

An aerial photograph of a residential and commercial area. A yellow line, representing a utility line, runs vertically on the left side and then horizontally across the middle of the image. The text is overlaid on this image.

APPENDIX L

UTILITY IMPACT ASSESSMENT REPORT

UTILITY IMPACT ASSESSMENT REPORT

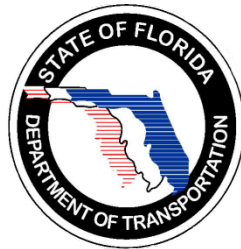
I-95 / Ellis Road Interchange and Ellis Road from I-95 to Wickham Road (CR 509) Project Development & Environment Study

Brevard County, Florida

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Prepared For:



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Prepared By:



In Association
with



September 2012

UTILITY IMPACT ASSESSMENT REPORT

Ellis Road
Brevard County, Florida

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1.0 Introduction

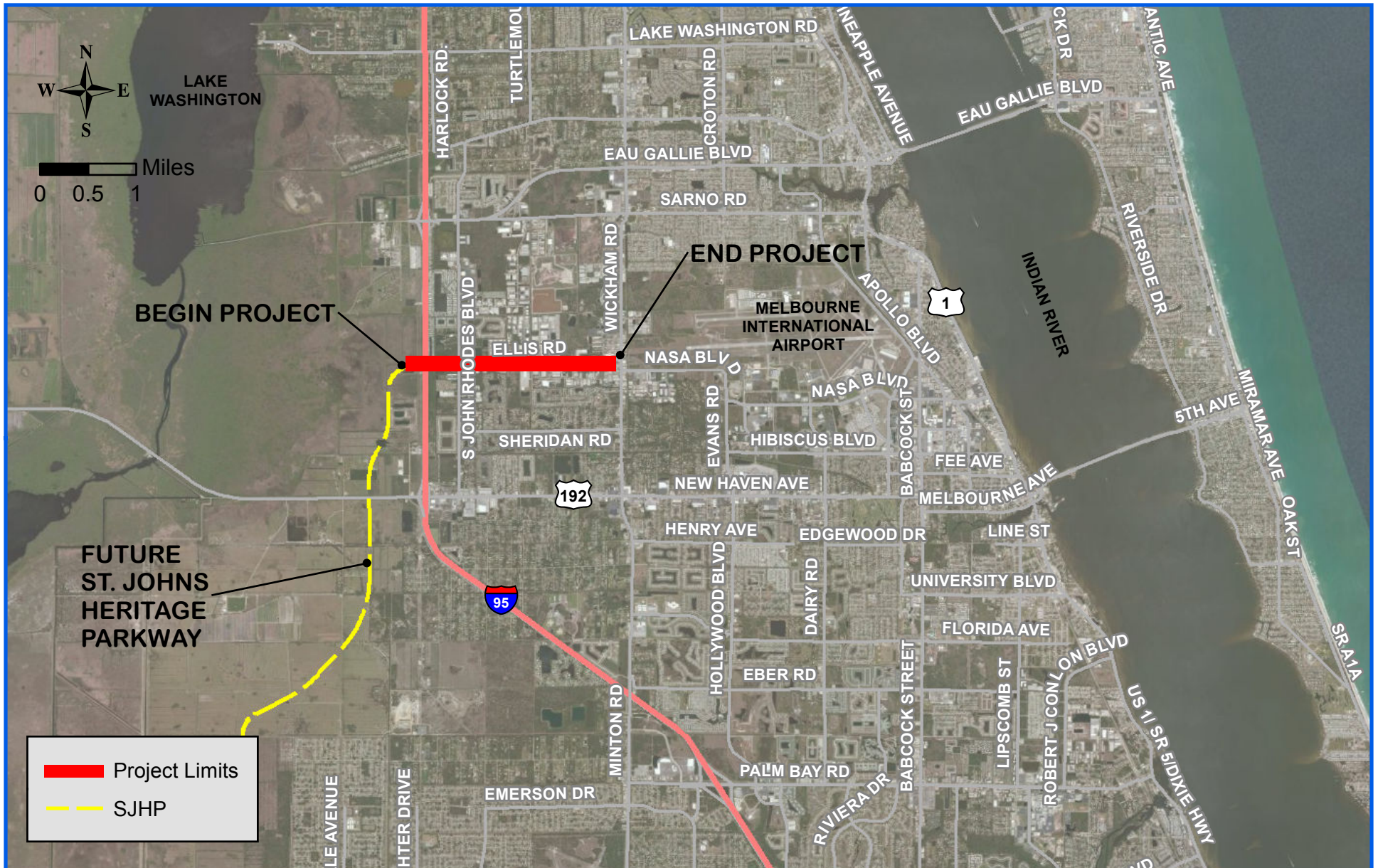
Florida's Strategic Intermodal System (SIS) was designated by the Florida Legislature to efficiently serve the mobility needs of Florida's citizens, businesses, and visitors and help Florida become a worldwide economic leader, enhance economic prosperity and competitiveness, enrich quality of life, and reflect responsible environmental stewardship.

