metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP

Rock Springs Road Study

Corridor Analysis Technical Memorandum

Rock Springs Road

Welch Road to Lester Road

Prepared for:

MetroPlan Orlando

Prepared by:

Vanasse Hangen Brustlin, Inc.

225 East Robinson Street, Suite 300

Orlando, FL 32801

December 2021

Table of Contents

1. Introduction 6
   1.1. Purpose and Need 6
2. Existing Road Characteristics 8
3. Planning Document Review 24
   3.1. MetroPlan Orlando 2045 MTP 24
   3.2. MetroPlan Orlando TIP 2022-26 26
   3.3. MetroPlan Orlando PPL 2025/26 – 2040/41 26
   3.4. FDOT Fiscal Year 2021/22-2025/26 Work Program 26
   3.5. Orange County Comprehensive Plan – Transportation Element 26
   3.6. City of Apopka Comprehensive Plan – Transportation Element 27
   3.7. City of Apopka 27
   3.8. Planning Consistency 27
4. Environmental Analysis 28
   4.1. Social 28
   4.2. Natural 34
5. Drainage Analysis 44
   5.1. SJRWMD, Orange County, and City of Apopka Drainage Criteria 47
6. Traffic Analysis 52
7. Public Involvement 52
   7.1. Public Survey 52
8. Opportunities and Constraints 58
   8.1. Opportunities 58
   8.2. Constraints 59

List of Figures

Figure 1| Study Area Location 7
Figure 2| Existing Land Use 11
Figure 3| Future Land Use 12
Figure 4| FDOT Context Classifications 13
Figure 5| Schools and Public Facilities Location Map 16
Figure 6| Existing Typical Section – Rock Springs Road from Welch Road to 360 feet north of Welch Road 19
Figure 7| Existing Typical Section – Rock Springs Road from 360 feet north of Welch Road to 1,000 feet north of Welch Road and Park Avenue near Sandpiper Street 20
Figure 8| Existing Typical Section – Rock Springs Road from 1,000 feet north of Welch Road to Tahoe Street 20
Figure 9| Existing Typical Section – Rock Springs Road from Tahoe Street to Lester Road 21
Figure 10| Existing Typical Section – Sandpiper Street west of Park Avenue 21
Figure 11| Existing Typical Section – Sandpiper Street east of Park Avenue 22
Figure 12| Multi-Use Trail 45
Figure 13| Closed Drainage System 45
Figure 14| Back of Sidewalk-West side of Rock Springs Road 46
Figure 15| Triple 36 inch Cross Drain 47
Figure 16| Challenges Facing Rock Springs Road 53
Figure 17| Rock Springs Road Proposed Improvement Ranking 54
Figure 18| Free Response Summary 55
Figure 19| Challenges Facing Sandpiper Street 56
Figure 20| Challenges Facing Sandpiper Street at Park Avenue 58

List of Tables

Table 1| Roadway Characteristics of Rock Springs Road Corridor 8
Table 2| Roadway Characteristics of Sandpiper Street Corridor 8
Table 3| Generalized Existing Land Use 10
Table 4| Future Land Use 10
Table 5| Florida Greenbook Design Characteristics 14
Table 6| Access Class 6 Spacing Requirements 15
Table 7| Schools Near Study Area 15
Table 8| Development Project Summary 17
Table 9| Utility Agencies and Contact Information 23
Table 10| MetroPlan Orlando 2045 MTP Programmed Projects Summary 25
Table 11| MetroPlan Orlando PPL 2025/26 – 2040/41 Projects Summary 26
Table 12| ESRI Tapestry Summaries 29
Table 13| Apopka Demographics Overview 30
Table 14| Educational Attainment Data Summary 31
Table 15| Spanish LEP Household Percentages 31
Table 16| Apopka Death Rates 32
Table 17| Summary of Cultural and Social Facilities 33
Table 18| Summary of Cultural Resources 34
Table 19| Soil Types Summary 35
Table 20| Summary of Wetland and Surface Water Acreage within Study Area 37
Table 21| Summary of Contamination Analysis 39
Table 22| Summary of Protected Species with the Potential to Occur 41
Table 23| Rock Springs Road Proposed Improvement Ranking 53
Table 24| Challenges Facing Rock Springs Road at Welch Road 56
Table 25| Sandpiper Street Proposed Improvement Ranking 57

List of Appendices

Appendix A|Z City of Apopka and Orange County Zoning Maps

Appendix B| Development Location Map

Appendix C| Transit Map

Appendix D| Right of Way Maps

Appendix E| Utilities

Appendix F| Orange County 2030 LRTP Map

Appendix G| Apopka Demographics Data and ESRI Tapestry Profiles

Appendix H| Environmental Analysis Maps

Appendix I| Drainage Map

1. Introduction

MetroPlan Orlando is conducting an Access Management Study for Rock Springs Road and an Intersection Study at the intersection of Sandpiper Street with Park Avenue; the study area is located in Orange County and on the city boundary of the City of Apopka.

On Rock Springs Road, the project limits are from Welch Road to Lester Road (approximately 0.55 miles). The intersection and realignment analysis for the intersection of Sandpiper Road with Park Avenue will also include the addition of sidewalks to the south side of Sandpiper Street east of Park Avenue to Ustler Road (approximately 0.5 miles) and to the north side of Sandpiper Street west of Park Avenue to Lake Avenue (approximately 0.24 miles).

The study area location map is shown in Figure 1.

1.1. Purpose and Need

Rock Springs Road is a major collector serving both local and regional trips. The local trips from the surrounding residential and commercial properties; the regional trips to and from the Altamonte Springs area, Orlando, and nearby freeways such as I-4 and State Road (SR) 429; as well as the environmental constraints in the area (such as extensive residential development around the study area and Wekiwa Springs State Park to the east of Rock Springs Road) combine to render Rock Springs Road and Welch Road important corridors for the City of Apopka and this area of Orange County.

A Level of Service (LOS) Analysis was conducted for the study area intersections as part of the *Design Traffic Technical Memorandum* (DTTM) (under separate cover). The analysis shows that operations at the intersection of Rock Springs Road with Welch Road are failing under existing conditions. The intersection operates at LOS D and LOS F during the AM and PM peak hours, respectively. The westbound through lane and westbound right turn lane operate at LOS F with a volume to capacity (v/c) ratio greater than one during both AM and PM peak periods, and the southbound left turn 95th percentile queues extended beyond the Publix South access (~300 feet north of the intersection) during both AM and PM peak hours.

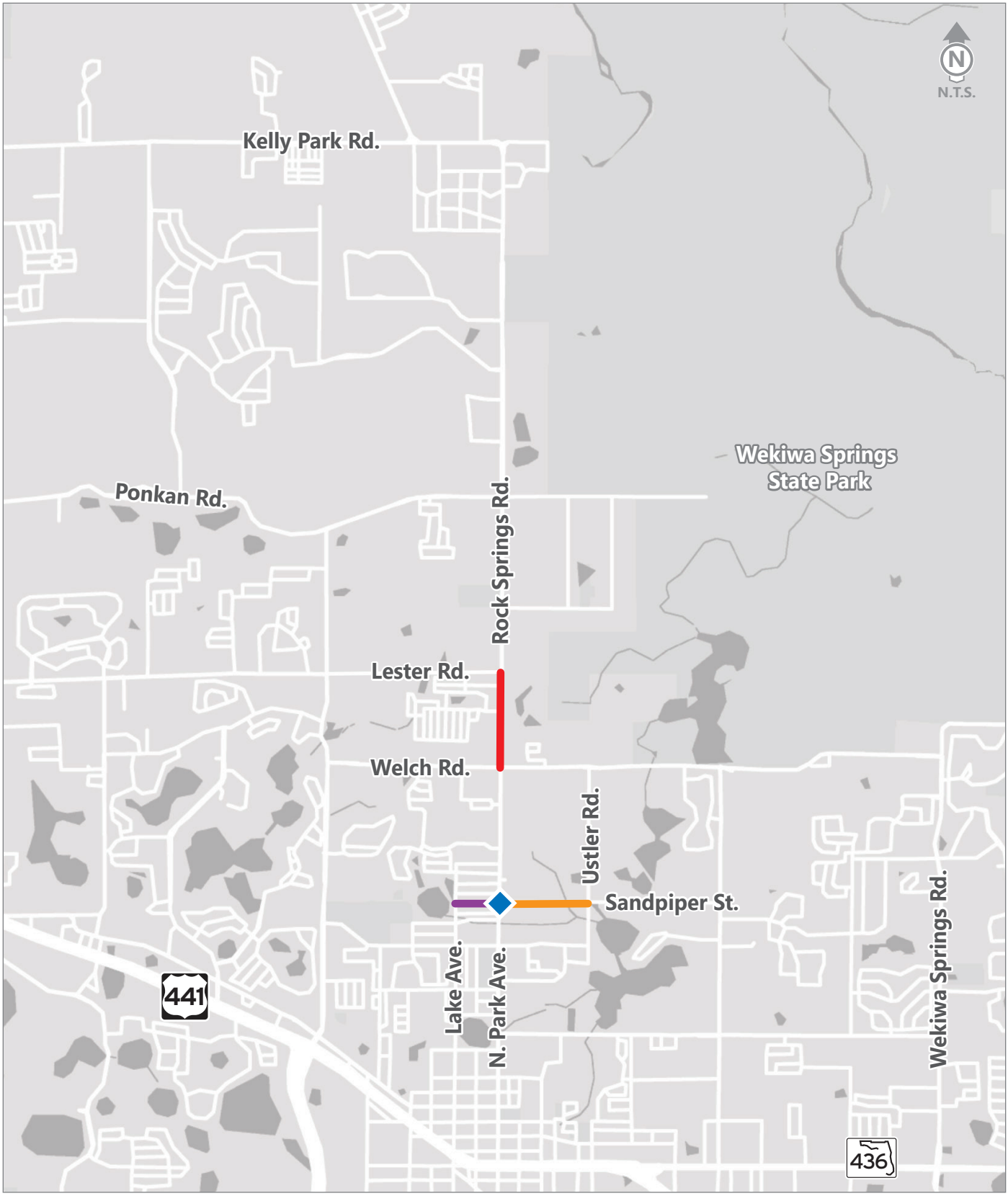
Additionally, the study shows that the minor street approaches are failing at the intersection of Sandpiper Street with Park Avenue in both the AM and PM peak hours.

The purpose of this study is to evaluate the following:

- Improvements at the Rock Springs Road and Welch Road intersection
- Access management along Rock Springs Road within the study limits
- Improvements/signalization of the Sandpiper Street at Park Avenue intersection
- Realignment of Sandpiper Street at the Park Avenue intersection.

Based on the findings of the analysis, recommendations will be made to maintain or improve the operational and safety performance of the corridor.

Source Google Maps



- Corridor Study - Lester Rd to Welch Rd.
- Intersection Improvements - Park Ave / Sandpiper St.
- Sidewalk - north side of W Sandpiper St.
- Sidewalk - south side of E Sandpiper St.

Figure 1

Rock Springs Road Corridor Study Location Map

2. Existing Road Characteristics

Within the project limits, Rock Springs Road from Welch Road to Lester Road and at Sandpiper Street is a four-lane divided urban major collector with a two-way left turn lane (TWLTL). The existing roadway characteristics that are relevant to this study are shown in Table 1 and Table 2.

Table 1| Roadway Characteristics of Rock Springs Road Corridor

Characteristic	Observation
Roadway Maintaining Agency	Rock Springs Road: Orange County Park Avenue: Orange County/City of Apopka
Functional Classification	Urban Major Collector
Level of Service (LOS) Target	LOS E
Posted Speed Limit	45 mph
Jurisdiction	Orange County and City of Apopka
Signalized Study Intersections from south to north	Welch Road Lester 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 west side of the roadway
Shared Use Path and Bike Lanes	14-foot-wide asphalt trail on east side of the roadway / no bike lanes
Access Management Type	Non-Restrictive

Table 2| Roadway Characteristics of Sandpiper Street Corridor

Characteristic	Observation
Roadway Maintaining Agency	Orange County/City of Apopka
Functional Classification	Local Road
Level of Service (LOS) Target	LOS E
Posted Speed Limit	25 mph - Lake Avenue to Park Avenue 40 mph - Park Avenue to Ustler Road
Jurisdiction	Orange County and City of Apopka
Study Intersection	Park Avenue
Land Uses	Residential, Public, and Industrial
Lane Width	12 feet
Median	None
Sidewalks	West of Park Avenue: 4-foot-wide concrete sidewalk on south side of the roadway East of Park Avenue: 5-foot-wide concrete sidewalk on north side of the roadway
Shared Use Path and Bike Lanes	None
Access Management Type	Non-Restrictive

Intersections

The following intersections were analyzed as part of this corridor study:

- Park Avenue at East/West Sandpiper Street *(two-way stop controlled)*
- Park Avenue at West Nightingale Street *(two-way stop controlled)*
- Rock Springs Road at the southern Publix Plaza entrance *(two-way stop controlled)*
- Rock Springs Road at the northern Publix Plaza entrance *(two-way stop controlled)*
- Rock Springs Road at Welch Road *(signalized)*
- Rock Springs Road at Tanglewood Drive *(two-way stop controlled)*
- Rock Springs Road at Vista Crest Drive *(two-way stop controlled)*
- Rock Springs Road at Seaflower Street *(two-way stop controlled)*
- Rock Springs Road at Tahoe Street *(two-way stop controlled)*
- Rock Springs Road at Lester Road *(signalized)*

A detailed analysis of the existing and future traffic operations at each intersection is included in the DTTM, under separate cover.

Lighting

From Welch Road to Lester Road, lighting is present on both sides of Rock Springs Road. 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 lighting poles (on the east side of the roadway) and spaced at regular intervals of approximately 150 feet. The intersection with Welch Road has shoebox light fixtures mounted to the mast arm support poles on all four corners. The intersection with Lester Road does not have any additional lighting. The intersection of Park Avenue with Sandpiper Street has one LED cantilever light mounted to a pre-existing utility pole on the southeast corner of the intersection.

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.

Drainage Type

The existing drainage along Rock Springs Road is a closed system with curb and gutter. The existing drainage along Sandpiper Street consists of overland flow east of Park Avenue, and west of Park Avenue is a closed system with curb and gutter.

2.1.1. Land Use and Context Classification

Existing Land Use

The existing land uses within 300 feet of the study area are summarized in Table 3 and illustrated in Figure 2.

Table 3| Generalized Existing Land Use

General Land Use	Parcel Count	Acres (within 300 feet)	Percent Total
Acreage not Zoned for Agriculture	1	1.497	1.2%
Agricultural	1	0.395	0.3%
Industrial	5	8.177	6.6%
Institutional	1	1.974	1.6%
Public / Semi-Public	8	11.893	9.5%
Residential	23	57.598	46.1%
Retail / Office	13	32.065	25.7%
Right-of-Way	1	0.210	0.2%
Vacant Nonresidential	8	7.176	5.7%
Vacant Residential	4	3.128	2.5%
Water	1	0.712	0.6%
Total	66	124.825	100%

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 4 and illustrated in Figure 3.

