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A REGIONAL TRANSPORTATION PARTNERSHIP

West Orange Trail Extension Study

Corridor Analysis Technical Memorandum

West Orange Trail

Rock Springs Road

Lester Road to Kelly Park Road

Ponkan Road

Wolf Lake Elementary and Middle Schools to Rock Springs Road

Welch Road

Rock Springs Road to Wekiwa Springs State Park Entrance

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1. Introduction

MetroPlan Orlando is conducting a Trail Extension study for the West Orange Trail (Phase 4) in Apopka, Florida. The Orange County Trails Master Plan identifies a gap in the regional trail network between the northern terminus of the existing West Orange Trail (at the intersection of Rock Springs Road with Lester Road) and the southern terminus of the Wekiva Trail (at the interchange of SR 429 with Mount Plymouth Road). The proposed West Orange Trail (Phase 4) extension will run along Rock Springs Road to the intersection with Kelly Park Road where it will meet the proposed Wekiva Trail extension, thus closing the gap in the trail network.

This trail study covers a total corridor length of approximately 8.29 miles along the following three corridors:

- Rock Springs Road
  - From Lester Road (the existing termination of the West Orange Trail) to Kelly Park Road, tying into the proposed Wekiva Trail.
  - Approximately 3.01 miles
- Welch Road and Wekiwa Springs Road
  - From the existing West Orange Trail at Rock Springs Road to the Seminole County Wekiva River Blueway Trail at the Wekiwa State Park entrance, located at Wisteria Street and Wekiwa Springs Road.
  - Approximately 3.01 miles
- Ponkan Road
  - From west of Jason Dwelley Parkway to connect Wolf Lake Elementary and Middle Schools, as well as the City of Apopka's Northwest Recreation Complex to the proposed West Orange Trail (Phase 4) at Rock Springs Road
  - Approximately 2.27 miles

Rock Springs Road, Welch Road, and Ponkan Road are all urban major collectors serving the surrounding residential and commercial properties. They provide access to US 441 to the south and both US 441 and SR 429 to the west.

The West Orange Trail is an approximately 22-mile-long pedestrian/bike trail running from Killarney Station at the intersection of SR 50 with Lake Boulevard in Winter Garden, around the east side of Lake Apopka into Clarcona Road, then turning north to run along Clarcona Road, Old Apopka Road, Forest Avenue, and Park Avenue/Rock Springs Road to where it terminates at the intersection of Rock Springs Road with Lester Road. Within the study area, the West Orange Trail runs along the east side of Rock Springs Road from south of Welch Road to where it terminates at Lester Road.

The West Orange Trail is one of the most popular trails in the Orlando metropolitan area due to its length; at its southern end the trail connects to the South Lake and Lake Minneola Scenic Trail as well as the Hancock Trail, increasing the effective length to approximately 41.5 miles. The existing and projected growth of the population living along or near the West Orange Trail, the trail's popularity, and the projected growth of residential properties in the area surrounding the study area indicate the need to extend the trail at its northern end. Extending the West Orange Trail will also serve to improve the ped/bike transportation network in the City of Apopka.

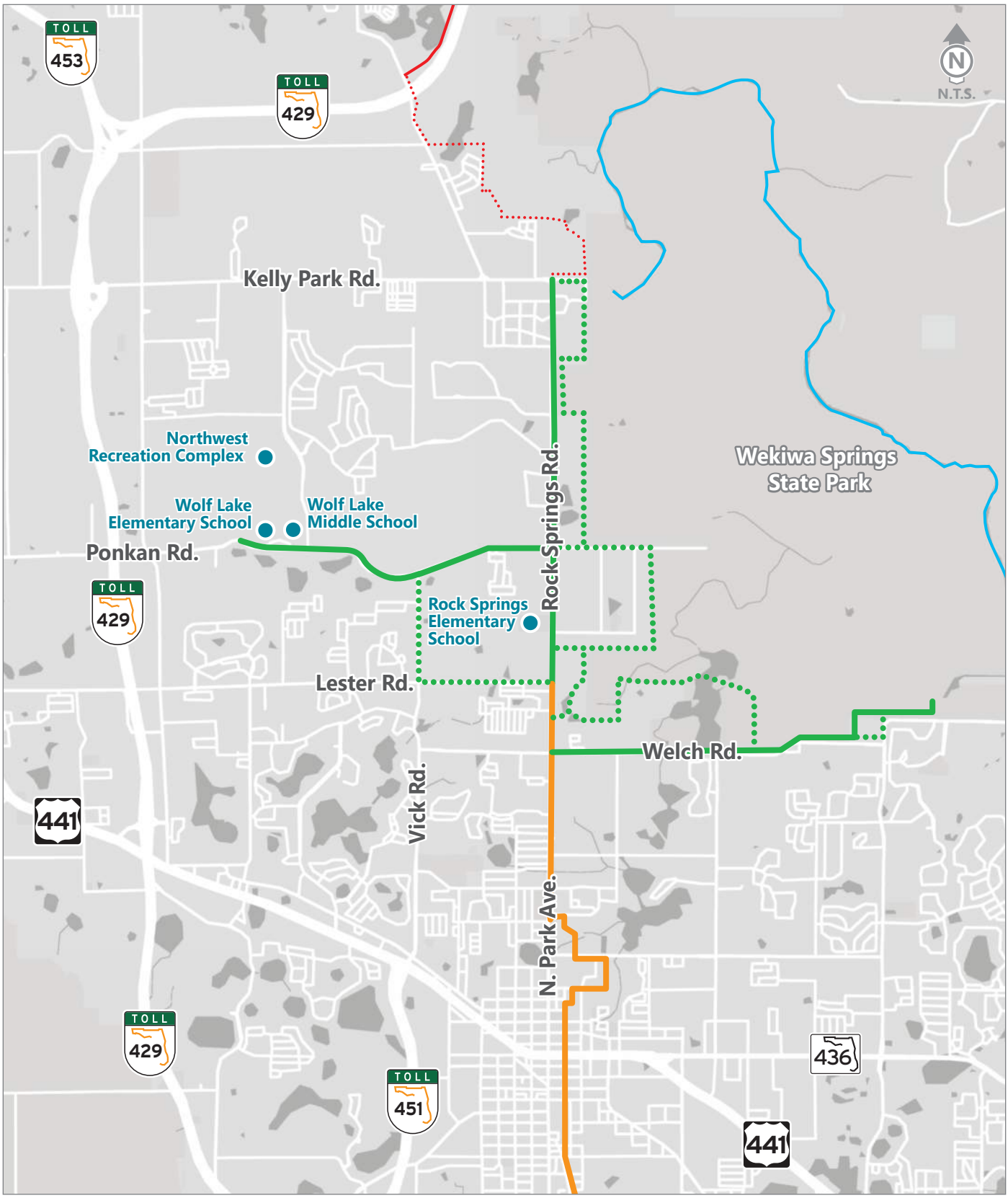
The study area location map is shown in Figure 1. As can be seen in the map, there are several alternative routes being considered for the trail along Rock Springs Road; these alternatives were

developed as part of the Orange County Trails Master Plan (2021). Each of the alternatives will be considered in this study, and additional route alternatives will be identified.

1.1. Purpose and Need

The purpose of this study is to evaluate the feasibility of extending the West Orange Trail to the proposed Wekiva Trail while providing connections to the Wekiva River Blueway Trail and Wolf Lake Elementary and Middle Schools, as well as the City of Apopka's Northwest Recreation Complex. This study will determine and evaluate potential routes for the trail within the study area. The primary extension is proposed along Rock Springs Road with spurs along Welch Road and Ponkan Road. Based on the findings of the analysis, recommendations will be made for the optimal alignment of the trail.

Source Google Maps



- West Orange Trail - Phase 4
- West Orange Trail - Phase 4 Alternative
- Existing West Orange Trail
- Wekiva River Blueway Trail
- Proposed Wekiva Trail
- Existing Wekiva Trail

Figure 1

West Orange Trail Phase 4 Feasibility Study Location Map

2. Existing Road Characteristics

Within the study area limits, Rock Springs Road from Lester Road to Kelly Park Road is a four-lane divided urban major collector with a two-way left turn lane (TWLTL). Welch Road from Rock Springs Road to Wekiwa Springs Road is a two-lane urban major collector; from Rock Springs Road to Cedar Glen Drive it is divided with a TWLTL, from Cedar Glen Drive to Wekiwa Springs Road it is undivided. Ponkan Road from west of Jason Dwelley Parkway to Rock Springs Road is a two-lane undivided urban major collector.

The existing roadway characteristics that are relevant to this study are shown in Table 1 through Table 3.

Table 1 | Roadway Characteristics of Rock Springs Road Corridor

Characteristic	Observation
Roadway Maintaining Agency	City of Apopka – Lester Road to Disalvo Place and Spring Hollow Boulevard to Kentucky Blue Circle Orange County – Disalvo Place to Spring Hollow Boulevard and Kentucky Blue Circle to Kelly Park Road
Functional Classification	Urban Major Collector
Level of Service (LOS) Target	LOS E
Posted Speed Limit	45 mph
Jurisdiction	Orange County
Signalized Study Intersections from south to north	Lester Road Ponkan Road Rock Ridge Boulevard Kelly Park Road
Land Uses	Residential and commercial
Lane Width	11 feet
Median	Two-Way Left Turn Lane, 14 feet
Sidewalks	5-foot-wide concrete sidewalk on both sides of the roadway
Shared Use Path and Bike Lanes	Bicycle lanes on both sides of the road from Ponkan Road to Kelly Park Road
Access Management Type	Non-Restrictive

Table 2| Roadway Characteristics of Welch Road Corridor

Characteristic	Observation
Roadway Maintaining Agency	City of Apopka – Rock Springs Road to west of Northfield Drive Orange County – West of Northfield Drive to Wekiwa Springs Road
Functional Classification	Urban Major Collector
Level of Service (LOS) Target	LOS E
Posted Speed Limit	45 mph
Jurisdiction	Orange County
Signalized Study Intersections from west to east	Rock Springs Road Thompson Road Wekiwa Springs Road
Land Uses	Residential
Lane Width	11 feet
Median	Rock Springs Road to Cedar Glen Drive: Two-Way Left Turn Lane, 14 feet Cedar Geln Drive to Wekiwa Springs Road: None
Sidewalks	5-foot-wide concrete sidewalk on north side of the roadway: Rock Springs Road to Cedar Glen Drive 5-foot-wide concrete sidewalk on south side of the roadway: Rock Springs Road to east end of Wekiva Plaza Wellsprings Residence entrance to Wekiwa Springs Road
Shared Use Path and Bike Lanes	4-foot-wide paved shoulders from Cedar Glen Drive to Thompson Road
Access Management Type	Non-Restrictive

Table 3| Roadway Characteristics of Ponkan Road Corridor

Characteristic	Observation
Roadway Maintaining Agency	City of Apopka
Functional Classification	Urban Major Collector
Level of Service (LOS) Target	LOS E
Posted Speed Limit	35 mph
Jurisdiction	Orange County
Signalized Study Intersections from west to east	Jason Dwelley Parkway Vick Road Rock Springs Road
Land Uses	Residential and vacant
Lane Width	11 feet
Median	None
Sidewalks	5-foot-wide concrete sidewalk on north side of the roadway: West of Jason Dwelley Parkway to Vick Road 5-foot-wide concrete sidewalk on south side of the roadway: Vick Road to Rock Springs Road
Shared Use Path and Bike Lanes	None
Access Management Type	Non-Restrictive

Intersections

The following signalized intersections are present in the study area:

- Rock Springs Road at Lester Road
- Rock Springs Road at Ponkan Road
- Rock Springs Road at Rock Ridge Boulevard
- Rock Springs Road at Kelly Park Road
- Welch Road at Rock Springs Road
- Welch Road at Thompson Road
- Welch Road at Wekiwa Springs Road
- Ponkan Road at Jason Dwelley Parkway
- Ponkan Road at Vick Road

Lighting

On Rock Springs Road from Lester Road to Kelly Park Road, lighting is present on both sides of the roadway. All of the lighting fixtures along the corridor are LED cantilever lights mounted to either pre-existing utility poles (on the west side of the roadway), or to specially erected lighting poles (on the east side of the roadway) and spaced at regular intervals of approximately 150 feet. The intersection of Rock Springs Road with Ponkan Road has lights present at each corner. The intersections of Rock Springs Road with Lester Road, Rock Ridge Boulevard, and Kelly Park Road do not have any additional lighting.

On Welch Road, consistent lighting is only present along the 0.5 mile long segment immediately west of Wekiwa Springs Road. Along this segment, lighting is present on the south side of the roadway. The lighting fixtures are cobra head cantilever lights mounted to pre-existing utility poles and spaced at regular intervals of approximately 200 feet. Individual lights are present at the following locations along the corridor:

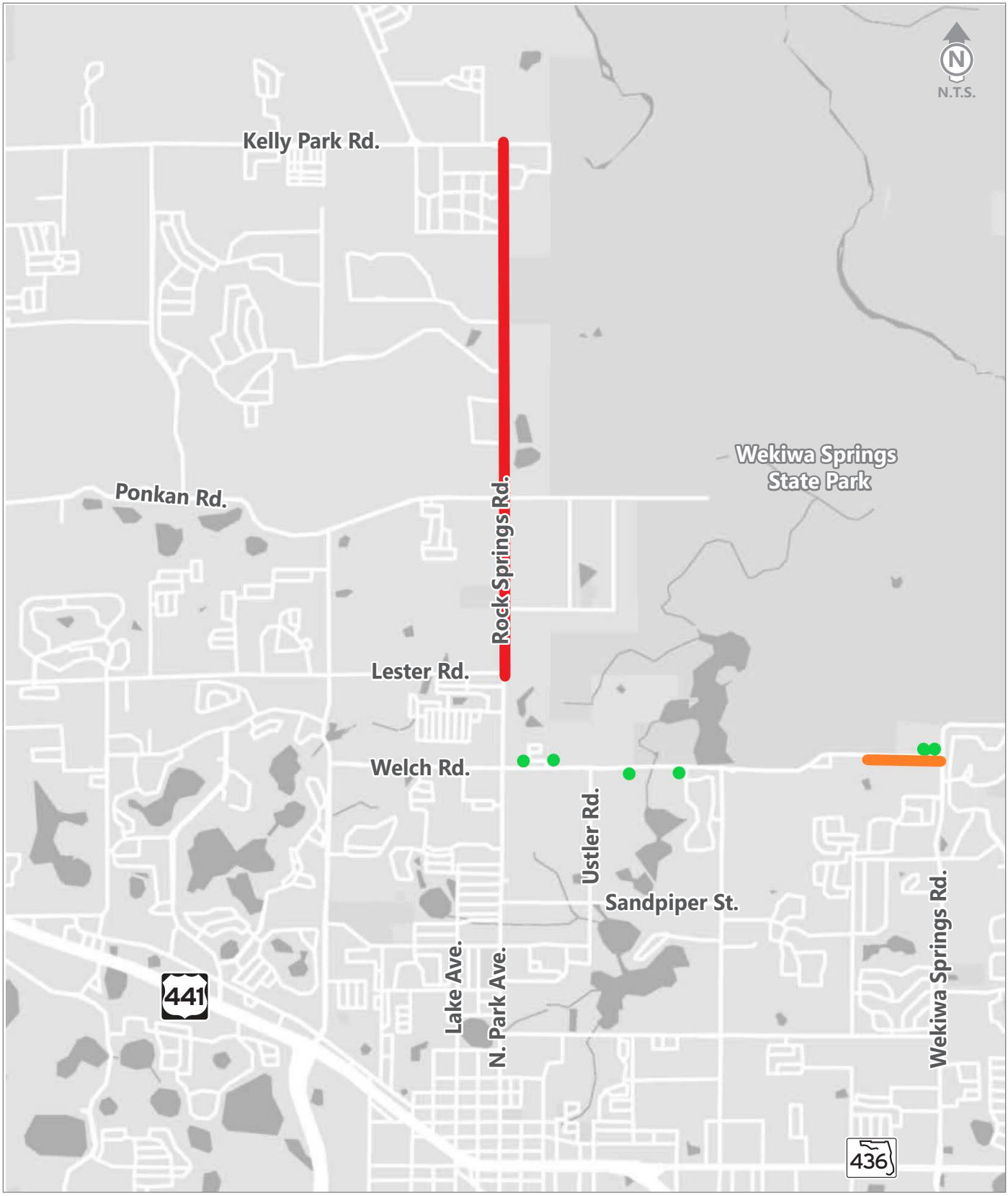
- Just east of Wekiva Plaza: north side of road, cobra head mounted to utility pole
- Just east of Creekline Lane: north side of road, cobra head mounted to utility pole
- Wellsprings Residence entrance: south side of road, cantilever cobra head mounted to utility pole
- Crown Isle Circle: south side of road, cantilever cobra head mounted to utility pole
- Deer Lake Circle: south side of road, cantilever cobra head mounted to utility pole
- 300 feet west of Wekiwa Springs Road: north side of road, cantilever cobra head mounted to utility pole
- 100 feet west of Wekiwa Springs Road: north side of road, cantilever cobra head mounted to utility pole

The intersection of Welch Road with Rock Springs Road has shoebox light fixtures mounted to the mast arm support poles on all four corners. The intersections of Welch Road with Thompson Road and Wekiwa Springs Road do not have any additional lighting.

No lighting is present along Ponkan Road within the study area.

The existing lighting locations are illustrated in Figure 2.

Source Google Maps



Existing Lighting on Both Sides of Corridor

Existing Lighting on South Side of Corridor

Existing Individual Lighting

Figure 2

West Orange Trail Phase 4 Feasibility Study
Existing Lighting Location Map

Railroad Crossings

There are no railroad crossings within the study area, nor are there any railroad tracks located within one mile of the study area.

2.1. Land Use and Context Classification

Existing Land Use

The existing land uses within 300 feet of the study area are summarized in Table 4. And illustrated in Figure 3.

Table 4 | Generalized Existing Land Use

General Land Use	Count	Acres (within 300')	Percent Total
Acreage not Zoned for Agriculture	14	25.12	5.4%
Agricultural	9	103.02	22.0%
Industrial	4	7.09	1.5%
Institutional	5	7.62	1.6%
Other	1	1.30	0.3%
Public / Semi-Public	13	61.61	13.2%
Recreation	1	20.20	4.3%
Residential	50	203.13	43.4%
Retail / Office	10	15.34	3.3%
Right-of-Way	1	0.17	0.0%
Vacant Nonresidential	8	8.20	1.7%
Vacant Residential	20	15.37	3.3%
Total	136	468.17	100.0%

Source: GeoPlan Florida's Generalized Land Use Data for Florida (2018)

Future Land Use

The projected future land uses within 300 feet of the study area are summarized in Table 5 and illustrated in Figure 4.

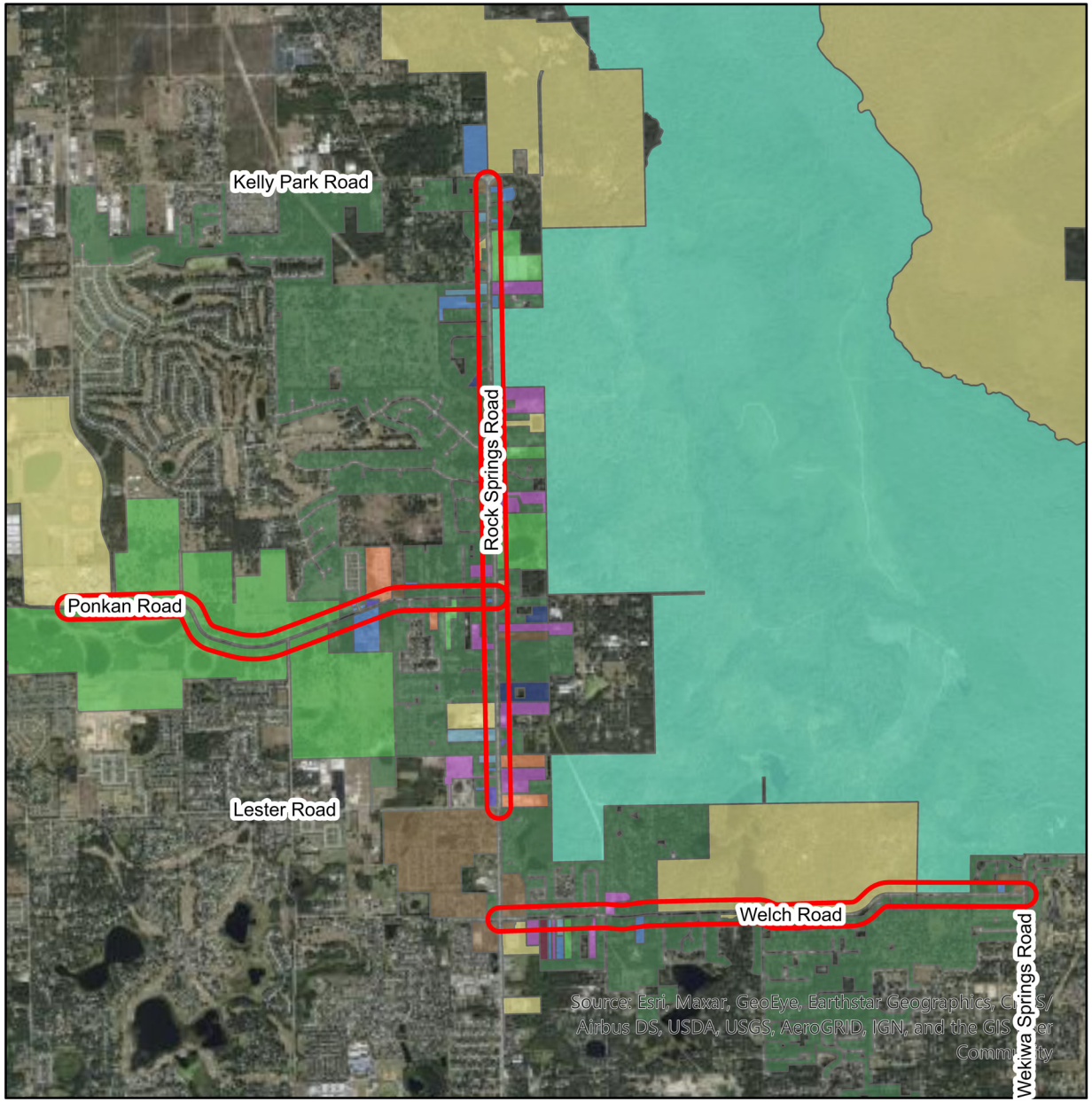
Table 5 | Future Land Use

Future Land Use	Count	Acres (within 300')	Percent Total
Agricultural	1	1.72	0.4%
Commercial	8	9.29	2.0%
Institutional	4	32.14	6.9%
Mixed Use	3	26.08	5.6%
Office	1	0.26	0.1%
Parks/Recreation	2	37.87	8.1%
Protected	2	20.31	4.3%
Residential	4	9.93	2.1%
Residential - Low-Medium Density	1	0.98	0.2%
Residential - Low Density	77	324.03	69.4%
Water	1	3.99	0.9%
Total	104	466.60	100%

Source: Orange County, City of Apopka

The discrepancy in the total acreage for existing and future land uses is due to slight differences in mapping the land uses by the different agencies.

Comparing the land uses shown in Table 4 and Table 5, the future development in the area of the study area can primarily be expected to be residential, as it only makes up 43.4% of the existing land use surrounding the study area but makes up 71.7% of the projected future land use. Agricultural, Parks/Recreational, and Protected land uses are expected to decrease significantly from 26.3% to 12.9%. Public/Semi-Public and Institutional land uses are also expected to decrease significantly from 13.2% to 6.9%, while Commercial and Retail/Office land uses are expected to decrease a little from 3.3% to 2.1%.



Existing Land Uses

- Acreage Not Zoned for Agriculture
- Agricultural
- Industrial
- Institutional
- Other
- Parcels with No Values
- Public Semi-Public
- Recreation
- Residential
- Retail/Office
- ROW
- Vacant Nonresidential
- Vacant Residential

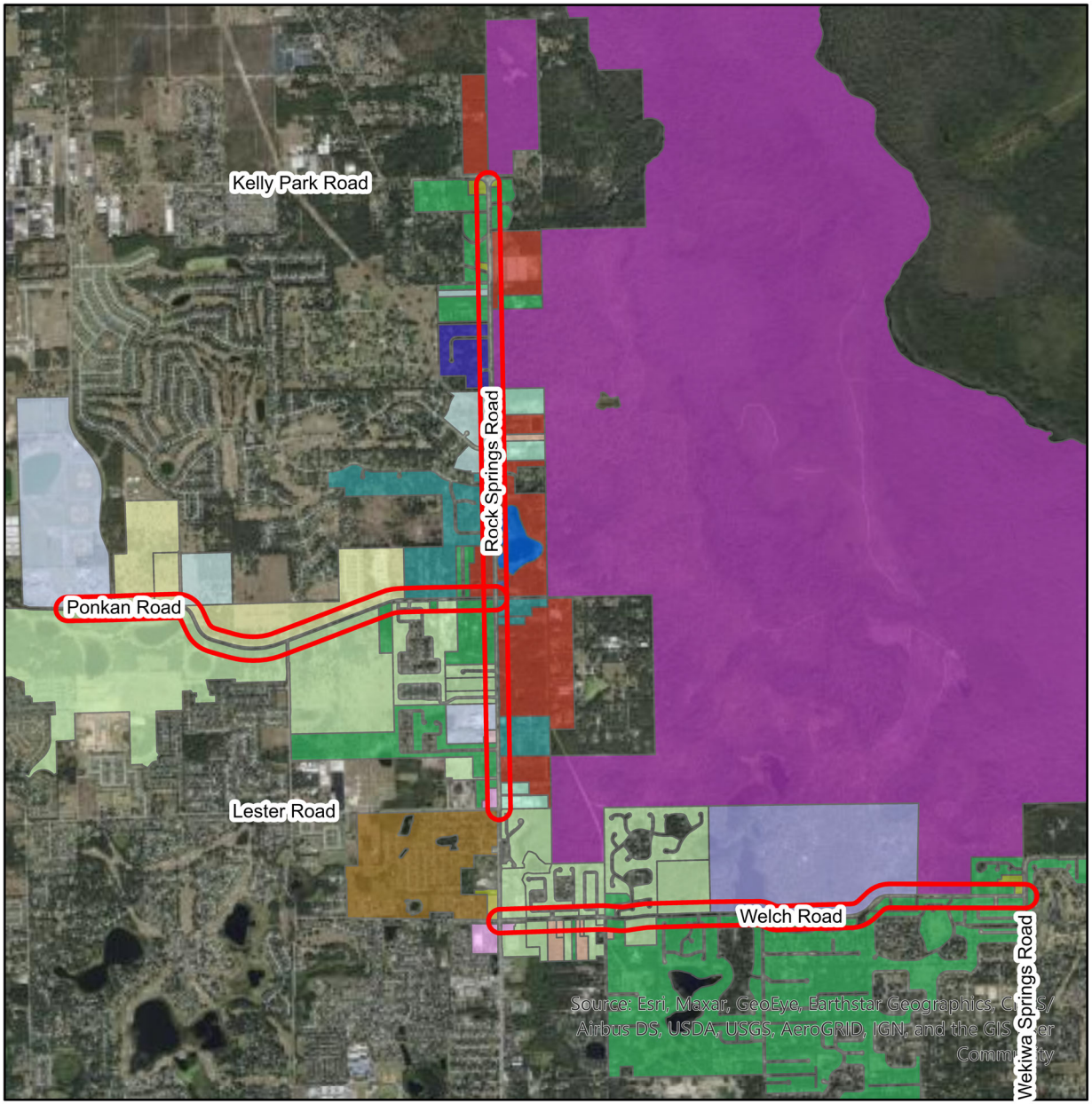
- 300 ft Buffer Area

N

0 2,000 4,000 8,000 Feet

Figure 3

West Orange Trail Phase 4
Feasibility Study
Existing Land Uses



Orange County Future Land Uses

- Commercial
- Industrial
- Low-Medium Density Residential
- Protected
- Water
- Low Density Residential 1/2
- Low Density Residential 1/1
- Low Density Residential 1/5
- Low Density Residential

City of Apopka Future Land Uses

- Agricultural
- Commercial
- Institutional FLU-IP
- Institutiional PU
- Mixed Use
- Office
- Parks/Recreation
- Residential
- Low Density Residential

- 300 ft Buffer Area

N

0 2,000 4,000 8,000 Feet

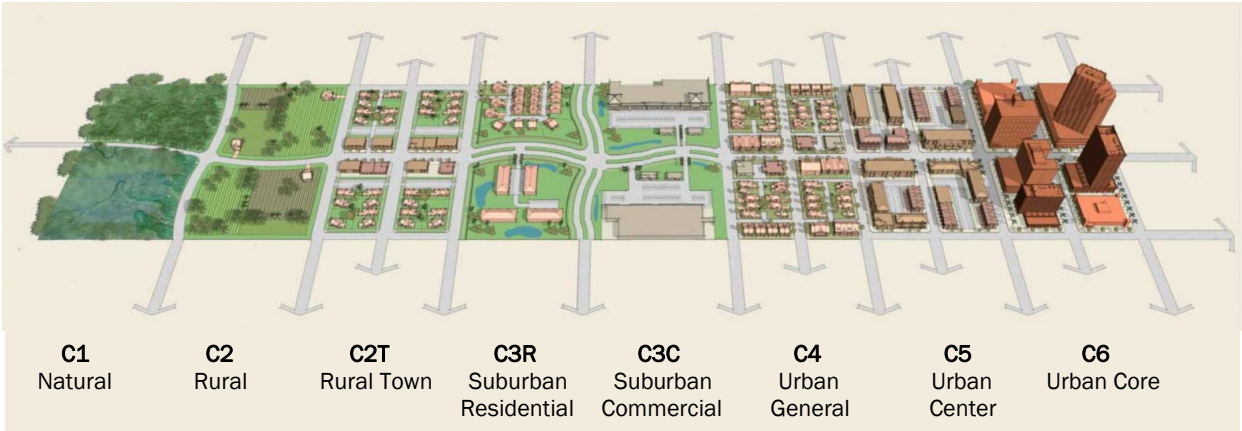
Figure 4

West Orange Trail Phase 4
Feasibility Study
Future Land Uses

Context Classification

The Florida Department of Transportation (FDOT) assigns context classifications to roadways based on their surrounding environments, ranging from Natural (C1) to Urban Core (C6). The full range of FDOT context classifications is illustrated in Figure 5. Rock Springs Road, Welch Road, and Ponkan Road within the study area do not have an officially assigned context class, but all three corridors have the characteristics correlating to context class C3R (Suburban Residential). The C3R classification is described as having mostly residential land uses with large blocks and a disconnected or sparse roadway network.

Figure 5| FDOT Context Classifications



Required design characteristics for the study area based on the C3R context classification are included in the FDOT Design Manual (FDM) Chapters 210, 222, 223, and 224. The key design characteristics related to this study are summarized in Table 6.

Regarding bicycle facilities, per FDM Section 223.2.3, a shared use path may be substituted for a bicycle lane when the roadway design speed is 35 mph or greater and all the following conditions are met:

- Context classification C1, C2, or C3,
- Separation can be maintained between bicycle and motorized traffic through intersections,
- Conflict points are minimal and mitigated.

Table 6| FDM Design Characteristics

Characteristic	Allowable Range		
Design Speed	35-55 mph		
Minimum Lane Width	Design Speed: 35 mph	10 feet	
	Design Speed: 40-45 mph	11 feet	
	Design Speed: 50-55 mph	12 feet	
Maximum Lane Width	14 feet		
Minimum Median Width	22 feet		
Shoulder Width	Without Shoulder Gutter	Outside	Full width: 10 feet Paved width: 5 feet
		Median	Full width: 8 feet Paved width: 0 feet
	With Shoulder Gutter	Outside	Full width: 15.5 feet Paved width: 8 feet
		Median	Full width: 13.5 feet Paved width: 6 feet
Standard Sidewalk Width	6 feet (may be increased up to 8 feet when the demand is demonstrated)		
Standard Shared Use Path Width	12 feet • A minimum width of 10 feet is allowable where there is limited ROW • Short 8-foot-wide sections may be used in constrained conditions		
Shared Use Path Maximum Grade	5%		
Shared Use Path Minimum Clearance	4 feet on both sides of path		
Shared Use Path Design Speed	Grades ≤ 4%	18 mph	
	Grades > 4%	30 mph	

Source: FDM Chapters 210, 222, 223, and 224

Access Management Classification

The FDOT classifies access on state roadways using a seven-tier access management system established in Chapter 14-97, Administrative Rule of the Department of Transportation, State Highway System Access Management Classification System and Standards (Rule 14-97). The classification system ranges from Access Class 1, reserved for limited access freeway, to Access Class 7, assigned to lower priority state highways in areas that are already highly urbanized. This classification system assigns standards for driveway connections, spacing, median opening spacing, and signal spacing.

None of the three project corridors have officially assigned FDOT Access Classes. However, Rock Springs Road and Welch Road fit the guidelines for classification as Access Class 6, and Ponkan Road fits the guidelines for classification as Access Class 4.

According to Rule 14-97; Access Class 4 roadways are controlled access facilities where direct access to abutting land is controlled to maximize the operation of the through traffic movement. The land adjacent to these roadways is generally not extensively developed and/or the probability of significant land use change exists. These roadways are distinguished by existing or planned non-restrictive median treatments. Access Class 6 roadways are controlled access facilities where adjacent land has been extensively developed, and the probability of major land use change is not high. These roadways are distinguished by existing or planned non-restrictive medians or centerlines.

The spacing requirements for both access classes are shown in Table 7.

Table 7| Access Class Requirements

Access Class	Minimum Spacing (feet)		
	Signal	Connection	
		≤45mph	>45mph
4	2,640	440	660
6	1,320	245	440

Source: Florida Administrative Code, Rule 14-97

Zoning

Zoning data for the study area was provided by Orange County. The land along Rock Springs Road within the study area limits is zoned primarily as rural with some residential on the west side of the road. The land along Welch Road is zoned almost exclusively as residential, with several small areas of commercial and rural. The land along Ponkan Road is zoned primarily as rural with some residential. Zoning maps for the study area are included in Appendix A.

Schools and Public Facilities

There are four schools and one preschool/daycare located along the study area. Table 8 provides a summary of the locations and age groups served by each school. A 700-foot-long school zone is present on Rock Springs Road at Rock Springs Elementary School, with a 20mph (miles per hour) speed limit indicated by a flashing signal.

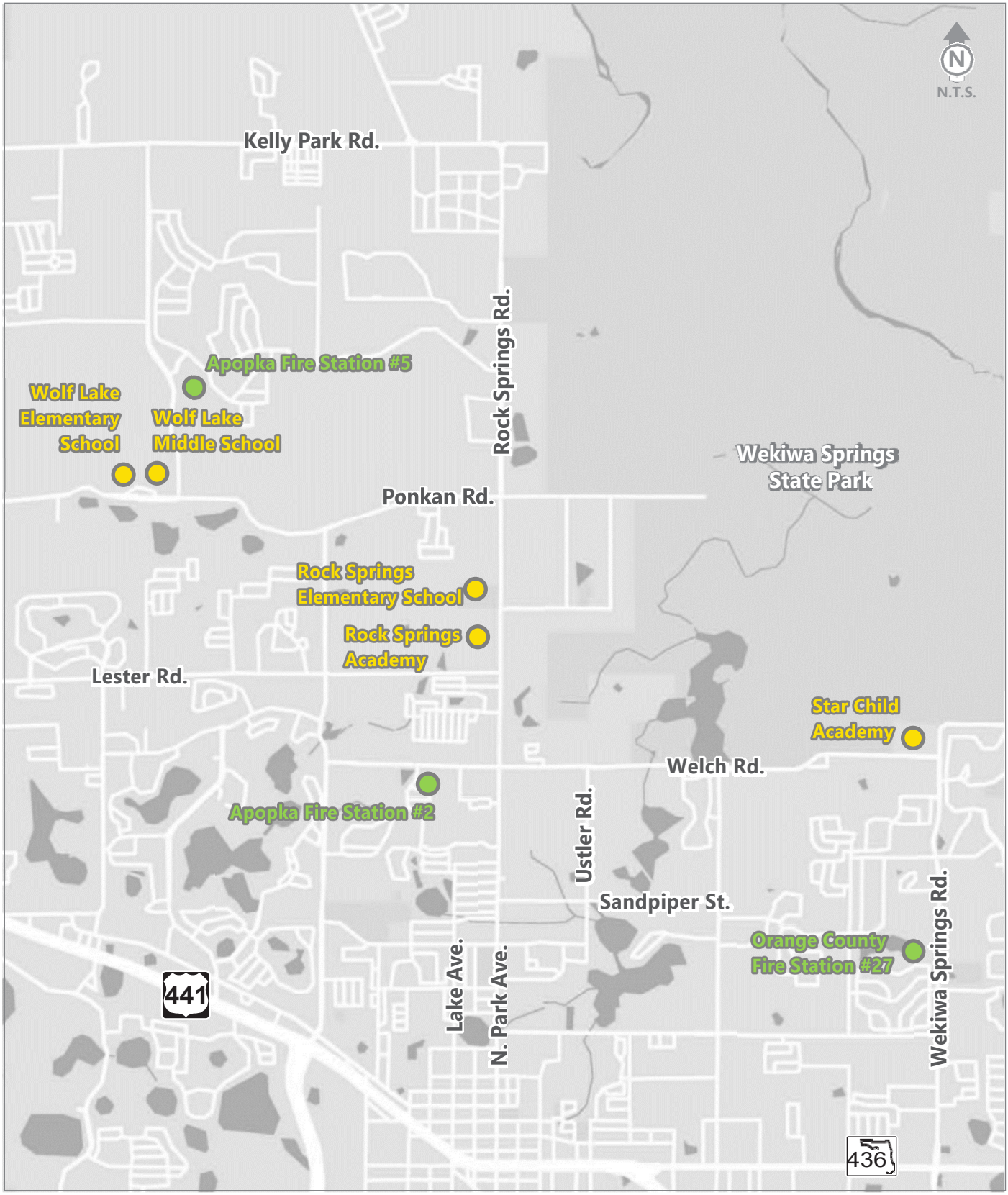
Table 8| Schools Near Study Corridor

School	Location	Age Group
Rock Springs Academy	Rock Springs Road @ Alexandria Place Drive – Southwest corner	2-years-old – 4-years-old
StarChild Academy	Welch Road @ Wekiwa Springs Road – Northwest corner	6-weeks-old – 5th Grade
Rock Springs Elementary School	Rock Springs Road @ Wekiva Pointe Circle – Southwest corner	Kindergarten – 5th Grade
Wolf Lake Elementary School	Ponkan Road @ Jason Dwelley Parkway – Northwest corner	Kindergarten – 5th Grade
Wolf Lake Middle School	Ponkan Road @ Jason Dwelley Parkway – Northwest corner	6th Grade – 8th Grade

In addition to the schools, there are three Fire & Rescue Stations within one mile of the project area. The first is Apopka Fire Station #2 located on the south side of Welch Road west of Rock Springs Road, the second is Apopka Fire Station #5 located on the east side of Jason Dwelley Parkway approximately 3,000 feet north of Ponkan Road, and the third is Orange County Fire Station #27 located on the west side of Wekiwa Springs Road approximately one mile south of Welch Road. There are no law enforcement facilities located within one mile of the study area.

The locations of the schools and public facilities near the study area are shown in Figure 6.

Source Google Maps



School

Fire Station

Figure 6

West Orange Trail Phase 4 Feasibility Study
Schools and Public Facilities Location Map

2.2. Development Patterns

Based on the existing and future land uses along the project area, development in the area is expected to be primarily residential with some commercial development surrounding the intersection of Rock Springs Road and Welch Road.

Planned Developments

There are ten planned developments located within one mile of the study area. A summary of the developments is shown in Table 9. A map showing the development locations is included in Appendix B.

One additional area (located on the south side of Faye Street east of Rock Springs Road) is zoned for a planned development but does not have a development project underway (see the zoning map in Appendix A).

Table 9 | Development Project Summary

Development Name	Location	Type/Description	Acreage	Dwelling Units
Retail at Rock Springs & Tanglewood	Southwest corner of Rock Springs Road at Tanglewood Drive	Subdivision Plan – Retail Center	4.59	0
Gateway Plaza	Northwest corner of Rock Springs Road at Lester Road	Site Plan – Shopping Plaza	3.36	0
San Sebastian Reserve	North side of Lester Road, west of Rock Springs Road	Subdivision Plan – Single Family Subdivision	23	112
Hammock at Rock Springs	West side of Rock Springs Road, north of Wekiva Pointe Circle	Planned Unit Development – Single Family Subdivision	9.59	19
Bridlewood	North side of Lester Road, west of Rock Springs Road	Subdivision Plan – Single Family Subdivision	20	52
Carriage Hill Phase 1	South side of Ponkan Road, at Jason Dwelley Parkway	Subdivision Plan – Single Family Subdivision	30.58	72
Vista Reserve	South side of Ponkan Road, at Jason Dwelley Parkway	Subdivision Plan – Single Family Subdivision	61	153
Country Crossing Estates	South side of Ponkan Road, east of Jason Dwelley Parkway	Subdivision Plan – Single Family Subdivision	7	24
Rock Springs Reserve	North side of Ponkan Road, west of Vick Road	Subdivision Plan – Single Family Subdivision	35	111
Ponkan Reserve	South side of Ponkan Road, west of Rock Springs Road	Subdivision Plan – Single Family Subdivision	7.47	14

Source: City of Apopka Developments Map

2.3. Bicycle and Pedestrian Infrastructure

Bicycle Facilities

On Rock Springs Road, bicycle lanes are present on both sides of the road from Ponkan Road to Kelly Park Road. There are no paved shoulders or separated bicycle lanes on either side of Ponkan Road throughout the length of the study area. For most of its length through the study area, Welch Road does not have paved shoulders or separated bicycle lanes on either side of the roadway; there are 4-foot-wide paved shoulders from Cedar Glen Drive to Thompson Road however the grass has grown over the edge of the pavement at many points, effectively reducing the shoulder width.

Sidewalks

Along Rock Springs Road, there is a 5-foot-wide concrete sidewalk present along both sides of the roadway throughout the length of the study corridor. The sidewalk is separated from the roadway by a 3-foot-wide utility strip.

Along Welch Road, there is a 5-foot-wide concrete sidewalk on the south side of the roadway between Rock Springs Road and the east end of Wekiva Plaza, and between the Wellsprings Residence entrance (1.300 feet east of Ustler Road) and Wekiwa Springs Road. A 5-foot-wide concrete sidewalk is also present on the north side of the roadway between Rock Springs Road and Cedar Glen Drive, and for two very short segments (150 feet and 215 feet) just west of Wekiwa Springs Road.

Along Ponkan Road, a 5-foot-wide concrete sidewalk runs along the north side of the roadway from the Wolf Lake Elementary and Middle Schools to just east of Pinenut Drive, and along the south side of the roadway from Vick Road to Rock Springs Road.

Midblock Crossings

One midblock crossing is present on Rock Springs Road located at Faye Street, just inside the school zone that serves Rock Springs Elementary School. The crossing is marked with a special emphasis crosswalk, and stop bars and signage are present to alert drivers to potential pedestrians.

Pedestrian Accommodation at Signalized Intersections

Crosswalks are present on the following approaches of the signalized intersections within the study area:

- Rock Springs Road at Lester Road – eastbound, northbound, southbound approach
- Rock Springs Road at Ponkan Road – all approaches
- Rock Springs Road at Kelly Park Road – westbound, south bound approach
- Welch Road at Rock Springs Road – all approaches
- Welch Road at Thompson Road – northbound approach
- Welch Road at Wekiwa Springs Road – eastbound, southbound approach
- Ponkan Road at Jason Dwelley Parkway – southbound approach
- Ponkan Road at Vick Road – eastbound, northbound approach

2.4. Transit Service and Infrastructure

Transit Routes

Transit in the City of Apopka is operated by LYNX. There are no transit routes running along the corridors within the study area, but LYNX Route 405 runs eastbound on Welch Road west of Rock Springs Road, turning south at the intersection with Rock Springs Road. The LYNX route map for this bus route can be found in Appendix C.

Transit Stop Accommodations

There are no bus stops within the study area.

2.5. Right-of-Way

The right-of-way (ROW) was identified for the study area using the following two sources:

- Rock Springs Road: FDOT ROW maps obtained from the FDOT District 5 Survey and Mapping Unit.
- Welch Road and Ponkan Road: Orange County Property Appraiser parcel records.

The existing ROW for Rock Springs Road, Welch Road, and Ponkan Road are shown in Table 10. The ROW maps for Rock Springs Road are included in Appendix D.

Table 10 | Welch Road ROW Summary

Segment	ROW Width (feet)
Rock Springs Road[1]	
Lester Road to 550 feet north of Faye Street	100
550 feet north of Faye Street to James Avenue	Varies 100 - 130
James Avenue to Kelly Park Road	100
Welch Road[2]	
Rock Springs Road to the east end of Wekiva Plaza	120
East end of Wekiva Plaza to Ustler Road	90
Ustler Road to the Wellsprings Residence entrance	Varies 60 – 80
Wellsprings Residence entrance to 800feet east of Litchem Road	90
800 feet east of Litchem Road to Citrus Avenue	Varies 65 – 170
Citrus Avenue to Lake Avenue	65
Lake Avenue to 620 feet west of Falconhill Drive	90
620 feet west of Falconhill Drive to Falconhill Drive	60
Falconhill Drive to Wekiwa Springs Road	70
Ponkan Road[2]	
West of Jason Dwelley Parkway to 550 feet west of Pinenut Drive	60
550 feet west of Pinenut Drive to 160 feet east of Pinenut Drive	80
160 feet east of Pinenut Drive to 450 feet west of Raeth Road	60
450 feet west of Raeth Road to 460 feet east of Raeth Road	80
460 feet east of Raeth Road to Rock Springs Road	60

Sources:
1. FDOT District 5 Survey and Mapping Unit
2. Orange County Property Appraiser

Potential Easement Areas

The ROW along much of Rock Springs Road and Welch Road is too narrow to provide enough lateral space for the addition of a trail. For these corridors, where possible, a 50-foot-wide recreational easement from the Wekiwa Springs State Park has been sought as an alternative to provide a full width trail with better separation from the roadway and fewer impacts on the ROW. The easement has been sought primarily for Welch Road between Deer Lake Circle and the Wekiwa Springs State Park entrance and for Rock Springs Road Along the West Orange Trail Phase 4 Alternative route (see Figure 1).

2.6. Structures

There are no bridges or other structures within the study area.

2.7. Utilities

A Sunshine One Call ticket was processed in March 2021 to identify a list of potential utility providers within the study area. A 500-foot-wide buffer was applied around the Rock Springs Road, Welch Road, and Ponkan Road corridors to identify the utility companies located adjacent to the corridors as well. The identified utility companies were contacted to obtain information about their infrastructure or facilities present within the study area; each company's response is summarized in Table 11. The full information obtained on utilities is provided in Appendix E.

Table 11| Utility Agencies and Contact Information

Utility Company	Service Provided	Summary of Infrastructure/Facilities within Study Area
AT&T/Distribution Dino Farruggio (561) 997-0240	Telephone	No information provided.
Black & Veatch Orlando 1F Chad Arnett (813) 207-7931	Fiber	No facilities are present within the study area.
Century Link Bill McCloud (850) 599-1444	Fiber, Telephone	Local assets (fiber and telephone) are present along Rock Springs Road, Welch Road, and Ponkan Road throughout the study area.
Charter Communications Ramon Nunez (407) 215-5870	CATV, Fiber, Telephone	No information provided.
City of Apopka Vladimir Simonovski (407) 703-1731	Sewer, Water	No information provided.
Duke Energy Jeffrey Trauth, Todd Khilmire, Sam Evans (407) 905-3376	Electric	Aerial transmission lines run along the west side of Rock Springs Road between Lester Road and Kelly Park Road, also crossing the roadway at the Rock Ridge Boulevard intersection and at the Kelly Park Road intersection. Aerial transmission lines run along Welch Road throughout the study area. Aerials cross all four approaches to the intersection with Rock Springs Road. From Rock Springs Road to Ustler Road, the facilities run along the north side of the roadway. At Ustler Road, the aerials cross to the south side of the roadway, running along the south side of the roadway from there to the Wellsprings Residence entrance. From the entrance to Wellsprings Residence to 650 feet west of Litchem Road, aerials run along both sides of the corridor, occasionally crossing over the roadway. From 650 feet west of Litchem Road to 900 feet east of Litchem Road, the facilities are only on the north side of the roadway; at the location 900 feet east of Litchem Road, one set of aerials cross over the roadway and from there to Wekiwa Springs Road, the facilities run along both sides of the road, occasionally crossing over the roadway. Aerial transmission lines run along the north side of Ponkan Road from Jason Dwelley Parkway to 400 feet east of Pittman Road where they cross to the south side of the roadway and continue along the south side of the corridor to Rock Springs Road.
Florida Gas Transmission - Orlando Joseph Sanchez (407) 838-7171	Gas	26" and 24" natural gas transmission pipelines run along the west side of Rock Springs Road, starting just south of Spring Hollow Boulevard where they cross under the roadway from the east to the west side before turning north to run along the west side of the roadway until Kentucky Blue Circle. Farther south, the same two pipelines cross under Welch Road at the intersection with Ustler Road. A 3.5" natural gas transmission pipeline runs along the south side of Ponkan Road from Vick Road to Rock Springs Road, where it passes under Rock Springs Road to continue east.

Utility Company	Service Provided	Summary of Infrastructure/Facilities within Study Area
Lake Apopka Natural Gas District Patrick Nguyen (407) 656-2734	Gas	A 6" poly gas mains run along the east side of Rock Springs Road from south of Lester Road to Kelly Park Road. A 4" poly gas main runs along the west side of Rock Springs Road from the intersection with Lester Road for approximately 200 feet before passing under Rock Springs Road and running south along the east side of the roadway. A 2" gas main passes under the south and east sides of the intersection of Rock Springs Road with Welch Road. A 6" poly gas main runs along the north side of Welch Road from Rock Springs Road to the east end of Wekiva Plaza. Another 6" poly gas main runs along the north side of Welch Road from Parkglen Circle to Thompson Road.
MCI Verizon MCIU01 Investigations (469) 886-4091	Communication Lines, Fiber	No information provided.
Orange County Public Works Matthew Shipley (407) 836-7814	Fiber, Traffic Signals	No information provided.
Orange County Utilities Victor Gonzalez (407) 836-6869 x66869	Water, Wastewater	8" PVC water mains run along the south side of Welch Road from west of Falconhill Drive to Wekiwa Springs Road. 4" PVC force mains pass under Welch Road approximately 400 feet west of Falconhill Drive and turn east to run along the north side of Welch Road from west of Falconhill Drive to Wekiwa Springs Road. No information provided concerning fiber and traffic signals.
Zayo Group/Formerly Lightwave, LLC Henry Klobucar (406) 496-6510	Fiber	No information provided.