In Brevard County, Melbourne International Airport is an important transportation mode hub but also a major employment area for Melbourne and Palm Bay. Currently, the Melbourne International Airport and the Greyhound Bus Terminal are emerging SIS hubs. While the western limits of the airport are located only a couple of miles from the interstate, access to I-95 is provided by way of Eau Gallie Boulevard (SR 518) from the north and New Haven Avenue (US 192) from the south, both of which are existing SIS connectors.

The proximity of I-95 to Melbourne International Airport is a primary stimulus for the study of an Ellis Road interchange and the upgrading of Ellis Road to a divided, four-lane facility.

This Project Design and Environment Study (PD&E) examines a direct, multi-lane Strategic Intermodal System connection from I-95 to Melbourne International Airport and Greyhound Bus Terminal. The improved Ellis Road will tie into St. Johns Heritage Parkway, a new four-lane arterial planned by Brevard County that begins at Malabar Road and ends at John Rodes Boulevard. A new interchange connecting Melbourne International Airport directly to I-95 will relieve Eau Gallie Boulevard / Sarno Road and US 192 as the SIS Connectors. The improvements to and the extension of Ellis Road will provide a direct connection between the interstate and the airport as well as mitigate capacity deficiencies at the existing I-95 interchanges at US 192 and Eau Gallie Boulevard / Sarno Road. Upon the improvements, Ellis Road will be designated as a "SIS Connector" for the Melbourne International Airport. Figure 1 displays the general location of the project.





**I-95 AT ELLIS ROAD
PROJECT DEVELOPMENT AND ENVIRONMENTAL STUDY**

PROJECT LOCATION MAP

**FIGURE
NO.**

1

As part of the Ellis Road at I-95 PD&E Study, this Utility Impact Assessment Report evaluates the existing utilities throughout the project corridor and the potential impact involved with the Preferred Alternative. Ultimately, an approximate relocation cost is computed based on unit costs provided by each utility.

2.0 Existing Utilities

2.1 General

The intent of this Report is to furnish all relevant information concerning the location, dimension and characteristics of major utilities found within this proposed project area. It is the responsibility of the PD&E team to evaluate and analyze all potential utility conflicts with roadway and existing structures. Recommended mitigations will be addressed on roadway and structure impacts to the existing utilities.

2.2 Utility Coordination

A Sunshine One Call was utilized identify utility companies and municipalities with facilities located along the study corridor. Each company or municipality identified was then contacted requesting specific information as to the nature of their facilities within the project limits. A request letter and project location map was transmitted to assist in the identification and documentation of facilities in the area and potential relocation costs. Table 1 lists the utility agencies/owners contacted including those that have been identified as having existing or proposed facilities within the project area.