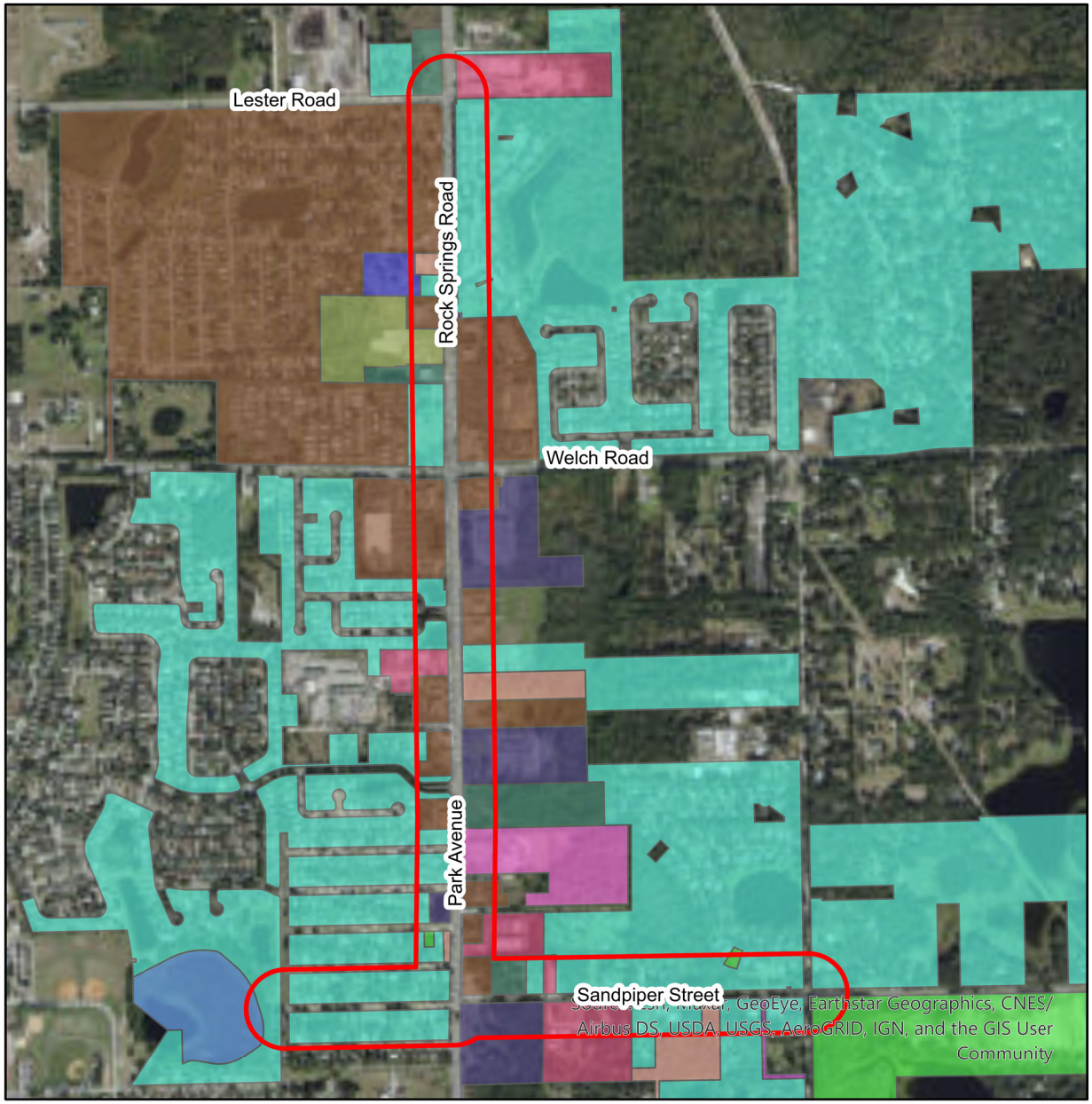
Table 4| Future Land Use

Future Land Use	Parcel Count	Acres (within 300 feet)	Percent Total
Agricultural	1	1.607	1.3%
Commercial	30	23.612	19.1%
Industrial	1	0.686	0.6%
Institutional	2	1.776	1.4%
Low Density Residential	39	83.234	67.4%
Low-Medium Density Residential	6	8.147	6.6%
Medium Density Residential	2	3.447	2.8%
Office	2	1.056	0.8%
Total	83	123.565	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 3 and Table 4, the future development in the study area can primarily be expected to be residential, as it only makes up 48.6% of the existing land use in the study area but makes up 76.8% of the projected future land use. Industrial land uses are expected to decrease significantly from 6.6% to 0.6%, and Commercial, Retail, and Office land uses are expected to decrease somewhat from 25.7% to 20.0%.



Existing Land Uses

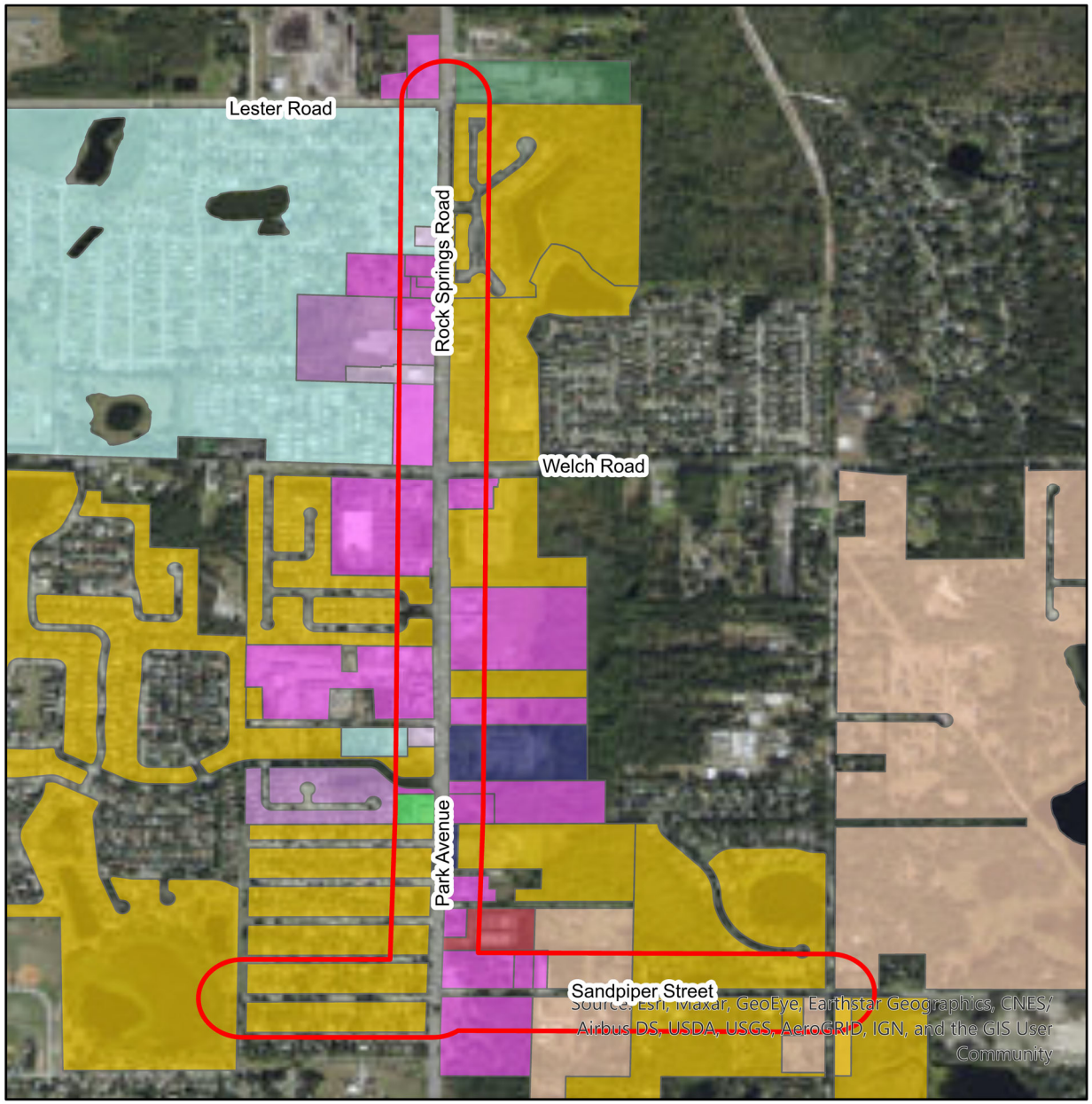
- Acreage Not Zoned for Agriculture
- Agricultural
- Industrial
- Institutional
- Parcels with No Values
- Public/Semi-Public
- Residential
- Retail/Office
- ROW
- Vacant Nonresidential
- Vacant Residential
- Water
- 300 ft Buffer

N

0 500 1,000 2,000 Feet

Figure 2

Rock Springs Road Corridor Study
Existing Land Uses



Orange County Future Land Uses

- Commercial
- Medium Density Residential
- Low Density Residential

City of Apopka Future Land Uses

- Agricultural
- Commercial
- Industrial
- Institutional
- Office
- Medium Density Residential
- Low Density Residential
- Low Density Residential
- Low Density Residential

- 300 ft Buffer

N

0 500 1,000 2,000 Feet

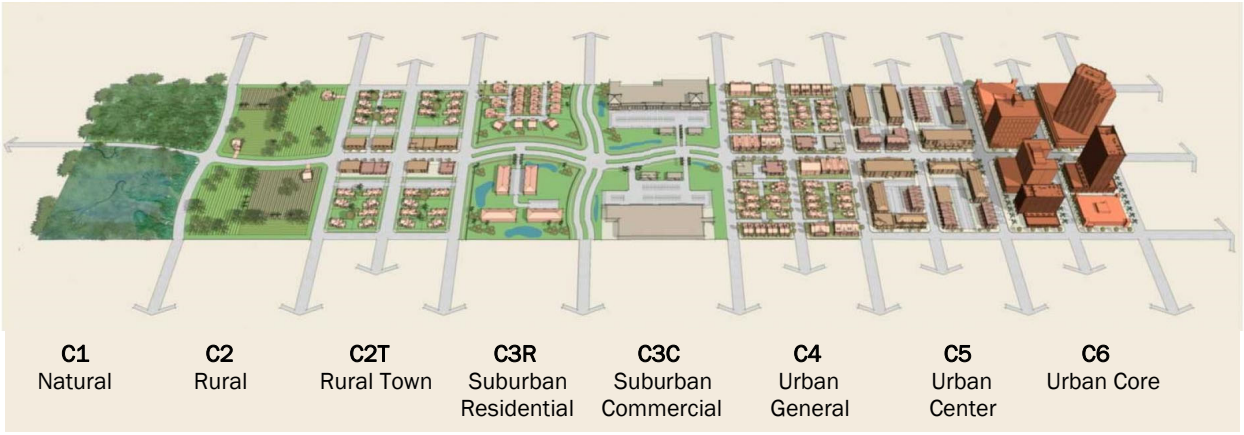
Figure 3

Rock Springs Road Corridor 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 4. Rock Springs Road from Welch Road to Lester Road and Park Avenue in the vicinity of Sandpiper Street does not have an officially assigned context class, but has the characteristics correlating to context class C3R (Suburban Residential). C3R classification is described as having mostly residential land uses with large blocks and a disconnected or sparse roadway network.

Figure 4| FDOT Context Classifications



As Rock Springs Road is not a state road, it's required design characteristics are found in the *FDOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance* (Florida Greenbook) and are dependent on its functional classification as an urban major collector. The key required design characteristics related to this study are summarized in Table 5.

Table 5| Florida Greenbook Design Characteristics

Characteristic	Allowable Range	
Design Speed	30-50 mph[1]	
Minimum Lane Width	11 feet[2]	
Maximum Lane Width	14 feet[2]	
Minimum Median Width	Design Speed ≥50 mph: 40 feet[3] Design Speed ≤45 mph: 22 feet[3] • In constrained areas with design speed =45 mph, 19.5 feet is permissible • In constrained areas with design speed ≤40 mph, 15.5 feet is permissible TWLTL: 11 feet[3,2]	
Minimum Shoulder Width	Outside: 8 feet[4] Median: 4 feet[4]	
Minimum Sidewalk Width	With minimum separation of 2 feet from curb: 5 feet At back of curb: 6 feet[5]	
Standard Shared Use Path Width	10 - 14 feet[6] • Short 8-foot-wide sections may be used in constrained conditions	
Shared Use Path Separation	• 5 feet from face of curb/edge of shoulder[7] • 3 feet from lateral obstructions (2 feet is permissible if in constrained conditions)[6]	
Shared Use Path Design Speed	Grades ≤ 4%	18 mph[9]
	Grades > 4%	Consult AASHTO Guide for the Development of Bicycle Facilities[9]

Sources:
[1] Florida Greenbook Table 3-1
[2] Florida Greenbook Table 3-20
[3] Florida Greenbook Table 3-23
[4] Florida Greenbook Table 3-21
[5] Florida Greenbook Chapter 8, Section B.1
[6] Florida Greenbook Chapter 9, Section C.1
[7] Florida Greenbook Chapter 9, Section C.2
[8] Florida Greenbook Chapter 9, Section C.3

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.

Neither Rock Springs Road/Park Avenue nor Sandpiper Street have officially assigned FDOT Access Classes. However, both roadways fit the guidelines for classification as Access Class 6.

According to Rule 14-97; 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 Access Class 6 are shown in Table 6.

Table 6| Access Class 6 Spacing Requirements

	Signal	Connection	
		≤45mph	>45mph
Minimum Spacing (feet)	1,320	245	440

Source: Florida Administrative Code, Rule 14-97

Zoning

Zoning data for the study area was provided by the City of Apopka and Orange County. Zoning within the study area is primarily for residential and residential development with some commercial zoning. Zoning maps for the study area are included in Appendix A.

Schools and Public Facilities

There are no schools located within the study area, however signing and pavement markings at the intersection with Welch Road indicate that it is a school crossing (particularly at the crosswalk across the northern leg). Additionally, there are two schools located within one mile of the Rock Springs Road study area and four schools located within one mile of the Sandpiper Street study area. Table 7 provides a summary of the locations and age groups served by each school.

