensee shall hold the Board of County Commissioners of Osceola County, Florida, and members thereof, harmless from the payment of any compensation or damages resulting from the exercise of the privileges of this resolution.
4. The Licensee shall comply with those reasonably necessary rules and regulations promulgated for the protection of the County and the public by the Board of County Commissioners of Osceola County, Florida, enacted both before and after the granting of the privileges herein.

RECEIVED

ENTERED SEP 26 1994

APR 22 1970

Florida Gas Transmission Co.
LAND DEPT.

01947

5. Whenever necessary, in the opinion of the Board of County Commissioners, for the construction, widening, repair, improvement, alteration or relocation of all, or any portion of said State Road 535 as determined by the Board of County Commissioners, the facility and appurtenances hereto as authorized hereunder, shall be immediately removed from said right of way, or reset or relocated thereon, as required by the Board of County Commissioners and at the expense of the holder, it being the intention of the said Board of County Commissioners that all and every expense of the licensee in removing, resetting, relocating or in any other way altering said gas pipelines, for any reason or cause whatsoever, shall be the expense of the licensee.

6. The Licensee shall file a written acceptance of the terms of this resolution within thirty (30) days with the Board of County Commissioners stating that it will comply with the conditions stated herein.

7. The failure of the Licensee to file a written acceptance within thirty (30) days as provided for above shall render this resolution null and void and of no legal effect.

8. Any assignment or transfer by said company of the rights granted hereunder to any person, firm or corporation shall obligate such person, firm or corporation to perform any and all of the obligations contained herein in the same manner as the licensee is obligated hereunder.

DONE AND ADOPTED in regular session this 26th day of March, 1970.

(SEAL)

BOARD OF COUNTY COMMISSIONERS
OF OSCEOLA COUNTY, FLORIDA

By *David B. Brown*
Chairman

ATTEST:

Ann G. David
Clerk

RECEIVED

APR 22 1970

Florida Gas Transmission Co.
LAND DEPT.

ENTERED SEP 26 1994

01047

STATE OF FLORIDA
COUNTY OF OSCEOLA

I, HARRIS G. DANIEL, Clerk of the Circuit Court in and for the Ninth Judicial Circuit, State of Florida, County of Osceola, DO HEREBY CERTIFY that the above and foregoing is pertaining to use of R/W along the East side of Highway 535 a true and correct copy of the Resolution/adopted by the Board of County Commissioners of Osceola County at a Regular meeting held March 26th A. D. 19670 and has been filed and recorded with the minutes of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Seal of my office, at Kissimmee, Florida, this the 22nd day of April A. D. 19670 .

(SEAL)

HARRIS G. DANIEL

Clerk of the Circuit Court and
Ex-officio Clerk and Auditor
for the Board of County Commis-
sioners of Osceola County, State
of Florida.

By Ellenore D. Jowers
Deputy Clerk

certify

RECEIVED
SEP 22 1964
Osceola Co. DEPT.

ENTERED SEP 26 1964

The foregoing Resolution is accepted as of the day and date herein-
above specified.

FLORIDA GAS TRANSMISSION COMPANY

BY H. L. Wilhite
H. L. WILHITE Vice President
SENIOR VICE PRESIDENT

[Signature]
Legal Dept.

STATE OF FLORIDA)

COUNTY OF ORANGE)

I, Lorraine Sebring a Notary Public in and for said
County and in said State, hereby certify that H. L. Wilhite, whose name
as Senior Vice President is signed to the foregoing instrument and who is known
to me acknowledged before me on this day that being informed of the contents
of the instrument, he, in his capacity as such officer, and with full author-
ity, executed the same voluntarily for and as the act of the Corporation.

Given under my hand and official seal this the 17th day of
April, 1970.

Lorraine Sebring
Notary Public, Orange County, Florida

Notary Public State of Florida at Large
My Commission expires

~~Notary Public State of Florida at Large~~
My Commission Expires March 31, 1973

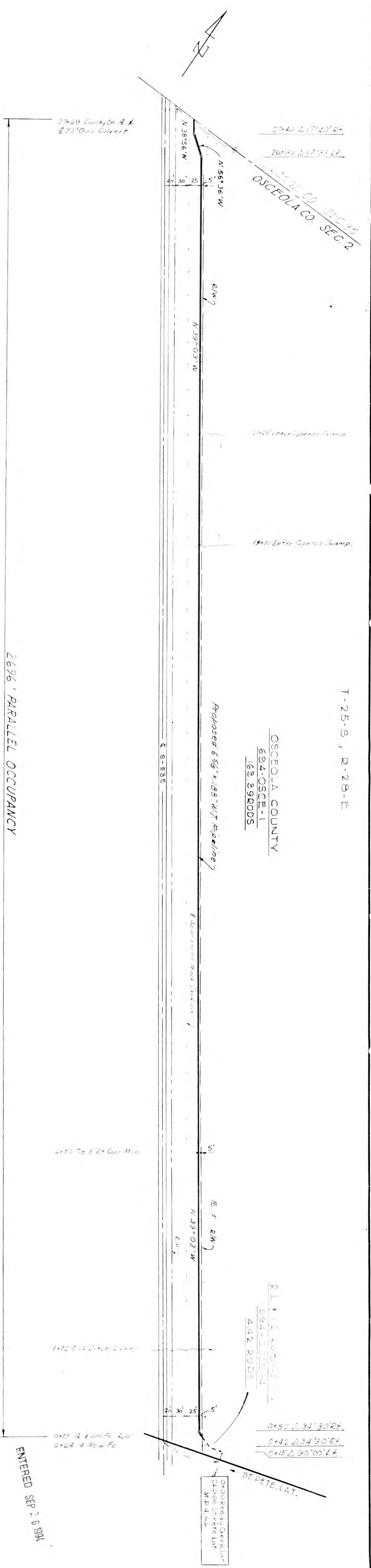
ENTERED SEP 26 1994

01947

OSCEOLA CO. SEC. 35
OSCEOLA CO. SEC. 2

T-25-S, R-28-E

OSCEOLA COUNTY
694-OSCE-1
163.39 RODS



2696' PARALLEL OCCUPANCY

Handwritten initials

NO.	DATE	REVISION	BY	CHK'D.	APP'D.

<p>REEDY CREEK LAT FLORIDA GAS TRANSMISSION COMPANY ENGINEERING DEPARTMENT WINTER PARK, FLORIDA</p> <p>PROPOSED 6 5/8" O.D. NAT GAS PIPELINE OCCUPANCY OSCEOLA COUNTY RIGHT-OF-WAY</p>	<p>DATE: 12-22-94 DATE: 12-22-94 DATE: 12-22-94</p>	<p>APPROVED BY: [Signature] CHECKED BY: [Signature]</p>	<p>APPROVED BY: [Signature] CHECKED BY: [Signature]</p>
--	---	--	--

ENTERED SEP 28 1994

Kinder-Morgan



Bob Gray
 2101 GATX Drive
 Tampa, FL 33605
 Phone: 813-241-1106
 Email: Bob_Gray@kindermorgan.com

COMPANY OVERVIEW

Kinder Morgan’s Central Florida Pipeline system consists of a 110-mile, 16-inch diameter pipeline that transports gasoline and batched denatured ethanol, and an 85-mile, 10-inch diameter pipeline that transports diesel fuel and jet fuel from Tampa to Orlando. The 10-inch pipeline connects to Kinder Morgan’s Taft, Florida, terminal (located near Orlando) and is the sole pipeline supplying jet fuel to the Orlando International Airport. Kinder Morgan also owns and operates liquids terminals in Tampa and Taft. The Tampa terminal contains approximately 1.6 million barrels of storage capacity for sub-octane gasoline, ultra low sulfur diesel, bio diesel, ethanol, and jet fuel, and is connected to two ship dock facilities in the Port of Tampa. The Tampa terminal also provides truck rack blending services for ethanol, neat loads of denatured ethanol and bio-diesel. The Taft terminal contains approximately 1.0 million barrels of storage capacity for sub-octane gasoline, ultra low sulfur diesel, bio diesel, ethanol, and jet fuel for further movement into trucks.

COMMITMENT TO HEALTH, SAFETY & ENVIRONMENT

Kinder Morgan is committed to public safety, protection of the environment, and operation of its facilities in compliance with all applicable rules and regulations. The Central Florida Pipelines fall under the regulatory oversight of the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA). The company is proud of its safety record and follows many regulations and procedures to monitor and ensure the integrity of its pipelines.

Pipeline operating conditions are monitored 24 hours a day, 7 days a week by personnel in control centers using a Supervisory Control and Data Acquisition (SCADA) computer system. This electronic surveillance system gathers such data as pipeline pressures, volume and flow rates and the status of pumping equipments and valves. Whenever operating conditions change, an alarm warns the operator on duty and the condition is investigated. Both automated and manual valves are strategically placed along the pipeline system to enable the pipeline to be shutdown immediately and sections to be isolated quickly, if necessary. We want you to be aware of our pipelines. We ask for your help in preventing accidental damage to pipelines. Kinder Morgan supports the Nation’s Homeland Security efforts and Kinder Morgan

encourages you to immediately notify and report any suspicious persons and/or activities near the pipeline to your local law enforcement authorities by calling 911.

WORKING TOGETHER TO PROTECT PIPELINES & RIGHT-OF-WAYS

In addition to 24-hour monitoring and on-going safety and security procedures, Kinder Morgan relies on you, the local emergency responder, to notify Kinder Morgan when you observe potential right-of-way restriction violations or potential damage to our facilities, which could endanger public safety. We support your enforcement of “Call Before You Dig” requirements in states where they apply.

Excavation activity is the most common cause of serious pipeline damage. In most states, residents, excavators and farmers are required by law to call 811 or their local One-Call center at least two or three working days before starting an excavation project to have underground utilities marked. Refer to your state-specific One-Call laws for more information.

Unauthorized use, such as building or planting, in the pipeline right-of-way is known as encroachment. Kinder Morgan regularly conducts maintenance to trim trees and remove shrubs or structures that prohibit the company

**EMERGENCY CONTACT:
1-800-510-5678**

PRODUCTS/DOT GUIDEBOOK ID#/GUIDE#:

Gasoline (Sub-Octane)	1203	128
Denatured Ethanol	1170	127
Diesel (Ultra Low Sulfur)	1202/1993	128
Bio Diesel	1202/1993	128
Jet Fuel	1863	128

**FLORIDA
COUNTIES OF OPERATION:**

Hillsborough	Orange
Osceola	Polk

Changes may occur. Contact the operator to discuss their pipeline systems and areas of operation.

from clearly viewing the pipeline corridor during aerial or foot patrols and regular maintenance activities.

Please contact us if you know of places where trees, plants or structures are located on the pipeline right-of-way or if you see individuals digging in areas where underground utilities are not marked with flags.

SIGNS OF A PETROLEUM PIPELINE LEAK OR RUPTURE

The following are indications of a possible pipeline leak:

- Brown or discolored vegetation amid healthy plants
- Dirt being blown into the air
- Colorful sheens on water surfaces
- Fire at or below ground level
- Stains or pools of hydrocarbons not usually present in the right-of-way
- Bubbles coming from bodies of water
- A loud roar or hissing sound
- Distinctive petroleum type odors

On occasion, a pressure-relieving device may activate at a CO2 aboveground pipeline facility. These devices are acting as designed to relieve pressure on the system to prevent over pressurization. Under no circumstances should a pressure relieving device be capped or valved off.

PIPELINE INCIDENT RESPONSE TACTICS

The list below summarizes emergency response tactics to implement when you respond to a pipeline incident.

1. Assess the situation

- Approach with caution from upwind location.
- Isolate and secure the area.
- Employ ICS.
- Identify hazards.
- Identify and contact the pipeline operator using the emergency number listed on the pipeline marker.

2. Protect people, property & the environment

- Establish isolation zones and set up barriers.
- Rescue and evacuate people (if needed).
- Eliminate ignition sources.
- Stage apparatus and equipment based on atmospheric monitoring and weather conditions.
- If liquid products are involved, use appropriate defensive Hazardous Waste Operations & Emergency Response (HAZWOPER) procedures such as installing dikes and dams, if trained and equipped.
- Control fires, vapor and leaks. Do not extinguish burning fires. Protect exposures and coordinate isolation operations with pipeline personnel.
- Do not operate (open or close) valves or other pipeline equipment.
- Employ containment techniques if personnel are trained, equipped and it is safe to do so.
- Designate a safe location for bystanders and the media.

3. Call for assistance as needed

- Contact your local emergency response organization and/or national resources if needed.

Refer to PHMSA's Emergency Response Guidebook at <http://hazmat.dot.gov/pubs/erg/guidebook.htm> for additional information.

ADDITIONAL INFORMATION:

National Pipeline Mapping System
www.npms.phmsa.dot.gov

NASFM's "Pipeline Emergencies"
www.pipelineemergencies.com

PHMSA Emergency Response Guidebook

<http://hazmat.dot.gov/pubs/erg/guidebook.htm>

Kinder Morgan Public Awareness

www.kindermorgan.com/public_awareness

BASIC PIPELINE INFORMATION

Kinder Morgan's pipelines are typically underground, but they are located aboveground in select climates and at compressor stations, pumping stations, valve sites and terminals.

Kinder Morgan operates pipelines in your community. Pipeline's are the backbone of our nation's energy transportation infrastructure. According to the National Transportation Safety Board, pipelines are the safest mode of fuel transportation, both for the public and the environment.

Pipelines are constructed in a corridor of land called the pipeline right-of-way that includes the land over and around the pipeline, typically 25 feet on each side. Right-of-way agreements limit how the corridor is used to protect the pipeline and allow operators to monitor and inspect the pipeline.

Kinder Morgan monitors its pipeline system 24-hours a day from its state-of-the-art System Control Center. We ensure public safety and safe pipeline operations through employee training, regular testing, aerial and right-of-way foot patrols and adherence to our

comprehensive Integrity Management plan and procedures.

There are three primary types of pipelines: gathering, transmission and distribution. Gathering pipelines transport CO2 and petroleum products from the wellhead and production areas to processing facilities. Transmission pipelines, like those operated by Kinder Morgan, transport CO2 and hazardous liquids to marketing and distribution terminals. Transmission pipelines are typically large, high-pressure pipelines.

Distribution systems for hazardous liquids differ. Liquids products are stored and transported to their final destination by tanker trucks.

LOCATING PIPELINES IN YOUR COMMUNITY

Pipeline markers are located along the right-of-way, at road intersections, waterways, railroad crossings and all aboveground facilities. These signs identify the general area but not the exact location of the pipeline. They specify the type of product transported, the operator's name and emergency contact number.

The federal government provides access to maps of transmission pipelines in your community through the National Pipeline Mapping System at www.npms.phmsa.dot.gov. Government and safety officials can access additional information and download electronic files to import into emergency preparedness GIS mapping systems.



Examples of Kinder Morgan pipeline markers

POTENTIAL HAZARDS ASSOCIATED WITH PIPELINE LEAKS

The following chart outlines potential hazards associated with the release of specific products transported by Kinder Morgan:

Denatured Ethanol-Typical	Colorless, water white liquid, with a mild fragrant odor	Flammable liquid. Keep away from heat, sparks, open flames and other ignition sources.	Harmful or fatal if inhaled or absorbed through skin	Alcohol resistant foam, dry chemical or carbon dioxide
Gasoline – Typical (Unleaded Gasoline)	Clear (may be dyed) liquid with a gasoline odor	Flammable liquid. Keep away from heat, sparks, open flames and other ignition sources.	Harmful or fatal if inhaled or absorbed through skin	Dry chemical, foam, carbon dioxide (CO2) or water fog
Bio-Diesel – Typical (petroleum hydrocarbons)	Clear (may be dyed) liquid with a hydrocarbon odor	Flammable liquid. Keep away from heat, sparks, open flames and other ignition sources.	Harmful or fatal if swallowed, inhaled or absorbed through skin	Dry chemical, foam, carbon dioxide (CO2) or water fog. Water may be ineffective but should be used to keep fire exposed containers cool.
Low Sulfur and Ultra Low Sulfur Diesel – Typical	Clear yellow liquid with a petroleum odor	Flammable liquid. Keep away from heat, sparks, open flames and other ignition sources.	Harmful or fatal if inhaled or absorbed through skin	Dry chemical, foam, carbon dioxide (CO2) or water fog
Turbine Fuel – Typical	Clear watery-white liquid with a faint hydrocarbon odor	Flammable liquid. Keep away from heat, sparks, open flames and other ignition sources.	Harmful or fatal if swallowed, inhaled or absorbed through skin	Dry chemical, foam, carbon dioxide (CO2), water fog or vaporizing liquid type extinguishing agents

For specific information about each product Material Safety Data Sheets (MSDS) can be found in this book or downloaded from Kinder Morgan's Web site at www.kindermorgan.com/public_awareness/AdditionalInformation/msds

PLEASE ENSURE THAT THE FOLLOWING PHONE NUMBERS ARE INCLUDED IN YOUR EMERGENCY CONTACT SYSTEM

When calling a non-toll free number, call collect.

Natural Gas

KM Interstate Gas Transmission
888-763-3690

KM Louisiana Pipeline
800-733-2490

KM North Texas Pipeline
800-633-0184

KM Tejas Pipeline
800-568-7512

KM Texas Pipeline
800-633-0184

Midcontinent Express Pipeline
800-733-2490

Natural Gas Pipeline Company of America
800-733-2490

Rockies Express Pipeline LLC
877-436-2253

Trailblazer Pipeline Company
800-733-2490

TransColorado Gas Transmission
800-944-4817

Products

CalNev Pipe Line Company
714-560-4411

Central Florida Pipeline Company
800-537-8832

Kinder Morgan Cochin LLC
800-265-6000

Kinder Morgan Energy Partners, LP (Cypress Pipeline)
800-265-6000

Plantation Pipe Line Company
800-510-5678

SFPP, LP
714-560-4411

Southeast Terminals LLC
800-510-5678

West Coast Terminals LLC
714-560-4411

CO2 Kinder Morgan CO2 Company, LP
877-390-8640

Crude

Kinder Morgan Pipelines (USA) Inc.
888-449-7539

Kinder Morgan Wink Pipeline, LP
866-784-6494

Trans Mountain Pipeline (Puget Sound) LLC
888-876-6711

Liquid Terminals

Kinder Morgan Liquids Terminals LLC
Argo, Illinois
866-499-2746

Carteret, New Jersey
732-541-5161

Galena Park, Texas
713-455-1231

Pasadena, Texas
713-475-9235

Perth Amboy, New Jersey
732-826-1144

St. Gabriel, Louisiana
877-217-5243

Corporate Headquarters

NON-EMERGENCY INQUIRIES ONLY
500 Dallas St., Suite 1000
Houston, TX 77002
713-369-9000

Kinder Morgan's Public Awareness Program; developed under the guidance of federal public awareness, damage prevention and integrity management regulation; is a single administered program for all applicable business units or entities. The Program is administered by Kinder Morgan's DOT Technical Working Group. For more information regarding Kinder Morgan's Public Awareness Program visit www.kindermorgan.com/public_awareness.

2190

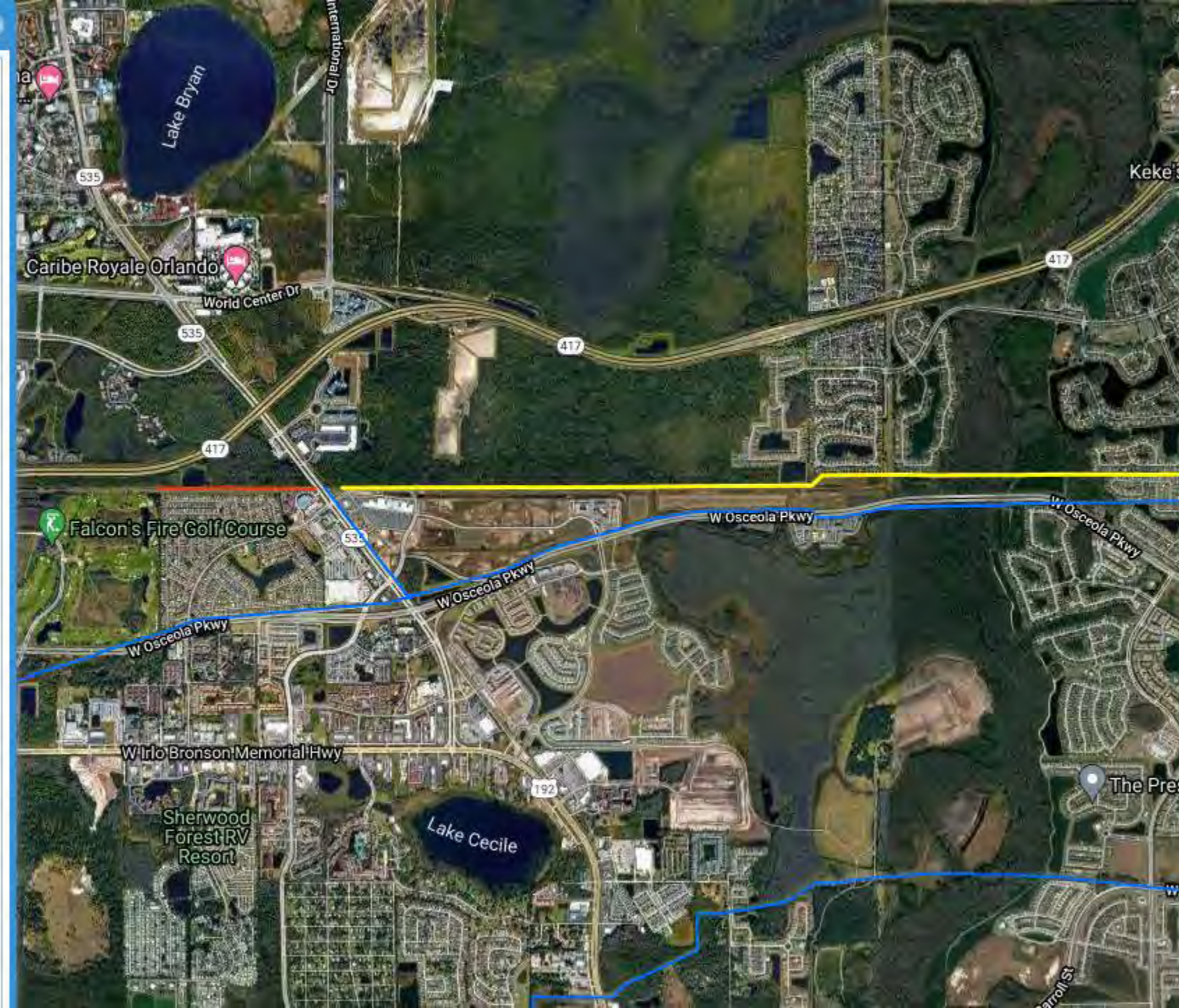
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Category: PIPELINE ATTRIBUTES

OPERATOR ID	2190
OPERATOR NAME	CENTRAL FLORIDA PIPELINE CO...
SYSTEM NAME	CFPL
SUBSYSTEM NAME	16" TAMPA TO ORLANDO
PIPELINE ID	16" TAMPA TO TAF*
MILES	3.61
COMMODITY CATEGORY	Fuel Grade Ethanol
COMMODITY DESCRIPTION	FUEL GRADE ETHANOL
INTERSTATE DESIGNATION	N
PIPELINE STATUS CODE	Active (filled)
REVISION DATE	06/01/2020
FRP SEQUENCE NUMBER	
INSPECTION AUTHORITY	PHMSA

Category: GENERAL CONTACT

FIRST NAME	
LAST NAME	
TITLE	
ENTITY	PUBLIC AWARENESS COORDINA...
PHONE	(800) 276-9927
EMAIL	PUBLICAWARENESS@KINDERM...
ADDRESS	1001 LOUISIANA STREET SUITE ...
CITY	HOUSTON
STATE	TX



Map Layers

- Accidents (Liquid)
- Incidents (Gas)
- Gas Transmission Pipelines
- Hazardous Liquid Pipelines
- LNG Plants
- Breakout Tanks
- Other Populated Areas (scale dependent)
- Highly Populated Areas (scale dependent)
- Commercially Navigable Waterways
 - CNW Inland
 - CNW Ocean/Great Lakes
- Great Lakes
- Tribal Government Lands
- State Boundaries
 - abc Show Labels
- County Boundaries
 - abc Show Labels
- GOM Block Groups
 - abc Show Labels
- GOM Blocks
 - abc Show Labels
- Map
- Satellite

2190

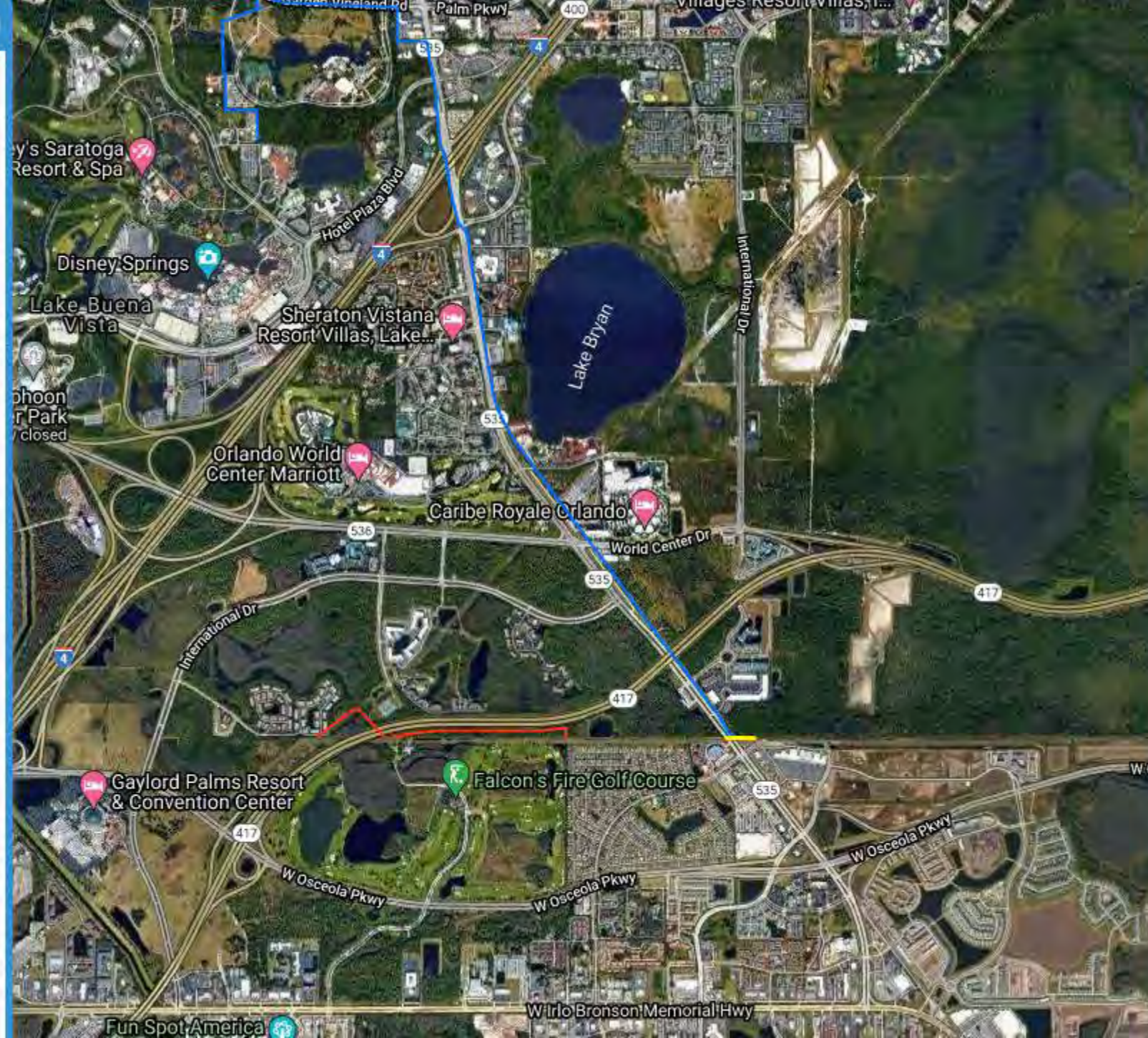
Attribute	Value
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Category: PIPELINE ATTRIBUTES

OPERATOR ID	2190
OPERATOR NAME	CENTRAL FLORIDA PIPELINE CO...
SYSTEM NAME	CFPL
SUBSYSTEM NAME	16" TAMPA TO ORLANDO
PIPELINE ID	16" TAMPA TO TAF*
MILES	0.10
COMMODITY CATEGORY	Fuel Grade Ethanol
COMMODITY DESCRIPTION	FUEL GRADE ETHANOL
INTERSTATE DESIGNATION	N
PIPELINE STATUS CODE	Active (filled)
REVISION DATE	06/01/2020
FRP SEQUENCE NUMBER	
INSPECTION AUTHORITY	PHMSA