Table 1 – Utility Contacts							
Type	Company	Name	Address	City	St	Zip	Phone
Natural Gas	Florida City Gas	Ron Muller	4180 S. US Hwy 1	Rockledge	FL	32955	321.638.3424
Natural Gas	Florida Gas Transmission - Melbourne	Joseph E. Sanchez	2405 Lucien Way, Suite 200	Maitland	FL	32751	407.838.7171
Electric Power	Florida Power & Light	Sue Williams	2900 Catherine St	Palatka	FL	32177	321.455.6125
Communication	FPL Fibernet LLC	Danny Haskett	9250 W. Flagler St	Miami	FL	33174	305.552.2931
Communications	Level 3 Communications LLC	Judy Henry	1025 El Dorado Blvd	Broomfield	CO	80021	720.888.2061
Water & Sanitation	City of Melbourne Utilities Administration	Craig Silverman	2881 Harper Rd	Melbourne	FL	32904	321.722.5376
Communications	Qwest Communications	Kim Jordan	700 W. Mineral Ave NE	Littleton	CO	80120	303.707.3675
Communications	ATT/Distribution	Pam Cote	146 Orange Pl	Maitland	FL	32751	407.539.0644
ITS	Traffic Control Devices	Bridgett Hackett	242 N. Westmonte Dr	Altamonte Springs	FL	32714	407.869.5300 Ext: 175
Communications	T W Telecom	Mike Garrison	485 N. Keller Rd, Suite 551	Maitland	FL	32751	407.215.6849
Communications	Bright House Networks, LLC	Mike Isom	720 Magnolia Ave	Melbourne	FL	32935	321.757.6451
Water & Sanitation	City of West Melbourne	Randy Ashley	1415 Henry Ave	West Melbourne	FL	32904	321.727.3710 Ext: 123

The following section discusses the facilities in the area, including the utility type, ownership, and approximate location of the existing utilities along the study corridor that have the potential to be impacted by the build alternatives.

2.3 Disposition of Existing Facilities

Florida City Gas has a 4-inch polyethylene (PE) gas main located within the existing right-of-way along Ellis Road between 5 and 6 feet south of the existing edge of pavement, beginning at John Rodes Boulevard, continuing east and terminating at Technology Drive. The approximate depth of the gas main varies between 30 and 60 inches. Figures 2B and 2C illustrate the location of gas lines. There are currently no planned improvements for these facilities.



Florida Gas Transmission (FGT) has two easements west of I-95, outside the limited access right-of-way. The western-most easement is located 210' west of the limited access right-of-way and a 26-inch steel pipeline. Immediately adjacent to the limited access right-of-way is a 30 foot north-south easement containing an 8-inch steel pipeline. Figure 2A illustrates the location of these pipelines. Based on initial coordination with FGT during the St. Johns Heritage Parkway final design project (Brevard County), the relocation costs for these facilities may be cost prohibitive; therefore, relocation may not be reasonable or feasible at this time. There are no currently planned improvements for these facilities.

Florida Power & Light (FPL) has both overhead and underground facilities located on the north and south sides of the study corridor within the County's right-of-way. The overhead facilities are classified as distribution feeder poles and begin just west of John Rodes Boulevard and extend to Wickham Road. The height of these poles varies between 33 and 43 feet.

The underground facilities are primary conductor pad mounted transformer lines encased in PVC piping. These facilities are located within existing County right-of-way and on private property (residences and businesses) and require a minimum depth of 36 inches. These facilities are located south of the Lamplighter Mobile Home Park and again on the south side of Ellis Road beginning just west of West Drive. Figures 2A, B, C, and D illustrate the utility locations. There are currently no planned improvements for these facilities.

Florida Power & Light (FPL) Fibernet has overhead fiber optic facilities located within a 110' and 100' easements adjacent to the western limited access right-of-way of I-95. The western-most 100' easement accommodates 7.6 kv distribution on single poles. The 110' easement, which is immediately adjacent to the limited access right-of-way, accommodates 240 kv transmission lines via dual poles.

Overhead fiber optic facilities are also located at the southwest quadrant of John Rodes Boulevard and Ellis Road, continuing east along the south side of Ellis Road to a point opposite East Drive where the facilities travel underground into an FPL Service Center.



These facilities are located underground from the FPL Service Center to a point on the south side of Ellis Road and just east of East Drive, and then cross Ellis Road aboveground and continue north along the east side of East Drive.

Additional facilities are located underground from the FPL Service Center to a point on the south side of Ellis Road just east of Greenboro Drive. The underground optic lines transition to overhead facilities and proceed along the north side of Ellis Road to the northeast corner of Lake Ibis Drive. At that point, the facilities turn south, cross Ellis Road at the south side of Industrial Road, where it continues eastward and returns underground to Wickham Road. This underground segment then turns south along the west side of Wickham Road and crosses aboveground at Wickham Road to the east along the south side of NASA Boulevard.