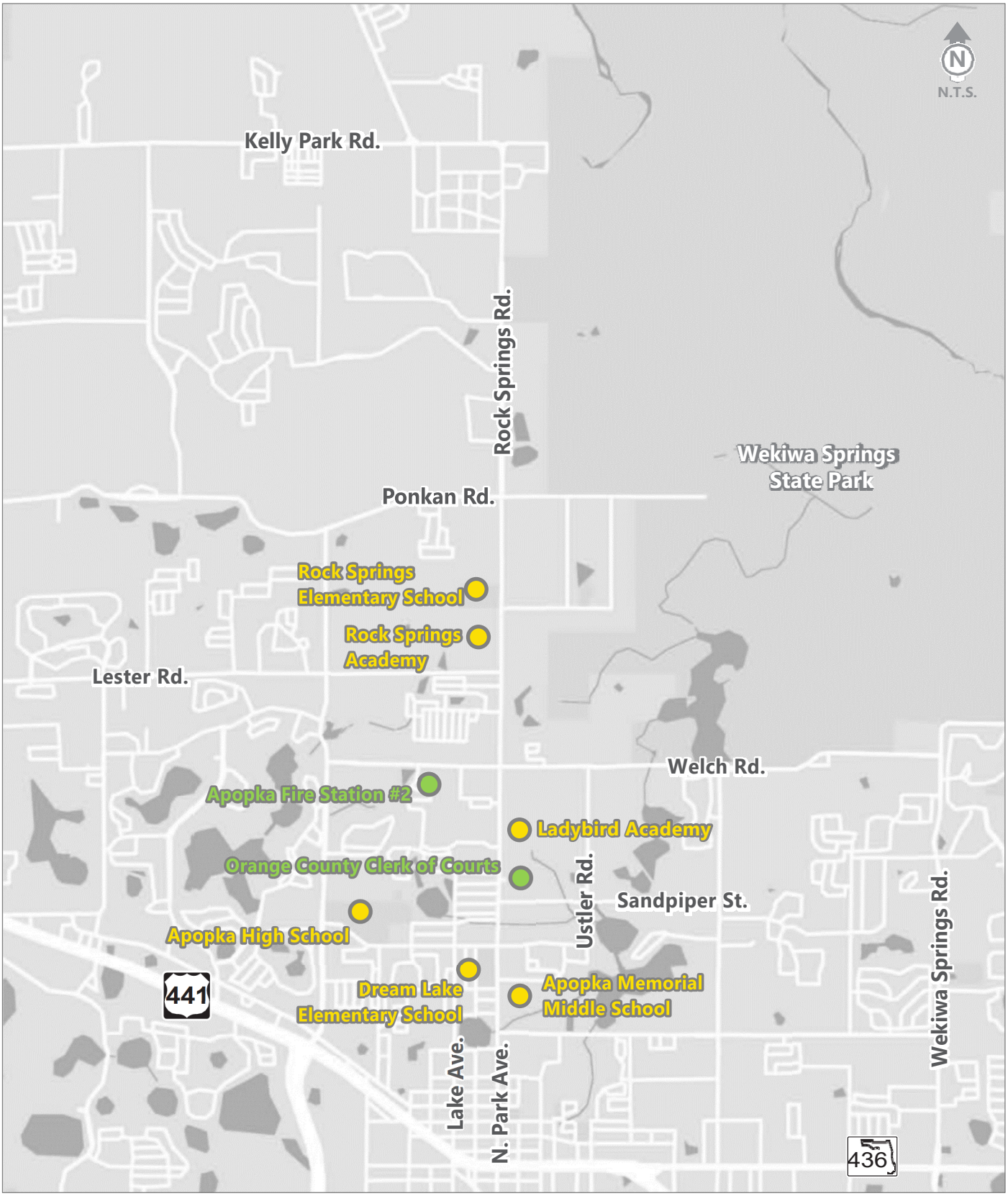
Table 7| Schools Near Study Area

School	Location	Age Group
Rock Springs Academy	Rock Springs Road @ Alexandria Place Drive – Southwest corner	2-years-old – 4-years-old
Rock Springs Elementary School	Rock Springs Road @ Wekiva Pointe Circle – Southwest corner	Kindergarten – 5th Grade
Dream Lake Elementary School	Park Avenue @ Summit Street – Northwest corner	Kindergarten – 5th Grade
Apopka Memorial Middle School	Park Avenue @ Lake McCoy Drive – Southeast corner	6th Grade – 8th Grade
Apopka High School	Vick Road @ Martin Street – Northwest corner	9th Grade – 12th Grade
Lady Bird Academy	Park Avenue @ Nancy Lee Lane – Northeast corner	6-weeks-old – 5-years-old (Summer Camp for 5 to 12-years-old)

There is one Fire & Rescue Station within one mile of the study area; Apopka Fire Station #2 is located on the south side of Welch Road west of Rock Springs Road. There is one law enforcement facility located within one mile of the study area; the Orange County Clerk of Courts is located on Park Avenue, approximately halfway between the intersections with Sandpiper Street and with Welch Road.

The locations of the schools and public facilities near the study area are shown in Figure 5.

Source Google Maps



School

Public Facility

Figure 5

Rock Springs Road Corridor Study
Schools and Public Facilities Location Map

2.1.2. Development Patterns

Development patterns were determined based on the existing and future land uses surrounding the study area. Existing land use data was gathered from GeoPlan Florida's Generalized Land Use Data for Florida (2018) and future land use data was provided by Orange County and the City of Apopka. Development in the area is expected to be primarily residential with some commercial development at the intersection of Rock Springs Road and Welch Road.

Planned Developments

There are six planned developments located within one mile of the study area. A summary of the developments is shown in Table 8. A map showing the development locations is included in Appendix B.

Not included in the developments map is another planned new development on the northwest corner of the intersection of Rock Springs Road and Welch Road, which is in its early stages. One additional area (located on the south side of Faye Street east of Rock Springs Road) is zoned by Orange County for a planned development but is not included in the Apopka development locations map as it lies outside of the city boundary (see the zoning map in Appendix A). This area is part of the North Apopka/Wekiva Rural Settlement and does not have any planned development project underway.

Table 8| 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
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

2.1.3. Bicycle and Pedestrian Infrastructure

Bicycle Facilities

There are no paved shoulders or designated bicycle lanes on either side of Rock Springs Road throughout the study area.

Sidewalks

There is a 5-foot-wide concrete sidewalk present along the west side of Rock Springs Road throughout the entire length of the study area. The sidewalk is separated from the roadway by a 3-foot-wide utility strip. There are no sidewalks along Welch Road west of Rock Springs Road that connect into the signalized intersection.

A 4-foot-wide sidewalk is present on the south side of Sandpiper Street from Lake Avenue to Park Avenue, and a 5-foot-wide sidewalk is present on the north side of Sandpiper Street from Park Avenue to Ustler Avenue.

Multi-Use Trail

A 14-foot-wide asphalt trail is present on the east side of the roadway throughout the length of the study area. The multi-use trail is separated from the roadway by a 4-foot-wide utility strip. The multi-use trail is part of the West Orange Trail system that currently terminates at the Lester Road and Rock Springs Road intersection.

Pedestrian Accommodation at Signalized Intersections

There are two signalized intersections within the study area:

- Rock Springs Road at Welch Road
- Rock Springs Road at Lester Road

Both of the signalized intersections have special emphasis crosswalks across all approaches (with the exception of the west leg at Welch Road, where recent repaving has resulted in the crosswalk being changed from special emphasis to regular) and pedestrian phases in the signal timing plans. At the southeast corner of Welch Road, the West Orange Trail is connected to the crosswalks over the south and east legs of the intersection by a short segment of 5-foot-wide sidewalk. Trail users are provided a crossing over the south leg at the Lester Road intersection to a bicycle and pedestrian path along the south side of Lester Road connecting to Vick Road.

2.1.4. Transit Service and Infrastructure

Transit Routes

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

Transit Stop Accommodations

There are no bus stops on Rock Springs Road between Welch Road and Lester Road. There is one bus stop within 1,000 feet of Sandpiper street, located on the west side of the roadway between Nightingale Street and Thrush Street; the bus stop has a landing pad and bench but no shelter or trash receptacle.

2.1.5. Right-of-Way

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

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

Rock Springs Road from Welch Road to Lester Road has a ROW width of 100 feet. At Sandpiper Street, Park Avenue has a ROW width of 80 feet south of the intersection and 84 feet north of the intersection.

Sandpiper Street from Lake Avenue to Park Avenue and from Park Avenue to Ustler Road has a ROW of 60 feet. The ROW maps for Rock Springs Road and Park Avenue are included in Appendix D.

2.1.6. Typical Sections

The existing typical sections for Rock Springs Road and Sandpiper Street are shown in Figure 6 through Figure 11.

Figure 6| Existing Typical Section – Rock Springs Road from Welch Road to 360 feet north of Welch Road

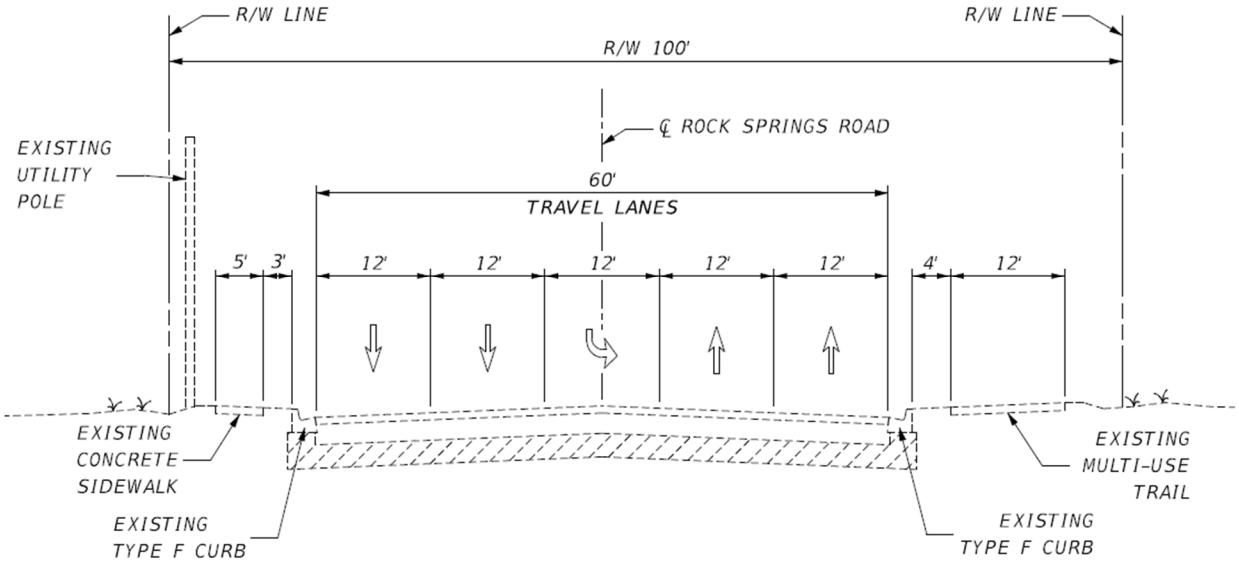


Figure 7| Existing Typical Section – Rock Springs Road from 360 feet north of Welch Road to 1,000 feet north of Welch Road and Park Avenue near Sandpiper Street

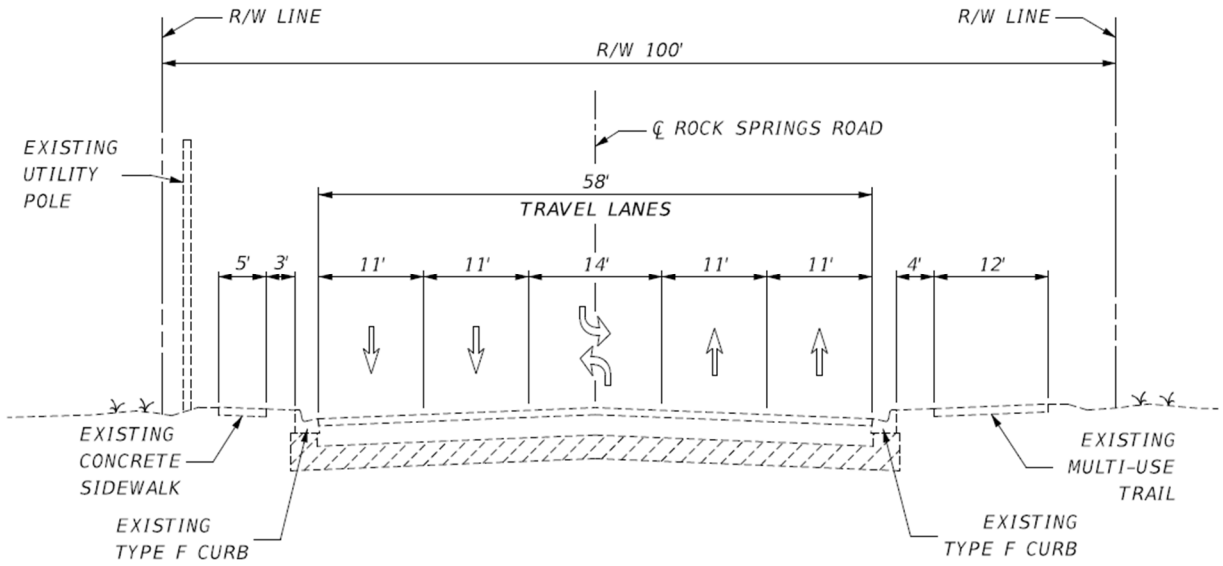


Figure 8| Existing Typical Section – Rock Springs Road from 1,000 feet north of Welch Road to Tahoe Street

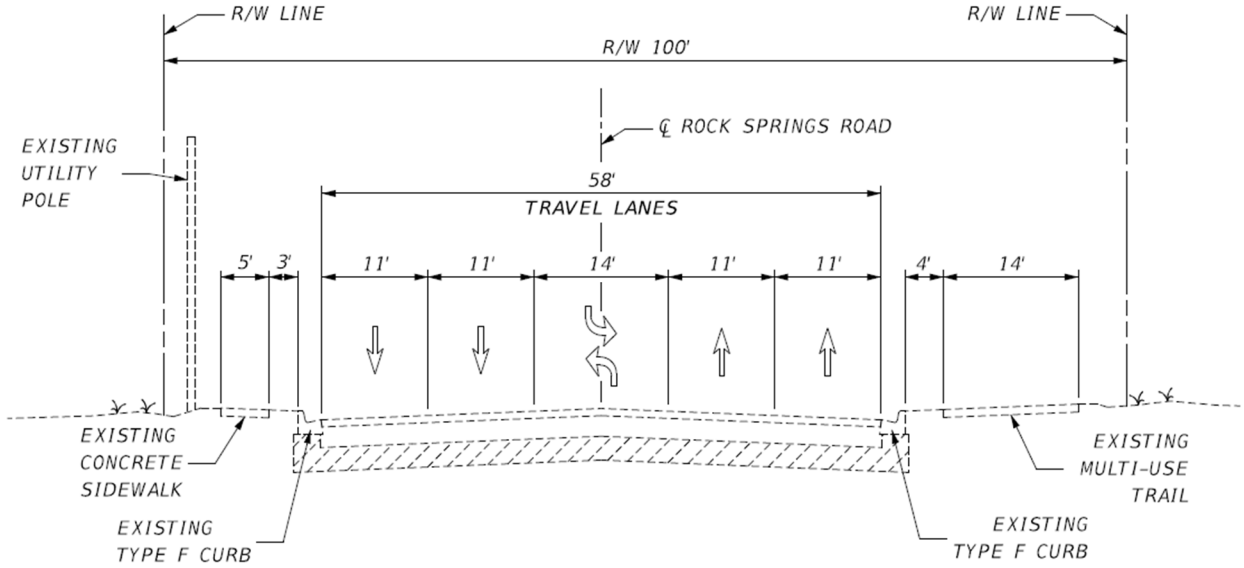


Figure 9| Existing Typical Section – Rock Springs Road from Tahoe Street to Lester Road