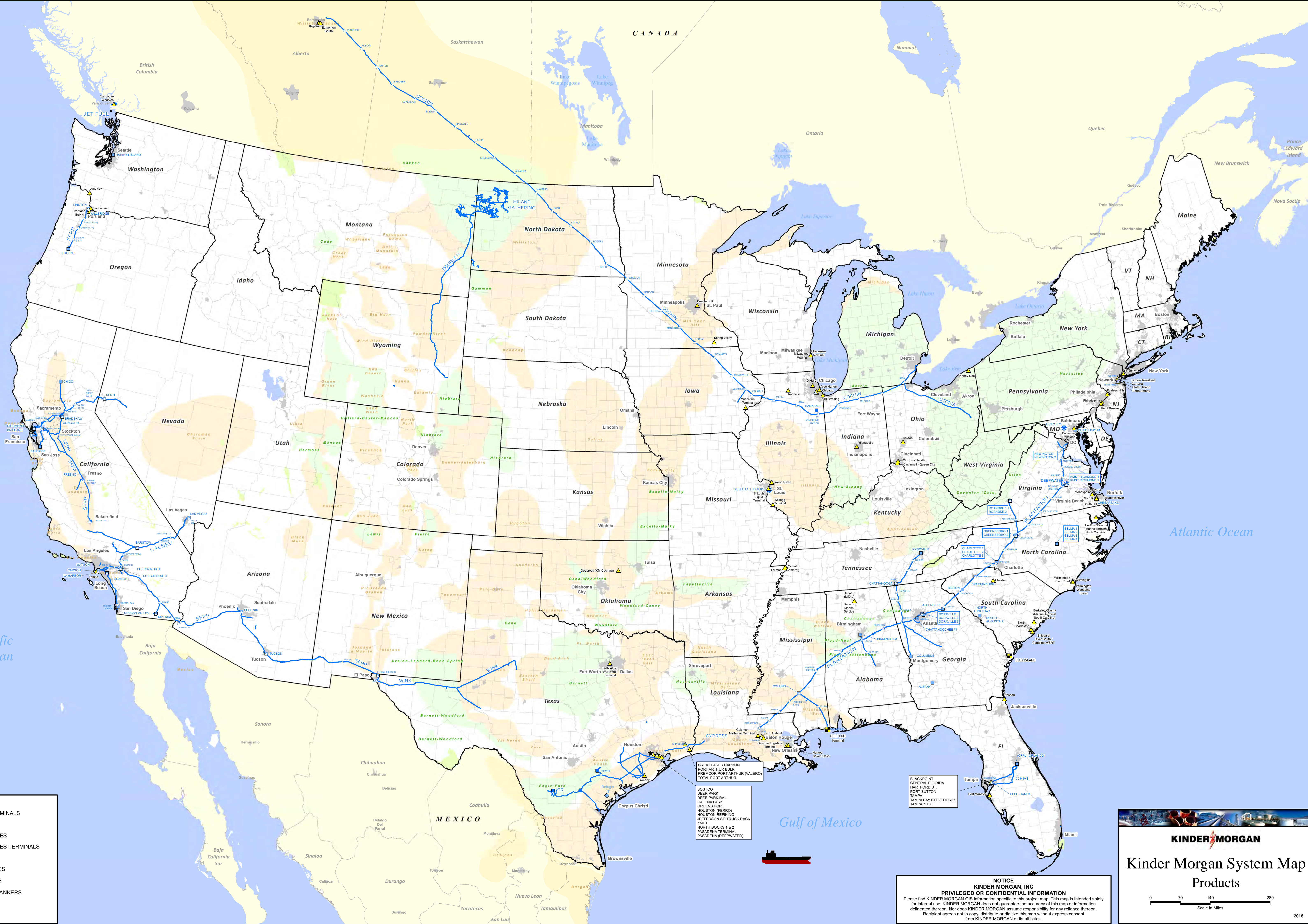
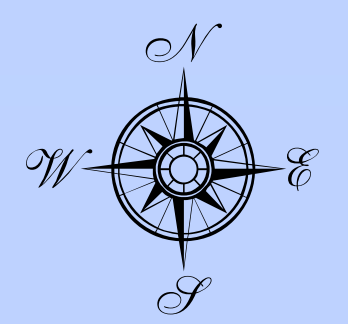
Category: GENERAL CONTACT

FIRST NAME	
LAST NAME	
TITLE	
ENTITY	PUBLIC AWARENESS COORDINA...
PHONE	(800) 276-9927
EMAIL	PUBLICAWARENESS@KINDERM...
ADDRESS	1001 LOUISIANA STREET SUITE ...
CITY	HOUSTON
STATE	TX



Map Layers

- Accidents (Liquid)
- Incidents (Gas)
- Gas Transmission Pipelines
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- Map
- Satellite




- LNG TERMINALS
- NGL PIPELINES TERMINALS
- TERMINALS
- PRODUCTS PIPELINES
- PRODUCTS PIPELINES TERMINALS
- LIQUIDS PLANT
- TRANSMIX FACILITIES
- KM HEADQUARTERS
- JONES ACT TANKERS
- SHALE GAS PLAYS
- BASINS

GREAT LAKES CARBON
 PORT ARTHUR BULK
 PREMCO PORT ARTHUR (VALERO)
 TOTAL PORT ARTHUR

BLACKPOINT
 CENTRAL FLORIDA
 HARTFORD ST.
 PORT SUTTON
 TAMPA
 TAMPA BAY STEVEDORES
 TAMPALEX

NOTICE
 KINDER MORGAN, INC.
PRIVILEGED OR CONFIDENTIAL INFORMATION
 Please find KINDER MORGAN GIS information specific to this project map. This map is intended solely for internal use. KINDER MORGAN does not guarantee the accuracy of this map or information delineated thereon. Nor does KINDER MORGAN assume responsibility for any reliance thereon. Recipient agrees not to copy, distribute or digitize this map without express consent from KINDER MORGAN or its affiliates.



Kinder Morgan System Map

Products

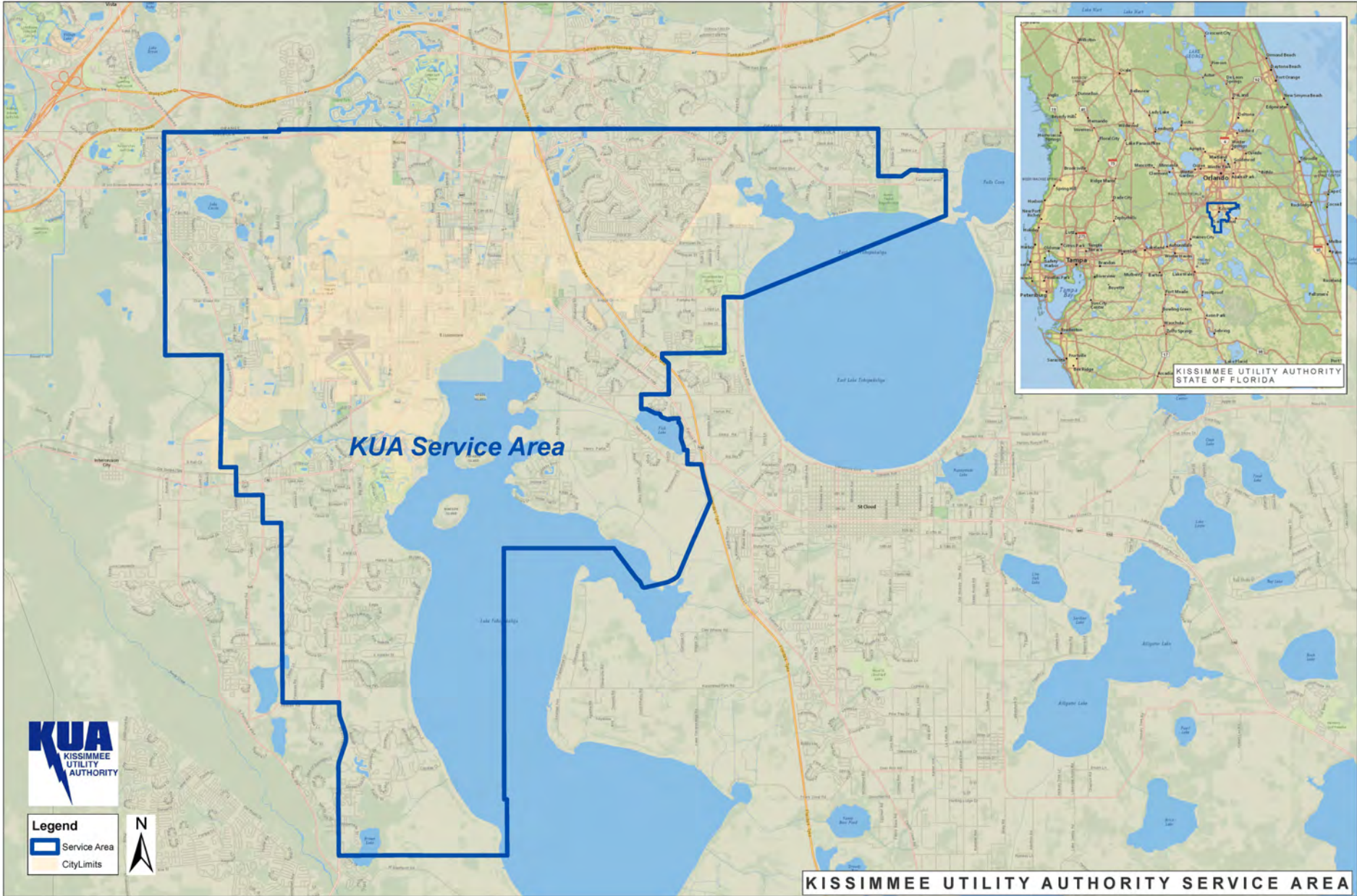


Scale in Miles

2018



Kissimmee Utility Authority



Lumen (Centurylink)

Rick Duran

Subject: FW: Under Review 437174-2-22-01 - State Rd 535 - International Dr to US 192, Kissimmee, FL
Attachments: 437174-2-22-01_Contact Letter (PD&E).docx; 156583 4.pdf; 156583. 3.pdf; 156583 2.pdf; 156583 1.pdf

From: Rypkema, Xan <xan.rypikema@lumen.com>

Sent: Thursday, July 22, 2021 7:32 PM

To: Rick Duran <rduran@bcceng.com>

Subject: Under Review 437174-2-22-01 - State Rd 535 - International Dr to US 192, Kissimmee, FL



Thank you for your project notification. LUMEN has reviewed your utility notice dated **7-14-2021** regarding the **P 156583 FL | 437174-2-22-01 - State Rd 535 - International Dr to US 192, Kissimmee, FL** ("Project"). In response to your inquiry please find the enclosed drawings indicating the approximate location of the LUMEN facilities (the "Facilities").

LUMEN Local/National does not have facilities within your proposed construction area.

LUMEN Local/National has facilities within your proposed construction area. Please find the enclosed drawings indicating the location of the LUMEN facilities. Once you have completed your review, please respond back if LUMEN facilities appear to be in conflict. A LUMEN engineer will be assigned when engineering plans are ready for review.

LUMEN Local/National facilities are under review by our LUMEN Field Engineer(s) listed below. For questions concerning the details of this review, please contact them directly. Currently, the estimated completion date of review is **8-6-2021**.

LUMEN Local/National is leasing facilities within your proposed construction Zone, which may have potential conflicts. Please verify that you have contacted all communications providers listed on your One Call Ticket.

LUMEN Local/National - The information provided in your initial request is insufficient to determine if the location of your proposed construction will conflict with LUMEN facilities. Please provide additional detailed location maps, drawings (PDF preferred), and description for further conflict review.

LUMEN Local/National has facilities within your proposed construction zone, but it has been determined that no relocation will be necessary. However, due to the proximity of your project to our facilities, a LUMEN representative will be required on-site when construction begins.

[LUMEN National Engineer-Name | Email | PhoneNumber]/[LUMEN Local Engineer-Name | Email | PhoneNumber]

Please contact your [State One Call](#) prior to construction service (click link for state specific requirements).

Any changes or additions to the project plans or parameters should be submitted to [Network Relocations](#) for review of potential new impacts to the LUMEN facilities. **Note:** the location(s) of facilities shown on these drawings you receive from us, are only approximate. LUMEN hereby disclaims any responsibility for the accuracy of this information. Please

contact [Network Relocations](#) regarding the above mentioned project if you should have any questions. Please reference the file number **P 156583 FL** with any future communications.

Thank you for your cooperation!

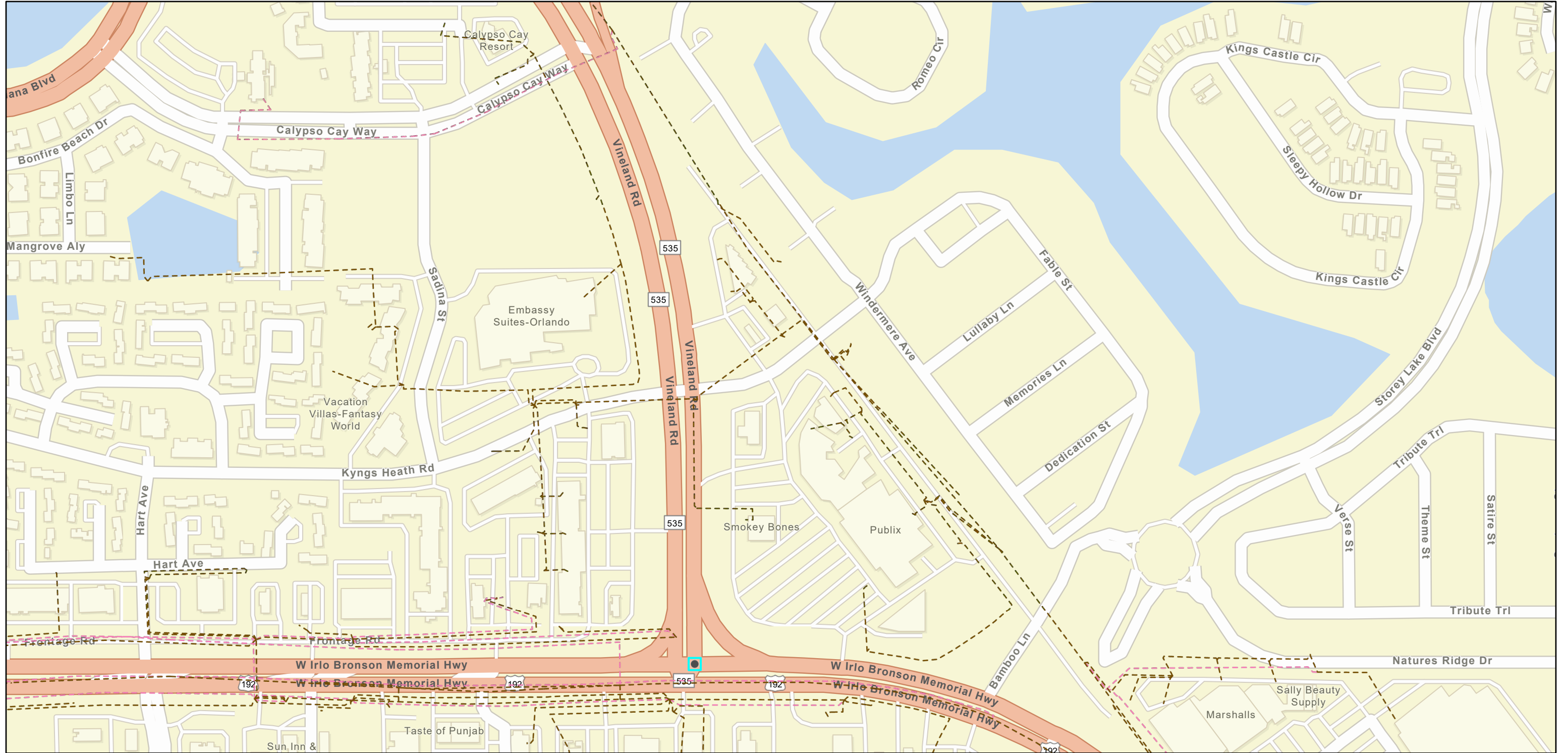
Xan Marie Rypkema
Business Analyst
Network Relocations
xan.rypkema@Lumen.com

****We have combined!!** To better serve everyone, there is now a single email inbox for LUMEN. One team is monitoring both national and local network relocations & road moves. Please add relocations@lumen.com to your contacts list for inquiries, updates, and use it for all future notifications.**

LUMEN

E-mail: relocations@lumen.com

LUMEN Relocate Utility Map

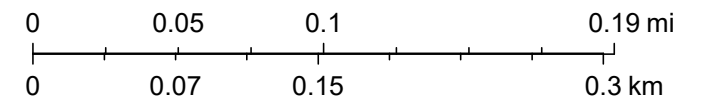


7/22/2021, 5:15:09 PM

Local Fiber Routes

- Underground
- Local Copper UG Route

1:4,514



Esri Community Maps Contributors, FDEP, BuildingFootprintUSA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

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LUMEN Relocate Utility Map



7/22/2021, 5:17:17 PM

Local Fiber Routes

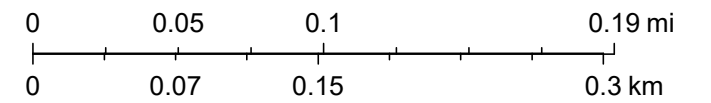
 Underground

 Local Copper UG Route

Routes Owned

 METRO LATERAL, UNDERGROUND

1:4,514

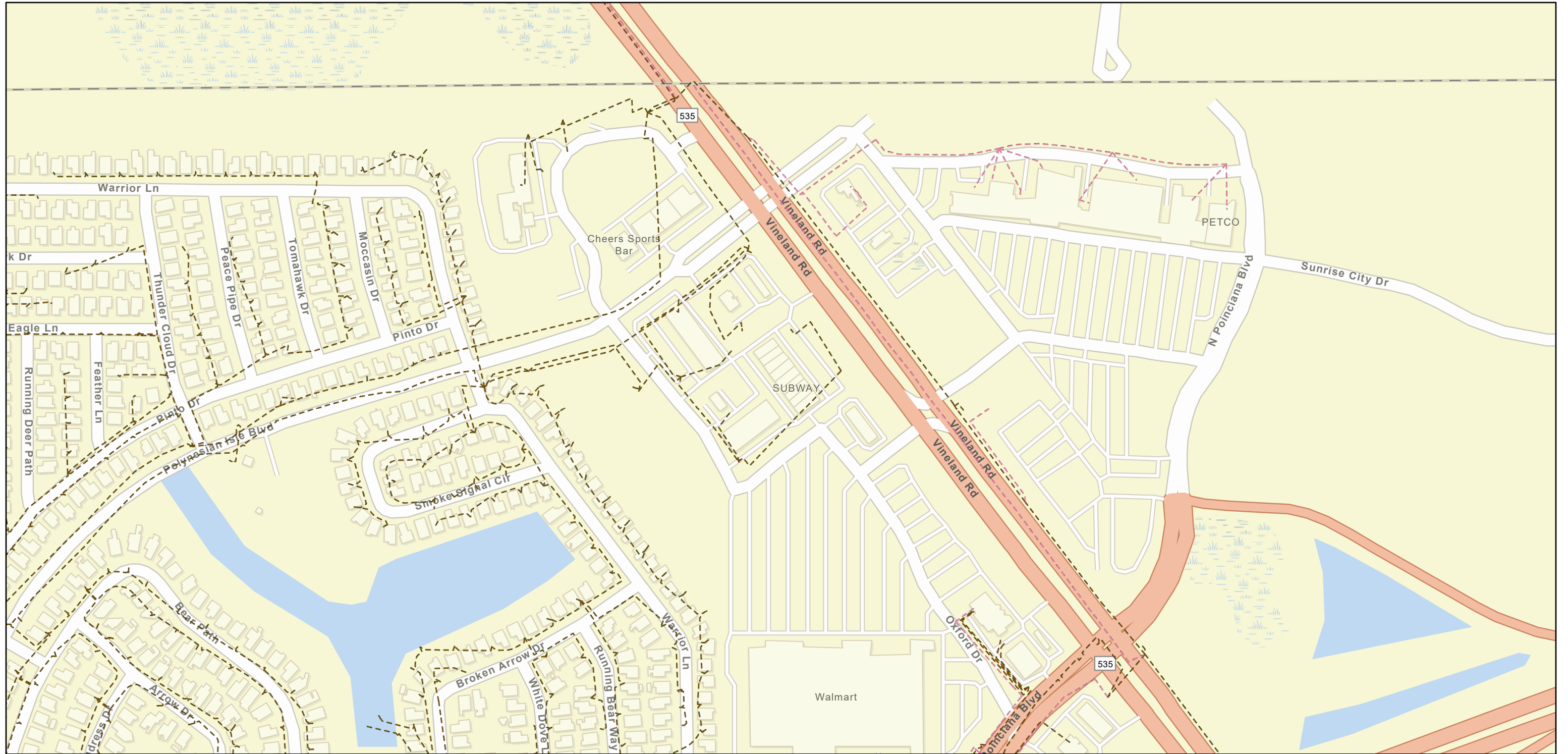


Esri Community Maps Contributors, FDEP, BuildingFootprintUSA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

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LUMEN Relocate Utility Map

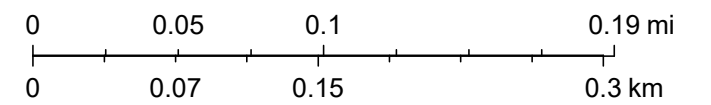


7/22/2021, 5:18:47 PM

Local Fiber Routes

-  Underground
-  Local Copper UG Route

1:4,514

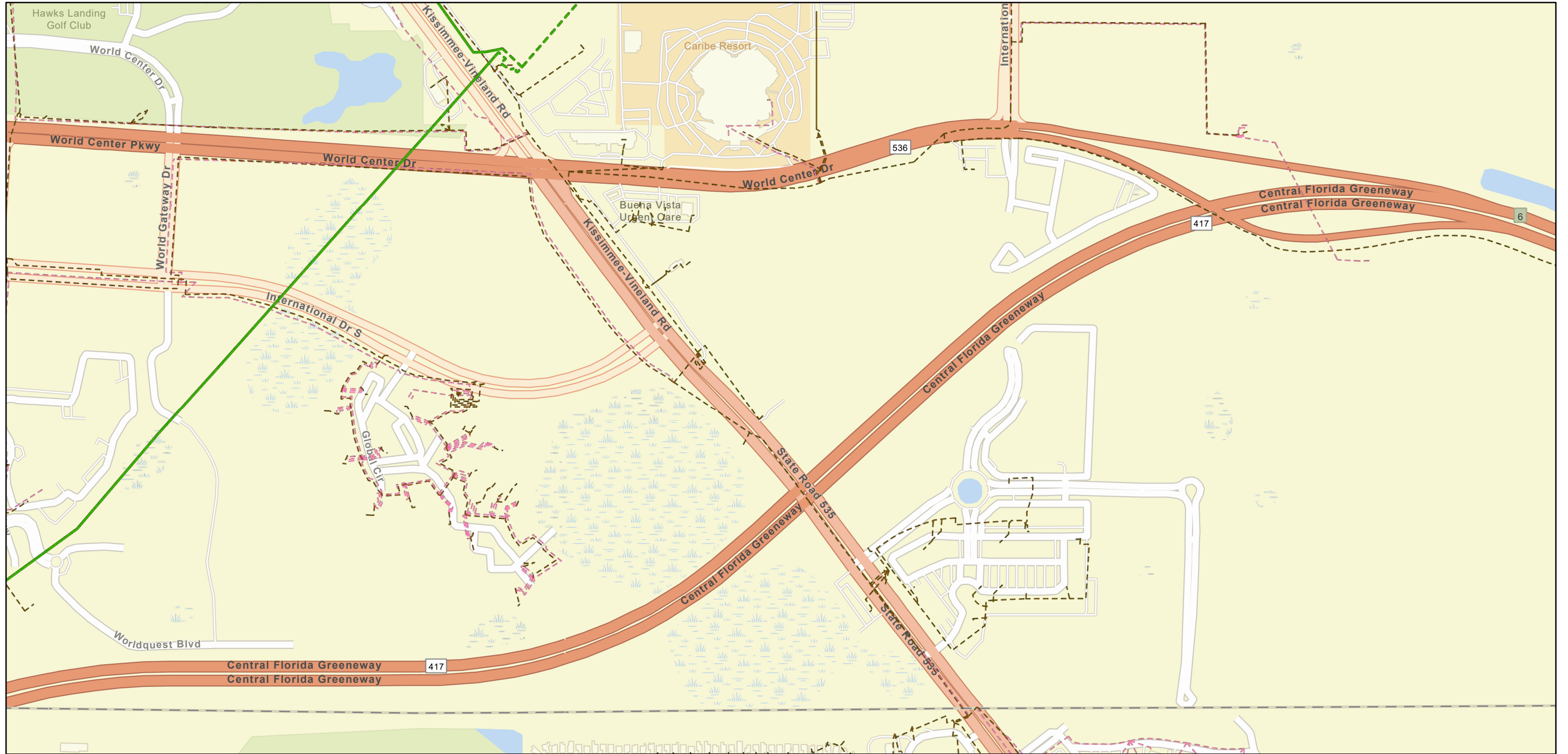


Esri Community Maps Contributors, FDEP, BuildingFootprintUSA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

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LUMEN Relocate Utility Map



7/22/2021, 5:20:08 PM

Local Fiber Routes

--- Underground

--- Local Copper UG Route

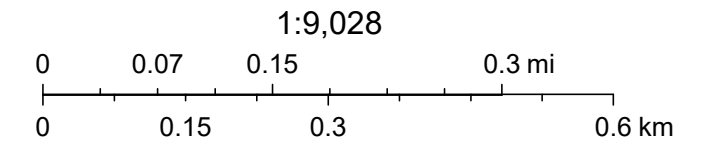
— Local Copper Aerial Route

Routes Owned

— METRO,AERIAL

— METRO,OPGW

--- METRO,UNDERGROUND



Esri Community Maps Contributors, County of Orange, FL, FDEP, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

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Orange County Utilities

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact
Attachments: SR 535 PD&E Study GIS Map.pdf

From: Christina.Crosby@ocfl.net <Christina.Crosby@ocfl.net>
Sent: Wednesday, July 28, 2021 1:44 PM
To: Rick Duran <rduran@bcceng.com>
Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Rick,
Here are the GIS maps showing OCU's current facilities. Remember the maps are representations of the approximate location of the pipelines and everything must be field verified. Please let me know if you need anything further.
Thanks,

Christina M. Crosby

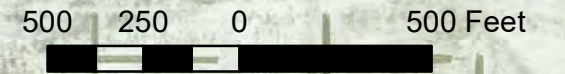
Engineer II
ORANGE COUNTY UTILITIES
Utilities Engineering Division

9150 Curry Ford Road • Orlando, Florida 32825
Phone: 407-254-9706 • Fax 407-254-9999
christina.crosby@ocfl.net

Christina

PLEASE NOTE: Florida has a very broad public records law (F. S. 119). All e-mails to and from County Officials are kept as a public record. Your e-mail communications, including your e-mail address may be disclosed to the public and media at any time.

MATCH LINE - SEE SHEET 2



Polynesian Isle Blvd

SR 535

Poinciana Blvd



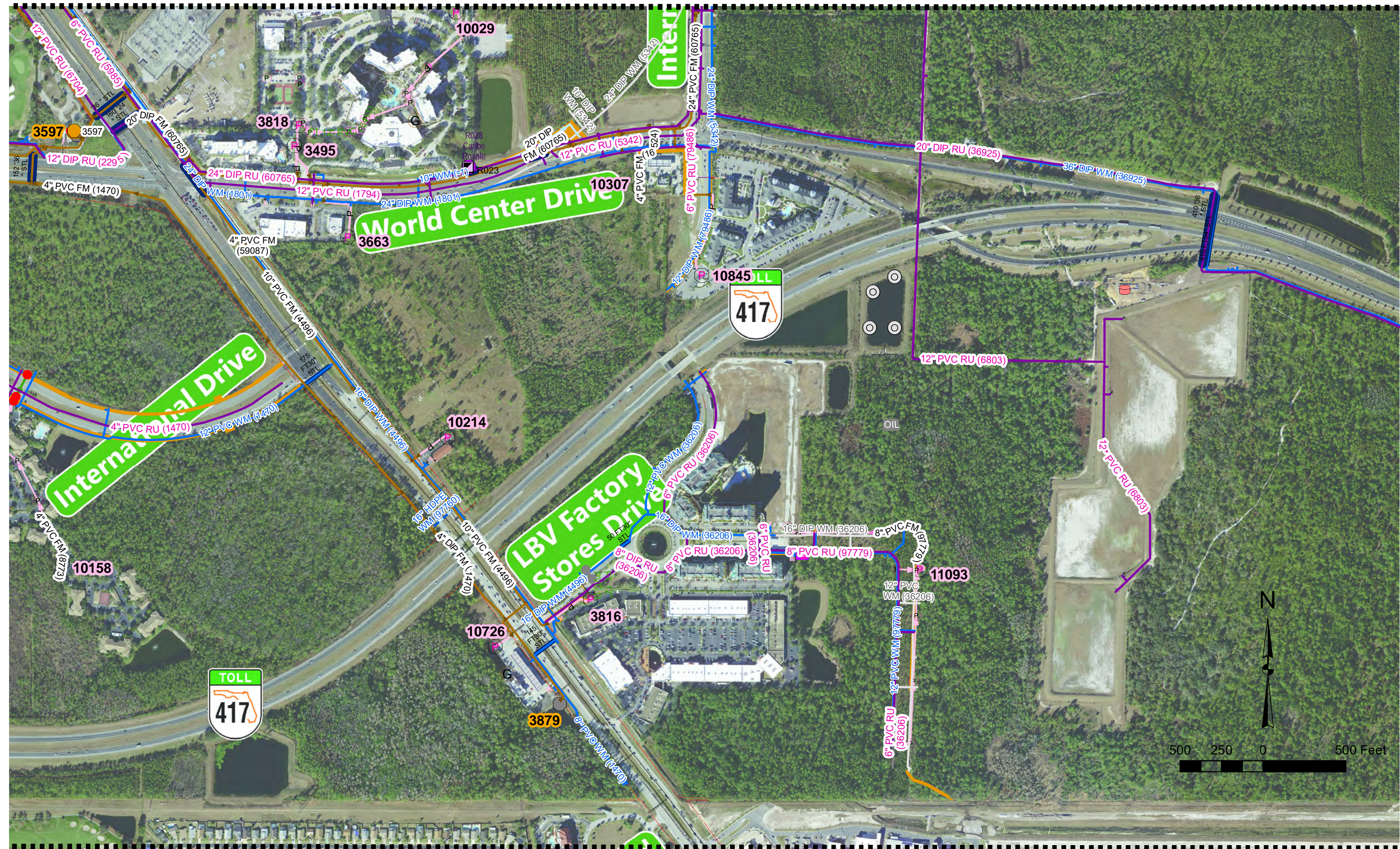
Calypso Cay Way

Kyngs Heath Rd

BEGIN PROJECT



MATCH LINE - SEE SHEET 3



MATCH LINE - SEE SHEET 1



MATCH LINE - SEE SHEET 2





Osceola County

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact
Attachments: IRRIGATION PHASE A.pdf

From: Diaz, Juan <juan.diaz@ferrovialservices.com>
Sent: Thursday, August 19, 2021 2:09 AM
To: Rick Duran <rduran@bcceng.com>; Christina Morris <Christina.Morris@OSCEOLA.ORG>
Cc: Luis Alvarado <Luis.Alvarado@osceola.org>; Roman Rodriguez, Edwin A <edwin.romanrodriguez@ferrovialservices.com>; Morales Maldonado, Monica <monica.moralesmaldonado@ferrovialservices.com>
Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Good evening Rick,

Attached you will find the map plans marked with comments/explanation of the assets that belong to Osceola County, also attached are the blue prints for the under ground utilities belonging to Osceola county on this part of the proposed project. Please let me know if you have any questions or need any additional information, have a safe and good rest of the week sir.