Source: Sunshine State One Call, Information from Utility Owner

3. Planning Document Review

In order to understand which relevant projects are planned and programmed within the study area, the team reviewed the following:

- MetroPlan Orlando 2045 Metropolitan Transportation Plan (MTP)
- MetroPlan Orlando Transportation Improvement Plan (TIP) 2022-2026 (Adopted 7/7/2020)
    - MetroPlan Orlando Prioritized Project List (PPL): 2025/26 – 2040/2041
- Orange County Trails Master Plan (Adopted 2012)
    - Orange County Trails Master Plan (Draft May 2021)
- FDOT District 5 Work Program (2021-25)
- City of Apopka Comprehensive Plan: 2030 (Transportation Element)
- Previous Studies
    - West Orange Trail Phase IV Conceptual Design Plan (1998)

3.1. MetroPlan Orlando 2045 MTP

The study team conducted a preliminary review of the currently adopted MetroPlan Orlando MTP to understand if there are any programmed projects along Rock Springs Road, Welch Road, or Ponkan Road. Eighteen projects relating to the study area are included in the MTP, these are summarized in Table 12.

Table 12| MetroPlan Orlando 2045 MTP Programmed Projects Summary

Project Name	Project #	Limits	Length (miles)	Total Cost ($ Millions)*	Phases	Funding Status
West Orange Trail Phase 4 *(this project)*	5077	Rock Springs Road from Lester Road to Kelly Park Road	6.63	9.96	PE, ROW	Plan Period II (2031-2035)
					Environmental, Construction, CEI	Plan Period III (2036-2045) (partially) Local Funding (unallocated)
West Orange Trail Phase 4B *(this project)*	5014	Welch Road from Wekiva Parkway to Rock Springs Road	2.69	4.04	PE, ROW, Environmental	Plan Period III (2036-2045)
		Rock Springs Road from Welch Road to Kelly Park Road			Construction, CEI	Unfunded
Complete Streets Study on Vick Road	4018	Votaw Road to Ponkan Road	3.05	4.69	PD&E, PE, ROW, Environmental	Plan Period III (2036-2045)
					Construction, CEI	Unfunded
Complete Streets/ Safety/Operational Study on Welch Road	7377	Rock Springs Road to Seminole County Line	3.2	22	PE, ROW, Environmental, Construction, and CEI	Plan Period I (2026-2030)
Widening of Welch Road from 2 lanes to 4 lanes	7547	Rock Springs Road to Thompson Road	1.26	11.66	PD&E, PE, ROW, Environmental, Construction, CEI	Plan Period II (2031-2035)
	7548	Thompson Road to Wekiwa Springs Road	1.29	11.93	PD&E, PE, ROW, Environmental, Construction, CEI	Plan Period I (2026-2030)
West Orange Trail Ponkan Road Spur *(this project)*	5021	Jason Dwelley Parkway to Rock Springs Road	1.98	2.97	PE, ROW, Environmental, Construction, and CEI	Unfunded
Operational/Safety Project on Park Avenue	3113	US 441 to Kelly Park Road	5.8	25.426	PE, ROW, Environmental, Construction, and CEI	Unfunded
Rock Springs Road Access Study	3125	Rock Springs Road at Welch Road	0.40	1.73	PE, ROW, Environmental, Construction, and CEI	Unfunded
	3128	Welch Road with Ustler Road				
	3129	Rock Springs Road with Lester Road				
Operational/Safety Study on Rock Springs Road	3141	Welch Road to Lester Road	0.53	2.342	PE, ROW, Environmental, Construction, and CEI	Unfunded
Complete Streets Study on Rock Springs Road	4010	Votaw Road to Ponkan Road	3.05	17.72	PD&E, PE, ROW, Environmental, Construction, CEI	Unfunded
Safety Improvements	7301	Rock Springs Road at Welch Road	-	0.32	PE, ROW, Environmental, Construction, CEI	Unfunded

Project Name	Project #	Limits	Length (miles)	Total Cost ($ Millions)*	Phases	Funding Status
Complete Streets/ Safety/Operational Study on Lester Road	7372	US 441 to Rock Springs Road	4.56	31.04	PD&E, PE, ROW, Environmental, Construction, CEI	Unfunded
Complete Streets/ Safety/Operational Study on Vick Road	7375	US 441 to Ponkan Road	3.01	20.45	PD&E, PE, ROW, Environmental, Construction, CEI	Unfunded
Operational/Safety project on Thompson Road	7484	Votaw Road to Welch Road	1.53	6.7	PE, ROW, Environmental, Construction, CEI	Unfunded
Widening Project on Welch Road	7500	Vick Road to Rock Springs Road	0.99	9.12	PD&E, PE, ROW, Environmental, Construction, CEI	Unfunded

Notes:
* 2020 dollars
PD&E = Project Development & Environmental
PE = Project Engineering
CEI = Construction Engineering and Inspection

3.2. MetroPlan Orlando TIP 2022-26

The study team conducted a preliminary review of the currently adopted MetroPlan Orlando TIP to understand if there are any programmed projects within the study area. No planned improvements were found relating to the study area.

3.3. MetroPlan Orlando PPL 2025/26 – 2040/41

The study team conducted a preliminary review of the currently adopted MetroPlan Orlando Prioritized Project List (PPL) to understand if there are any programmed projects along Rock Springs Road, Welch Road, or Ponkan Road. Four planned improvements were found related to the study area in the Adopted PPL, they are summarized in Table 13.

Table 13| MetroPlan Orlando PPL 2025/26 – 2040/41 Projects Summary

Project	Phase	Cost	Project Type	Source Location	Performance Measures	Priority Ranking
West Orange Trail Phase 4 from Rock Springs Road @ Welch Road to Wekiwa Springs State Park entrance *(this project)*	PD&E, PE, ROW, CST	TBD	Multi-Use Trail	Page 20	Regional Trail Gap	#9 (Multimodal – Regional Trail & School Mobility)
Rock Springs Road from Votaw Road to Ponkan Road	Planning, PE, CST	$300,000	Complete Street	Page 12	Safety / Multimodal Connectivity	#18 (Multimodal – Roadway & Complete Streets)
Rock Springs Road from Welch Road to Lester Road	Planning	$300,000	TSM&O	Page 18	Safety / Travel Time	#18 (Multimodal – Transportation Systems Management & Operations)
Vick Road from Lester Road to Ponkan Road	Planning	$300,000	Widening	Page 27	-	None Assigned (Multimodal – TRIP Candidates)

3.4. Orange County Trails Master Plan

The study team conducted a preliminary review of both the currently adopted Trails Master Plan from 2012 and the latest available draft of the updated Trails Master Plan from May 2021.

The West Orange Trail Phase 4 project is included in the adopted Master Plan, ranked as priority #11 of 12 proposed trail projects. The total project length is 9.6 miles with an estimated project cost of $3,978,483. It includes the mainline along Rock Springs Road from Lester Road to Kelly Park Road and both spurs along Welch Road and Ponkan Road (as described in Section 1: Introduction). The project in the Trails Master Plan also includes an additional 1.3 miles north of Kelly Park Road which are not covered in this study. The adopted Master Plan (2012) lists the following opportunities and constraints for the project:

- Opportunities
    - The presence of bike lanes and an existing sidewalk along Rock Springs Road allow for safe passage for users today. As development occurs along the road in this area,

widening of the sidewalk to trail dimensions could be part of the County's development requirement.
    - A plan to locate the trail along the Wekiwa Springs State Park property has been discussed.
    - Undeveloped, adjacent properties might be approached for trail easement acquisition in order to move the trail out of the roadway ROW.
- Constraints
    - The trail, along Rock Springs Road, is immediately adjacent to roadway curbing, and the trail will have an urban character to it as it does south toward Apopka.
    - Due to steep side slopes, retaining walls and railings may be required in some areas south of Kelly Park Road.
    - Trail users must use caution when approaching intersections.

In the proposed Master Plan (2021), the West Orange Trail Phase 4 study as it is presented in the adopted plan is divided into two projects;

- West Orange Trail Phase 4: This study covers the extension of the West Orange Trail along Rock Springs Road from Lester Road to Kelly Park Road, as well as the two spurs along Welch Road and Ponkan Road.
    - An alternative route is included that turns east from Rock Springs Road approximately 0.25 miles north of Lester Road to enter the Wekiwa Springs State Park. This alternative then follows the western boundary of the Park northwards until it connects to Kelly Park and the Wekiva Trail.
    - The updated estimated cost of this project is $11,930,600
- Wekiva Trail Phase 4B: This study covers the proposed trail segment north of Kelly Park Road, which will connect the extension of the West Orange Trail to the Wekiva Trail in Lake County. This segment will be considered part of the Wekiva Trail.

3.5. FDOT Fiscal Year 2021/22-2025/26 Work Program

The study team conducted a preliminary review of the currently adopted FDOT Work Program to understand if there are any programmed projects within the study area. No programmed projects were found related to the study area.

3.6. City of Apopka Comprehensive Plan – Transportation Element

The study team conducted a preliminary review of the Transportation Element of the currently adopted City of Apopka Comprehensive Plan for 2030 to identify any sections related to the feasibility study. The plan addresses improving pedestrian and bicycle facilities in the 'Issues and Opportunities' section:

> *In order to address the impacts of development on the regional and local transportation system, the City must promote development patterns and transportation design that improves connectivity, favors alternative modes such as transit and cycling, and improves walkability. This type of transportation system tends to reduce the volume of automobile traffic, all of which also enhances the quality of the local trips. Each of these factors must be implemented in a way that complements the others in order to fundamentally change the course from automobile-oriented to one that offers a full-range of multimodal transportation opportunities.*

Within the 'Goals, Objectives, and Policies' section, the following are related to the West Orange Trail:

- **Goal:** The City of Apopka shall promote the continued development of a financially feasible, safe and energy-efficient multi-modal transportation system that is integrated functionally and aesthetically into the surrounding land use framework and enhances the mobility needs of the Apopka area.
    - **Objective 1:** The City of Apopka shall coordinate with adjacent jurisdictions and all applicable transportation planning agencies to develop a system of multi-modal transportation facilities, as an alternative to automobile-oriented development that meets existing and future mobility needs of residents.
        - **Policy 1.6:** The City shall seek grant monies for the development of a Bicycle and Pedestrian Master Plan. *(this plan has not yet been published)*
        - **Policy 1.7:** The City of Apopka shall support the efforts of Metroplan Orlando and the East Central Florida Regional Planning Council to provide bike facilities for new and reconstructed roadway facilities, where feasible.
        - **Policy 1.10:** The City shall support the planned extension of the West Orange Trail to connect to the Seminole County and Lake County trail systems and has identified the trail in the Future Transportation Map series.

Map 3-8 of the Transportation Element, which details the existing and planned pedestrian and bicycle facilities in Apopka, shows the West Orange Trail Extension, and is shown in Figure 7. The map includes the primary trail extension (shown running along the western border of Wekiwa Springs State Park) and the Welch Road spur; the Ponkan Road spur is not included.

Figure 7 | Apopka Comprehensive Plan – Existing and Proposed Bicycle and Pedestrian Facilities

3.7. Previous Studies

3.7.1. West Orange Trail

A Conceptual Design Plan for the West Orange Trail was completed in 1998; the purpose of the report was to create a design plan that would effectively protect and manage the trail as well as the cultural and natural resources surrounding the trail. The trail segments included in the report were the mainline along Rock Springs Road from Lester Road to Kelly Park Road and the spur along Welch Road from Rock Springs Road to Wekiva Springs Road (the spur along Ponkan Road was not included). The report detailed methodologies and preliminary high level designs for the following aspects of the West Orange Trail study:

- Surveys
- Design Concept
- Paved Recreational Trail Components
- Equestrian Trail Components
- Fencing
- Trailheads
- Stormwater Management
- Landscaping
- Design Documents
- Environmental Assessment Study
- Cultural and Historical Resources
- Management
- Recreation Programming
- Traffic Control
- Maintenance
- Habitat Management

All of the agreements entered into between Orange County and local stakeholders in 1998 regarding the various aspects of the trail design, location, and construction are also detailed in the report. The report proposes that the Phase 4 trail extension be constructed within the ROW for Rock Springs Road from Lester Road to Sebastian Springs Lane and on Welch Road from Rock Springs Road to the Wellspring Residence entrance. The rest of the trail extension is proposed to be constructed in a 50-foot easement just inside the boundary of Wekiwa Springs State Park, both along the mainline (Rock Springs Road from Sebastian Springs Lane to Kelly Park Road) and along the Welch Road spur. Within the 50-foot easement, it is proposed that a 14-foot paved trail and a 6-foot unpaved (equestrian) trail be constructed, separated by a drainage swale approximately 8 feet wide and with 3-foot buffers on either side. The remaining 16 feet of the easement are proposed to remain as undisturbed habitat.

3.8. Planning Consistency

Funding for the West Orange Trail Phase 4 extension is supported by the MetroPlan Orlando MTP and is separated between the mainline along Rock Springs Road (MTP ID #5077) and the spurs along Welch Road and Ponkan Road (MTP ID #5014). For the mainline, the PE and ROW phases are both funded for Planning Period II (2031 – 2035) for $3.74M (2035 dollars); the Environmental and Construction phases are partially funded for Planning Period III (2035 – 2045) for $8.00M (2045 dollars) with an additional $8.40M needed from local funding; and CEI is funded for Planning Period III (2035 – 2045) for $1.02M (2045 dollars). For the spurs, the PE, ROW, and Environmental phases are funded for Planning Period III (2035 – 2045) for $2.73M (2045 dollars); the Construction and CEI phases are unfunded at this time.

Other planned transportation improvements in the vicinity of the study area include:

- Rock Springs Road access management study and intersection study at the intersection of Sandpiper Street with Park Avenue.
    - The access management study is for the segment of Rock Springs Road between Welch Road and Lester Road.

    - This study is being conducted in parallel with this West Orange Trail Extension Study.
    - The intersection and realignment analysis for the intersection of Sandpiper Road with Park Avenue will also include the addition of sidewalks on Sandpiper Street from Lake Avenue to Ustler Road.
- Apopka complete streets studies:
    - Complete streets studies are planned to be conducted for 10 roadway segments in Apopka as a means of improving the safety, accessibility, and connectivity of the city's streets for both vehicular and multi-modal users in accordance with the goals outlined in the city's Comprehensive Plan. Each of these segments connect to the study area, either directly or indirectly, and will serve alongside the proposed West Orange Trail extension to provide better and safer pedestrian facilities for the residents of Apopka. The 10 segments are:
        - Rock Springs Road from Votaw Road to Ponkan Road
        - Welch Road from Rock Springs Road to the Seminole County Line
        - Vick Road from Votaw Road to Ponkan Road
        - Vick Road from US 441 to Ponkan Road
        - Lester Road from US 441 to Rock Springs Road
- Apopka safety improvement projects:
    - Operational and safety improvement projects are planned for four roadway segments in Apopka. These projects will aid in easing existing and projected congestion, as well as reducing risk for all corridor users. The four segments are:
        - Rock Springs Road/Park Avenue from US 441 to Kelly Park Road
        - Rock Springs Road from Welch Road to Lester Road
        - The intersection of Rock Springs Road with Welch Road
        - Thompson Road from Votaw Road to Welch Road
- Welch Road Widening: The widening of Welch Road from 2 to 4 lanes will serve to alleviate congestion along the roadway, thus improving operations and safety for all users along the corridor. The widening is planned for the following three segments:
        - Vick Road to Rock Springs Road
        - Rock Springs Road to Thompson Road
        - Thompson Road to Wekiwa Springs Road

4. Environmental Analysis

4.1. Social

4.1.1. Demographics

Preliminary demographics data was gathered for the City of Apopka to determine the population characteristics for the area surrounding the study area. The data gathered includes population characteristics, socioeconomic data, and major employers and activity centers and was collected from the US Census Bureau, ESRI's Tapestry, and the Florida Department of Health.

ESRI's Tapestry classifies neighborhoods and zip codes into 67 different types of segments based on socioeconomic characteristics as well as standard demographics data. According to the ESRI Tapestry profile for the neighborhoods in Apopka, the primary "Tapestry Segments" found around the study area and their key features are listed in Table 14.

Table 14 | ESRI Tapestry Summaries

Segment Name	Description

Workday Drive	• Residents prefer the suburban periphery of metropolitan areas
	• Predominantly single family, owner-occupied homes
	  • Most households are married couples with children
	  • Average household size: 2.97
	• Homes are in newer neighborhoods:
	  • 34% built in the 1990s
	  • 31% built since 2000
	• High rate of mortgages - 68%
	• Low rate of vacancy - 4%
	• Median home value: $257,400
	• Most households have 2 or 3 vehicles
	  • Long travel time to work
	  • Disproportionate number commuting from a different county

Middleburg	• Semirural locales within metropolitan areas
	• Neighborhoods changed rapidly in the previous decade
	  • Single family homes
	  • Mobile homes
	  • Primarily young couples, many with children
	  • Average household size: 2.75
	• Median home value: $175,000
	• Low vacancy rate

Home Improvement	• Low density suburban neighborhoods
	• Primarily traditional, owner-occupied, single-family dwellings (80%)
	  • Over 50% married-couple families
	  • Approximately 12% single-parent families
	• Majority of homes built between 1970 and 2000

Green Acres	• Rural enclaves in metropolitan areas
	  • Older market
	  • Primarily married couples, most with no children
	• Primarily (not exclusively) older homes with acreage
	• New housing growth in the past 15 years
	  • Single-family, owner-occupied housing
	• Median home value: $235,500

In addition to the primary segments, two affluent segments ("Top Tier" and "Savvy Suburbanites" are found at the far east end of the Welch Road corridor. Profiles for each segment, including age, race and ethnicity, income, housing, and occupation data are included in Appendix F.

Population Characteristics

Population data was collected from the City of Apopka and the US Census Bureau. The total population, number of households, average household size, and number of housing units were provided by the City of Apopka. The other population characteristic data was gathered from the 2019 American Community Survey (ACS) 5-Year Estimates. Due to the impacts of the COVID-19 pandemic, the US Census Bureau did not release ACS estimates for 2020.

An overview of the demographics in Apopka is provided in Table 15 below. The demographics data provided by the City of Apopka is included in Appendix F.

Table 15| Apopka Demographics Overview

Category	Measure
Population	
Total Population	56,727
Population Density (Persons per Acre)	2.49
Households	
Total Households	20,311
Average Household Size	2.79
Household Density (Households per Acre)	0.893
Age	
Median Age	37.3 years
Population over 65	12.8%
Sex	
Male	50.7%
Female	49.3%
Race/Ethnicity	
White	65.0%
Hispanic or Latino	21.6%
Not Hispanic or Latino	43.4%
Black or African American	25.2%
Hispanic or Latino	2.1%
Not Hispanic or Latino	23.1%
Asian	4.2%
Other	5.6%
Income	
Median Household Income	$66,057
Persons Below Poverty	9.4%
Housing	
Total Housing Units	20,204
Owner-Occupied	70.2%
Renter-Occupied	28.5%
Vacant	1.3%
Limited English Proficiency (LEP)	
Block groups with >5% Spanish LEP surrounding study area	2 (7.56%, 5.24%)
Vehicle Ownership	
Households with No Vehicles	4.4%

Source: City of Apopka, US Census Bureau 2019 ACS

Age

Age data was gathered from the US Census Bureau 2019 ACS Estimates. The median age in Apopka is 37.3 years, 62.4% of the population falling between the ages of 18 and 65. Out of the total population in Apopka, 12.8% of the people in Apopka are over 65 years old, and 24.8% are under 18.

Race/Ethnicity

Race and ethnicity data was gathered from the US Census Bureau 2019 ACS Estimates. The majority race in Apopka is White (65.0%), followed by Black or African American (25.2%), and Asian (4.2%). The remaining 5.6% of people in Apopka identify as Two or More Races (3.3%), or as some other race

(2.3%). In total, 23.7% of the population are Hispanic, with 21.6% identifying as White Hispanic and 2.1% identifying as Black Hispanic.

Income

Income data was gathered from the US Census Bureau 2019 ACS Estimates. Apopka has a median household income of $66,057 and a poverty rate of 9.4% (the population which falls under the federal poverty line); 4.1% of households have an income less than $10,000, and 7.6% of households have an income between $10,000 and $25,000.

Education

Educational attainment data was gathered from the US Census Bureau 2019 ACS Estimates and is summarized in Table 16.

Table 16 | Educational Attainment Data Summary

Demographic	Percentage of High School Graduates	Percentage of Bachelor's Degree Attainment
Age		
18 – 24	80.8%	12.6%
25 and older	86.4%	27.5%
Race/Ethnicity		
White	89.2%	30.2%
Not Hispanic or Latino	93.0%	34.5%
Black or African American	89.5%	19.0%
Hispanic or Latino Origin	67.4%	13.9%
Asian	89.0%	52.4%
Native Hawaiian and Other Pacific Islander	73.7%	28.9%
Other	61.7%	11.0%

Source: US Census Bureau 2019 ACS

Limited English Proficiency

LEP data for the area surrounding the study area was gathered from the US Census Bureau 2019 ACS Estimates. Eight census block groups surround the study area. A summary of the percentages of Spanish LEP households by block group is shown in Table 17.

Table 17 | Spanish LEP Household Percentages

Block Group #	Location	Percentage of Spanish LEP Households
120950178042	West side of Rock Springs Road between Welch Road and Ponkan Road	7.56%
120950177011	West side of Park Avenue, south of Welch Road	5.24%
120950178081	South side of Welch Road, between Thompson Road and Wekiwa Springs Road	4.51%
120950178021	South side of Ponkan Road, west of Vick Road	3.82%
120950178061	South side of Welch Road, between Ustler Road and Thompson Road	3.25%
120950178041	North side of Ponkan Road, west of Rock Springs Road	3.13%
120950178051	East side of Rock Springs Road and north side of Welch Road	1.97%
120950178021	South side of Welch Road, between Rock Springs Road and Ustler Road	1.00%

Source: US Census Bureau 2019 ACS Estimates

As can be seen in the table, two block groups have Spanish LEP household percentages greater than 5%, four block groups have Spanish LEP household percentages between 2% and 5%, and two block groups have Spanish LEP household percentages less than 2%. No block groups surrounding the study area have significant LEP household populations for any other language group. A map showing the percentage of Spanish LEP households by block group is included in Appendix F.

Health

Health data was gathered from the Florida Department of Health. The average life expectancy for the census tract surrounding the project area is 80.0 years, for Orange county overall it is 80.1 years. This is slightly higher than the statewide life expectancy of 79.7 years. In Orange county, 12.4% of adults are active smokers (lower than the national rate of 17.1%), and 27.5% of adults are clinically obese (lower than the national rate of 31.9%). Death rates for the most common illness-related causes of death are also lower in Apopka than nationally, as shown in Table 18.

Table 18| Apopka Death Rates

Cause of Death	Death Rate per 100,000	
	Apopka	National
Cardiovascular	186.1	200
Cancer	153.7	185
Respiratory Disease	37.0	53
Diabetes	24.7	25

Source: Florida Department of Health (http://www.flhealthcharts.com)

Transportation

Transportation data was gathered from the US Census Bureau 2019 ACS Estimates. Zero-car households make up 4.4% of the households within Apopka. Of the 25,773 workers in Apopka, 4.6% rely on multi-modal transportation (biking, walking, public transit, etc.) to get to work.

Major Employers and Activity Centers

Major employers and activity centers within the study area were determined based on a desktop review. Two of the largest activity centers are located at the intersection of Rock Springs Road with Welch Road. Wekiva Plaza is located in the northeast quadrant of the intersection and comprises approximately 20 businesses, while Rock Springs Plaza is located in the southwest quadrant of the intersection and comprises approximately 10 businesses. Wolf Lake Elementary School, Wolf Lake Middle School, and the Northwest Recreation Complex at the west end of the Ponkan Road corridor, as well as Rock Springs Elementary School on the west side of Rock Springs Road at Faye Street also form major activity centers.

4.1.2. Cultural Resources

Cultural and social facilities include, but are not limited to, trails, parks, schools and recreational areas as well as the neighborhoods they serve. Many of these features are protected under the Department of Transportation Act (DOT Act) of 1966, Section 4(f) which limits the use of public land. Table 19 summarizes the number of sites that are in public ownership or use. A 300-foot-wide buffer along the centerline of the study corridors was used to determine the locations of social resources within the study area; these are provided as Exhibit A in Appendix G.

Table 19 | Summary of Cultural and Social Resources

Social Resources	Within Study Area
Cemetery	0
Conservation Lands	2
Cultural Center	0
Existing Trails	2
Fire Station	0
Government Building	0
Health Care Facility	1
Hospital	0
Park	3
Religious Center	2
School	3
Social Service Facility	0
Veteran Facility	0

Source: Florida Geographic Data Library (FGDL), Efficient Transportation Decision Making (ETDM) Tool

As shown in Appendix G, Exhibit A, there are three parks, Camp Joy, Kelly Park, and Wekiwa Springs State Park, that contain campgrounds, multi-use trails, natural areas, and water access. All three parks also are classified as conservation lands; however, Camp Joy is bundled with Camp Kelly as a single conservation land give their adjacency. The smaller of two conservation lands, Kelly Park/Rock Springs, is owned and managed by Orange County and is classified as scrub with two natural springs and 10 acres of developed land for active recreation such as swimming or camping. The other conservation land, Wekiwa Springs State Park, is owned by the Trustees of the Internal Improvement Trust Fund which is made up by different organizations including St. Johns River Water Management District (SJRWMD), Orange County, and Orlando-Orange County Expressway Authority (OOCEA). The Park includes different types of habitats such as a spring-run stream, scrub oak, mesic flatwoods, and wet prairies. Two existing trails associated with Orange County and Wekiwa Springs State Park are shown to intersect with the study area. However, the existing trails are part of a proposed project to improve and expand to the connection with other existing trails outside of the study area. There are three schools, Rock Springs Elementary School, Wolf Lake Elementary and Middle School, that are within the study area, each with plans to connect to the proposed West Orange Trail (Rock Springs Academy and Star Child Academy fall just outside of the buffer area). In addition, the area encompasses two religious centers (Rock Springs First Baptist Church and Crossroads Church), and one healthcare center (Walgreens Health Care Clinic).

4.1.3. Historical and Archaeological Resources

Archaeological and historical resources are defined by the National Historic Preservation Act (NHPA) of 1966 and governed by federal and state regulations. Section 106 of the NHPA provides a general process for historical resource assessments and requires historic and archaeological resources be considered in project planning for federally funded or permitted projects. Cultural resources or "historic properties" include any "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places (NRHP)."

Archaeological sites or historic resources that are listed, determined eligible, or considered potentially eligible by the State Historic Preservation Office (SHPO) for listing in the NRHP are identified in Table 20. These sites, along with other state recorded sites and survey locations, are graphically depicted in Exhibit B found in Appendix G.

Table 20 | Summary of Archaeological and Historical Resources

Historical Resources	Within Study Area
SHPO Structures	17
SHPO Bridges	0
SHPO Resource Groups	1
National Register (Site, District, Building)	0
Archaeological Sites	0
SHPO Surveys	3

Source: FGDL, Florida Master Site File (FMSF)

According to the Florida Master Site File (FMSF), there are 17 historic sites within the study area. All 17 sites are listed as ineligible for inclusion in the NRHP, but one of the 16 sites has not been evaluated by SHPO. This site is listed as a private residence and is classified as being a potential contributor to the National Register District due to the potential ability of meeting the required criteria put forth by SHPO. One historic resource group can be found within the study area and is associated with the Wekiwa Springs State Park. This resource group is classified as former logging tram roads associated with early 1900's logging activities and has since been used as natural trails for hiking and equestrian purposes. In addition, three historical resource assessment surveys have been conducted within and in the vicinity of the study area.

4.2. Natural

Existing literature and publicly available GIS data sources including, but not limited to, the data and maps of the following were used to evaluate hydrologic and other natural features found within the study area:

- US Army Corps of Engineers
- Florida Natural Areas Inventory
- St. Johns River Water Management District
- Florida Department of Environmental Protection
- Florida Land Use and Cover Classification Systems
- Natural Resources Conservation Service
- Orange County Stormwater
- Federal Emergency Management Agency basin studies
- Florida Fish and Wildlife Conservation Commission Habitat Model Data
- US Fish and Wildlife IPaC tool
- Specific site indicators such as:
    - Topography
    - Vegetation
    - Soils data

- Floodplain information
- Other field observations

4.2.1. Soils

Soil types were mapped within the study area using GIS data obtained from the Natural Resources Conservation Service (NRCS). Table 21 provides an overview of the soils found onsite. The study area NRCS soils map can be found as Exhibit C in Appendix G.

Table 21 | Summary of Soil Types

Map Unit Symbol	Map Unit Name	Study Area Acreage	Percent of Study Area	Hydric Status
2	Archbold fine sand, 0 to 5 percent slopes	11.19	1.18%	Non-Hydric Soil
3	Basinger fine sand, depressional	38.14	4.02%	Hydric Soil
4	Candler fine sand, 0 to 5 percent slopes,	236.63	24.95%	Non-Hydric Soil
5	Candler fine sand, 0 to 12 percent slopes	127.51	13.44%	Non-Hydric Soil
6	Candler-Apopka fine sands, 5 to 12 percent slopes	46.03	4.85%	Non-Hydric Soil
20	Immokalee fine sand	5.70	0.60%	Hydric Inclusions
28	Florahome fine sand, 0 to 5 percent slopes	7.96	0.84%	Non-Hydric Soil
34	Pomello fine sand, 0 to 5 percent slopes	17.40	1.83%	Hydric Inclusions
35	Pomello- urban land complex, 0 to 5 percent slopes	0.87	0.09%	Hydric Inclusions
37	St. Johns fine sand	5.56	0.59%	Hydric Inclusions
44	Smyrna Fine sand	37.43	3.95%	Hydric Inclusions
45	Smyrna-Urban land complex	0.79	0.08%	Hydric Inclusions
46	Tavares fine sand, 0 to 5 percent slopes	53.50	5.64%	Non-Hydric Soil
47	Tavares-Millhopper fine sands, 0 to 5 percent slopes	353.68	37.29%	Non-Hydric Soil
54	Zolfo fine sand	5.43	0.57%	Non-Hydric Soil
99	Water	0.66	0.07%	Unranked
	Totals for Area of Interest	948.48	100.00%	

Source: NRCS and USDA

The following are general descriptions of the soil types and their characteristics, taken from the USDA *Soil Conservation Service's Soil Survey of Orange County, Florida* (March 1990). Hydric and non-hydric soil designations are based on the *Hydric Soils of Florida Handbook*. Non-hydric soils are typically associated with uplands and hydric soils are generally associated with wetlands.

Archbold Fine Sand, 0 to 5 percent slopes (2) – This nearly level to gently sloping and moderately well drained soil is typically found on low ridges and knolls on the flatwoods. Slopes are smooth and convex. The seasonal high-water table is at depth of 42 to 60 inches of the surface for about 6 months, and it recedes to a depth of 60 to 80 inches for the rest of the year. It is at a depth of 24 to 40 inches for about 1 month to 4 months during extended wet periods. It recedes to a depth of more than 80 inches during extended dry periods. The permeability is very rapid throughout. The available water capacity is very low. This is considered a non-hydric soil and can be indicative of marine terraces on coastal plains and associated with uplands.

Basinger Fine Sand, Depressional (3) – This nearly level and very poorly drained soil is found on shallow depressions and sloughs and along the edges of freshwater marshes and swamps. Slopes

range from 0 to 2 percent. Under natural conditions, the water table is above the surface for 6 to 9 months or more each year and is within 12 inches of the surface for the rest of the year. Permeability is rapid throughout. The available water capacity is low in the surface and subsurface layers and in the substratum and is medium in the subsoil. This is considered a hydric soil associated with wetlands.

Candler Fine Sand, 0 to 5 percent slopes (4) – This is a nearly level to gently sloping and excessively drained soil. Slopes are nearly smooth to convex. The seasonal high-water table is typically at a depth of more than 80 inches. The permeability is rapid in the surface and subsurface layers, and it is rapid to moderately rapid in the subsoil. The available water capacity is very low in the surface and subface layers and low in the subsoil. This is considered a non-hydric soil and is indicative of uplands.

Candler Fine Sand, 5 to 12 percent slopes (5) – This sloping to strongly sloping and excessively drained soil is typically located on ridges. The seasonal high-water table is typically at a depth of more than 80 inches. The permeability is rapid in the surface and subsurface layers, and it is rapid to moderately rapid in the subsoil. The available water capacity is very low in the surface and subsurface layers, and low in the subsoil. This is considered a non-hydric soil and is indicative of uplands.

Candler-Apopka Fine Sands, 5 to 12 percent slopes (6) - This sloping to strongly sloping and excessively drained soil is typically located on ridges or sandhills. The seasonal high-water table is typically at a depth more than 80 inches for Candler soil and a depth of more than 72 inches for Apopka soil. The permeability is rapid in the surface and subsurface layer and rapid to moderately rapid in the subsoil for Candler soil, while the permeability is rapid in the surface and subsurface layers and moderate in the subsoil for Apopka soil. The available water capacity is very low in the surface and subsurface and low in the subsoil of Candler soil, while the available water capacity is very low in the surface and subsurface layers, and medium to high in the subsoil of Apopka soil. This is considered a non-hydric soil and is indicative of uplands.

Immokalee Fine Sand (20) – This nearly level and poorly drained soil is typically located on broad flatwoods. Slopes are smooth and range from 0 to 2 percent. The seasonal high-water table is within 10 inches of the surface for 1 month to 3 months, and it recedes to a depth of 10 to 40 inches for more than 6 months. The permeability is rapid in the surface and subsurface layers and in the substratum, and is moderate in the subsoil. The available water capacity is very low in the surface and subsurface layers and in the substratum, and is medium in the subsoil. This is considered a soil with hydric inclusions and can be indicative of uplands or wetlands depending on where it lies in the landscape.

Florahome fine sand, 0 to 5 percent slopes (28) – This nearly level to gently sloping and moderately well drained soil is typically located on uplands. The seasonal high-water table is typically at a depth of 48 to 72 inches for four to six months and recedes to a depth of 72 inches or more during extended dry periods. It is also within 30 to 48 inches of the surface for up to two weeks during periods of heavy rains. The permeability is rapid throughout. The available water capacity is low in the upper part of the surface layer and very low in the lower part and the underlying material. This is considered a non-hydric soil and is indicative of uplands.

Pomello Fine Sand, 0 to 5 percent slopes (34) – This nearly level to gently sloping and moderately well drained soil is typically located on low ridges and knolls on the flatwoods. Slopes are smooth to convex. The seasonal high-water table is at a depth to 24 to 40 inches for 1 month to 4 months and recedes to a depth of 40 to 60 inches during dry periods. The permeability is very rapid in the surface layer and

subsurface layers, moderately rapid in the subsoil, and rapid in the substratum. The available water capacity is very low in the surface and subsurface layers and in the substratum, and it is medium in the subsoil. This is considered a soil with hydric inclusions and can be indicative of uplands or wetlands depending on where it lies in the landscape.

Pomello-Urban Land Complex, 0 to 5 percent slopes (35) – This nearly level to gently sloping and moderately well drained soil is associated with urban areas but can be located on low ridges and knolls on the flatwoods. The urban land part of this complex is covered by concrete, asphalt, buildings, or another impervious surface. Slopes are smooth to convex. The seasonal high-water table is at a depth to 24 to 40 inches for 1 month to 4 months and recedes to a depth of 40 to 60 inches during dry periods. The permeability is very rapid in the surface layer and subsurface layers, moderately rapid in the subsoil, and rapid in the substratum. The available water capacity is very low in the surface and subsurface layers and in the substratum, and it is medium in the subsoil. This is considered a soil with hydric inclusions and can be indicative of uplands or wetlands depending on where it lies in the landscape.

St. Johns Fine Sand (37) – This nearly level and poorly drained soil is typically located on broad flats in the flatwoods. Slopes are smooth to concave and range from 0 to 2 percent. The seasonal high-water table is within 10 inches of the surface for 6 to 12 months and between depths of 10 and 40 inches for more than 6 months. In rainy period, it rises to the surface for brief periods. The permeability is rapid in surface layer and subsurface layers and the substratum, and it is moderately slow to moderate in the subsoil. The available water capacity is medium in the surface layer, very low to low in the subsurface layer and substratum, and medium to very high in the subsoil. This is considered a soil with hydric inclusions and can be indicative of uplands or wetlands depending on where it lies in the landscape.

Smyrna Fine Sand (44) – This nearly level and poorly drained soil is typically located on broad flatwoods. Slopes are smooth to concave and range from 0 to 2 percent. The seasonal high-water table is within 10 inches of the surface for 1 month to 4 months. It recedes to a depth of 10 to 40 inches for more than 6 months. The permeability is rapid in the surface and subsurface layers and in the substratum, and it is moderate to moderately rapid in the subsoil. The available water capacity is low to very low in the surface and subsurface layers and in the substratum, and it is medium in the subsoil. This is considered soil with hydric inclusions and can be indicative of uplands or wetlands depending on where it lies in the landscape.

Smyrna-Urban Land Complex (45) – This complex contains nearly level and poorly drained soil and areas of urban land. It is typically located on the flatwoods. Slopes are smooth to concave and range from 0 to 2 percent. The seasonal high-water table is within 10 inches of the surface for 1 month to 4 months. The permeability is rapid in the surface and subsurface layers and in the substratum, and it is moderate to moderately rapid in the subsoil. The available water capacity is low to very low in the surface, subsurface, and in the substratum layers, and it is medium in the subsoil. This is considered a soil with hydric inclusions and can be indicative of uplands or wetlands depending on where it lies in the landscape.

Tavares Fine Sand, 0 to 5 percent slopes (46) – This nearly level to gently sloping and moderately well drained soil is typically located on low ridges and knolls on the uplands. Slopes are smooth to concave. The seasonal high-water table is at a depth of 40 to 80 inches for more than 6 months, and it recedes to a depth of more than 80 inches during extended dry periods. The permeability is very rapid

throughout. The available water capacity is very low. This is considered a non-hydric soil and can be indicative of uplands.

Tavares-Milhopper Fine Sands, 0 to 5 percent slopes (47) – This nearly level to gently sloping and moderately well drained soil is typically located on low ridges and knolls on the uplands and flatwoods. Slopes are smooth to concave. The seasonal high-water table in Tavares soil is at a depth of 40 to 72 inches for more than 6 months and it recedes to a depth of more than 80 inches during extended dry periods. The seasonal high-water table in Millhopper soil is at a depth of 40 to 60 inches for one to four months and recedes to a depth of 60 to 72 inches for two to four months. During periods of high rainfall, it reaches to a depth of 30 to 40 inches for cumulative periods of one to three weeks. The permeability is very rapid throughout for Tavares soil and the permeability is rapid in the surface and subsurface layers and moderately rapid or moderate in the subsoil for Millhopper soil. The available water capacity is very low throughout Tavares soil and the available water capacity is low in the surface and subsurface layers and medium in the subsoil of Millhopper soil. This is considered a non-hydric soil and is indicative of uplands.

Zolfo Fine Sand (54) – This nearly level and somewhat poorly drained soil is typically located on broad, slightly higher positions adjacent to the flatwoods. Slopes are smooth to convex and range from 0 to 5 percent. The seasonal high-water table is at a depth of 24 to 40 inches for 2 to 6 months, and it is a depth of 10 to 24 inches during periods of heavy rains. It recedes to a depth of about 60 inches during extended dry periods. The permeability is rapid in the surface and subsurface layers, and it is moderate in the subsoil. The available water capacity is low in the surface and subsurface layers and is medium in the subsoil. This is considered a non-hydric soil and is indicative of uplands.

Water (99) – Water is a miscellaneous area including areas of open water, lakes, ponds, rivers, and streams. There is no hydric soil classification associated with open water and therefore it is an unranked category.

4.2.2. Wetlands and Other Surface Waters

The wetland and surface water analysis used the 2020 U.S. Fish and Wildlife Service's National Wetlands Inventory data, 2019 St. Johns River Water Management District (SJRWMD) Land Use and Cover data and aerial interpretation based on satellite imagery dated 2019. The data shows that there are natural wetland systems and surface waters (lakes, rivers and permitted stormwater ponds) within the study area as identified in Table 22. A map of wetlands and surface waters can be found as Exhibit D in Appendix G.

Table 22 | Summary of Wetland and Surface Water Acreage within Study Acreage

FLUCFCS Code	FLUCFCS Description	Acres
5200 - 5300	Open Water	2.98
6300	Wetland Forested Mixed	3.94
6410	Freshwater Marshes	4.49
6430	Wet Prairies	7.26
6440	Emergent Aquatic Vegetation	3.10

Source: FGDL, USFWS, SJRWMD

The proposed project is expected to use the majority of the existing road ROW for construction and extension of the West Orange Trail; however, if wetland or surface water impacts cannot be avoided, mitigation may be required in accordance with state and federal wetland permitting requirements. The study area falls within the Wekiva River Nested drainage basin. Two mitigation banks serve the Wekiva River Nested drainage basin, the Wekiva River Mitigation Bank and Blackwater Creek Mitigation Bank.

4.2.3. Floodplain

According to the Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Map (DFIRM) dated October 2020, the majority of the study area is located within Floodplain Zone X. This zone is also known as "low-risk flood zone" and has a 0.2% annual chance of flood; areas of 1% chance of flood with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance of flood. Areas in the central, western, and south-eastern portion of the study area buffer are within the 100-year floodplain where there is a 1% annual chance of flood. This floodplain Zone (AE) has determined base flood elevations of 88 North American Vertical Datum (NAVD) and is associated with Club Lake, Lake Merril, Wolf Lake, Lake Cora, Lake Coroni, and Prevatt Lake. One small area in the north-central section is also within the 100-year floodplain where there is a 1% annual chance of flood; however, this floodplain Zone (A) does not have detailed analysis performed, therefore no depths or elevations are determined. This zone is associated with Fox Lake.

Any fill of floodplain occurring between the Seasonal Highwater Level (SHWL) and the floodplain elevation will require floodplain compensation. No net encroachment into the floodplain is allowed between the SHWL and the floodplain elevation. It is anticipated that floodplain encroachment will be avoided and minimized to the extent practicable. The location of floodplain that falls within the study area is illustrated on Exhibit E in Appendix G.

4.2.4. Contamination

Contaminated sites within the study area were identified using data made available by the Florida Department of Health (DOH) and the Florida Department of Environmental Protection (FDEP). Table 23 summarizes the number of sites that have the potential for contamination or are being monitored, while a map depicting the locations of these sites can be found as Exhibit F in Appendix G. It must be noted that the facilities shown are regulated facilities which have the potential for contamination or environmental concern but are not necessarily contaminated.

Table 23 | Summary of Contamination Analysis

Analysis Type	Within Study Area
Biomedical Waste Facility	4
Brownfield Area	0
Hazardous Waste Facility	4
National Pollutant Discharge Elimination System (NPDES)	19
Petroleum Contamination Monitoring Site (PCMS)	2
Storage Tank Contamination Monitoring (STCM)	2
SUPER Act Risk Sources	2
US Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCA) Regulated Facilities	4
Toxic Release Inventory Sites	0
Waste Cleanup Responsible Party Sites - Open	0

Source: FGDL, DOH, FDEP, USEPA

As shown in Appendix G Exhibit F, there are four biomedical waste facilities that are classified as facilities that generate, transport, store, or treat biomedical waste. There are also four hazardous waste facilities which are facilities that possess wastes that are characterized by 40 CFR Part 261, Subpart C as hazardous by exhibiting one of the four characteristics such as, ignitability, corrosivity, reactivity, or toxicity. The National Pollutant Discharge Elimination System (NPDES) was created in 1972 by the Clean Water Act to address water pollution by regulating point sources that discharge pollutants to waters of the U.S. of which 19 sites are located in the study area; however, 17 have been terminated while two remain effective/active NPDES locations. The first is located near the intersection of West Ponkan Road and Pinenut Drive and the second near the Rock Springs Road and Disalvo Place intersection. Petroleum Contamination Monitoring Sites (PCMS) are sites with a storage tank history, or petroleum clean up activity and the study area contain two such facilities with one being closed and the other not requiring clean up; these facilities are associated with refueling structures such as gas stations (Circle K Gas Station). There are also two Storage Tank Contamination Monitoring (STCM) sites, which are being tracked by petroleum storage tank registration, compliance, and clean up; however, while only one of these sites (Circle K Gas Station) is open, they both are associated with refueling structures. The State Underground Petroleum Environmental Response (SUPER) Act was created to conduct drinking water well sampling and investigations around known or suspected contaminated petroleum facilities of which two are located within the study area and both being associated with Handy Way Food Store. There are four U.S. EPA Resource Conservation and Recovery Act (RCA) regulated facilities which include the generation, transportation, treatment, storage, and/or the disposal of hazardous waste within the study area. These facilities include three schools (two elementary and one middle) and an agricultural product/plant nursery wholesaler.

4.2.5. Wildlife Corridors and Crossings

Wildlife corridors typically consist of a large area of natural preserved habitats in the form of wetlands, forests, and prairies that support a range of wildlife that are separated by structures such as roads and housing development. Wildlife corridors usually support the movement and range of different species to promote diversity and access to resources such as surface waters and suitable foraging habitats. Improved habitat connectivity, road permeability, and deterrents onto roads are all important factors when developing mitigation strategies for wildlife on future road projects.

Wekiwa Springs State Park is located to the northeast of the study area and runs along nearly the entire extent of the northeastern boundary of the study area. The park has the potential to act as a large wildlife corridor since the park also encompasses two other park systems, Rock Springs Run State Reserve and Lower Wekiva River Preserve State Park, which serves as a wildlife corridor to the Seminole State Forest which in turn also connects to the Ocala National Forest to the north. While the probability of wildlife utilizing the area is moderate to low, the density of urban growth and development to the south and west most likely further reduces the frequentation of crossing by wildlife. With that in mind, five locations were identified as having an increased potential to warrant a wildlife crossing or habitat connectivity enhancements (Exhibit G, Appendix G).

Rock Springs Road near West Road

Wekiwa Springs State park abuts Rock Springs Road near West Road in the northern study area. West Road is only partially paved and contains native tree cover. Given the proximity of the park to the east, there is an increased likelihood for wildlife crossing in this area. Further, a powerline easement to the

northwest provides for additional wildlife movement north. Bears have been recorded in this area; however further investigation is warranted to determine the viability of this area for a wildlife crossing.

Rock Springs Road near Kentucky Blue Circle

Wekiwa Springs State Park abuts Rock Springs Road just north of Fox Lake (located approximately 850 feet to the west) near Kentucky Blue Circle. The location of Fox Lake and natural cover surrounding Kentucky Blue Circle could allow for wildlife to traverse to the north by travelling northwest along open lands and the powerline easement. The proximity to Wekiwa Springs State Park to the east increases the likelihood of numerous species utilizing Rock Springs Road as a crossing. However, further investigation will need to be completed to determine the viability of any increased accommodations for wildlife movement.

Ponkan Road east of Jason Dwelley Parkway

Due to the undeveloped area on both sides of West Ponkan Road, a potential wildlife corridor was identified. The north side consists of a large undeveloped woodland pasture and the south side consists of several lakes, Lake Merril, Wolf Lake, and Lake Cora, that may contribute to an increased migration of numerous species between both areas. Increased accommodations and considerations for wildlife crossings in this section require further investigation as future development to the north and the isolated nature of the lakes to the south may preclude the necessity for wildlife crossings.

Welch Road west of Crown Isle Circle

This location provides opportunity to facilitate wildlife movement between nearby Prevatt Lake which is within the state park and Lake Coroni. Existing wetlands are located to the north and south of Welch Road which may increase migration of certain species. Upon initial review, this is the most viable location for a wildlife crossing as native cover is present further south which allows for larger wetland and surface water connections. While further investigation will need to be completed to determine the viability of any increased accommodations for wildlife movement, this area would be recommended for further study.

Welch Road east of Thompson Road

Prevatt Lake, located within the state park, has been identified to connect to numerous branches of surface waters that are found to the north. However, development to the south which includes residential homes and fencing, may limit the need for wildlife crossing in this area. However, numerous bears have been reported in the area as sufficient tree canopy is present to provide cover. Further investigation will need to be completed to determine the viability of any increased accommodations for wildlife movement as the potential crossing to the west may result in fewer human-wildlife conflicts.

4.2.6. Threatened and Endangered Species

The Florida Natural Areas Inventory (FNAI) and GIS data from the U.S. Fish and Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission (FWC) identified protected species with the potential to occur, and Core Foraging Habitat (CFA) and Consultation Areas (CA) for threatened and endangered species within the study area. Consultation areas, identified by USFWS, encompass all areas where populations are known to exist and where agency involvement may be necessary. The study area buffer does not include any critical or strategic habitat. Table 24 provides a summary of threatened and endangered species with the potential to occur within the study area. A map depicting the potential locations of these species can be found as Exhibit H in Appendix G.

Table 24 | Summary of Protected Species with the Potential to Occur

Species	Federal Status	State Status	Probability of Occurrence
Fauna			
Avian			
Florida Scrub Jay (Aphelocoma coerulescens)	T	T	Low
Florida Sandhill Crane (Grus canadensis pratensis)	NL*	T	Moderate
American Bald Eagle (Haliaeetus leucocephalus)	NL*	NL*	Low
Eastern Black Rail (Laterallus jamaicensis)	NL*	E	Low
Wood Stork (Mycteria americana)	T	T	Moderate
Everglade snail kite (Rostrhamus sociabilis plumbeus)	E	E	Moderate
Reptiles			
Eastern Indigo Snake (Drymarchon couperi)	T	T	Low
Gopher Tortoise (Gopher polyphemus)	C	T	Moderate
Short-tailed Snake (Lamproeltis extenuate)	NL	T	Low
Sand Skink (Plestiodon reynoldsi)	T	T	Low
Mammals			
Florida Black Bear (Ursus americanus floridanus)	NL*	NL*	Moderate
Flora			
Many-flowered grass-pink (*Calopogon multiflorus*)	NL	T	Low
Chapmans's sedge (*Carex chapmanii*)	NL	T	Low
Sand butterfly pea (*Centrosema arenicola*)	NL	E	Low
Piedmont jointgrass (*Coelorachis tuberculosa*)	NL	T	Low
Okeechobee Gourd (*Cucurbita okeechobeensis*)	E	E	Low
Beautiful pawpaw (*Deeringothamnus pulchellus*)	E	FE	Low
Scrub Buckwheat (*Eriogonum longifolium* var. *gnaphalifolium)*	T	E	Low
Hartwrightia (*Hartwrightia floridana*)	NL	T	Low
Star anise (*Illicium parviflorum*)	NL	E	Low
Nodding pinweed (*Lechea cernua*)	NL	T	Low
Scrub lupine (*Lupinus aridorum*)	E	FE	Low
Florida spiny-pod (*Matelea floridana*)	NL	E	Low
Pinesap (*Monotropa hypopithys*)	NL	E	Low
Celestial lily (*Nemastylis floridana*)	NL	E	Low
Florida beargrass (*Nolina atopocarpa*)	NL	T	Low
Cutthroat grass (*Panicum abscissum*)	NL	E	Low
Giant orchid (*Pteroglossaspis ecristata*)	NL	T	Low
Florida willow (*Salix floridana*)	NL	E	Low
Scrub Stylisma (*Stylisma abdita*)	NL	E	Low
Clasping warea (*Warea amplexifolia*)	E	FE	Low
Carter's warea (*Warea warea*)	E	FE	Low

Source: US Fish and Wildlife Service (USFWS); Florida Natural Areas Inventory (FNAI).
F = Federally
E = Endangered: species in danger of extinction throughout all or a significant portion of its range.
T = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
C = Candidate for listing at the Federal level by the U. S. Fish and Wildlife Service
NL = Not currently listed
*protected by the Bald and Golden Eagle Protection Act, the Bear Conservation Rule 68A-4.009 or the Migratory Bird Treaty Act of 1918.