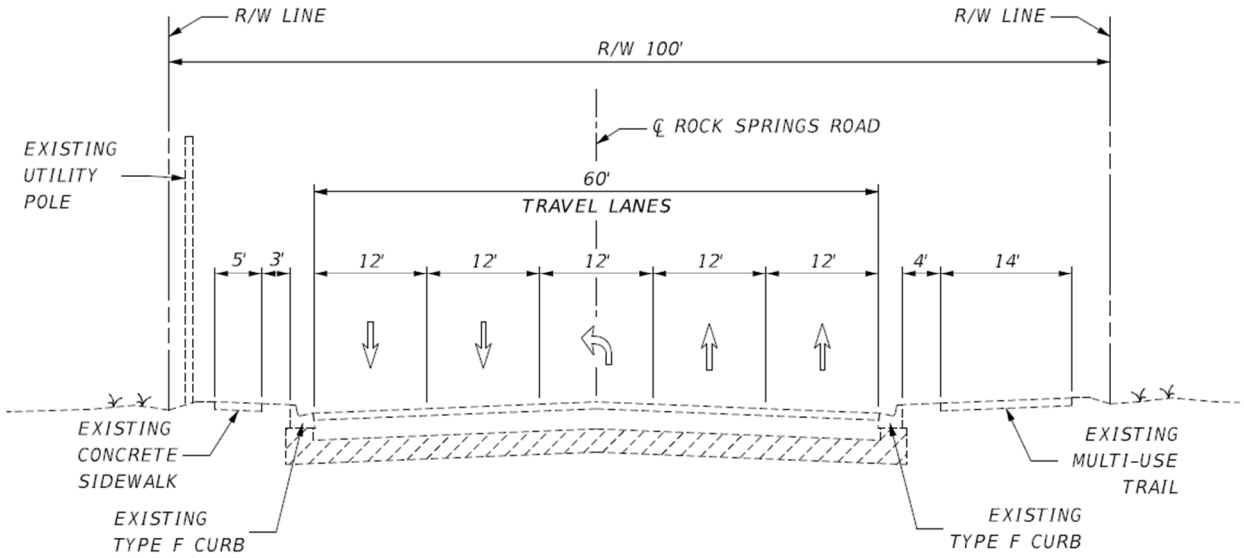


Figure 10| Existing Typical Section – Sandpiper Street west of Park Avenue

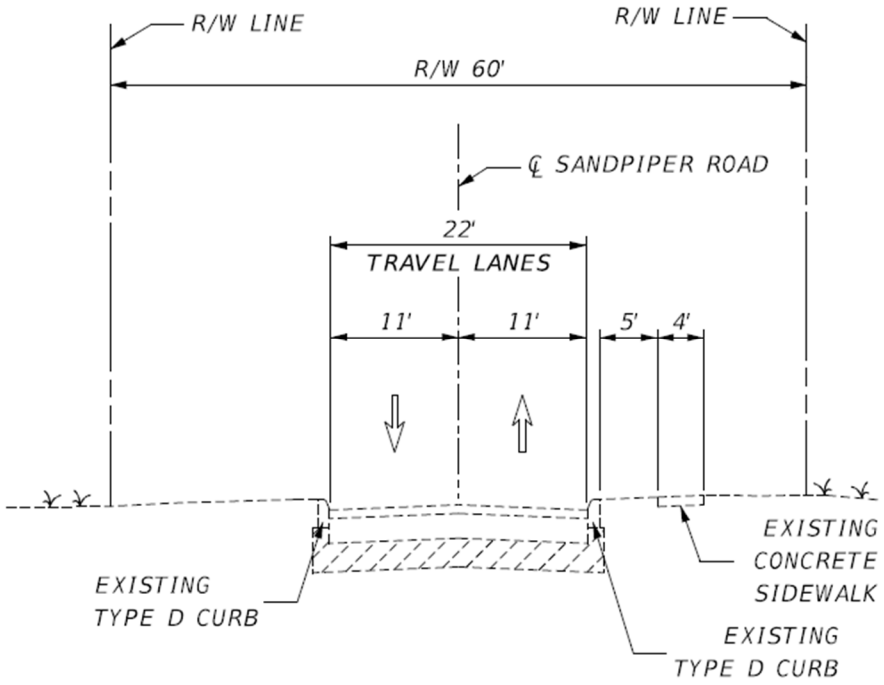
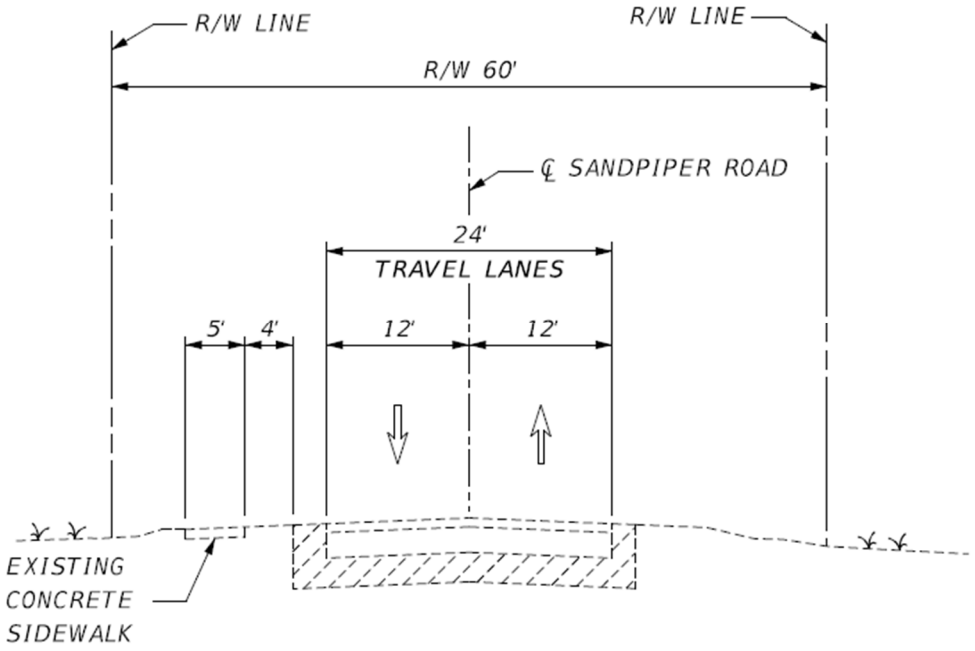


Figure 11 | Existing Typical Section – Sandpiper Street east of Park Avenue



2.1.7. Structures

There are no bridges or other structures within the Rock Springs Road study limits.

2.1.8. 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 buffer was applied around the Rock Springs Road study area to identify the utility companies located adjacent to the study area as well. The identified utility companies were contacted to obtain information about their infrastructure or facilities present within the study area, and each company's response is summarized in Table 9. The full information obtained on utilities is provided in Appendix E.

Table 9| 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	Aerial copper and metro lines run along the west side of Rock Springs Road between Welch Road and Lester Road. Underground copper and metro lines run along both sides of Rock Springs Road between Welch Road and Lester Road.
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 Welch Road and Lester Road, also crossing the roadway at the Welch Road intersection and at the Publix south access. At Sandpiper Road, aerial utilities run along both sides of Park Avenue and cross the roadway on the south side of the intersection.
Florida Gas Transmission - Orlando Joseph Sanchez (407) 838-7171	Gas	No facilities are present within the study area.
Lake Apopka Natural Gas District Patrick Nguyen (407) 656-2734	Natural Gas	6” and 4” poly gas mains run along the east side of Rock Springs Road from south of Welch Road to north of Lester Road. A 2” gas main passes under the south and east sides of the intersection of Rock Springs Road with Welch Road. A 1.5” steel gas main runs on the south side of Sandpiper Street from Lake Avenue to Park Avenue.
MCI Verizon MCIU01 Investigations (469) 886-4091	Communications 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	No water or wastewater facilities are present within the study area.
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, 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
- FDOT District 5 Work Program (2021-25)
- Orange County Comprehensive Plan: 2030 (Transportation Element)
- City of Apopka Comprehensive Plan: 2030 (Transportation Element)

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 for Rock Springs Road. Thirteen projects relating to the study area are included in the MTP, these are summarized in Table 10.

Table 10| MetroPlan Orlando 2045 MTP Programmed Projects Summary

Project Name	Project #	Limits	Length (miles)	Total Cost ($ Millions)	Phases	Funding Status
West Orange Trail Phase 4	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	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/ 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)
Rock Springs Road Access Study *(this project)*	3125	Rock Springs Road at Welch Road	0.40	1.73	PE, ROW, Environmental, Construction, and CEI	Unfunded
	3126	Park Avenue with Sandpiper Street				
	3129	Rock Springs Road with Lester Road				
Operational/Safety Project on Park Avenue	3113	US 441 to Kelly Park Road	5.8	25.426	PE, ROW, Environmental, Construction, and CEI	Unfunded
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
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
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:
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. Four planned improvements were found within the study area in the Adopted PPL, they are summarized in Table 11.

Table 11 | MetroPlan Orlando PPL 2025/26 – 2040/41 Projects Summary

Project	Phase	Cost	Project Type	Source Location	Performance Measures	Priority Ranking
Rock Springs Road from Welch Road to Lester Road *(this project)*	Planning	$300,000	TSM&O	Page 18	Safety / Travel Time	#18 (Multimodal – Transportation Systems Management & Operations)
Sandpiper Street at Park Avenue *(this project)*	CST	$500,000	New Signal	Page 17	Safety / Travel Time	#19 (Multimodal – Transportation Systems Management & Operations)
West Orange Trail Phase 4 from Rock Springs Road @ Welch Road to Wekiwa Springs State Park entrance	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	PE, CST	$300,000	Complete Street	Page 12	Safety / Multimodal Connectivity	#18 (Multimodal – Roadway & Complete Streets)

3.4. 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 Rock Springs Road study area. No programmed projects were found within the study area.

3.5. Orange County Comprehensive Plan – Transportation Element

The study team conducted a preliminary review of the Transportation Element of the currently adopted Orange County Comprehensive Plan for 2030 to identify any sections related to this study. The Transportation Element includes the Orange County Long Range Transportation Plan (LRTP) as Map 1, showing all planned and programmed county and state roadway projects; no projects are shown either within the study area or in its immediate vicinity. The LRTP Map is included in Appendix F.

Within the 'Goals, Objectives, and Policies' section, the following are specifically related to the improvement of roadway operations and safety:

- **Goal T1:** A safe, accessible, convenient, efficient, and financially feasible multimodal transportation system which minimizes environmental impacts.
- **Goal T2:** A concurrency management system and mobility strategy which ensures that the transportation facilities and services needed to support land use designations established in the Future Land Use Element are available.
    - **Objective T2.1:** The County will continue to ensure minimum level of service standards on County roads and State roads within unincorporated Orange County.

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 this study.

Within the 'Goals, Objectives, and Policies' section, the following are specifically related to the improvement of roadway operations and safety:

- **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 3:** The City of Apopka shall coordinate with Orange County, MetroPlan Orlando and FDOT to develop an efficient, interconnected roadway network that addresses regional and local traffic circulation needs while respecting environmentally sensitive lands and the character of surrounding neighborhoods.
    - **Objective 5, Policy 5.7:** In the evaluation of alternative road improvements, the City of Apopka shall give priority to alternatives that promote expansion of the Apopka area's collector road system and minimize the need to add lanes to existing roads.
    - **Objective 7:** The City of Apopka shall work toward the implementation of a transportation system that allows for the movement of vehicular traffic on a network that adheres to minimum transportation planning and engineering design criteria.

3.7. City of Apopka – Programmed Improvements

At the intersection of Sandpiper Street with Park Avenue, the City of Apopka has included funding for the design of the Sandpiper Street realignment and intersection signalization in the city budget for Fiscal Year 2022 (FY2022) (approved on September 15, 2021). Funding for construction has been included in the city budget for FY2023.

3.8. Planning Consistency

No future phases of the Rock Springs Road Access Management Study are funded at this time. The intersection improvements at the intersection of Sandpiper Street with Park Avenue are funded for design in FY2022 and for construction in FY 2023 based on the approval from the Apopka City Council on September 15, 2021.

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

- West Orange Trail Phase 4 Trail Extension Study
    - This trail extension study will evaluate the feasibility of extending the West Orange Trail along the following three corridors:
        - Rock Springs Road from Lester Road to Ponkan Road
        - Welch Road from Rock Springs Road to the Wekiwa Springs State Park entrance
        - Ponkan Road from west of Jason Dwelley Parkway to Rock Springs Road
    - The trail extension study is being conducted in parallel with this access management and intersection improvement study.
- Apopka complete streets studies:
    - Complete streets studies are planned to be conducted for 10 roadway segments in Apopka (two of which are connected to the study area) 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 improve operations and safety for all corridor users. The two segments connected to the study area are:
        - Welch Road from Rock Springs Road to the Seminole County Line
        - Lester Road from US 441 to Rock Springs Road
- Apopka safety improvement projects:
    - Operational and safety improvement projects are planned for three roadway segments in Apopka which are connected to the study area. These projects will aid in easing existing and projected congestion, as well as reducing risk for all corridor users. The three 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
- Welch Road Widening: The widening of Welch Road from Vick Road to Wekiwa Springs 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. Two segments to be widened connect to the study area:
        - Vick Road to Rock Springs Road
        - Rock Springs Road to Thompson 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 study area and its surroundings. The data gathered includes population characteristics, socioeconomic data, and major employers and activity centers and was collected from the City of Apopka, 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 segment 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 12.

Profiles for each segment, including age, race and ethnicity, income, housing, and occupation data are included in Appendix G.

Table 12| ESRI Tapestry Summaries

Segment Name	Description

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

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 13 below. The demographics data provided by the City of Apopka is included in Appendix G.

Table 13| 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 collected 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% are over 65 years old, and 24.8% are under 18.

Race/Ethnicity

Race and ethnicity data was collected 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 collected 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 14.

Table 14| 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. Four census block groups surround the study area. A summary of the percentages of Spanish LEP households by block group is shown in Table 15 As can be seen in the table, the two block groups west of Rock Springs Road/Park Avenue have Spanish LEP household percentages greater than 5% and the two block groups east of Rock Springs Road/Park Avenue both have Spanish LEP household percentages lower 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 G.

Table 15| 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%
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

Health

Health data was collected from the Florida Department of Health. The average life expectancy for the census tract surrounding the study 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 16.

Table 16| 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 collected 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. Major employers within the study area include Publix, Dollar General, and McDonald's.

4.1.2. Cultural and Social Facilities

Cultural and social resource 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 17 summarizes the number of sites that are in public ownership or use. A 100-foot buffer along the centerline of the study area was used to determine the locations of social resources within the study area; these are provided as Exhibit A in Appendix H.

Table 17| Summary of Cultural and Social Facilities

Social Resources	Within Study Area
Cemetery	0
Community Center	0
Cultural Center	0
Fire Station	0
Government Building	0
Health Care Facility	0
Hospital	0
Park	0
Religious Center	0
School	0
Social Service Facility	0
Veteran Facility	0
Existing Trail	1

Source: FGDL, ETDM

The study area currently has one existing trail, the West Orange Trail, that is within and adjacent to the Rock Springs Road ROW. The existing trail is part of a proposed project to improve and expand to connect with other trails in and around of the study area including the proposed Wekiva Trail extension and the Wekiva River Blueway Trail. There are no other social/cultural resources or facilities directly within the study area, however there are several just outside:

- Wekiwa Springs State Park is located approximately 0.25 miles east of Rock Springs Road.
- A healthcare facility (Infinity Dental) is located in the southwest quadrant of the Welch Road intersection.
- Apopka Fire Station #2 is located approximately 1,500 feet west of the Welch Road intersection.
- The Apopka Service Center for the Orange County Clerk of Courts is located in the southeast quadrant of the intersection of Park Avenue with Nancy Lee Lane, approximately 1,800 feet north of the intersection with Sandpiper Street.
- A US Post Office is located in the southeast quadrant of the intersection of Park Avenue with Martin Street/Tanglewilde Street, approximately 1,300 feet south of the intersection with Sandpiper Street.

4.1.3. Historical and Archaeological Resources

Cultural 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 cultural 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 18.

Table 18| Summary of Cultural Resources

Cultural Resources	Within Warren Avenue Study Area
SHPO Structures	0
SHPO Bridges	0
SHPO Resource Groups	0
National Register (Site, District, Building)	0
Archaeological Sites	0
SHPO Surveys	1

Source: FGDL, FMSF

According to the Florida Master Site File (FMSF), There are no historic sites, resource groups, or archeological sites within the study area. However, one cultural resource assessment survey has been conducted in the vicinity of the study area located in the southeast quadrant of the intersection of Ustler Road and East Sandpiper Street. This survey location is graphically depicted in Exhibit B found in Appendix H.