The overhead fiber optics facilities vary in height throughout the corridor; the depths of the underground facilities vary between 36 and 48 inches. All facilities are located within existing County and FDOT right-of-way. Figures 2A, B, C, and D illustrate the locations of the utilities. There are currently no planned improvements for facilities in the area.

Level 3 Communications has fiber optic cables located on the south side of Ellis Road beginning at Wickham Road and continuing west to Lake Ibis Lane, at which point they cross to the north side of the corridor. These facilities then extend west to East Drive, where they travel north out of the study area. Figure 2D illustrates the location of the utility. There are currently no planned improvements for these facilities and per mile relocation costs have not been made available. All facilities are located within County right-of-way.

The **City of Melbourne** has a 30-inch water main within the existing County right-of-way along the north side of Ellis Road beginning at Wickham Road, continuing west to a point just west of Technology Drive. The water main then travels in a northwesterly direction out of the Ellis Road Corridor. Additionally, a 20-inch water main is present within the existing right-of-way on the west side of John Rodes Boulevard. A 6-inch force main is located on the east side of John Rodes Boulevard. The approximate depth of the 30-inch



water main and 6-inch force main vary between 3 and 5 feet.

Master meters are present in the following locations: southeast quadrant of Ellis Road and John Rodes Boulevard, northeast quadrant of Ellis Road and John Rodes Boulevard and north of Ellis Road on the west side of Lake Ibis Drive. Figures 2B, C, and D illustrate the location of these utilities. There are currently no planned improvements for facilities in the area.



Gas Meters at John Rodes Blvd

Qwest Communications has a 2-inch high-density polyethylene (HDPE) fiber optic line located under Wickham Road beginning at NASA Boulevard, continuing north, and terminating in the area of Tropic Drive. These facilities are located within the existing County right-of-way and are approximately 6 to 12 feet in depth. However no adjustments to these facilities are anticipated. Figure 2D illustrates the location of the utility. There are currently no planned improvements for these facilities.

AT&T has aerial and buried facilities on the north and south sides of Ellis Road from Wickham Road west to John Rodes Boulevard. These facilities consist of copper cables ranging in size from 50 to 1200 pair and various sizes of fiber cables. These copper cables range from 1-inch to 3.5-inch in diameter and range from approximately 24 to 36 inches in depth. There is also a duct run from Wickham Road extending west to Stan Drive that contains four to six, 4-inch ducts approximately 36 to 48 inches in depth. Fiber cables in this area range from 0.5 to 2 inches in diameter and are approximately 30 to 36 inches in depth. Figures 2B, C, and D illustrate the location of the utilities. There are no immediate planned improvements for these facilities.

Traffic Control Devices' facilities are owned and operated by the FDOT and include traffic signals and signal controllers. An initial request for information was distributed in March 2011. There have been additional requests for information; however, no response or follow-up information has been received.



Bright House Networks has underground fiber optic and coaxial facilities along the west side John Rodes Boulevard within the existing right-of-way. These facilities cross John Rodes Boulevard and continue along the east side of John Rodes Boulevard and continue north out of the study area. Additionally, the underground facilities continue east on the south side of Ellis Road and are also located within existing right-of-way. A segment of these facilities cross underground just east of Stan Drive and then again just east of East Drive at which point they both become overhead facilities. The underground facilities continue northward and cross Ellis Road east and west of Greenboro Drive. These facilities continue on the north side of Ellis Road from Greenboro Drive to just west of Wickham Road.

Overhead fiber optic and coaxial cables are also located within the existing right-of-way along various sections of the corridor beginning approximately 1000 feet east of John Rodes Boulevard. Additional facilities cross Ellis Road just west of Stan Drive and again just west of Greenboro Drive. The overhead lines continue on the north side of Ellis Road between Greenboro Drive and Technology Drive and on the south side of the road between Greenboro Drive and Technology Drive. Figures 2B and 2C illustrate the location of these utilities. There are no immediate planned improvements for these facilities.