Eleven protected wildlife species were found to potentially occupy the study area and some species have more probability to occur than others. The types of habitat found in the vicinity of the study area were assessed to determine the likelihood of occurrence of each listed species as described below.

Avian

Florida Scrub Jay – The Florida scrub jay is listed as Threatened by the USFWS and FWC. The scrub jay prefers relict oak-dominated scrub or xeric oak scrub habitat and requires a permanent 25-acre territory. While the study area buffer is within the USFWS CA for scrub jays, there appears to be no scrub or suitable habitat for the scrub jay onsite or in the vicinity of the area. Therefore, the likelihood of scrub jays utilizing the area is low.

Florida Sandhill Crane – The Florida sandhill crane is listed as Threatened by the FWC. The sandhill crane prefers freshwater marshes, prairies, and pastures. Their breeding season falls between December and August and they may be found foraging within the study area due to the presence of surface waters and wetlands. Due to the density of urban growth and development, the likelihood of the sandhill crane nesting and occupying the area is low, however the likelihood of this species utilizing the area for intermediate foraging is moderate.

American Bald Eagle – The American bald eagle is protected under the Federal Bald and Golden Eagle Protection Act. According to the Audubon Center for Birds of Prey EagleWatch Program database and the FWC GIS database of known bald eagle nests, there were no eagle nests within one mile of the survey area. The closest known active nest (OR058) is located approximately 1.26 miles northeast of the study area and was recorded as active for the 2021 season. Given this distance, there should be no need for FWC consultation or review. The USFWS indicates that all projects greater than 660 feet from a bald eagle nest do not require USFWS consultation. Therefore, the likelihood of this species utilizing the study area is low.

Eastern Black Rail – The Eastern Black Rail is listed as Endangered by the FWC. The black rail prefers dense marshes where they can remain undetected and elusive. They are usually located by their vocalizations, but the full extent of their habitat remains unknown. Due to their elusive nature and habitat preference, the likelihood of this species utilizing the study area is low.

Wood Stork – The wood stork is listed as Threatened by the USFWS and FWC and consultation with the USFWS is required for any proposed work that impacts wood stork core foraging habitat (primarily shallow, non-forested wetlands and surface waters) within defined CFA. The study area is located within the designated CFA for this species with the closest known nest (Lawne Lake) approximately 12.05 miles to the south. Since there is potential habitat in the form of wetlands and surface waters, the likelihood of this species utilizing the study area for foraging is moderate.

Everglade snail kite – The everglade snail kite is listed as Endangered by the USFWS and the project falls within the CA for this species. Snail kites are generally found in lowland freshwater marshes and the shallow vegetated edges of lakes where they feed almost entirely on apple snails (*Pomacea* spp.). Freshwater marshes or shallow vegetated lakes are located outside the vicinity of the study area in several locations (Prevatt Lake, Wolf Lake, Lake Cora, and Lake Merril), however due to the density of urban growth and development in the area and more suitable habitat within and north of Wekiwa Springs State Park, the likelihood of this species utilizing the study area is moderate to low.

Reptiles

Eastern Indigo Snake – The eastern indigo snake is listed as Threatened by the USFWS and FWC. The indigo snake prefers pine flatwoods, hardwood forests, moist hammocks, and areas that surround cypress swamps. Their habitat is also closely associated with gopher tortoise burrows. If any gopher tortoise burrows are found in the study area, the Standard Protection Measures for the Eastern Indigo Snake (revised August 12, 2013) will be followed during construction activities. Since the study area buffer mainly consists of an existing road ROW, the likelihood of indigo snakes utilizing the area is low.

Gopher Tortoise – The gopher tortoise is listed as Threatened by the FWC and is a candidate for listing by the USFWS. They require well-drained, sandy soils for burrowing and can be found in scrub, dry hammock, pine flatwoods, dry prairies, mixed hardwood-pine communities and a variety of habitats including power line easements and roadside ROW. In accordance with FWC guidelines, a gopher tortoise survey will be required prior to the commencement of work as the probability of occurrence of gopher tortoises within the study area is moderate. Should burrows be identified within 25 feet of areas to be affected by proposed construction, an FWC permit will need to be obtained for relocation of affected individuals. If no burrows are found, can be avoided, or relocation guidelines are followed, no adverse impacts to gopher tortoises are anticipated.

Short-tailed Snake – The short-tailed snake is listed as Threatened by the FWC. The short-tailed snake prefers sandy soils, particularly longleaf pine and xeric oak sandhills but also may be found in scrub and xeric hammock habitats. While suitable habitats may be found throughout the neighboring Wekiwa Springs State Park, due to the density of urban growth and sprawl within the study area the likelihood of this species utilizing the study area is low.

Sand Skink – The sand skink is listed as Threatened by the USFWS. The study area falls within the CA for this species. Sand skinks are endemic to ridge habitats including rosemary scrub, scrubby flatwoods, sand pine and oak scrubs, and turkey oak ridge. Suitable habit is found within the Mount Dora Ridge in Orange County and in well drained sandy soils that include the Apopka, Archbold, Candler, Florahome, Immokalee, Pomello, Smyrna, and Tavares soil series at elevations above 82 feet. Sections of the study area contain suitable soil and elevations ranging from 70 to 130 feet. In areas with surrounding development, and existing roadways, the likelihood of this species utilizing the study area is low. Where open lands exist along less developed portions of the study area, the potential for utilization becomes moderate. A pedestrian survey and additional consultation with USFWS will be required.

Mammals

Florida Black Bear – The Florida black bear has been de-listed from Florida's imperiled species list, though it still receives protection under the state's Florida Black Bear Conservation Rule; 68A- 4.009, F.A.C. This rule protects bears from intentional "take", which includes pursuing, hunting, molesting, capturing, or killing, or attempting those actions, whether or not such actions result in possession of the bear. Records for nuisance black bear reporting identify a high number of reports in proximity to the study area. There are no FWC-established black bear best management practices for sites, but recommendations include temporarily halting operations until the bear has left the area and providing regular gaps in safety fences or other barriers to travel. Daily removal of trash from the site is also recommended. Due to the location of Wekiwa Springs State Parks and the rate of bear nuisance

reports in the area, the likelihood of this species utilizing the study area, mainly for migratory movement, is moderate to high.

Flora

Six federally listed and twenty-one (21) state-listed plants may occur within the project vicinity based on the results of an Information for Planning and Conservation (IPaC) and FNAI review; however, no listed plant species are expected to occur or be disturbed within the study area due to the developed nature of the area. Coordination with the Florida Department of Agricultural and Consumer Services (FDACS) to address listed plant occurrence may be necessary if found in subsequent surveys.

5. Drainage Analysis

Welch Road, Ponkan Road, Rock Springs Road, and the segments of Wekiwa Springs Road and Ponkan Road that are in the project area are located within the jurisdiction of the St. Johns River Water Management District (SJRWMD) and are located within the Wekiwa River Hydrological Basin. The above listed roads are maintained by Orange County and the City of Apopka (as detailed in Table 1, Table 2, and Table 3).

Rock Springs Road

Rock Springs Road from Ponkan Road to Kelly Park Road was permitted under ERP 27569-2. Rock Springs Road's runoff from approximately 550 feet north of Sabastian Springs Lane to Ponkan Road, drains north and is collected with the runoff from Rock Springs Road from Ponkan Road to Oak Hallow Drive. This runoff drains to a pond (Pond AB) located approximately 1,000 feet east of Rock Springs Road between Kentucky Blue Circle and Rock Ridge Blvd. A drainage map of the study area is included in Appendix H.

Rock Springs Road from Oak Hallow Drive to Kelly Park Road drains to a pond (Pond C) located south-east of the intersection of Rock Springs Road and James Avenue (see Appendix H).

There are two locations where offsite drainage crosses from the west side of Rock Springs Road to the east side, following natural drainage patterns to the Wekiwa River Hydrological Basin. One is located approximately 450 feet south of the intersection of Rock Springs Road and Westford Drive through three existing 19" x 30" ERCPs. The second location is between Kentucky Blue Circle and Rock Ridge Blvd, approximately 200 feet north of the pipe that runs from the road to Pond AB, through an existing 30" cross drain. Runoff flows east towards Pond AB and is conveyed by a shallow swale around the south edge of the pond, which then discharges east following natural drainage patterns to the Wekiwa River Hydrological Basin.

The Alternative Routes being evaluated run on a drainage easement, State owned land, or an open non-maintained Orange County road (Sycamore Street).

Welch Road

Welch Road in the vicinity of Thompson Road was permitted under the SJRWMD (ERP 119437 - 1) in 2009. The system consists of curb inlets that drain to three elongated ponds.

Approximately 400 feet east of Thompson Road, there is a high point and the runoff from this segment of Welch Road drains to two elongated ponds that are hydraulicly connected to each other and the

swales east of these ponds. The swales east of the ponds have check dams, but a permit for this system was not located. The two ponds and swales outfall to a cross drain located approximately fifty feet east of the ponds. The cross-drain discharges to the Prevatt Lake Drainage Basin. The third pond is located south-east of the intersection of Welch Road and Thompson Road. This pond outfalls north through a 24" cross drain that discharges to the Prevatt Lake Drainage Basin (see Appendix H).

A permit was not located for the segment of Welch Road from Rock Springs Road to west of Thompson Road. However, based on a review of the Drainage Master Plan prepared for this area (Lakes McCoy, Coroni, and Prevatt Drainage Basin Study) by PEC in 1997 these segments of E. Welch Road also drain to the Prevatt Lake Drainage Basin.

Wekiwa Springs Road

Piedmont-Wekiwa Springs Road was permitted under the SJRWMD (ERP 20656 – 1) in 1990. The segment of Wekiwa Springs Road that is included in the project area, was designed to drain to a dry pond located on the south side of Wekiwa Springs Road, east of Acacia Road. This pond was designed to retain the 100-year storm event (see Appendix H).

Ponkan Road

A SJRWMD ERP was not located for Ponkan Road, except for the segment east of Rock Springs Road. The ERP located was for the conversion of the original dirt road to an asphalt paved road. The drainage system for this segment is listed as swales, and the segment is noted to drain to the Wekiwa River Hydrological Basin.

Ponkan Road, west of Rock Springs, does not have an identifiable drainage system. Based on quad maps, the western segment of Ponkan Road closest to Rock Springs Road drains south then west toward Rock Springs Road. The segment of Ponkan Road from Carmona Road to the end of the project limits drains south to several lakes and depressional areas located along the roadway corridor.

5.1. SJRWMD and Orange County Drainage Criteria

Proposed improvements to Welch Road, Ponkan Road, Rock Springs Road, the segments of N. Wekiwa Springs Road and W. Ponkan Road, which are in the project area, and the improvements along Sycamore Street are subject to the St. John's River Water Management District (SJRWMD) and Orange County criteria that are current at the time of the improvements. The improvements along the drainage easement and State-owned lands are subject to the (SJRWMD) criteria.

5.1.1. SJRWMD

There is a possibility of obtaining an exemption from permitting from SJRWMD, if the proposed improvements adhere to Florida Administrative Code (F.A.C.) 62-330.051. See the potentially applicable exemption criteria below:

(4)(c) Minor roadway safety construction alteration, maintenance and operation, provided:

1. There is no work in, on, or over wetlands other than those in drainage ditches constructed in uplands;
2. There is no reduction in the capacity of existing swales, ditches, or other systems legally in existence under chapter 403 or Part IV of chapter 373, F.S.;
3. All work is conducted in compliance with subsection 62-330.050(9), F.A.C.; and
4. The work is limited to:

a. Sidewalks having a width of six feet or less.
b. Turn lanes less than 0.25 mile in length, and other safety-related intersection improvements; and
c. Road widening and shoulder paving that does not create additional traffic lanes and is necessary to meet current, generally accepted roadway design and safety standards.

(d) Resurfacing and repair of existing paved roads, and grading of existing unpaved roads, provided:
1. Travel lanes are not paved that are not already paved.
2. No substantive changes occur to existing road surface elevations, grades, or profiles; and
3. All work is conducted in compliance with subsection 62-330.050(9), F.A.C.

If a permit exemption is not granted and a standard general permit is the next permitting option. It shall adhere to the applicable F.A.C. See the applicable criteria below:

- 62-330.405 General Conditions for All General Permits.
- 62-330.451 General Permit to Counties, Municipalities, and other Agencies to Conduct Stormwater Retrofit Activities.

(1) A general permit is granted to counties, municipalities, state agencies and water management districts to construct, operate, and maintain stormwater retrofit activities as authorized below for improving existing surface water and stormwater systems. This general permit may be used in conjunction with exempt activities.

(2) Types of stormwater retrofit activities authorized under this general permit are:

(a) Construction or alteration that will add additional treatment or attenuation capacity and capability to an existing stormwater management system;

(b) The modification, reconstruction, or relocation of an existing stormwater management system or stormwater discharge facility;

Should a permit exemption or a standard general permit not be accepted, SJRWMD might require full treatment and attenuation volumes of the previously untreated existing road.

Per the SJRWMD Permit Information Manual, water quantity criteria for the project area includes, at a minimum that:

1. The post-development peak discharge rate must not exceed the pre-development peak rate of discharge for the mean annual 24- hour storm for systems serving both of the following:

   a. New construction area greater than 50% impervious (excluding waterbodies).

   b. Projects for the construction of new developments that exceed the thresholds in paragraphs 62-330.020(2)(b) or (c), F.A.C.

2. The post-development peak rate of discharge must not exceed the pre-development peak rate of discharge for the 25-year frequency, 24-hour duration storm.

Specific nutrient requirements may apply to the project since the study area outfalls to Class III water bodies. Stormwater may need to be treated prior to its discharge to the respective water bodies and adequate erosion and turbidity barriers will be needed during the proposed construction activities.

Since most of the roadway isn't formally treated prior to its outfall, SJRWMD may only require treatment of any new impervious areas.

SJRWMD might require special criteria for proposed projects resulting from this study. Proposed projects in the Wekiva River Hydrologic Basin that do not qualify for a permit exemption or general permit may have to provide the following:

- A surface water management system that provides retention storage for 3-inches of runoff from all impervious area proposed to be constructed on soils defines as Type 'A',
- A system that can infiltrate this storage volume within 72 hours, or the post-development recharge capacity of the system is greater than or equal to the pre-development recharge capacity.
- A system that does not cause a net reduction in flood storage within the 100-year floodplain of a stream or other watercourse which has a drainage area upstream of more than one square mile and which has a direct hydrologic connection to the Wekiva or Little Wekiva Rivers or Black Water Creek.
- A Water Quality Protection Zone that extends one half mile from the Wekiva River, Little Wekiva River north of State Road 436, Black Water Creek, Rock Springs Run, Seminole Creek, and Sulphur Run, and also extends one quarter mile from any wetland abutting an Outstanding Florida Water.
- Reasonable assurance through an erosion and sediment control plan that during construction or alteration of the system (including revegetation and stabilization), erosion will be minimized, and sediment will be retained on-site. The plan must be in conformance with the erosion and sediment control principles set forth in section 13.8.2 and must contain the information set forth in section 13.8.3.
- Reasonable assurance that projects located wholly or partially within 100 feet of an Outstanding Florida Water or within 100 feet of any wetland abutting such a water will not have a system that will cause sedimentation within these wetlands and waters, and that filtration of runoff will occur prior to discharge to these wetlands and waters.
- Reasonable assurance that the construction, alteration, operation, and maintenance of any part of a system located within the Water Quantity Protection Zone of Black Water Swamp and the wetlands abutting the Wekiva River, Little Wekiva River, Rock Springs Run, Black Water Creek, Sulphur Run, Seminole Creek, Lake Norris, and Lake Dorr will not cause ground water table drawdowns which would adversely affect the function provided by these wetlands.
- Reasonable assurance that the construction of alteration of a system will not adversely affect the abundance, food sources, or habitat of aquatic or wetland dependent species provided by the following Riparian Habitat Protection Zones:
    - The wetlands abutting the Wekiva River, Little Wekiva River downstream of Maitland Boulevard, Rock Springs Run, Black Water Creek, Sulphur Run, or Seminole Creek.
    - The uplands within 50 feet landward of the landward extent of the wetlands above.
    - The uplands which are within 550 feet landward of the stream's edge, as defined as the waterward extent of the forested wetlands abutting the Wekiva River, Little Wekiva River downstream of the northernmost crossing of the Little Wekiva River with S.R. 434, Rock Springs Run, Black Water Creek, Sulphur Run or Seminole Creek. In the absence of forested wetlands abutting these streams, the stream's edge shall be defined, for the purpose of this subsection, as the mean annual surface water elevation of the stream; however, if hydrologic records are unavailable, the landward extent of the herbaceous emergent wetland vegetation growing in these streams shall be the stream's edge.

Any impacts to existing permitted facilities will require permit modifications and additional stormwater treatment and attenuation.

Wekiva River is an OFW. For direct discharges to OFWs, retention systems must provide at least an additional 50% of treatment volume. Detention systems must provide either an additional 50% of treatment and attenuation volume, or pretreatment of the stormwater prior to wet detention.

5.1.2. Orange County

Roadway Drainage Design

Curbs and gutters. All roadway drainage not considered suitable for swale and/or ditch type drainage shall be designed as one of the following:

- Median: Type E Curb per FDOT Index 502-001, current edition.
- Outer travel lane: Type F Curb per FDOT Index 502-001, current edition.

Runoff determination. The peak rates of runoff for which the pavement drainage system must be designed shall be determined by the rational method. The time of concentration, individual drainage areas and rainfall intensity amounts shall be submitted as part of the drainage plans. A separate Rational Runoff Coefficient (C) shall be determined for the specific contributing area to each inlet/catch basin within the proposed storm sewer system. A composite C value shall be computed for each contributing area based on an individual C value of 0.9 for the estimated impervious portion of the actual area and an individual C value of 0.2 for the remaining pervious (grassed) portion of the actual area.

Stormwater spread into traveled lane. Inlets shall be located at all low points, intersections, and along continuous grades to prevent the spread of water from exceeding tolerable limits. The acceptable tolerable spread for a roadway with a design speed of 45 mph or less, includes keeping one-half (½) the traveled lane width clear.

Inlet types. The curb inlet types to be used shall be the latest version of the FDOT inlet types 1 and 2. Ditch bottom inlets shall be FDOT inlet types C, D, E and H. All ditch bottom inlets located within the right-of-way shall have traffic-bearing grates.

Low point inlets. Inlets shall be placed at all low points in the gutter grade and/or ditch, and as appropriate at intersections, median breaks, and on side streets where drainage would adversely flow onto the highway pavement.

Inlets shall also be placed ten to twenty feet prior to the level section in superelevation transitions, to avoid concentrated flows across the pavement.

Curb inlets, including inlet transitions shall not be located within handicap drop curb locations or on curb returns.

Inlets in sag vertical curves that have no overflow outlet other than the storm drain system, (i.e., barrier wall, bridge abutment, cut sections) must have flanking inlets on one or both sides. The flanking inlets shall be located to satisfy spread criteria when the sag inlet is blocked.

Storm Sewer Design

Design storm drain frequency. The design storm frequency to be utilized for the design of pavement drainage shall set the hydraulic gradient line at 12 inches below gutter for a ten-year frequency storm.

Hydraulic gradient line computations. The hydraulic gradient line for the storm sewer system shall be computed taking into consideration the design tailwater on the system and the energy losses associated with entrance into and exit from the system, friction through the system, and turbulence in the individual manholes/catch-basins/junction boxes within the system. The energy losses associated with the turbulence in the individual manholes are minor for an open channel or gravity storm sewer system and can typically be overcome by adjusting (increasing) the upstream pipe invert elevations in a manhole by a small amount. However, the energy losses associated with the turbulence in the individual manholes can be significant for a pressure or surcharged storm sewer system and must be accounted for in establishing a reasonable hydraulic gradient line.

Minimum pipe size. The minimum size of pipe to be used in storm sewer systems is 18 inches. Designs shall be based upon six-inch increments in sizes above 18 inches.

Pipe grade. All storm sewers shall be designed and constructed to produce a minimum velocity of 2.5 feet per second (fps) when flowing full. No storm sewer system or portion thereof will be designed to produce velocities in excess of 20 fps for reinforced concrete pipe or 10 fps for metal pipe, and these maximums shall only be used when these outlet ends have sufficient erosion protection and/or energy dissipators.

Maximum lengths of pipe. The following maximum runs of pipe shall be used when spacing access structures of any type.

- 18 inches = 300 feet
- 24 inches to 36 inches = 400 feet
- 42 inches and larger = 200 feet

Design tailwater. All storm sewer systems shall be designed taking into consideration the tailwater of the receiving facility. In the case where the detention pond is the receiving facility, the design tailwater level can be estimated from the information generated by routing through the pond the hydrograph resulting from a ten-year frequency storm of duration equal to that used in designing the pond. The design tailwater level can be assumed to be the ten-year pond level corresponding to the time at which peak inflow occurs from the storm sewer into the pond.

Allowable materials. Storm sewers shall be reinforced concrete pipe (RCP) in accordance with the latest version of the FDOT Standard Specifications for Road and Bridge Construction.

Culvert Design

No new culverts, or culvert extensions are anticipated.

5.1.3. City of Apopka

- The post-development peak rate of discharge shall not exceed the predevelopment peak rate of discharge for the 25-year, 24-hour storm.
- Pollution abatement volume shall be in accordance with SJRWMD criteria.
- The City shall receive a copy of the SJRWMD permit before the City grants an approval of final engineering plans.
- The 25-year/24-hour rainfall amount of 8.6 inches and the 100-year/24-hours rainfall amount of 11.3 inches shall be used in runoff calculations.
- Retention ponds and detention ponds shall meet the following requirements based on type:
    - No retention ponds or detention ponds are anticipated. Work is expected to be exempt.

6. Traffic Analysis

6.1. Existing Travel Demand

Existing traffic data for the study area corridors were collected from Florida Traffic Online (FTO). A summary of the characteristics of each corridor is shown in Table 25.

Table 25 | Study Area Traffic Characteristics Summary

Corridor	AADT	K Factor	D Factor	T Factor	Peak Hour Volume
Rock Springs Road	16,000	9.0	53.0	5.7	763*
Welch Road	17,600	9.0	53.0	6.4	1278
Ponkan Road	5,800	9.0	53.0	6.4	617

Source: FTO
*Calculated volume – no synopsis report is available for Rock Springs Road

Historical daily volume counts for the study corridors were also provided by the City of Apopka. The counts from 2018, 2019, and 2020 were used to determine the impact of the Covid-19 pandemic on traffic along the corridors, and, if so, to calculate an adjustment factor to account for the uncharacteristic change in traffic volumes. The historical volumes and Covid 19 adjustment factors are shown in Table 26.

Table 26 | Study Area Historical Daily Volumes

Segment	Daily Volume			% Volume Change			Covid 19 Adjustment Factor
	2018	2019	2020	2018-2019	2019-2020	2018-2020	
Rock Springs Road Kelly Park Road to Ponkan Road	17,102	17,338	17,338	+1.4%	0%	+1.4%	1.000
Rock Springs Road Ponkan Road to Welch Road	20,180	24,304	23,065	+20.4%	-5.1%	+14.3%	1.054
Welch Road Rock Springs Road to Ustler Road	17,595	19,816	17,346	+12.6%	-12.5%	-1.4%	1.142
Welch Road Ustler Road to Thompson Road	17,576	18,301	34,829	+4.1%	+90.3%	+98.2%	1.000
Welch Road Thompson Road to Wekiwa Springs Road	15,405	15,785	14,798	+2.5%	-6.4%	-3.9%	1.067
Ponkan Road Plymouth-Sorrento Road to Vick Road	4,787	4,721	4,375	-1.4%	-7.3%	-8.6%	1.079
Ponkan Road Vick Road to Rock Springs Road	5,442	5,520	4,863	+1.4%	-11.9%	-10.6%	1.135

Source: City of Apopka

Existing Multimodal Analysis

Table 27 shows the multimodal LOS including pedestrian, bicycle, and transit LOS for the study corridors. The roadway segment bicycle LOS is based on a combination of paved shoulder/bicycle lane coverage and roadway volumes, pedestrian LOS is based on a combination of sidewalk coverage and

roadway volumes, and transit LOS is based on a combination of sidewalk coverage and the number of buses in the peak hour peak direction. As shown in Table 27, Rock Springs Road and Welch Road do not meet the standard LOS D for bicycle travel and all of the corridors having a failing LOS for transit due to the lack of any transit services through the study area.

Table 27 | Existing Multimodal LOS Analysis (Segments)

2020 AADT	Bicycle Mode LOS		Pedestrian Mode LOS		Transit Mode LOS	
	Paved Shoulder/Bicycle Lane Coverage	LOS	Sidewalk Coverage	LOS	Sidewalk Coverage (0 buses per hour)	LOS
Rock Springs Road between Lester Road and Kelly Park Road						
16,000	0-49%	E	85-100%	C	85-100%	F
Welch Road between Rock Springs Road and Wekiwa Springs Road						
17,600	0-49%	E	85-100%	C	85-100%	F
Ponkan Road between Jason Dwelley Parkway and Rock Springs Road						
5,800	0-49%	C	85-100%	B	85-100%	F

Notes:
1.Segment multimodal LOS is based on Generalized Service Volume Table 1 of the 2020 Q/LOS

7. Safety Analysis

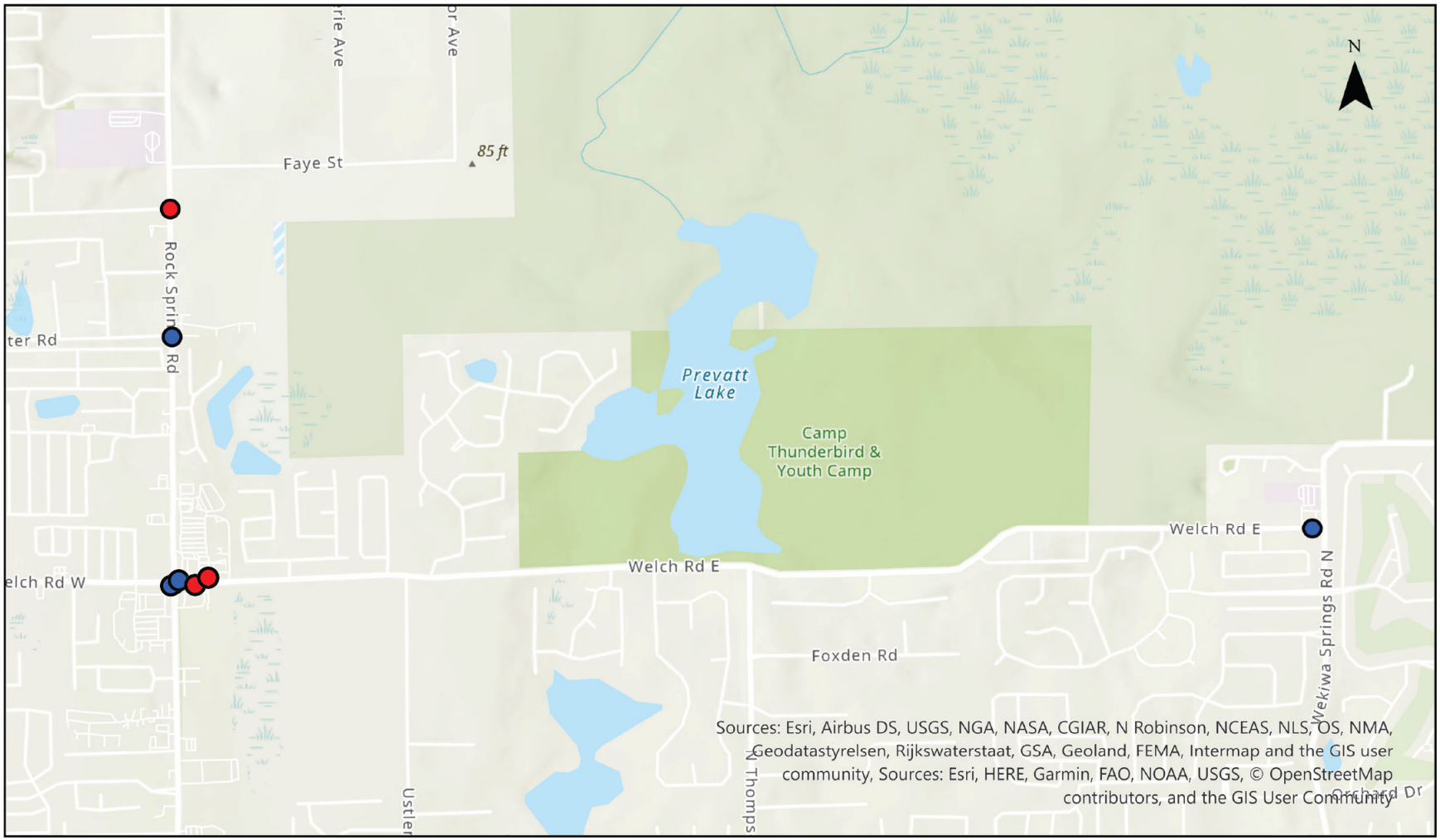
Bicycle and pedestrian crash data was obtained from Signal Four Analytics for the most recent five years of available data (January 01, 2016 to December 31, 2020) along Rock Springs Road, Ponkan Road, and Welch Road within the study area limits.

A total of seven crashes involving bicycles and pedestrians have occurred in the study area: three involving bicycles and four involving pedestrians. Table 28 provides a summary of the locations and conditions of each crash and Figure 8 shows the locations of the crashes. Of the seven crashes, four caused injuries, all the crashes occurred in daylight and dry conditions, one was distraction related, and none were alcohol or drug related. None of the pedestrian/bicycle crashes were fatal.

Table 28 | Bicycle and Pedestrian Crash Summary

Crash Type	Severity	Report Number	Location	Weather Condition	Lighting Condition	Road Surface Condition	Alcohol/Drug Related	Distraction Related
Pedestrian	Injury	85377296	Rock Springs Rd at Welch Rd	Clear	Daylight	Dry	No	Yes
		87468234	Rock Springs Rd at Welch Rd	Clear	Daylight	Dry	No	No
	Property Damage Only	88093511	Rock Springs Rd at Lester Rd	Clear	Daylight	Dry	No	No
		88400305	Welch Road at Wekiwa Springs Road	Clear	Daylight	Dry	No	No
Bicycle	Injury	86251586	Rock Springs Rd at Welch Road	Clear	Daylight	Dry	No	No
		88010257	Rock Springs Rd at Welch Road	Clear	Daylight	Dry	No	No
	Property Damage Only	85263123	Rock Springs Road at Alexandria Place Drive	Cloudy	Daylight	Dry	No	No

Source: Signal 4 Analytics



Crash Type

- Bicycle
- Pedestrian

0 0.17 0.35 0.7 Miles

Figure 8

West Orange Trail Phase 4
Feasibilty Study
Bicycle and Pedestrian Crash Locations

8. Public Involvement

8.1. Public Survey

A public survey was made available through the MetroPlan Orlando website and the project website from June 1 to July 16. The purpose of the survey was to gather public opinions regarding existing conditions on the West Orange Trail and to receive input on the trail extension location and potential future amenities.

8.1.1. Survey Response

The survey garnered a total of 366 responses. The majority of respondents (79.2%) indicated that they live in the area, and many respondents stated that they walk or bike in the area (57.7%), travel through the area (51.6%), shop in the area (47.0%), or own property in the area (44.0%).

8.1.2. Survey Results

Existing Conditions

Respondents were asked to rate the current walking and biking conditions of the trail, as well as the conditions for alternative travel modes on the trail. Figure 9 and Figure 10 provide a breakdown of the responses received. As can be seen in the charts, approximately half of trail users consider the condition of the trail to be in acceptable condition for both walking and biking, a small percentage consider the trail to be in great condition (5% for walking, and 3% for biking), and almost half of trail users consider the trail to need improvement or to be in poor condition.

Responses for alternative travel modes include four for roller blading and one for horseback riding. Of the roller blading responses, two were 'Acceptable', one was 'Needs Improvement' and one was 'Poor'; the horseback riding conditions were said to be poor.

Figure 9 | Existing Conditions for Walking/Running

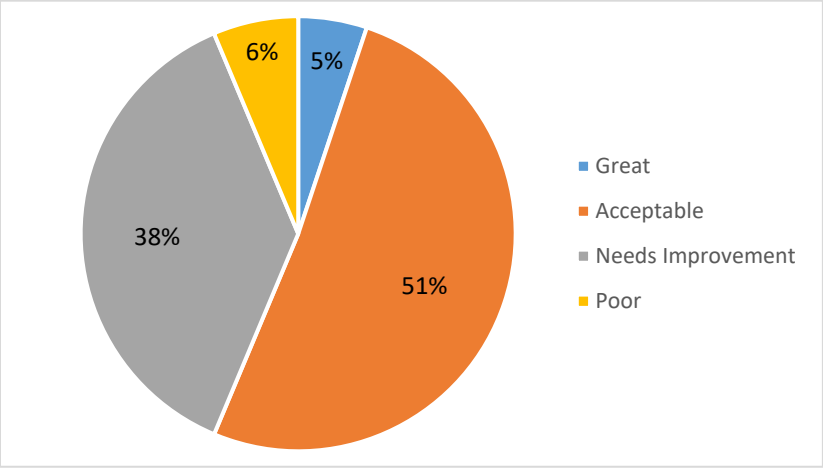
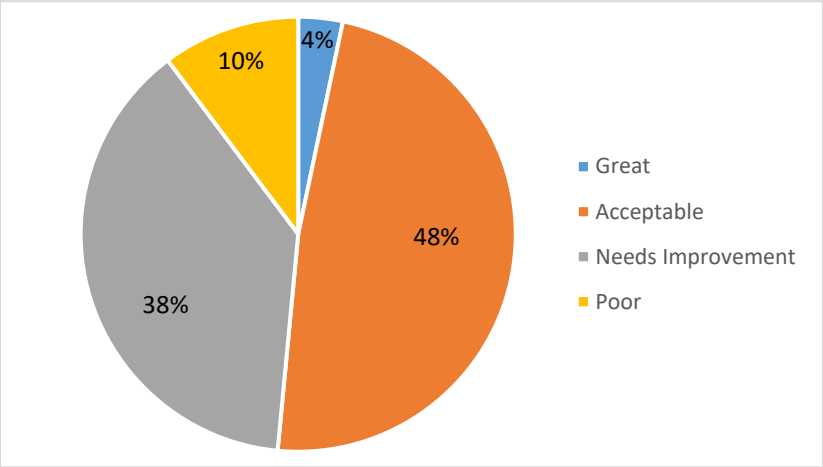


Figure 10| Existing Conditions for Biking



Respondents were also asked to select their top three current challenges along the West Orange Trail from a prepared list. The resultant ranking of challenges and the percentage of survey respondents who selected each challenge is shown in Table 29.

Table 29| Challenges Facing the West Orange Trail

Rank	Challenge	Percent Selected
1	Cars speeding or not being aware of trail users at intersections	57.2%
2	Crossing the street at Welch Ave	51.5%
3	Having to cross the street to remain on the trail	44.9%
4	Crossing the street at unsignalized intersections	41.6%
5	General visibility of the trail	25.9%
6	Accessing the trail	22.0%
7	Poor trail or roadway pavement conditions	20.8%
8	Crossing the street at Sandpiper Rd	19.0%
9	Navigating curbs	10.2%
10	Other	6.9%

The results show that safety issues are the main concern for trail users, followed by accessibility and maintenance issues. Those who selected "Other" specified concerns with shade availability, aesthetics, driver behavior, and lighting on the trail.

New Alignment

Survey respondents were asked to state their preference for the trail alignment in areas where the full width of the trail cannot be easily accommodated. Nearly 68% of respondents said that they would prefer the trail to continue on one side of the road, even if it needed to be made narrower, and 26% of respondents preferred that the trail cross the road so that a wider trail can be constructed. The remaining 6% of respondents selected "Other" and included suggestions for a pedestrian overpass/underpass or moving the trail away from the roadway entirely.

Respondents were also asked whether they would prefer the trail to be located next to the road for easy access to neighborhoods, business, and local amenities, away from the road in a more natural

setting with fewer access points but better scenery, or a mixture of both. The vast majority of respondents selected either a mixture of both or away from the road (54.2% and 41.3% respectively), and only 4.5% of respondents selected next to the road.

Recommendations

Respondents were provided a list of potential improvements and amenities for the trail extension and asked to select the top three they would want to be implemented. The resultant ranking of improvements and the percentage of survey respondents who selected each improvement is shown in Table 30.

Table 30 | Potential Improvements to the West Orange Trail

Rank	Improvement	Percent Selected
1	Pavement treatments to make the trail more visually prominent (i.e. green paint at intersections or colored pavement for the trail)	64.2%
2	Having dedicated time at a traffic signal for bicycle/pedestrian to cross the street (all cars stopped)	54.5%
3	Adding painted crosswalks at unsignalized crossings	53.0%
4	Landscaping for shade	48.2%
5	Better trail signage	36.5%
6	Landscaping for beautification	21.7%
7	Maintaining a consistent trail width	15.7%
8	Other	6.3%

The results show that trail visibility and crossing safety are the primary concerns for trail users, followed by shade availability, wayfinding, and aesthetics. Those who selected "Other" specified requests for Rectangular Rapid-Flashing Beacons (RRFBs), minimized roadway and driveway crossings, improved lighting, rest facilities, and a constant trail elevation.

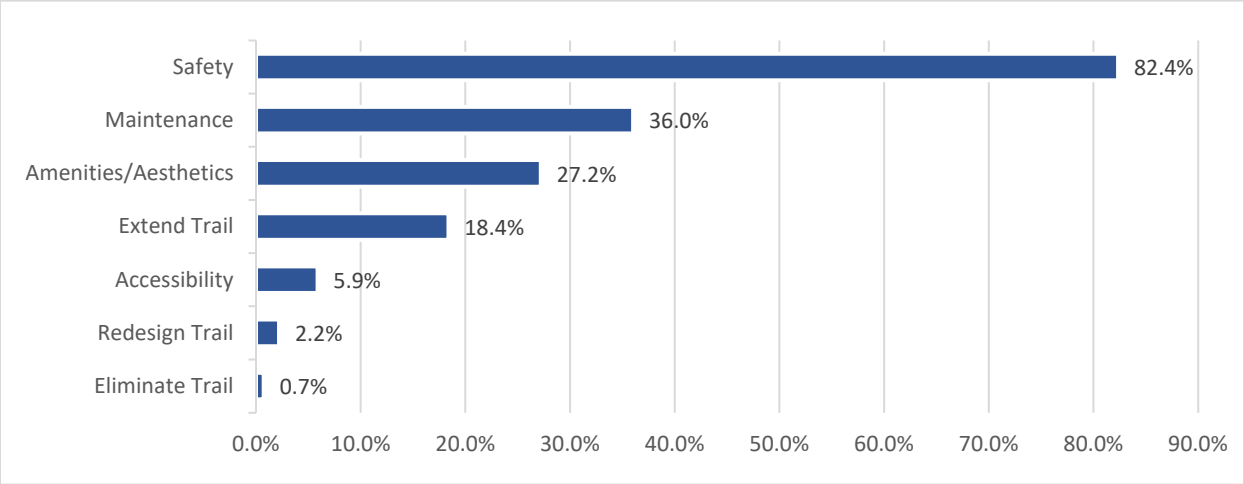
Those who stated that existing conditions either 'Need Improvement' or are 'Poor' were asked to provide their opinion on needed improvements for the West Orange Trail. Over 130 individual responses were provided, which have been summarized into seven categories as described in Table 31. Figure 11 provides a breakdown of the responses received.

As can be seen in Figure 11, the vast majority of recommendations included improvements to safety along the trail (82.4%). A little over a third of respondents mentioned maintenance issues, and a little over a quarter of respondents requested improvements or additions to trail amenities and aesthetics.

Table 31 | Improvement Categories and Tags

Category	Tags
Accessibility	better signage, ease of access to trail
Amenities/Aesthetics	benches / rest areas, landscaping for beautification, landscaping for shade, lighting, painting & enhancing crosswalks
Eliminate Trail	eliminate trail to widen Rock Springs Road
Extend Trail	extend trail, more like a sidewalk than a trail, more sidewalks, more trails, widen trail
Maintenance	increase landscaping maintenance, increase maintenance, poor pavement conditions, trail often closed behind Apopka Middle School
Redesign Trail	redesign trail
Safety	curb ramps, difficult to cross streets and driveways, driver behavior, hard shoulders for bicycle passing, high traffic volumes, improve crosswalks, install RRFBs at crosswalks without traffic lights, more crosswalks, move trail away from the road, physical divider between vehicles and bike lanes, passing lanes on trail, Rock Springs Rd from Lester to Welch is dangerous, general safety, trail security, speed limit on bikes, speeding, traffic congestion, trail visibility, wider trail to separate bikes from pedestrians

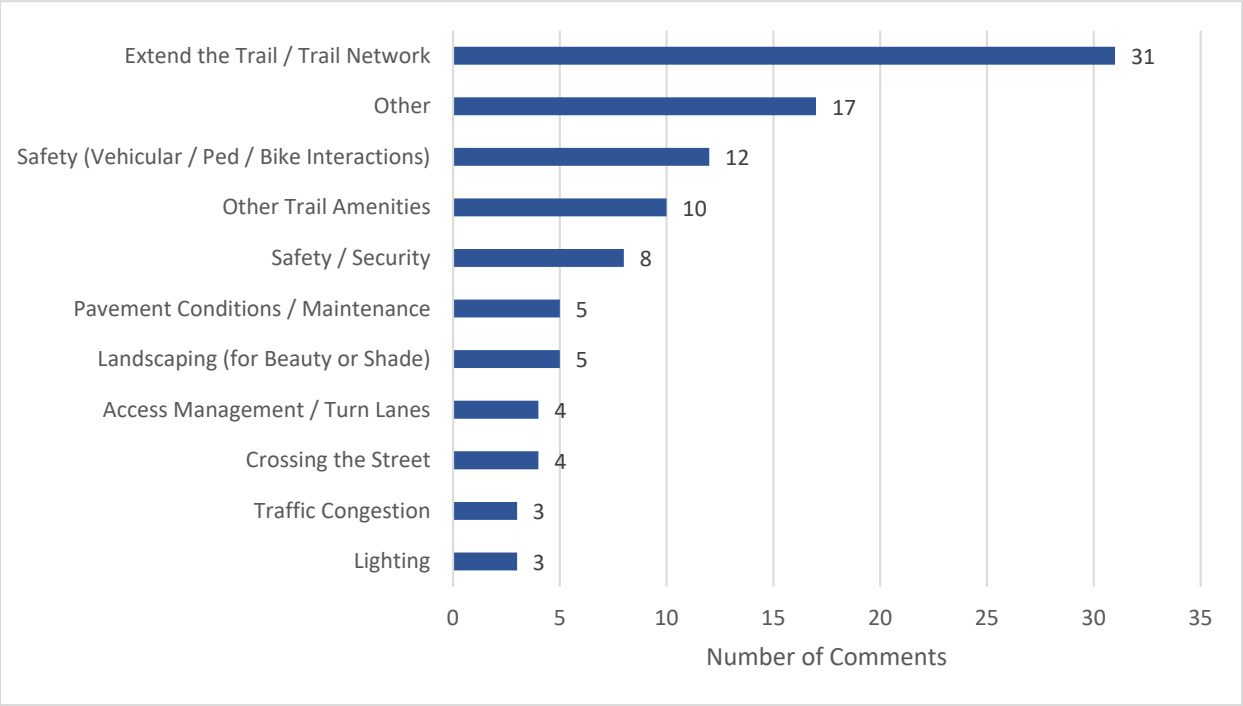
Figure 11 | Summary of Recommended Improvements by Category



Finally, respondents were asked to share any further comments regarding the trail extension. More than 120 comments were submitted, and are generally summarized in Figure 12. Comments for locations outside of the study area were shared with the appropriate local agencies, but are not included in Figure 12.

As shown in Figure 12, the most frequent comments received were support and requests for the extension of the West Orange Trail, particularly to connect to the regional trail network. Many respondents voiced concerns regarding safety along the trail, particularly as relates to traffic congestion, driver behavior, and speeding through the study area. The other trail amenities requested include RRFBs at crosswalks, water fountains, shade canopies, benches, and consistent cellular service as well as clear location markers. Other comments included requests for electric bikes and scooters to be allowed on the trail, concerns that the trail along Rock Springs Road feels more like a sidewalk than a trail, and concerns about trail visibility.

Figure 12| Free Response Summary



9. Opportunities and Constraints

9.1. Opportunities

Rock Springs Road

The presence of bike lanes and an existing sidewalk along Rock Springs Road allow for safe passage for users today. As development occurs along the road in this area, widening of the sidewalk to trail dimensions could be part of the County's development requirement. Trail easements may be acquired from undeveloped, adjacent properties, making it possible to move the trail out of the ROW.

Wekiwa Springs State Park

The location of Wekiwa Springs State Park on the east side of Rock Springs Road and north side of Welch Road presents several unique opportunities for this phase of the West Orange Trail.

Through coordination with Wekiwa Springs State Park, the park has agreed to provide a recreational easement for the trail along Welch Road between Deer Lake Circle and the park entrance. The intention is to move the trail away from the roadside, instead placing it just inside the park boundaries to run around the back of the Park Village Place neighborhood. The easement will significantly reduce the impact of the trail on ROW, utilities, and drainage along Welch Road, as well as providing a safer and more aesthetically pleasing trail segment for trail users. Continued coordination with the state park will be necessary as the project progresses.

If segments of the trail are placed through the park, trees along those segments will provide more shade than can be provided along the roadway corridors, thereby helping to reduce ambient temperatures along the trail. These trees will also serve as a buffer against traffic noises and will greatly enhance the aesthetic appeal of the trail for its users. Running the trail through the park also removes it from running adjacent to the roadway, providing a safer experience for trail users as the potential for crashes between vehicular traffic and trail users is removed for these segments.

Multimodal Connectivity

Extending the West Orange Trail along several of the main corridors in Apopka will enhance the connectivity of the transportation network for non-vehicular traffic – particularly pedestrians and bicyclists. The trail will provide a safer and more accommodating route for non-motorists and more transportation options for the community in the suburban residential areas of Apopka to access downtown Apopka, Wekiwa Springs State Park, the Wekiva Plaza, the Northwest Recreation Complex, etc.

The trail extension will also provide a safer school route to students living within the reasonable walking distance (two miles per Florida Statute 1011.68) of Wolf Lake Elementary School, Wolf Lake Middle School, and Rock Springs Elementary School.

Trail Connectivity

Once the Wekiva Trail Phase 4B is complete, the West Orange Trail will be connected to Lake County's Wekiva Trail. This will increase the length along which trail users can travel without ever leaving a trail from 41.5 miles (the existing West Orange Trail, South Lake and Lake Minneola Scenic Trail, and Hancock Trail) to 85 miles. According to the public surveys conducted during the development of the Orange County Trails Master Plan, one of the main reasons for people choosing to use the West Orange Trail is that it is the longest continuous trail in the Orlando area. This new connection will more than double the continuous trail length, improving existing trail users' experience and potentially attracting new trail users.

9.2. Constraints

Some of the primary contraints that arise when determining the placement of the trail are ROW, drainage, and utilities.

Rock Springs Road

Along Rock Springs Road, the lighting poles on the east side of the roadway are immediately adjacent to the back of the existing sidewalk and overhead utilities (although mostly on the west side of the roadway) regularly cross to the east side of the roadway. To accommodate the addition of a trail at any point along the study corridor, significant relocation of the existing lighting and overhead utilities will be necessary.

The ROW between Lester Road and Faye Street is wide enough to accommodate the addition of the trail. North of Faye Street however, drainage channels currently at the back of the sidewalk on the east side limit the available space within the existing ROW; these will need to be analyzed and modified to provide sufficient room for the trail. Altering the existing drainage will also decrease the available space for the change in elevation between the trail and the adjacent land and may necessitate the

construction of retaining walls and railings to provide vertical tie down. North of Ponkan Road, the available ROW is very limited, with existing retaining walls along several segments of the corridor. ROW will need to be acquired in order to fit the trail in this section; based on the feasibility study for the West Orange Trail included in the 2021 Orange County Draft Trails Master Plan, approximately 30 parcels would be impacted for a total estimated right of way take of 2.2 acres.

The northern third of the Rock Springs Road corridor may contain sand skink habitats and gopher tortoise burrows may be present along the full length of the corridor. A field review is necessary to determine if sand skinks and gopher tortoises are present in these areas, if so, mitigation measures will need to be used to ensure that they are not negatively impacted by the construction of the trail.

Finally, any portions of the trail constructed along Rock Springs Road will be immediately adjacent to roadway curbing, and the trail will have an urban character similar to that of Southern Apopka. As such, trail users must use caution when approaching intersections.

Welch Road

Much of the Welch Road corridor has a narrower ROW than Rock Springs Road, which presents difficulties in accommodating the trail within the existing ROW. The only two segments where no ROW acquisition is necessary are from Rock Springs Road to Parkglen Circle and at the entrance to Wekiwa Springs State Park. From Rock Springs Road to Parkglen Circle, however, aerial utilities and drainage facilities on the north side of the road will need to be relocated in order to accommodate the trail. Between Parkglen Circle and Deer Lake Circle, mature trees are located within 15 feet of the north side of the pavement; a stone wall bordering several back yards is also present along the north side of the roadway. Construction of the trail along this segment will require the removal of the trees and ROW acquisition from the adjacent residential properties (approximately 0.09 acres). Aerial utilities on this segment run along the south side of the roadway, and so are not anticipated to be heavily impacted.

From Deer Lake Circle to west of Falconhill Drive, the Wekiwa Springs State Park borders the north side of the roadway and aerial utilities are present throughout the segment in the small area of available ROW, rendering this segment too narrow to accommodate a trail. The final location of the trail along this segment (and consequent utility relocations) will be dependent on how large of a recreational easement the park is prepared to provide.