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 within a 300-foot buffer of Rock Springs Road and Sandpiper Street were mapped using GIS data obtained from the Natural Resources Conservation Service (NRCS). Table 19 provides an overview of the soils found within the study area. The study area NRCS soils map can be found as Exhibit C in Appendix H.

Table 19| Soil Types Summary

Map Unit Symbol	Map Unit Name	Study Area Acreage	Percent of Study Area	Hydric Status
3	Basinger fine sand, depressional	0.54	1.52%	Hydric Soil
6	Candler-Apopka fine sands. 5 to 12 percent slopes	0.94	2.68%	Non-Hydric Soil
16	Floridana fine sand, frequently flooded	3.28	9.33%	Hydric Soil
20	Immokalee fine sand	0.20	0.56%	Hydric Inclusions
28	Florahome fine sand, 0 to 5 percent slopes	4.03	11.46%	Non-Hydric Soil
34	Pomello fine sand, 0 to 5 percent slopes	3.81	10.84%	Hydric Inclusions
35	Pomello- urban land complex, 0 to 5 percent slopes	4.06	11.55%	Hydric Inclusions
37	St. Johns fine sand	1.13	3.23%	Hydric Inclusions
44	Smyrna Fine sand	10.26	29.19%	Hydric Inclusions
45	Smyrna-Urban land complex	5.59	15.91%	Hydric Inclusions
47	Tavares-Millhopper fine sands, 0 to 5 percent slopes	1.31	3.74%	Non-Hydric Soil
Totals for Area of Interest		**35.16**	**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.

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-Apopka Fine Sands, 5 to 12 percent slopes (6)- This sloping to strongly sloping and excessively drained soil is typically located on uplands. 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.

Floridana Fine Sand, frequently flooded (16) – This nearly level and poorly drained soil is typically found on the floodplains of the St. Johns River and its major tributaries. The slopes are smooth to concave and range from 0 to 2 percent. The seasonal high-water table is typically within 10 inches of the surface for more than 6 months. Flooding occurs frequently during rainy periods and normally lasts from one to four months. The permeability is rapid in the surface and subsurface layers, slow in the subsoil and moderate in the substratum. The available water capacity is medium in the surface layer and subsoil and is low in the subsurface layer and substratum. This is considered a hydric soil associated with wetlands.

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-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.

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 and surface water systems within the study area as identified in Table 20. A map of wetlands and surface waters can be found as Exhibit D in Appendix H.

Table 20| Summary of Wetland and Surface Water Acreage within Study Area

FLUCFCS Code	FLUCFCS Description	Acres
5100	Open Water	0.03
6170	Mixed Wetland Hardwoods	0.61

Source: FGDL, USFWS, SJRWMD

The wetland and surface water system eventually drains into Lake McCoy which is located outside of the study area. The proposed project is expected to use the majority of the existing road ROW for construction and improvements to Rock Springs Road and associated streets/sidewalks; 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 under the Wekiva River Nested drainage basin. If mitigation is required, mitigation banking credits must be bought from the same drainage basin which is an area of land that drains into the same body of water. 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. A small area in the easternmost portion of the study area buffer is within the vicinity of a 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 Lake McCoy.

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 floodplain encroachment can be avoided.

The location of floodplain that falls within the study area is illustrated on Exhibit E in Appendix H.

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 21 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 H. 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 21 | Summary of Contamination Analysis

Analysis Type	Within Study Area
Biomedical Waste Facility	1
Brownfield Area	0
Hazardous Waste Facility	1
National Pollutant Discharge Elimination System (NPDES)	4
Petroleum Contamination Monitoring Site (PCMS)	0
Storage Tank Contamination Monitoring (STCM)	0
SUPER Act Risk Sources	0
US Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCA) Regulated Facilities	0
Toxic Release Inventory Sites	0
Waste Cleanup Responsible Party Sites - Open	0

Source: FGDL, DOH, FDEP, USEPA

As shown in Appendix H, Exhibit F, there is one hazardous waste facility . A hazardous waste facility is a facility that possesses 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. This site is associated with a closed Circle K which provided fuel. 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 four sites are located in the study area buffer; however, two have been terminated and both are located on Rock Springs Road.

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.

While the probability of wildlife utilizing the area is moderate to low, the density of urban growth and development surrounding the study area most likely further reduces the frequency of crossing by wildlife. Therefore, there are minimal wildlife corridors present within the study area, though potential corridors are present to the northeast and east given the location of the Wekiwa Springs State Park and lower density development. With that in mind, one location was identified as having an increased potential to warrant a wildlife crossing or habitat connectivity enhancements (Exhibit G, Appendix H).

East Sandpiper Street west of Ustler Road

This location provides opportunity to facilitate wildlife movement between an undeveloped forested system to the north with Lake McCoy to the south. This area consists of wetlands which may increase migration of certain species. However, further investigation will need to be completed to determine the viability of any increased accommodations for wildlife movement.

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 22 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 H.

Table 22| Summary of Protected Species with the Potential to Occur

Species	Federal Status	State Status	Probability of Occurrence
Fauna			
Birds			
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	Low
Reptiles			
Eastern Indigo Snake *(Drymarchon couperi)*	T	T	Low
Gopher Tortoise *(Gopher polyphemus)*	C	T	Low
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.

Birds

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 a mile of the survey area. The closest known active nest (OR096) is located approximately 1.53 miles west of the survey 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. While there is potential habitat in the form of wetlands and surface waters, due to the density of urban growth and development, the likelihood of this species utilizing the study area for foraging and nesting is low.

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.). While there are no freshwater marshes or shallow vegetated lakes within the vicinity of the study area, there is potential habitat outside of the study area (Lake McCoy); however due to the density of urban growth and development in the area and more suitable habitat within Wekiwa Springs State Park to the east, the likelihood of this species utilizing the study area is 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 ROWs. 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 nearby in Wekiwa Springs State Park located to the northeast, 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, Florahome, Immokalee, Pomello, and Smyrna soil series at elevations above 82 feet. Sections of the study area contain suitable soil and elevations ranging from 70 to 130 feet. The density of development and existing roadways are somewhat prohibitive for the movement of this species, and the likelihood of this species utilizing the study area is low. However, given that suitable criteria are met for this species, a pedestrian survey and 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. Regardless of proximate 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, other than for migratory movement, is low due to the density of urban development and roadways.

Flora

Six federally listed and 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 highly 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

Rock Springs Road between Welch Road and Lester Road and the intersection of Rock Springs Road and Sandpiper Street are within the jurisdiction of the St. Johns River Water Management District (SJRWMD). These segments are located within the Wekiva River Hydrological Basin, more specifically in the Prevatt Lake and the Park Avenue Drainage Basins. The Prevatt Lake Basin, in the vicinity of Rock Springs Road, drains from west to east.

Rock Springs Road between Welch Road and Lester Road is maintained by Orange County, even though most of the surrounding property has been annexed by the City of Apopka. On the other hand, Sandpiper Street is maintained by the City of Apopka.

Rock Springs Road between Welch Road and Lester Road was previously a two-lane road with open swales on both sides which collected offsite runoff from the west and from the road.

In 2000 an Environmental Resource Permit (ERP 27569 - 2) was issued by the SJRWMD to convert the two-lane road to a four-lane road with a two-way left turn in the middle, a sidewalk on the west side and a multi-use trail on the east side (See Figure 12). The improvements were constructed and the runoff from the improvements is now collected in a closed drainage system (See Figure 13) that begins north of the intersection of Rock Springs Road and Welch Road, and ends approximately 1,350 feet north of Lester Road. At this point the closed system turns east, approximately 1,200 feet, and discharges to an elongated wet pond owned by the City of Apopka. The pond outfalls to the wetland, which then discharges to Prevatt Lake. A drainage map of the study area is included in Appendix I.

Figure 12| Multi-Use Trail

Figure 13| Closed Drainage System

From Welch Road to Lester Road the west offsite runoff, which previously discharged to the open swales, is collected by a closed sewer system behind the sidewalk (See Figure 14) and directed to a triple 36 inch cross drain (See Figure 15) which was upsized during the road widening. This runoff continues to flow east, per the pre-widening condition, along a ditch that outfalls to the wetland and then discharges to Prevatt Lake.

An ERP was not located for the Sandpiper Street intersection with Park Avenue. Sandpiper Street, west of Park Avenue, drains to the Park Avenue Drainage Basin and flows south. This system ultimately discharges to the pond on the northside of Votaw Road, west of Lake McCoy and then outfalls to Lake McCoy.

Sandpiper Street, east of Park Avenue, drains to a sub-basin in the Lake McCoy North Drainage Basin. This segment of Sandpiper Street drains eastward to a cross culvert that crosses Sandpiper Street approximately 550 feet west of Ustler Road. The system drains south to another sub basin to the east, until it reaches a cross drain under Ustler Road, which discharges to the wetland on the east side of Ustler Road, which drains to Lake McCoy.

The City of Apopka parcel located at the southeast corner of Park Avenue and Sandpiper Street also drains to a sub-basin in the Lake McCoy North Drainage Basin. Approximately 20 percent of the parcel drains to the same sub-basin as the above segment of Sandpiper Street. The remaining area drains to another sub basin to the east, until it reaches a cross drain under Ustler Road, which discharges to the wetland on the eastside of Ustler Road, which drains to Lake McCoy.

Figure 14| Back of Sidewalk-West side of Rock Springs Road

Figure 15| Triple 36 inch Cross Drain

5.1. SJRWMD, Orange County, and City of Apopka Drainage Criteria

Proposed improvements to Rock Springs Road 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 to the intersection of Sandpiper Street are subject to SJRWMD and the City of Apopka criteria that are current at the time of the improvements.

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

The traffic analysis for this study was conducted in the *Rock Springs Road Access Management and Intersection Study Design Traffic Technical Memorandum* (under separate cover).

7. Public Involvement

7.1. Public Survey

A public survey was made available through the MetroPlan Orlando project website from June 1 to July 16. The purpose of the survey was to gather public opinions regarding current challenges on Rock Springs Road and at the intersections with Welch Road and Sandpiper Street, as well as to receive feedback on potential improvements to the study area. The survey was conducted concurrent with the West Orange Trail Study, therefore two survey results will be summarized in this section:

- Full Survey Respondents: Survey respondents completed the entire survey for both the Rock Springs Road Study and West Orange Trail Study.
- Rock Springs Road Respondents (RSR Respondents): Survey respondents who only completed the first eight survey questions about the Rock Springs Road Study.

7.1.1. Survey Response

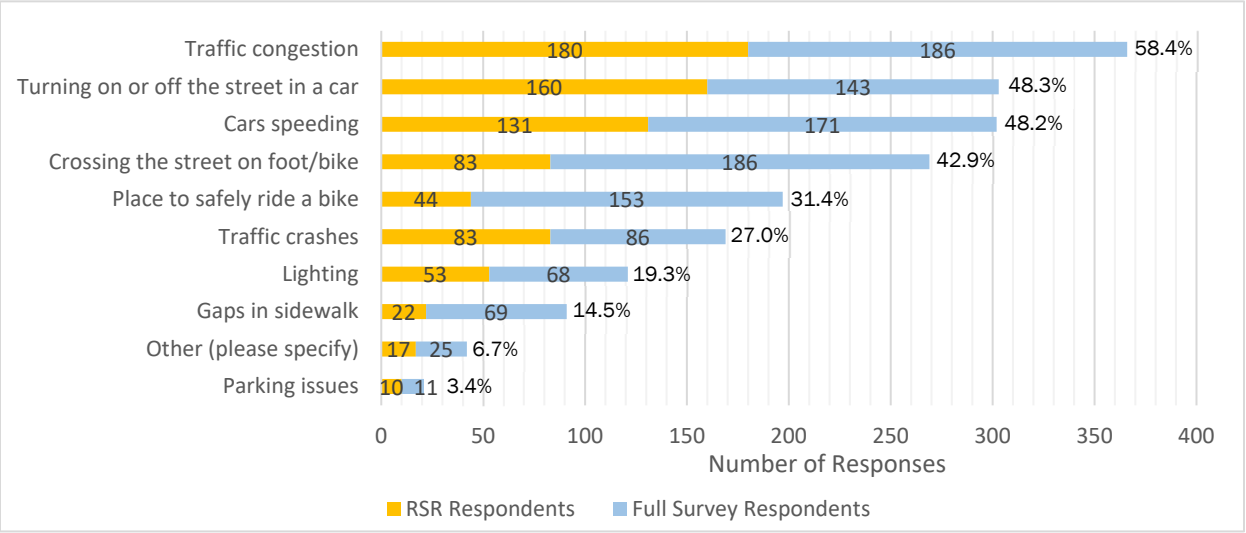
The survey garnered a total of 627 responses (261 RSR Respondents and 366 Full Respondents). The majority of respondents (78.4%) indicated that they live in the area, and many respondents stated that they travel through the area (60%), shop in the area (47.5%), walk or bike in the area (42.6%), or own property in the area (40.5%).

7.1.2. Survey Results

Rock Springs

Survey respondents were asked to select their top three challenges currently facing Rock Springs Road from a prepared list. The resultant ranking of issues and the total percentage of survey respondents who selected each issue is shown in Figure 16.

Figure 16| Challenges Facing Rock Springs Road



Notes:
RSR Respondents – Respondents who only answered the first set of questions regarding the Rock Springs Road Study.
Full Respondents – Respondents who answered both sets of questions regarding the Rock Springs Road Study and the West Orange Trail Study.

From the responses it is clear that operational issues are of greatest concern to corridor users, followed by pedestrian and vehicle safety. Those who selected "Other" issues specified issues with driver/pedestrian behavior, the school zone by Rock Springs Elementary School, noise, aesthetics, and existing trail conditions along the corridor.

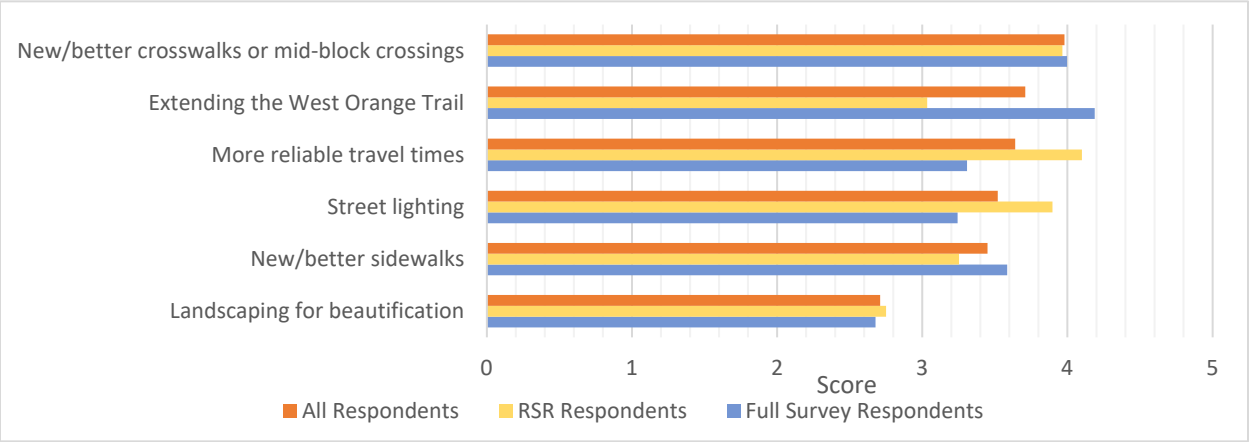
Respondents were also provided a list of proposed improvements and asked to rank them in order of importance, with the highest scores representing the most preferred options. The overall score and ranking of the improvements is shown in Table 23 and Figure 17.