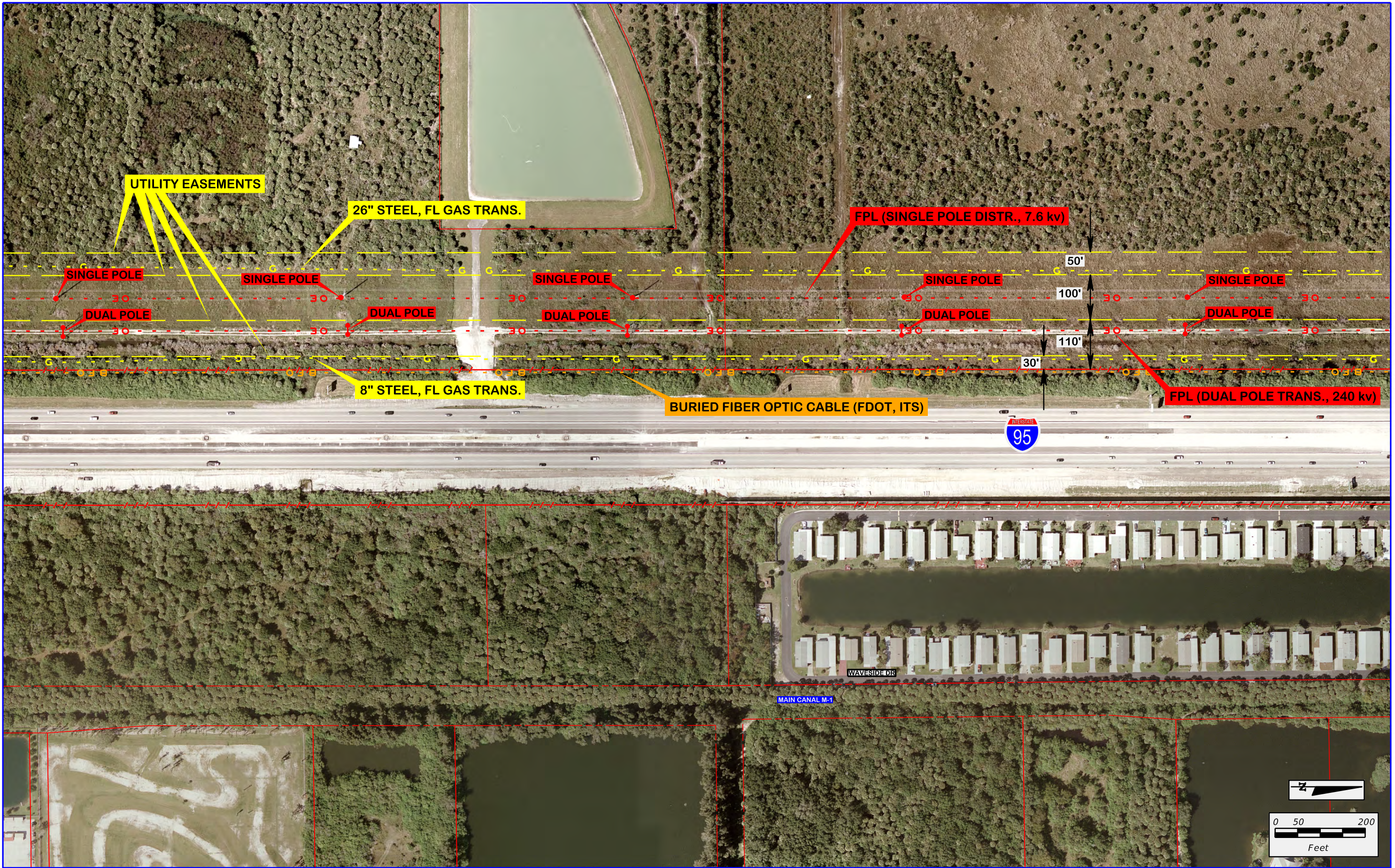
The City of West Melbourne has a master meter located in the southwest quadrant of the intersection at Ellis Road and John Rodes Boulevard. An 8-inch waterline extends from the master meter and crosses John Rodes Boulevard on the south side of Ellis Road and terminates in the vicinity of the United Service Source Corporation. An 8-inch waterline is also located along the north side of Ellis Road beginning at Technology Drive and extending to Wickham Road. This waterline crosses Ellis Road in the areas of Distribution Drive and Technology Drive. An additional master meter is located in the northeast quadrant of Ellis Road and Lake Ibis Lane.