Other issues facing the addition of the trail along Welch Road include small areas of wetland impacts from just west of Crown Isle Circle to just east of North Thompson Road (approximately 0.1 acres), and several potential sand skink habitat areas: from Parkglen Circle to 1,500 feet east of Parkglen Circle, from Litchem Road to Northfield Drive, and behind the Park Village Place neighborhood. Gopher tortoise burrows may also be present along the corridor.

Ponkan Road

Along Ponkan Road, the existing ROW on the north side of the roadway from west of Jason Dwelley Parkway to Vick Road is wide enough for the addition of the trail. The land north of the roadway has a steep slope, however, and is prone to erosion – on field visits the loss of support under the existing sidewalk has been noted. The addition of the trail will require regrading or the construction of a retaining wall north of Ponkan Road, as well as modifications to drainage. Between Vick Road and Rock Springs Road the ROW is not wide enough to accommodate the trail on either side of the roadway;

an estimated total of 0.3 acres of ROW acquisition will be needed. Additionally, significant relocation of the aerial utilities on the north side of Ponkan Road from Vick Road to Rock Springs Road will be necessary.

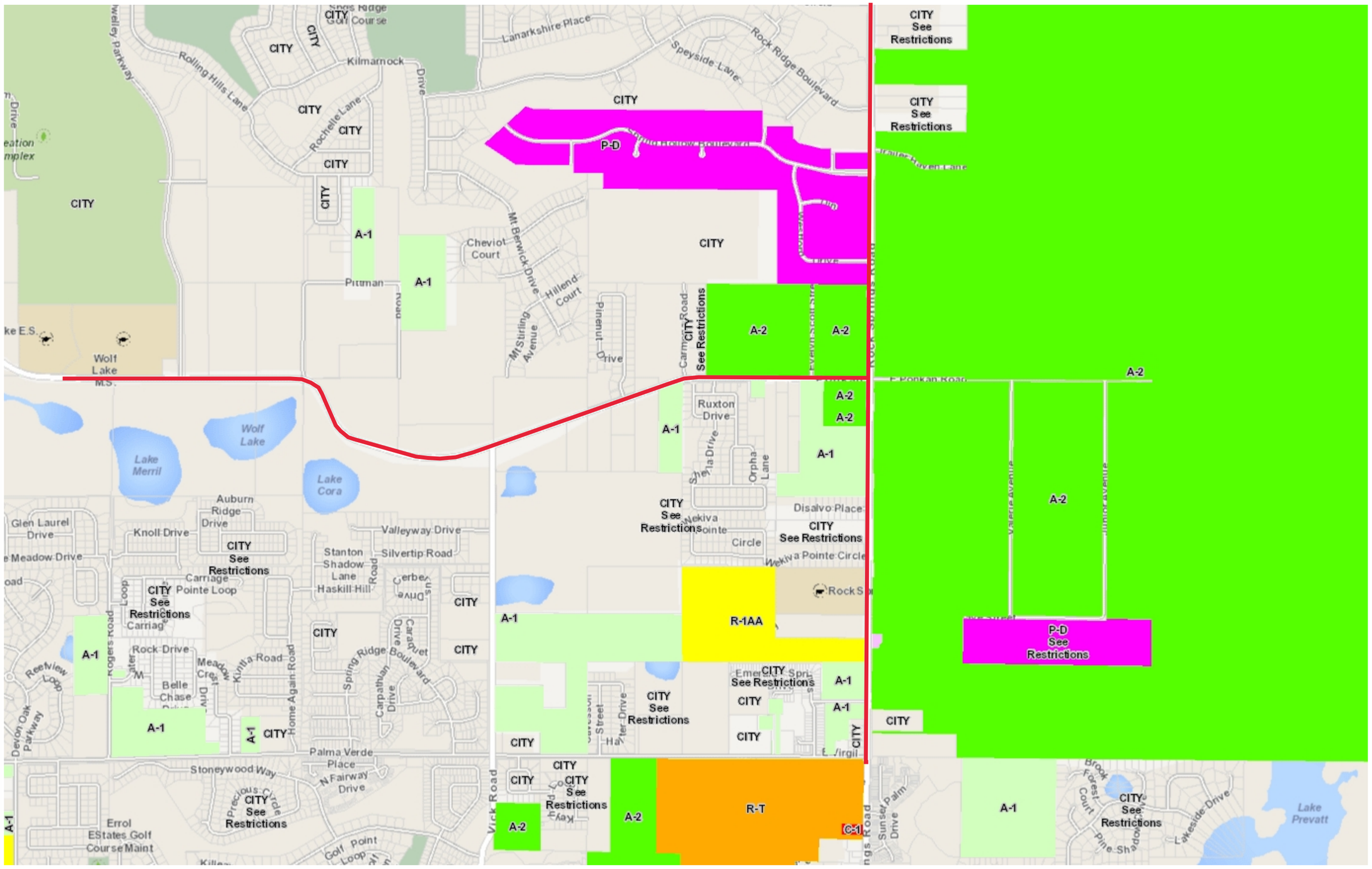
Other issues facing the addition of the trail along Ponkan Road include one USEPA Soil and Water Resources Conservation Act (RCA) site at Evelyn Scott Street, the potential for sand skink habitats between Vick Road and Rock Springs Road, and the potential for gopher tortoise burrows along the corridor.

Appendices

Appendix A

Zoning Maps

Orange County InfoMap Public 11 x 17 Print



Legend

Zoning

- Agricultural Residential
- Citrus Rural
- Commercial
- Farmland Rural
- Industrial
- Mobile Home Residential
- Multiple-Family Dwelling District
- Neighborhood Activity Corridor
- Neighborhood Center
- Neighborhood Residential
- Planned Development
- Professional Office
- Residential
- Residential Cluster
- Residential District
- Residential Low-Density
- University Residential

Primary Streets (8,001 - 16,000

- Floridas Turnpike
- Floridas Turnpike On Ramp N
- I-4
- State Road 408
- State Road 414
- State Road 417
- State Road 429
- State Road 429 Off Ramp N
- State Road 528

- Major Streets (8,001 - 16,000)
- Streets (8,001 - 16,000)
- Railroads
- Parcels
- Water Bodies

Florida Counties

- <all other values>
- ORANGE
- Coastal Waters

- Study Corridor

1: 16,000

0.5 0 0.25 0.5 Miles

NAD_1983_StatePlane_Florida_East_FIPS_0901_Feet
Orange County, FL BCC

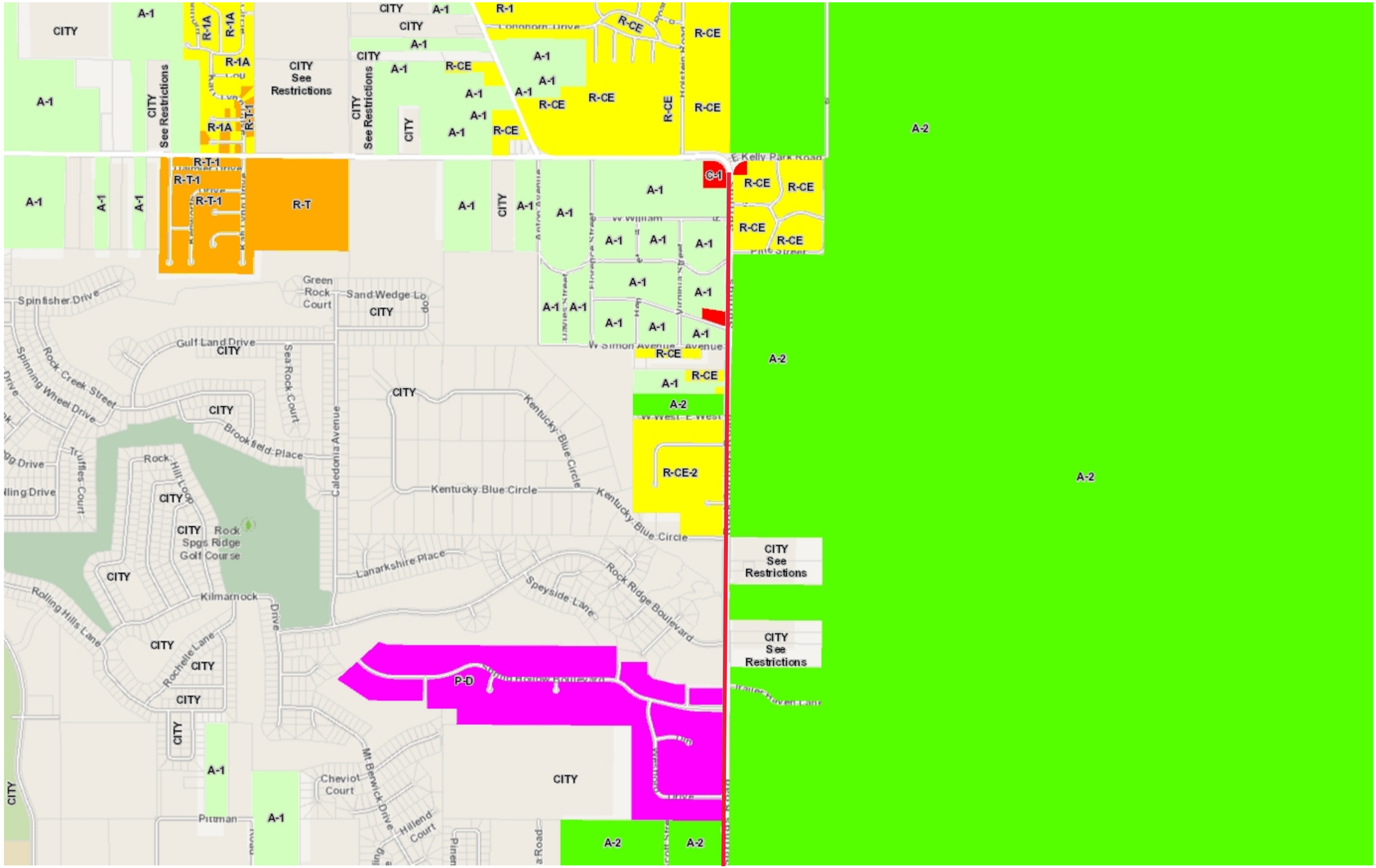
This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

This map was automatically generated using Geocortex Essentials.

Orange County InfoMap Public 11 x 17 Print



Legend

Zoning

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- Commercial
- Farmland Rural
- Industrial
- Mobile Home Residential
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Major Streets (8,001 - 16,000)

Streets (8,001 - 16,000)

Railroads

Parcels

Water Bodies

Florida Counties

- <all other values>
- ORANGE
- Coastal Waters

Study Corridor

1: 16,000

0.5 0 0.25 0.5 Miles

NAD_1983_StatePlane_Florida_East_FIPS_0901_Feet
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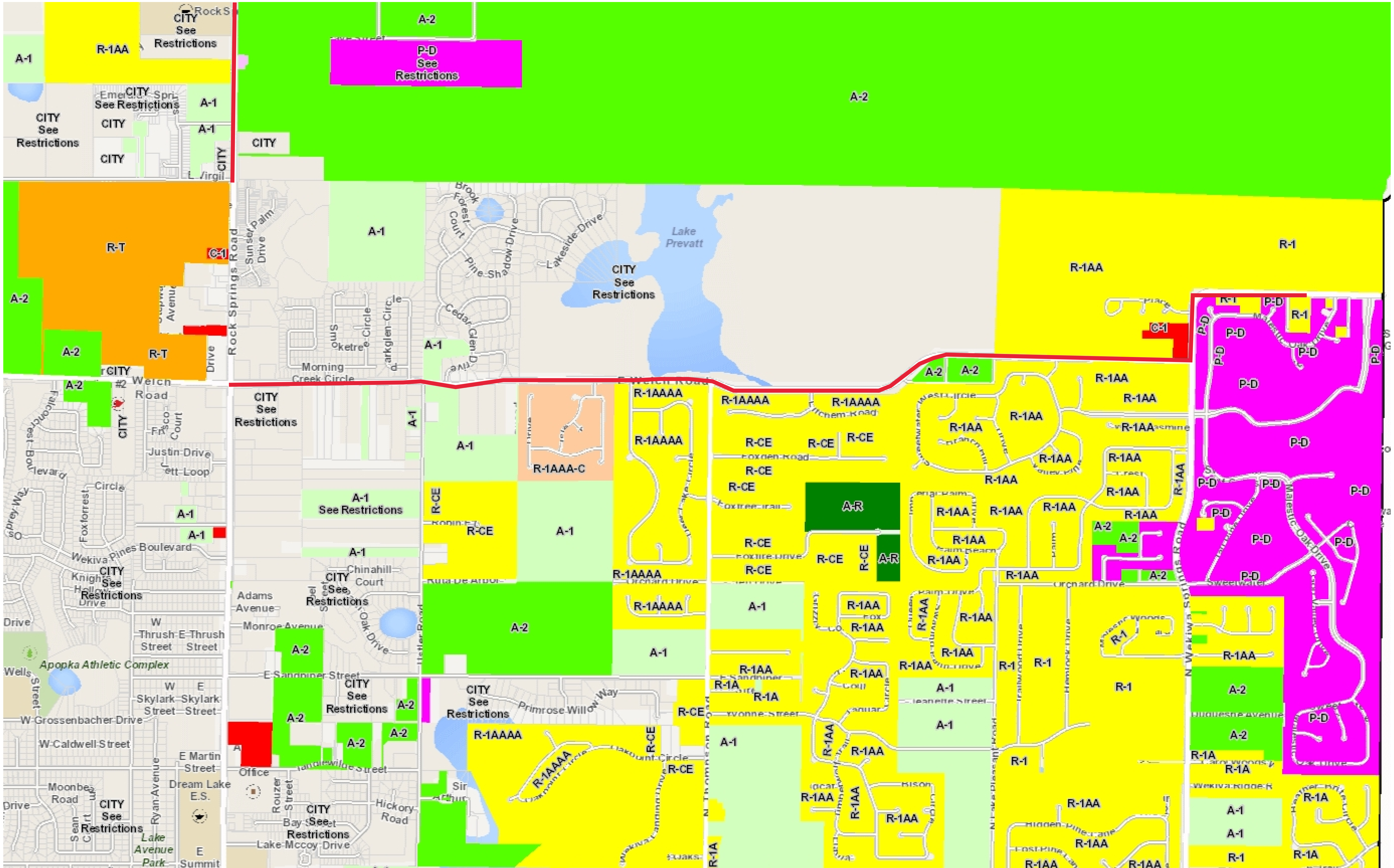

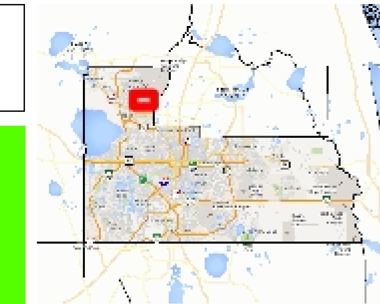

Legend

Zoning

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Major Streets (8,001 - 16,000)

Streets (8,001 - 16,000)

Railroads

Parcels

Water Bodies

Florida Counties

- <all other values>
- ORANGE
- Coastal Waters

Study Corridor

1: 16,000

0.5 0 0.25 0.5 Miles

NAD_1983_StatePlane_Florida_East_FIPS_0901_Feet

Orange County, FL BCC

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Notes

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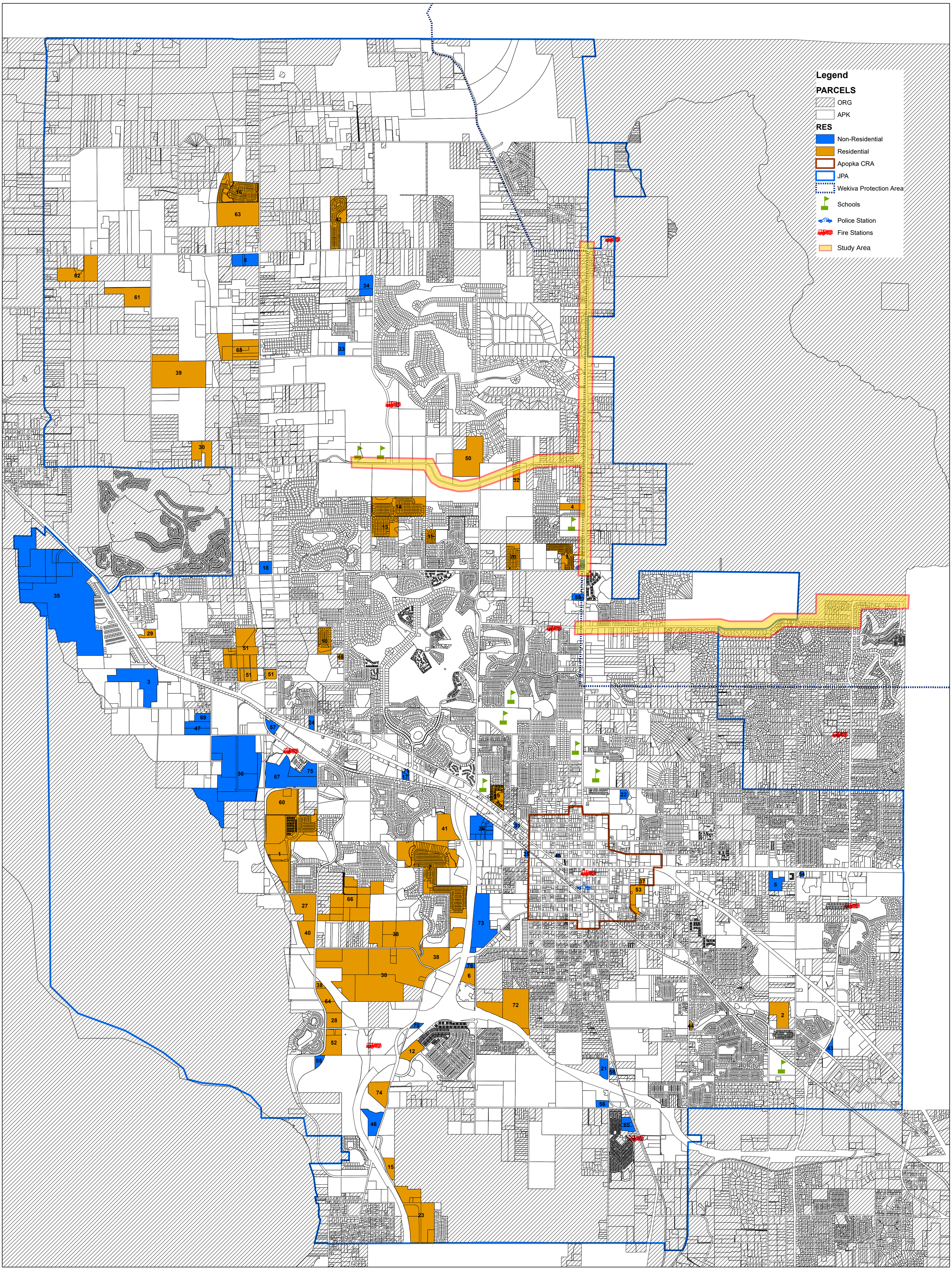
Appendix B

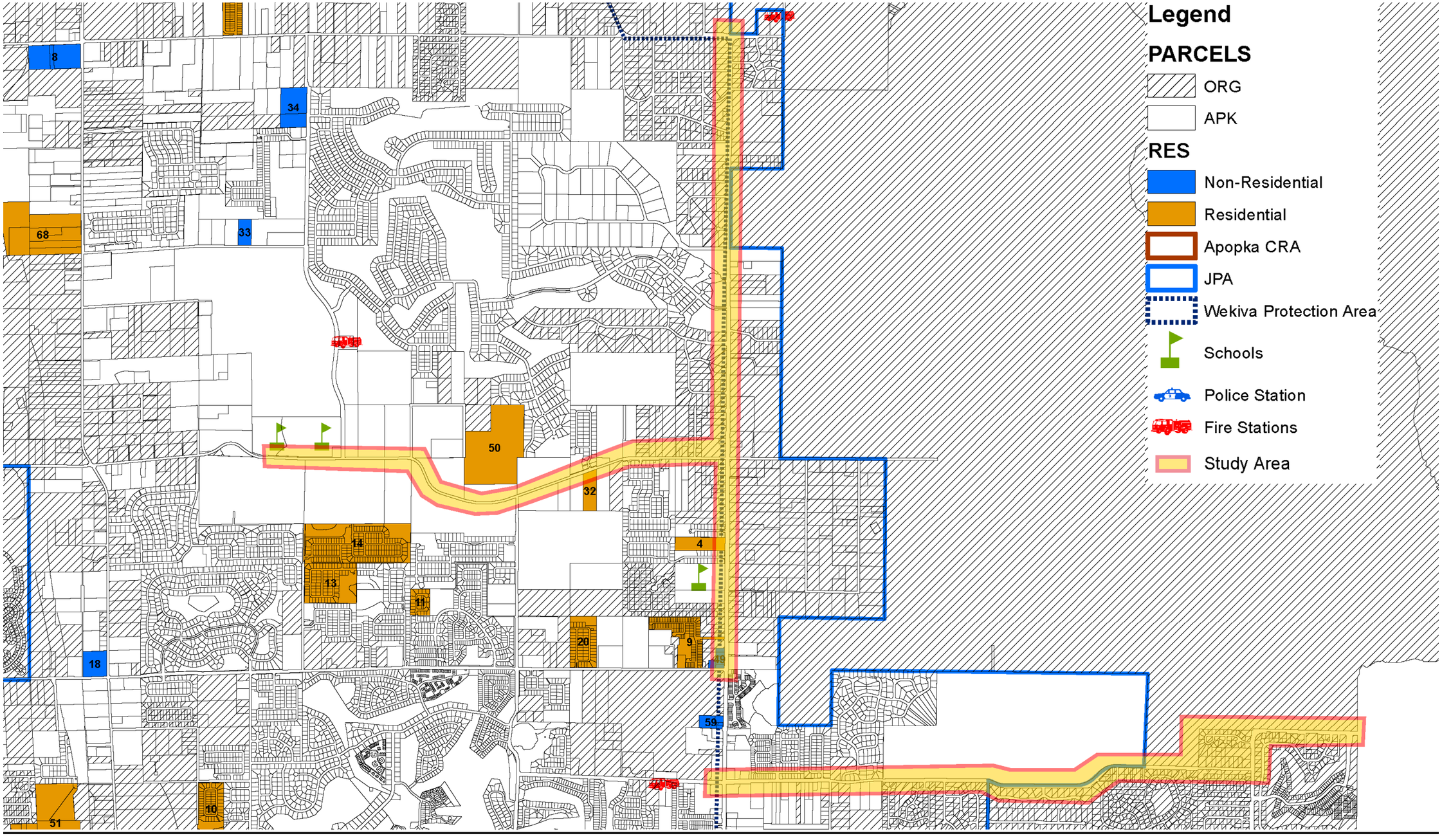
Development Location Map

Development Projects



Total Dwelling Units: 8,563
Total Non-Residential Sq. Ft: 12,175,914
Date: July 6, 2021

Development Map Detail



Apopka Development Projects 7/6/2021

ID	Project Name	Project Type	Acreage	Dwelling Units	Description	Non-Res. Sq. Ft.	Applicant Name	Applicant Email	Applicant #	Status
1	Avian Pointe	PUD Amendment	128	758	480 MF Units / 222 TH Units / 56 SF Units	0	Frank Bombeeck	fb@mercury-advisors.com	813-321-1984	Construction
2	Monarchs at Lake Pleasant	PUD	23.67	126	126 Apartments	0	Chad Linn	clinn@linnengineering.com	407-775-5194	Planned
3	Advent Health Industrial Complex	Site Plan	53.82	0	Industrial Park	455,387	Cameron Haumann	choumann@dwma.com	407-644-4068	Planned
4	Hammock at Rock Springs	PUD	9.59	19	Single Family Subdivision	0	Momtaz Barq	ovallemc@terramaxinc.com	407-578-2763	Planned
5	Fairfield Inn, Self-Storage, & Culvers	Site Plan	12	0	Hotel, Self Storage Facility, Culver's	116,650	Stuart Anderson	klewis@interplanllc.com	407-645-5008	Planned
6	Summer House Apartments	Site Plan	16.08	264	Multi-Family Apartments	0	Luke Classon	lclasson@appianfl.com	407-960-5868	Planned
7	Lakeside	Subdivision Plan	154	301	Single Family Subdivision	0	Luke Classon	lclasson@appianfl.com	407-960-5868	Construction
8	Publix & Retail	Site Plan	18	0	Publix and Various Retail	68,231	Geoff Summit	geoff@glseng.com	407-323-0705	Construction
9	San Sebastian Reserve	Subdivision Plan	23	112	Single Family Subdivision	0	Richard Wohlfarth	rwohlfarth@wcgroup.co	407-350-9090	Construction
10	Legacy Hills	Subdivision Plan	20	48	Single Family Subdivision	0	Claude Cassagnol	clcassagnol@gtc.us	407-244-5664	Planned
11	Country Crossing Estates	Subdivision Plan	7	24	Single Family Subdivision	0	James Fraser	jfraserpe@earthlink.net	407-719-6040	Construction
12	Residences at Emerson Park	Subdivision Plan	24	103	Townhome Subdivision	0	Leah Fitzpatrick	lfitzpatrick@vhb.com	407-893-4728	Planned
13	Carriage Hill Ph. 1	Subdivision Plan	30.58	72	Single Family Subdivision	0	Christopher Allen	callen@dewberry.com	321-354-9739	Construction
14	Vista Reserve	Subdivision Plan	61	153	Single Family Subdivision	0	Chadwyck Moorehead	chad@madden-eng.com	407-629-8330	Construction
15	Ascend Oakpointe	Site Plan	10.27	240	Apartment Complex	0	David Evans	permitting@evansenginc.com	407-872-1515	Planned
16	Bridle Path	Subdivision Plan	51	152	Single Family Subdivision	0	Erica Hughes	ehughes@vhb.com	407-893-4769	Construction
17	Legacy Station Lot 3	Site Plan	2.4	0	Medical Office	8,000	Selby Weeks	sweeks@klimaweeks.com	407-478-8750	Construction
18	West Apopka Self Storage	Site Plan	9	0	Self Storage Site	71,107	Robert Bliss	rblissmd@yahoo.com	407-595-2552	Construction
19	Hidden Lake	Subdivision Plan	16	92	Townhome Subdivision	0	Chadwyck Moorehead	chad@madden-eng.com	407-629-8330	Construction
20	Bridlewood	Subdivision Plan	20	52	Single Family Subdivision	0	Luke Classon	lclasson@appianfl.com	407-960-5868	Construction
21	Coral Hills Self-Storage	Site Plan	9	0	Self Storage Site	52,875	Larry Poliner	larry@rceconsultants.net	407-452-8633	Construction
22	Seventh Day Adventist	Site Plan	4.31	0	Church Addition	17,470	Stanley Hill	stanleyhill@bellsouth.net	904-419-1001	Planned
23	Oak Point	Subdivision Plan	69	238	118 SF Units / 120 TH Units	0	Evans Engineering	permitting@evansenginc.com	407-872-1515	Construction
24	Iglesia Getsemani	Site Plan	2	0	Place of Worship	12,000	Bernardino Mateos	bernardomateo@yahoo.com	407-310-8672	Planned
25	S&F Electronics	Site Plan	1.37	0	Warehouse	9,200	Ken Ehlers	kehlers@comcast.com	407-448-3412	Planned
26	Lake Gem Commerce Center	Subdivision Plan	29	0	Industrial Park	697,831	Al Tehrani	algtehrani@yahoo.com	407-948-0811	Construction
27	Clonts Farm	Subdivision Plan	30.94	72	Single Family Subdivision	0	Justin Allen	juallen@khov.com	321-263-2608	Planned
28	Binion Road Multifamily (Peckett)	Site Plan	12.73	180	Multifamily Apts.	0	Brent Lenzen	brent.lenzen@kimley-horn.com	407-898-1511	Planned
29	Winward Hills	Subdivision Plan	67.76	101	Single Family Subdivision	0	Luke Classon	lclasson@appianfl.com	407-960-5868	Planned
30	Nottingham Subdivision	Subdivision Plan	23.4	46	Single Family Subdivision	0	Luke Classon	lclasson@appianfl.com	407-960-5868	Planned
31	Express Car Wash	Site Plan	1.65	0	Express Car Wash	4,290	Michael J. Palmer	mpalmer@synergycivileng.com	727-470-1344	Planned
32	Ponkan Reserve	Subdivision Plan	7.47	14	Single Family Subdivision	0	Charles Hiott	chiott@besandh.com	352-343-8481	Planned
33	Renewal Church	Site Plan	5	0	Place of Worship	10,400	Don Sabiston	don@sabistonengineering.com	407-884-6764	Construction
34	K-8 School	Site Plan	15.09	0	Jason Dwelley K-8 School	TBD	Amelia Huckeba	ahuckeba@klimaweeks.com	321-946-6651	Planned
35	Rubright	Master Plan	349.37	0	Industrial Park	4,500,000	Kathy Hattaway	hisaacs@poulosandbennett.com	407-487-2594	Planned
36	Mid Florida Logistics Park	PUD	189	0	Industrial Park	2,406,095	Dave Schmitt	dsemailbox@dseorl.com	407-207-9088	Construction
37	Hannibal Square Apartments	Site Plan	2.23	24	Townhome Subdivision	0	Karin Leissing	karin@harriscivilengineers.com	407-629-4777	Planned
38	Bronson Property	Master Plan	366	1,321	678 MF Units/643 TH and/or SF units	1,875,000	John Prowell	jprowell@vhb.com	407-893-4764	Planned
39	Park View Place	Subdivision Plan	91.94	282	Single Family Subdivision	0	Jimmy Crawford	jcrawford@cmhlawyers.com	352-432-8644	Planned
40	Binion Reserve	Subdivision Plan	21.36	44	Single Family Subdivision	0	June Engineering		407-905-8180	Planned
41	Faircloth Lakes	Subdivision Plan	25	31	Single Family Subdivision	0	Jim Fraser	jfraserpe@earthlink.net	407-719-6040	Planned
42	Oaks at Kelly Park	Subdivision Plan	39	124	Single Family Subdivision	0	Geoff Summit	geoff@glseng.com	407-323-0705	Construction
43	Sebastian Moving Company	Site Plan	3.87	0	Moving Company	20,000	Brad Alexander	brad.alexander@exolimited	239-281-1066	Planned
44	Sheeler Pointe	Subdivision Plan	2	5	Single Family Subdivision	0	Timothy Schutz	tim.schutz.pe@gmail.com	407-595-7314	Planned
45	South Lake Office Retail	Site Plan	0.81	0	Office Building	11,587	Tuan Huynh	tuan@rcefl.com	407-340-5713	Planned
46	Western Beltway	Site Plan	18.07	0	Warehouse	189,000	Sam Sebaali	ssebaali@feg-inc.us	407-895-0324	Planned
47	Hermit Smith Warehouse	Site Plan	19.61	0	Warehouse	290,000	Jason Lewis	jason.lewis@kimley-horn.com	863-226-6860	Planned
48	Lake Standish Estates	Subdivision Plan	1.88	3	Single Family Subdivision		Heath Frank	ucffliguy@gmail.com	321-696-1156	Planned
49	Gateway Plaza	Site Plan	3.36	0	Shopping Plaza	32,430	Ashish Kapadia	ashish@vbrogroup.com	407-830-1975	Planned
50	Rock Springs Preserve	Subdivision Plan	35	111	Single Family Subdivision	0	Geoff Summit	geoff@glseng.com	407-323-0705	Planned
51	Floridian Town Center	Subdivision Plan	77.29	1000	Mixed Use Subdivision	0	Tony Benge	mark.wilkie@colliercompanies.com	352-416-1443	Planned
52	Alta East Shore Apts.	Subdivision Plan	24.4	285	Multifamily Apts.	0	David Stokes	dstokes@madden-eng.com	407-629-8330	Construction
53	City Center Apts	Subdivision Plan	13	192	Multifamily Apts.	0				Conceptual
54	Double O's	Site Plan	1.02	0	Coffee Shop	640	Selby Weeks	sweeks@klimaweeks.com	407-478-8750	Planned
55	SJRWM Apopka Service Center	Site Plan	4.99	0	Office Building	17,337	Wood Environment & Infrastructure		407-522-7570	Planned
56	Sanctuary Medicinals	Site Plan	17.69	0	Medical Marijuana Cultivation Site	43,917	Sam Sebaali	ssebaali@feg-inc.us	407-895-0324	Planned

ID	Project Name	Project Type	Acreage	Dwelling Units	Description	Non-Res. Sq. Ft.	Applicant Name	Applicant Email	Applicant #	Status
57	List Industries	Site Plan	6.55	0	Warehouse	85,680	Rodney Gadd	projects@gaddcivil.com	863-940-9979	Planned
58	Menol Transport	Site Plan	2.24	0	Semi-Truck Parking Area	0	Larry Poliner	larry@rceconsultants.net	407-452-8633	Planned
59	Retail at Rock Springs & Tanglewood	Subdivision Plan	4.59	0	Retail Center	12,888	Ronald Henson	ronald.henson@avidgroup.com	407-468-4104	Planned
60	Coke Property Subdivision	Subdivision Plan	41.85	200	Single Family & Townhome Subdivision	0	Geoff Summit	geoff@glseng.com	407-323-0705	Planned
61	Golden Orchard Estates	Subdivision Plan	35.56	165	Single Family Subdivision	0	Geoff Summit	geoff@glseng.com	407-323-0705	Construction
62	Oakview	Rezoning/Master Plan	39.6	114	Single Family Subdivision	0	Ben Snyder	bsnyder@hcpland.com	407-988-1408	Planned
63	Orlando Beltway East	Subdivision Plan	56.51	202	Single Family & Townhome Subdivision	0	Leah Fitzpatrick	lfitzpatrick@vhb.com	407-893-4728	Planned
64	Apex Apopka	Site Plan	18.98	285	Multi-Family Apartments	0	Chris Leppert	chris.leppert@kimley-horn.com	407-223-3663	Planned
65	Clarcona Office Warehouse	Site Plan	9.39	0	Warehouse/Office	48,000	Andrew Gerdom	andrewgerdom@yahoo.com	317-407-5337	Planned
66	Magnolia Terrace	Master Plan	81.18	300	176 Townhomes/124 SF Homes	0	Brian Kittle	Brian.Kittle@meritagehomes.com	407-721-8640	Planned
67	Crossroads 429	Site Plan	50.4	0	Warehouse	280,437	George Stock	George.stock@stockassoc.com	636-530-9100	Planned
68	Plymouth Sorrento Assemblage	Subdivision Plan	50.77	179	Single Family Subdivision	0	Aaron Struckmeyer	Aaron.Struckmeyer@Pultegroup.com	407-661-2201	Planned
69	700 Hermit Smith Warehouse	Site Plan	7.38	0	Warehouse	34,996	Andrew Gerdom	andrewgerdom@yahoo.com	317-407-5337	Planned
70	Harmon Center	Site Plan	2.93	0	Commercial Center	24,990	DRDevelopment Investments, LLC	dower@arint.com	407-353-0333	Planned
71	Legacy Station Lot 2	Site Plan	1.31	0	Restaurant & Dental Office	7,464	Selby Weeks	sweeks@klimaweeks.com	407-478-8750	Planned
72	Emerson Point	Master Plan	69.65	225	128 Townhomes, 97 SF Homes	0	Ricardo Diaz	rdiaz@mihomes.com	407-531-5176	Planned
73	Northstar	Site Plan	55.19	0	Warehouse	761,240	Sam Sebaali	ssebaali@feg-inc.us	407-895-0324	Planned
74	Ocoee-Apopka Road Multifamily	Master Plan	21.56	304	Multifamily Apts.	0	Tad Dixon	tad@ftcommercial.net	321-594-6771	Planned
75	Roadmaster	Site Plan	15.53	0	Drivers School	10,772	Jody Green	jgreen@werner.com	402-895-6640	Planned
76	Marden Road Track & Field	Site Plan	2.44	0	Track & Field	0	Luke Classon	lclasson@appianfl.com	407-960-5868	Planned
				Total Dwelling Units: 8,563		**Total Non-Residential Sq. Ft.: 12,175,914**				

Appendix C

Transit Map

WELCOME ABOARD!

LYNX operates 83 Links to great places throughout Central Florida. If you don't see your destination here, **CONTACT US** and we can connect you to the right Link for your trip.

Riding LYNX is also easy on your wallet. You can pay for your trip as you board the bus:

ONE RIDE	ALL-DAY
$2.00 Regular	**$4.50** Regular
$1.00 with LYNX discount fare ID	**$2.25** with LYNX discount fare ID

Link 709 and LYMMO are currently Fare Free.

Please see individual Link schedules for more information.

EXACT FARE REQUIRED
No change given.

Ready to roll? Look inside for more info...

Public Notice of Title VI Rights
The Central Florida Regional Transportation Authority d/b/a LYNX:

- LYNX operates its programs and services without regard to race, color, and national origin in accordance with Title VI of the Civil Rights Act. Any person who believes she or he has been aggrieved by any unlawful discriminatory practice under Title VI may file a complaint with LYNX.
- For more information on LYNX' Civil Rights Program, and the procedures to file a complaint, contact, 407-841-2279 ext. 6117, email Title6officer@golynx.com, or visit our administrative office at 455 N. Garland Avenue, Orlando, Florida 32801. For more information, visit www.golynx.com
- A complainant may file a complaint directly with the Federal Transit Administration Office of Civil Rights, Attention Title VI Program Coordinator, East Building, 5th Floor-TCR, 1200 New Jersey Avenue, SE, Washington, DC 20590.
- If information is needed in another language, contact 407-841-2279 ext. 6117.

LYNX®

LYNX is the public transit provider for Orange, Osceola and Seminole counties. Additional connectivity with Lake and Polk counties.

CONTACT US for information on fares, bus stops, schedules and trip planning:

407-841-5969 *phone*

golynx.com *web*

THANK YOU FOR RIDING LYNX!

BROCHURE

(A) APOPKA SUPERSTOP

Links 44, 106, 405, 436N, NeighborLink 652

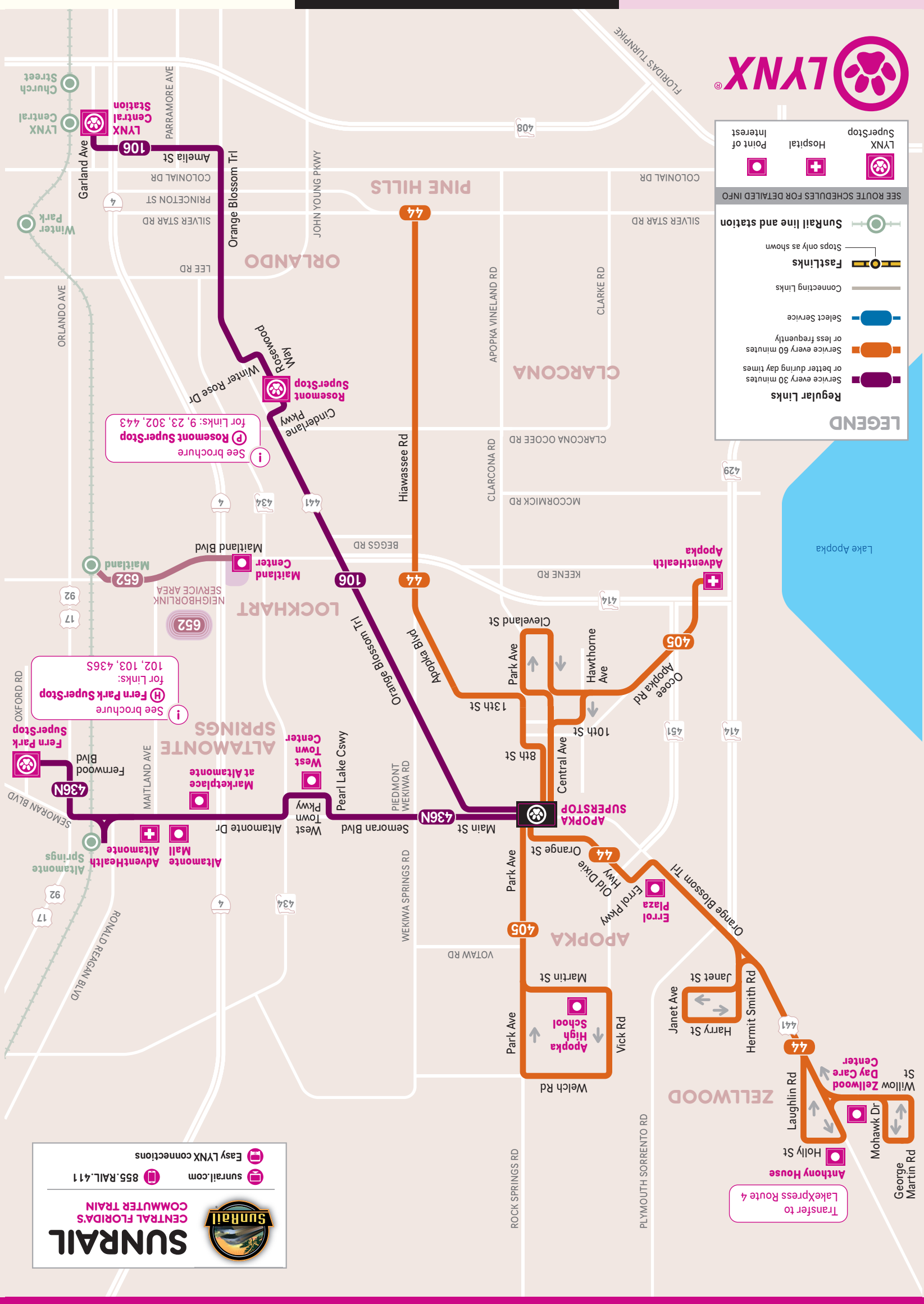
DIRECT SERVICE TO:

- Altamonte Springs SunRail
- Downtown Orlando
- Fern Park SuperStop
- AdventHealth Apopka
- Rosemont SuperStop
- Zellwood

LYNX®

Effective: APRIL 2021

Other accessible formats available upon request



APOPKA SUPERSTOP

Schematic Map
Not to Scale

NORTH

BUS SERVICE FREQUENCY

To plan your trip or view full bus schedule visit **golynx.com**

EFFECTIVE APRIL 2021 - ALL BUS SERVICE FREQUENCIES ARE APPROXIMATE AND SUBJECT TO CHANGE

Times indicate departures from the BEGINNING of the route. Diagrams show major points on each Link – buses make additional local stops along the way.

44 NORTHBOUND
to Zellwood

Silver Star Rd/ Hiawassee Rd	Hiawassee Rd/ Apopka Blvd	Apopka SuperStop	Errol Plaza	Harry St/ Janet Ave	Anthony House
approximate time away >	13 mins	22 mins	33 mins	40 mins	49 mins

MINS AFTER THE HOUR	MON–FRI	SAT	SUN/HOL
FIRST TRIP	5:25 am*	5:25 am*	NO SERVICE
ALL-DAY	:25	:25	
LAST TRIP	7:25 pm	7:25 pm	

* *First trip from Harry St/Janet Ave at 5:07 am*

44 SOUTHBOUND
to Pine Hills

Anthony House	Errol Plaza	Apopka SuperStop	Apopka Blvd/ Hiawassee Rd	Silver Star Rd/ Hiawassee Rd
approximate time away >	21 mins	32 mins	41 mins	54 mins

MINS AFTER THE HOUR	MON–FRI	SAT	SUN/HOL
FIRST TRIP	5:20 am	5:20 am	NO SERVICE
ALL-DAY	:20	:20	
LAST TRIP	8:20 pm	8:20 pm	

405 NORTHSIDE
Apopka Circulator

Apopka SuperStop	Martin St/ Apopka High School	Welch Rd/ Park Ave	Apopka SuperStop
approximate time away >	9 mins	15 mins	25 mins

MINS AFTER THE HOUR	MON–FRI	SAT	SUN/HOL
FIRST TRIP	5:10 am	5:15 am	5:15 am
DAY 5–7 am	:10	:15	:15
DAY 7 am–8 pm	:15		
LAST TRIP	7:15 pm	7:15 pm	7:15 pm

405 SOUTHSIDE
Apopka Circulator

Apopka SuperStop	Central Ave/ Cleveland St	AdventHealth Apopka	Apopka SuperStop
approximate time away >	4 mins	12 mins	23 mins

MINS AFTER THE HOUR	MON–FRI	SAT	SUN/HOL
FIRST TRIP	4:45 am	4:45 am	4:45 am
DAY 5 am–1 pm, 1–7 pm	:45	:45	:45
EVE 7–8 pm	:40	:40	:45
NIGHT 8 pm–12 am	:30	:35	--
LAST TRIP	12:30 am	8:35 pm	7:45 pm

106 INBOUND
to LYNX Central Station

Apopka SuperStop	O.B.T./Piedmont-Wekiwa Rd	Rosemont SuperStop	O.B.T./ Silver Star Rd	LYNX Central Station - Bay F
approximate time away >	11 mins	26 mins	34 mins	47 mins

MINS AFTER THE HOUR	MON–FRI	SAT	SUN/HOL
FIRST TRIP	4:25 am	4:55 am	4:50 am
DAY 4–5 am	:25, :55	:25, :55	:50
DAY 5–6 am	:20, :35, :50		
DAY 6–7 am	:05, :20, :35, :48	:20, :50	
DAY 7–8 am	:00, :15, :30, :45		
DAY 8–9 am	:00, :15, :45		
DAY 9 am–5 pm	:15, :45		
DAY 5–7:30 pm	:20, :50		
EVE 7:30–10 pm	:55	:50	:00
NIGHT 11 pm–12 am	:00	--	--
LAST TRIP	12:00 am	9:50 pm	8:00 pm

106 OUTBOUND
to Apopka SuperStop

LYNX Central Station - Bay F	O.B.T./ Silver Star Rd	Rosemont SuperStop	O.B.T./Piedmont-Wekiwa Rd	Apopka SuperStop
approximate time away >	15 mins	25 mins	38 mins	49 mins

MINS AFTER THE HOUR	MON–FRI	SAT	SUN/HOL
FIRST TRIP	4:45 am	4:45 am	4:45 am
DAY 5 am–4 pm	:15, :45	:15, :45	:45
EVE 4–7 pm	:00, :15, :30, :45		
EVE 7–8 pm	:15, :45	:45	--
NIGHT 8–11 pm	:45		
LAST TRIP	11:45 pm	9:45 pm	7:45 pm

652 NEIGHBORLINK
Maitland Center

NeighborLink 652 *is based at the Maitland SunRail Station and provides curb-to-curb service to the Maitland Center with advanced reservations.*

Passengers must call 407-244-0808 at least two hours in advance to arrange a pickup in the curb-to-curb service area of Maitland Center or use the NeighborLink app.

	MONDAY–FRIDAY ONLY
AM TRIPS depart	6:35, 7:35, 8:35 am
DAY	NO SERVICE
PM TRIPS arrive	5:10, 6:15, 7:00 pm

At SunRail Station

436N WESTBOUND
to Apopka SuperStop

Fern Park SuperStop	Altamonte Springs SunRail**	Altamonte Mall	SR-436/ West Town Pkwy	Apopka SuperStop
approximate time away >	9 mins	16 mins	33 mins	54 mins
Weekend Only	-- mins	10 mins	25 mins	45 mins

MINS AFTER THE HOUR	MON–FRI	SAT	SUN/HOL
FIRST TRIP	5:05 am*	5:25 am*	6:55 am
DAY 5 am–7 pm	:05, :35	:25, :55	:55
EVE 7–8 pm		:20, :50	
EVE 8–9 pm		:35, :58	
NIGHT 9–10 pm	:05, :40	:28	--
NIGHT 10–11 pm	:25	:00, :30	
NIGHT 11 pm–12 am	:10, :40		
LAST TRIP	12:20 am	12:00 am	8:55 pm

* *First trip departs from SR-436/West Town Pkwy at 5:05 am (Mon-Fri) and 4:30 am (Sat).*

** *Altamonte Springs SunRail Station served Monday–Friday only*

436N EASTBOUND
to Fern Park SuperStop

Apopka SuperStop	SR-436/ West Town Pkwy	Altamonte Mall	Altamonte Springs SunRail**	Fern Park SuperStop
approximate time away >	20 mins	38 mins	48 mins	56 mins
Weekend Only	17 mins	33 mins	-- mins	42 mins

MINS AFTER THE HOUR	MON–FRI	SAT	SUN
FIRST TRIP	4:30 am	4:40 am	6:50 am
DAY 5–8 am	:00, :30	:10, :40	:50
DAY 8 am–12 pm	:25, :55		
DAY 12 pm–5 pm	:20, :50		
DAY 5 pm–6 pm	:25, :55		
DAY 6–7 pm	:30		
EVE 7–8 pm	:00, :30	:10, :43	
EVE 8–9 pm	:05, :55	:10, :40	
NIGHT 9–10 pm	:25, :55	:17, :40	--
LAST TRIP	9:55 pm	9:40 pm	8:50 pm

** *Altamonte Springs SunRail Station served Monday–Friday only*

LYNX Bus Tracker | LYNX PawPass | LYNX See & Say | NeighborLink

Download our apps to help you pay your fare, report safety and security concerns, get real-time information and schedule your NeighborLink ride.

Download on the App Store | GET IT ON Google Play

CAN'T FIND YOUR LINK?

LYNX has 21 brochures, listed below, to help you find your bus. Each one shows the Links serving a certain area, like Fern Park, or a particular service, like LYMMO. You can also use the table to the right, which shows each Link and the brochure it appears on. Note that some Links are shown on more than one brochure.

LYNX BUS SERVICE BROCHURES

- (A) Apopka SuperStop
- (B) Colonial Plaza SuperStop
- (C) Colonial Dr East/West
- (D) Colonial Dr West/West Oaks Mall
- (E) Destination Parkway
- (F) Dixie Belle Dr & Gatlin Ave
- (G) FastLink Services
- (H) Fern Park SuperStop
- (I) Florida Mall SuperStop
- (K) Kissimmee Intermodal Station
- (L) LYNX Central Station
- (M) LYMMO
- (N) Orlando International Airport
- (O) Poinciana Walmart Center
- (P) Rosemont SuperStop
- (Q) Sanford Seminole Centre
- (R) SunRail Connections
- (S) UCF Area
- (T) Disney Area
- (U) Washington Shores SuperStop
- (V) Winter Park Village Area

QUESTIONS?