- **Osceola County Assets located within the right of way of this sector. It includes decorative 10ft sidewalks, pavers, seating hardscape seating benches, Irrigation main lines, laterals irrigation communication wiring on the south, North, east and west bound right of ways, also have irrigation main lines located in the median landscape areas US 192 SR 535 until Kings Heath.**



Juan Carlos Diaz
Project Manager
Osceola Project
T. (407) 448 0761
juan.diaz@broadpectrum.com

814 N. Hoagland Blvd.
Kissimmee FL. 34741
www.ferrovialservices.com



[Twitter](#) - [Facebook](#) - [LinkedIn](#) - [Blog](#)

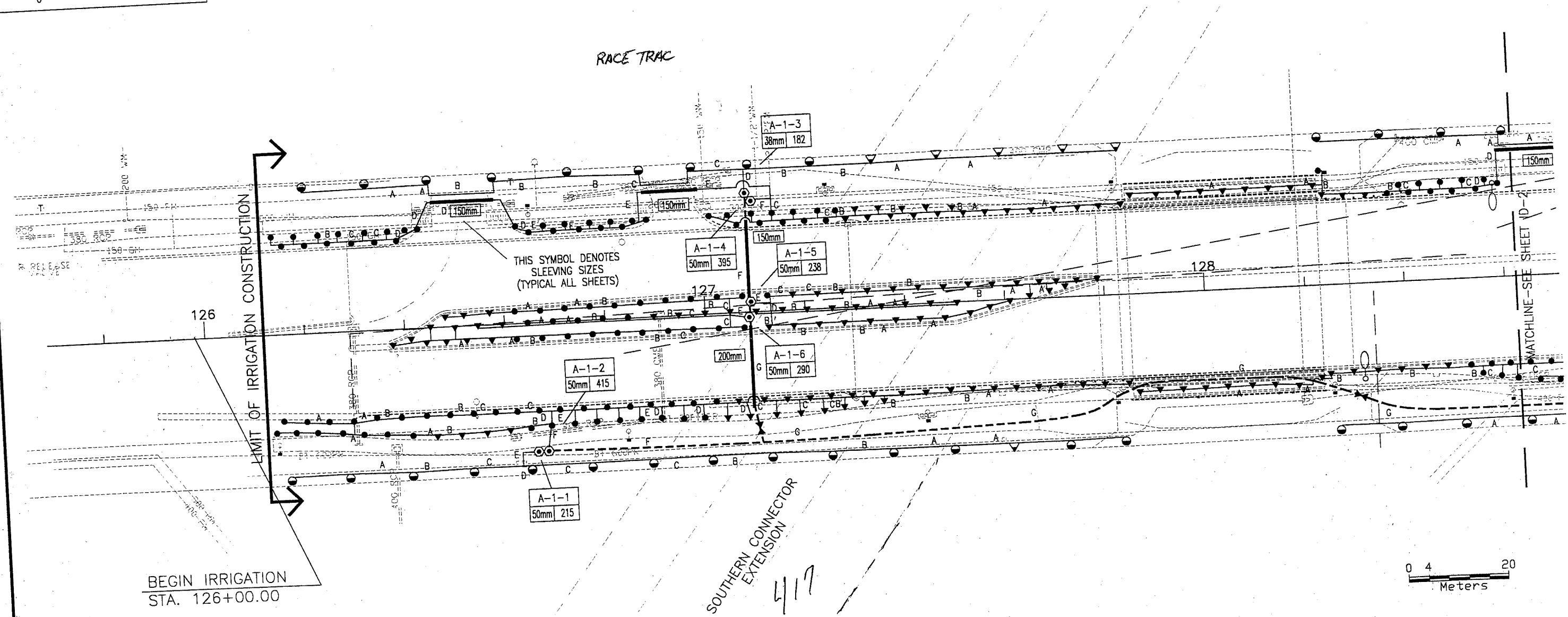
2-24-05

PHASE A - 192
(EAST BOUND FROM A1)

WITH GENERAL NOTES AND
PAGES

IRRIGATION PIPE SIZING KEY

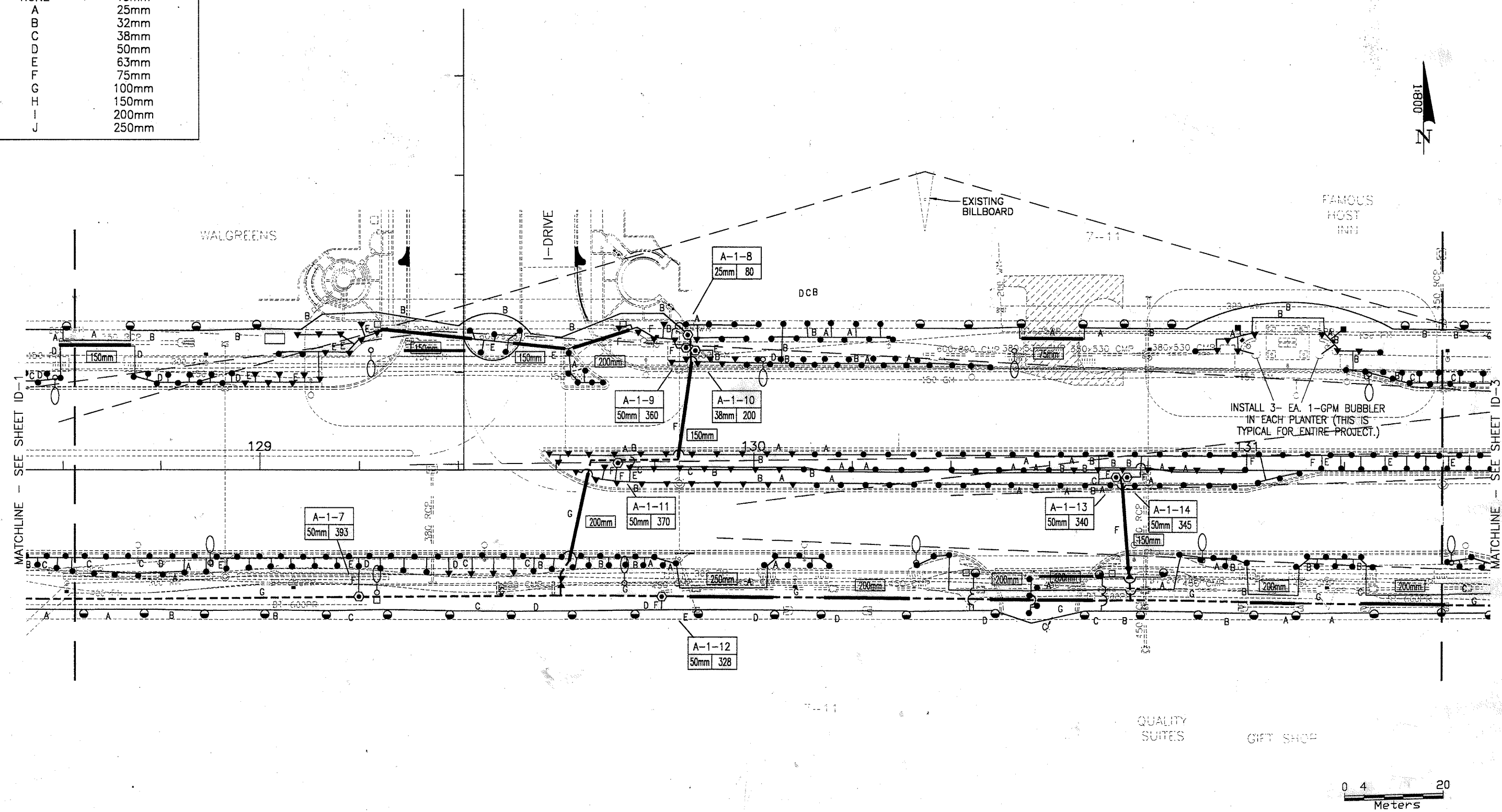
SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm



IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm

STATE PROJ. NO. 92090-3501
SHEET NO. ID2



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

FLORIDA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

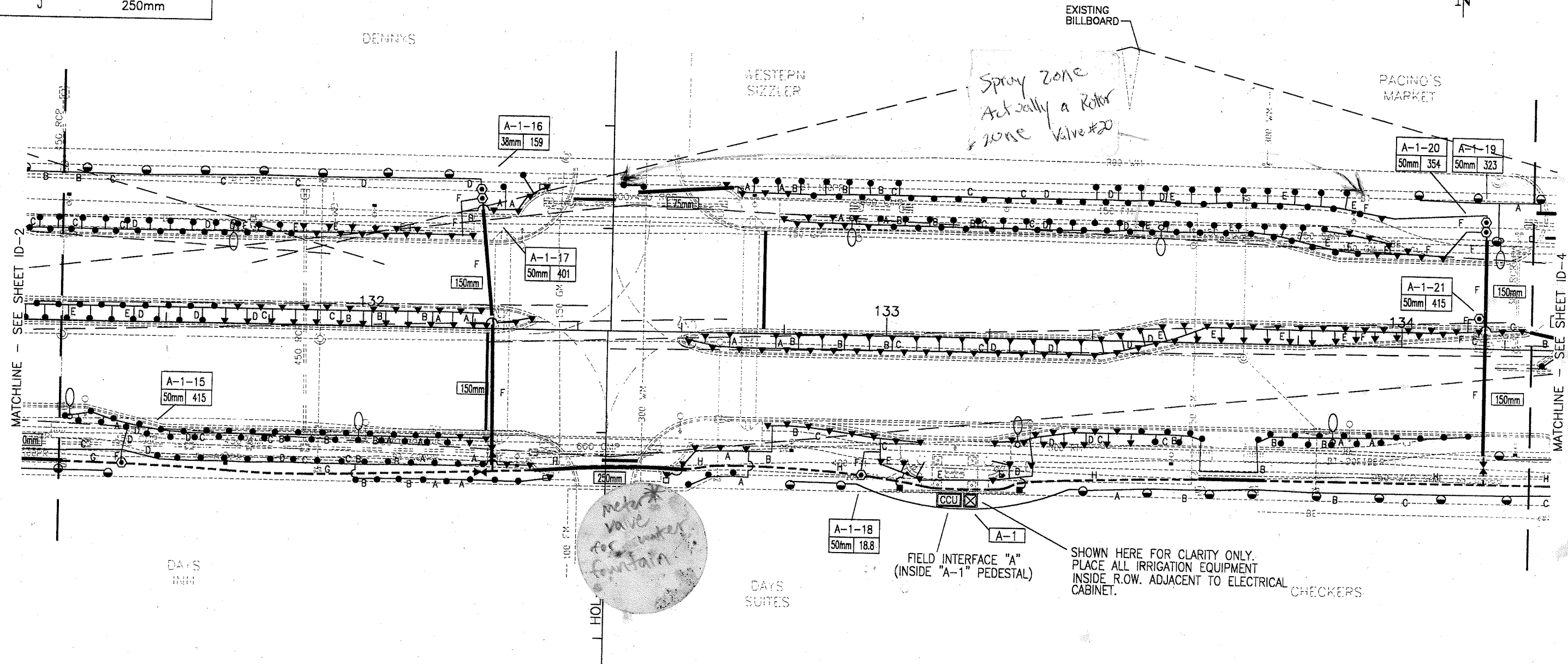
IRRIGATION PLAN

03/05/98

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm

STATE PROJ. NO. 92090-3501 SHEET NO. ID3



SHOWN HERE FOR CLARITY ONLY. PLACE ALL IRRIGATION EQUIPMENT INSIDE R.O.W. ADJACENT TO ELECTRICAL CHECKERS.

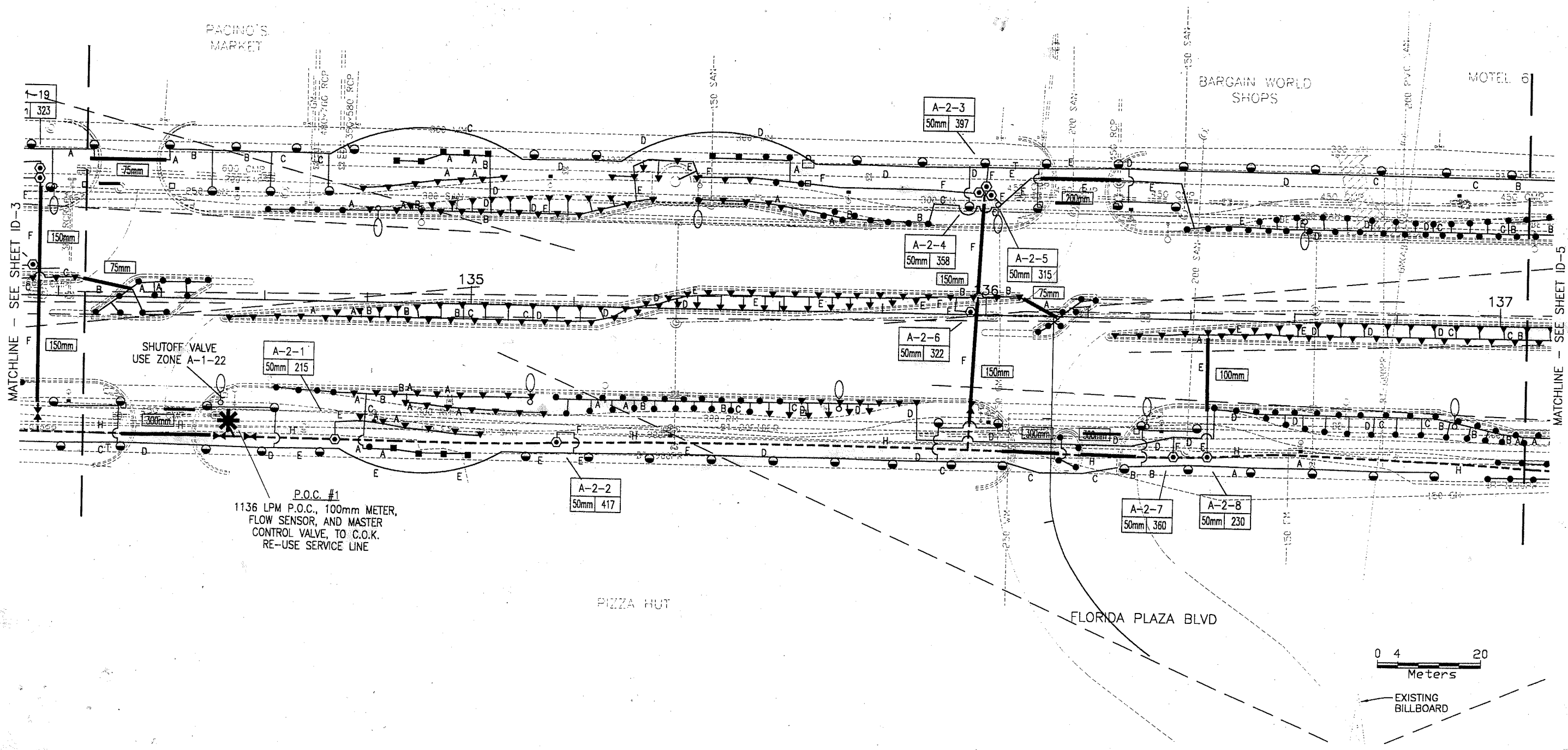


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<p style="text-align: center;">REVISIONS</p>																	
<p style="text-align: center;">FLORIDA DEPARTMENT OF PREPARED BY:</p>																	

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm

STATE PROJ. NO. 92090-3501 SHEET NO. ID4



P.O.C. #1
1136 LPM P.O.C., 100mm METER,
FLOW SENSOR, AND MASTER
CONTROL VALVE, TO C.O.K.
RE-USE SERVICE LINE



EXISTING BILLBOARD

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

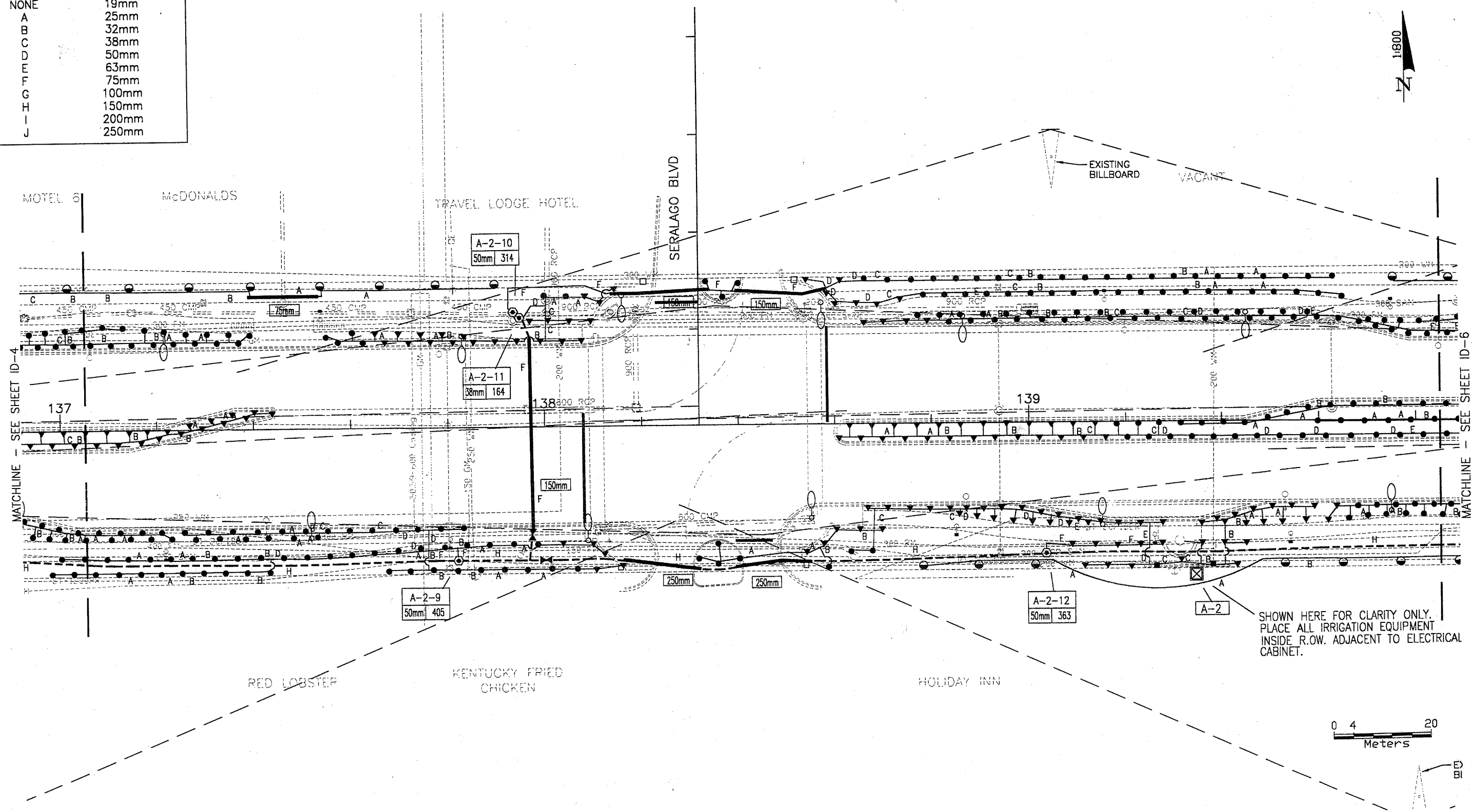
FLORIDA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

IRRIGATION PLAN

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm



MATCHLINE - SEE SHEET ID-4

MATCHLINE - SEE SHEET ID-6

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E/B

G & O 03/05/98

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

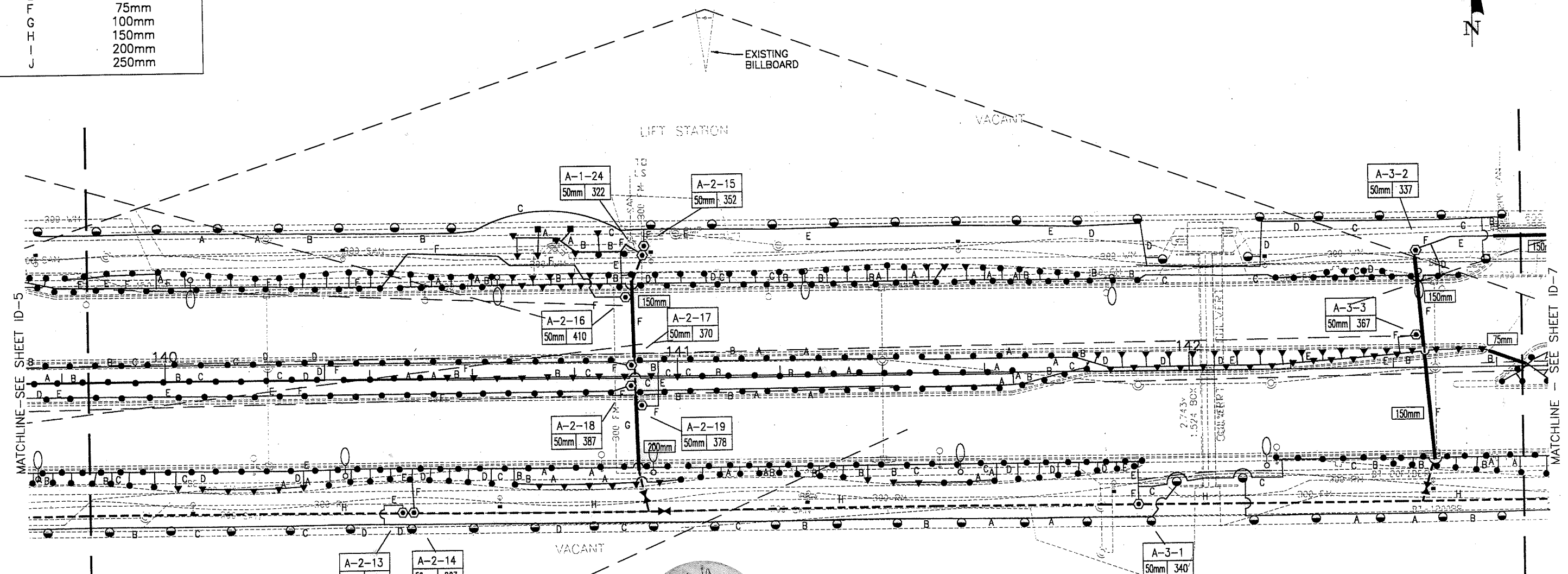
FLORIDA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

IRRIGATION PLAN

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm



ITY ONLY.
EQUIPMENT
TO ELECTRICAL

*17, 18, 19
in 5milling
Red Look for
Pink
Between
line to
East side*



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

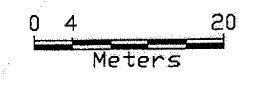
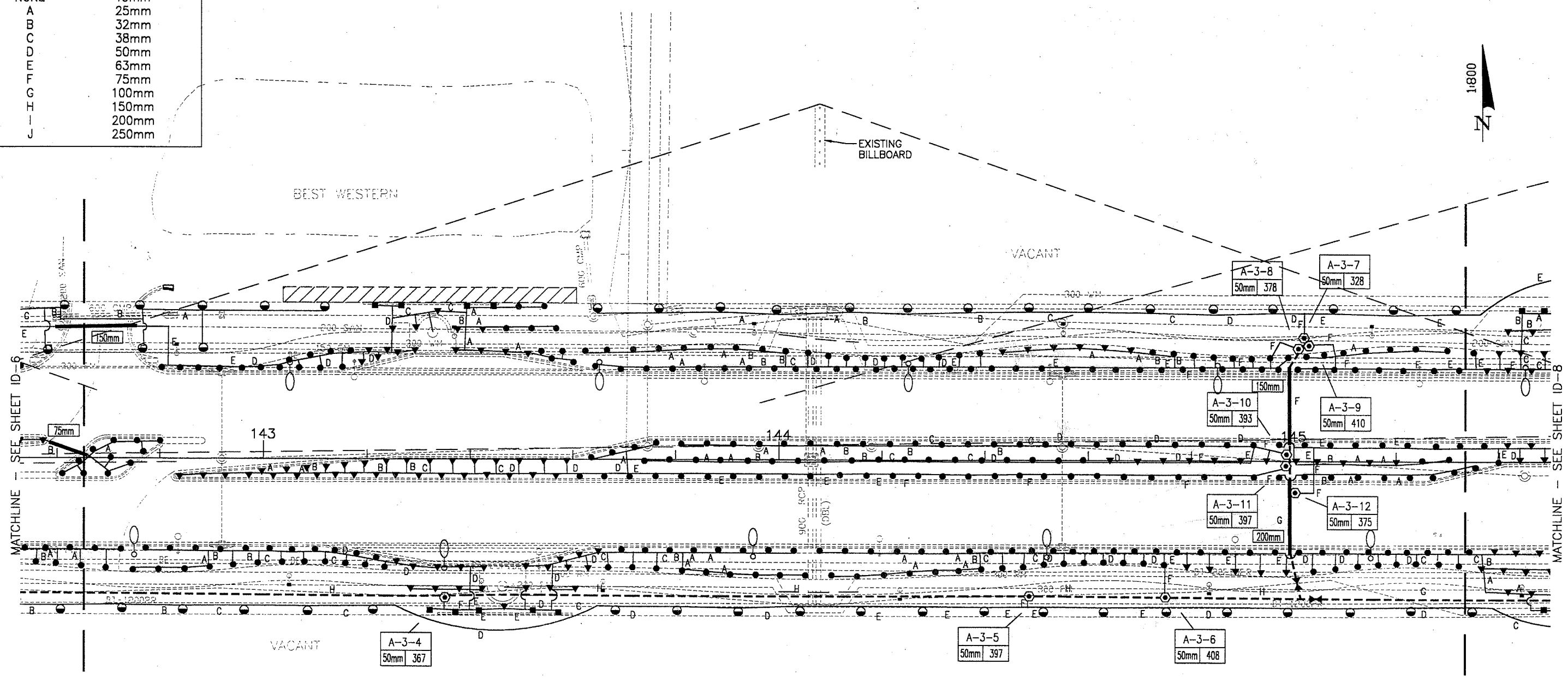
FLORIDA DEPARTMENT OF
TRANSPORTATION

PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

IRRIGATION PLAN

IRRIGATION PIPE SIZING KEY

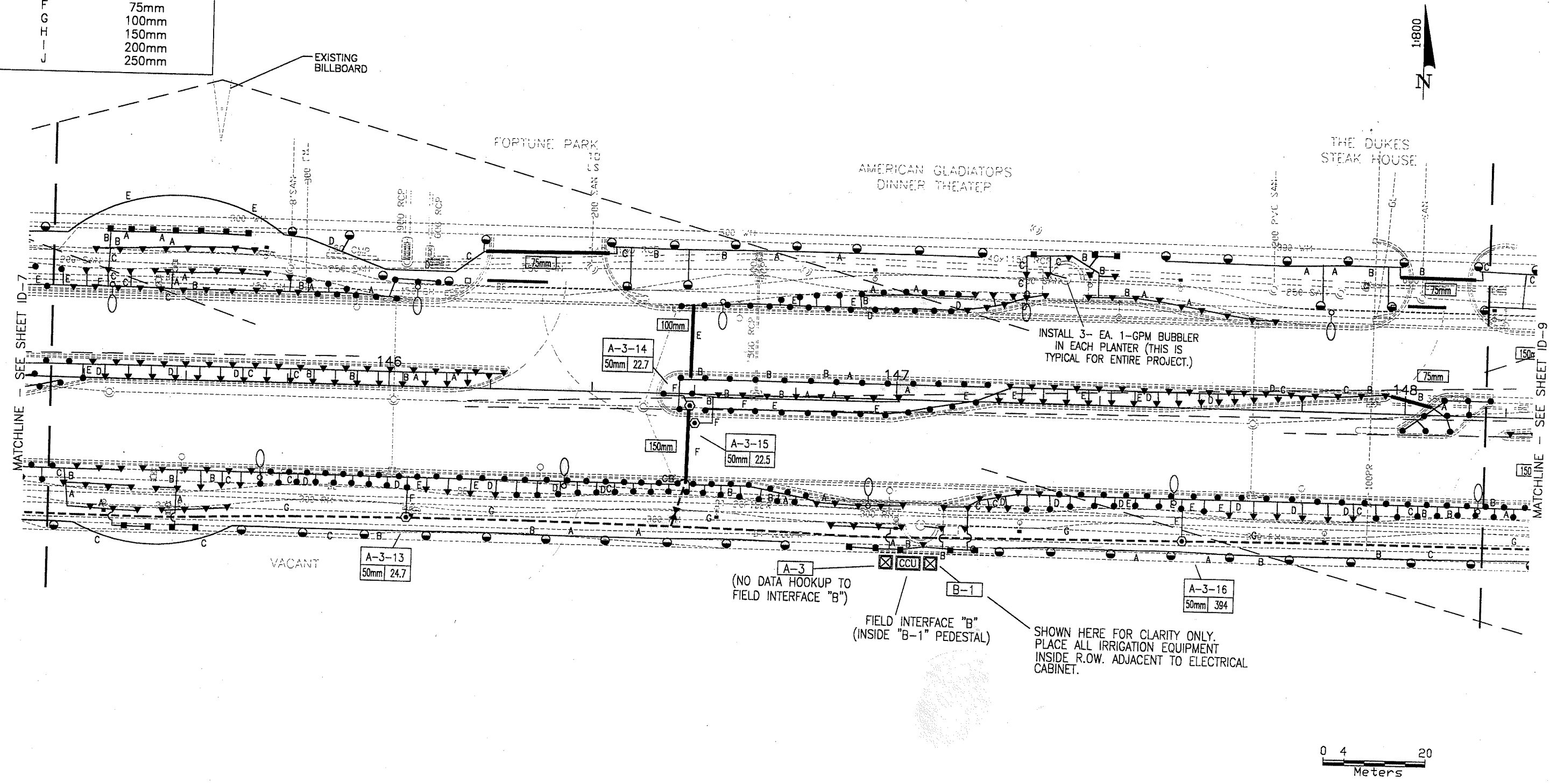
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NONE	19mm
A	25mm
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C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm



DATE		BY		DESCRIPTION		DATE		BY		DESCRIPTION		DATE		BY		DESCRIPTION	
<p style="text-align: center;">REVISIONS</p>																	
<p style="text-align: center;">FLORIDA DEPARTMENT OF AGRICULTURE</p>																	
<p>PREPARED BY: FOSTER, CONANT & ASSOCIATES</p>												<p>IRRIGATION PLAN</p>					

03/05/98

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
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D	50mm
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I	200mm
J	250mm



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

FLORIDA DEPARTMENT OF TRANSPORTATION

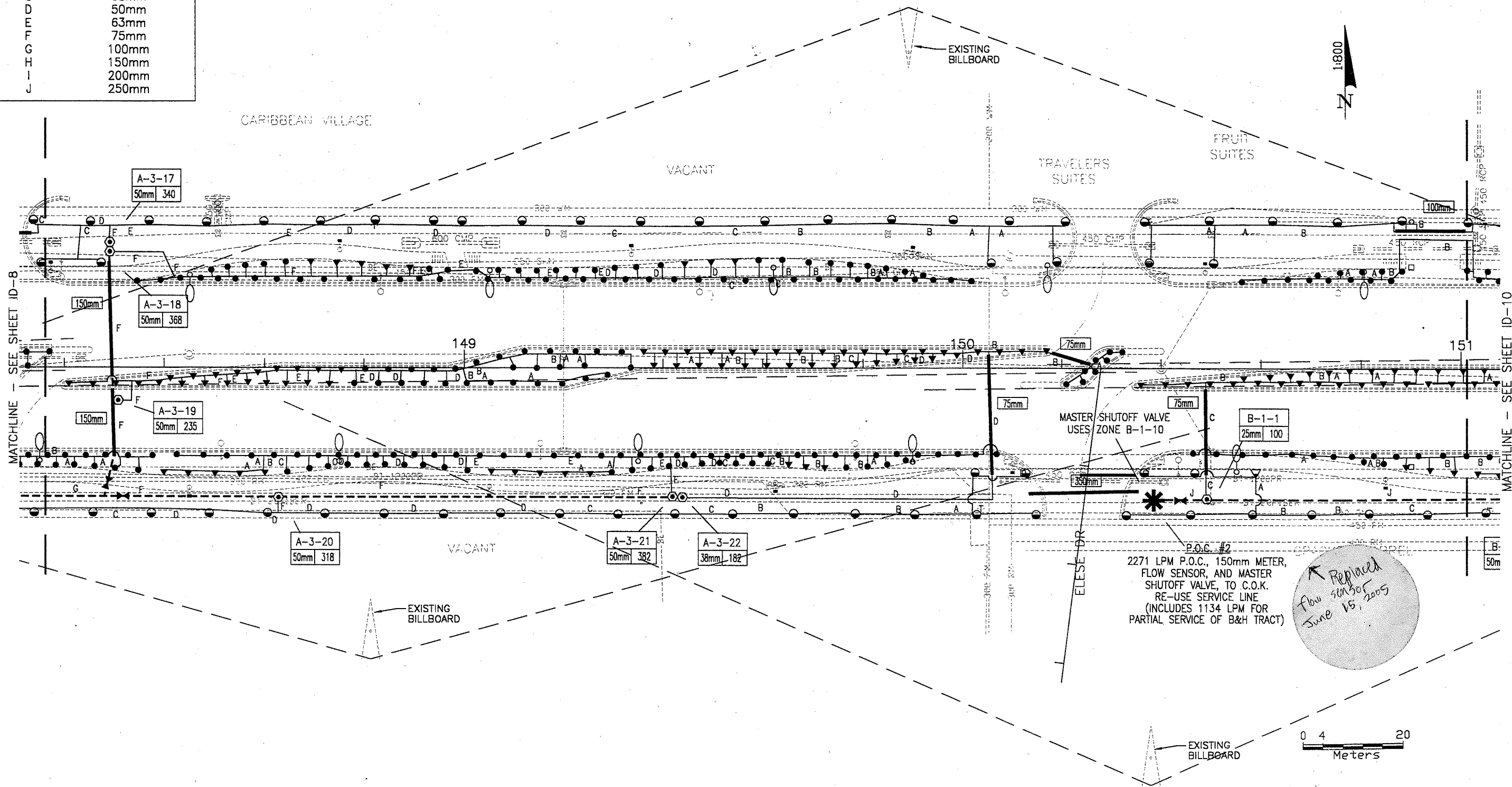
PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

IRRIGATION PLAN

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm

STATE PROJ. NO. 92090-3501
SHEET NO. ID9



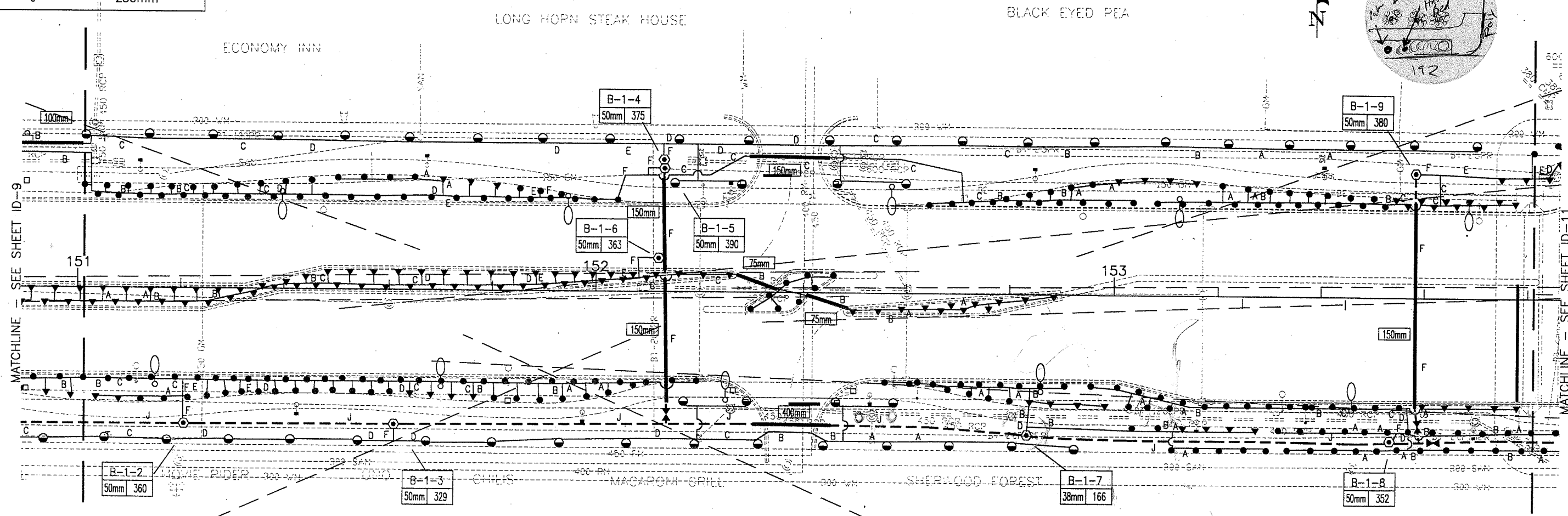
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

03/05/98

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
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C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm

STATE PROJ. NO. 92090-3501
SHEET NO. ID10



zone 9
adjust
valve in
hand
172

June 13, 2005
vs
10/1/04
Spliced 4 wires together
1 state

0 4 20
Meters

EXISTING BILLBOARD

DATE		BY		DESCRIPTION		DATE		BY		DESCRIPTION	

FLORIDA DEPARTMENT OF TRANSPORTATION

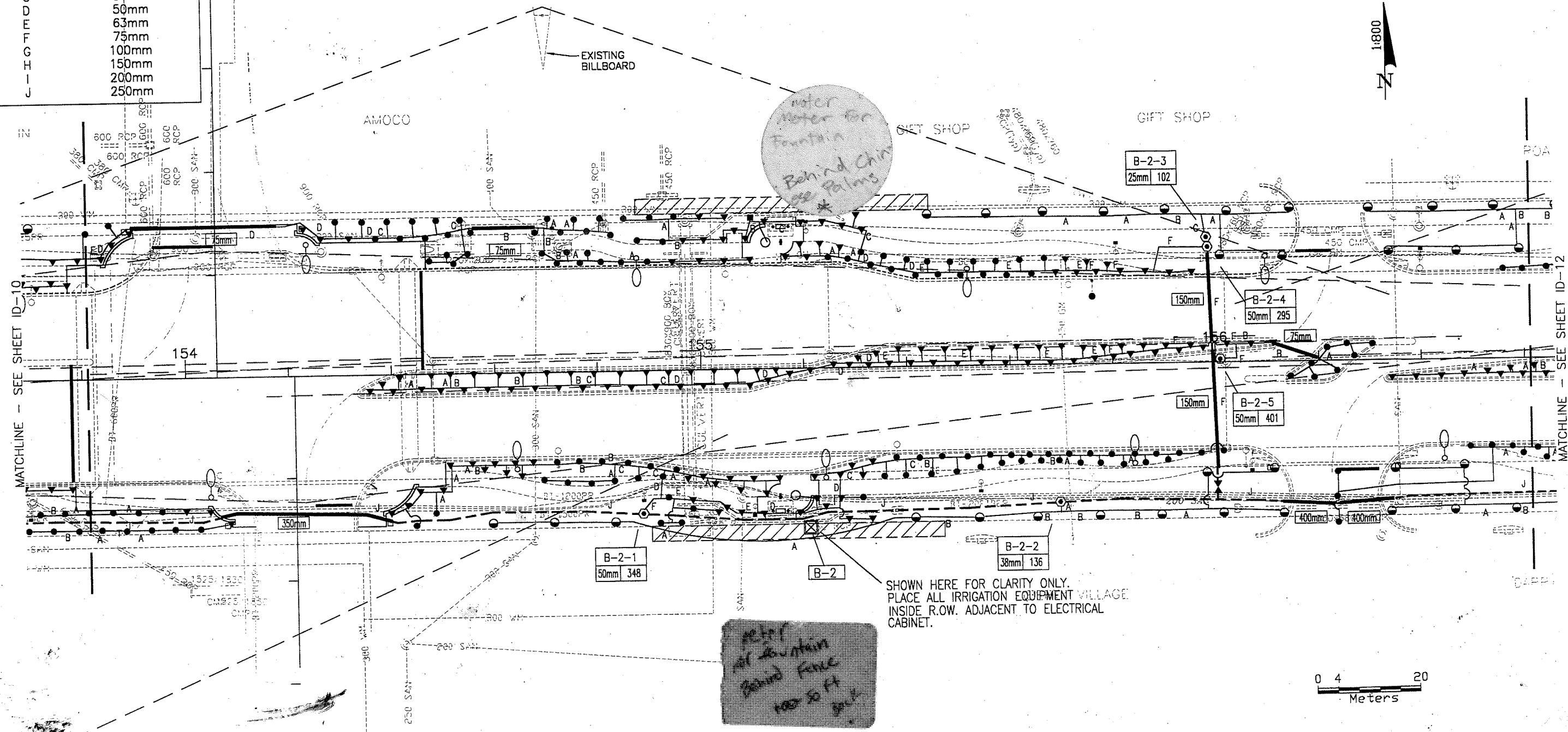
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FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

IRRIGATION PLAN

G & O 03/05/98

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm



Water Fountain Behind China Palms

Water Fountain Behind Fence 100-50 ft

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

FLORIDA DEPARTMENT OF TRANSPORTATION

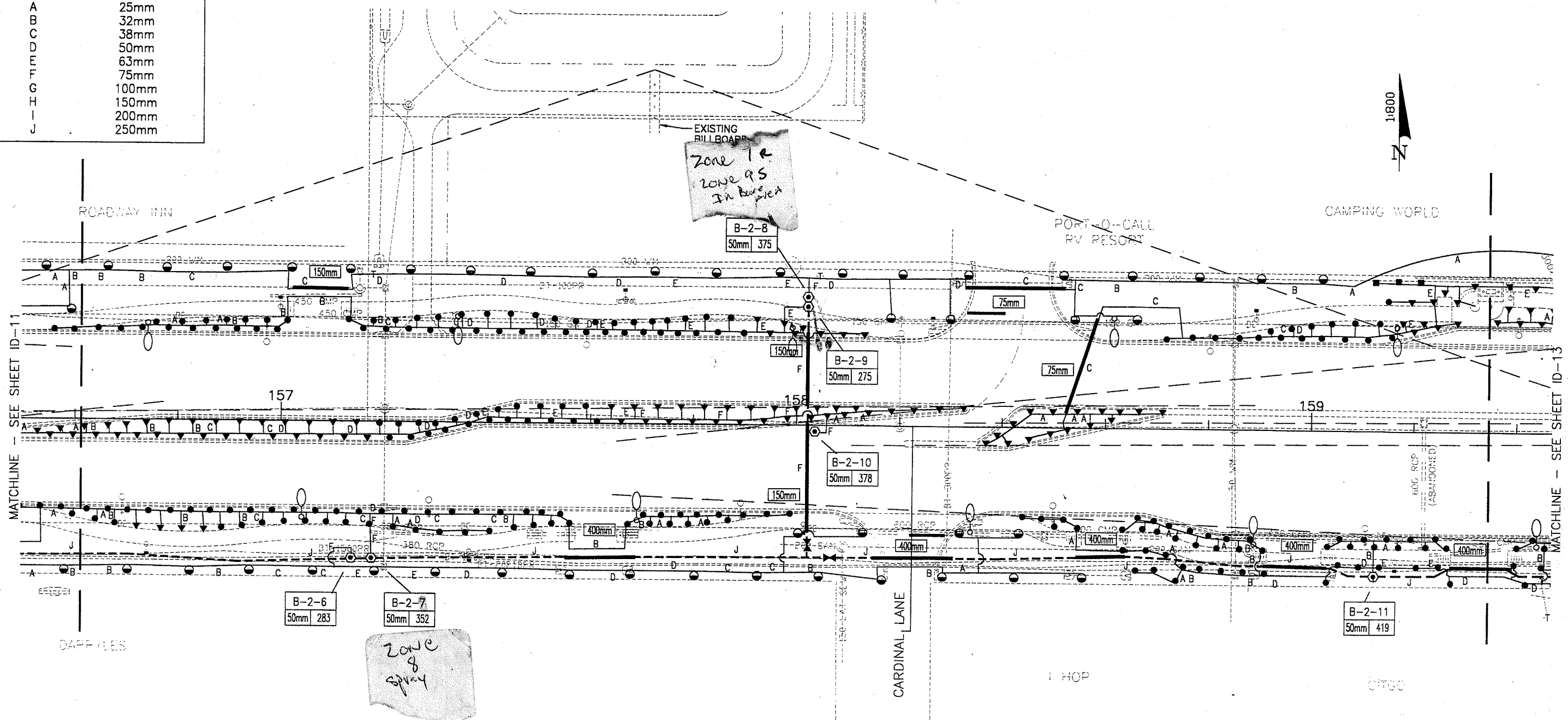
PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

IRRIGATION PLAN

C & A 03/05/98

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
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REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

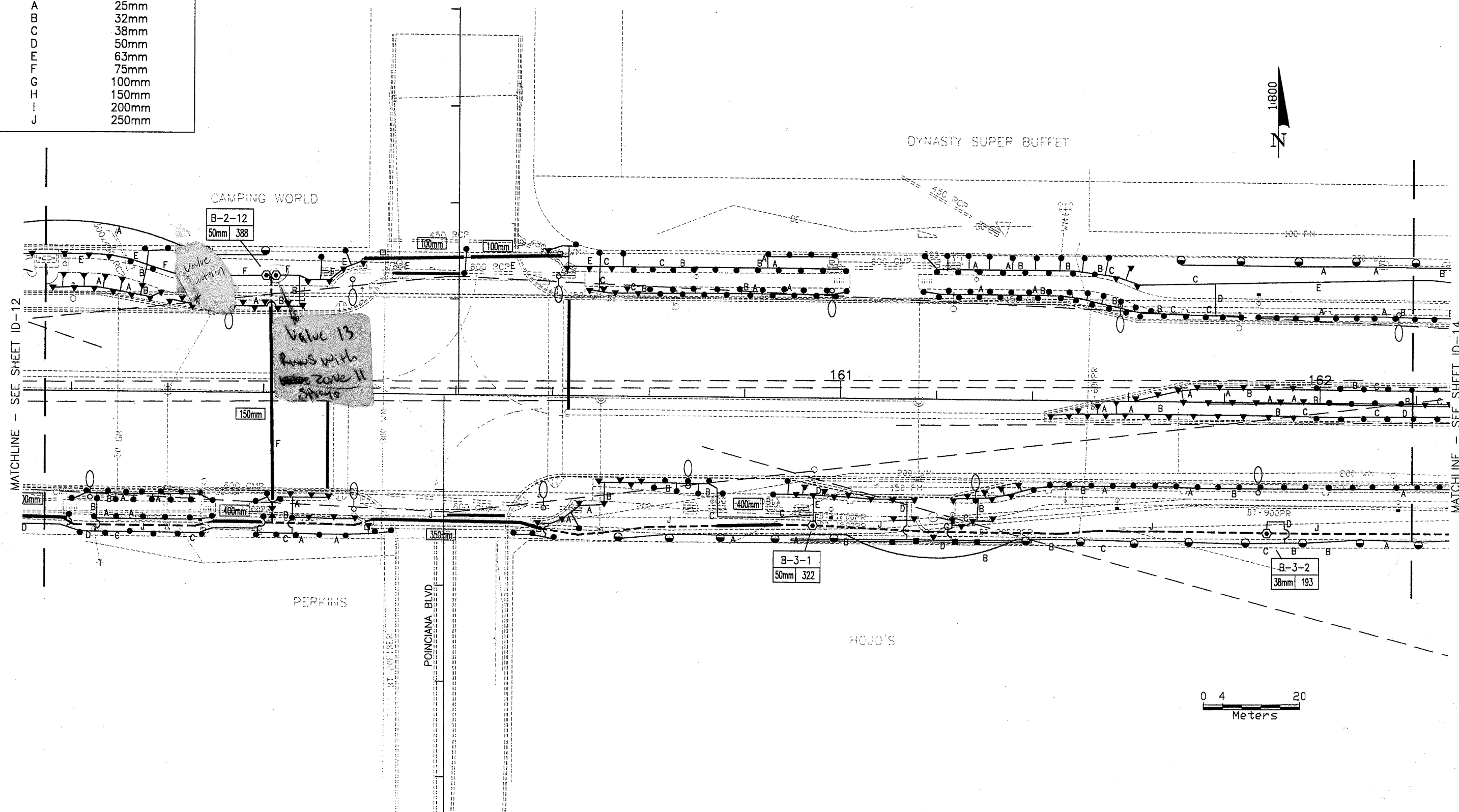
IRRIGATION PLAN

G & O 03/05/98

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
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C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm

STATE PROJ. NO. 92090-3501 SHEET NO. ID13

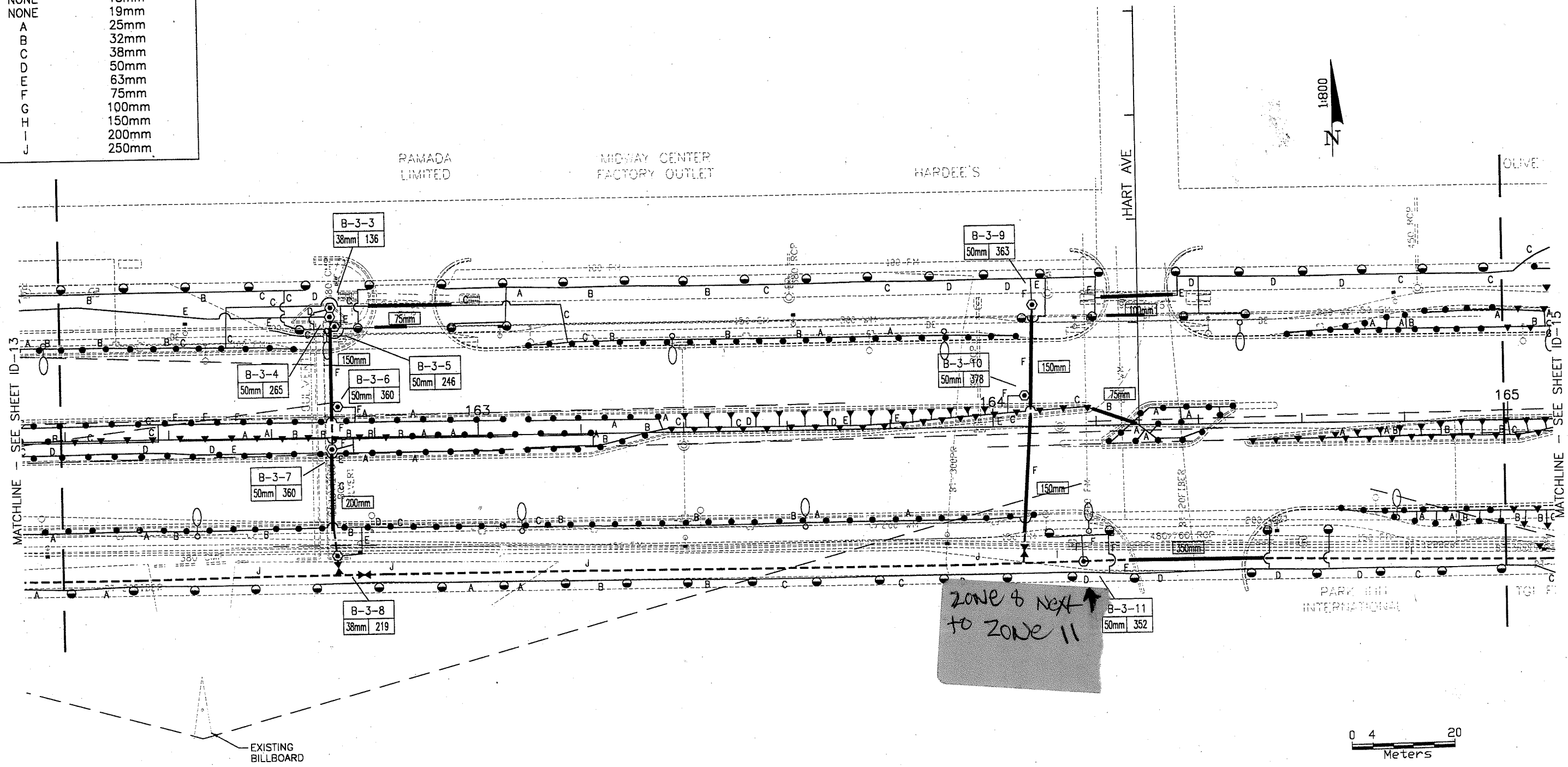


C & O 03/05/98

DATE		BY		DESCRIPTION		DATE		BY		DESCRIPTION	

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
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C	38mm
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F	75mm
G	100mm
H	150mm
I	200mm
J	250mm



DATE		BY		DESCRIPTION		DATE		BY		DESCRIPTION	

FLORIDA DEPARTMENT OF TRANSPORTATION

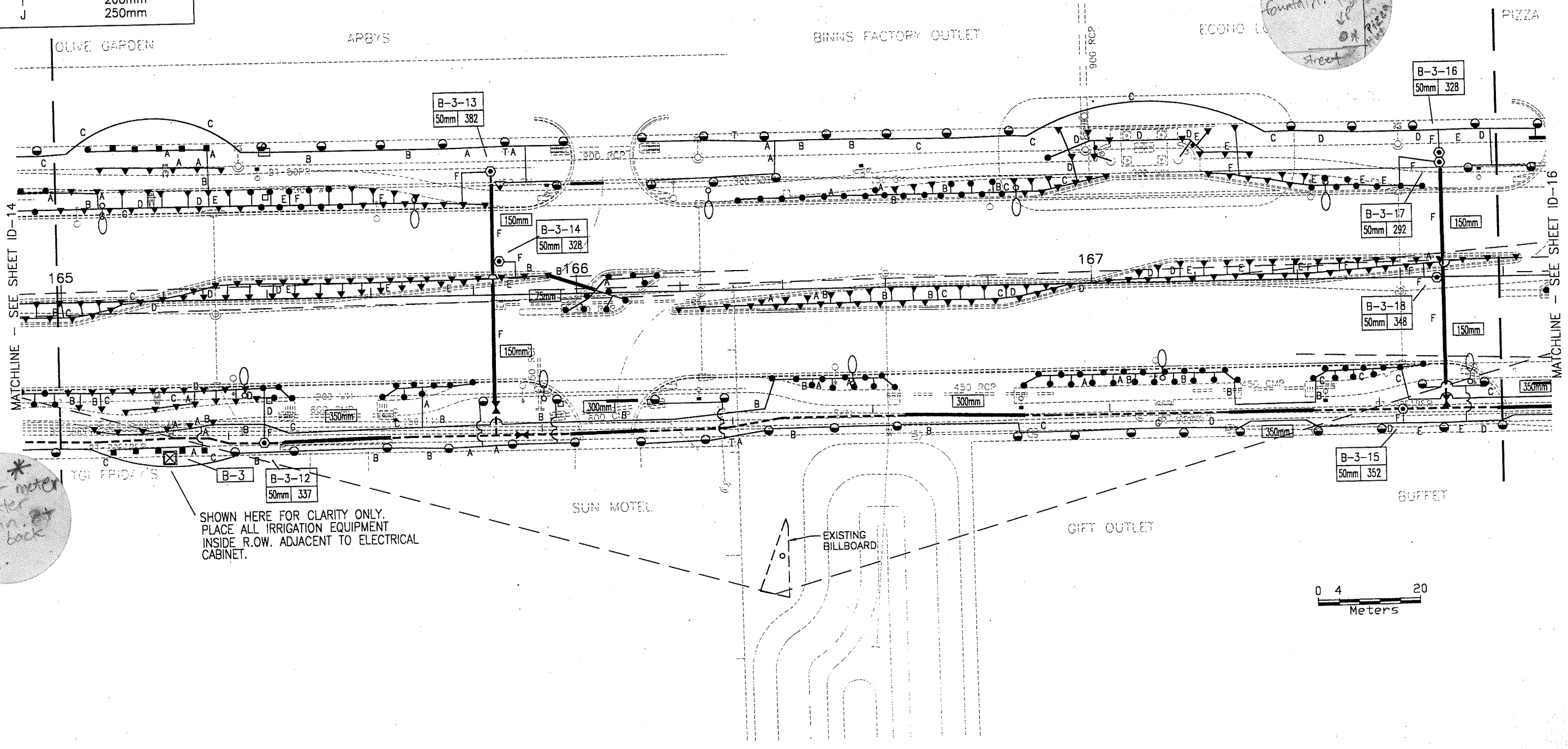
PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

IRRIGATION PLAN

03/05/98

IRRIGATION PIPE SIZING KEY

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D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm



water meter for fountain. 1/2" x 1/2" x 1/2" street

water meter for fountain. By end of back rail.

SHOWN HERE FOR CLARITY ONLY. PLACE ALL IRRIGATION EQUIPMENT INSIDE R.O.W. ADJACENT TO ELECTRICAL CABINET.