Additionally, a 4-inch force main is located on the south side of Ellis Road beginning in the vicinity of the United Service Source Corporation and terminates at Greenboro Drive. Figures 2A, B, C, and D illustrate the location of the utilities. There are currently no



planned improvements or upgrades for facilities in the area and all utilities are located within existing County right-of-way.

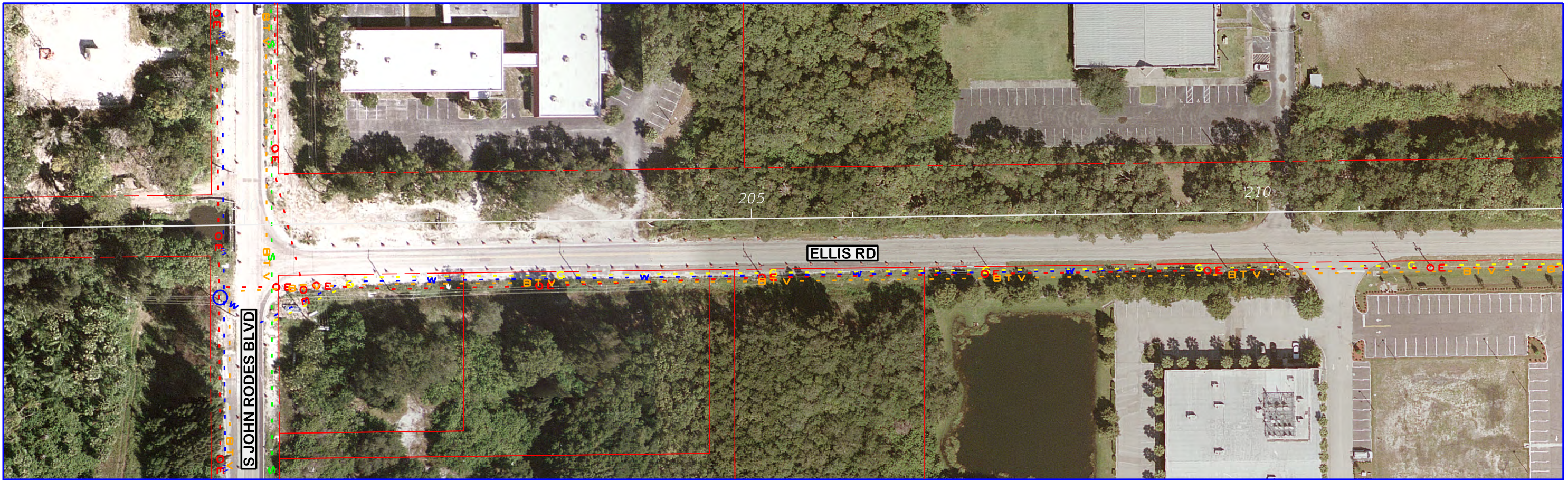




I-95 AT ELLIS ROAD
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

	EXISTING R/W		SANITARY WATER		OVERHEAD ELECTRIC
	PROPERTY LINE		BURIED FIBER OPTIC		BURIED TV
			GAS		OVERHEAD TV

EXISTING UTILITIES



I-95 AT ELLIS ROAD
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

EXISTING R/W	SANITARY WATER	OVERHEAD ELECTRIC
PROPERTY LINE	BURIED FIBER OPTIC	BURIED TV
	GAS	OVERHEAD TV

EXISTING UTILITIES

FIGURE NO.
2.2.8B

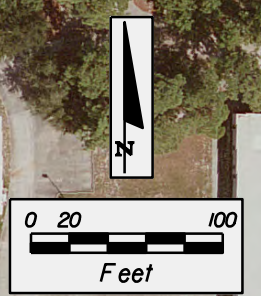


**I-95 AT ELLIS ROAD
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY**

- - - - - EXISTING R/W
- - - - - PROPERTY LINE
- - - - - SANITARY WATER
- - - - - BURIED FIBER OPTIC
- - - - - GAS
- - - - - OVERHEAD ELECTRIC
- - - - - BURIED TV
- - - - - OVERHEAD TV