Visit us online
golynx.com

Give us a call
407.841.LYNX

Like us on Facebook
facebook.com/golynx

Follow us on Twitter
@lynxbusorlando

Link	Brochure
1	R V
3	F L
6	B F
7	I L
8	E L
9	P R V
10	K
11	L N R
13	B L S
15	L S
18	K L R
20	L U
21	L U
23	P R V
24	U
25	L U
26	K O
28	C L
29	C L
34	Q R
36	L U
37	I
38	E L
40	L R U
42	E I N R
44	A
45	Q R
46E	Q R
46W	Q R
48	C L
49	C L
50	L T
51	B L N
54	D L
55	K
56	K T
57	K U
58	E
102	H L R V
103	H Q
104	C L S
105	C D L
106	A L P
107	I L
108	I K
111	E I N R
125	D L R
155	K R
300	L T
301	T
302	P T
303	T U
304	T
305	T
306	O R T
313	B L
319	L U
405	A
426	O
434	R S
436N	A H R
436S	F H N
443	P R V
709	K
FastLink	
407	G N K
418	G I R
441	G I K L
LYMMO	
L M	Orange Line
L M	Lime Line
M	Grapefruit Line
NeighborLink	
601	O
604	O R
611	D
612	C D
613	D
621	S
622	S
631	K R
632	K R
641	E
651	Q R
652	A H R V

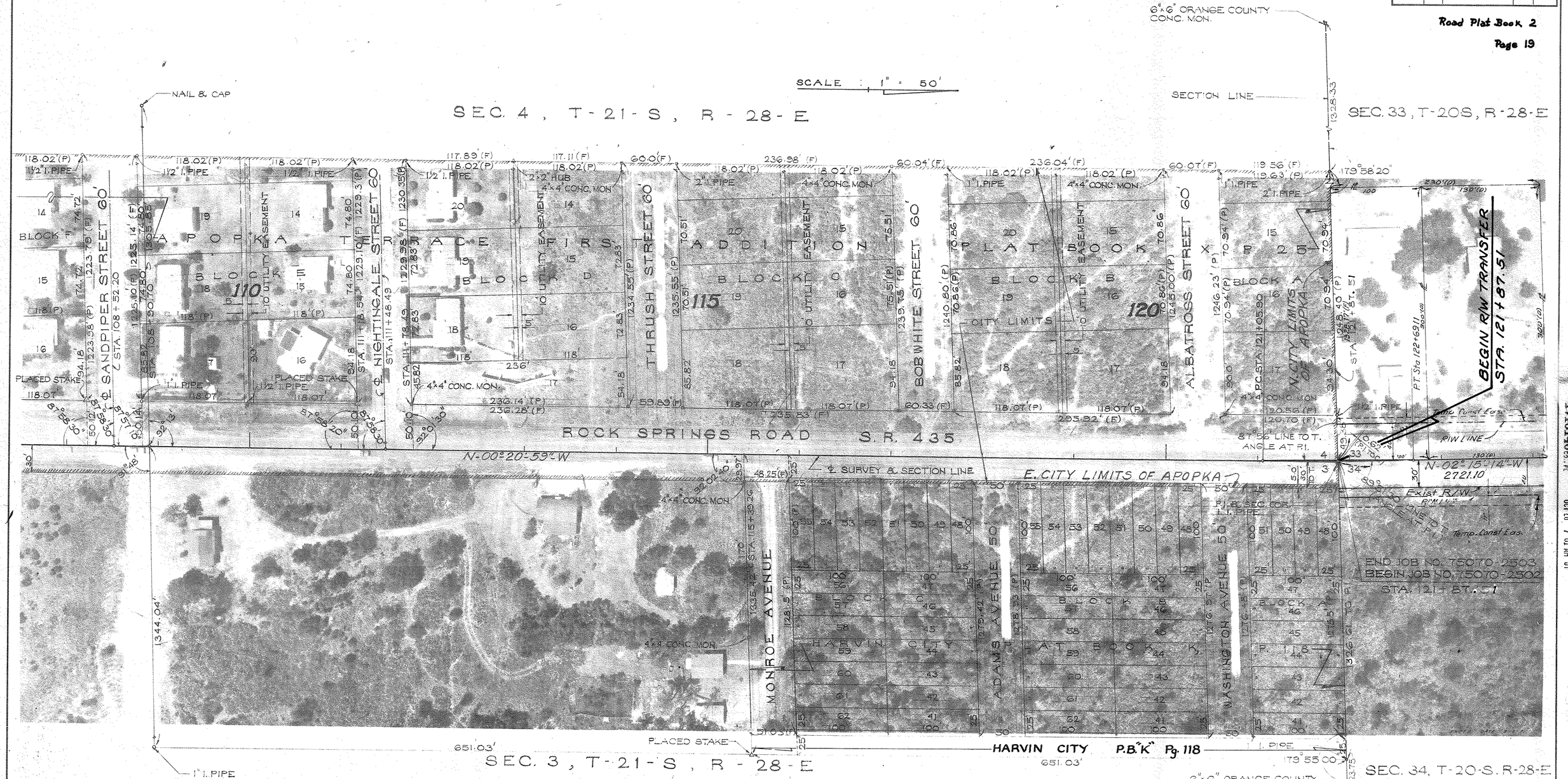
Appendix D

Right of Way Maps

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

Road Plat Book 2

Page 19



B.I.N° 524159

CURVE DATA ℄ SURV.

P.I. STA. 121 + 87.51
Δ = 01°54'15" LT.
D = 1°10'00"
T = 81.61'
L = 163.21'
R = 4911.07'
P.C. STA. 121+05.90
P.T. STA. 122+69.11

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to ORANGE County."

Recorded in Public Records of Orange County, Florida, this 26 day of Oct. A.D. 1981 in Road Plat Book 2 Pages 18 thru 22.

Thomas H. Locke, County Comptroller
By: [illegible] D.C.

Orange County, Florida

REVISION	BY	DATE
Rev R/W Misc. Sta. 115 117, 120 Added Info	KAH-dds DDD-JW HSH-JW	8-15-75 4-10-75 4-5-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-27-71	E. F. Benedict (DISTRICT ENGINEER)	2-6-75
TRACED				
CHECKED	M. J. B. 11-71		Thomas S. Guess (ENGINEER OF RIGHT OF WAY)	2-12-75
COMPARED				
INDEXED			(STATE HIGHWAY ENGINEER)	

SECTION 75070-2502 SHEET 1 OF

(4)

1161403 PAGE 1 OF 1 OCT 26 7 01 AM '81

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

Road Plat Book 2
Page 20

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to ORANGE County."

Recorded in Public Records of Orange County, Florida, this 26 day of Oct. A.D. 19 81 in Road Plat Book 2 Page 19 thru 22.
Thomas H. Loomer, County Comptroller
By: [illegible] D.C.
Orange County, Florida

Oct 16 7 01 AM '81

SCALE : 1" = 50'

SEC. 33 , T-20-S , R-28-E

B.I. Nº 524159

CURVE DATA ℄ SURVEY

P.I. STA. 121+87.51
Δ = 01°54'15" LT.
D = 1°10'00"
T = 81.61'
L = 163.21'
R = 4,911.07'
P.C. STA. 121+05.90
P.T. STA. 122+69.11

SEC. 34 , T-20-S , R-28-E

NOTE:
⊙——————— R/W Mrk.
Symbol for Permanent R/W Markers. See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W M. & Note	MLH	2-9-81
Rev. Curve data	MLC-ALL	9-15-76
Rev. ℄	KAH-WW	3-15-75
Added Notation	HSU-JW	4-3-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-27-71	C. C. Benedict, DISTRICT ENGINEER	2-6-75
TRACED	K.A.H.	10-18-73		
CHECKED	M.J.B.	11-71	Mark C. Russ, ENGINEER OF RIGHT OF WAY	2-12-75
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070-2502 SHEET 2 OF

(5)

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

Road Plat Book 2
Page 21

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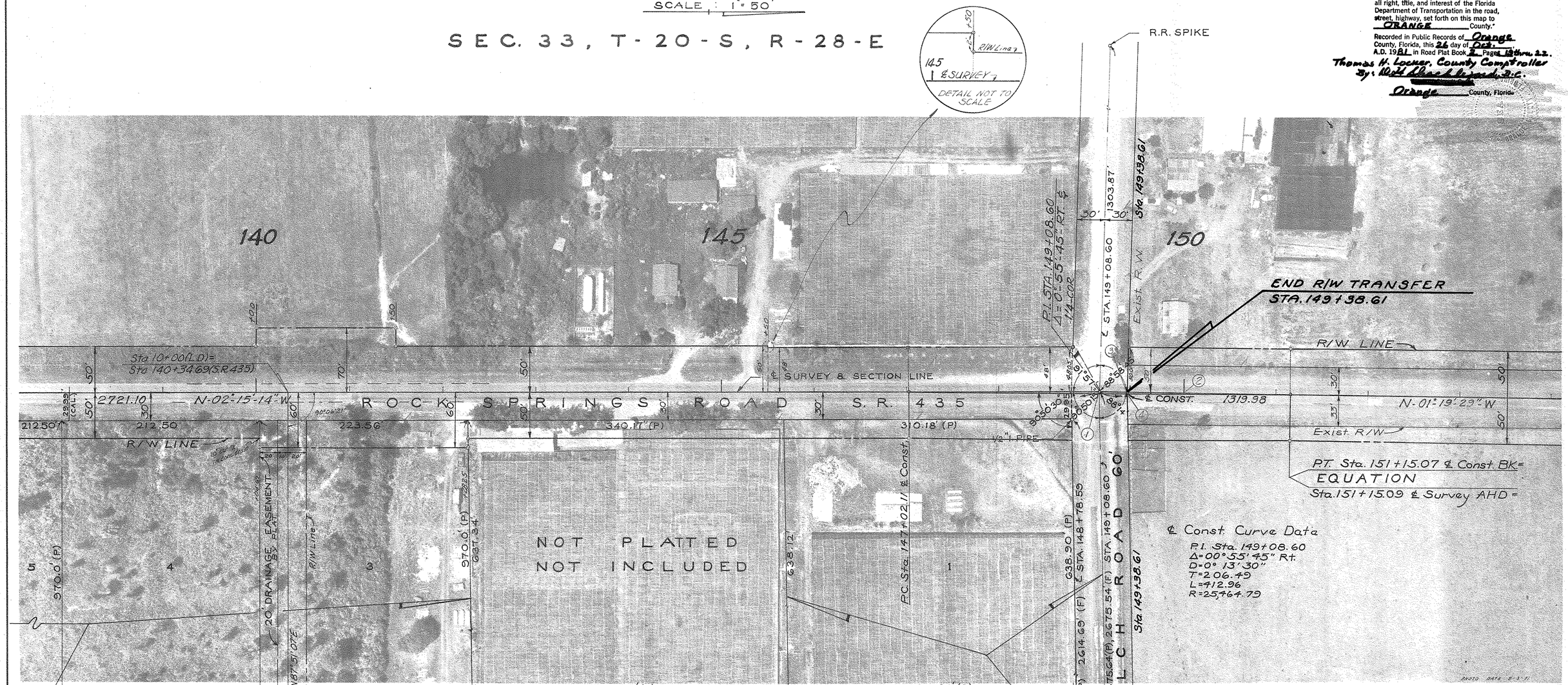
Recorded in Public Records of Orange County, Florida, this 26 day of Oct. A.D. 19 81 in Road Plat Book 2 Pages 19 thru 22.

Thomas H. Loomer, County Comptroller
By: [illegible] D.C.

Orange County, Florida

SCALE : 1" = 50'

SEC. 33, T-20-S, R-28-E



NOTE:
⊙———— R/W Mrk.
Symbol for Permanent R/W Markers
See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W.M. & Note	MLH	2-9-81
Changed at Ditch	HST-JdS	10-15-75
Rev. R/W	RAH-JdS	8-15-75
Misc.	HST, Jr. JW	4-3-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-27-71	[signature] DISTRICT ENGINEER	2-6-75
TRACED	K.A.H.	10-18-73		
CHECKED	M.J.B.	11-71	[signature] ENGINEER OF RIGHT OF WAY	2-12-75
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070-2502 SHEET 3 OF

(6)

Oct 16 7 10 AM '81

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

SCALE: 1" = 50

This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 72 in Road Plat Book 1 Page 21

Kenneth D. Kienth, County Comptroller

By: D. H. Shackleford D.C.
~~Clerk of Circuit Court~~
Orange County, Florida

SEC. 33, T-20-S, R-28-E

68.29' 1" I.P.
313.37'
1" I.P.
165.70'
1 1/8" I.P.
164.45'
1" I. PIPE
330.22'
1" I. PIPE
N. Line of Sec. 33-20-28
106.83'
3" I. PIPE
L-STA. 162+28.58
190'
BEGIN SURVEY
STA. 9+00.00
STA. 162+26.13 ℄ S.R. 435
STA. 10+00 ℄ LAT. DITCH
+76.13
2" x 2" HUB
R/W LINE
Temp. Const. Easement
Exist. R/W
℄ SURVEY & SECTION LINE
1319.98'
N-01°-19'-29"-W
ROCK SPRINGS ROAD S.R. 435
1503.27'
1173.20'(C)
BRIDGE SPIKE 0.10 EAST ℄ SURV.
Exist. R/W
R/W LINE
+76.15
25' 25'
R/W LINE Z
N. 88°40'31"E
PHOTO DATE 5-3-71

155
160
165

B.I.N.º 524159

SEC. 34, T-20-S, R-28-E

P.I. STA. 13+83.30
Δ = 2°59'50" Lt.
N. 85°40'41"E.
R/W LINE

NOTE:
⊙——— R/W Mrk.
Symbol for Parmanent R/W Markers. See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W.M. & Note	MLH	2-9-81
Add Easement	HST-WTK	9-14-76
Rev. Lat. Ditch	JKP-JW	9-29-76
Various	HST.Jr.-JW	4-4-75

STATE OF FLORIDA - DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-27-71	E. R. Benedict (DISTRICT ENGINEER)	2-6-75
TRACED	K.A.H.	10-18-73		
CHECKED	M.J.B.	11-71	Thomas E. Gross (ENGINEER OF RIGHT OF WAY)	2-12-75
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070 - 2502 SHEET 7 OF

15

Rec'd 3-10-81 MO'C

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

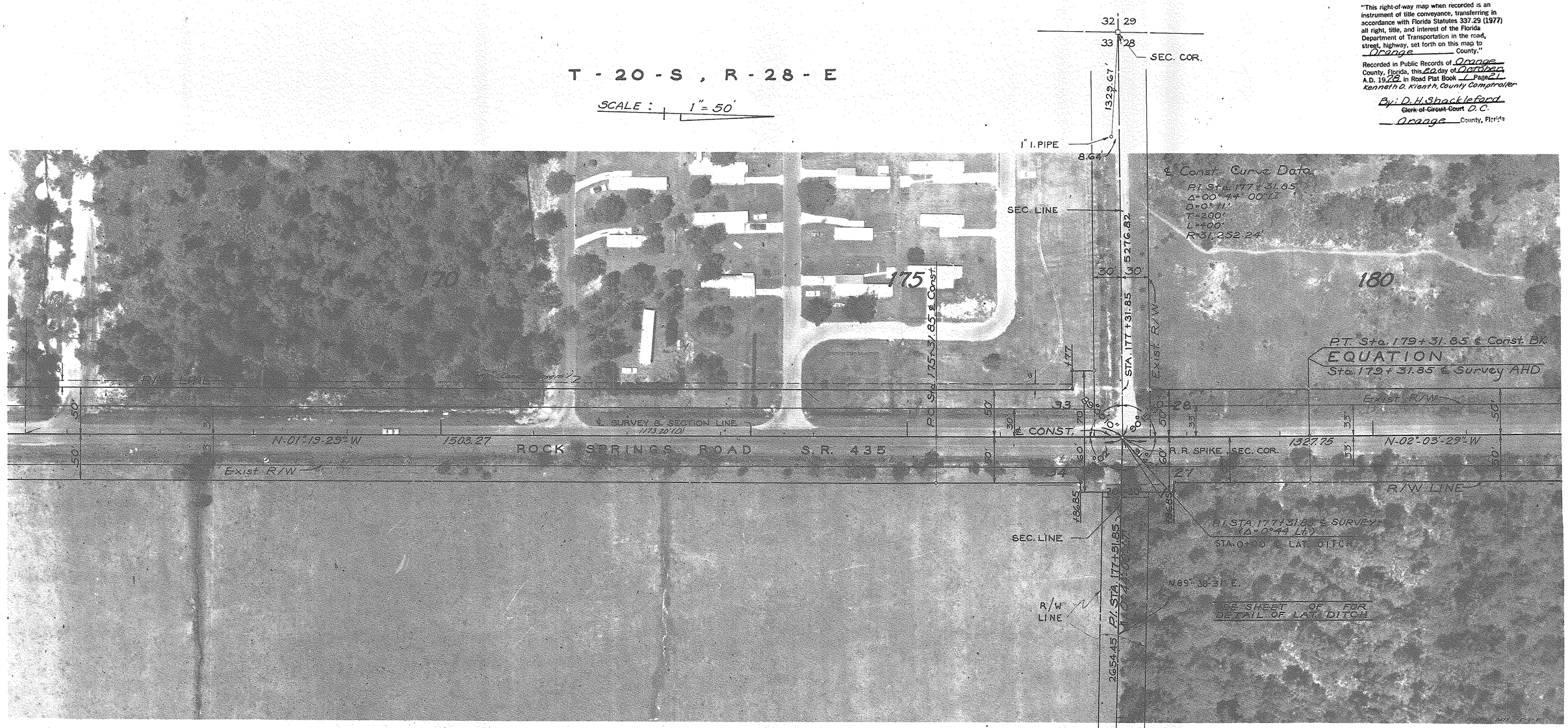
"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 78 in Road Plat Book 1 Page 21
Kenneth D. Kranth, County Comptroller

By: D. H. Shackleford
~~Clerk of Circuit Court~~ D.C.
Orange County, Florida

T - 20 - S , R - 28 - E

SCALE : 1" = 50'



B.I.Nº 524159

T - 20 - S , R - 28 - E

NOTE:
⊙———— R/W Mrk.
Symbol for Parmanent R/W Markers.
See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W.M. & Note	MLH	2-9-81
Rd Curve Info	R.R.K. W.F.H.	7-16-76
Added Easement	H.S.F. W.F.H.	5-16-76

5

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-28-71	E. G. Benedict — DISTRICT ENGINEER	2-6-75
TRACED	K.A.H.	10-18-73	Thomas C. Russ — ENGINEER OF RIGHT OF WAY	2-12-75
CHECKED				
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070-2502 SHEET 8 OF

Rec'd 3-10-81 MDC

MDC

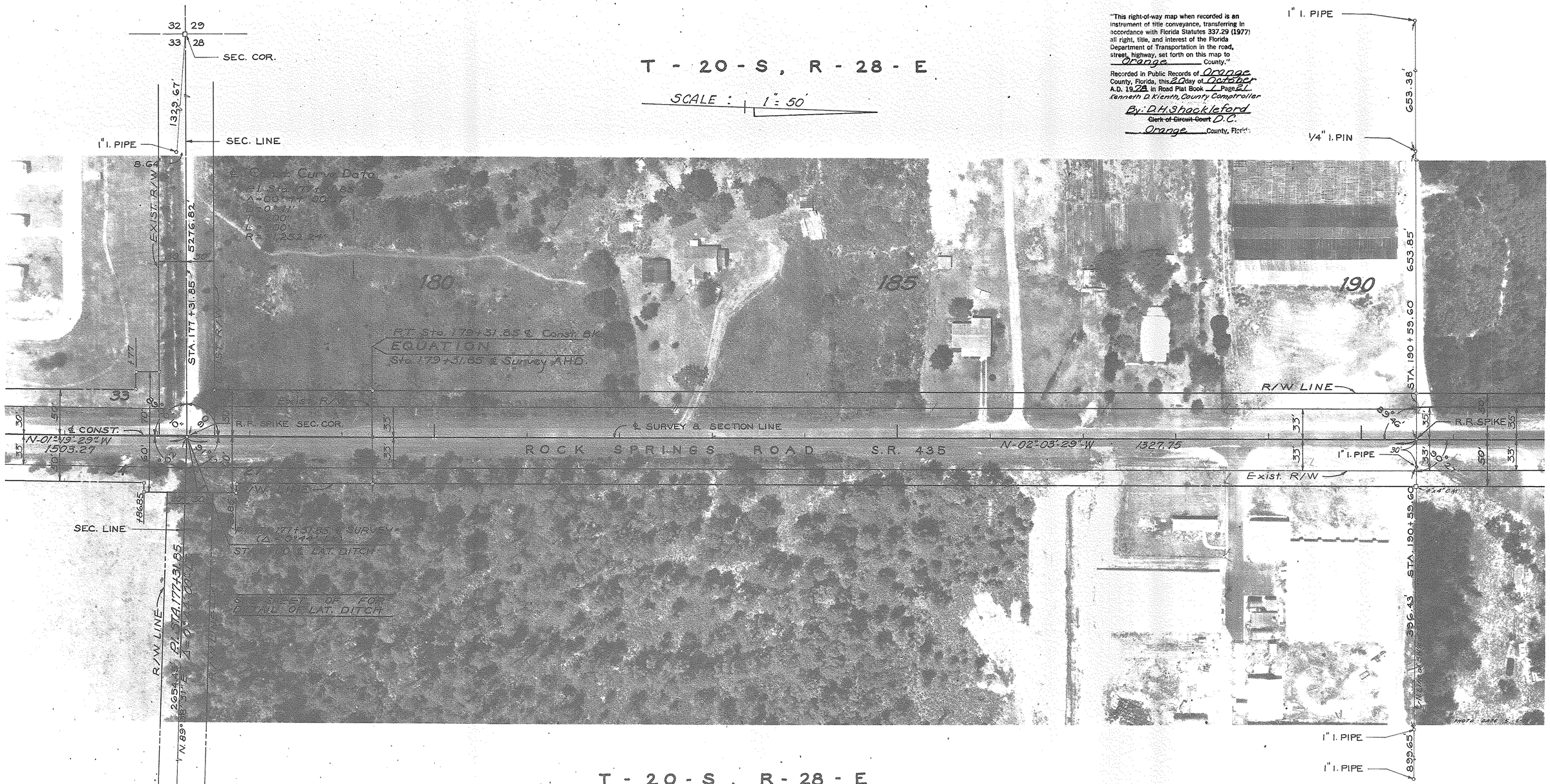
FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 78 in Road Plat Book 1 Page 21
Kenneth D. Kleinth, County Comptroller
By: D.H. Shackleford D.C.
~~Clerk of Circuit Court~~
Orange County, Florida

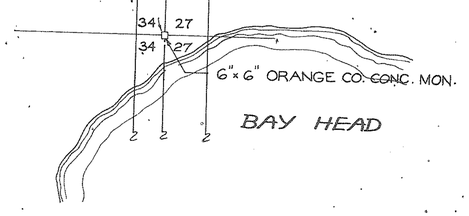
T - 20 - S , R - 28 - E

SCALE : 1" = 50'



B.I. Nº 524159

T - 20 - S , R - 28 - E



NOTE:
⊙———— R/W Mrk.
Symbol for Parmanent R/W Markers. See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W.M & Note	MLH	2-9-81
Add Curve Info	R.A.H. W.M.K.	7-16-76
Various	HSTJr JW	4-4-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-28-71	C. P. Benedict	2-6-75 DISTRICT ENGINEER
TRACED	K.A.H.	10-18-73	Thomas S. Brand	2-12-75 ENGINEER OF RIGHT OF WAY
CHECKED				
COMPARED				
INDEXED				STATE HIGHWAY ENGINEER

SECTION 75070-2502 SHEET 9 OF

Rec'd 3-10-81 M.O.C.

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

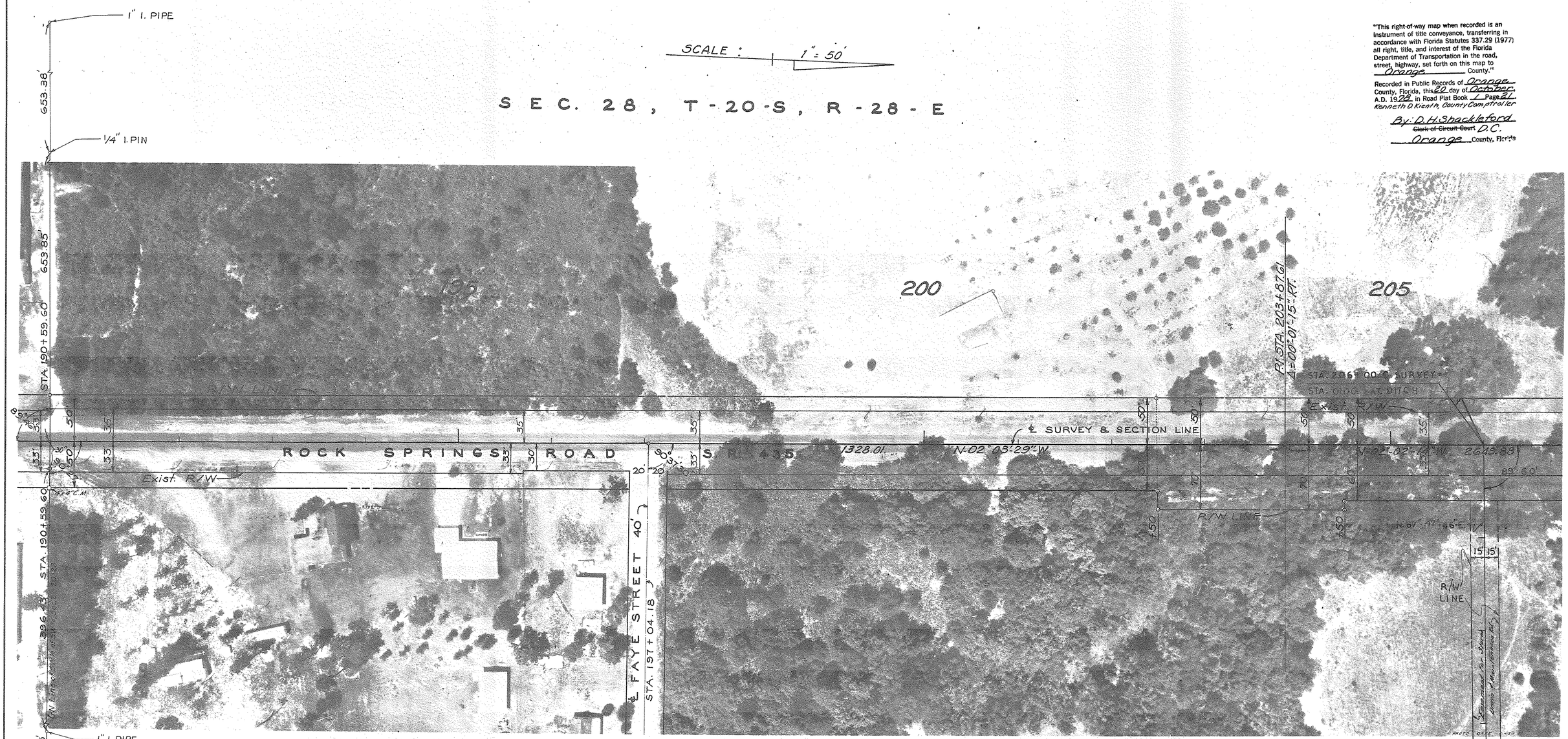
"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October, A.D. 1982 in Road Plat Book 1 Page 21
Kenneth D Kirott, County Comptroller

By: D.H. Shackleford
~~Clerk of Circuit Court~~ D.C.
Orange County, Florida

SCALE: 1" = 50'

SEC. 28, T-20-S, R-28-E



B.I.N.º 524159

SEC. 27, T-20-S, R-28-E

NOTE:
⊙———— R/W Mrk.
Symbol for Parmanent R/W Markers. See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W Mk Note	MCH	2-9-81
Add Annotation	HST.Jr-WRH	12-1-75
Various	HST.Jr-JW	4-4-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-28-71	L. P. Benedict (DISTRICT ENGINEER)	2-6-75
TRACED	K.A.H.	10-18-73	Thomas C. Russo (ENGINEER OF RIGHT OF WAY)	2-12-75
CHECKED				
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070-2502 SHEET 10 OF

Recd 3-10-81 MOC

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

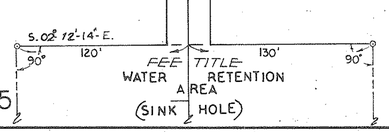
Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 78 in Road Plat Book 1 Page 21
Kenneth D. Kienth, County Comptroller
By: D.H. Shackleford D.C.
~~Clerk of Circuit Court~~
Orange County, Florida

SEC. 28, T-20-S, R-28-E

SCALE: 1" = 50'

B.I. № 524159

SEC. 27, T-20-S, R-28-E



NOTE:
⊙———— R/W Mrk.
Symbol for Permanent R/W Markers.
See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W M.& Note	MLH	2-9-81
Add Annotation	H.S.T. & W.T.R.	12-1-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-28-71	E.G. Benedict (DISTRICT ENGINEER)	2-6-75
TRACED	K.A.H.	10-18-73	Thomas C. Russo (ENGINEER OF RIGHT OF WAY)	2-12-75
CHECKED				
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070-2502 SHEET 11 OF

Rec'd 3-10-81 M.O.C.

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 78 in Road Plat Book 1 Page 21
Kenneth D. Kienth, County Comptroller
By: D. H. Shackleford
~~Clerk of Circuit Court~~ D. C.
Orange County, Florida

T - 20 - S , R - 28 - E

SCALE : 1" = 50'

T - 20 - S , R - 28 - E.

6"x 6" ORANGE CO. CONC. MON.

B.I. Nº 524159

NOTE:
⊙———— R/W Mrk.
Symbol for Permanent R/W Markers.
See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W Mrk Note	MLH	2-3-81

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-27-71	E. P. Bennett (DISTRICT ENGINEER)	2-6-75
TRACED	K.A.H.	10-18-73	Thomas C. Rosas (ENGINEER OF RIGHT OF WAY)	2-12-75
CHECKED				
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070 - 2502 SHEET 12 OF

Rec'd 3-10-81 mo'c

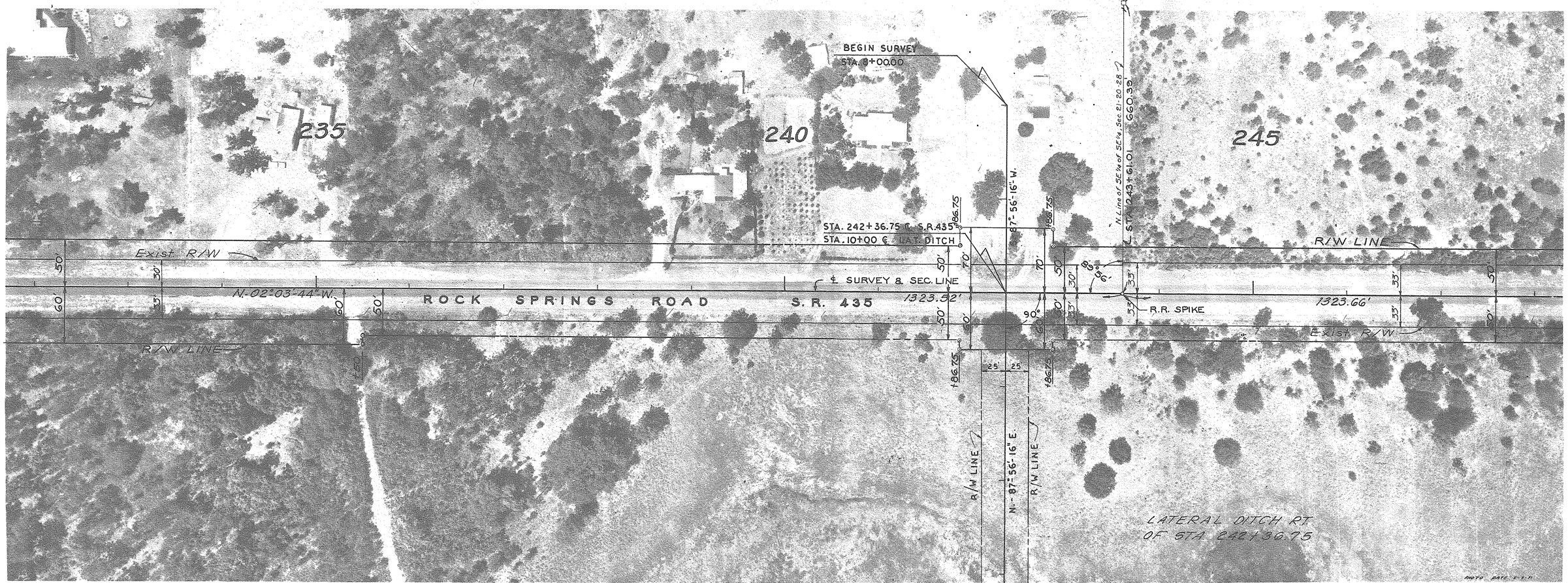
FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 78 in Road Plat Book 1 Page 21
Kenneth D. Kienth, County Comptroller
By: D.H. Shackleford D.C.
~~Clerk of Circuit Court~~
Orange County, Florida

SEC. 21, T-20-S, R-28-E

SCALE: 1" = 50'



SEC. 22, T-20-S, R-28-E

END SURVEY
STA. 13+50

END R/W
STA. 14+50

B.I. Nº 524159

NOTE:
⊙———— R/W Mrk.
Symbol for Permanent R/W Markers.
See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W.M.'s & Note	MCH	2-9-81
Change Ditch	KAH-ALL	8-18-75
Added Notation	HSTJr-JW	4-4-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-27-71	E. P. Benedict	2-6-75 DISTRICT ENGINEER
TRACED	K.A.H.	10-18-73	Thomas C. Russo	2-12-75 ENGINEER OF RIGHT OF WAY
CHECKED				
COMPARED				
INDEXED				STATE HIGHWAY ENGINEER

SECTION 75070-2502 SHEET 13 OF

Rec'd 3-10-81 M.O.C.

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

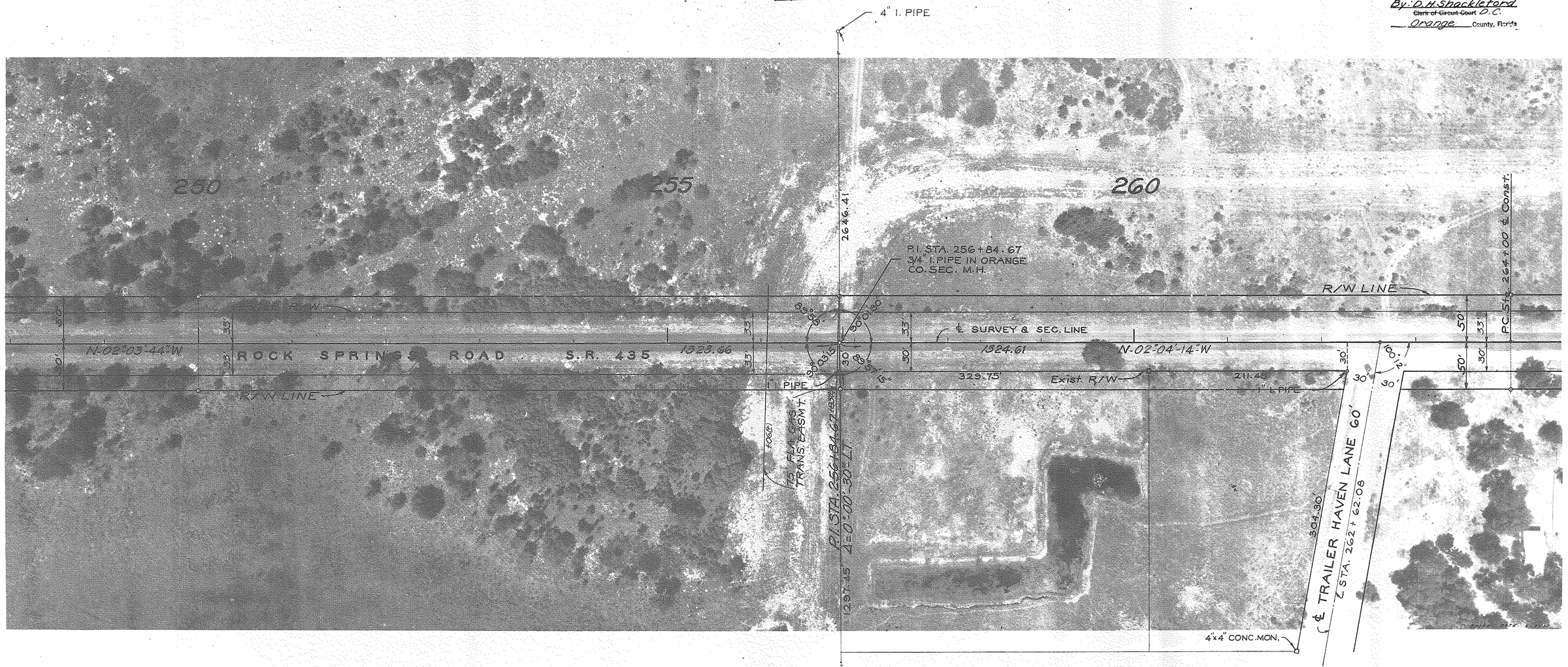
"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 22 day of October A.D. 19 82 in Road Plat Book 6 Page 2
Kenneth D Kienth, County Comptroller

By: D. H Shackleford
~~Clerk of Circuit Court~~ D.C.
Orange County, Florida

S E C. 21 , T - 20 - S , R - 28 - E

SCALE : 1" = 50'



B.I.Nº 524159

1" I. PIPE
0.35'
4"x 4" CONC. MON.

S E C. 22 , T - 20 - S , R - 28 - E

NOTE:
⊙———— R/W Mrk.
Symbol for Permanent R/W Markers. See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W M's & Note	M.L.H.	2-9-81

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-29-71	L. P. Benedict (DISTRICT ENGINEER)	2-6-75
TRACED	K.A.H.	10-18-73	Thomas C. Rudd (ENGINEER OF RIGHT OF WAY)	2-12-75
CHECKED				
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070 - 2502 SHEET 14 OF

Rec'd 3-10-81 M.O.C

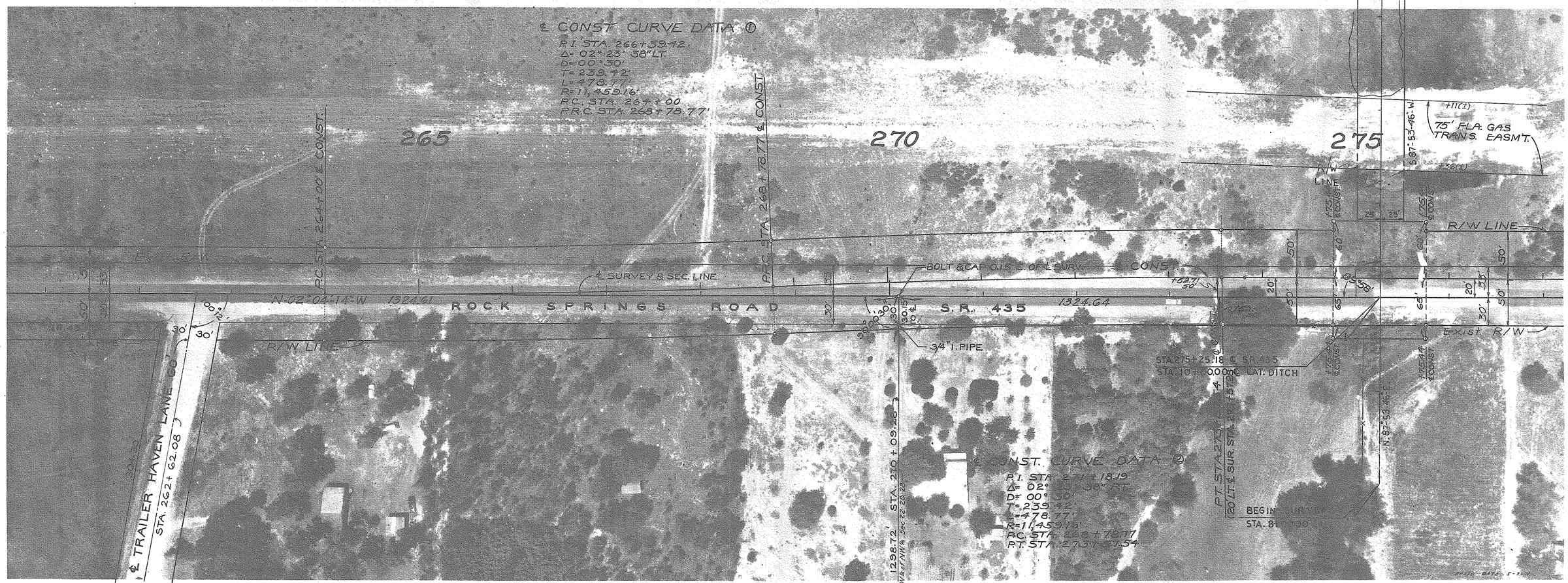
FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 22 day of October A.D. 19 22 in Road Plat Book 1 Page 21
Kenneth D. Kienth, County Comptroller
By: D.H. Shackleford
~~Clerk of Circuit Court~~ D.C.
Orange County, Florida

SEC. 21, T-20-S, R-28-E

SCALE: 1" = 50'



B.I. Nº 524159

SEC. 22, T-20-S, R-28-E

NOTE:
⊙———— R/W Mrk.
Symbol for Permanent R/W Markers. See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W.M.'s Note	MLH	2-3-81
Ch. bearing	MLC-ALL	9-15-75
Add Line	KAH-ALL	8-19-75
Various	1151 Jr JW	4-7-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-29-71	C.P. Benedict	2-6-75 DISTRICT ENGINEER
TRACED	K.A.H.	10-18-73	Thomas C. Lucas	2-12-75 ENGINEER OF RIGHT OF WAY
CHECKED				
COMPARED				
INDEXED				STATE HIGHWAY ENGINEER

SECTION 75070-2502 SHEET 15 OF

Rec'd 3-10-81 JHO C

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

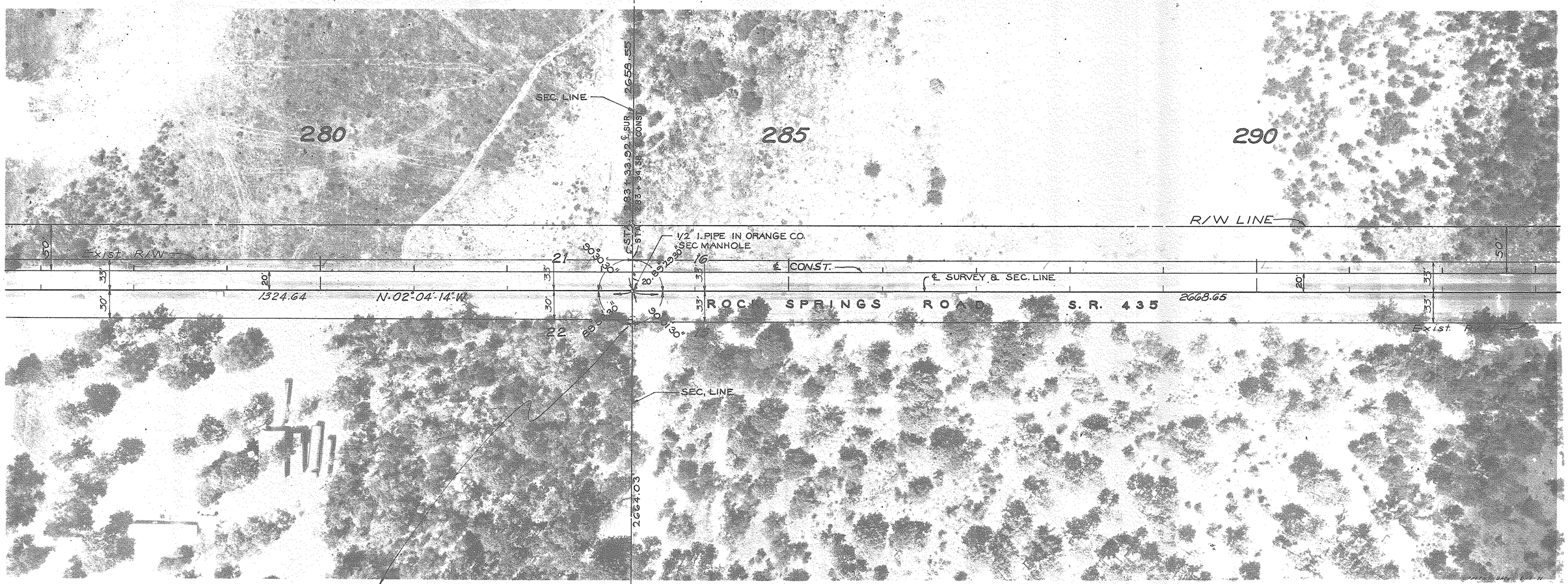
"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 72 in Road Plat Book 6 Page 21
Kenneth D. Reith, County Comptroller

By: D.H. Shackleford
~~Clerk of Circuit Court~~ D.C.
Orange County, Florida

T - 20 - S , R - 28 - E

SCALE: 1" = 50'



T - 20 - S , R - 28 - E

NOTE:
⊙———— R/W Mrk.
Symbol for Parmanent R/W Markers. See Sheet No. 1 for details.

B.I. Nº 524159

REVISION	BY	DATE
Add P.R/W.M. & Note	MLH	2-9-81

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-30-71	C.P. Benedict (DISTRICT ENGINEER)	2-6-75
TRACED	K.A.H.	10-18-73	Thomas E. Russ (ENGINEER OF RIGHT OF WAY)	2-12-75
CHECKED				
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070-2502 SHEET 16 OF

Rec'd 3-10-81 mo'c

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 22 day of October A.D. 19 72, in Road Plat Book 1 Page 2

Kenneth D. Kirkham, County Comptroller

By: D. H. Shackleford D.C.

~~Clerk of Circuit Court~~

Orange County, Florida

SEC. 16, T-20-S, R-28-E

SCALE: 1 = 50'

B.I. No. 524159

SEC. 15, T-20-S, R-28-E

NOTE:
⊙——— ———R/W Mrk.
Symbol for Permanent R/W Markers. See Sheet No. 1 for details.

REVISION	BY	DATE
Add P.R/W.M. & Note	MCH	2-9-81
Change C/L Line	K.A.H./R.P.K.	4-30-76

Rec'd 3-10-81 mo·c

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	9-30-71		
TRACED	K.A.H.	10-18-73		
CHECKED				
COMPARED				
INDEXED				

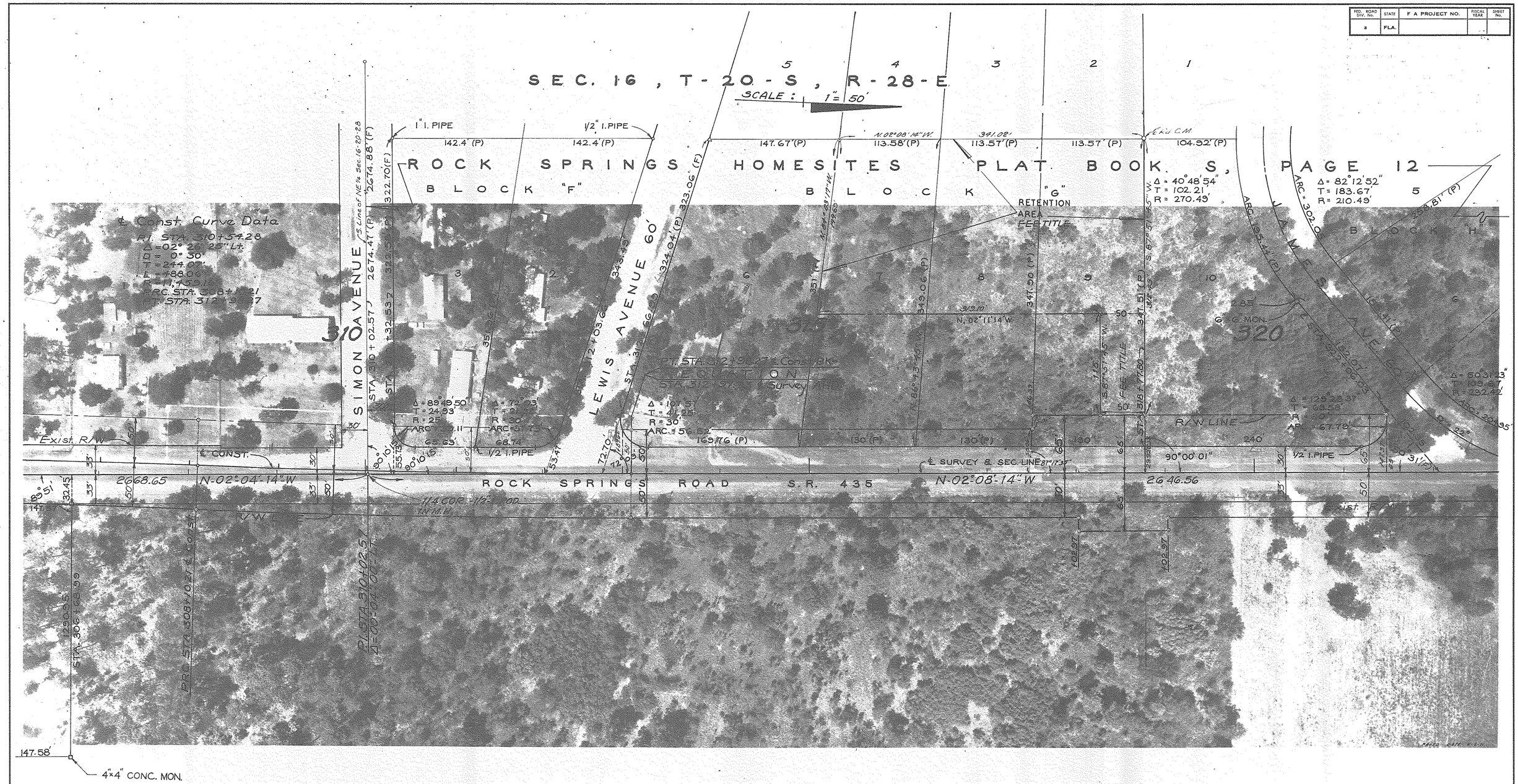
E. G. Benedict 2-6-75 DISTRICT ENGINEER

Thomas C. Russo 2-12-75 ENGINEER OF RIGHT OF WAY

STATE HIGHWAY ENGINEER

SECTION 75070-2502 SHEET 17 OF

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
3	FLA.			



NOTE:
⊙———— R/W Mrk.
Symbol for Permanent R/W Markers.
See Sheet No. 1 for details.

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 78 in Road Plat Book 1 Page 21
Kenneth D. Kienth, County Comptroller

By: D. H. Shackleford
Clerk of Circuit Court D.C.
Orange County, Florida

REVISION	BY	DATE
Add P.R/W/M & Note	MCH	2-9-81
Add T.I.S.	ALL	9-19-75
Va-issue	MC-ALL	7-15-75
Changed Leg.	KRT-wds	3-3-75
Chg Retention Area	JLP-ALL	6-23-75
Added Notation	MST.Jr-JW	4-7-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE	APPROVED BY	DATE
DRAWN	S.C.	10-5-71		
TRACED	K.A.H.	10-18-73	DISTRICT ENGINEER	2-6-75
CHECKED				
COMPARED			ENGINEER OF RIGHT OF WAY	2-12-75
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070-2502 SHEET 18 OF

Rec'd 3-10-81 MO:C

FED. ROAD DIV. No.	STATE	F A PROJECT NO.	FISCAL YEAR	SHEET No.
9	FLA.			