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

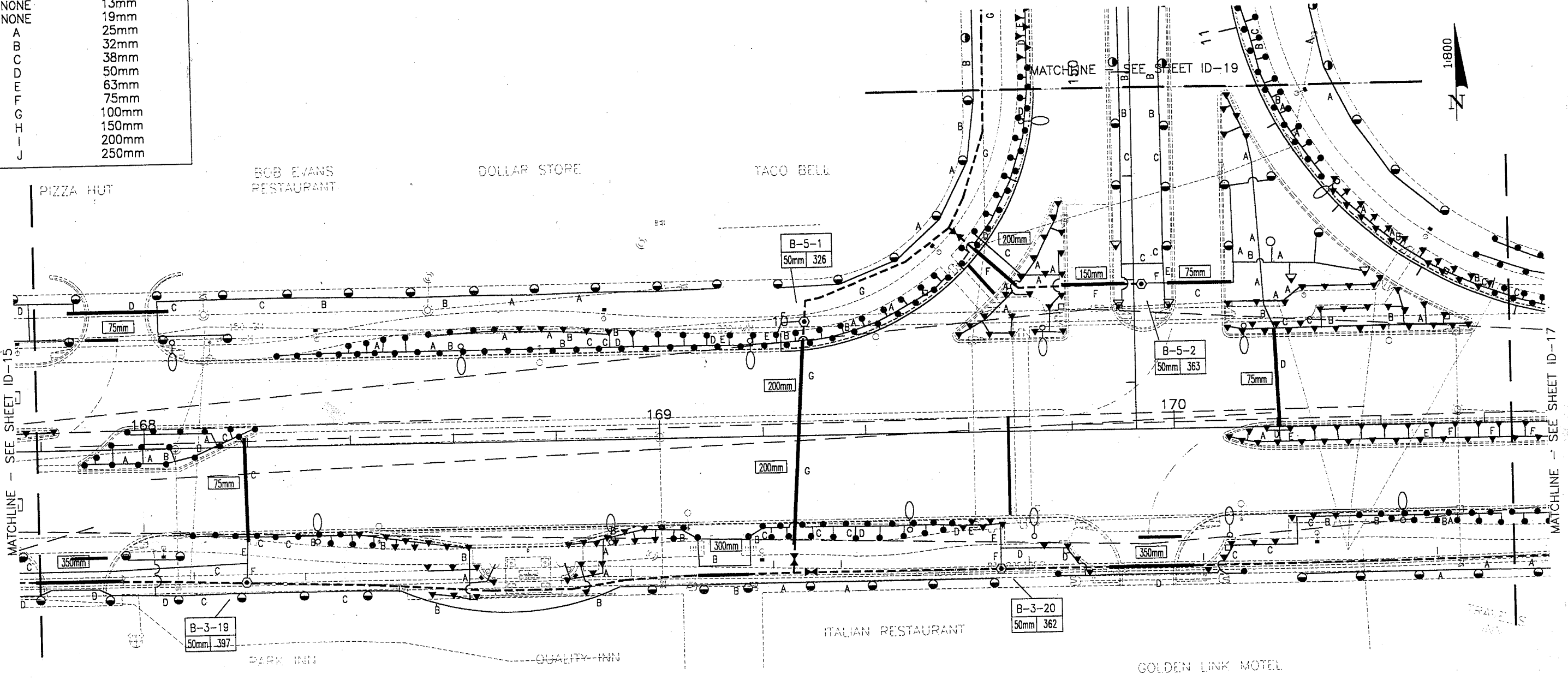
FLORIDA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

IRRIGATION PLAN

IRRIGATION PIPE SIZING KEY

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NONE	13mm
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H	150mm
I	200mm
J	250mm



DATE		BY		DESCRIPTION		DATE		BY		DESCRIPTION	

FLORIDA DEPARTMENT OF TRANSPORTATION

PREPARED BY:
FOSTER, CONANT & ASSOCIATES
Landscape Architecture & Site Planning

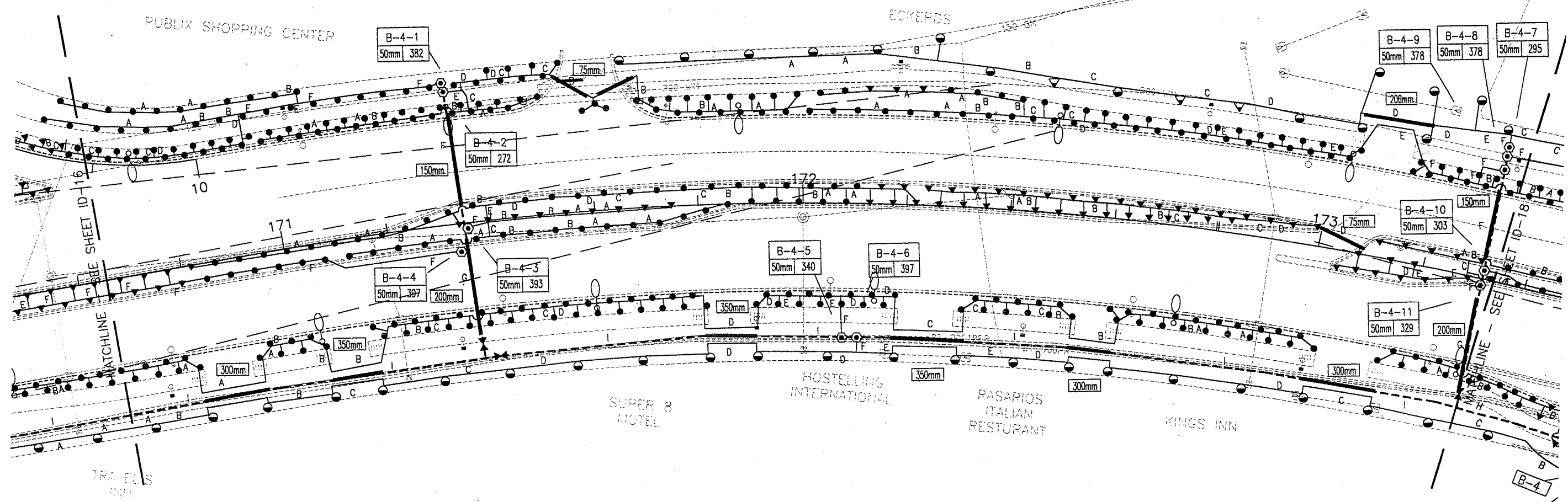
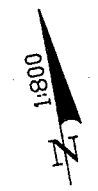
IRRIGATION PLAN

G & O 03/05/98

IRRIGATION PIPE SIZING KEY

SYMBOL	PIPE SIZES
NONE	13mm
NONE	19mm
A	25mm
B	32mm
C	38mm
D	50mm
E	63mm
F	75mm
G	100mm
H	150mm
I	200mm
J	250mm

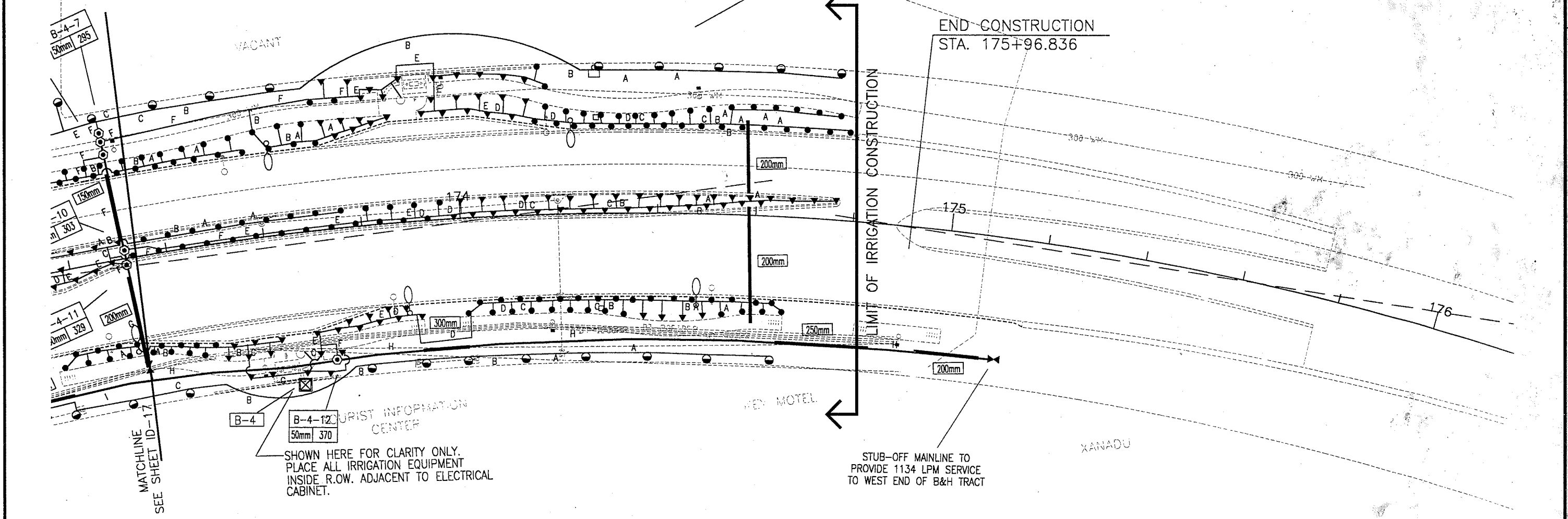
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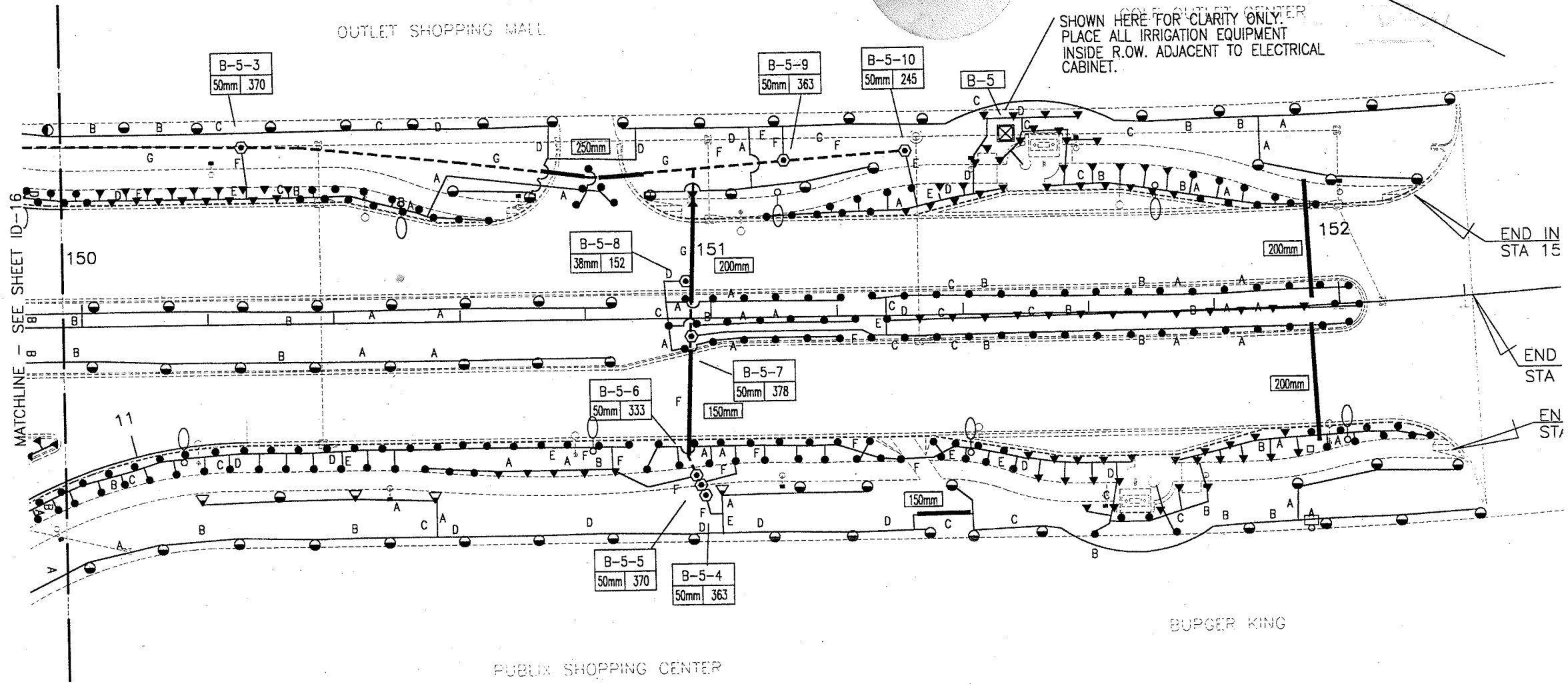
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1:800

END CONSTRUCTION STA. 152+23.730

Water Fountain shut off valve set valve closest to road *

SHOWN HERE FOR CLARITY ONLY. PLACE ALL IRRIGATION EQUIPMENT INSIDE R.O.W. ADJACENT TO ELECTRICAL CABINET.



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FLORIDA DEPARTMENT OF TRANSPORTATION

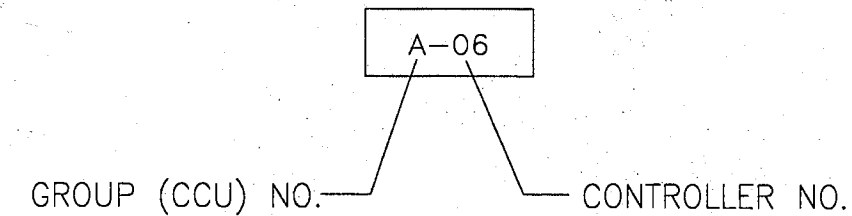
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IRRIGATION PLAN

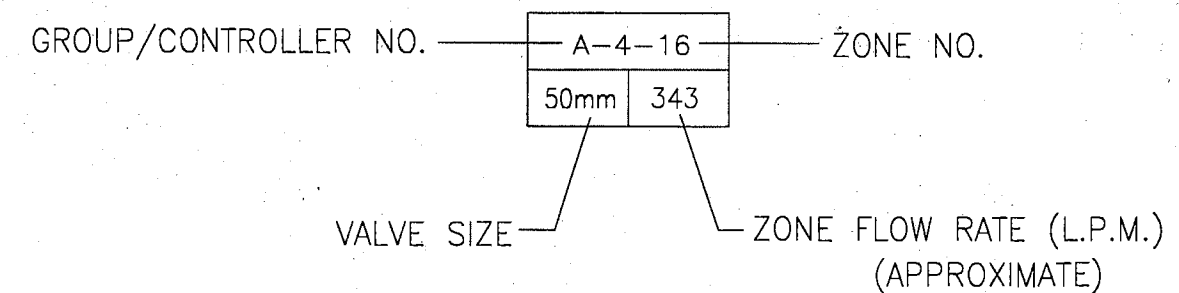
SYMBOLS LEGEND

●	150mm POP-UP SPRAY HEAD (1.5-14.0 LPM @ 2.44-4.57 M RADIUS @ 207 KPa)
▼	300mm HI-POP SPRAY HEAD (1.5-14.0 LPM @ 2.44-4.57 M RADIUS @ 207 KPa)
■	RISER MOUNTED SHRUB SPRAY HEAD (1.5-14.0 LPM @ 2.44-4.57 M RADIUS @ 207 KPa)
⊙	100mm POP-UP ROTOR HEAD, ADJUSTABLE PART CIRCLE (11.4-15.1 LPM @ 11.89 M @ 276 KPa)
▽	300mm HI-POP ROTOR HEAD, ADJUSTABLE PART CIRCLE (11.4-15.1 LPM @ 11.89 M @ 276 KPa)
■	RISER MOUNTED SHRUB ROTOR HEAD, ADJUSTABLE PART CIRCLE (11.4-15.1 LPM @ 11.89 M @ 276 KPa)
○	100mm POP-UP ROTOR HEAD, FULL CIRCLE (22.7-30.3 LPM @ 11.89 M @ 276 KPa)
▽	300mm HI-POP ROTOR HEAD, FULL CIRCLE (22.7-30.3 LPM @ 11.89 M @ 276 KPa)
□	RISER MOUNTED SHRUB ROTOR HEAD, FULL CIRCLE (22.7-30.3 LPM @ 11.89 M @ 276 KPa)
⊗	I.B.B.M. GASKET TYPE GATE VALVE, LINE SIZE
⊙	ELECTRIC ZONE CONTROL VALVE, SIZE AS NOTED (CONTAMINATION-RESISTANT)
⊗	SATELLITE CONTROLLER (RAIN BIRD ESP-SAT-24-SS, OR EQUAL)
*	P.O.C. AND METER TO REUSE MAINLINE
-----	PR200 RING-TYPE PVC MAINLINE (PURPLE)
—————	PR160 SOLVENT-WELD PVC LATERAL PIPING
CCU	MASTER CONTROLLER INTERFACE UNIT, INTERNAL MOUNT- RAIN BIRD MAXICOM OR EQUAL
—————	SCHEDULE 40 PVC IRRIGATION SLEEVE (C-900 >300mm)

CONTROLLER KEY



ZONE VALVE KEY



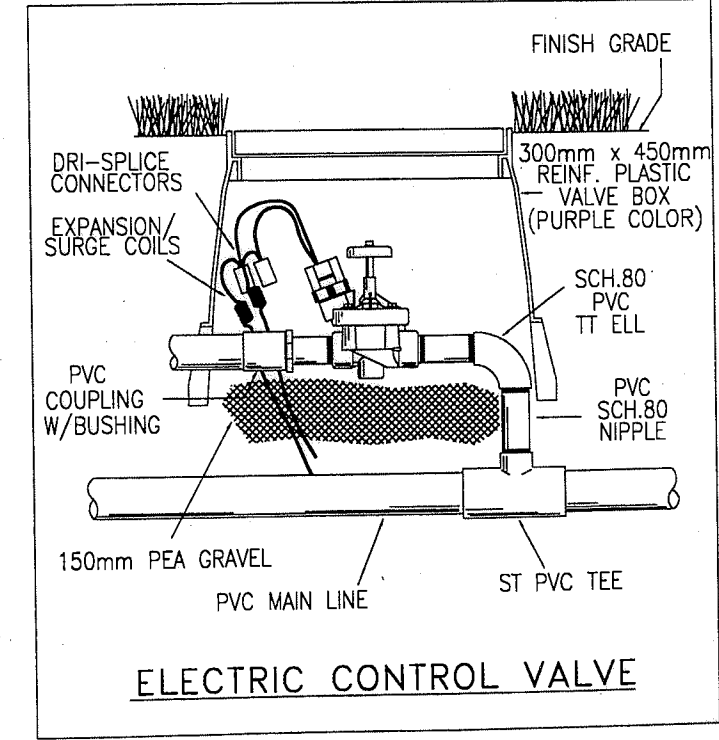
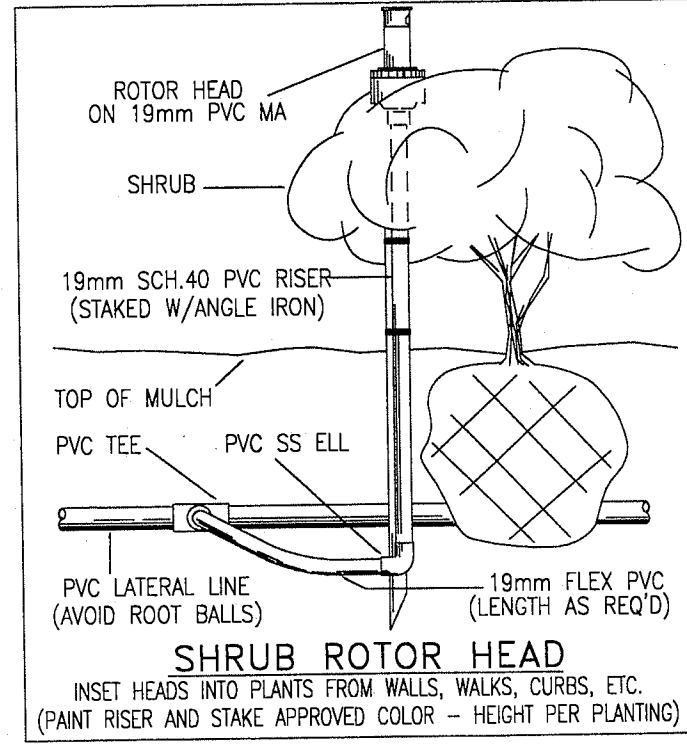
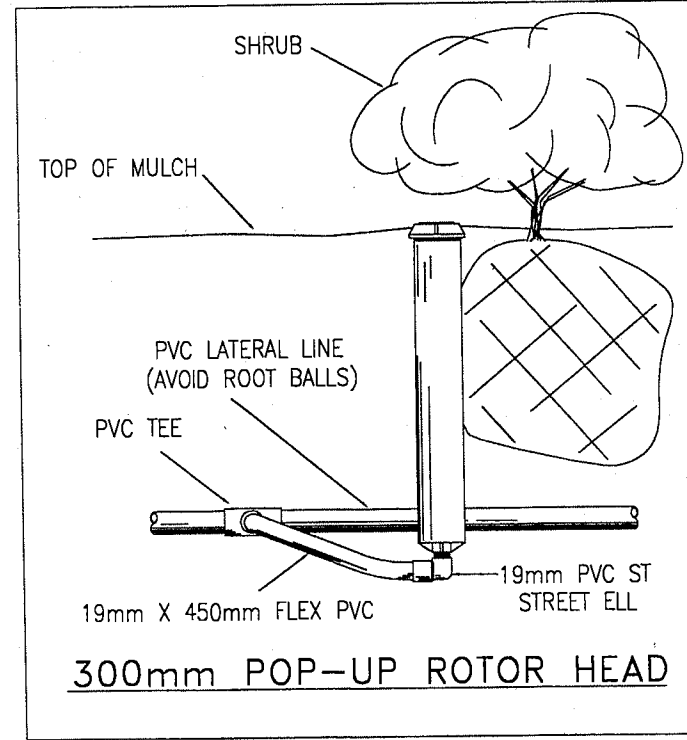
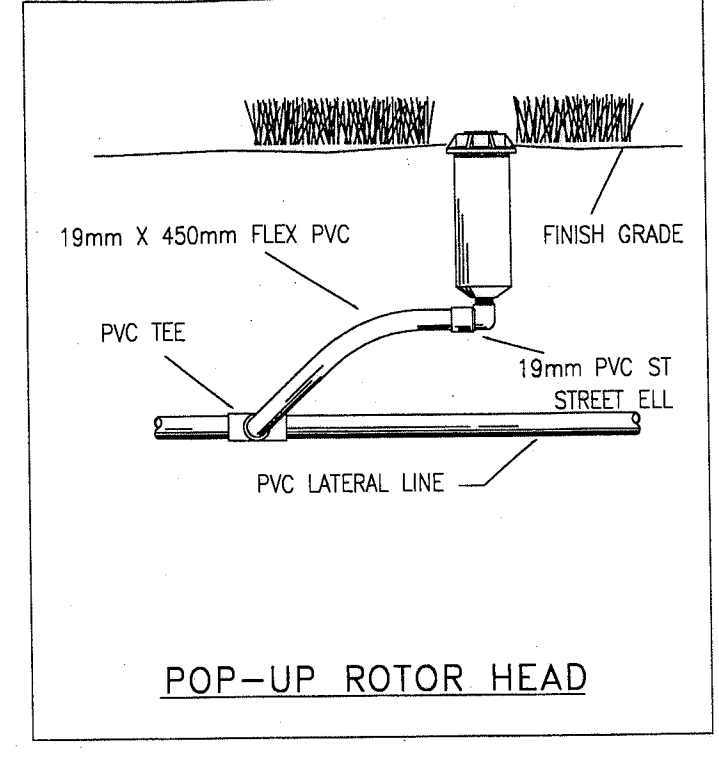
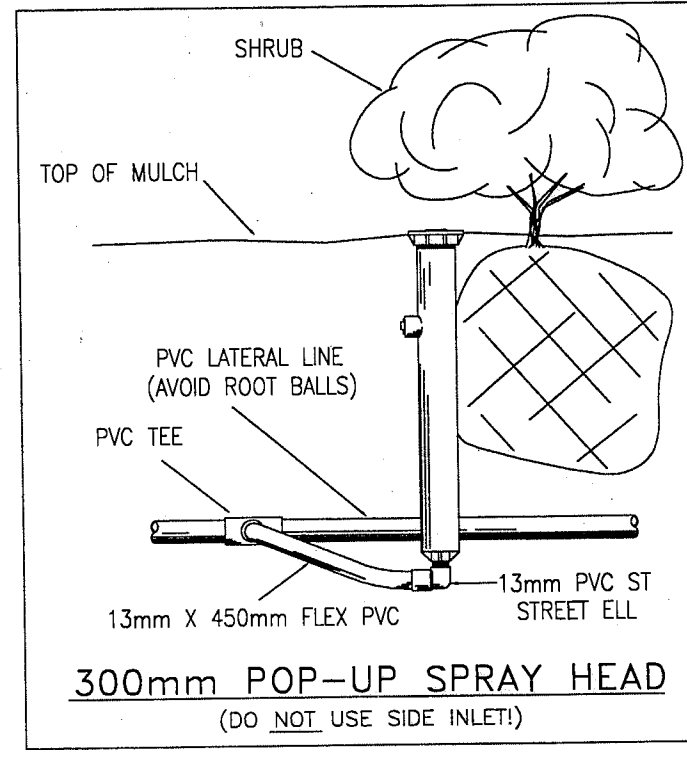
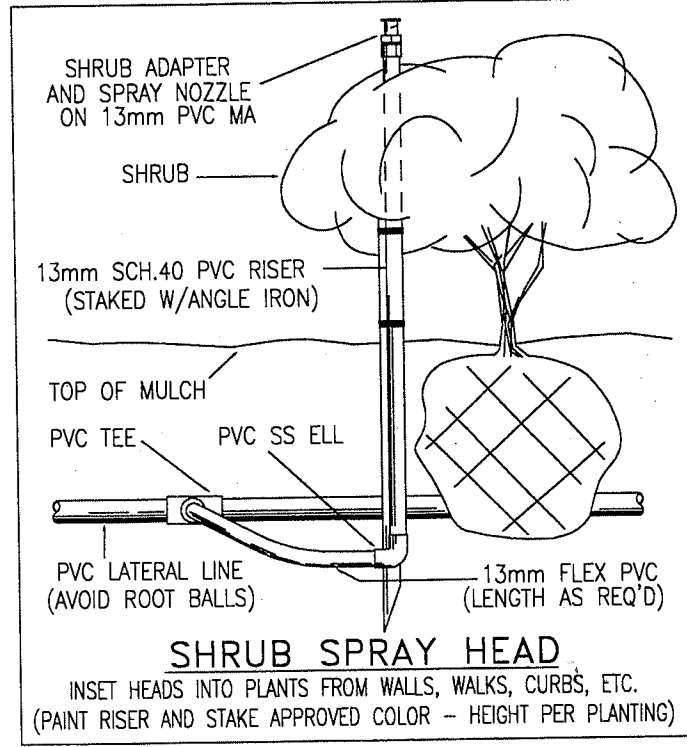
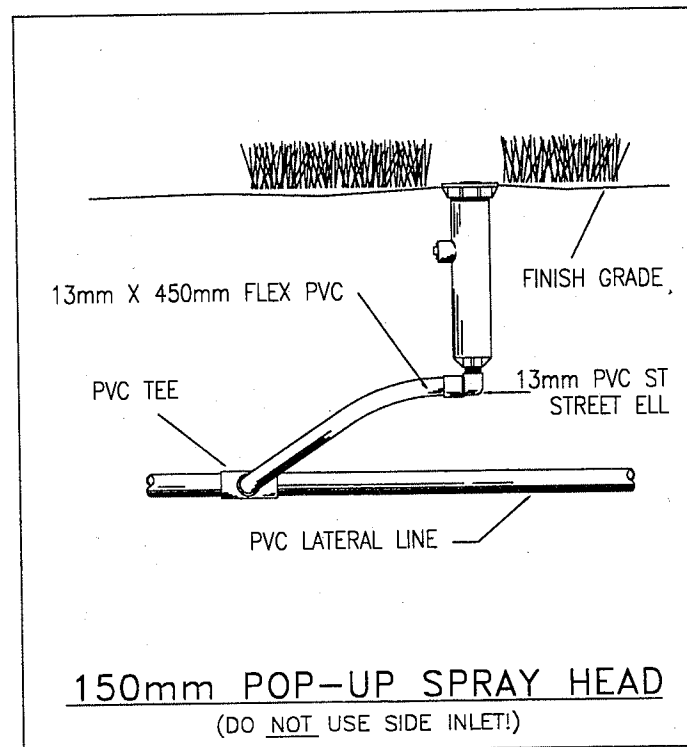
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GENERAL IRRIGATION NOTES