Table 23| Rock Springs Road Proposed Improvement Ranking

Rank	Improvement	Score (out of 6)		
		RSR Respondents	Full Respondents	All Respondents
1	New/better crosswalks or mid-block crossings	3.97	4.00	3.98
2	Extending the West Orange Trail	3.03	4.19	3.71
3	More reliable travel times	4.10	3.31	3.64
4	Street lighting	3.90	3.24	3.52
5	New/better sidewalks	3.25	3.58	3.45
6	Landscaping for beautification	2.75	2.68	2.71

Notes:
RSR Respondents – Respondents who only answered the first set of questions regarding the Rock Springs Road Study.
Full Respondents – Respondents who answered both sets of questions regarding the Rock Springs Road Study and the West Orange Trail Study.
All Respondents – All of the survey respondents regardless of how much of the survey was completed.

Figure 17| Rock Springs Road Proposed Improvement Ranking



Notes:
RSR Respondents – Respondents who only answered the first set of questions regarding the Rock Springs Road Study.
Full Respondents – Respondents who answered both sets of questions regarding the Rock Springs Road Study and the West Orange Trail Study.
All Respondents – All of the survey respondents regardless of how much of the survey was completed.

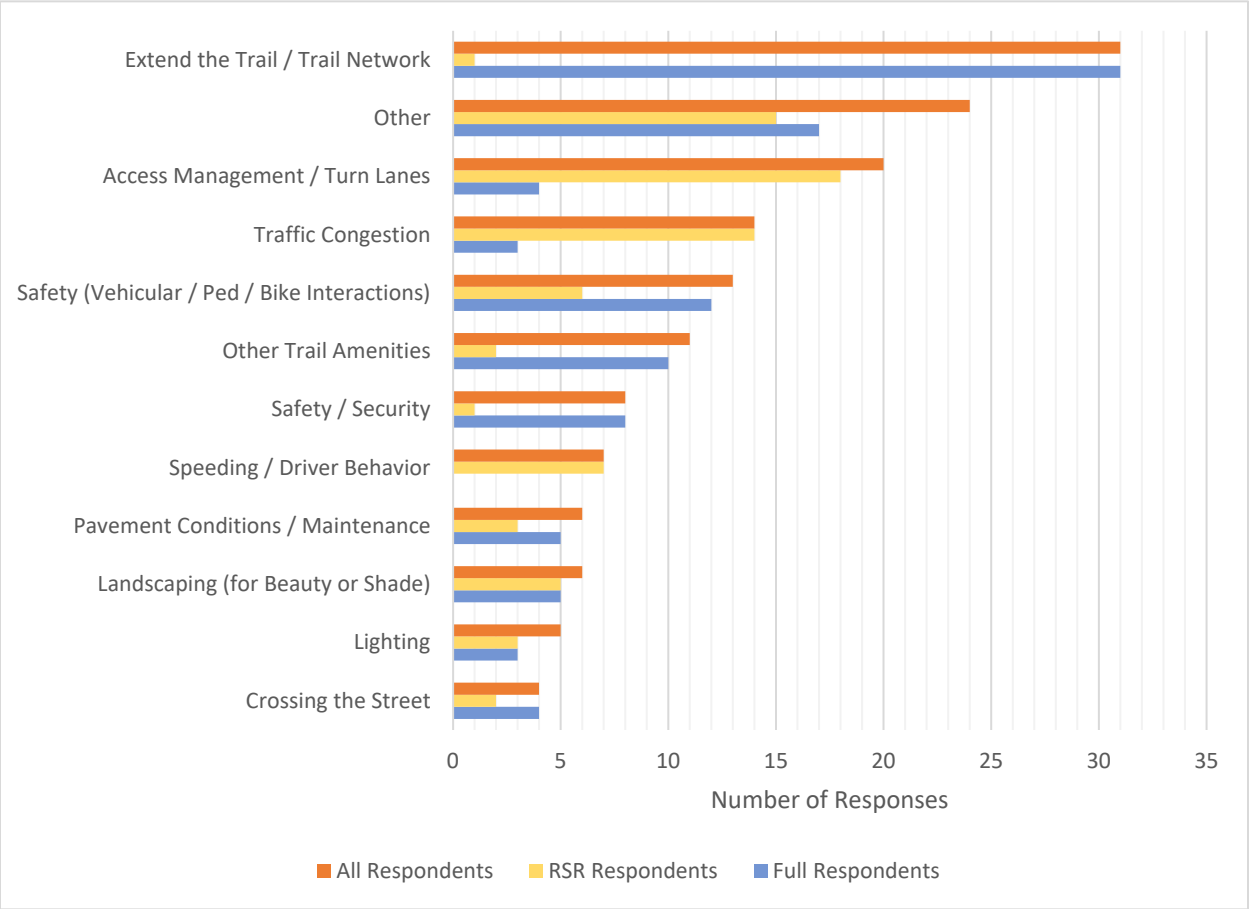
As can be seen in Table 23 and Figure 17, the overall score received by each improvement falls within a narrow range, with the top five improvements scoring between 3.5 and 4 out of 6, and only 'Landscaping' scoring significantly lower (2.71/6). This indicates that all of the proposed operational and facility improvements to the Rock Springs Road corridor will be equally welcomed by the general public.

Those who only responded to the Rock Springs Road questions ranked 'More reliable travel times' as the most important improvement (scoring 4.1/6), while those who responded to the full survey ranked 'Extending the West Orange Trail' as the most important improvement (scoring 4.19/6).

Respondents were also asked to share any further comments regarding the corridor study. Ninety-eight individual responses were submitted, which have been summarized into twelve categories as described in Figure 18. Comments for locations outside of the study area were shared with appropriate local agencies but are not included in Figure 18.

As is shown in Figure 18, overall, the most frequent comments received requested an extension of the trail network, improved access management, and the addition of turn lanes. Among those who only responded to the Rock Springs Road questions, the most frequent requests were for improved access management and reduced traffic congestion. Many respondents also voiced concerns regarding traffic congestion and vehicular/pedestrian safety through the study area. Other comments included concerns regarding noise, sightlines, and enforcement of traffic laws.

Figure 18| Free Response Summary



Notes:
RSR Respondents – Respondents who only answered the first set of questions regarding the Rock Springs Road Study.
Full Respondents – Respondents who answered both sets of questions regarding the Rock Springs Road Study and the West Orange Trail Study.
All Respondents – All of the survey respondents regardless of how much of the survey was completed.

Rock Springs Road at Welch Road

Survey respondents were asked to select their top three challenges currently facing the intersection of Rock Springs Road at Welch Road from a prepared list. Responses to this question were not categorized between RSR Respondents and Full Respondents. The resultant ranking of issues and the percentage of survey respondents who selected each issue is shown in Table 24.

Table 24| Challenges Facing Rock Springs Road at Welch Road

Rank	Challenge	Percent Selected
1	Turning into or out of the Wekiva Plaza shopping center	83.9%
2	Traffic congestion / Turn lanes backing up	81.0%
3	Crossing the street on foot/bike	34.6%
4	Cars speeding	30.0%
5	Turning into or out of the Dollar General	26.5%
6	Traffic crashes	24.4%
7	Lighting	10.2%
8	Other	6.2%
9	Quality and accessibility of bus stops	3.2%

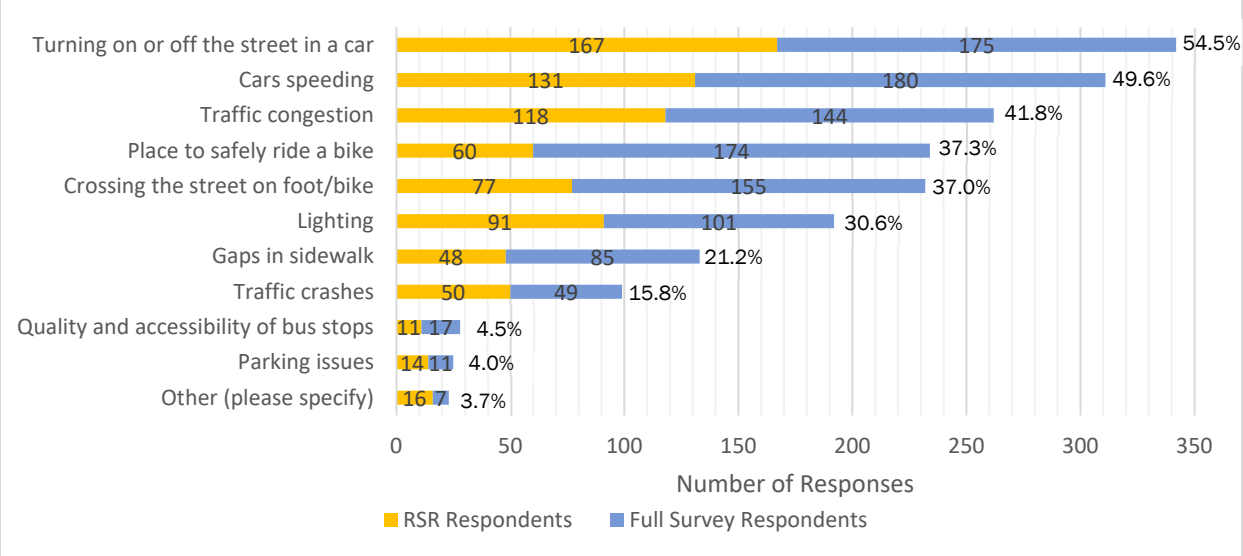
The responses show that operations at the intersection and the accessibility of the Wekiva Plaza are major concerns for corridor users, with over 80% of respondents selecting them as one of their top three issues. None of the other issues hold near as much weight with the public, however, pedestrian and vehicular safety as well as the accessibility of the Dollar General are also significant concerns.

Transit accessibility and lighting at the intersection are not major concerns for respondents. Those who selected "Other" issues specified issues with poor access management, the lack of alternative travel paths for non-motorists, pedestrian facilities maintenance, and driver/pedestrian behavior.

Sandpiper Street

Survey respondents were asked to select their top three challenges currently facing Sandpiper Street from a prepared list. The resultant ranking of issues and the percentage of survey respondents who selected each issue is shown in Figure 19.

Figure 19| Challenges Facing Sandpiper Street



Notes:
RSR Respondents – Respondents who only answered the first set of questions regarding the Rock Springs Road Study.
Full Respondents – Respondents who answered both sets of questions regarding the Rock Springs Road Study and the West Orange Trail Study.

The responses show that accessibility and vehicular/pedestrian safety are the primary concerns of the corridor users, followed by traffic operations. Access to public transit and parking are not major concerns for the corridor users. Those who selected "Other" specified issues with the alignment of the intersection at Park Avenue, noise, drainage, and driver behavior.

Respondents were also provided a list of proposed improvements and asked to rank them in order of importance. Responses to this question were not categorized between RSR Respondents and Full Respondents. The overall score and ranking of the improvements is shown in Table 25, with the higher scores representing the most selected potential improvements.

Table 25| Sandpiper Street Proposed Improvement Ranking

Rank	Improvement	Score (out of 6)
1	New turn lanes	4.30
2	New/better crosswalks or mid-block crossings	3.73
3	Street lighting	3.67
4	New/better sidewalks	3.67
5	More reliable travel times	3.16
6	Landscaping for beautification	2.47

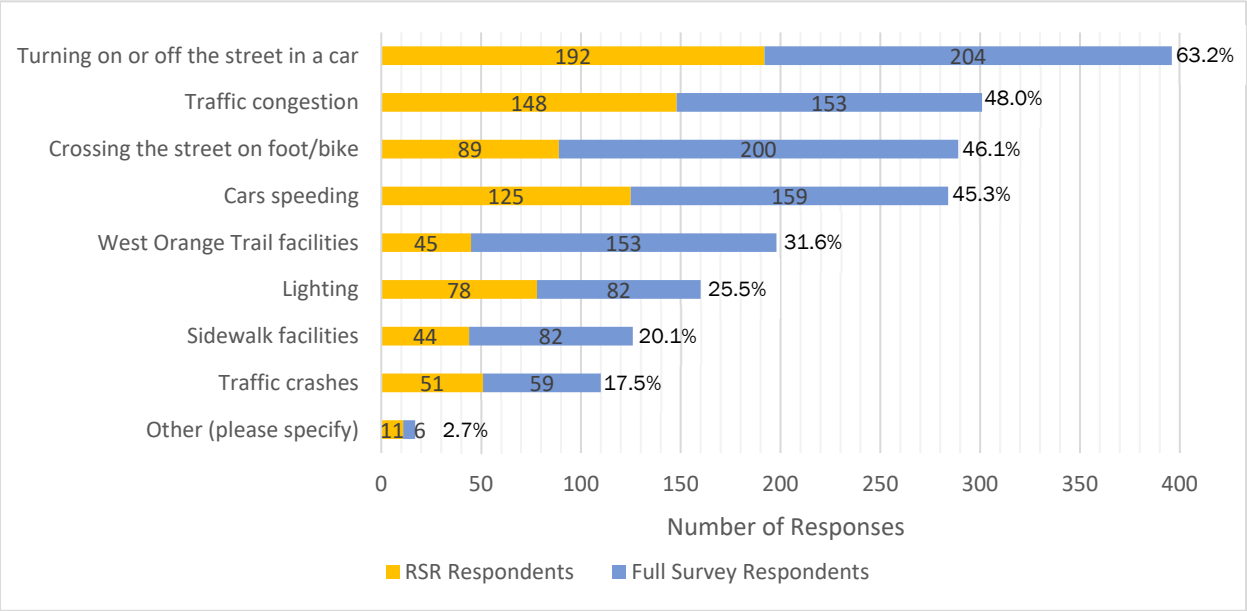
As can be seen in the table, the most popular improvement is the addition of turn lanes, which scores significantly higher than any of the other proposed improvements. The next three improvements all received similar scores, and more reliable travel times and landscaping received the lowest priority scores from the respondents.

The results for this question correlate with the concerns expressed about the intersection of Sandpiper Street and Park Avenue, which are detailed in the next section.

Sandpiper Street at Park Avenue

Survey respondents were asked to select their top three challenges currently facing the intersection of Sandpiper Street at Park Avenue from a prepared list. The resultant ranking of issues and the percentage of survey respondents who selected each issue is shown in Figure 20, with the higher scores representing the most selected potential improvements.

Figure 20| Challenges Facing Sandpiper Street at Park Avenue



Notes:
RSR Respondents – Respondents who only answered the first set of questions regarding the Rock Springs Road Study.
Full Respondents – Respondents who answered both sets of questions regarding the Rock Springs Road Study and the West Orange Trail Study.

The results show that accessibility and congestion are the two primary concerns for users of this intersection, followed closely by vehicular/pedestrian safety, and then by pedestrian facilities. Most of the responses for "Other" regarded the lack of left turn lanes at the intersection.

8. Opportunities and Constraints

8.1. Opportunities

Rock Springs Road

The addition of medians along Rock Springs Road would significantly increase the safety of the roadway for both motorists and non-motorists. Adding landscaping to the medians can also increase the aesthetic appeal of the corridor while encouraging slower speeds.

Operational improvements at the intersection at Welch Road would support the operational needs of the intersection, reduce congestion in the study area, and provide added safety for the trail crossing at the intersection.