EXISTING UTILITIES

FIGURE NO.
2.2.8C





**I-95 AT ELLIS ROAD
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY**

	EXISTING R/W		SANITARY WATER		OVERHEAD ELECTRIC
	PROPERTY LINE		BURIED FIBER OPTIC		BURIED TV
			GAS		OVERHEAD TV

EXISTING UTILITIES

FIGURE NO.
2.2.8D

3.0 Utility Impacts and Costs

3.1 Utility Impacts

The figures in Section 2 showed the existing utilities along I-95 and Ellis Road that were identified through field review and coordination with utility providers. Due to the ramp configuration adapted from the Value Engineering Study, major utility impacts west of I-95 are avoided, as the west-side ramps are located within the existing limited access right-of-way. The crossing of Ellis Road and its tie-in into St. Johns Heritage Parkway will directly impact single and FPL overhead dual-poles. The proposed roadway will also require fill atop the 8-inch and 26-inch gas mains owned by Florida Gas Transmission. There has been considerable discussion regarding the need to span these gas mains. The next phase will require thorough coordination with Florida Gas Transmission. Currently, the Preferred Alternative assumes that these two gas mains will not require spanning.

Along Ellis Road, all of the existing utilities are assumed to be impacted between John Rodes Boulevard and Wickham Road. These utilities are as follows:

- Florida City Gas
- Florida Power and Light (electric and fiber optic)
- Level 3 Communications
- City of Melbourne
- AT&T
- Bright House Networks
- City of West Melbourne



3.2 Utility Relocation Cost Estimate

Florida City Gas

The average per linear foot cost of relocating this utility is estimated at approximately \$33.00, including the removal of the existing 4-inch PE gas main. There are currently no planned improvements for these facilities.

Florida Gas Transmission (FGT)

Based on initial coordination with FGT during the St. Johns Heritage Parkway final design project (Brevard County), the relocation costs for these facilities may be cost prohibitive; therefore, relocation may not be reasonable or feasible at this time. There are no currently planned improvements for these facilities.

Florida Power & Light (FPL)

The average per linear foot cost of relocating the underground utilities is \$75 and approximately \$8,000 per Distribution Feeder Pole. There are currently no planned improvements for these facilities.

Florida Power & Light (FPL) Fibernet

The approximate relocation cost of the facilities, including the costs to relocate the facilities within the transmission corridor along the west side of I-95, is estimated at \$27.00 per LF. There are currently no planned improvements for facilities in the area.

City of Melbourne

Estimated cost to relocate the Ellis Road facilities are approximately \$25.00 and \$23.00 per linear foot for 30-inch and 6-inch PVC water mains respectively, and \$13,000 per master meter. There are no immediate planned improvements for these facilities.

AT&T

The estimated cost to replace these facilities on Ellis Road, if additional right-of-way is obtained, will be in excess of \$285.00 per LF. There are no immediate planned improvements for these facilities.



Bright House Networks

The estimated cost to relocate the Ellis Road facilities is approximately \$12.50 per LF. There are no immediate planned improvements for these facilities.

City of West Melbourne

Estimated cost to relocate the Ellis Road facilities are approximately \$25.00 and \$15.00 per linear foot for 4-inch and 8-inch water main respectively. There are no immediate planned improvements for these facilities.

This assessment of potential utility impacts and associated relocation costs is based on a planning-level evaluation. The data provided by utility owners that responded to requests for information varies greatly in level of detail regarding both specific location and cost of the facilities. Therefore this assessment has required interpretation of the data provided in order to develop a coherent approximation of impacts and costs. The intent of this PD&E-level evaluation is to identify general utility relocation costs that are within an order-of-magnitude of those that would result from a more-detailed evaluation to be conducted as part of the Final Design process.

Table 2 presents all the relevant utilities, their general location, the impacted segments, and the approximate cost for relocation of the facilities.