- 1) ALL MATERIALS AND METHODS SHALL CONFORM TO PREVAILING CODES AND REGULATIONS. THE WORK SHALL INCLUDE ANY AND ALL ASSOCIATED AND NECESSARY MATERIALS AND WORK RELATIVE TO A COMPLETE AND APPROVED INSTALLATION, WHETHER OR NOT THE ASSOCIATED MATERIALS ARE ACTUALLY SPECIFIED WITHIN THE DOCUMENTS. ALTHOUGH IT IS NECESSARY TO SPECIFY CERTAIN COMPONENTS WITH RESPECT TO MAKE AND MODEL, IT SHALL BE UNDERSTOOD THAT COMPETITIVE PRODUCTS WILL BE CONSIDERED, PROVIDED THAT SAID PRODUCTS ARE DEEMED BY THE OWNER AND LANDSCAPE ARCHITECT TO BE EQUAL OR SUPERIOR TO THOSE SPECIFIED, AND SUITABLE FOR USE WITHIN THIS DESIGN. ANY AND ALL ADDITIONAL MATERIALS AND LABOR RELATIVE TO THE INSTALLATION OF ANY SUCH ALTERNATE COMPONENTS SHALL BE INCLUDED IN THE WORK.
- 2) THE CONTROL SYSTEM SHALL BE A COMPUTER-BASED CENTRALIZED SYSTEM, WITH THE COMPUTER TO BE INSTALLED AT THE OFFICES OF THE OSCEOLA COUNTY PUBLIC WORKS DEPARTMENT, AT A LOCATION TO BE DESIGNATED BY THAT AGENCY. THE COMPUTER SYSTEM SHALL INCLUDE ALL COMPONENTS REQUIRED AND RECOMMENDED BY THE PARTICULAR MANUFACTURER OF THE CONTROL SYSTEM. THIS SHALL TYPICALLY INCLUDE, BUT NOT BE LIMITED TO, A PENTIUM 200MHZ CPU, MINIMUM OF 32-MB RAM, MINIMUM OF 2-GB HARD DRIVE, 88mm (3-1/2") FLOPPY DRIVE, TAPE BACKUP, INTERNAL MODEM, A LASER OR INKJET PRINTER, 425mm (17") SVGA MONITOR, AND UPS STANDBY POWER UNIT.
- 3) THE INSTALLATION OF ALL COMPONENTS SHALL BE COORDINATED WITH THE MANUFACTURER OF THE EQUIPMENT, AND SHALL CONFORM TO THE NOMINAL REQUIREMENTS OF THE MANUFACTURER. THE INSTALLER SHALL OBTAIN AND SUBMIT FOR APPROVAL ALL ASSOCIATED SHOP DRAWINGS, DETAILS OR OTHER LITURATURE PROVIDED BY THE MANUFACTURER FOR PROPER INSTALLATION AND APPLICATION OF THE EQUIPMENT.
- 4) THE INSTALLER SHALL COORDINATE ALL WORK WITH ACTUAL SITE CONDITIONS, AND WITH THE WORK OF OTHER TRADES, INCLUDING UNDERGROUND, PAVING AND LANDSCAPING. ALL BEDLINES SHALL BE IDENTIFIED ON SITE, AND THE LOCATION AND TYPE OF SPRINKLER HEADS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLANT TYPES AND LOCATIONS.
- 5) EACH CONTROLLER LOCATION SHALL REQUIRE A 120V POWER CIRCUIT, WHICH SHALL BE RUN FROM THE CORRESPONDING POWER EQUIPMENT LOCATION. ALL ELECTRICAL WORK SHALL BE BY APPROVED AND LICENSED INDIVIDUALS, AND INSTALLED ACCORDING TO CODE. ADDITIONALLY, EACH CONTROLLER LOCATION SHALL REQUIRE A DEDICATED EARTH GROUND WITH A VERIFIED RESISTANCE TO GROUND OR TEN OHMS OR LESS.
- 6) EACH CONTROLLER LOCATION SHALL REQUIRE A "DRY PAIR" PHONE CABLE HOOKUP, WHICH SHALL BE SCHEDULED AND OBTAINED FROM SPRINT TELEPHONE. ADDITIONALLY, A DEDICATED LIVE PHONE SERVICE CONNECTION SHALL BE REQUIRED AT EACH FIELD INTERFACE UNIT (CCU) AND AT THE MAIN COMPUTER LOCATION.
- 7) ANY AND ALL LIGHTNING PROTECTION EQUIPMENT RECOMMENDED BY THE MANUFACTURER OF THE CONTROL SYSTEM FOR APPLICATION IN A LIGHTNING INTENSIVE ENVIRONMENT SHALL BE INCLUDED IN THE WORK.
- 8) SUPPLY FROM THE SYSTEM SHALL BE FROM RECLAIMED WATER SERVICE TO BE OBTAINED FROM, AND COORDINATED WITH, THE CITY OF KISSIMEE UTILITIES DEPT. P.O.C. #1 IS A 1167 LPM (300 GPM) SERVICE, AND P.O.C. #2 IS A 2333 LPM (600 GPM) SERVICE, HALF OF WHICH IS RESERVED FOR USE IN A SUBSEQUENT PROJECT ADJOINING THE EAST END OF THIS PROJENT. THE INSTALLER SHALL PROVIDE AT EACH P.O.C. A WATER METER APPROVED BY THE UTILITY CO., A 24-VAC SOLENOID ACTUATED NORMALLY OPEN AUTO SHUTOFF VALVE (75mm AT P.O.C. #1, AND 150mm AT P.O.C. #2) AND AN IN-LINE ELECTRONIC FLOW SENSOR UNIT COMPATIBLE WITH THE CONTROL SYSTEM, AND INCLUDING ALL ASSOCIATED PULSE TRANSMITTER HARDWARE AND CABLING TO THE NEAREST SATELLITE CONTROLLER LOCATION.
- 9) ALL PROGRAMMING OF THE CONTROL SYSTEM SHALL BE PERFORMED BY THE INSTALLER, WITH THE ASSISTANCE OF THE MANUFACTURER'S REPRESENTATIVE FOR THE CONTROL SYSTEM. THE INSTALLER SHALL ORGANIZE FACTORY-BACKED TRAINING CLASSES FOR THE OPERATOR'S DESIGNATED STAFF.
- 10) DUE TO THE SMALL SCALE OF THE DRAWINGS, PIPE SIZING FOR LATERAL PIPING SMALLER THAN 25mm (1") HAS BEEN OMITTED. IT SHALL BE UNDERSTOOD THAT LATERAL PIPING DOWNSTREAM FROM THAT WHICH HAS AN INDICATED SIZE SHALL BE 19mm (3/4"), EXCEPT FOR PIPING WHICH SERVICES A SINGLE SPRAY HEAD OR BUBBLER, WHICH SHALL BE 13mm (1/2").
- 11) THE INSTALLER SHALL NOTE THE LOCATIONS OF OLEANDERS OR SIMILAR PLANTINGS INDICATED ON THE LANDSCAPE DRAWINGS PLANTED IN ROWS ALONG THE RIGHT-OF-WAY LINES. ROTARY SPRINKLER HEADS LOCATED ALONG THE LINES IN THESE AREAS SHALL BE INSET JUST TO THE FRONT OF THE PLANTING, AND THEN ARCS OF THROW SHALL BE ADJUSTED SO THAT COVERAGE IS EXTENDED FROM THE TURF AREAS BACK INTO THE PLANTS.
- 12) THE DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC. THE LOCATIONS OF THE EQUIPMENT SHALL BE COORDINATED IN THE FIELD, AND ADJUSTED AS NECESSARY TO AVOID CONFLICTS, AND TO REACT TO FIELD VARIABLES. DUE TO SMALL SCALE OF DRAWINGS, IT IS OFTEN NECESSARY TO SHOW PIPING OR OTHER ELEMENTS OUTSIDE RIGHTS-OF-WAY OR IN PAVEMENT AREAS. THE INSTALLATION OF ALL PIPING AND OTHER EQUIPMENT SHALL BE IN PERVIOUS AREAS AND WITHIN RIGHTS-OF-WAY UNLESS IT IS SPECIFICALLY NOTED TO THE CONTRARY. ALSO, SOME PIPING IS SHOWN OUTSIDE THE RESPECTIVE SLEEVES (WHERE MULTIPLE PIPES RUN THROUGH A SINGLE SLEEVE). THIS IS FOR DESIGN CLARITY.
- 13) EACH SPRAY SPRINKLER SHALL BE EQUIPPED WITH THE PARTICULAR NOZZLE WHICH IS BEST SUITED TO THE LOCATION OF THAT SPRINKLER, AND THE OPTIMAL COVERAGE OF PLANTING. THE FLOW RATES INDICATED ON THE DRAWINGS ARE ESTIMATED, AND MAY VARY SLIGHTLY, DEPENDING ON THE NOZZLES ACTUALLY USED IN THE INSTALLATION. ALL HEADS SHALL BE ADJUSTED TO AVOID OVERSPRAY ONTO ROADWAYS AND DRIVEWAYS. AS SPACING VARIATIONS ARE DIFFICULT TO DETERMINE FROM SMALL SCALE DRAWINGS, THE INSTALLER SHALL SEE THAT ALL LATERAL SPRINKLER SPACINGS ARE COORDINATED WITH THE ACTUAL NOZZLE PATTERNS ACTUALLY INSTALLED, IN ORDER TO PROVIDE 100% COVERAGE.
- 14) THE INSTALLER SHALL BE RESPONSIBLE FOR OBTAINING ANY REUIRED LOCATES, PERMITS AND/OR INSPECTIONS CONNECTED WITH THE WORK.
- 15) ANY AND ALL REQUIREMENTS IN EFFECT AT THE TIME OF INSTALLATION REGARDING THE USE OF TREATED EFFLUENT WATER SHALL BE ADHERED TO. THIS INCLUDES THE INSTALLATION OF WARNING SIGNAGE APPROVED BY THE AUTHORITIES.
- 16) ALL MATERIALS SHALL BE CURRENT PRODUCTION AT THE TIME OF CONSTRUCTION. THE INSTALLER SHALL SUBMIT FOR APPROVAL ANY EQUIPMENT CHANGES WHICH MAY BE REQUIRED DUE TO THE TIME DIFFERENTIAL BETWEEN THE DESIGN AND ACTUAL INSTALLATION OF THE PROJECT.
- 17) LOW VOLTAGE CONTROL VALVE WIRING SHALL BE UF#14-1 CABLE, WITH PVC INSULATION. WIRES SHALL BE COLOR CODED TO DISTINGUISH BETWEEN "HOT" AND COMMON, AND TO DISTINGUISH BETWEEN ONE CONTROLLER AND ANOTHER, IF WIRES FOR MULTIPLE CONTROLLERS ARE INSTALLED IN THE SAME TRENCH. THERE SHALL BE NO CROSS-CONNECTION OF WIRING BETWEEN CONTROLLERS.
- 18) ALL SPRINKLERS AND OTHER EQUIPMENT SHALL BE INSTALLED WITH ADEQUATE AND UNIFORM CLEARANCE FROM CURBS, WALKWAYS, PAVEMENT WALLS, AND OTHER OBSTABLES. RISER-MOUNTED SPRINKLERS SHALL BE INSTALLED DIRECTLY WITHIN, AND PROTECTED BY, THE FIRST ROW OF PLANTS. RISER HEIGHTS SHALL CONFORM TO ADJACENT PLANTING.
- 19) THE INSTALLER SHALL MAINTAIN ANY REQUIRED CLEARANCES BETWEEN HIS PIPING AND DOMESTIC WATER LINES.
- 20) ALL CONTROLLER AND P.O.C. LOCATIONS SHALL BE STAKED OUT IN THE FIELD AND APPROVED PRIOR TO INSTALLATION. THE INDICATED LOCATIONS FOR SERVICE CONNECTIONS MAY BE BASED PARTLY ON PROJECTIONS OF SERVICE AVAILABILITY MADE PRIOR TO ACTUAL CONSTRUCTION. VERIFY SERVICE AVAILABILITY AT THESE LOCATIONS, AND NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES.
- 21) THRUST BLOCKS SHALL BE PROVIDED FOR ALL GASKETED PIPE, EQUIPMENT AND FITTINGS. THRUST BLOCKS SHALL CONFORM TO THE MINIMUM SIZE AND CONFIGURATION PUBLISHED BY THE EQUIPMENT MANUFACTURERS. THE DETAIL INCLUDED WITH THESE DOCUMENTS IS FOR REFERENCE PURPOSES ONLY. FITTINGS SHALL BE WRAPPED WITH A SUITABLE MATERIAL BEFORE THRUST BLOCKS ARE POURED AND WIRES SHALL BE ROUTED AROUND THE THRUST BLOCKS SO AS NOT TO BE TRAPPED THEREIN.
- 22) THE INSTALLER SHALL PROVIDE A COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, COMPLETE WITH MEASUREMENTS TO POINTS OF REFERENCE FROM ALL VALVES AND DIRECTIONAL CHANGES IN THE MAINLINE, AND PERIODIC OFFSET MEASUREMENTS FOR THE MAINLINES. THE RECORD DRAWINGS SHALL ALSO INCLUDE LOCATIONS OF ANY WIRING NOT RUNNING WITH THE MAINLINE.
- 23) THE CONTROLLER INTERFACE ASSEMBLIES SHALL BE INSTALLED IN THE PEDESTALL OF THE SATELLITE CONTROLLER CORRESPONDING TO THAT LOCATION, PROVIDED THE MANUFACTURER MAKES A FACTORY-BUILT MOUNTING APPLIANCE FOR THIS PURPOSE. ALSO INCLUDED AT EACH OF THE TWO INTERFACE SITES SHALL BE A BUCKET-TYPE RAIN SENSING DEVICE AND THE APPROPRIATE CODING UNITS.
- 24) THE LOCATIONS, DEPTH OF COVER, AND ANGULAR DEFLECTIONS OF ALL SLEEVES SHALL BE COORDINATED BY THE INSTALLER IN THE FIELD WITH ALL OTHER UTILITIES AND OTHER POTENTIAL OBSTRUCTIONS. ADJUSTMENTS SHALL BE MADE AS NEEDED TO AVOID CONFLICTS. COORDINATE SCHEDULING WITH PAVING.
- 25) THE INSTALLER SHALL NOTE THE LOCATIONS OF APPROXIMATELY (40) SIDEWALK NOTCHES CONTAINING PALM TREES. EACH SUCH LOCATION SHALL BE PROVIDED WITH TWO BUBBLER HEADS, WHICH SHALL BE INSTALLED IN AN INCONSPICUOUS MANNER, AND PIPED TO THE NEAREST SPRAY ZONE.

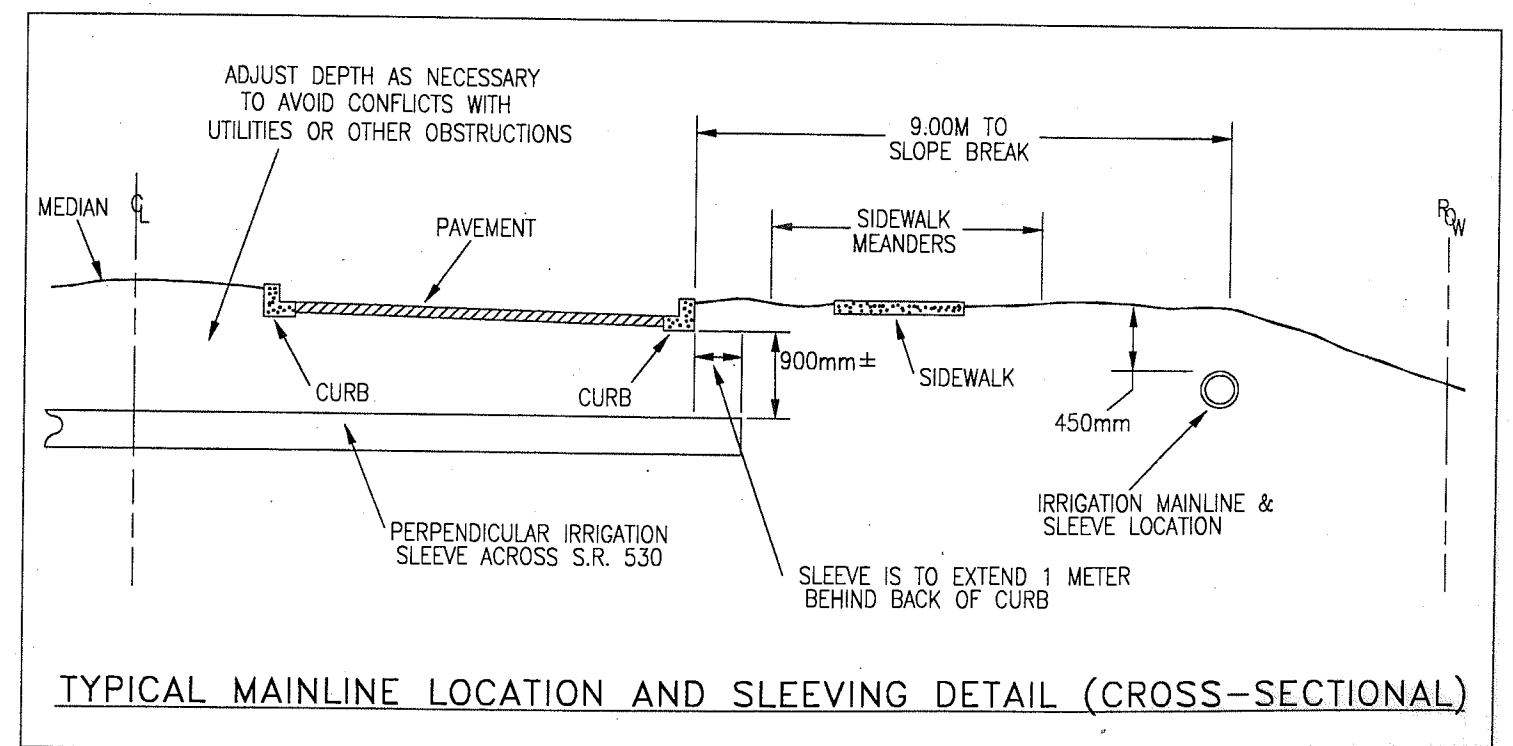
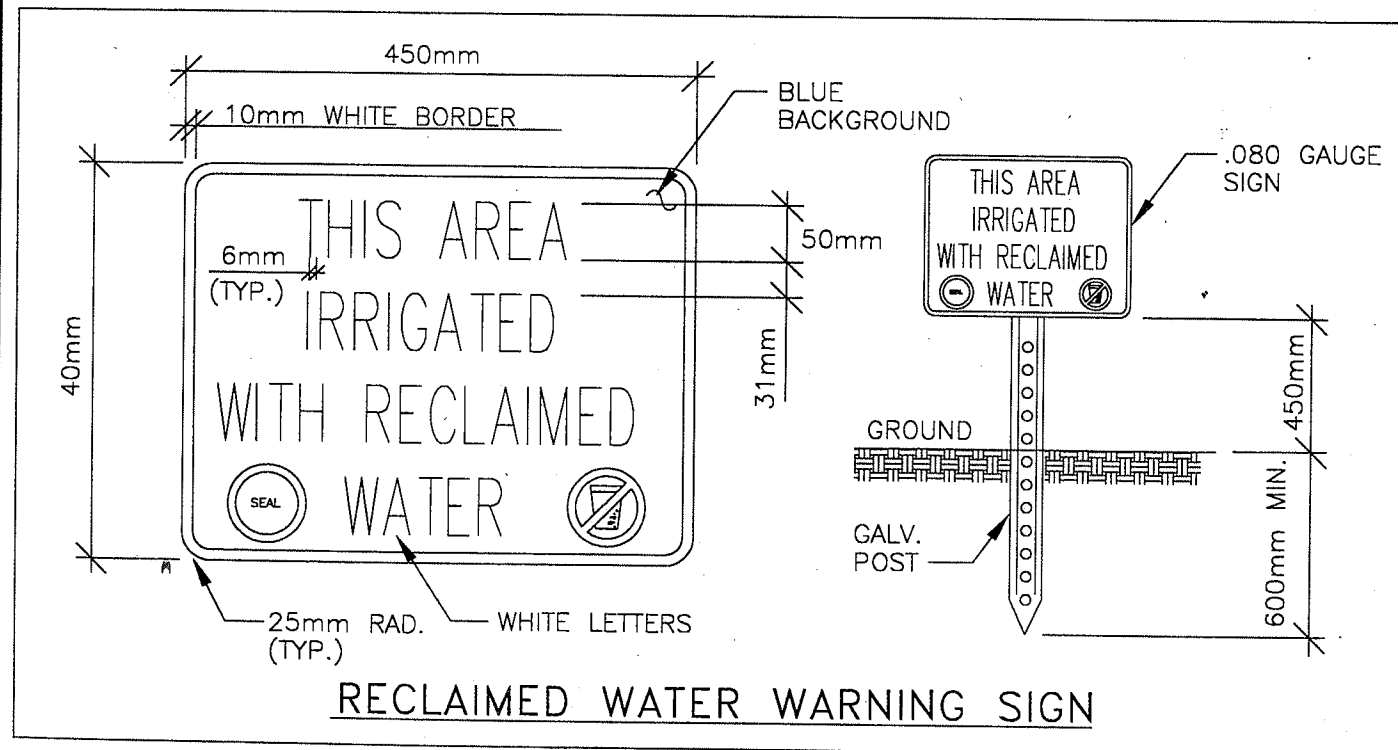
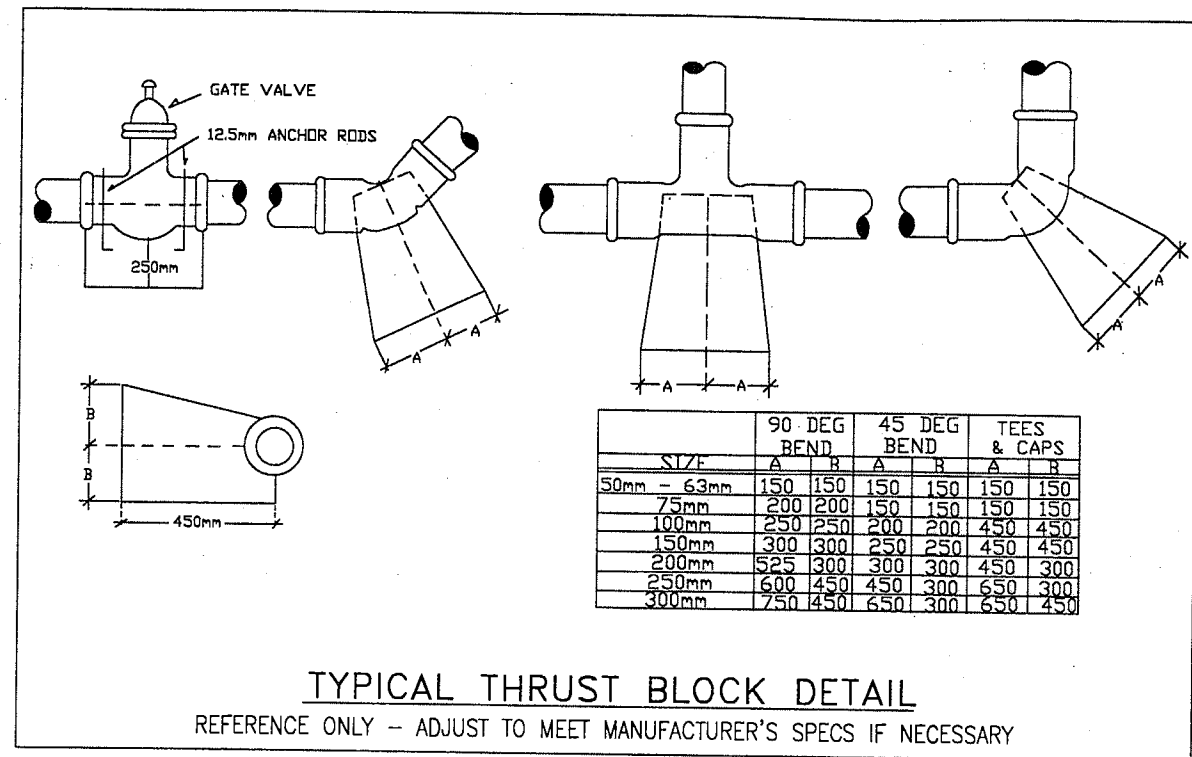
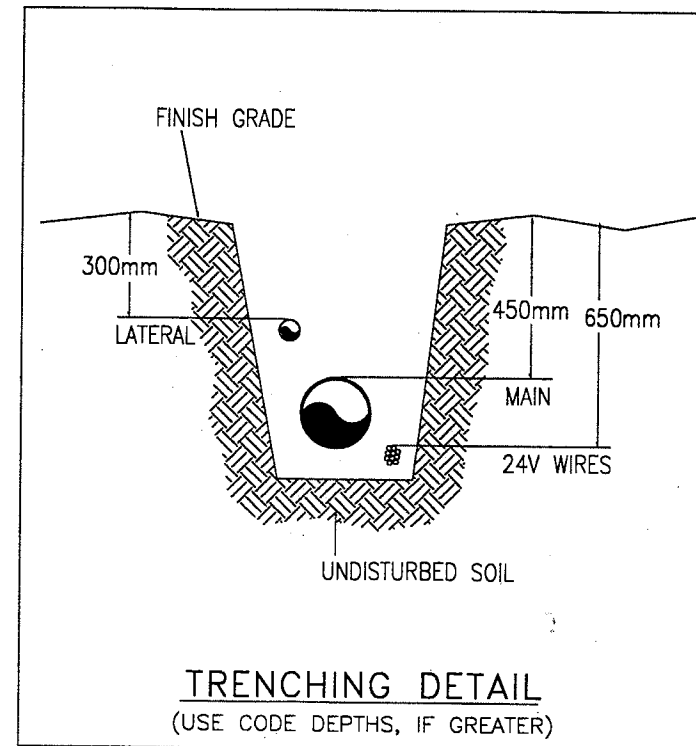
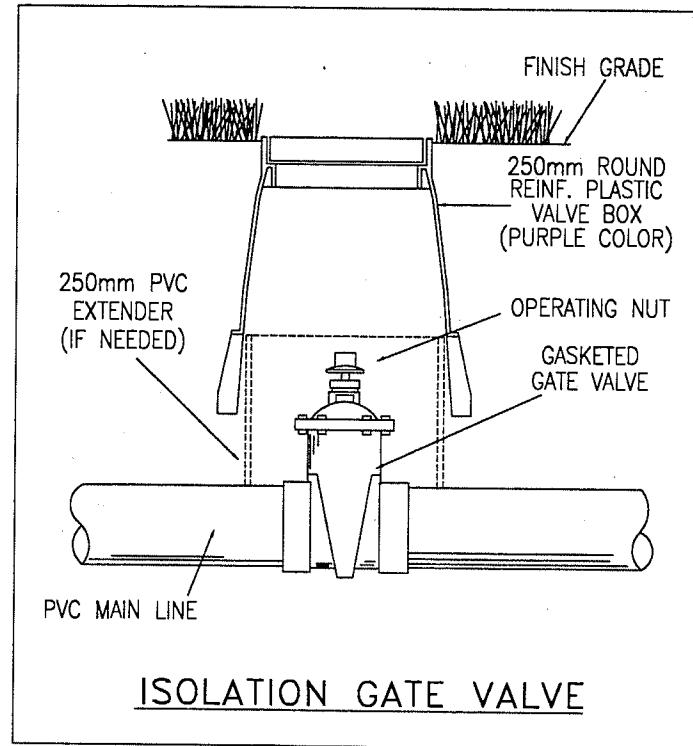
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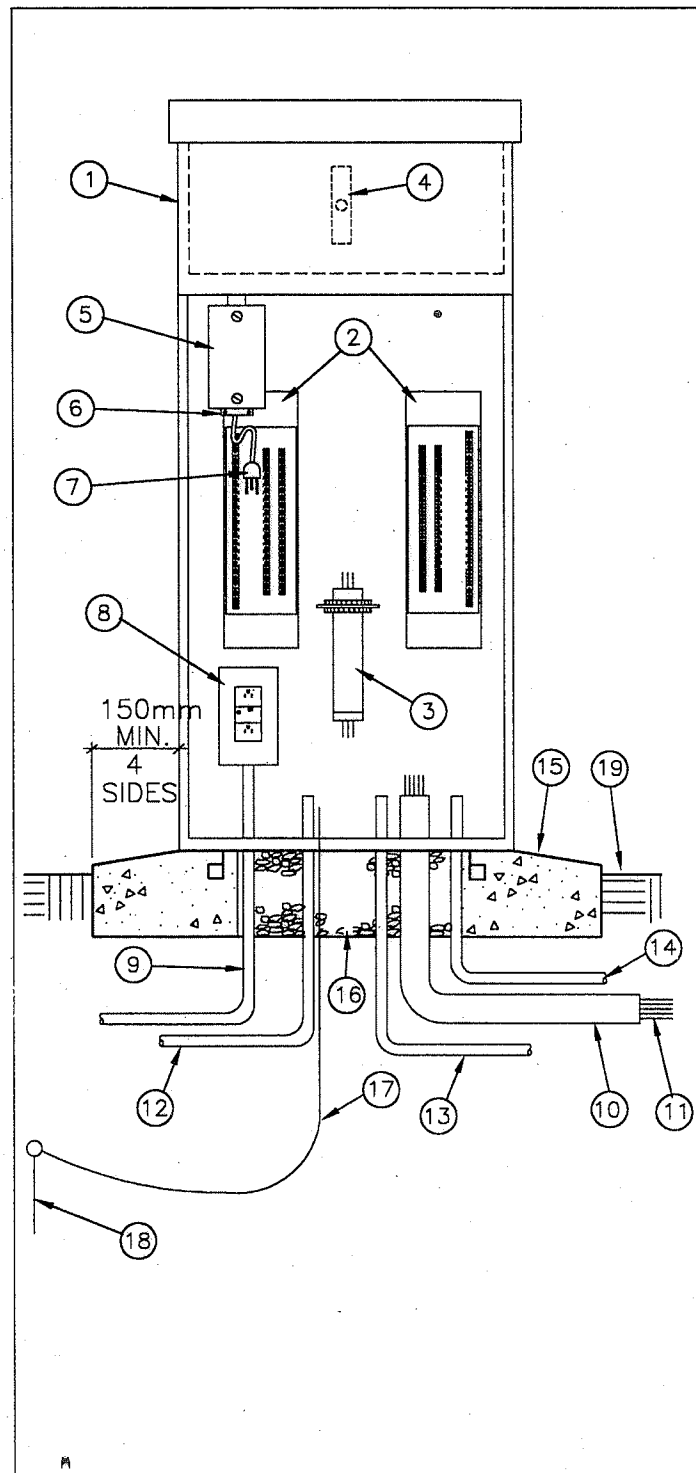


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LEGEND

1. RAINBIRD PAR-24-SS SATELLITE CONTROLLER, OR APPROVED EQUAL.
2. TERMINAL STRIPS AND WIRING HARNESS KIT. MODEL #632441-02 FOR PAR-24-SS. OR APPROVED EQUAL
3. MSP-1 MAXI SURGE PIPE.
4. REMOTE CONTROL CONNECTING BRACKET. MFG. BY REMOTE CONTROL TECHNOLOGY OR APPROVED EQUAL. MOUNT ON BACK OF CONTROLLER CABINET.
5. 120 VOLT JUNCTION BOX WITH COVER. ATTACH TO EXISTING NIPPLE.
6. WIRE CLAMP.
7. 3-WIRE PIG TAIL WITH 3-PRONG PLUG.
8. JUNCTION BOX MOUNTED ON CONDUIT WITH PASS AND SEYMOUR MODEL #6262-ISP TRANSIENT VOLTAGE SURGE SUPPRESSION RECEPTACLE AND COVER. OR APPROVED EQUAL. GROUND RECEPTACLE TO GROUNDING GRID.
9. 120 VOLT 60 CYCLE POWER SUPPLY IN CONDUIT PER LOCAL CODES.
10. 50mm PVC CONDUIT W/ SWEEP ELL FOR CONTROL WIRES TO ELECTRIC CONTROL VALVES.
11. DIRECT BURIAL CONTROL WIRES TO ELECTRIC CONTROL VALVES.
12. 38mm PVC SCH 40 CONDUIT W/ SWEEP ELL FOR COMMUNICATION WIRE.
13. 38mm PVC SCH 40 CONDUIT W/ SWEEP ELL FOR COMMUNICATION WIRE.
14. 25mm PVC SCHEDULE 40 CONDUIT W/ SWEEP ELL FOR FLOW SENSOR WIRE. (WHERE REQUIRED)
15. POURED CONCRETE BASE-150mm MINIMUM THICKNESS. INSTALL PER MANUFACTURER'S INSTALLATION GUIDELINES. SLOPE TO DRAIN.
16. OPENING-FILL WITH RIVER GRAVEL.
17. 10 AWG GROUND WIRE THROUGH SLAB TO GROUND ROD.
18. ACCESSIBLE GROUND ROD, MIN. LENGTH 3 M.
19. FINISH GRADE.