Sandpiper Street

The City of Apopka has included plans for the signalization of the intersection at Park Avenue in the city budgets for FY2022 and FY2023. Signalization of the intersection will potentially provide better flow for traffic, a protected trail crossing on the east side of the intersection, and opportunity for a protected pedestrian crossing over Park Avenue providing the residential area on the west side of the road with safer access to and from the trail. Additionally, improvement of the Sandpiper Street corridor

may ease congestion in the surrounding roadway network as some traffic may be diverted south from Welch Road to Sandpiper Street.

The parcel in the southeast corner of the intersection is owned by the City of Apopka and a portion along Sandpiper Street has already been dedicated for the realignment of Sandpiper Street. Additional trail amenities can be considered in the area of the parcel not being used for realignment and could be constructed in conjunction with the realignment.

The addition of sidewalks to locations where they are lacking will improve pedestrian safety along Sandpiper Street as pedestrians will no longer need to cross the road to access a sidewalk; those pedestrians who choose not to cross the street but to walk in the roadway will no longer have to do so and will be at a safer distance from the vehicular traffic on Sandpiper Street. Sidewalks will also provide additional connections to the West Orange Trail and may encourage local residents to use the trail more frequently.

8.2. Constraints

Rock Springs Road

If any widening is needed to accommodate the proposed medians and left turn lanes, very little space exists in the existing ROW to accommodate the widening. Widening would also require either the aerial utilities along the west side of the roadway, the trail on the east side of the roadway, or both to be relocated.

The existing roadway and ROW width also presents an issue regarding the addition of raised medians. Restricted medians will cause the need for more U-turns, which the existing width may be too narrow to accommodate. Therefore, consideration of this limitation will need to be taken during the concept development for the study area.

Sandpiper Street

Due to the presence of residential structures on both sides of Sandpiper Street west of Park Avenue, and commercial property in the northeast corner of the intersection, a realignment shifting the east leg south is the most reasonable and cost feasible realignment alternative. The realignment will likely require utility relocations in that southeast corner.

The existing ROW along Sandpiper Street is wide enough to accommodate new sidewalks both west and east of Park Avenue. On the west side of Park Avenue, the primary issue is the presence of aerial and underground utilities along the north side of the roadway which will require relocation. The construction of the sidewalk will also decrease the perceived size of residents' front yards, which may draw criticism from homeowners along this segment.

On the east side of Park Avenue, aerial utilities primarily run along the north side of Sandpiper Street but are also present on the south side of the street near Park Avenue and Ustler Road – these aerial lines will need to be relocated in order for the sidewalk to be constructed. Also, on the south side of the street, mature landscaping is growing within the ROW near the edge of the pavement; this landscaping will need to be removed to accommodate the sidewalk.

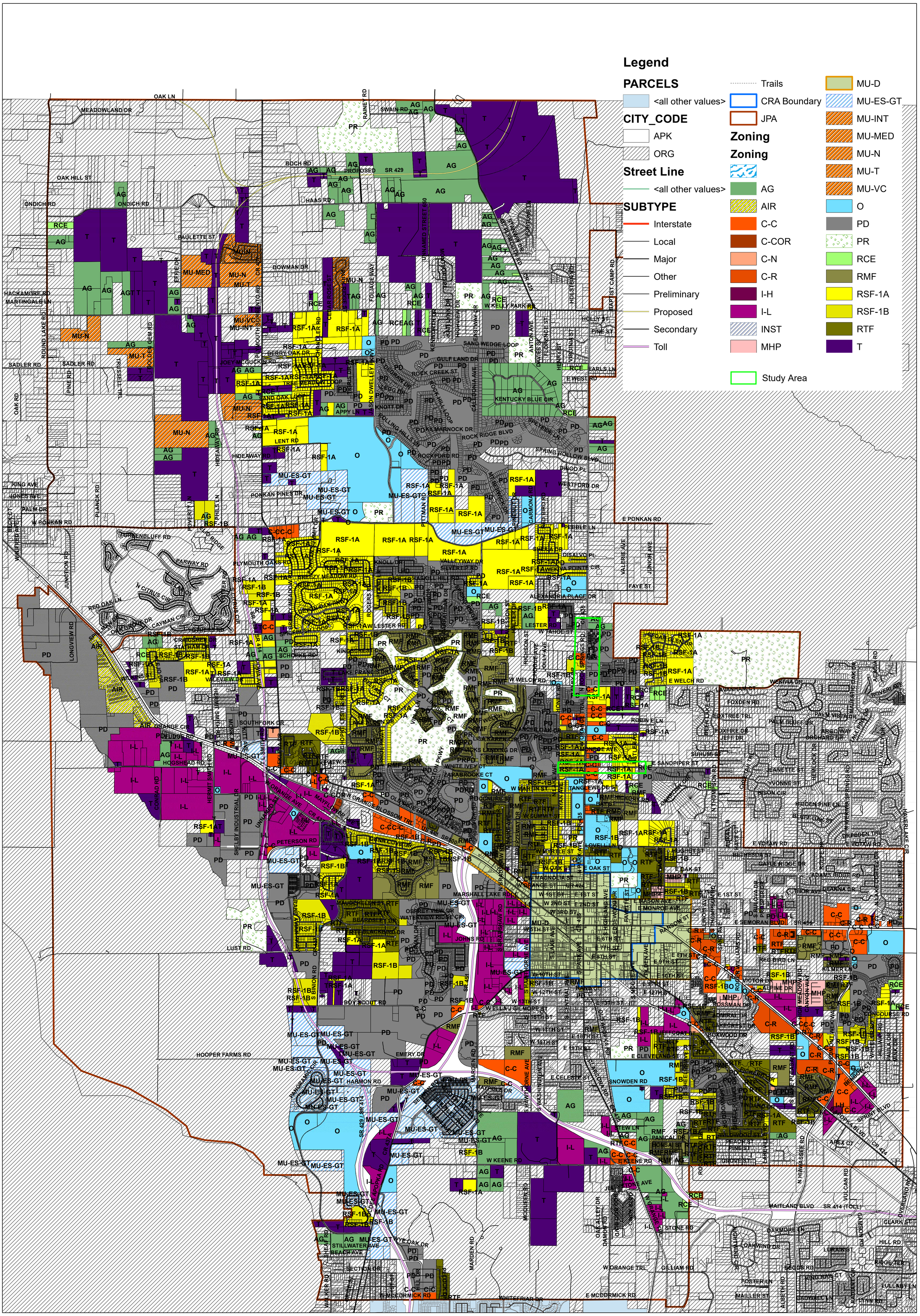
Appendices

Appendix A

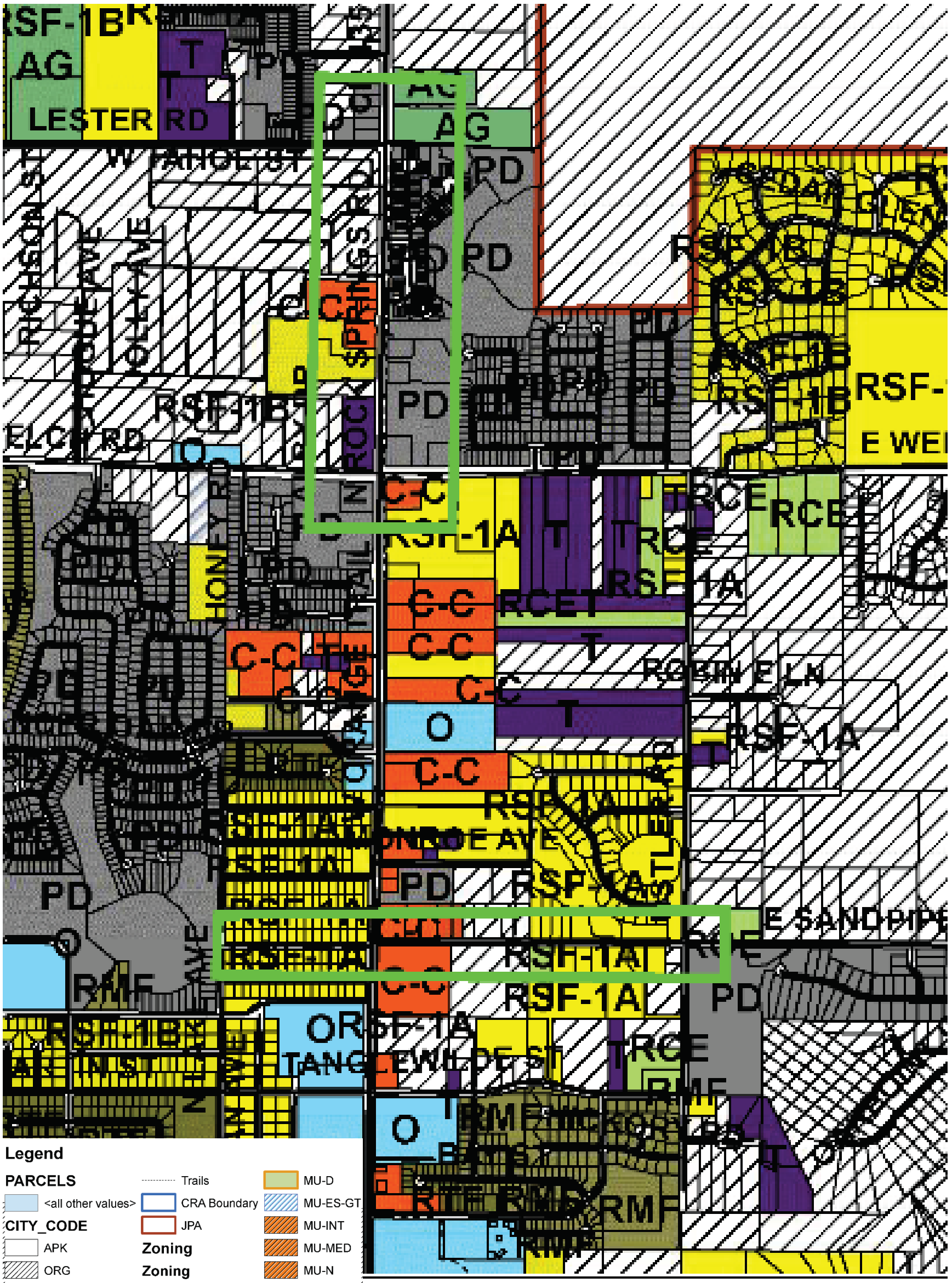
City of Apopka Zoning Map

Orange County Zoning Map

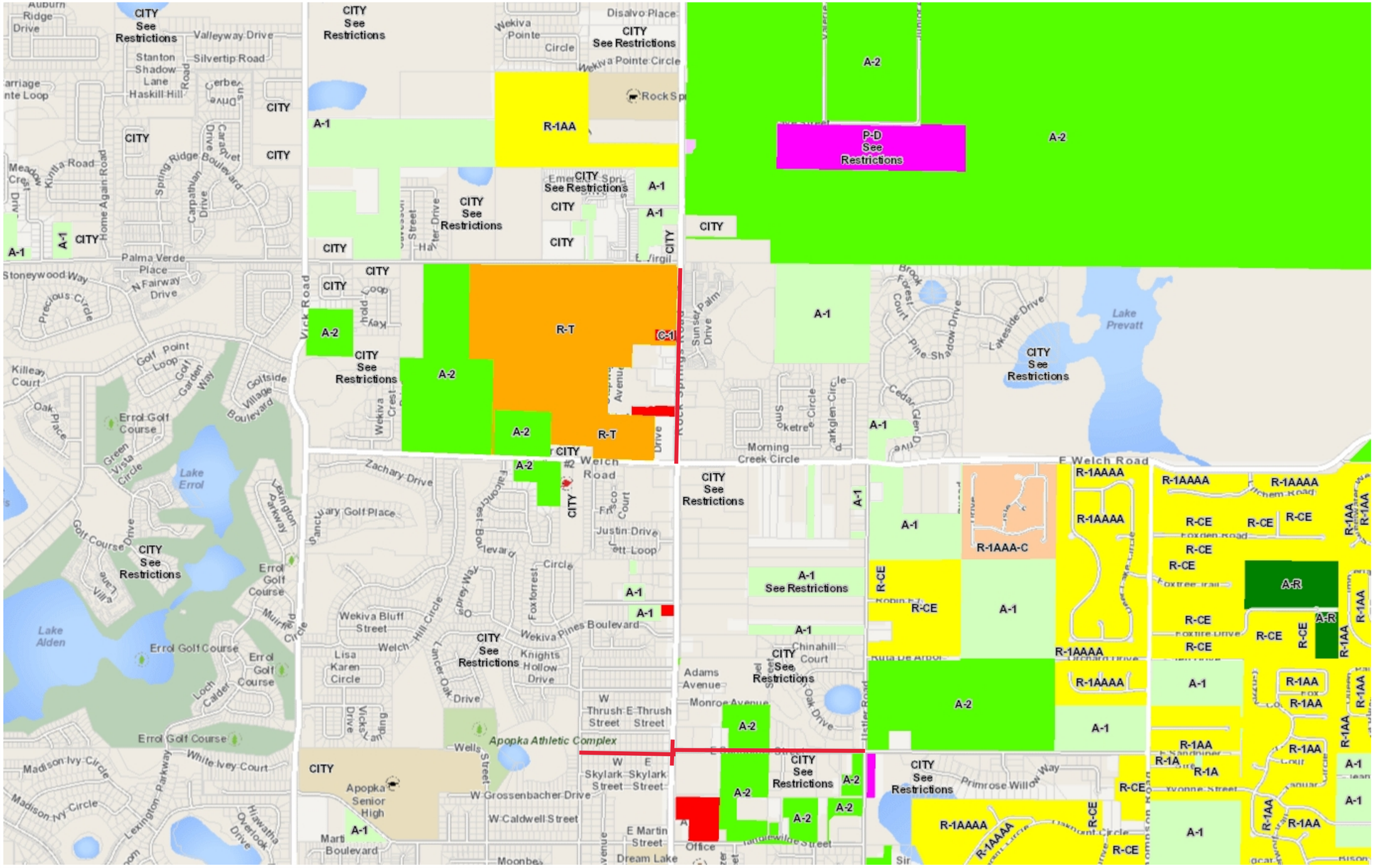
Zoning Map


Legend
PARCELS
<all other values>
CITY_CODE
APK
ORG
Street Line
<all other values>
SUBTYPE
Interstate
Local
Major
Other
Preliminary
Proposed
Secondary
Toll
Trails
CRA Boundary
JPA
Zoning
Zoning
AG
AIR
C-C
C-COR
C-N
C-R
I-H
I-L
INST
MHP
MU-D
MU-ES-GT
MU-INT
MU-MED
MU-N
MU-T
MU-VC
O
PD
PR
RCE
RMF
RSF-1A
RSF-1B
RTF
T
Study Area
OAK LN
MEADOWLAND DR
RAINEY RD
SWAIN RD
BOCH RD
OAK HILL ST
ONDICH RD
HAAS RD
SR 429
PROPOSED
RCE
PAULETTE ST
ETTIE DR
BOWMAN DR
UNNAMED STREET 650
FOLIAGE WAY
CR 435
HACKAMORE RD
MARTINGALE LN
ROUND LAKE RD
SADLER RD
PINE RD
OAK RD
GOLDEN GEM RD
TRUSSELL TRL
JOEY MCGUCKIN RD
BERRY OAK DR
SAND OAK LOOP
APPY LN
LENT RD
HIDEAWAY RD
HIDEAWAY RD
KING AVE
JONES AVE
PALM DR
W PONKAN RD
PLANCK RD
POVERTY HILL LN
PONKAN PINES DR
GREENBLUFF RD
PARWAY RD
PLYMOUTH OAKS RD
JUNCTION RD
N CITRUS CIR
RED OAK LN
CAYMAN CIR
CITRUS CIR
LONGVIEW RD
CRAIGSHIRE DR
STATHAM DR
SCHOOL
SOUTHFORK DR
HOGSHEAD RD
CONRAD RD
HERMIT SMITH RD
SHELBY INDUSTRIAL DR
UNIVERSITY BLVD
N ORANGE AVE
CR 437A
MAYFLOWER DR
N ORANGE BLOSSOM TRL
US 441
SR 500
PETERSON RD
OSPREY POINTE DR
WATERVIEW RIDGE CIR
BLACKBIRD DR
JOHNS RD
LUST RD
BOY SCOUT RD
HOOPER FARMS RD
EMERY DR
HARMON RD
SR 429 / SR 414
CR 437A
APOPKA RD
W KEENE RD
E KEENE RD
MCQUEEN RD
MARDEN RD
S BUMBY AVE
S ROSALIND AVE
S ORANGE AVE
S ORANGE BLOSSOM TRL
S ORANGE AVE
S ORANGE AVE
S ORANGE AVE