Table 2 - Utility Relocation Cost Estimate

Utility Owner/Agency	Utility Type	Size	General Location	Impacted Segment	Required unit relocation (per LF or unit)	Cost/LF or Unit	Estimated Relocation Cost	Conflict Cause	Resulting Impact	Permit/Easement
Florida City Gas	gas	4"	John Rodes Blvd to Technology Dr (east)	Stan Dr to Technology Dr (east)	4250	\$33.00	\$140,250.00	Road Widening	Relocate	Y
Florida Power & Light (FPL)	Distribution Feeder Poles	33-43'	John Rodes Blvd to Wickham Rd	Stan Dr to Wickham Rd	65	\$8,000.00	\$520,000.00	Road Widening	Relocate	Y
	Underground Transformer Lines	N/A	south side of Ellis Rd from Stan Dr to Greenboro Dr	Stan Dr to Greenboro Dr	2000	\$75.00	\$150,000.00	Road Widening	Relocate	Y
	Fibernet	N/A	200' west I-95 and South John Rodes Blvd to East Dr.	Stan Dr to East Dr	1500	\$27.00	\$40,500.00	Road Widening	Relocate	Y
Level 3 Communications	Underground Fiber Optic Cable	N/A	Lake Ibis Ln to Wickham Rd	Lake Ibis Ln to Wickham Rd	1000	\$0.00	\$0.00	Road Widening	Relocate	Y
City of Melbourne	water	30"	North side of Ellis Rd at Technology Dr to Wickham Rd	Technology Dr to Wickham Rd	4250	\$25.00	\$106,250.00	Road Widening	Relocate	Y
	water	20"	West Side of South John Rodes Blvd	Not Impacted	N/A	N/A	N/A	N/A	N/A	N/A
	water	6"	East Side South John Rodes Blvd	Not Impacted	N/A	N/A	N/A	N/A	N/A	N/A
	Master meters	N/A	Southeast quadrant of Ellis Rd/John Rodes Blvd; northeast quadrant of Ellis Rd/South John Rodes Blvd; north of Ellis Rd and west of Lake Ibis Ln	Lake Ibis Ln meter	1	\$13,000.00	\$13,000.00	Road Widening	Relocate	Unknown
Qwest Communications	Proposed high-density polyethylene (HDPE)	2"	Under Wickham Rd from W. Nasa Blvd to Tropic Dr.	Not Impacted	N/A	N/A	N/A	N/A	N/A	N/A
AT&T	telephone	N/A	Aerial and Buried North and South of Ellis Rd from Wickham Rd to John Rodes Blvd	Stan Dr to Wickham Rd	7000	\$285.00	\$1,995,000.00	Road Widening	Relocate	N
Bright House Networks	Underground and overhead fiber optic and coaxial	N/A	south and north side of Ellis	Stan Dr to Wickham Rd	7000	\$12.50	\$87,500.00	Road Widening	Relocate	Y
City of West Melbourne	water	4"	south side of Ellis Rd from United Service Source Corp to Greenboro Dr.	Stan Dr to Greenboro Dr	2000	\$33.00	\$66,000.00	Road Widening	Relocate	Y
	water	8"	south side of Ellis from John Rodes Blvd to United Service Source Corp and north side of Ellis Rd from Technology Dr to Wickham Rd	Technology Dr to Wickham Rd	5000	\$15.00	\$75,000.00	Road Widening	Relocate	Y
Total Estimated Relocation Cost							\$3,193,500.00			

4.0 Mitigation Recommendations

Most utility companies have the capability to adjust their services without causing major inconveniences to the customers. As a result, mitigation measures to the maximum extent feasible will include the following:

- Provide advanced coordination during design and construction phases
- Maintaining utility connection in temporary location;
- Minimizing the time without service,
- Installing alternative or new service before disconnecting the existing services; and
- Allowing service disruption only during periods of non-usage or minimum usage.

Utility impacts resulting from the proposed widening and relocation of Ellis Road will impact the following utilities:

- Florida City Gas
- Florida Power and Light (electric and fiber optic)
- Level 3 Communications
- City of Melbourne
- AT&T
- Bright House Networks
- City of West Melbourne

Coordination with the utility agencies will be required through final design and construction stages.