"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

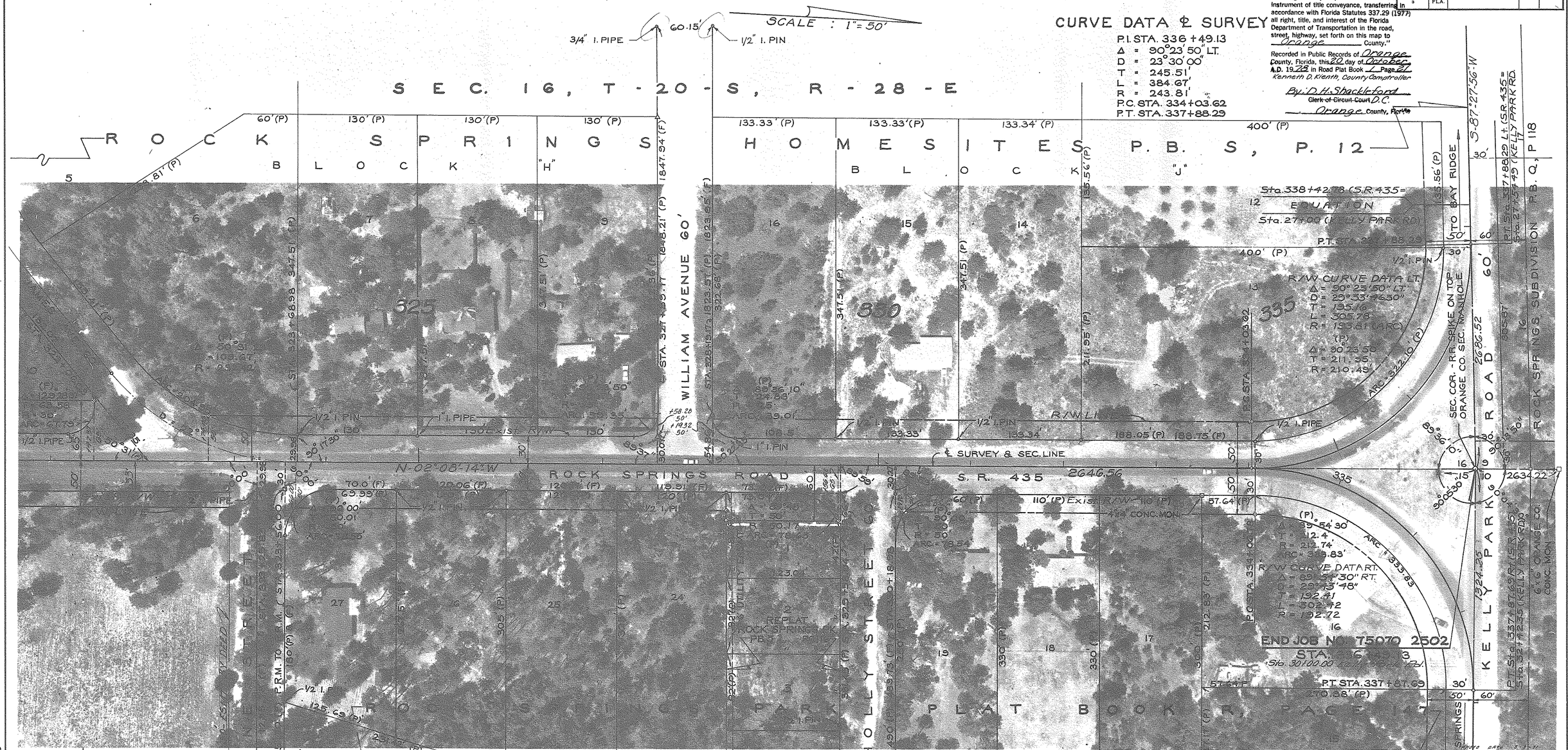
Recorded in Public Records of Orange County, Florida, this 20 day of October A.D. 19 72 in Road Plat Book 1 Page 21
Kenneth D. Kienth, County Comptroller

By: D. H. Shackleford
Clerk of Circuit Court D.C.
Orange County, Florida

SCALE : 1" = 50'

CURVE DATA & SURVEY

P.I. STA. 336+49.13
Δ = 90°23'50" LT.
D = 23°30'00"
T = 245.51'
L = 384.67'
R = 243.81'
P.C. STA. 334+03.62
P.T. STA. 337+88.29



NOTE:
⊙——— R/W Mrk.
Symbol for Permanent R/W Markers.
See Sheet No. 1 for details.

B.I.№ 524159

REVISION	BY	DATE
Add P.R/W M. & Note	MLH	8-3-81
Change R/W	MJB-WFH	12-1-75
Add Ties	ALL	9-19-75
Various	MLL ALL	9-5-75

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY MAP

STATE ROAD No. 435 ORANGE County

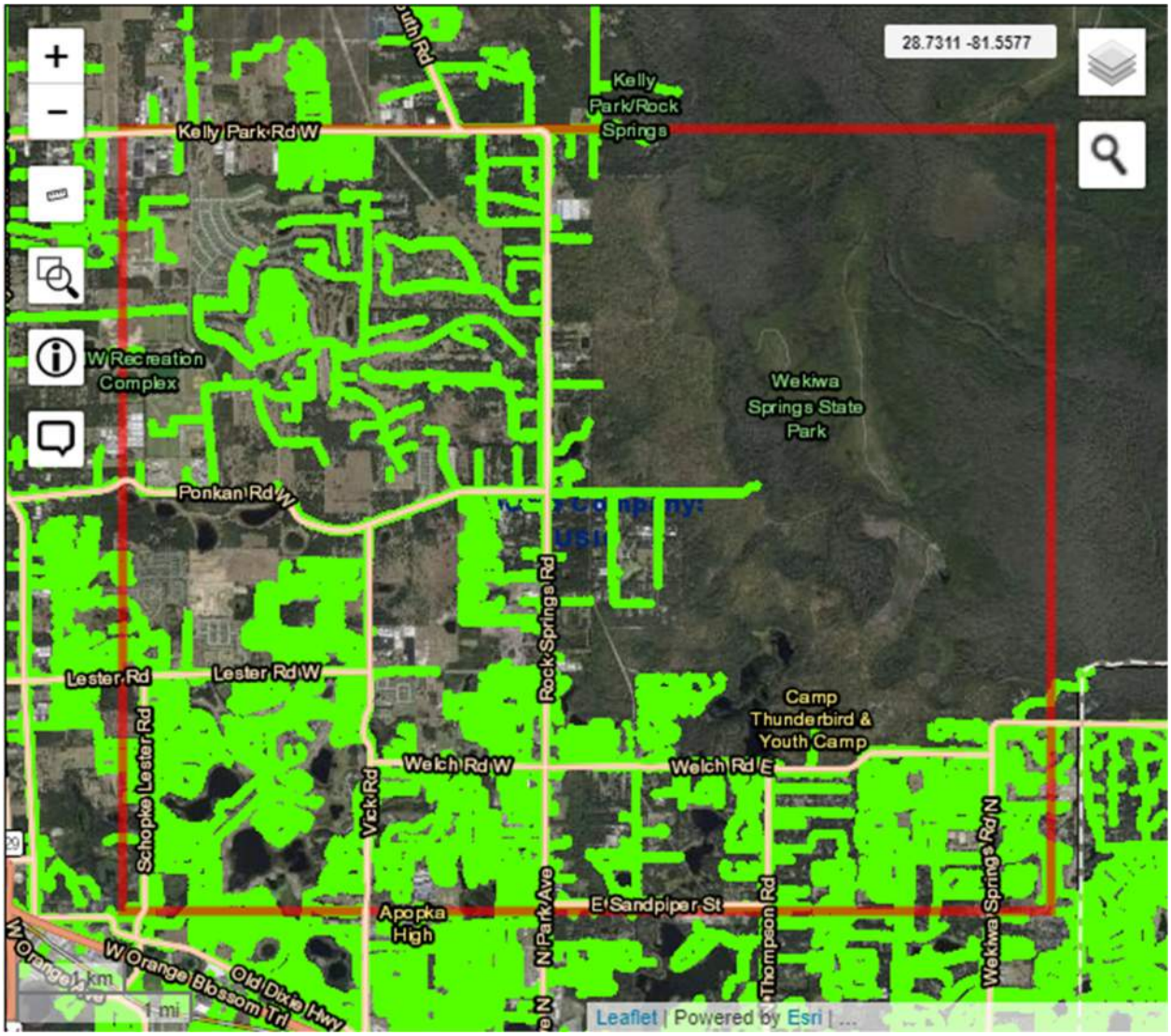
	BY	DATE	APPROVED BY	DATE
DRAWN	S.Q.	10-6-71	E. P. Benedict (DISTRICT ENGINEER)	2-6-75
TRACED	K.A.H.	10-18-73	W. W. C. Ladd (ENGINEER OF RIGHT OF WAY)	2-12-75
CHECKED				
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070 2502 SHEET 19 OF

Rec'd 3-10-81 MP.C.

Appendix E

Utilities



National Buried Asset	Local Buried Asset	
National Buried Asset	Local Buried Asset	
National Aerial / 3rd Party	Local Buried Asset	
IOF Fiber Route	Local Buried Asset	
	Local Aerial Asset	

CenturyLink™

This email is for informational purposes only. Please do not reply as this is an unmanned inbox.

Lake Apopka Natural Gas District

District Map

Prepared by: TextBox2

Lake Apopka Natural Gas District
1320 Winter Garden - Vineland Rd.
Winter Garden, FL 34787

Lake Apopka Natural Gas District

District Map

Prepared by: TextBox2

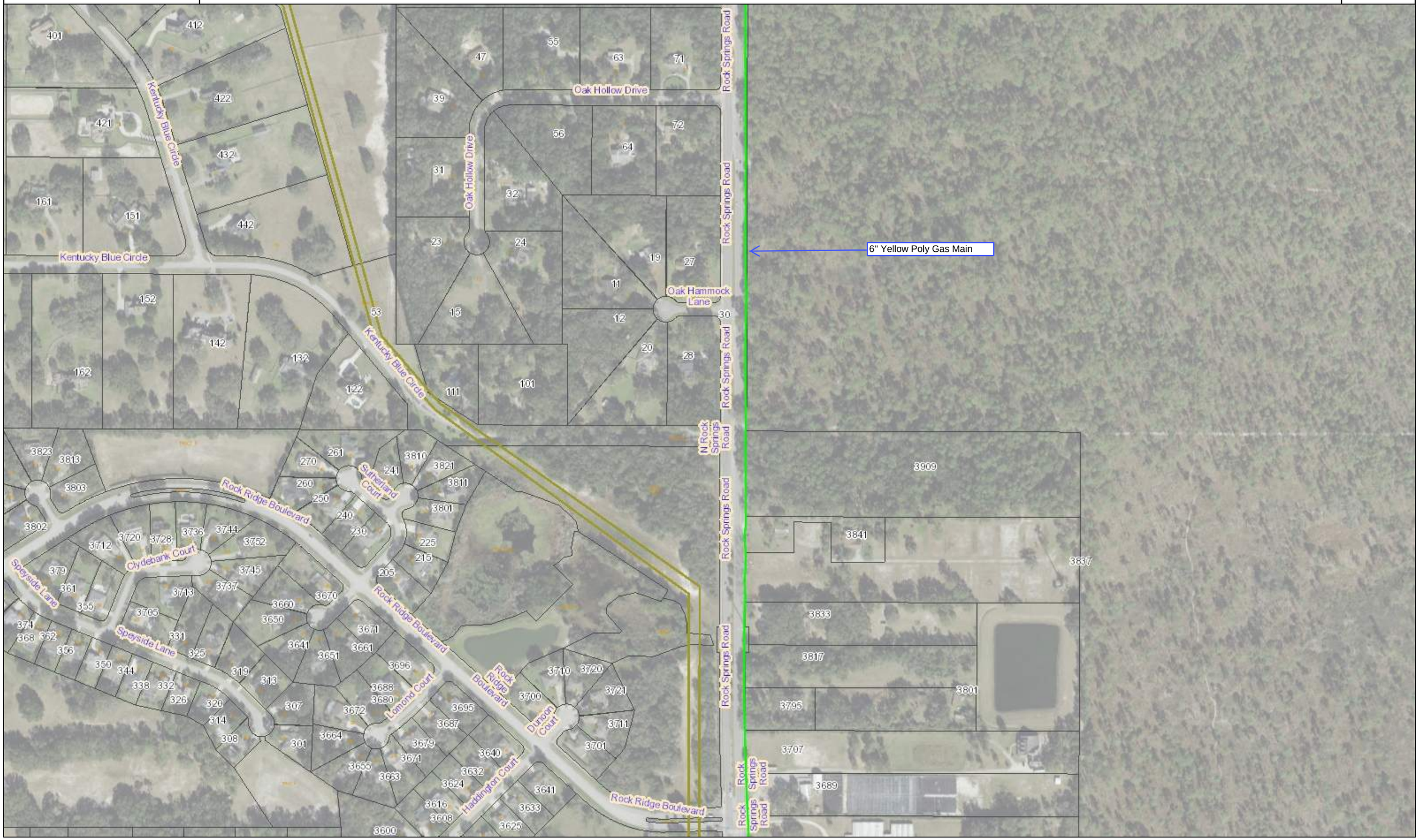
Lake Apopka Natural Gas District
1320 Winter Garden - Vineland Rd.
Winter Garden, FL 34787

Lake Apopka Natural Gas District

District Map

Prepared by: TextBox2

Lake Apopka Natural Gas District
1320 Winter Garden - Vineland Rd.
Winter Garden, FL 34787



Lake Apopka Natural Gas District

District Map

Prepared by: TextBox2

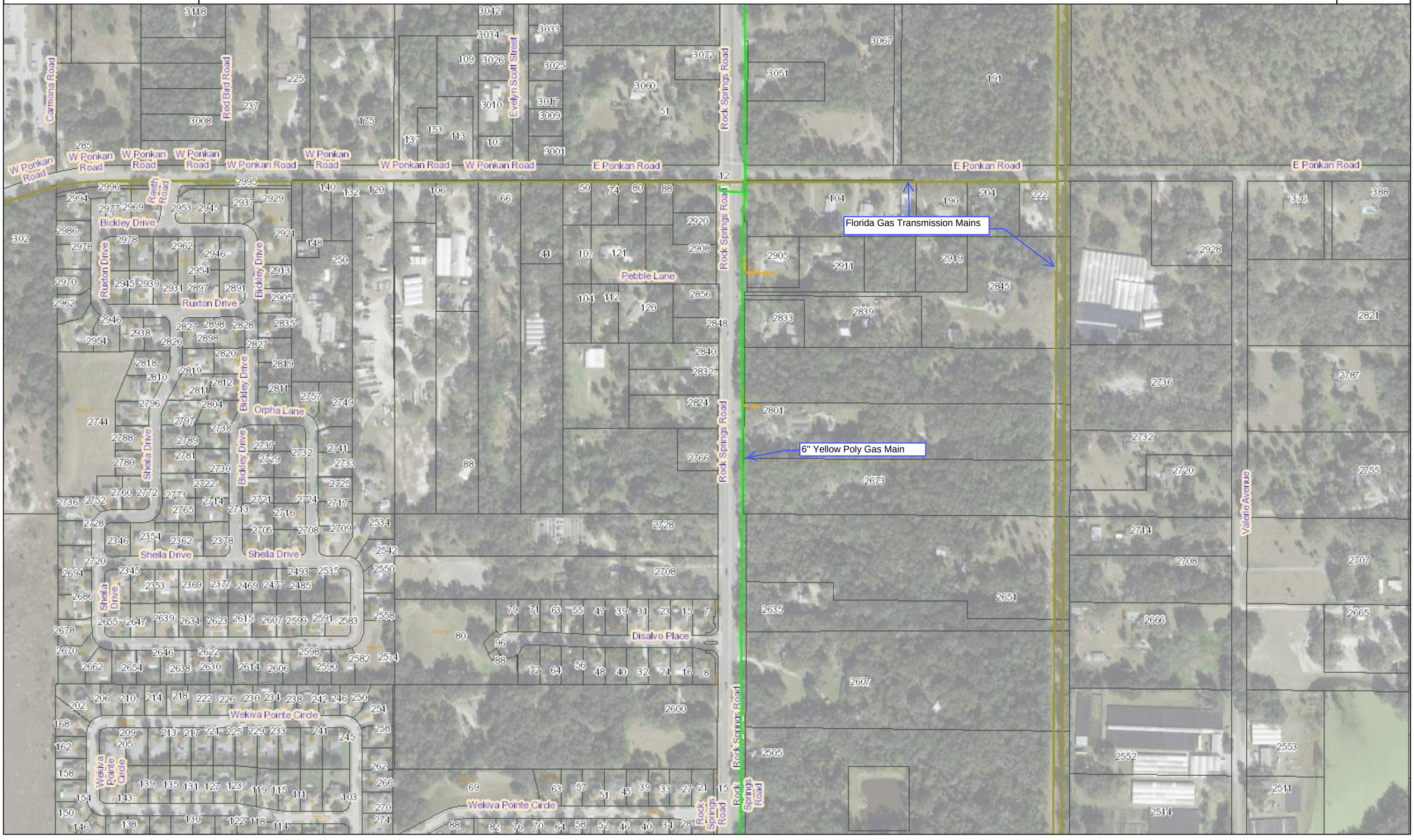
Lake Apopka Natural Gas District
1320 Winter Garden - Vineland Rd.
Winter Garden, FL 34787

Lake Apopka Natural Gas District

District Map

Prepared by: TextBox2

Lake Apopka Natural Gas District
1320 Winter Garden - Vineland Rd.
Winter Garden, FL 34787



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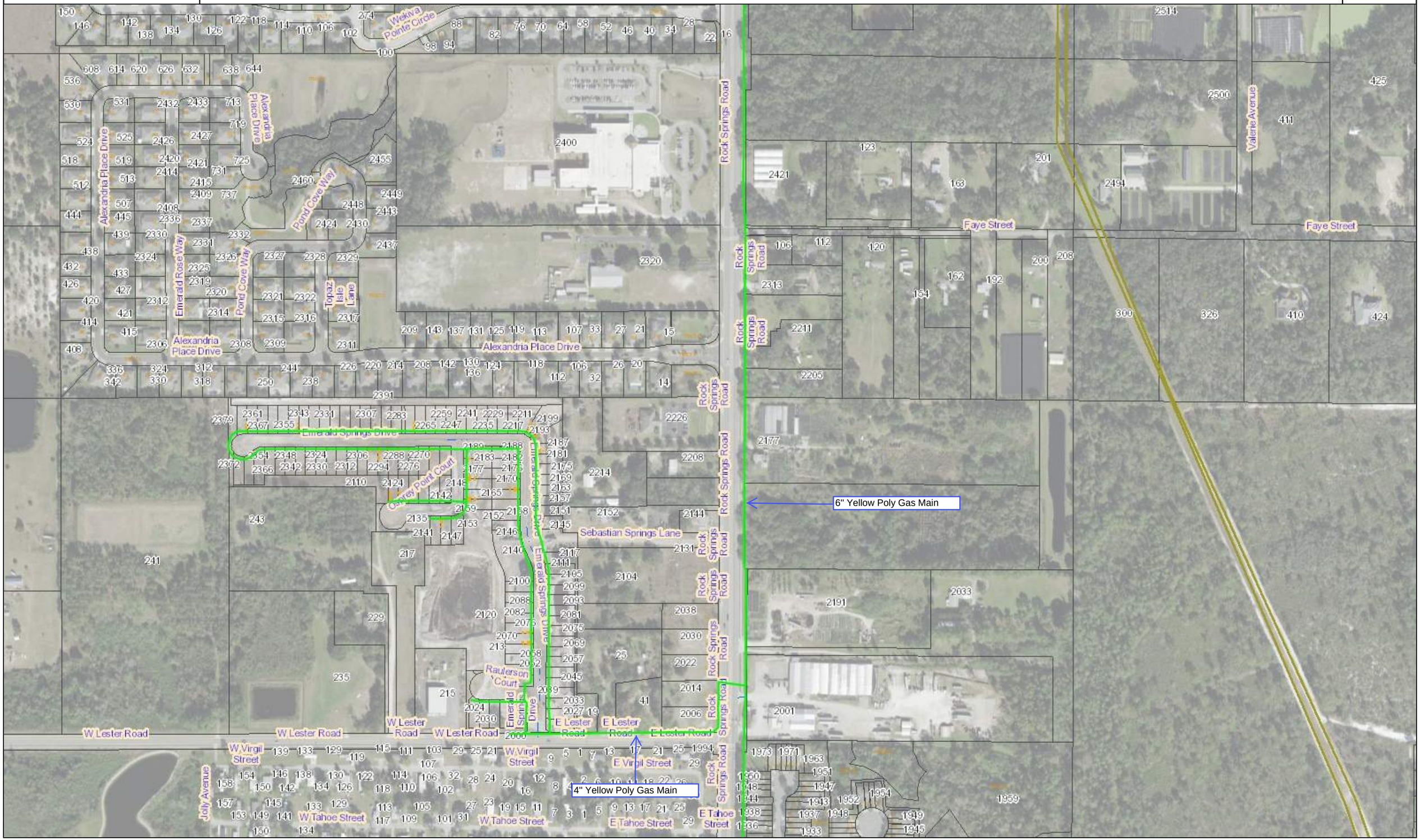

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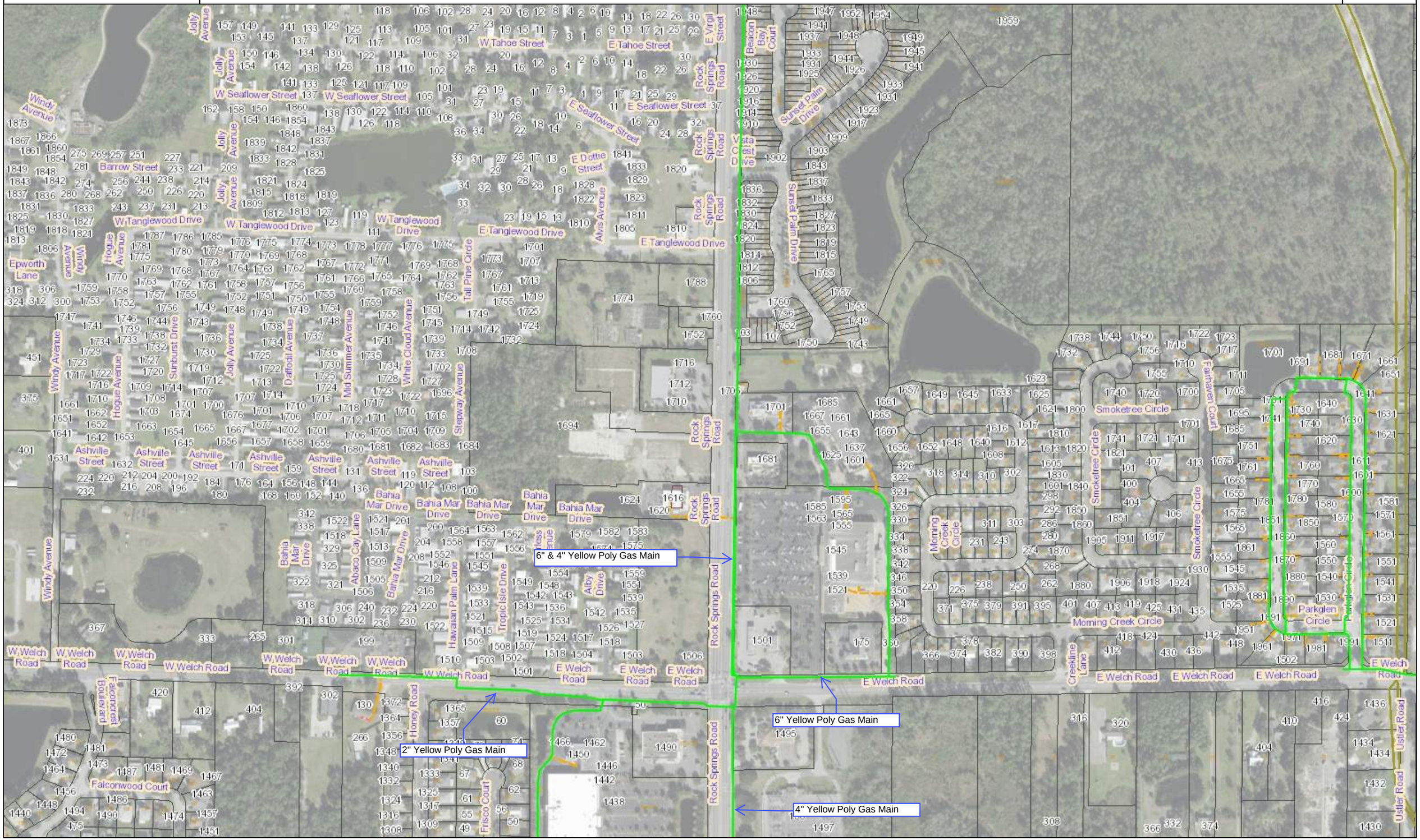

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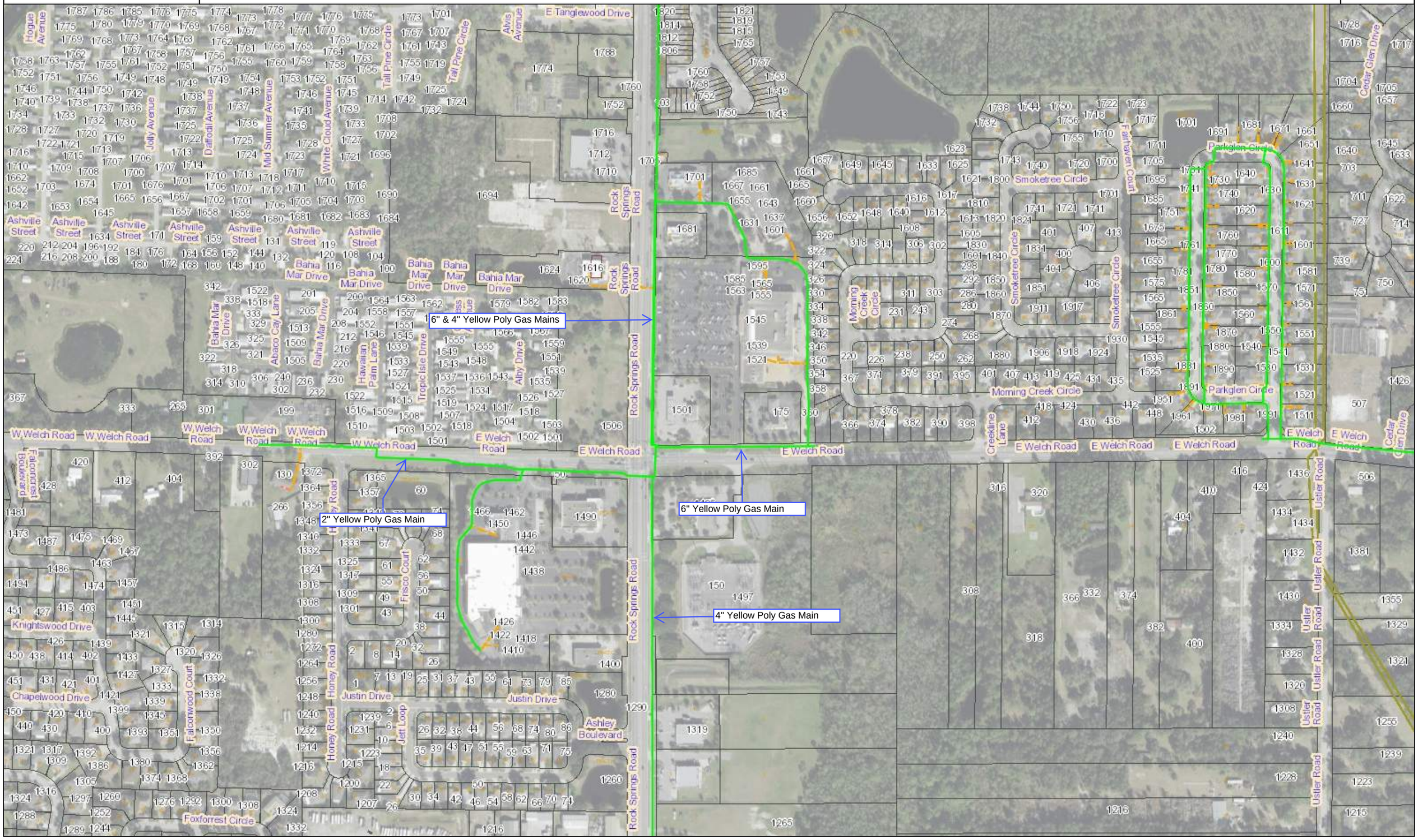

Lake Apopka Natural Gas District

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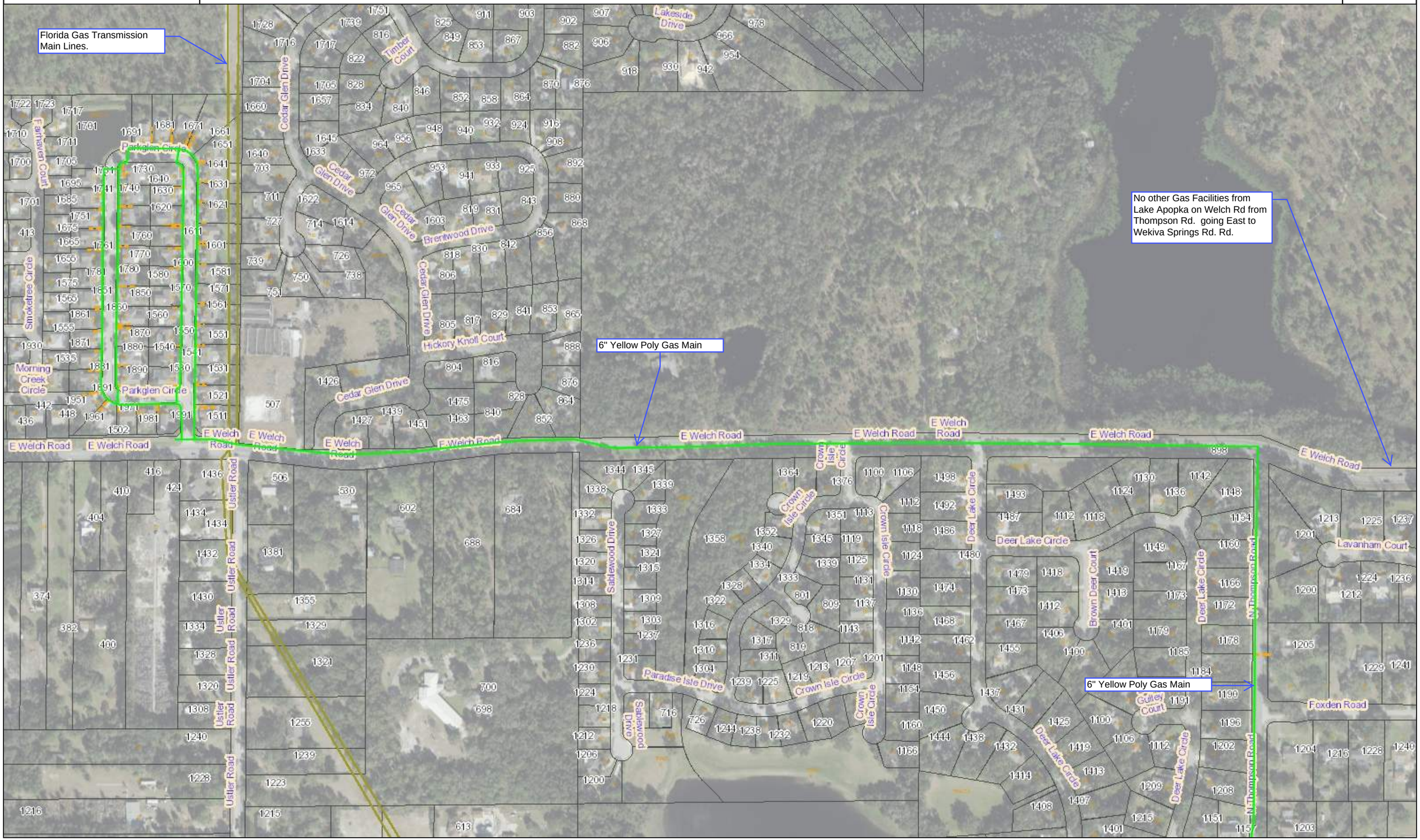
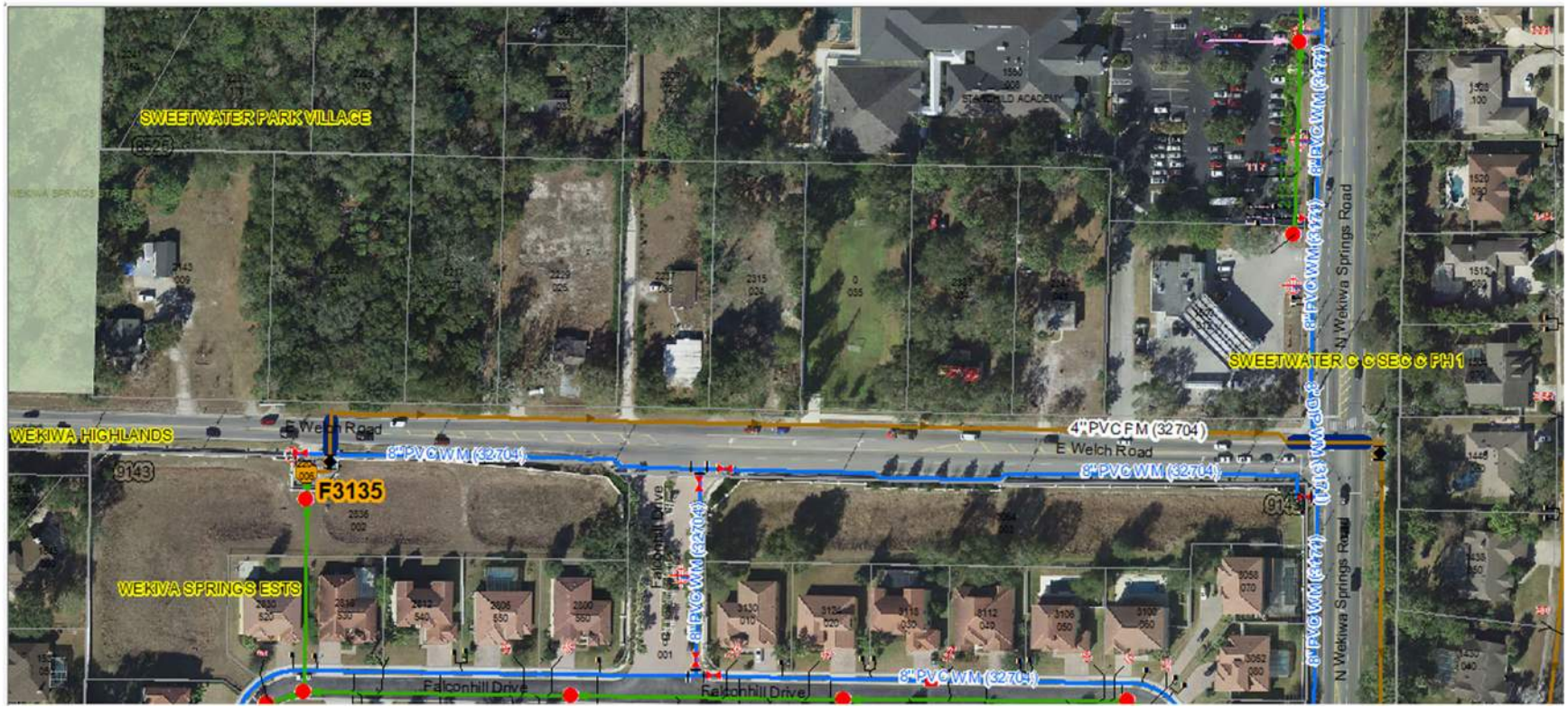
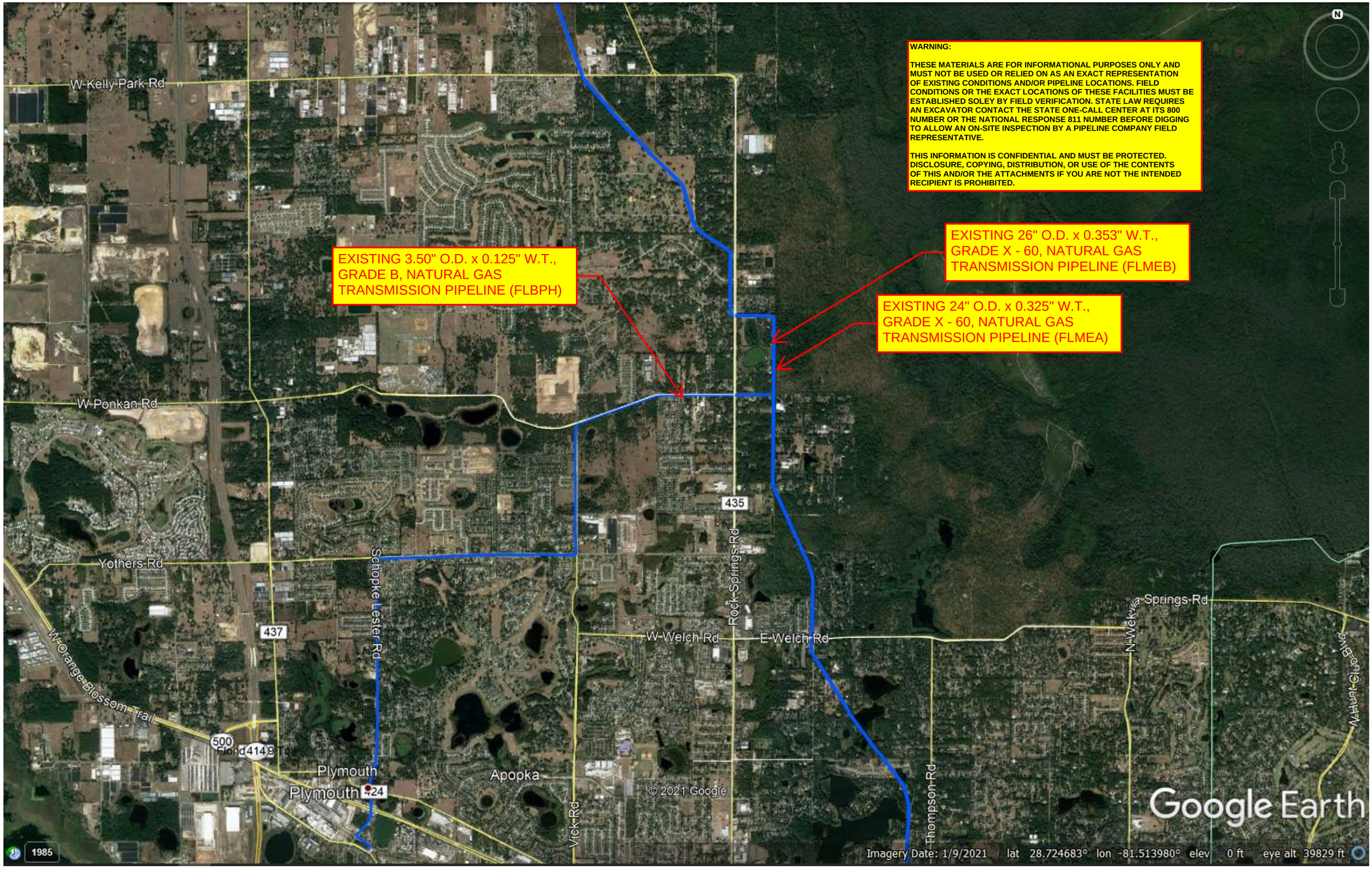
Winter Garden, FL 34787



Orange County Facilities

Orange County Facilities

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EXISTING 3.50" O.D. x 0.125" W.T., GRADE B, NATURAL GAS TRANSMISSION PIPELINE (FLBPH)
EXISTING 26" O.D. x 0.353" W.T., GRADE X - 60, NATURAL GAS TRANSMISSION PIPELINE (FLMEB)
EXISTING 24" O.D. x 0.325" W.T., GRADE X - 60, NATURAL GAS TRANSMISSION PIPELINE (FLMEA)
W Kelly Park Rd
W Ponkan Rd
Yothers Rd
Schopke Lester Rd
437
435
Rock Springs Rd
W Welch Rd
E Welch Rd
Springs Rd
W Orange Blossom Trail
500
Plymouth
Plymouth
Apopka
Vick Rd
Thompson Rd
© 2021 Google
Google Earth
1985
Imagery Date: 1/9/2021 lat 28.724683° lon -81.513980° elev 0 ft eye alt 39829 ft

Appendix F

Apopka Demographics Data

ESRI Tapestry Profiles

City of Apopka
Statistical Information

Complied by:
The City of Apopka
Community Development Dept.
Apopka City Hall
120 E. Main St.
Apopka, FL 32704-1229
Phone: (407) 703-1712
Fax: (407)703-1791
www.Apopka.net

Year		Population	# Change	Households
1990 Census	City	13,611		5,712 (2.382 pph)
2000 Census	"	26,642	+ 13,031	10,019 (2.659 pph)
2010 Census	"	41,542	+ 14,900	15,707 (2.644 pph)
2011 April	"	42,089	+ 547	16,058 (2.621 pph)
2012 April	"	42,805	+ 716	16,277 (2.629 pph)
2013 April	"	44,129	+ 1,321	16,312 (2.705 pph)
2014 April	"	45,699	+ 1,570	16,781 (2.723 pph)
2015 April	"	46,571	+ 872	17,715 (2.628 pph)
2016 April	"	47,826	+ 1,255	18,075 (2.645 pph)
2017 April	"	49,750	+ 1,924	18,369 (2.708 pph)
2018 April	"	51,676	+ 1,926	19,279 (2.680 pph)
2019 April	"	52,404	+ 728	19,537 (2.682 pph)
2020 April	"	53,632	+ 1,228	19,920 (2.692 pph)
2020 Census	"	54,874	+ 13,332 (2010-2020)	20,204 (2.715 pph)-city est.
2021 April	"	56,727	+ 1,853	20,311 (2.79 pph)

1990 Census,	Orange County	677,491		254,852 (2.658 pph)
2000 Census	"	896,344	+ 218,853	336,286 (2.665 pph)
2010 Census	"	1,145,956	+ 249,612	421,847 (2.716 pph)

District 2 Population: 114,729 (1990 Census) 2010 Estimate: 183,152

- April City & County Data supplied by: University of Florida Bureau of Economic and Business Research, (352) 392-0171
- 2011-2015 Household data supplied by U.S. Census Factfinder
- Person Per Household (pph), 2010 Census: 2.644 (pph) (41,542 pop ÷ 15,707 Housing Units)

Population:

1990 Census	13,611	2000 Census	26,642	2010 Census	41,542
2000 Census	26,642	2010 Census	41,542	2020 Census	54,874
	13,031 = 95.7% Increase		14,900 = 56% Increase		13,332 = 32% Increase

Residential Housing Units:

1990 Census, Housing Units:	5,712	
2000 " " "	10,019	Total Units
	9,448 = 60.45% Increase	

2000 Census, Housing Units:	10,019	2010 Census Housing Units:	15,707
2010 " " "	15,707 Total Units	2020 APK est. Housing Units:	20,204
	5,688 = 56.77% increase		4,497 = 28.63% increase

Acres*:

1990	8,214.80 (12.83 sq. mi.)	2011: 21,183 ac. (33.09 sq. mi.)	2016: 21,952.09 ac (34.300 sq. mi.)
2000	15,864.58 (25.60 sq. mi.)	2012: 21,196 ac. (33.12 sq. mi.)	2017: 22,071.66 ac (34.486 sq. mi.)
2010	21,099.47 (32.97 sq. mi.)	2013: 21,625 ac. (33.79 sq. mi.)	2018: 22,221.30 ac (34.721 sq. mi.)
2020	22,751.86 (35.54 sq. mi.)	2014: 21,768.94 ac (34.014 sq. mi.)	2019: 22,728.19 ac (35.512 sq. mi.)
1,652.39 = 33% Increase		2015: 21,876.83 ac (34.176 sq. mi.)	2020: 22,751.86 ac (35.549 sq. mi.)

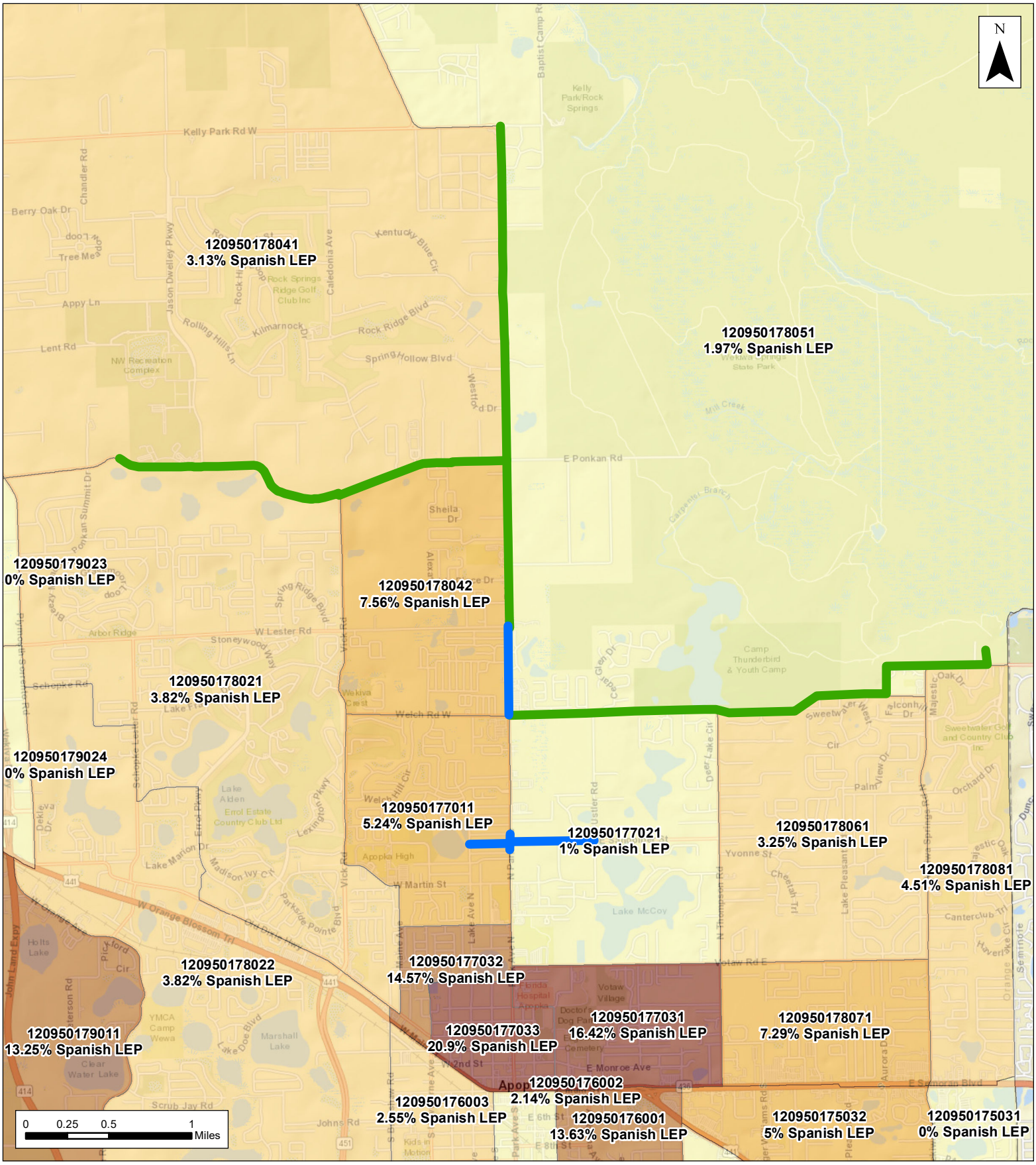
* Area Information as of December 31st for each year

Location Data:

Latitude: 28 Degrees 37 Minutes North
Longitude: 81 Degrees 30 Minutes West
Altitude: 143.0 at the Orlando Apopka Airport (X04)

FY 2021 Millage Rates:

Taxing Authority	Millage Rate
Public Schools: By State Law (Rle)	3.4890
Public Schools: By Local Board	3.2480
Orange County (General)	4.4347
City Of Apopka	4.1876
Library - Operating Budget	0.3748
St. Johns Water Management District	0.2189
Total Tax Millage:	**15.9530**



Percent Spanish LEP Households by Block Group

- 0.00% - 2.50%
- 2.51% - 4.99%
- 5.00% - 10.00%
- 10.01% - 15.00%
- 15.01% - 21.00%

- Rock Springs Corridor Study
- West Orange Trail - Phase 4

Rock Springs Road and West Orange Trail Phase 4 Studies

Percent Limited English Proficiency - Households

Source: ACS 2019 5-Year Estimates, Household Language by Household Limited English Speaking Status (2021).
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

LifeMode Group: Family Landscapes

Workday Drive

4A

Households: 3,541,300

Average Household Size: 2.97

Median Age: 37.0

Median Household Income: $90,500

WHO ARE WE?

Workday Drive is an affluent, family-oriented market with a country flavor. Residents are partial to new housing away from the bustle of the city but close enough to commute to professional job centers. Life in this suburban wilderness offsets the hectic pace of two working parents with growing children. They favor time-saving devices, like banking online or housekeeping services, and family-oriented pursuits.

OUR NEIGHBORHOOD

- *Workday Drive* residents prefer the suburban periphery of metropolitan areas.
- Predominantly single family, homes are in newer neighborhoods, 34% built in the 1990s (Index 236), 31% built since 2000.
- Owner-occupied homes have high rate of mortgages at 68% (Index 164), and low rate vacancy at 4%.
- Median home value is $257,400.
- Most households are married couples with children; average household size is 2.97.
- Most households have 2 or 3 vehicles; long travel time to work including a disproportionate number commuting from a different county (Index 132).

SOCIOECONOMIC TRAITS

- Education: 40.5% college graduates; more than 72% with some college education.
- High labor force participation rate at 71%; 2 out of 3 households include 2+ workers (Index 124).
- Connected, with a host of wireless devices —anything that enables convenience, like banking, paying bills, or even shopping online.
- Well insured and invested in a range of funds, from savings accounts or bonds to stocks.
- Carry a higher level of debt, including first (Index 149) and second mortgages (Index 154) and auto loans (Index 149).