FIELD SATELLITE CONTROLLER

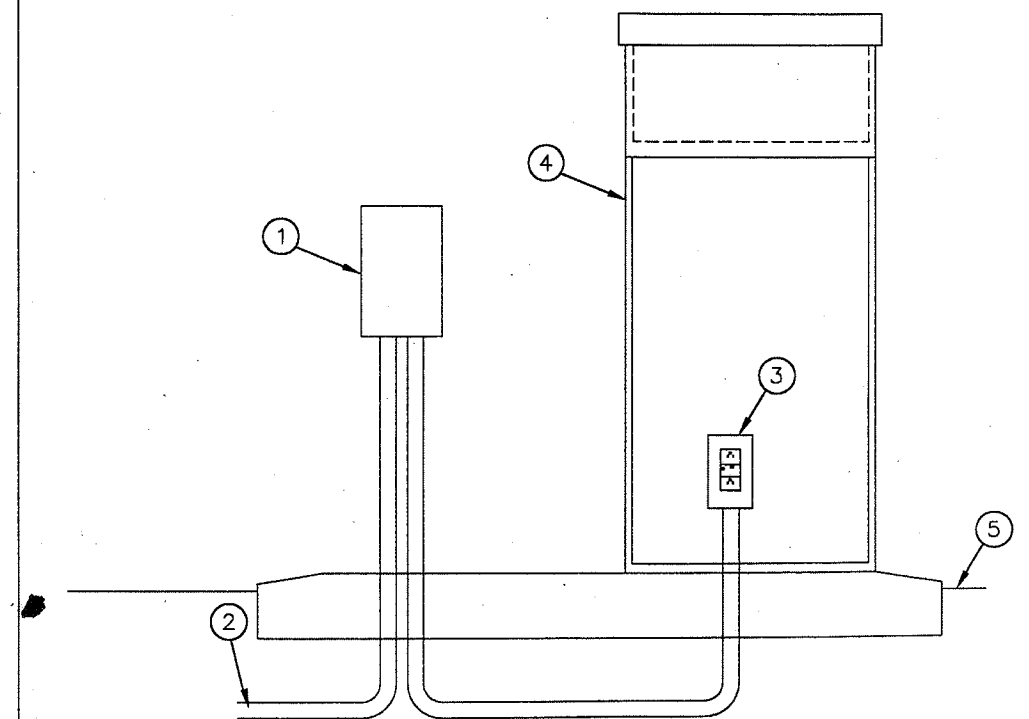
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LEGEND

1. DISCONNECT SWITCH TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
2. 38mm PVC CONDUIT WITH (3) 12 AWG THW WIRES.
3. SURGE SUPPRESSION RECEPTACLE MOUNTED IN A JUNCTION BOX.
4. SATELLITE CONTROLLER OR RAINBIRD CCU OR APPROVED EQUAL.
5. FINISH GRADE

NOTES

1. DISCONNECT WIRE SHALL BE UNIFORM IN SIZE WITH EXISTING DISCONNECTS.
2. CONDUIT SHALL BE RUN FROM ELECTRICAL CABINET. CONTRACTOR SHALL COORDINATE WITH FLORIDA POWER/KISSIMMEE UTILITY AUTHORITY ON SITE.
3. ALL WORK AND MATERIALS SHALL CONFORM WITH ALL NEC, FPC, KUA, AND ALL OTHER LOCAL ELECTRICAL CODES.

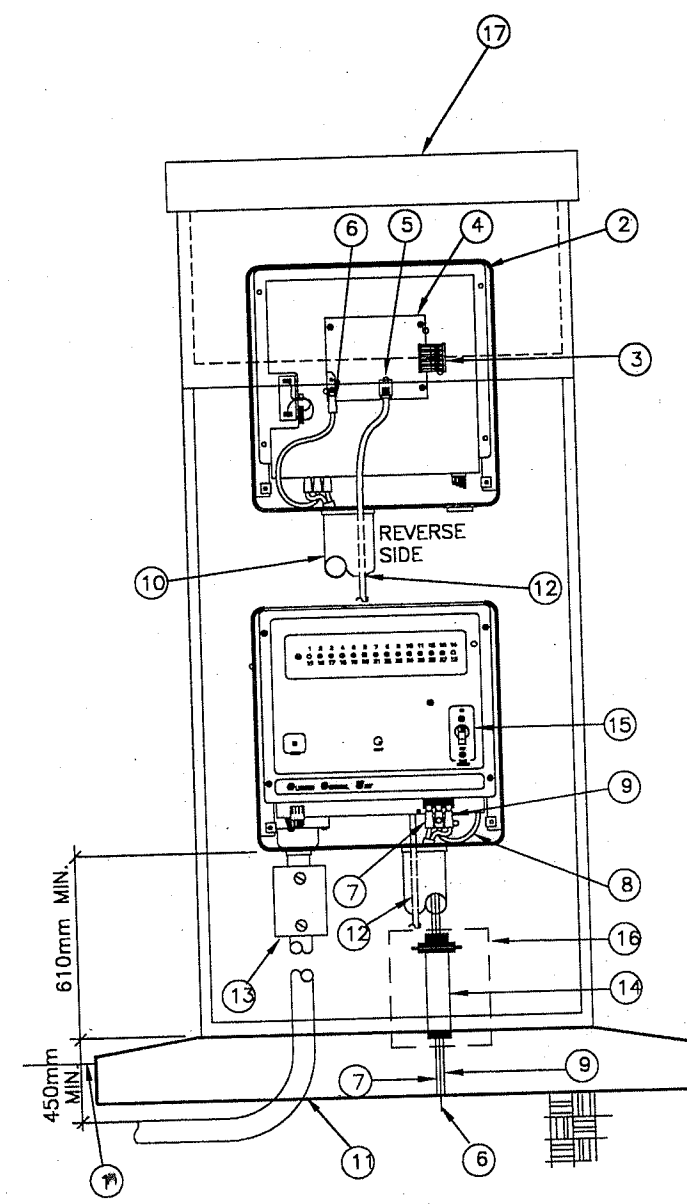


CONTROLLER ELECTRIC SERVICE

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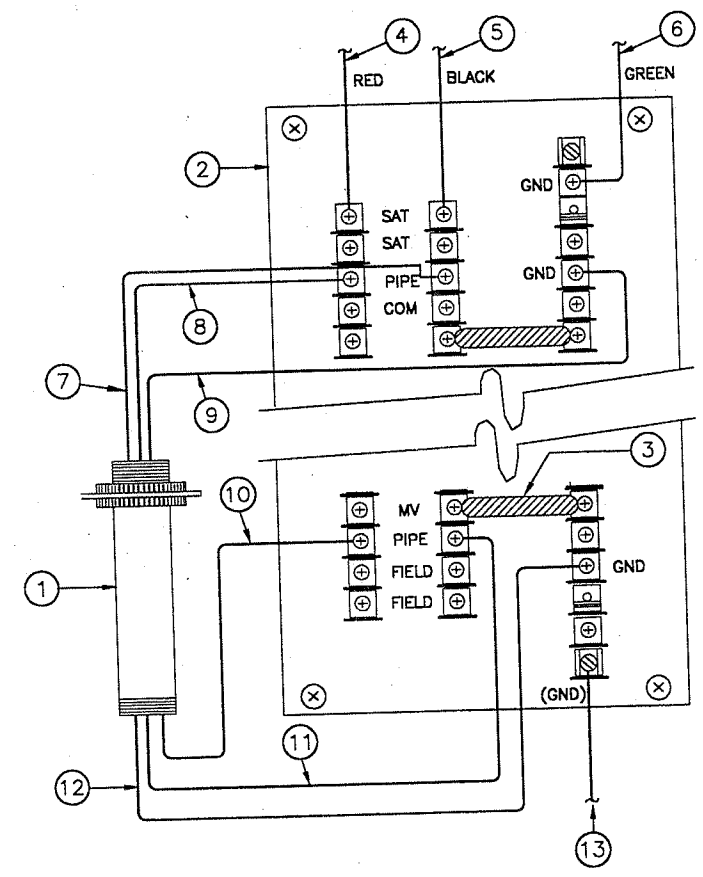


LEGEND

1. FINISH GRADE.
2. RAINBIRD PEDESTAL MOUNTED CLUSTER CONTROL UNIT (CCU) OR APPROVED EQUAL.
3. COLORED RIBBON/CABLE CONNECTION.
4. MODEM.
5. RJ 11 PHONE JACK.
6. GROUND WIRE.
7. COMMUNICATION CABLE CONNECT TO COMMON WIRE TERMINAL POST.
8. GROUND WIRE(GREEN) TO GROUND POST ON TERMINAL STRIP.
9. COMMUNICATION CABLE CONNECT TO HOT WIRE TERMINAL POST.
10. 38mm LOW VOLTAGE COMMUNICATION CABLE CONDUIT--SCH 40 PVC.
11. 120 VOLT 60 CYCLE POWER SUPPLY.
12. TELEPHONE COMMUNICATION CABLE TO RJ-11 JACK IN PVC CONDUIT.
13. 120 VOLT ELECTRICAL JUNCTION BOX.
14. MSP-1 RECOMMENDED SURGE ARRESTOR PART NO. 69300 OR APPROVED EQUAL.
15. FIELD BREAKER.
16. JUNCTION BOX.
17. RAINBIRD PEDESTAL FOR CCU ON 150mm CONC. SLAB OR APPROVED EQUAL.

CLUSTER CONTROL UNIT (CCU)

NOT TO SCALE

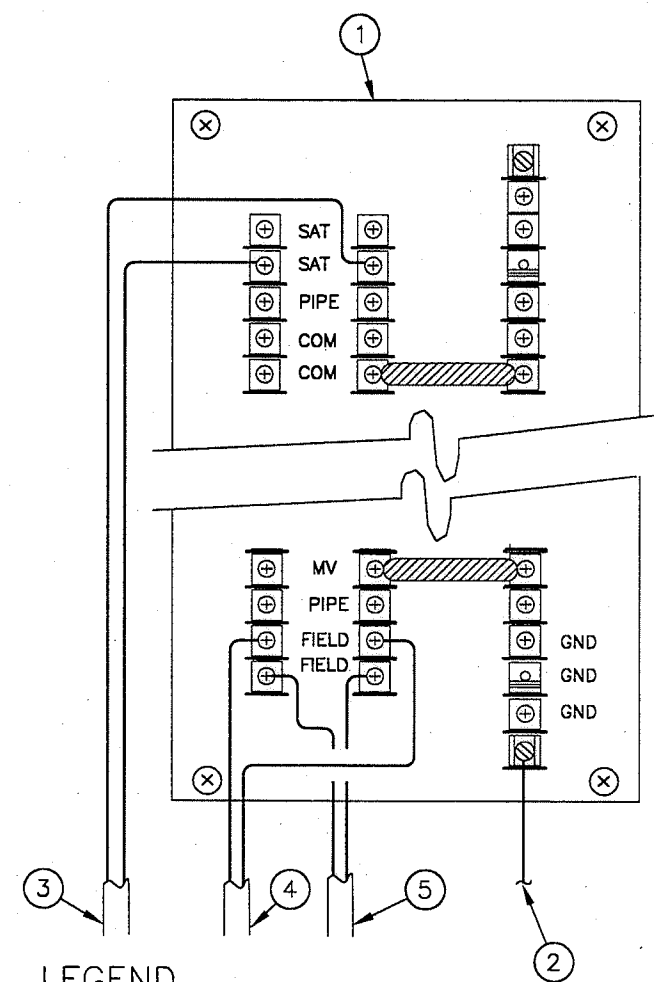


LEGEND

1. RAINBIRD MSP-1 SURGE ARRESTOR. OR APPROVED EQUAL. ATTACH TO EXISTING BRACKET IN CONTROLLER.
2. SATELLITE CONTROLLER TERMINAL BOARD.
3. MOV SURGE ARRESTOR (TYPICAL).
4. HOT WIRE (RED) FROM SATELLITE ASSEMBLY.
5. COMMON WIRE (BLACK) FROM SATELLITE ASSEMBLY.
6. GROUND WIRE (GREEN) FROM SATELLITE ASSEMBLY.
7. COMMON WIRE (BLACK) FROM SURGE ARRESTOR.
8. HOT WIRE (RED) FROM SURGE ARRESTOR.
9. GROUND WIRE (GREEN) FROM SURGE ARRESTOR.
10. HOT WIRE (RED) FROM SURGE ARRESTOR (LINE END).
11. COMMON WIRE (BLACK) FROM SURGE ARRESTOR (LINE END).
12. GROUND WIRE (GREEN) FROM SURGE ARRESTOR (LINE END).
13. #10 GROUNDING WIRE TO GROUND ROD ASSEMBLY. REFER TO MANUFACTURER'S SPECIFICATIONS.

FIELD SATELLITE WIRING & MSP SURGE PROTECTION

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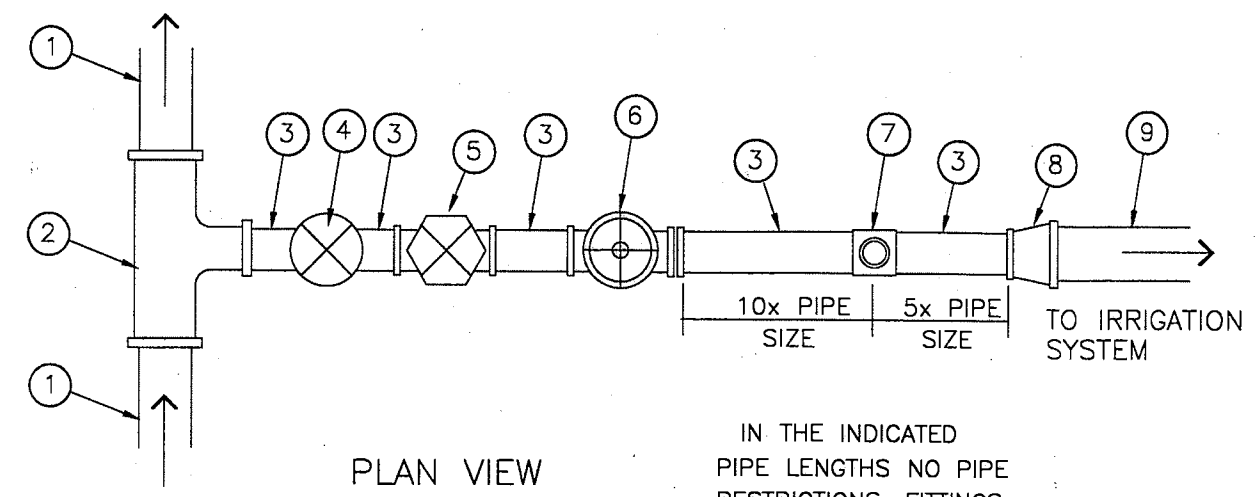


LEGEND

1. SATELLITE CONTROLLER TERMINAL BOARD.
2. #10 OR LARGER BARE COPPER GND WIRE RUN TO GROUNDING ROD GRID. MAKE GROUNDING ROD WIRE AS SHORT & AS STRAIGHT AS POSSIBLE. SEE SPECIFICATIONS FOR GROUNDING REQUIREMENTS.
3. 2-WIRE PATH TO SATELLITE UNITS ADJACENT TO THIS SATELLITE (LESS THAN 600mm APART).
4. 2 WIRE PATH FROM THE "CCU" SIDE OF THE SYSTEM.
5. 2-WIRE PATH TO OTHER SATELLITE UNITS ON THIS ("CCU") SYSTEM.

FIELD SATELLITE COMMUNICATION WIRING

NOT TO SCALE



PLAN VIEW

IN THE INDICATED PIPE LENGTHS NO PIPE RESTRICTIONS, FITTINGS, COUPLINGS, OR OTHER SPLICES SHALL OCCUR.

NOTES

1. THE CLA-VALVE SHALL BE NO MORE THAN 760mm DEEP TO TOP OF BONNET.
2. ALL VALVE BOXES TO HAVE 76mm-100mm OF PEA GRAVEL.
3. CLA-VALVE ASSEMBLY SHALL BE GALVANIZED. NO GLUED JOINTS.

LEGEND

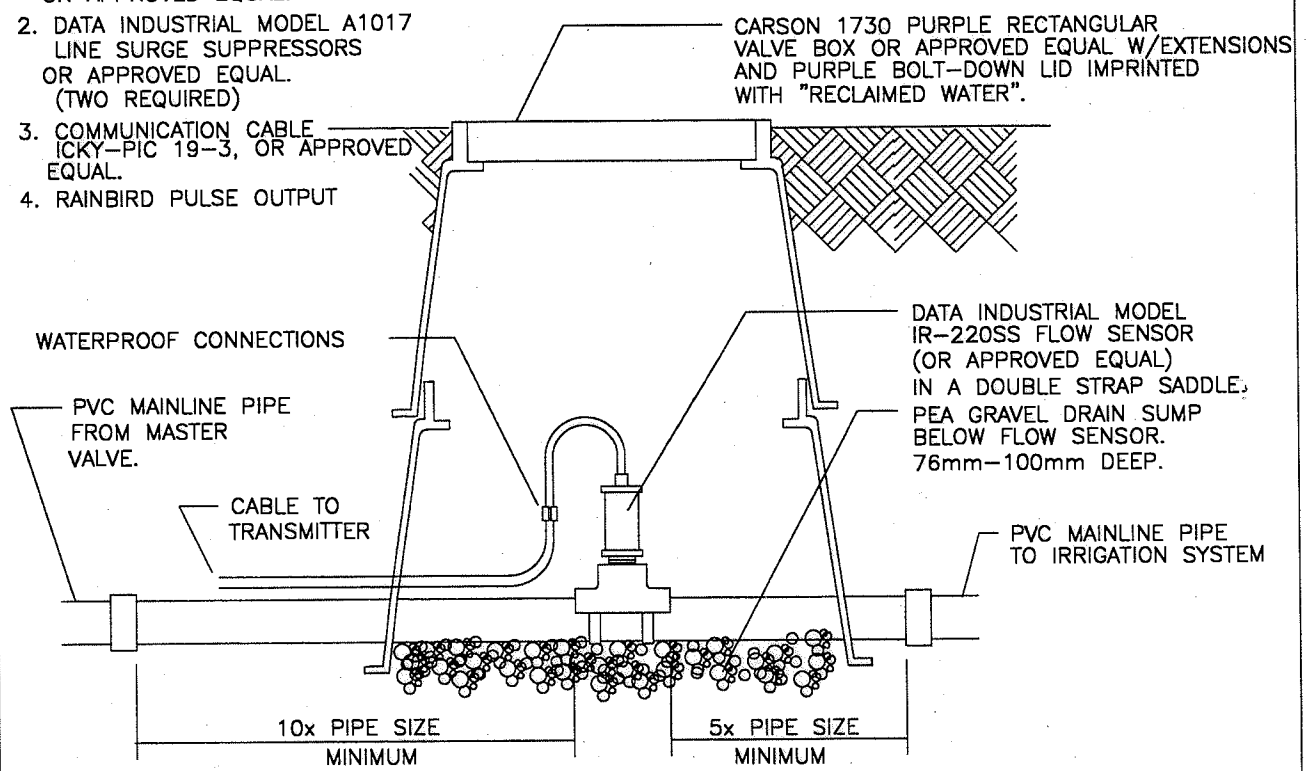
1. EXISTING 300mm RECLAIMED WATER MAIN
 2. MAINLINE CONNECTION FITTING FOR WETTAP (SEE WETTAP DETAIL).
 3. 150mm IRRIGATION PIPE (PVC CL 200)
 4. 100mm or 150mm METER (SEE PLANS FOR METER SIZE AT EACH P.O.C.)
 5. 150mm ISOLATION GATE VALVE
 6. 150mm AUTOMATIC MASTER CLA-VALVE OR APPROVED EQUAL (SEE MASTER VALVE DETAIL).
 7. FLOW SENSOR IN DOUBLE STRAPPED SADDLE
 8. 250mm X 150mm REDUCER COUPLING
 9. 150mm OR 250mm PVC CL. 200 IRRIGATION MAINLINE TO IRRIGATION SYSTEM (SEE PLANS FOR EXACT PIPE SIZE FOR EACH P.O.C.)
- ALL VALVE BOXES AS PER SPECIFICATIONS

POINT OF CONNECTION TO RECLAIMED WATER

NOT TO SCALE

REQUIRED ACCESSORIES

1. DATA INDUSTRIAL MODEL 600-15 PULSE OUTPUT TRANSMITTER OR APPROVED EQUAL.
2. DATA INDUSTRIAL MODEL A1017 LINE SURGE SUPPRESSORS OR APPROVED EQUAL. (TWO REQUIRED)
3. COMMUNICATION CABLE ICKY-PIC 19-3, OR APPROVED EQUAL.
4. RAINBIRD PULSE OUTPUT



IN THE INDICATED PIPE LENGTHS, NO PIPE RESTRICTIONS, FITTINGS, COUPLINGS, OR OTHER SPLICES OR OBSTRUCTIONS SHALL OCCUR.

FLOW SENSOR NOTES:

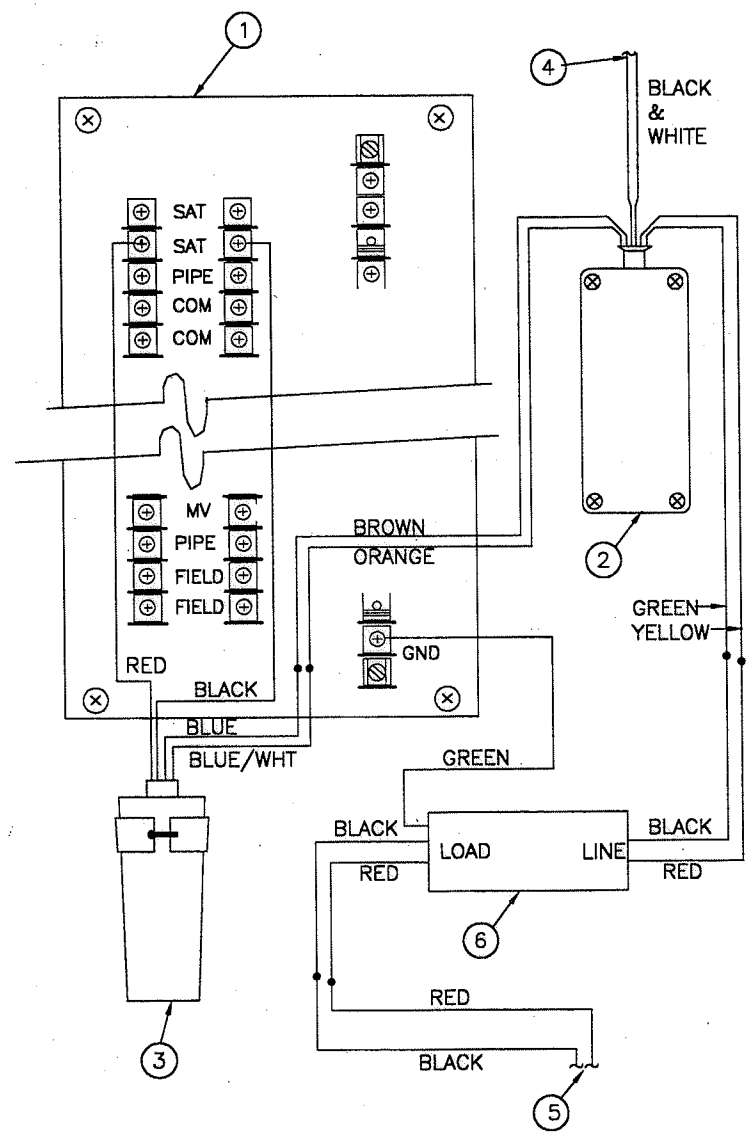
THE IRRIGATION MAIN SUPPLY SHALL BE EQUIPPED WITH A FLOW METER CAPABLE OF COMMUNICATION WITH THE MAXICOM SYSTEM. THIS SHALL BE A DATA INDUSTRIAL IR-220SS FLOW SENSOR, DATA INDUSTRIAL 600-15 PULSE OUTPUT TRANSMITTER WITH A DATA INDUSTRIAL A1006 PLUG-IN TRANSFORMER, AND A RAINBIRD F69300 PULSE DECODER. OR APPROVED EQUALS.

THE FLOW SENSOR SHALL BE WIRED BACK TO THE CONTROLLER UTILIZING AN ANIXTER SINGLE SHIELDED TWISTED PAIR CABLE #E-000319AFC AND #E-000319AFO. ALL WIRE SPLICES OR CONNECTIONS FOR THE FLOW SENSOR TO THE CABLE SHALL BE MADE USING 3M SCOTCHLOK CONNECTORS.

THE IRRIGATION CONTRACTOR SHALL CONTACT THE LOCAL MAXICOM DISTRIBUTOR BEFORE BIDDING TO BECOME FULLY AWARE OF ALL THE RESPONSIBILITIES CONCERNING THE MAXICOM SYSTEM AND THE COMMUNICATIONS CONNECTIONS.

FLOW SENSOR DETAIL

NOT TO SCALE

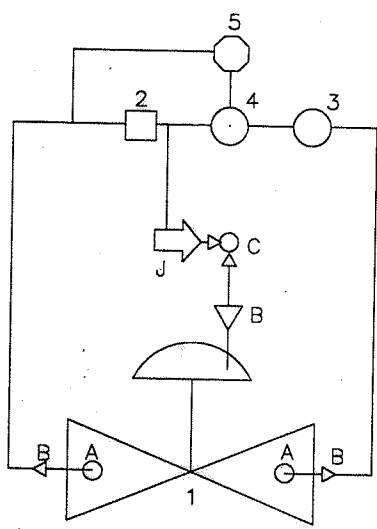


LEGEND

1. SATELLITE CONTROLLER TERMINAL BOARD.
2. DATA INDUSTRIAL MODEL 600-15 PULSE OUTPUT TRANSMITTER, OR APPROVED EQUAL.
3. RAINBIRD PULSE DECODER MODEL NO. 69300 OR APPROVED EQUAL ATTACH TO EXISTING SBM CABINET STUD WITH A #6 x 63mm CONDUIT STRAP
4. TO 24 VAC GROUNDED POWER SUPPLY (WHT/BLK).
5. TO DATA INDUSTRIAL FLOW SENSOR (BLK/RED) (MAXIMUM RUN = 610 M).
6. DATA INDUSTRIAL MODEL A1017 LINE SURGE SUPPRESSOR, OR APPROVED EQUAL.

FIELD SATELLITE WIRING FOR FLOW SENSING

NOT TO SCALE



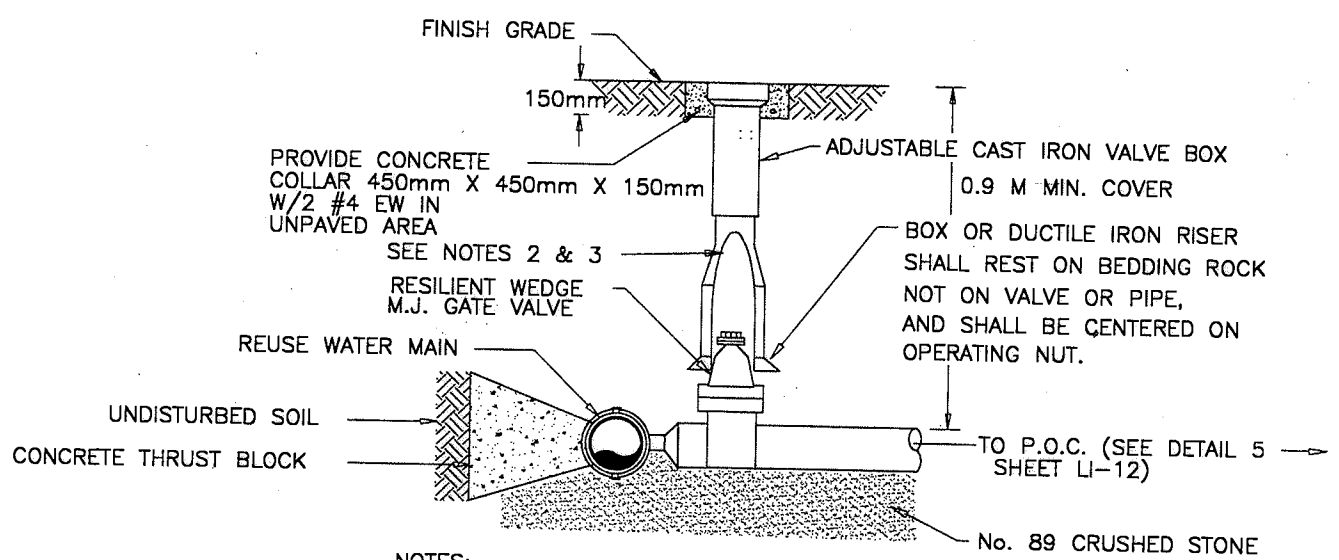
- CLA-VALVE M/N 93G-01ABCJ
OR APPROVED EQUAL
- 1 CLAYTON 100-0-G VALVE
 - 2 X-58 RESTRICTION TUBE FITTING
 - 3 CRD CONTROL PILOT
 - 4 CS3 SELONOID CONTROL (24V)
- A X46 FLOW CLEAN STRAINER
 - B CK2 SHUTOFF COCKS
 - C CV FLOW CONTROL-CLOSING SPEED
 - J CV2 FLOW STABILIZER

NOTE: VALVE IS MOUNTED BELOW GRADE IN CARSON 1730D PURPLE VALVE BOX WITH PURPLE BOLT-DOWN LID IMPRINTED WITH "RECLAIMED WATER" (OR APPROVED EQUAL)

CLA-VALVE ASSEMBLY SHALL BE GALVANIZED-NO GLUED JOINTS SHALL BE PERMITTED ON ANY MAINLINE FITTINGS.