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by MRI-Simmons.

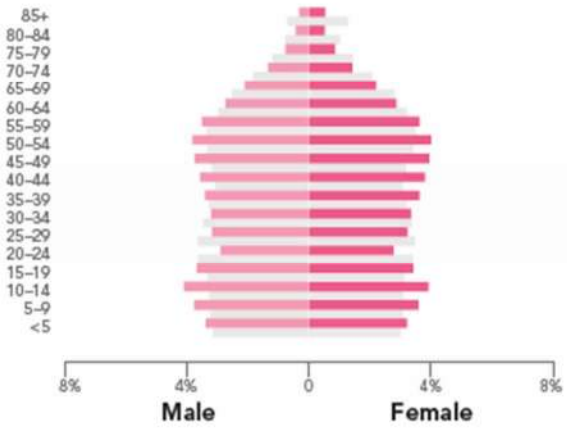
4A LifeMode Group: Family Landscapes
Workday Drive

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 37.0 US: 38.2

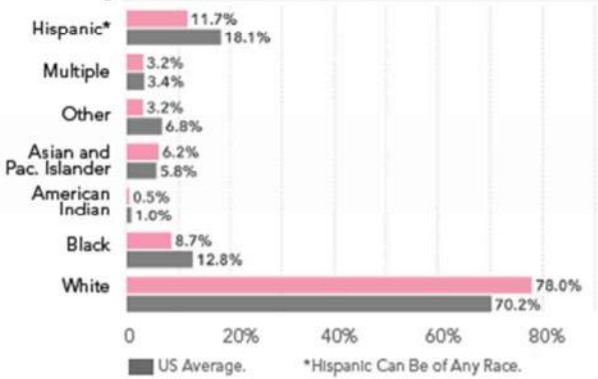
Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 50.8 US: 64.0

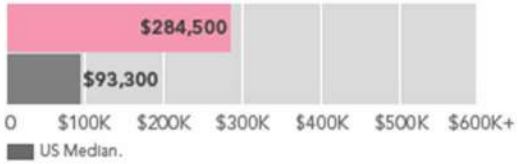


INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

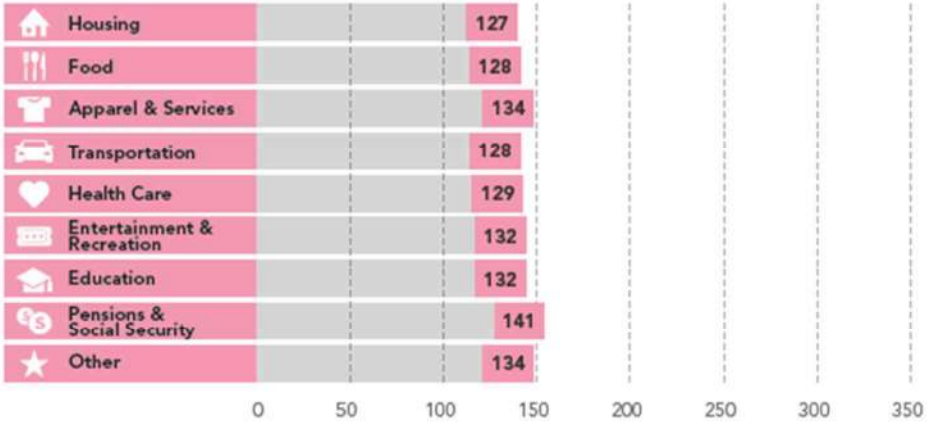
Median Household Income

Median Net Worth



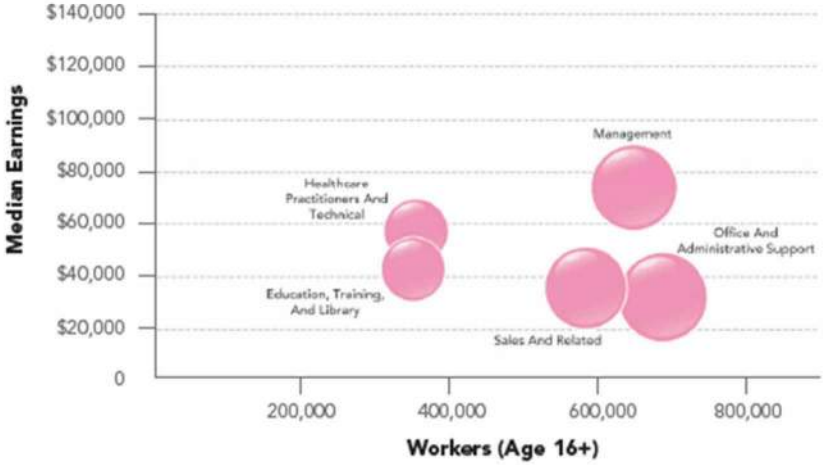
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.



4A LifeMode Group: Family Landscapes
Workday Drive

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by MRI-Simmons.)

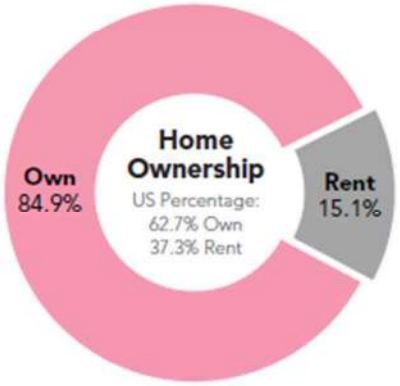
- Most households own at least 2 vehicles; the most popular types are minivans and SUVs.
- Family-oriented purchases and activities dominate, like 4+ televisions (Index 154), movie purchases or rentals, children's apparel and toys, and visits to theme parks or zoos.
- Outdoor activities and sports are characteristic of life in the suburban periphery. They attend sporting events, as well as participate in them like bicycling, jogging, golfing, and boating.
- Home maintenance services are frequently contracted, but these families also like their gardens and own the tools for minor upkeep, like lawn mowers, trimmers, and blowers.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

Median Value:
$257,400
US Median: $207,300



POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.

ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

4A

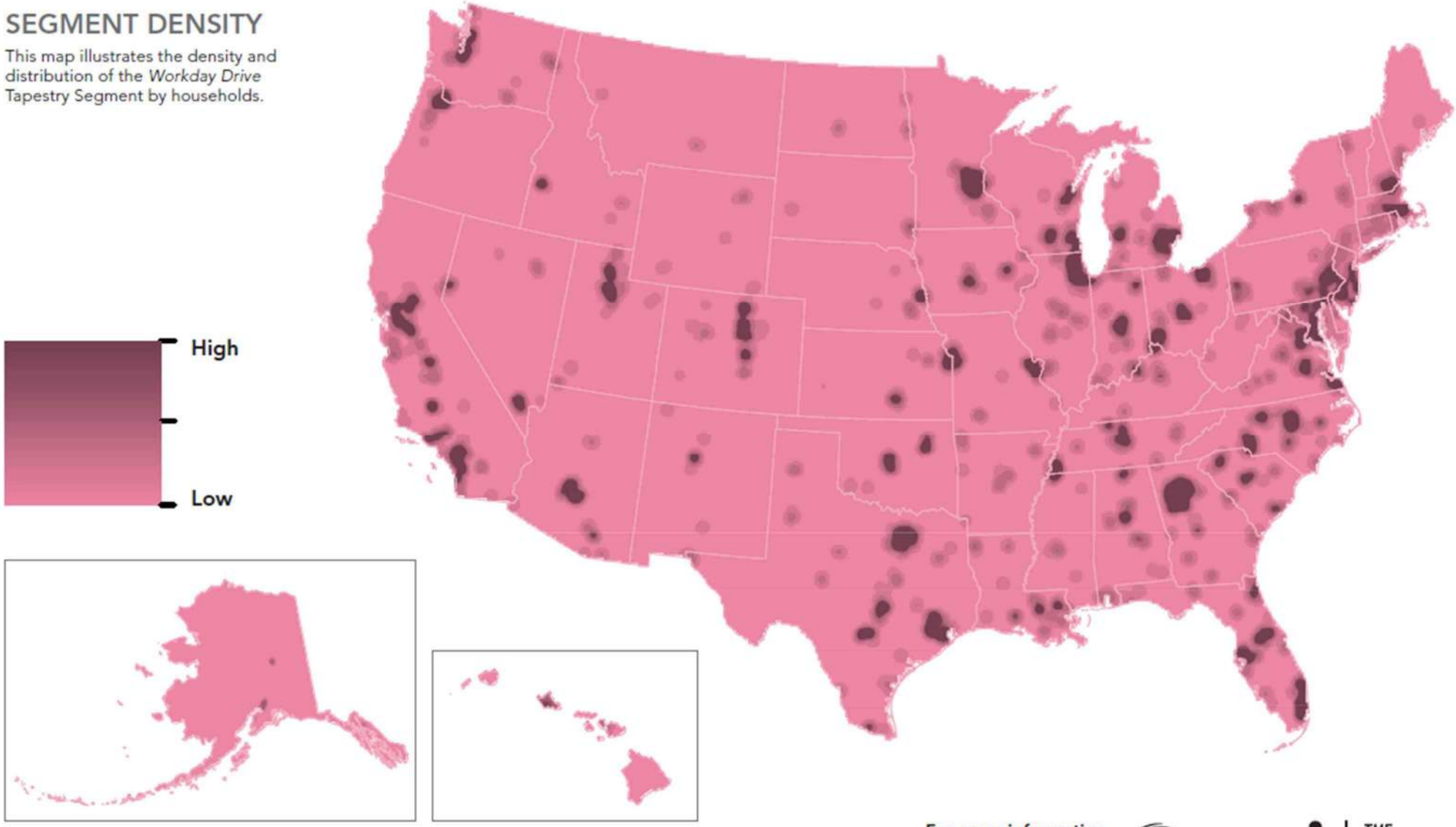
LifeMode Group: Family Landscapes

Workday Drive

TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

This map illustrates the density and distribution of the *Workday Drive* Tapestry Segment by households.



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For more information
1-800-447-9778
info@esri.com
esri.com

esri THE SCIENCE OF WHERE

LifeMode Group: Family Landscapes

Middleburg

4C

Households: 3,511,200

Average Household Size: 2.75

Median Age: 36.1

Median Household Income: $59,800

WHO ARE WE?

Middleburg neighborhoods transformed from the easy pace of country living to semirural subdivisions in the last decade, as the housing boom spread beyond large metropolitan cities. Residents are traditional, family-oriented consumers. Still more country than rock and roll, they are thrifty but willing to carry some debt and are already investing in their futures. They rely on their smartphones and mobile devices to stay in touch and pride themselves on their expertise. They prefer to buy American and travel in the US. This market is younger but growing in size and assets.

OUR NEIGHBORHOOD

- Semirural locales within metropolitan areas.
- Neighborhoods changed rapidly in the previous decade with the addition of new single-family homes.
- Include a number of mobile homes (Index 150).
- Affordable housing, median value of $175,000 (Index 84) with a low vacancy rate.
- Young couples, many with children; average household size is 2.75.

SOCIOECONOMIC TRAITS

- Education: 65% with a high school diploma or some college.
- Labor force participation typical of a younger population at 66.7% (Index 107).
- Traditional values are the norm here—faith, country, and family.
- Prefer to buy American and for a good price.
- Comfortable with the latest in technology, for convenience (online banking or saving money on landlines) and entertainment.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by MRI-Simmons.

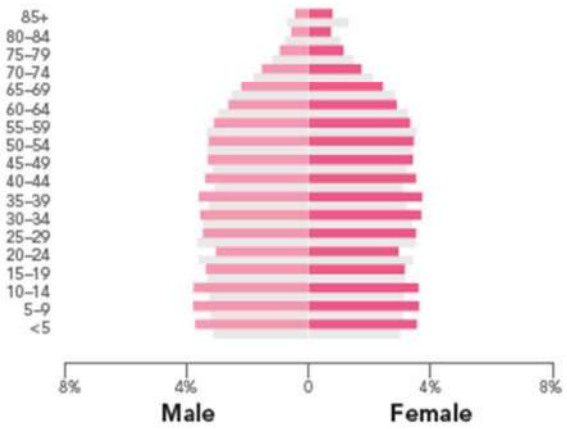
4C LifeMode Group: Family Landscapes
Middleburg

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 36.1 US: 38.2

Indicates US



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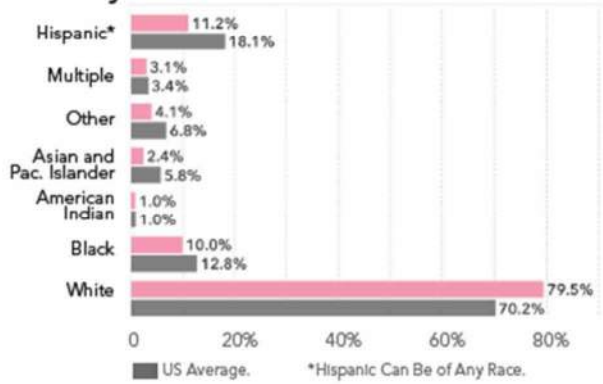
Diversity Index: 48.5 US: 64.0



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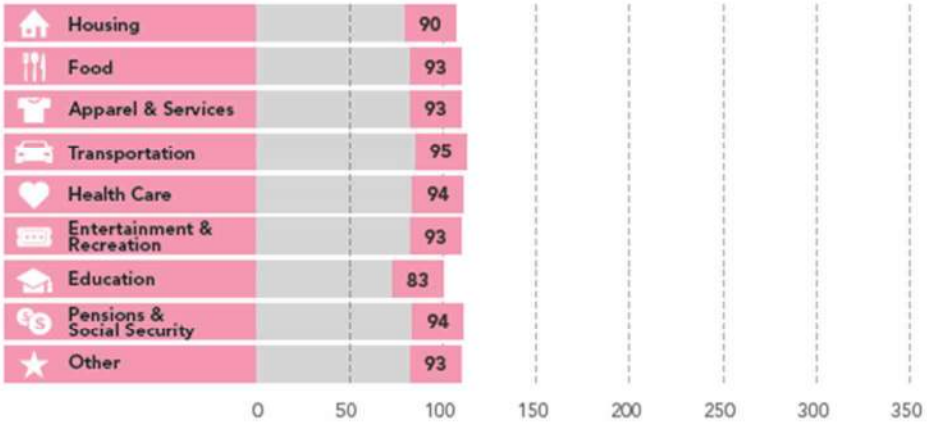
Median Household Income

Median Net Worth

AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



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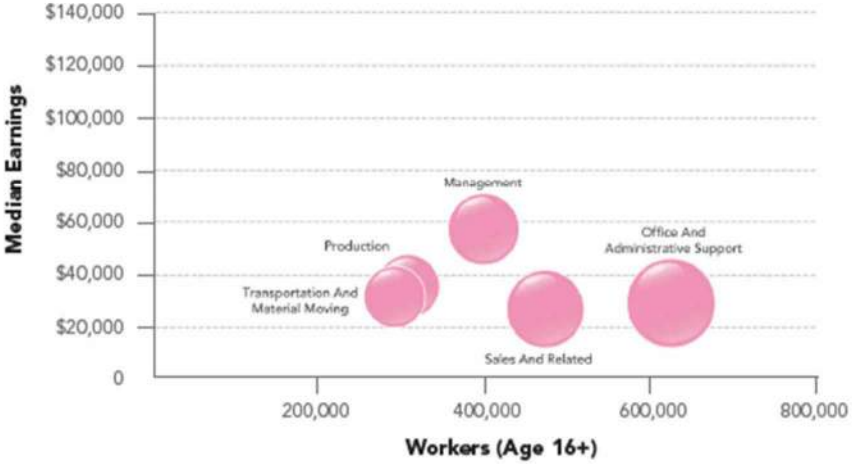


4C LifeMode Group: Family Landscapes
Middleburg

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by MRI-Simmons.)

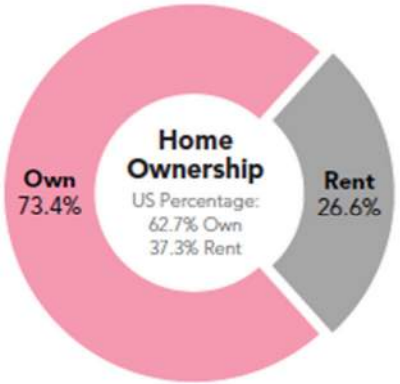
- Residents are partial to domestic vehicles; they like to drive trucks, SUVs, or motorcycles.
- Entertainment is primarily family-oriented, TV and movie rentals or theme parks and family restaurants.
- Spending priorities also focus on family (children's toys and apparel) or home DIY projects.
- Sports include hunting, fishing, bowling, and baseball.
- TV and magazines provide entertainment and information.
- Media preferences include country and Christian channels.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

Median Value:
$175,000
US Median: $207,300



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ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

4C

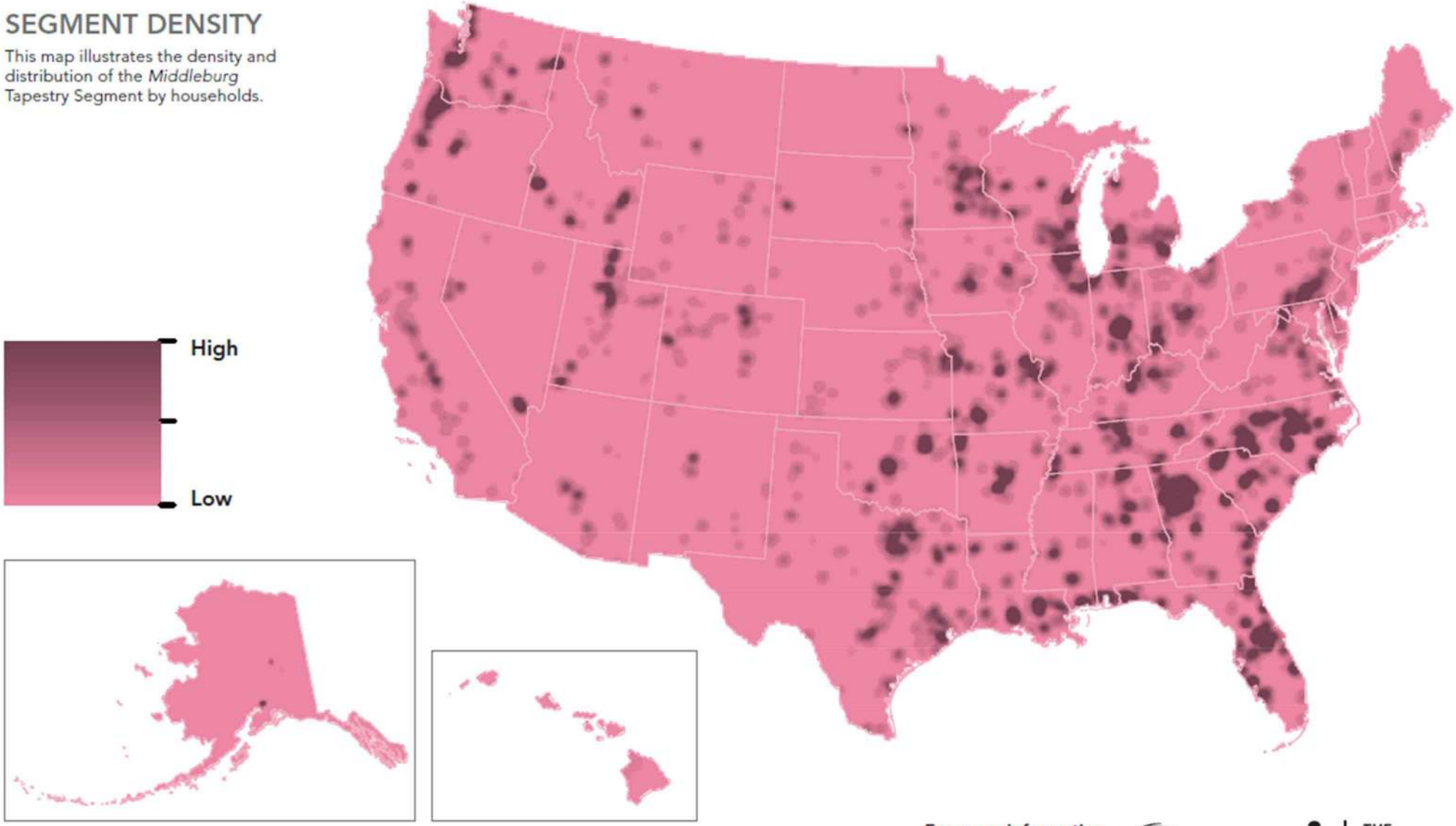
LifeMode Group: Family Landscapes

Middleburg

TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

This map illustrates the density and distribution of the *Middleburg* Tapestry Segment by households.



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For more information
1-800-447-9778
info@esri.com
esri.com

esri THE SCIENCE OF WHERE

LifeMode Group: Family Landscapes

Home Improvement

4B

Households: 2,114,500

Average Household Size: 2.88

Median Age: 37.7

Median Household Income: $72,100

WHO ARE WE?

Married-couple families occupy well over half of these suburban households. Most *Home Improvement* residences are single-family homes that are owner occupied, with only one-fifth of the households occupied by renters. Education and diversity levels are similar to the US as a whole. These families spend a lot of time on the go and therefore tend to eat out regularly. When at home, weekends are consumed with home improvement and remodeling projects.

OUR NEIGHBORHOOD

- These are low density suburban neighborhoods.
- Eight of every 10 homes are traditional single-family dwellings, owner occupied.
- Majority of the homes were built between 1970 and 2000.
- More than half of the households consist of married-couple families; another 12% include single-parent families.

SOCIOECONOMIC TRAITS

- Higher participation in the labor force; most households have 2+ workers.
- Cautious consumers that do their research before buying, they protect their investments.
- Typically spend 4–7 hours per week commuting, and, therefore, spend significant amounts on car maintenance (performed at a department store or auto repair chain store).
- They are paying off student loans and home mortgages.
- They spend heavily on eating out, at both fast-food and family restaurants.
- They like to work from home, when possible.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by MRI-Simmons.

4B LifeMode Group: Family Landscapes
Home Improvement

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

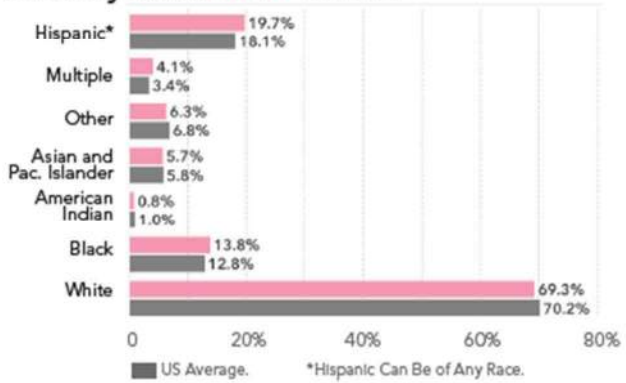
Median Age: 37.7 US: 38.2

Indicates US

RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 65.7 US: 64.0



INCOME AND NET WORTH

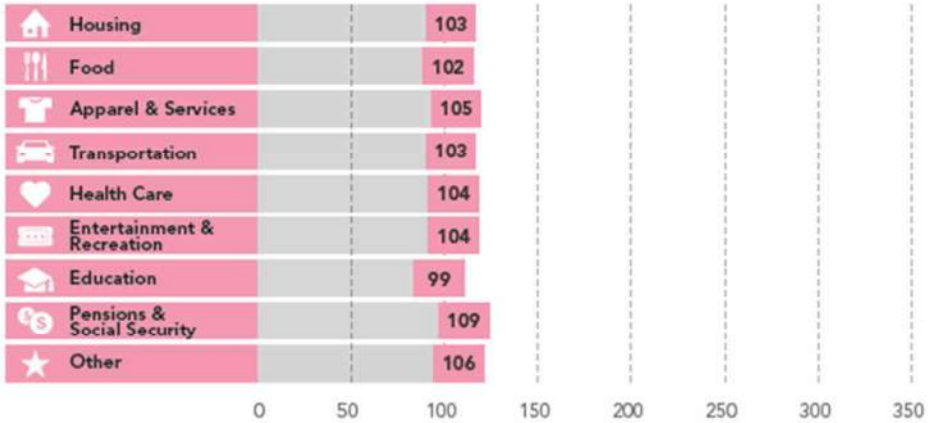
Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

Median Net Worth

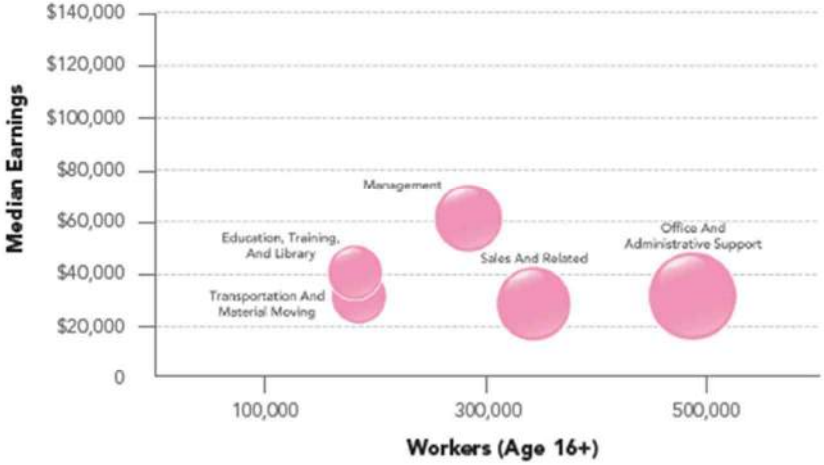
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.



4B LifeMode Group: Family Landscapes
Home Improvement

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by MRI-Simmons.)

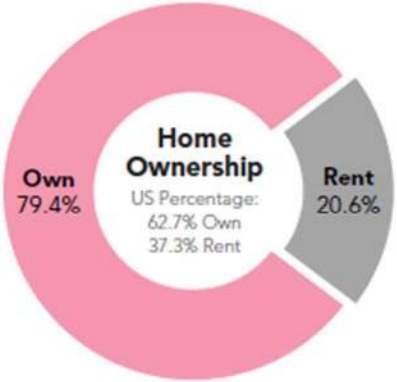
- Enjoy working on home improvement projects and watching DIY networks.
- Make frequent trips to warehouse/club and home improvement stores in their minivan or SUV.
- Own a giant screen TV with fiber-optic connection and premium cable; rent movies from Netflix.
- Very comfortable with new technology; embrace the convenience of completing tasks on a mobile device.
- Enjoy dining at Chili's, Chick-fil-A, and KFC.
- Frequently buy children's clothes and toys.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

Median Value:
$192,600
US Median: $207,300



POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.

ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

4B

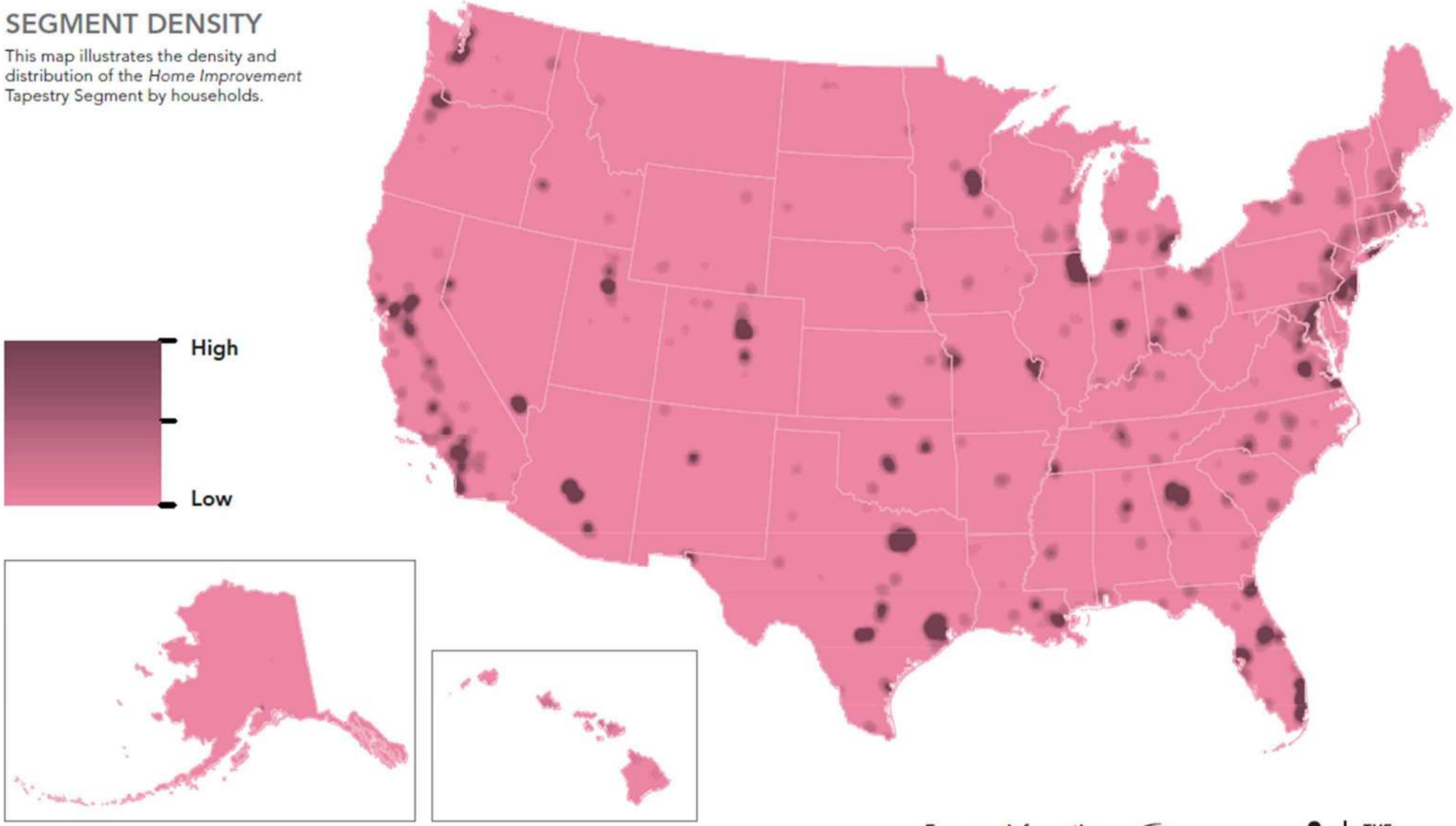
LifeMode Group: Family Landscapes

Home Improvement

TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

This map illustrates the density and distribution of the *Home Improvement* Tapestry Segment by households.



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esri THE SCIENCE OF WHERE

LifeMode Group: Cozy Country Living

Green Acres

6A

Households: 3,923,400

Average Household Size: 2.70

Median Age: 43.9

Median Household Income: $76,800

WHO ARE WE?

The *Green Acres* lifestyle features country living and self-reliance. Avid do-it-yourselfers, they maintain and remodel their homes, with all the necessary power tools to accomplish the jobs. Gardening, especially growing vegetables, is a priority, again with the right tools, tillers, tractors, and riding mowers. Outdoor living features a variety of sports: hunting and fishing, motorcycling, hiking and camping, and even golf.

OUR NEIGHBORHOOD

- This large segment is concentrated in rural enclaves in metropolitan areas.
- Primarily (not exclusively) older homes with acreage; new housing growth in the past 15 years.
- Single-family, owner-occupied housing, with a median value of $235,500.
- An older market, primarily married couples, most with no children.

SOCIOECONOMIC TRAITS

- Education: More than 60% are college educated.
- Labor force participation rate is high at 66.8% (Index 107).
- Income is derived not only from wages and salaries but also from self-employment (more than 13% of households), investments (27% of households), and increasingly, from retirement.
- They are cautious consumers with a focus on quality and durability.
- Comfortable with technology, more as a tool than a trend: banking or paying bills online is convenient; but the Internet is not viewed as entertainment.
- Economic outlook is professed as pessimistic, but consumers are comfortable with debt, primarily as home and auto loans, and investments.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100.
Consumer preferences are estimated from data by MRI-Simmons.

6A LifeMode Group: Cozy Country Living
Green Acres

TAPESTRY SEGMENTATION
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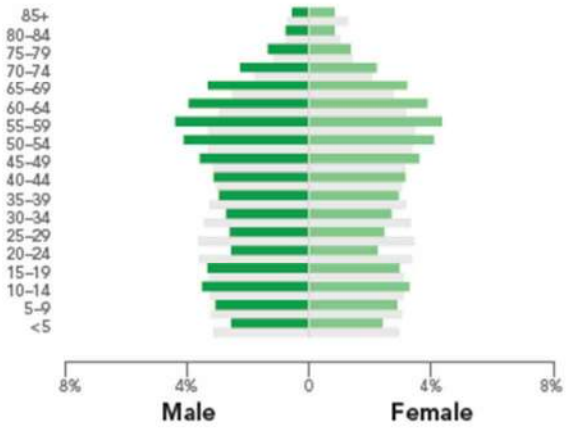
AGE BY SEX (Esri data)

Median Age: 43.9 US: 38.2

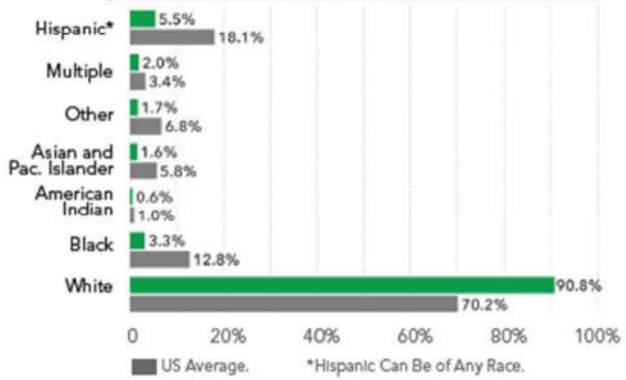
Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 26.0 US: 64.0



INCOME AND NET WORTH

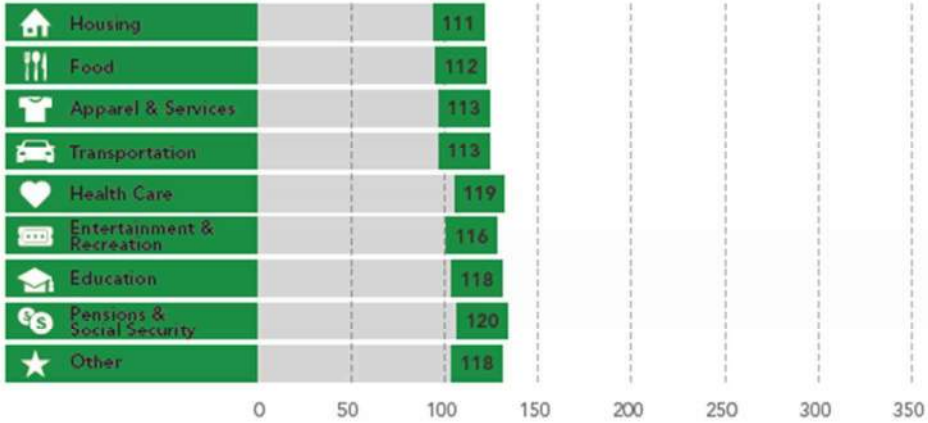
Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

Median Net Worth

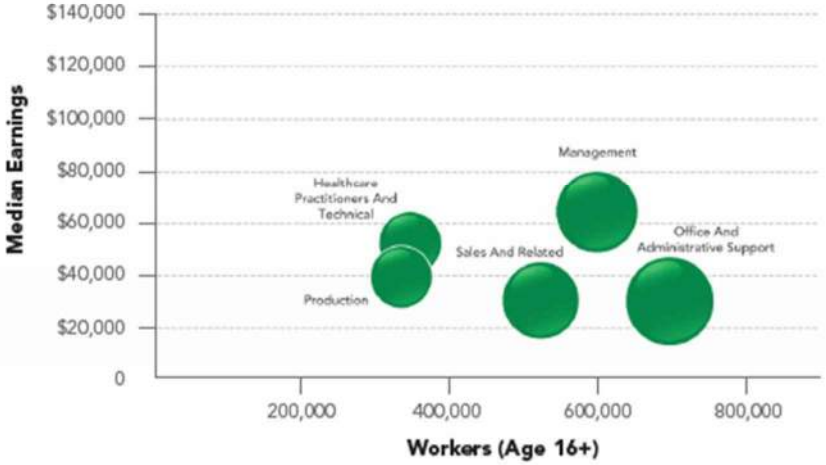
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.



6A LifeMode Group: Cozy Country Living
Green Acres

TAPESTRY SEGMENTATION
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MARKET PROFILE (Consumer preferences are estimated from data by MRI-Simmons.)

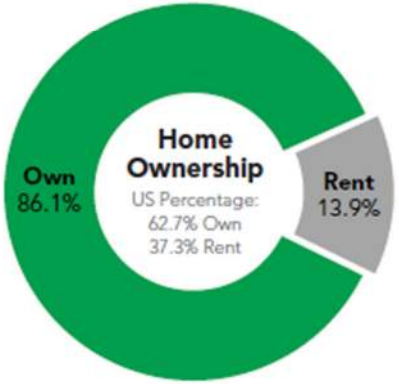
- Purchasing choices reflect *Green Acres* residents' country life, including a variety of vehicles, from trucks and SUVs to ATVs and motorcycles, preferably late model.
- Homeowners favor DIY home improvement projects and gardening.
- Media of choice are provided by satellite service, radio, and television, also with an emphasis on country and home and garden.
- *Green Acres* residents pursue physical fitness vigorously, from working out on home exercise equipment to playing a variety of sports.
- Residents are active in their communities and a variety of social organizations, from charitable to veterans' clubs.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

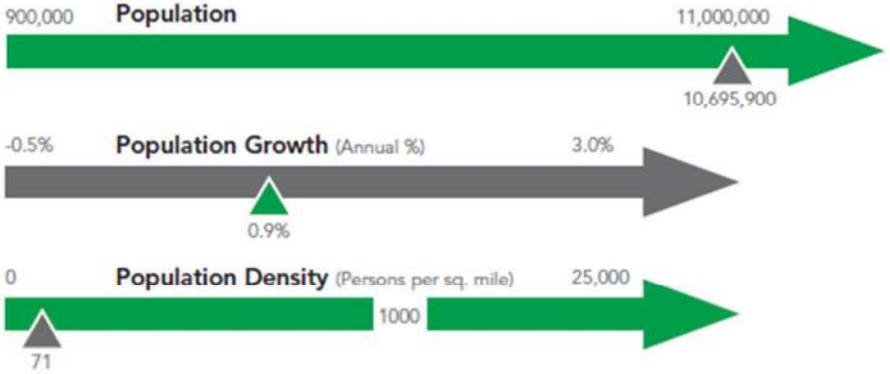
Typical Housing:
Single Family

Median Value:
$235,500
US Median: $207,300



POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.



ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

6A

LifeMode Group: Cozy Country Living

Green Acres

TAPESTRY SEGMENTATION
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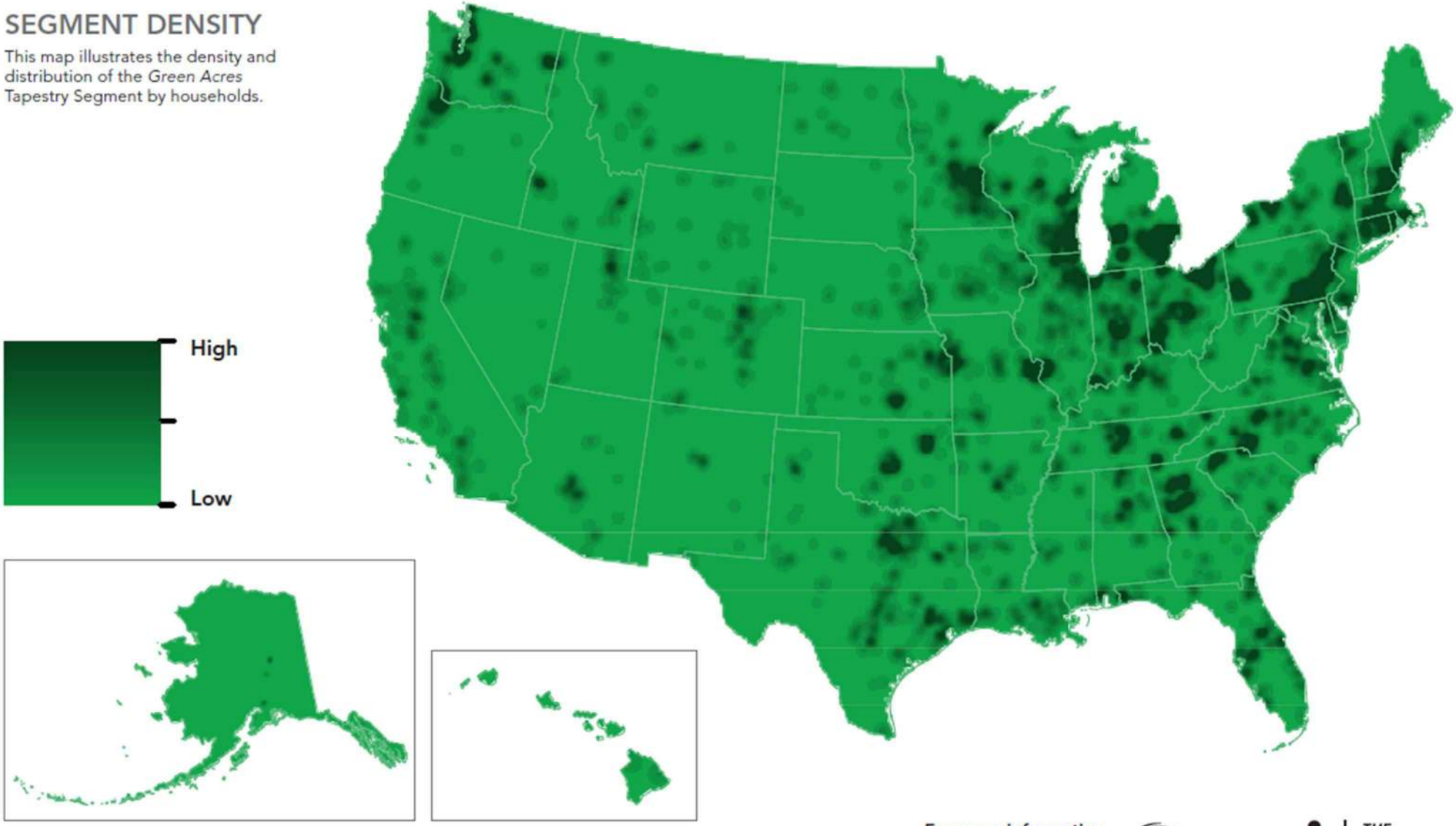
SEGMENT DENSITY

This map illustrates the density and distribution of the *Green Acres* Tapestry Segment by households.



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esri THE SCIENCE OF WHERE

LifeMode Group: Affluent Estates

Top Tier

1A

Households: 2,113,000

Average Household Size: 2.84

Median Age: 47.3

Median Household Income: $173,200

WHO ARE WE?

The residents of the wealthiest Tapestry market, *Top Tier*, earn more than three times the US household income. They have the purchasing power to indulge any choice, but what do their hearts' desire? Aside from the obvious expense for the upkeep of their lavish homes, consumers select upscale salons, spas, and fitness centers for their personal well-being and shop at high-end retailers for their personal effects. Whether short or long, domestic or foreign, their frequent vacations spare no expense. Residents fill their weekends and evenings with opera, classical music concerts, charity dinners, and shopping. These highly educated professionals have reached their corporate career goals. With an accumulated average net worth of over 3 million dollars and income from a strong investment portfolio, many of these older residents have moved into consulting roles or operate their own businesses.

OUR NEIGHBORHOOD

- Married couples without children or married couples with older children dominate this market.
- Housing units are owner occupied with the highest home values—and above average use of mortgages.
- Neighborhoods are older and located in the suburban periphery of the largest metropolitan areas, especially along the coasts.

SOCIOECONOMIC TRAITS

- *Top Tier* is a highly educated, successful consumer market: more than one in three residents has a postgraduate degree.
- Annually, they earn more than three times the US median household income, primarily from wages and salary, but also self-employment income (Index 177) and investments (Index 251).
- These are the nation's wealthiest consumers. They hire financial advisers to manage their diverse investment portfolios but stay abreast of current financial trends and products.
- Socially responsible consumers who aim for a balanced lifestyle, they are goal oriented and hardworking but make time for their kids or grandkids and maintain a close-knit group of friends.
- These busy consumers seek variety in life. They take an interest in the fine arts; read to expand their knowledge; and consider the Internet, radio, and newspapers as key media sources.
- They regularly cook their meals at home, attentive to good nutrition and fresh organic foods.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100.
Consumer preferences are estimated from data by MRI-Simmons.

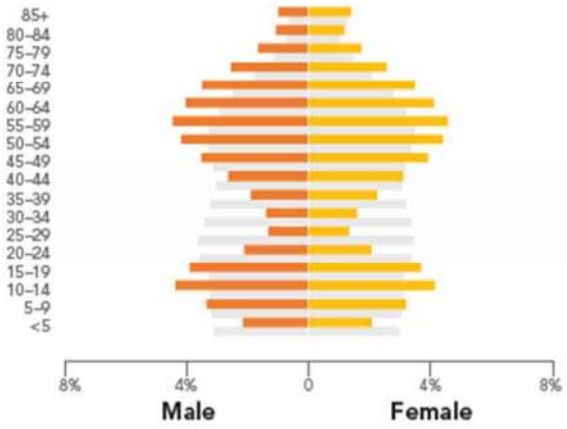
1A LifeMode Group: Affluent Estates
Top Tier

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 47.3 US: 38.2

Indicates US



RACE AND ETHNICITY (Esri data)

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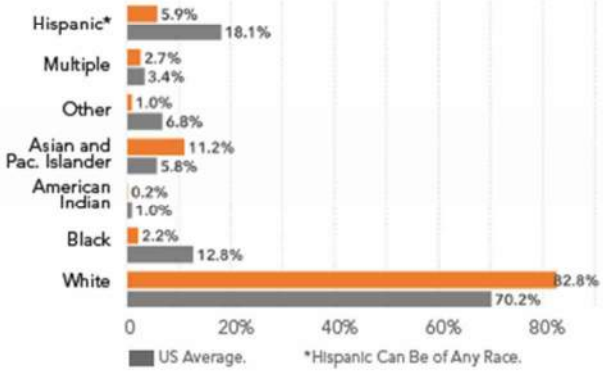
Diversity Index: 37.9 US: 64.0



INCOME AND NET WORTH

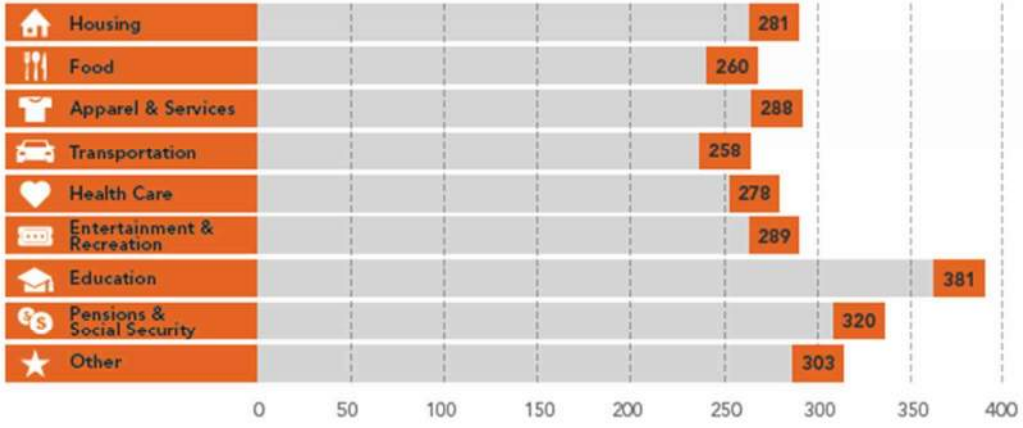
Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

Median Net Worth

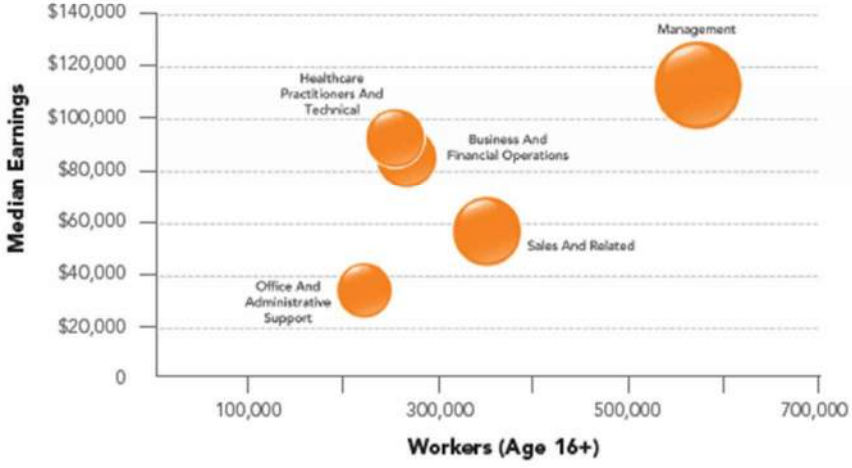
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.



1A LifeMode Group: Affluent Estates
Top Tier

TAPESTRY SEGMENTATION
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MARKET PROFILE (Consumer preferences are estimated from data by MRI-Simmons.)

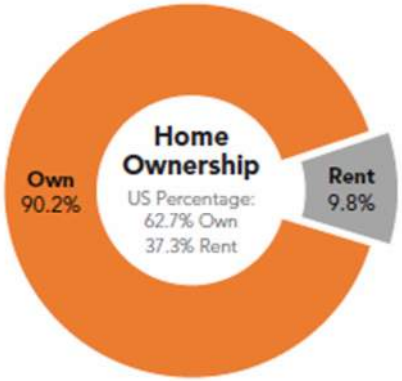
- Purchase or lease luxury cars with the latest trim, preferably imports.
- Contribute to arts/cultural organizations, educational and social groups, as well as NPR and PBS.
- Use every service from property and garden maintenance and professional housekeeping to contracting for home improvement or maintenance projects.
- Consumers spend money on themselves; they frequently visit day spas and salons, use dry cleaning services, and exercise at exclusive clubs.
- Near or far, downtown or at the beach, they regularly visit their lavish vacation homes.
- When at home, their schedules are packed with lunch dates, book club meetings, charity dinners, classical music concerts, opera shows, and visits to local art galleries.
- Mostly shop at high-end retailers such as Nordstrom (readily paying full price), as well as Target, Kohl's, Macy's, and Bed Bath & Beyond, and online at Amazon.com.
- At their level of spending, it makes sense to own an airline credit card. They make several domestic and foreign trips a year for leisure and pay for every luxury along the way—a room with a view, limousines, and rental cars are part of the package.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

Median Value:
$819,500
US Median: $207,300



POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.

ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

1A

LifeMode Group: Affluent Estates

Top Tier

TAPESTRY SEGMENTATION
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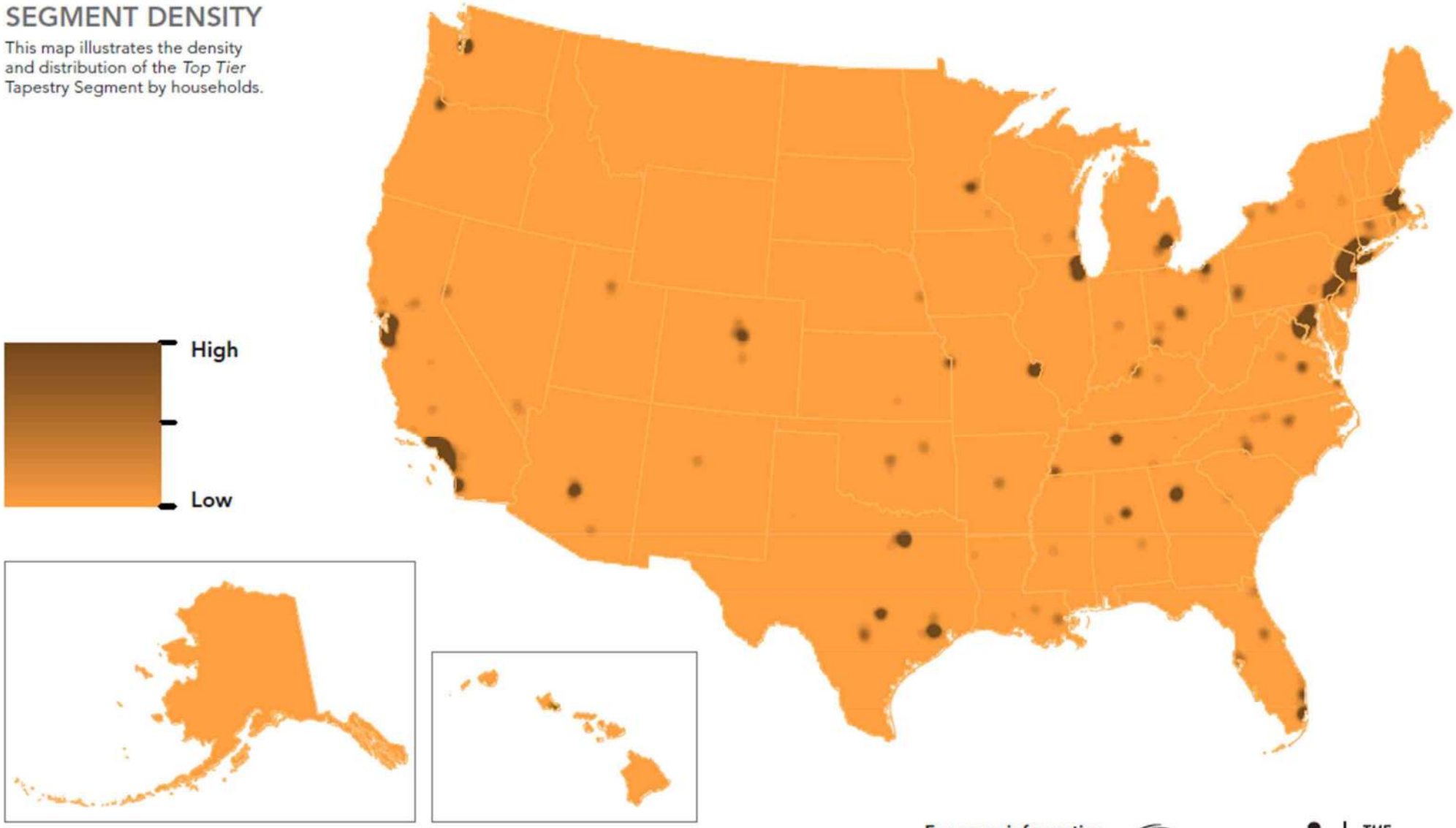
SEGMENT DENSITY

This map illustrates the density and distribution of the *Top Tier* Tapestry Segment by households.



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LifeMode Group: Affluent Estates

Savvy Suburbanites

1D

Households: 3,664,200

Average Household Size: 2.85

Median Age: 45.1

Median Household Income: $108,700

WHO ARE WE?

Savvy Suburbanites residents are well educated, well read, and well capitalized. Families include empty nesters and empty nester wannabes, who still have adult children at home. Located in older neighborhoods outside the urban core, their suburban lifestyle includes home remodeling and gardening plus the active pursuit of sports and exercise. They enjoy good food and wine, plus the amenities of the city's cultural events.

OUR NEIGHBORHOOD

- Established neighborhoods (most built between 1970 and 1990) found in the suburban periphery of large metropolitan markets.
- Married couples with no children or older children; average household size is 2.85.
- 91% owner occupied; 66% mortgaged (Index 160).
- Primarily single-family homes, with a median value of $362,900 (Index 161).
- Low vacancy rate at 3.8%.

SOCIOECONOMIC TRAITS

- Education: 50.6% college graduates; 77.6% with some college education.
- Higher labor force participation rate at 67.9% (Index 109) with proportionately more 2-worker households at 62.2%, (Index 120).
- Well-connected consumers that appreciate technology and make liberal use of it for everything from shopping and banking to staying current and communicating.
- Informed shoppers that do their research prior to purchasing and focus on quality.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by MRI-Simmons.

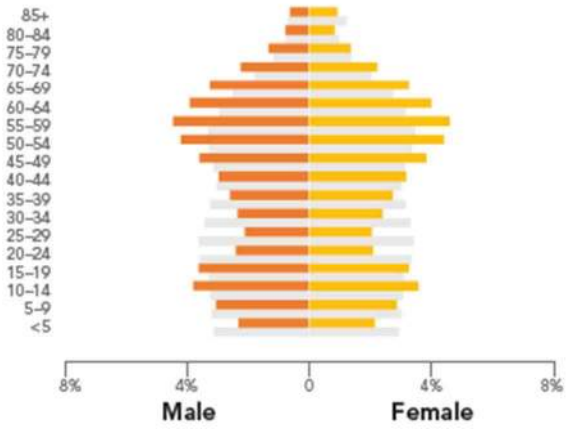
1D LifeMode Group: Affluent Estates
Savvy Suburbanites

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 45.1 US: 38.2

Indicates US



RACE AND ETHNICITY (Esri data)

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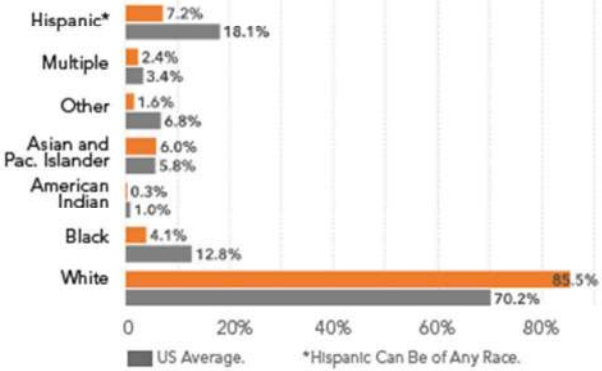

INCOME AND NET WORTH

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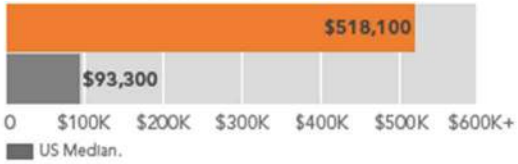
Median Household Income

Median Net Worth



AVERAGE HOUSEHOLD BUDGET INDEX

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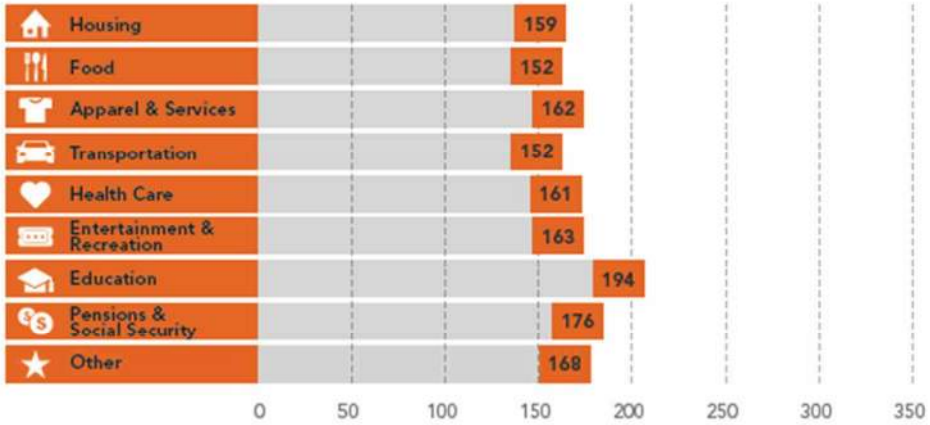

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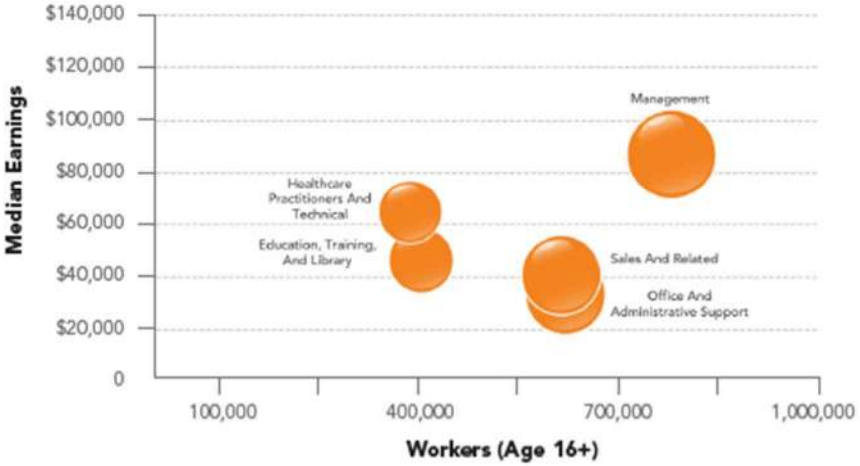


1D LifeMode Group: Affluent Estates
Savvy Suburbanites

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by MRI-Simmons.)

- Residents prefer late model, family-oriented vehicles: SUVs, minivans, and station wagons.
- Gardening and home remodeling are priorities, usually DIY. Riding mowers and power tools are popular, although they also hire contractors for the heavy lifting.
- There is extensive use of housekeeping and personal care services.
- Foodies: They like to cook and prefer natural or organic products.
- These investors are financially active, using a number of resources for informed investing. They are not afraid of debt; many households carry first and second mortgages, plus home equity credit lines.
- Physically fit, residents actively pursue a number of sports, from skiing to golf, and invest heavily in sports gear and exercise equipment.

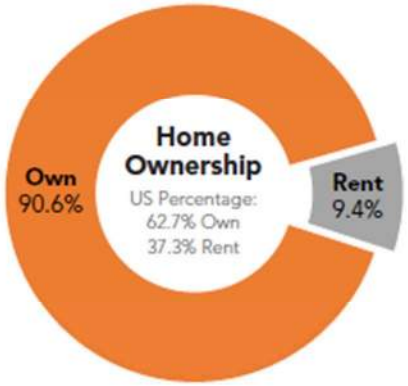
HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

Median Value:
$362,900

US Median: $207,300

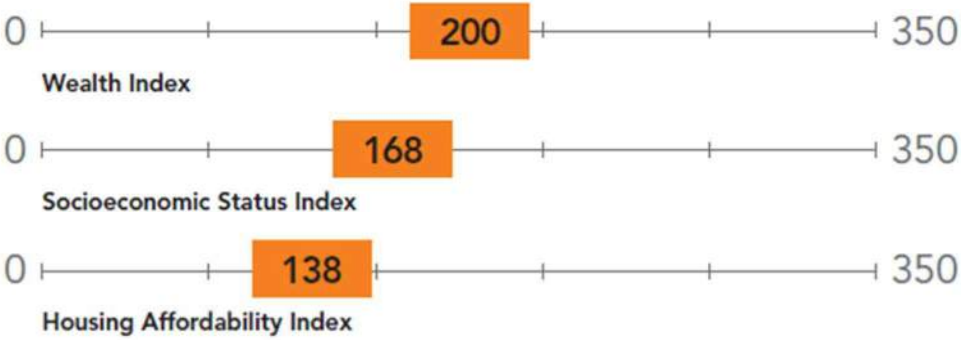


POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.

ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.



1D

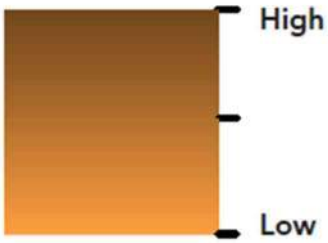
LifeMode Group: Affluent Estates

Savvy Suburbanites

TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

This map illustrates the density and distribution of the *Savvy Suburbanites* Tapestry Segment by households.



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Appendix G

Environmental Analysis Maps

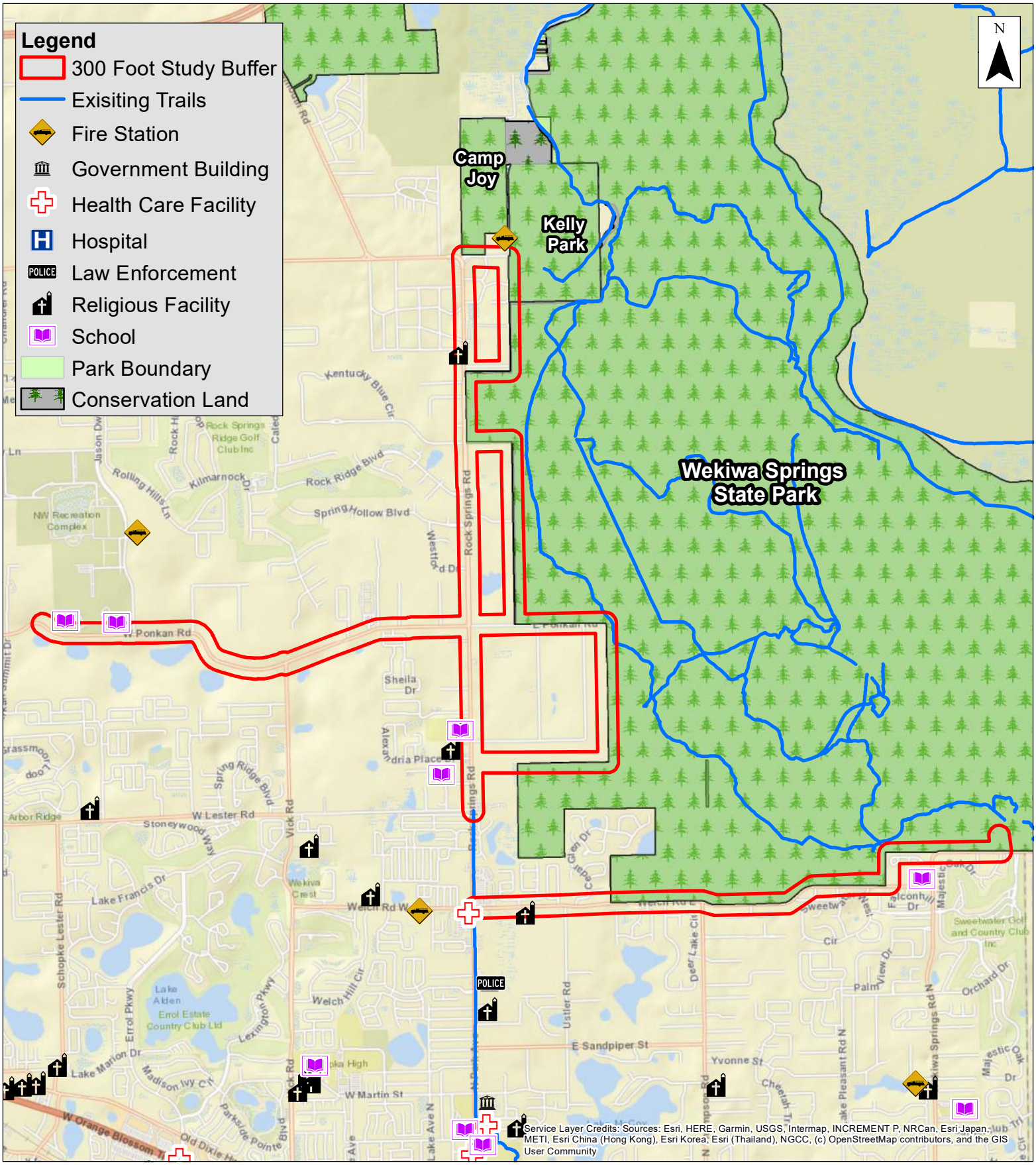


Exhibit A

West Orange Trail Phase 4 Study

Orange County, FL
Cultural and Social Facilities Map
September 2021

0 1,600 3,200 Feet

Note: GIS data downloaded from FGDL July 2021

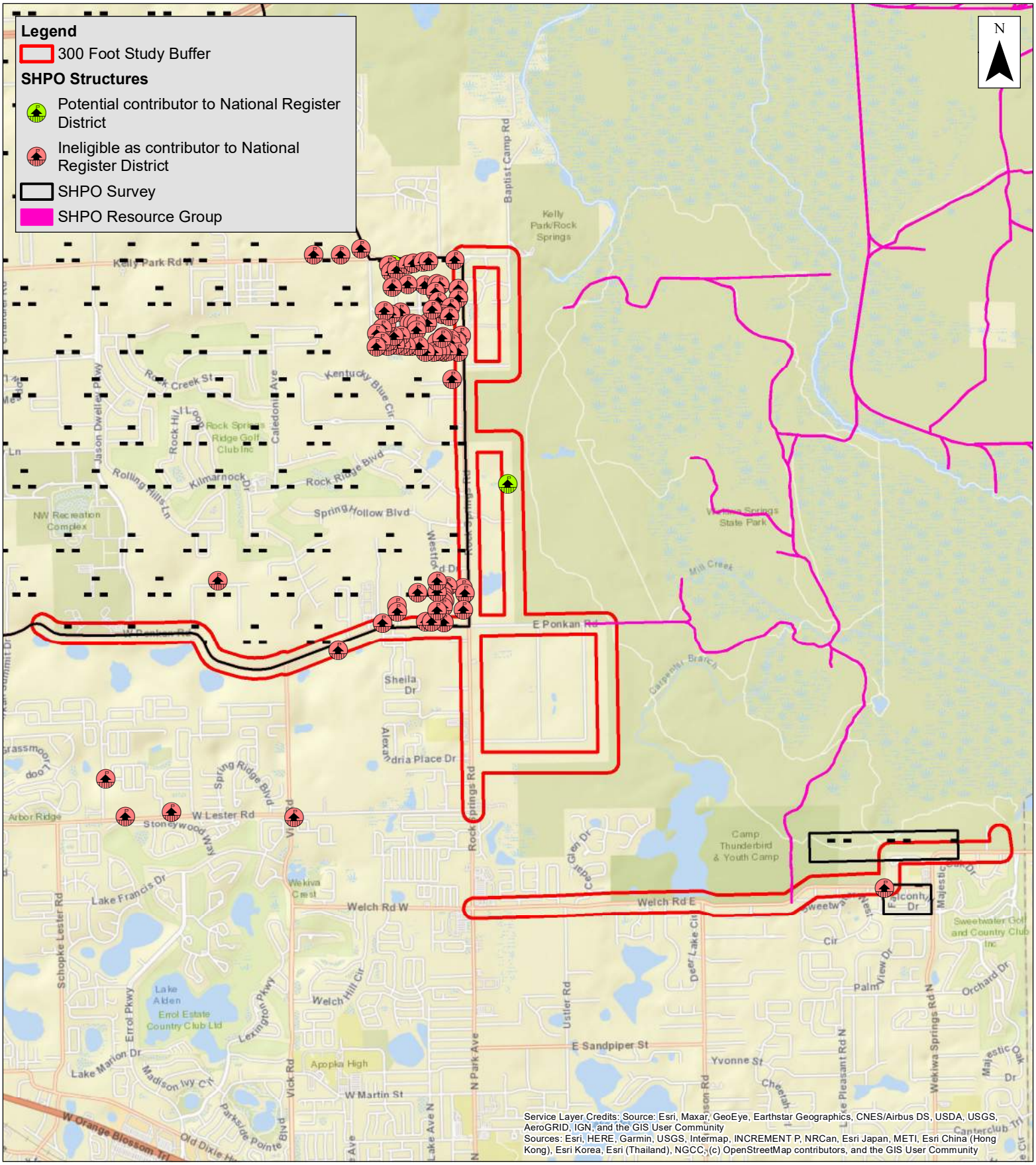


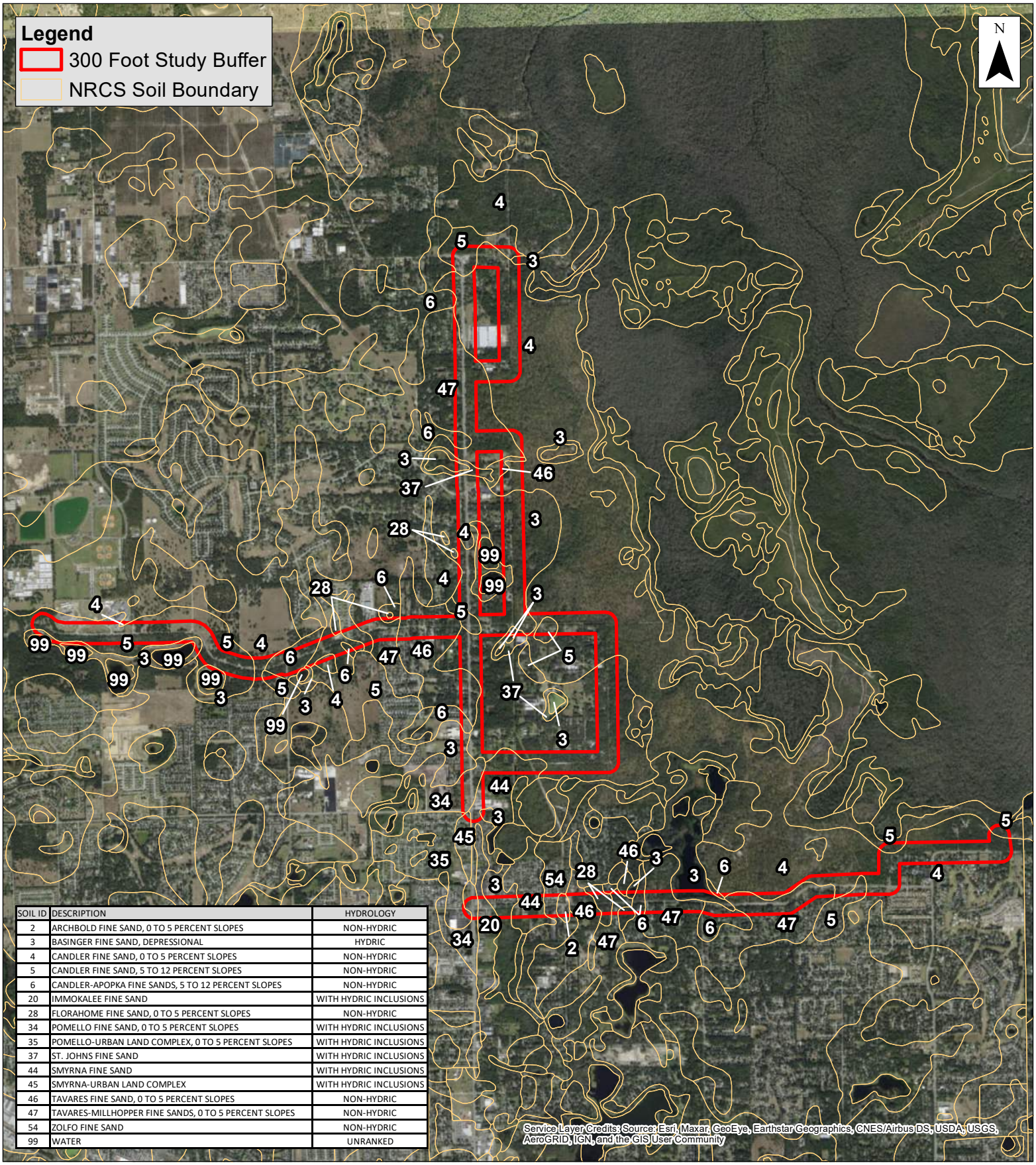
Exhibit B

West Orange Trail Phase 4 Study

Orange County, FL
Archaeological and Historical Resources Map
September 2021

Note: GIS data downloaded from FGDL July 2021 and sourced to Florida Master Site File

0 1,600 3,200 Feet



SOIL ID	DESCRIPTION	HYDROLOGY
2	ARCHBOLD FINE SAND, 0 TO 5 PERCENT SLOPES	NON-HYDRIC
3	BASINGER FINE SAND, DEPRESSIONAL	HYDRIC
4	CANDLER FINE SAND, 0 TO 5 PERCENT SLOPES	NON-HYDRIC
5	CANDLER FINE SAND, 5 TO 12 PERCENT SLOPES	NON-HYDRIC
6	CANDLER-APOPKA FINE SANDS, 5 TO 12 PERCENT SLOPES	NON-HYDRIC
20	IMMOKALEE FINE SAND	WITH HYDRIC INCLUSIONS
28	FLORAHOME FINE SAND, 0 TO 5 PERCENT SLOPES	NON-HYDRIC
34	POMELLO FINE SAND, 0 TO 5 PERCENT SLOPES	WITH HYDRIC INCLUSIONS
35	POMELLO-URBAN LAND COMPLEX, 0 TO 5 PERCENT SLOPES	WITH HYDRIC INCLUSIONS
37	ST. JOHNS FINE SAND	WITH HYDRIC INCLUSIONS
44	SMYRNA FINE SAND	WITH HYDRIC INCLUSIONS
45	SMYRNA-URBAN LAND COMPLEX	WITH HYDRIC INCLUSIONS
46	TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES	NON-HYDRIC
47	TAVARES-MILLHOPPER FINE SANDS, 0 TO 5 PERCENT SLOPES	NON-HYDRIC
54	ZOLFO FINE SAND	NON-HYDRIC
99	WATER	UNRANKED

Exhibit C

West Orange Trail Phase 4 Study

Orange County, FL
NRCS Soils Map
September 2021

Source: NRCS Soils GIS Data
downloaded July 2021

0 1,600 3,200 Feet

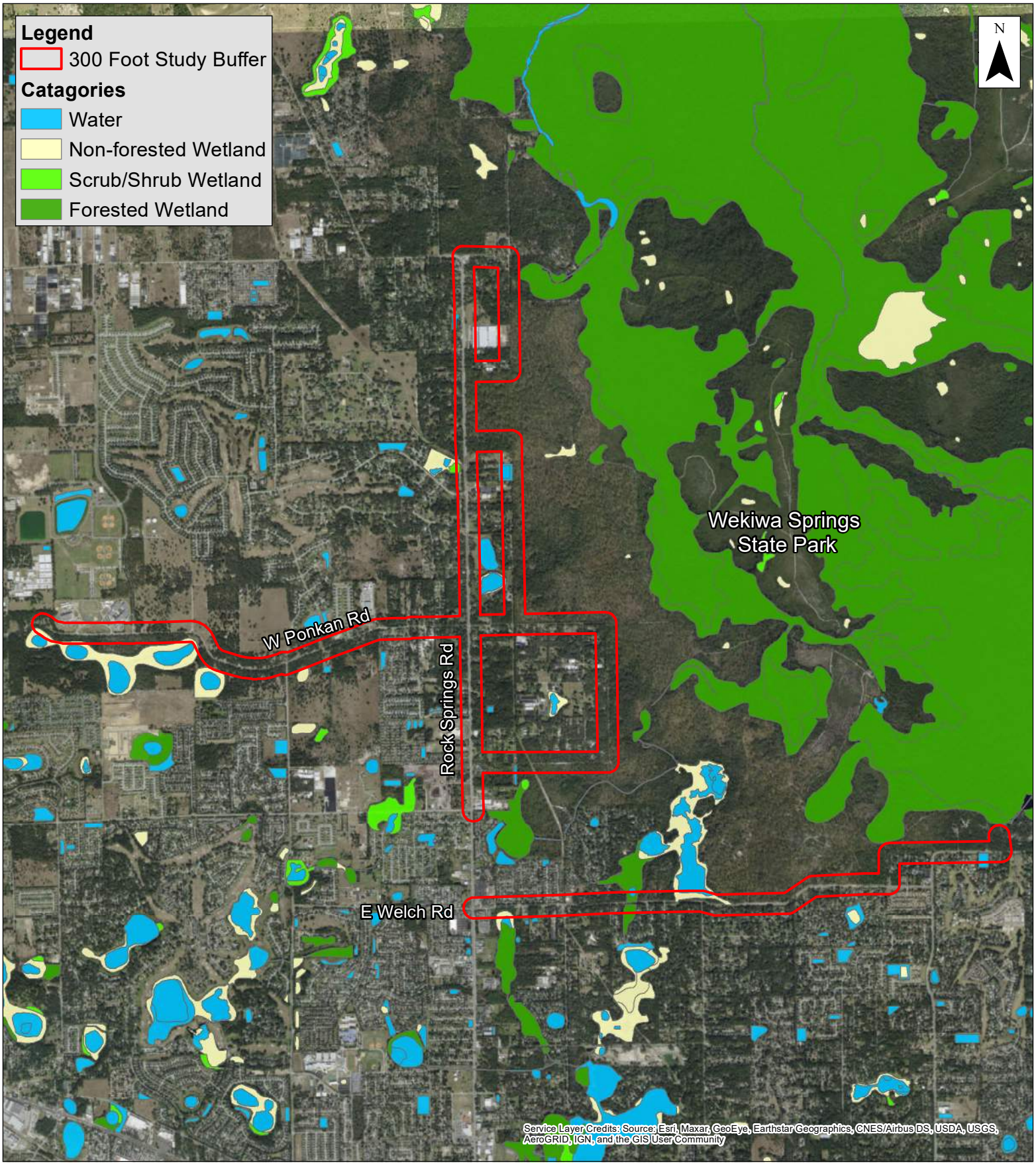


Exhibit D

West Orange Trail Phase 4 Study

Orange County, FL
Wetlands and Surface Waters Map
September 2021

Note: GIS data downloaded from FGDL July 2021 and sourced to USFWS

0 1,600 3,200 Feet

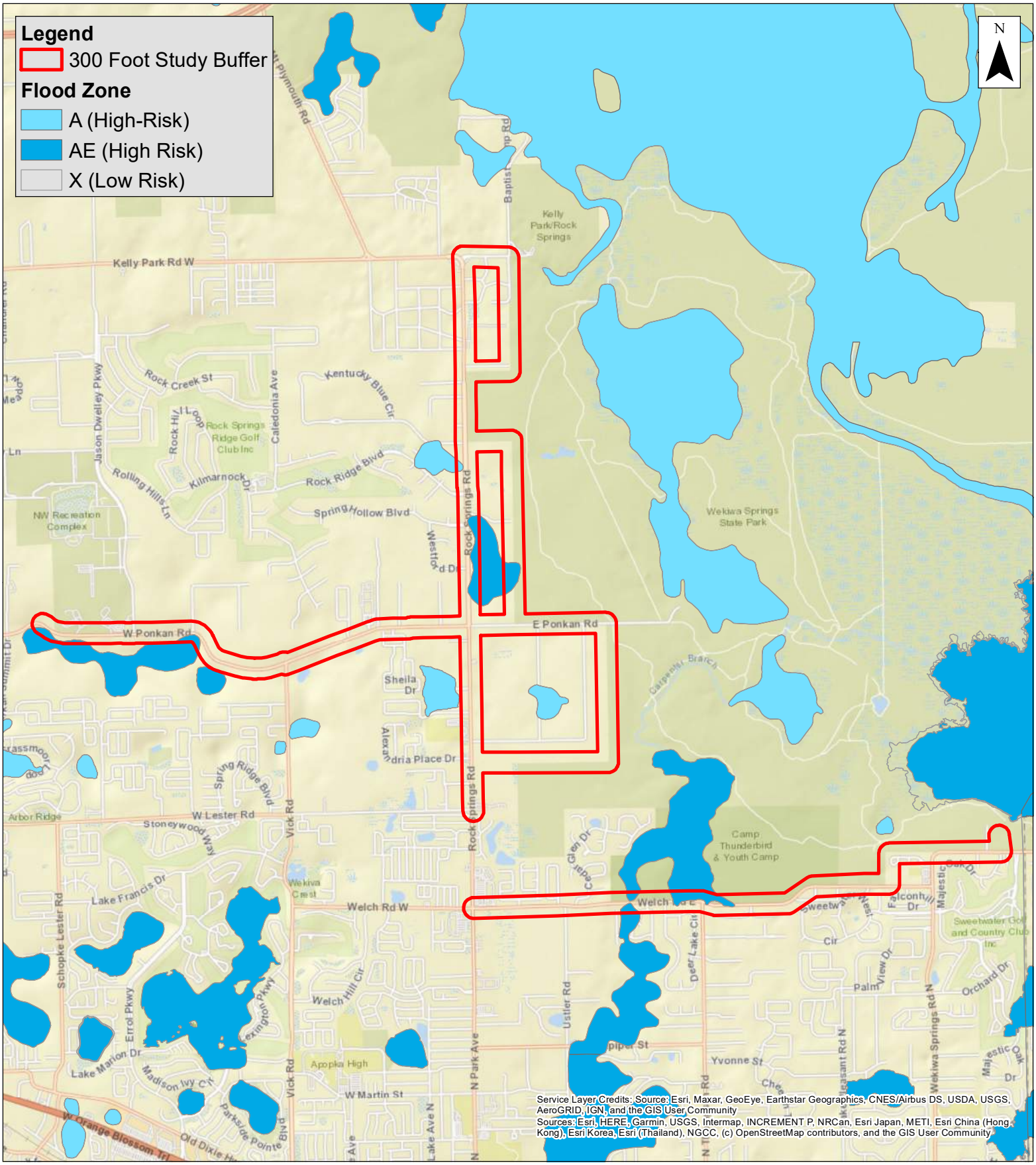


Exhibit E

West Orange Trail Phase 4 Study

Orange County, FL
Floodplain Map
September 2021

Note: GIS data downloaded from FGDL July 2021 and sourced to FEMA

0 1,600 3,200 Feet

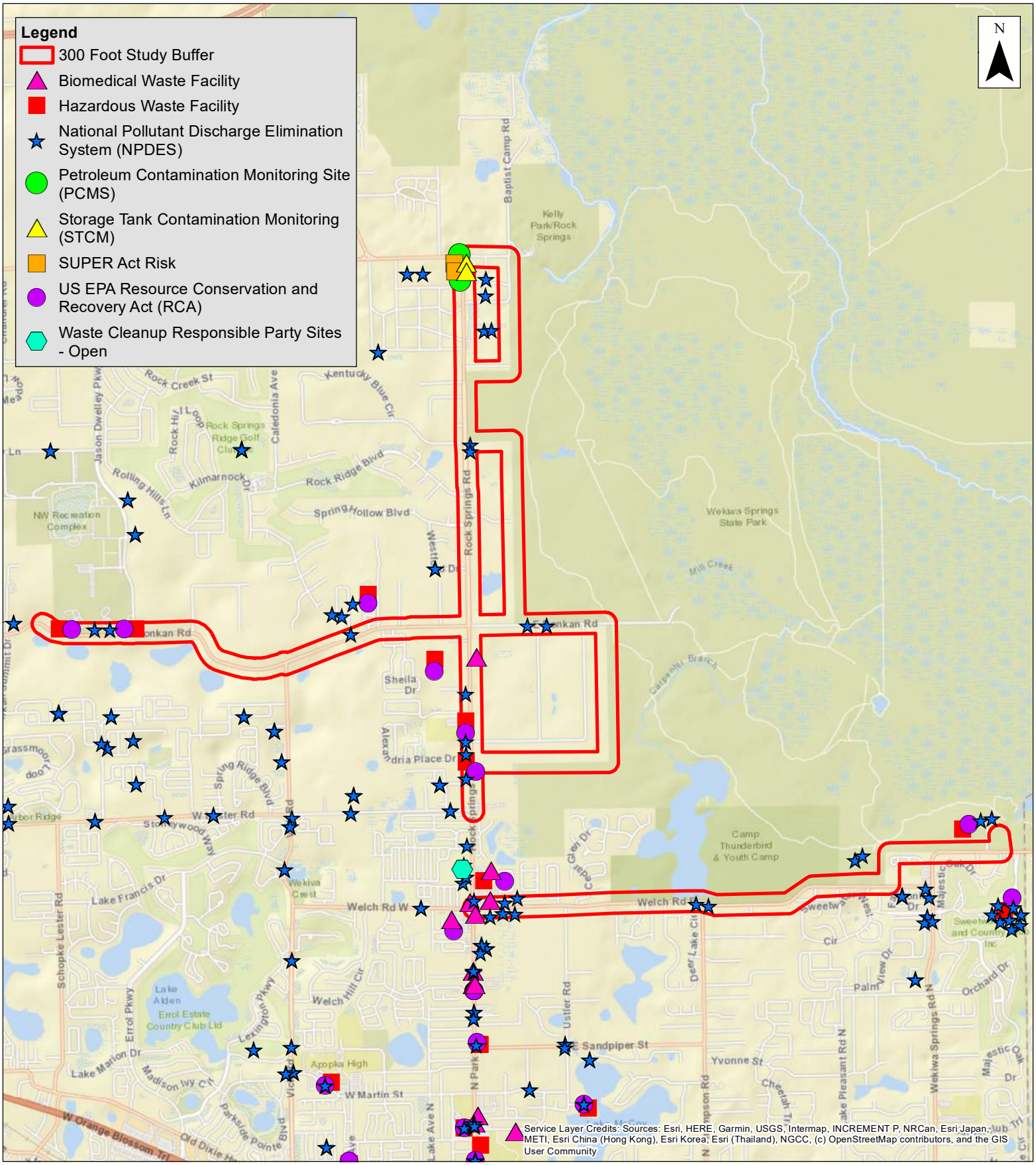


Exhibit F

West Orange Trail Phase 4 Study

Orange County, FL
Contamination Map
September 2021

Note: GIS data downloaded from FGDL July 2021 and sourced to FDOH (Boimedical, SUPER Act), FDEP (PCMS, STCM, Hazardous Waste), FDEP/DWM/BWC (Brownfield), USEPA (NPDES).

0 1,600 3,200 Feet

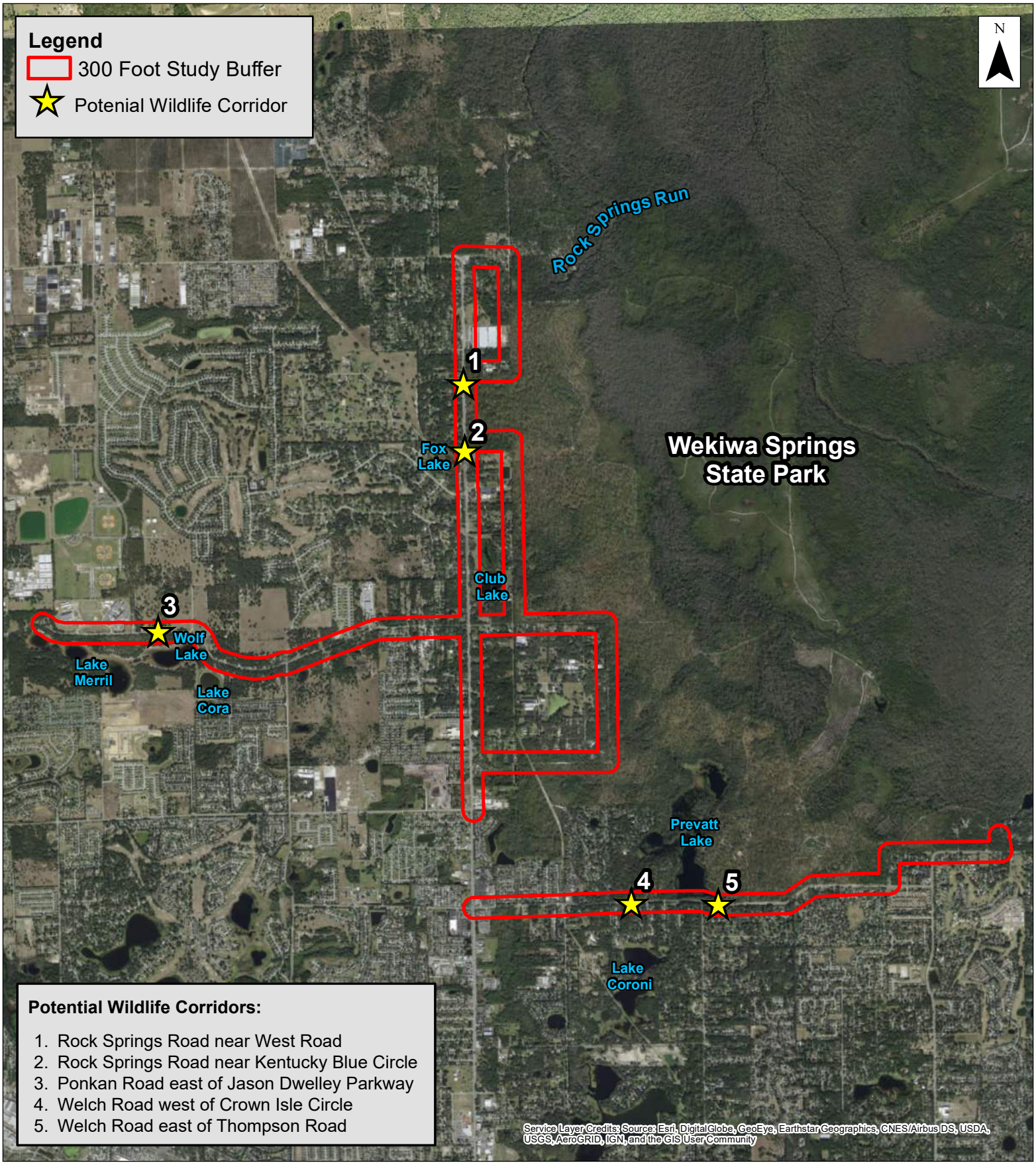


Exhibit G

West Orange Trail Phase 4 Study

Orange County, FL
Potential Wildlife Corridor and Crossing Map
September 2021

0 1,600 3,200 Feet

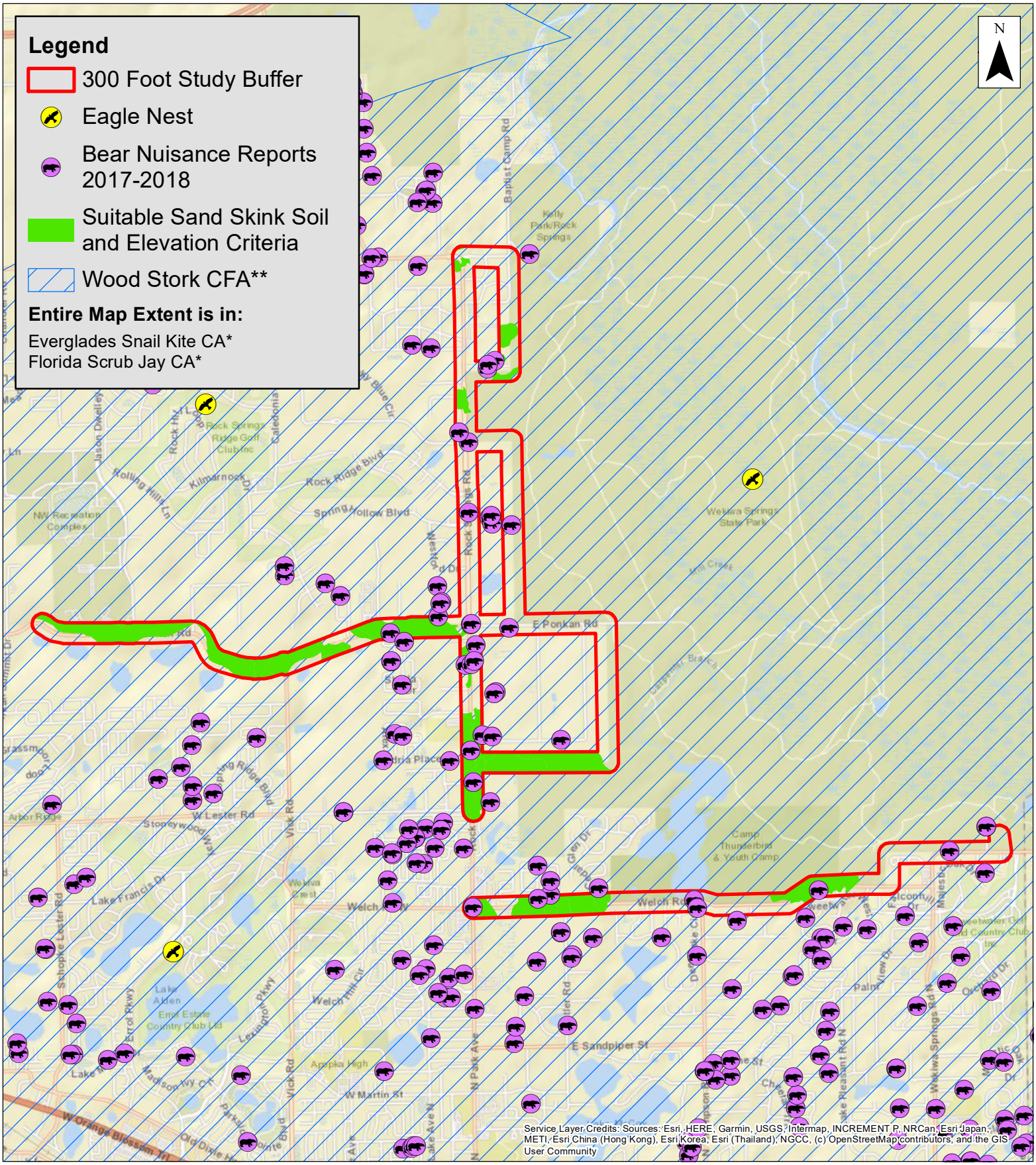


Exhibit H

West Orange Trail Phase 4 Study

Orange County, FL
Protected Species Map
September 2021

Note: GIS data downloaded from FGDL July 2021
Outsourced to FWC and USFWS
* USFWS Consultation area (CA)
** Core Foraging Area (CFA)

0 1,600 3,200 Feet

Appendix H

Drainage Map

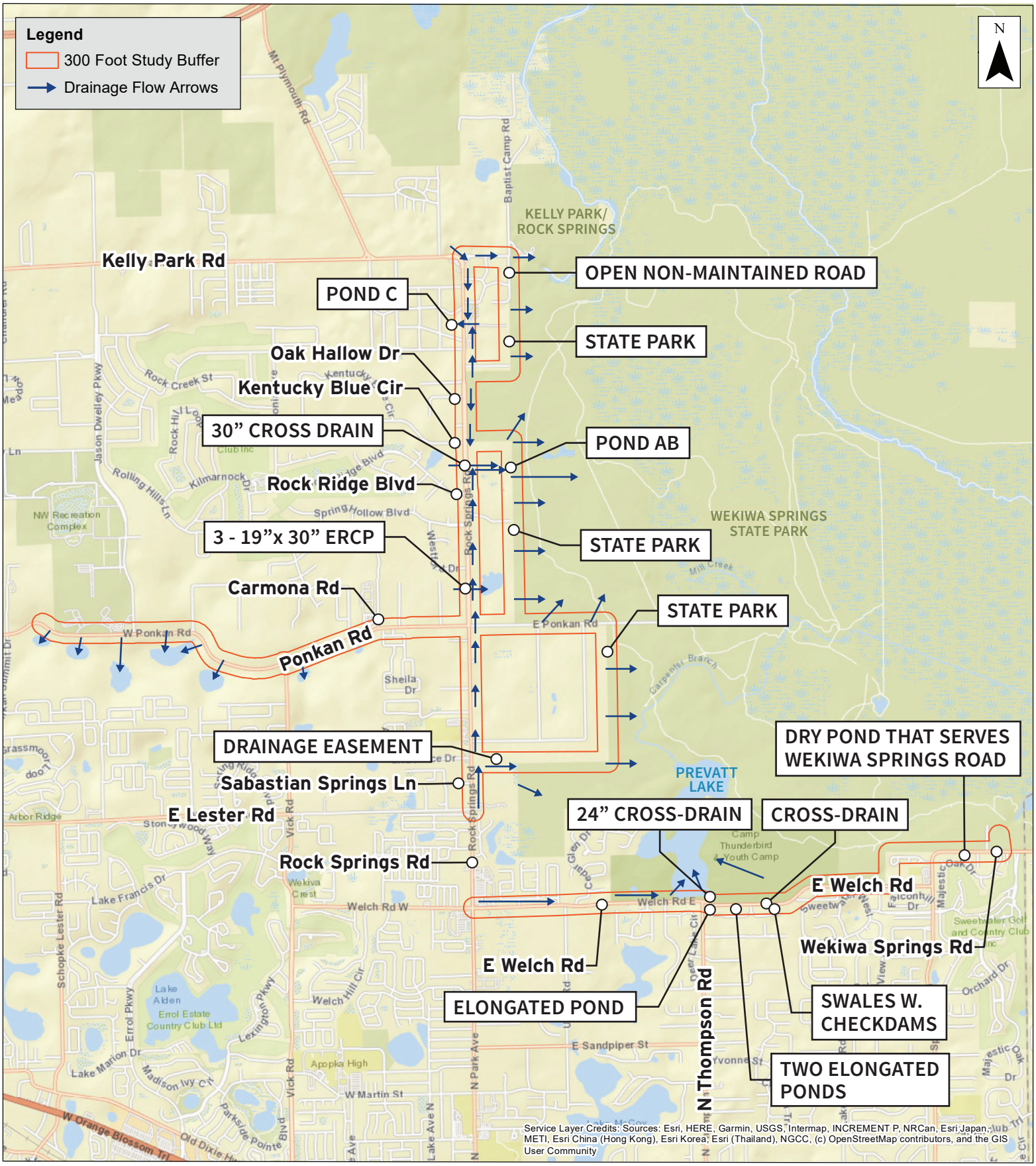


Exhibit A

West Orange Trail Phase 4 Study

Orange County, FL
Drainage Map
September 2021

Note: GIS data downloaded from FGDL July 2021 and sourced to FDOH (Boimedical, SUPER Act), FDEP (PCMS, STCM, Hazardous Waste), FDEP/DWM/BWC (Brownfield), USEPA (NPDES).

0 1,600 3,200 Feet