MASTER CONTROL VALVE

NOT TO SCALE



NOTES:

1. TAP SHALL NOT BE MADE WITHIN 1.8M OF EXISTING PIPE JOINT OR ACTIVE LINE.
2. THRUST BLOCK SHALL BE IN PLACE AND CURED PRIOR TO TAPPING TASK.
3. TAP SIZE SHALL BE NO GREATER THAN 50% OF EXISTING LINE BEING TAPPED.
4. 50mm BRASS PLUG WITH RECESSED NUT. TERMINATE INSULATED, SOLID 14 GAUGE COPPER LOCATOR WIRES AT TOP W/300mm EXTRA WIRE.

WET TAP AND VALVE BOX DETAIL

NOT TO SCALE

DATE		BY		DESCRIPTION		DATE		BY		DESCRIPTION		DATE		BY		DESCRIPTION	
REVISIONS																	

03/05/98

TECO People's Gas Systems

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact
Attachments: Marked up plan pdf.pdf

From: Winsor, Shawn <SWinsor@tecoenergy.com>
Sent: Tuesday, August 31, 2021 12:16 PM
To: Rick Duran <rduran@bcceng.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

I sent this back on 6/17/2019 is this what you are looking for?

Shawn Winsor

Gas Design / Project Manager
600 West Robinson St.
Orlando, Fl. 32801
Office: 407-420-6663
swinsor@tecoenergy.com



From: Rick Duran <rduran@bcceng.com>
Sent: Tuesday, August 31, 2021 9:55 AM
To: Winsor, Shawn <SWinsor@tecoenergy.com>
Subject: RE: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Good morning, Shawn – can you provide the status of your marked plans for this project?

Rick Duran

Senior Utilities Coordinator



t. 305.670.2350 | www.bcceng.com

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mistake, please notify the sender immediately, delete this email from your system and do not copy or disclose it to anyone else. Although we take precautions to protect against viruses, we advise you to take your own precautions to protect against viruses as we accept no liability for any which remain.



Date: August 31, 2021

Peoples Gas System Inc. has no gas mains or services within the referenced area

We are returning your prints marked with Peoples Gas System, Inc. gas mains or services within the referenced area.

**THE ATTACHED DRAWINGS ARE
PROVIDED SUBJECT TO
RESTRICTIONS AND
LIMITATIONS.**

We are returning a print of Peoples Gas System, Inc. gas main or services within the referenced area.

Please furnish final construction plans for this job and include Peoples Gas System, Inc. in the pre-design and pre-construction meeting(s).

For further information please call: Shawn Winsor, Gas Design Department at (407) 420-6663.

Remarks:

NOTE: If a map is provided with this letter the following applies: The map is provided for convenience purpose only, and is not intended to be used for detailed locations. No warranty or guaranty expressed or implied, is made as to completeness, accuracy or fitness for a particular purpose. Use of this map is at the risk of the recipient who assumes full responsibility therefor.

Please call 811, two full business days prior to construction to have the locations of the facilities field verified





TOHO Water Authority

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

From: Calvin Carrero <ccarrero@tohowater.com>

Sent: Monday, August 23, 2021 5:27 PM

To: Rick Duran <rduran@bcceng.com>

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Good afternoon Mr. Duran

Please find the requested information located on our share website linked below. If you have any questions please feel free to reach out to me.

<https://private.filesanywhere.com/TOHOWATER/fs/v.aspx?v=897169bd9a63a6baaca0>

Guest Password: fsftp4eng07

Thank You,

Calvin Carrero

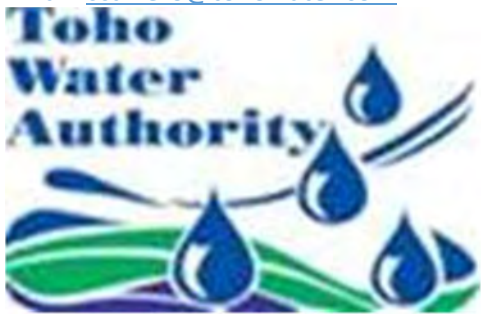
Engineering Technician

Toho Water Authority

951 Martin Luther King Blvd. | Kissimmee, FL 34741 | www.tohowater.com

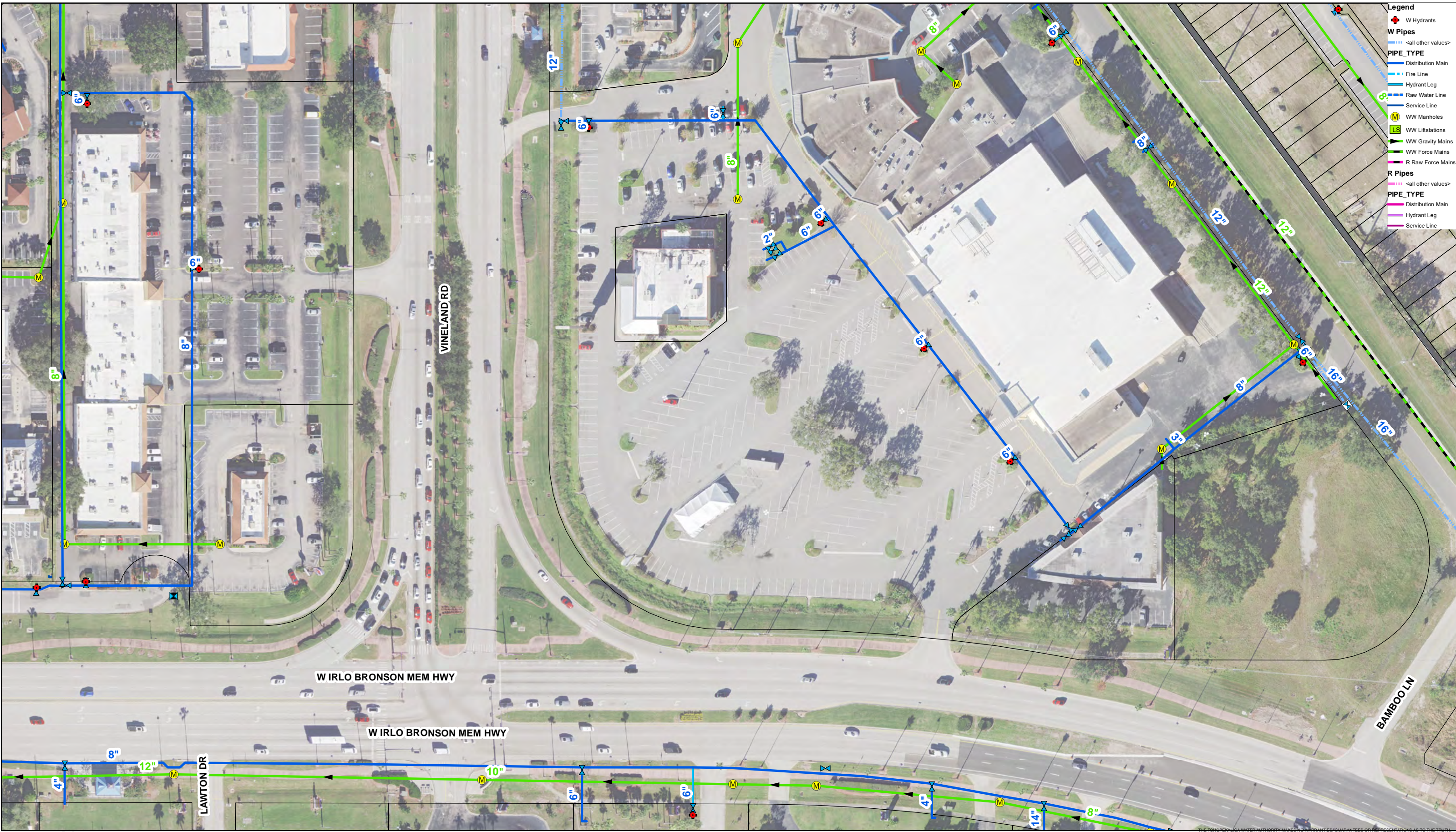
Telephone: (407) 944-5044

Email: ccarrero@tohowater.com



"Bringing you life's most precious resource"

NOTE: Florida has a very broad public records law (F. S. 119). All e-mails to and from Toho Employees may be kept as a public record. By law, your e-mail communications, including your e-mail address may be disclosed to the public and media at any time.



- Legend**
- W Hydrants
 - W Pipes
 - <all other values>
 - PIPE_TYPE
 - Distribution Main
 - Fire Line
 - Hydrant Leg
 - Raw Water Line
 - Service Line
 - M WW Manholes
 - LS WW Lift Stations
 - WW Gravity Mains
 - WW Force Mains
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N
1 inch = 100 feet

FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive
MAP 3

THE TOHO WATERS AUTHORITY MAKES NO WARRANTIES OR REPRESENTATIONS AS TO THE TRUTH, ACCURACY, OR COMPLETENESS OF THE DATA ON THIS MAP. THIS IS NOT A SURVEY PRODUCT AND IS A VISUAL REFERENCE TOOL ONLY. The Toho Water Authority makes no warranty, express or implied with respect to its ownership of any rights relating to trademarks and trade names described herein. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. Any questions or concerns should be directed to Toho Water Authority, Information Technology (IT) Department at 407-544-3150.

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- Legend**
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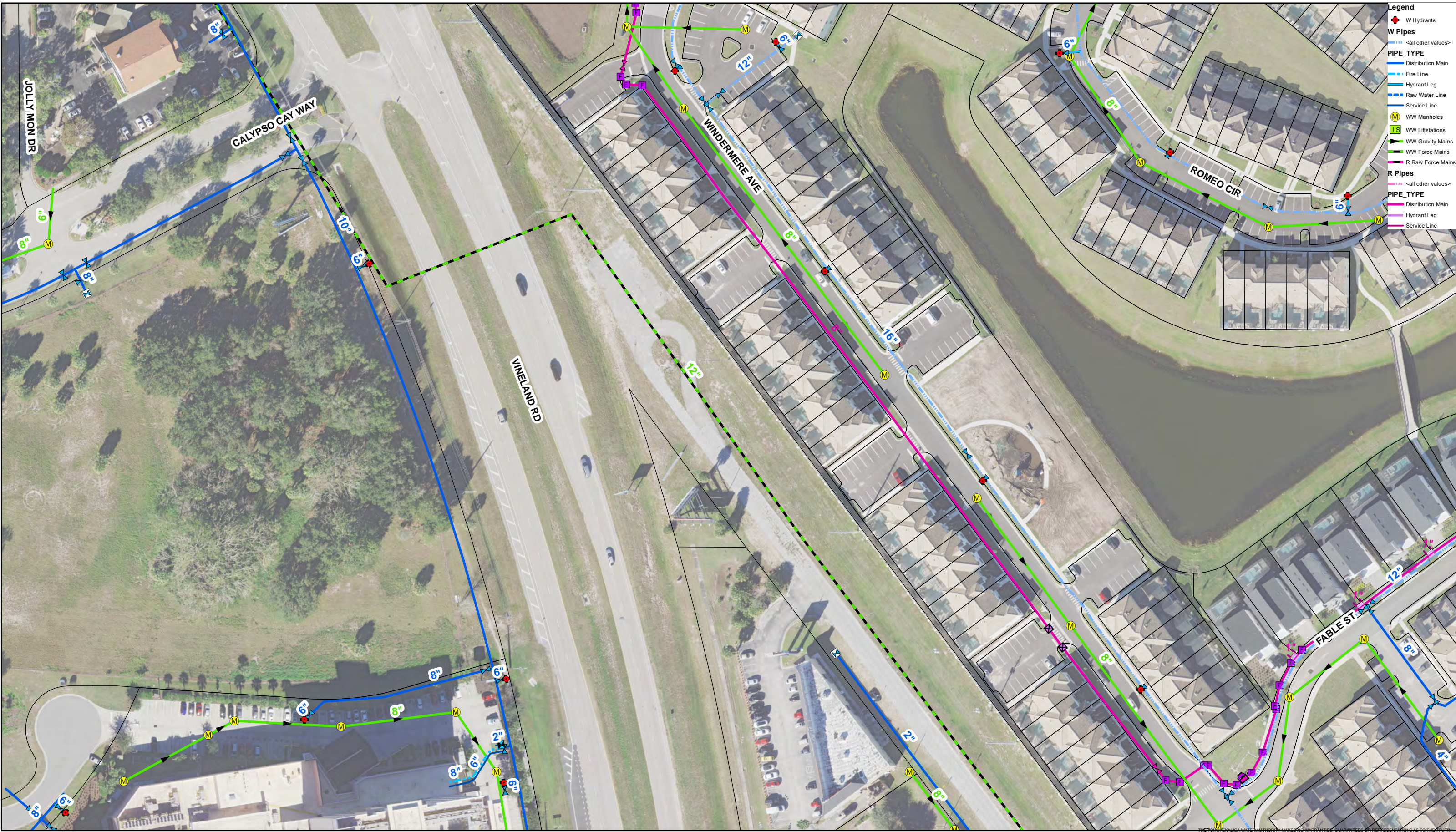
N
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FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive
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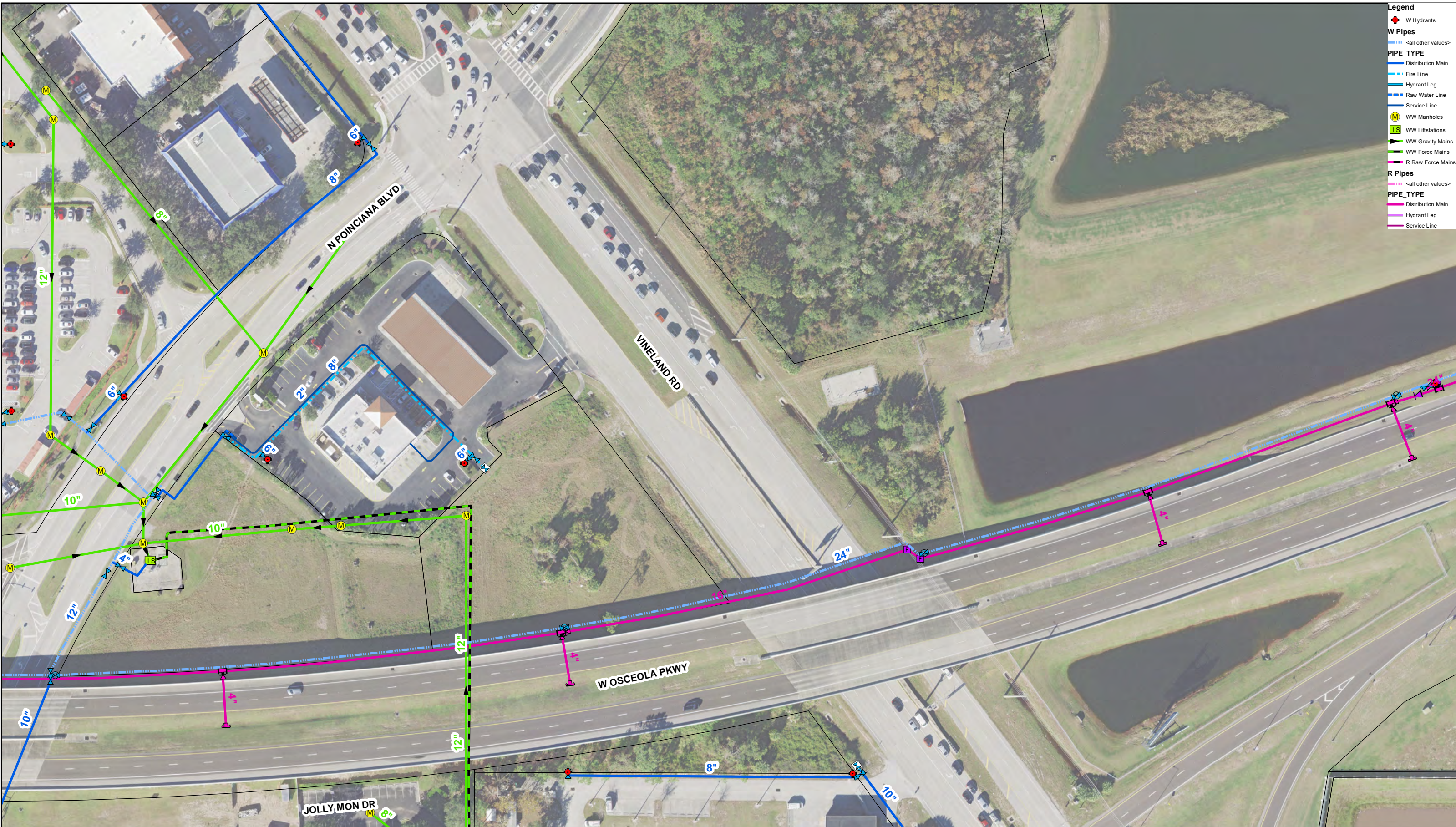
FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive
 MAP 4

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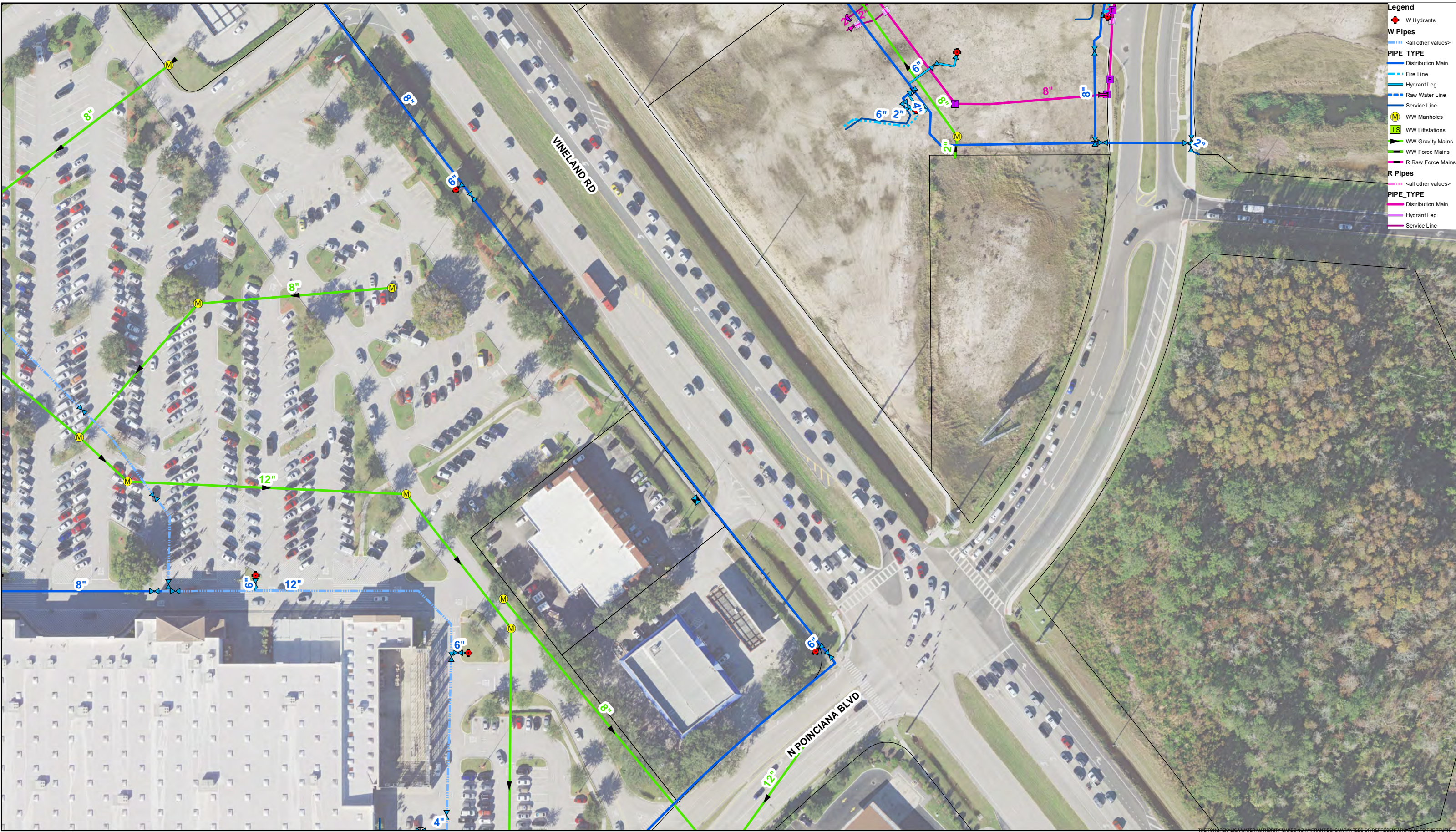
FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive
MAP 5

THE TOHOPEKALUGA WATER AUTHORITY MAKES NO WARRANTIES, GUARANTEES OR REPRESENTATIONS AS TO THE TRUTH, ACCURACY, OR COMPLETENESS OF THE DATA ON THIS MAP. THIS IS NOT A SURVEY PRODUCT AND IS A VISUAL REFERENCE TOOL ONLY. The Tohopekaluga Water Authority makes no warranty, express or implied with respect to its ownership of any rights relating to trademarks and trade names described herein. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. Any questions or concerns should be directed to Toho Water Authority, Information Technology (IT) Department at 407-544-3150.

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- Legend**
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N

 1 inch = 100 feet

**FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive
 MAP 6**

THE TOHO WATER AUTHORITY MAKES NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS AS TO THE ACCURACY OR COMPLETENESS OF THE DATA ON THIS MAP. THIS IS NOT A SURVEY PRODUCT AND IS A VISUAL REFERENCE TOOL ONLY. The Toho Water Authority makes no warranty, express or implied with respect to its ownership of any rights relating to trademarks and trade names described herein. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. Any questions or concerns should be directed to Toho Water Authority, Information Technology (IT) Department at 407-544-3150.

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Legend

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N
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**FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive
MAP 7**

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- Legend**
- W Hydrants
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1 inch = 100 feet

**FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive
MAP 8**

THE TOHOPEKALA WATER AUTHORITY MAKES NO WARRANTIES, GUARANTEES OR REPRESENTATIONS AS TO THE TRUTH, ACCURACY, OR COMPLETENESS OF THE DATA ON THIS MAP. THIS IS NOT A SURVEY PRODUCT AND IS A VISUAL REFERENCE TOOL ONLY. The Tohopekala Water Authority makes no warranty, express or implied with respect to its ownership of any rights relating to trademarks and trade names described herein. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. Any questions or concerns should be directed to Toho Water Authority, Information Technology (IT) Department at 407-544-3156.

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- Legend**
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FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive
MAP 9

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PRODUCED BY: Mike



Uniti Fiber

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

From: James Mosley

Sent: Wednesday, August 18, 2021 12:09 PM

To: 'rduran@bcceng.com' <rduran@bcceng.com>

Cc: Bob Mensching <Bob.Mensching@uniti.com>

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

Here you go! Apologies for the delay

Attached is a markup of our underground facilities shown with the green line.

Uniti Fiber has underground ducts/fiber in this area.

Please call 811 before you dig.



Respectfully,

James Mosley

OSP Engineer

Cell 251.654.8216

James Mosley <James.Mosley@uniti.com>

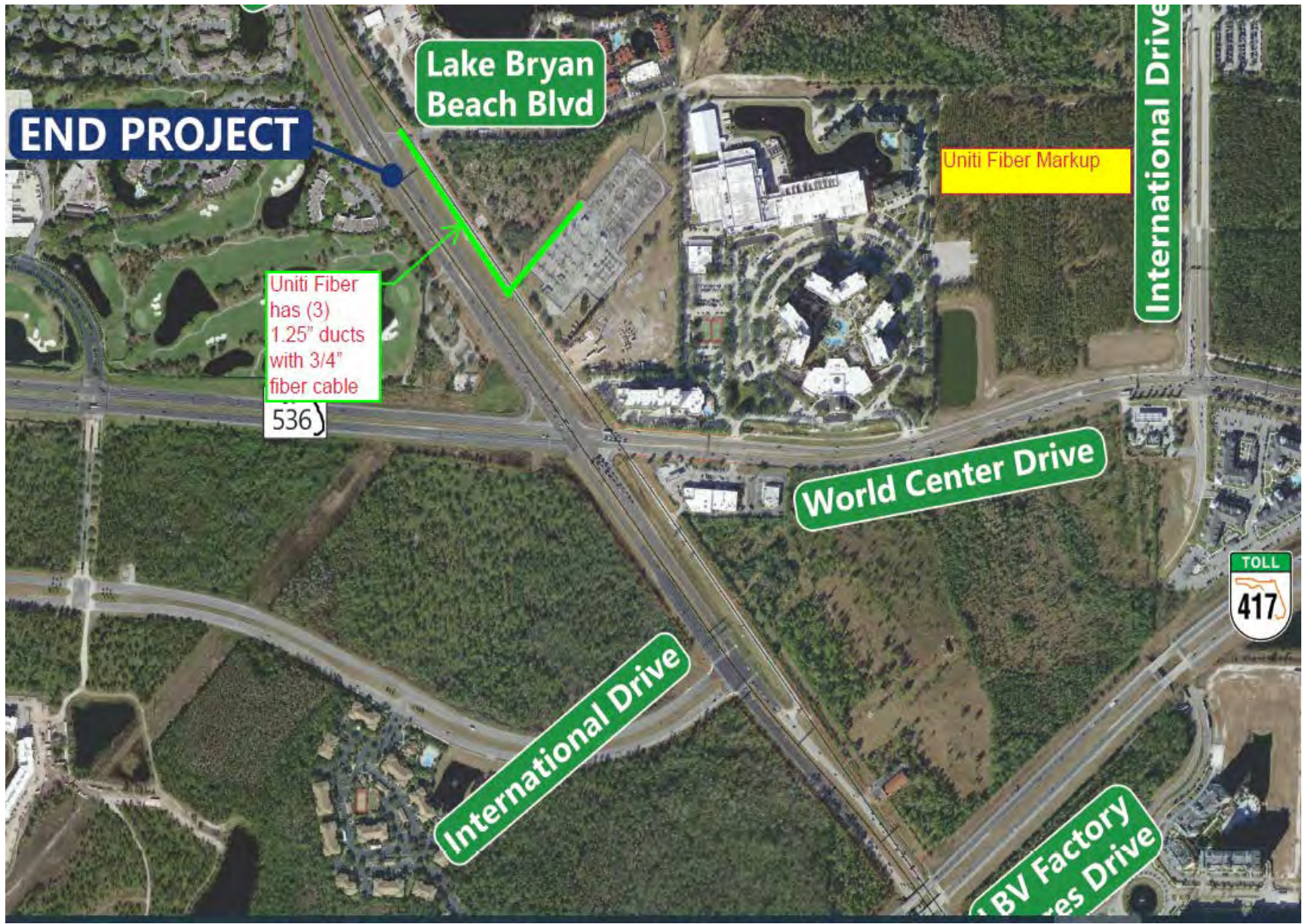


[107 St. Francis Street, Suite 1800](#)

[Mobile, AL 36602](#)

Uniti.com

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END PROJECT

Lake Bryan Beach Blvd

Unifi Fiber Markup

Unifi Fiber has (3) 1.25" ducts with 3/4" fiber cable

536

International Drive

World Center Drive

International Drive

BV Factory
es Drive

TOLL
417

Verizon / MCI

Rick Duran

Subject: FDOT FM # 437174-2: SR 535 PD&E Study from US 192 to n/o of World Center Drive (SR 536)_Initial Contact

From: Investigations . <investigations@one.verizon.com>

Sent: Thursday, September 21, 2023 11:26 AM

To: Rick Duran <rduran@bcceng.com>

Subject: Design Pending - Conflict - Forward to Engineering_Kissimee, FL_2023-5051

437174-2-22-01

Verizon Business ID: 2023-5051

Dear Sir or Madam:

Verizon Business has been notified by your office regarding the above referenced project.

The comparison of your location map with the Verizon Business in-house records determined that Verizon Business facilities do exist in the area of the proposed construction. At this time, a conflict is anticipated. Your information has been forwarded to our Engineering group and they will be in contact to coordinate the next steps.

It will be necessary for you to **contact the One Call System for your area at least 48 hours prior to construction** to ensure our facilities are properly located.

Sincerely,

Verizon Business