Zoning Map Detail



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

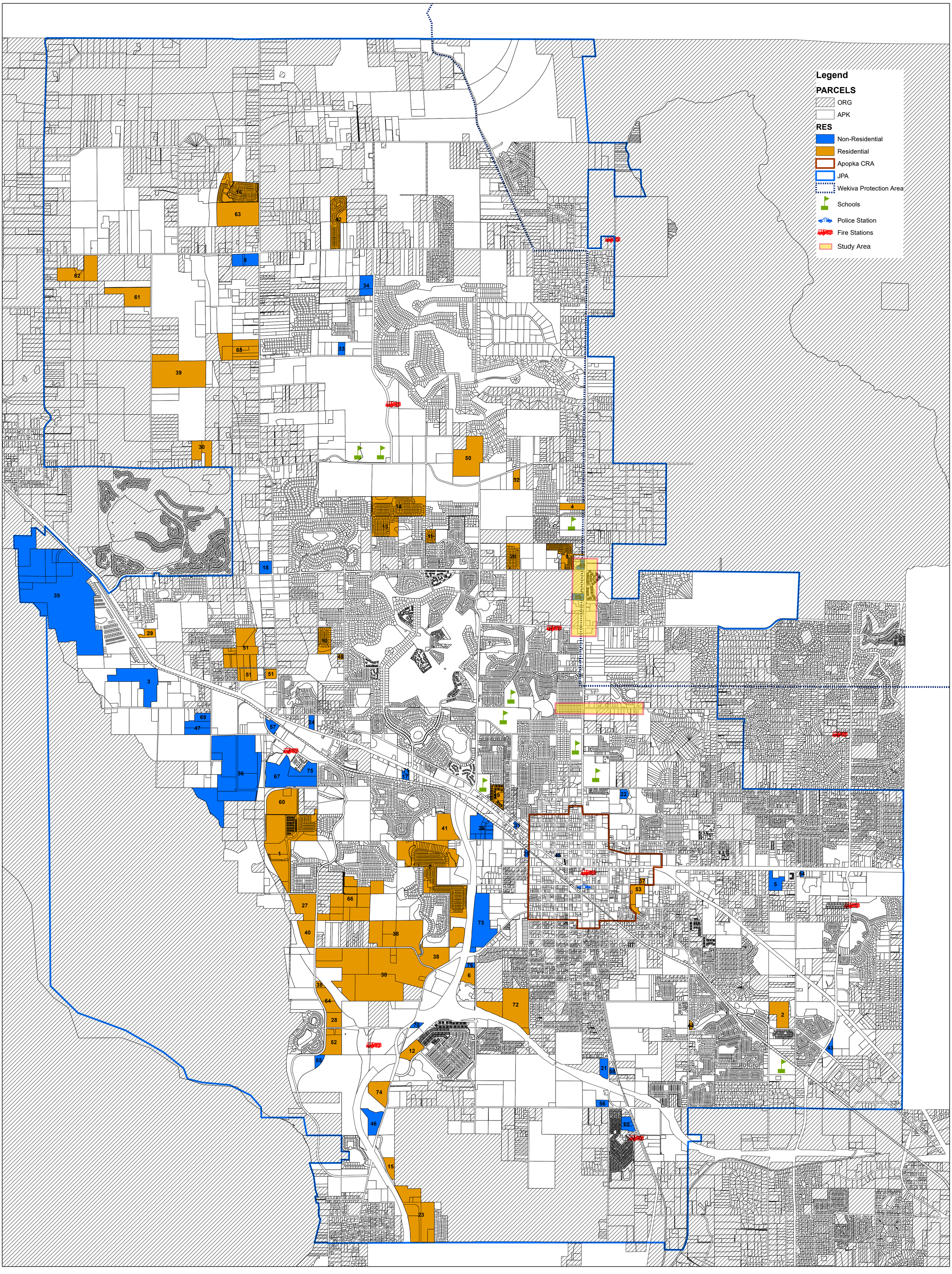
Notes

This map was automatically generated using Geocortex Essentials.

Appendix B

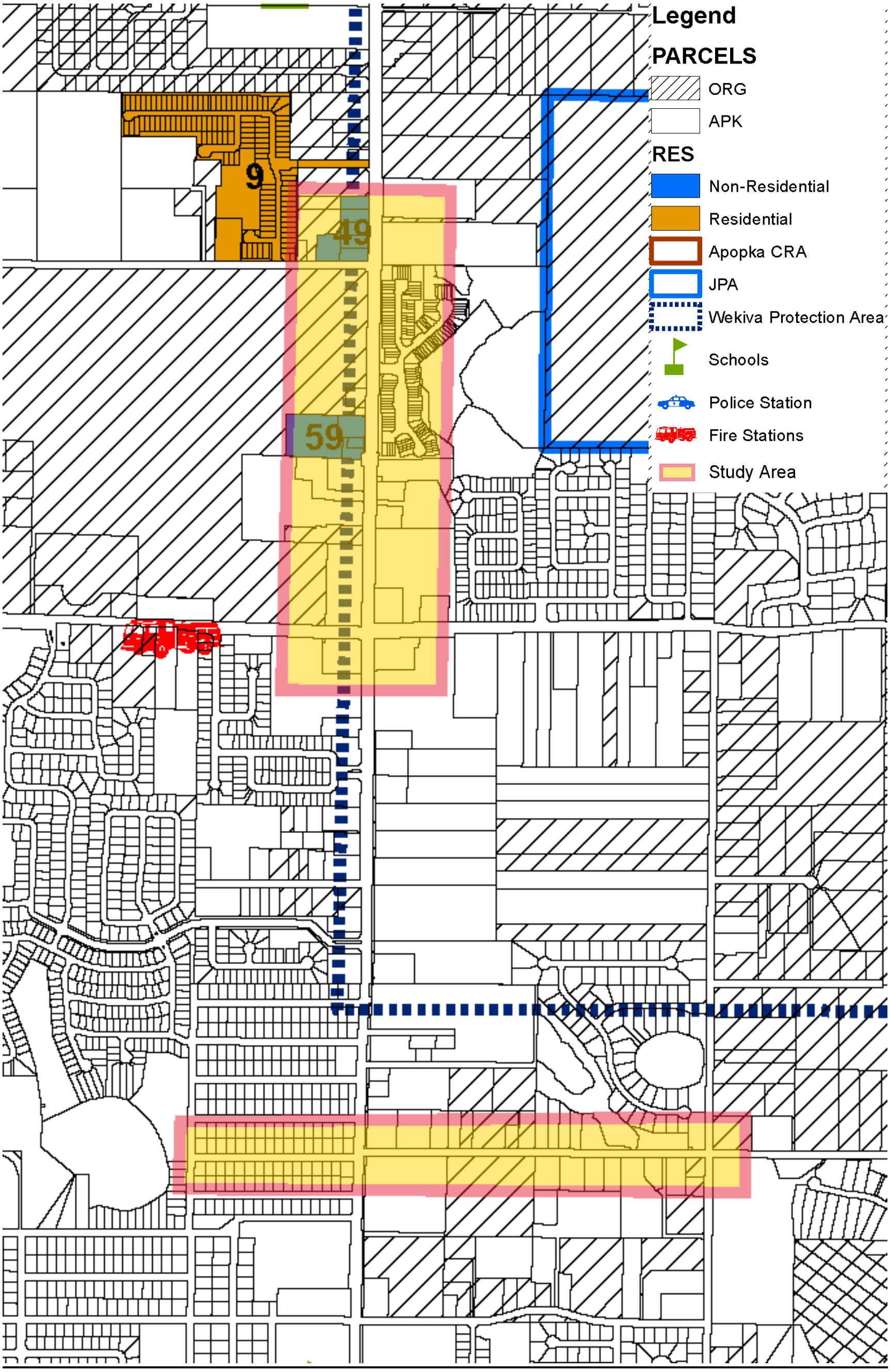
Development Location Map

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

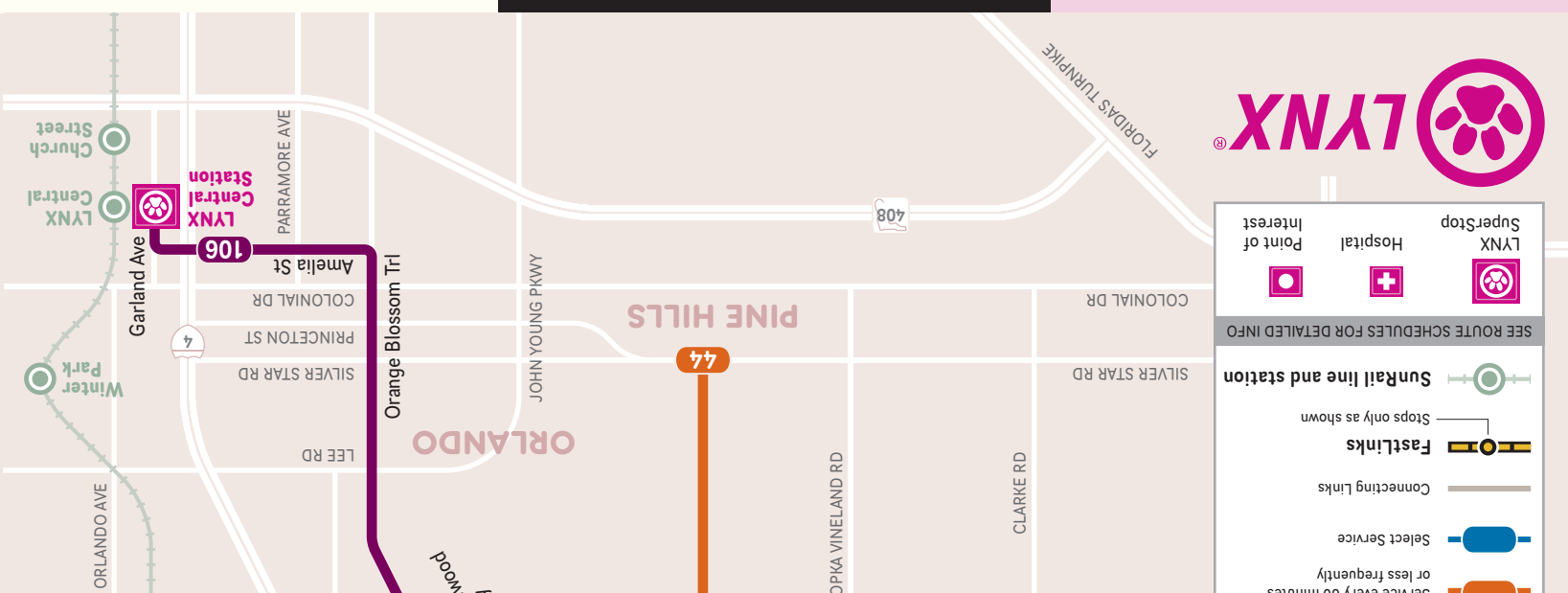
DIRECT SERVICE TO:

- 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

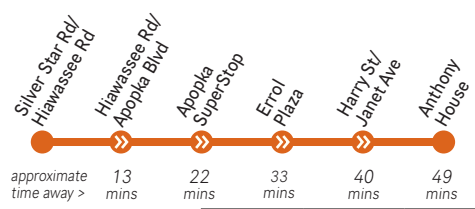
BUS SERVICE FREQUENCY

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



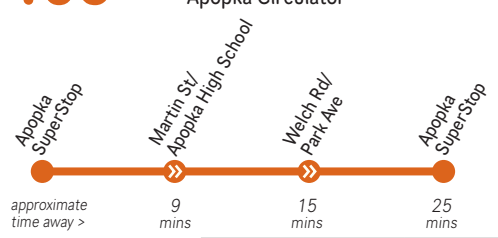
MINS AFTER THE HOUR	MON–FRI	SAT	SUN/HOL
FIRST TRIP	5:25 am*	5:25 am*	NO SERVICE
ALL-DAY	:25	:25	
LAST TRIP	7:25 pm	7:25 pm	

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

44 SOUTHBOUND
to Pine Hills

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



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
	7 am–8 pm	:15		
LAST TRIP		7:15 pm	7:15 pm	7:15 pm

405 SOUTHSIDE
Apopka Circulator

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	:45	:45	:45
	1–7 pm			
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

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
	5–6 am	:20, :35, :50		
	6–7 am	:05, :20, :35, :48	:20, :50	
	7–8 am	:00, :15, :30, :45		
	8–9 am	:00, :15, :45		
	9 am–5 pm	:15, :45		
	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

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		
	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

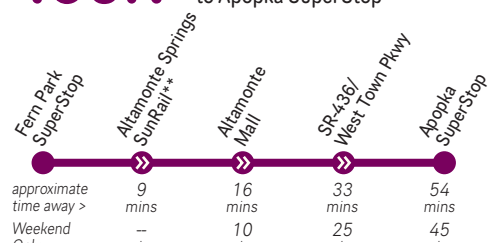
NeighborLink 652 *is based at the Maitland SunRail Station and provides curb-to-curb service to the Maitland Center with advanced reservations.*

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

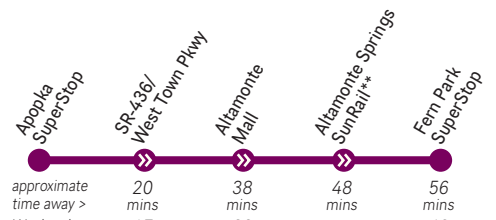


MINS AFTER THE HOUR		MON–FRI	SAT	SUN/HOL
FIRST TRIP		5:05 am*	5:25 am*	6:55 am
DAY	5 am–7 pm	:05, :35	:25, :55	:55
EVE	7–8 pm		:20, :50	
	8–9 pm		:35, :58	
NIGHT	9–10 pm	:05, :40	:28	--
	10–11 pm	:25	:00, :30	
	11 pm–12 am	:10, :40		
LAST TRIP		12:20 am	12:00 am	8:55 pm

* *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



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
	8 am–12 pm	:25, :55		
	12 pm–5 pm	:20, :50		
	5 pm–6 pm	:25, :55		
	6–7 pm	:30		
EVE	7–8 pm	:00, :30	:10, :43	
	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

Link	Brochure
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

Link	Brochure
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

Link	Brochure
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

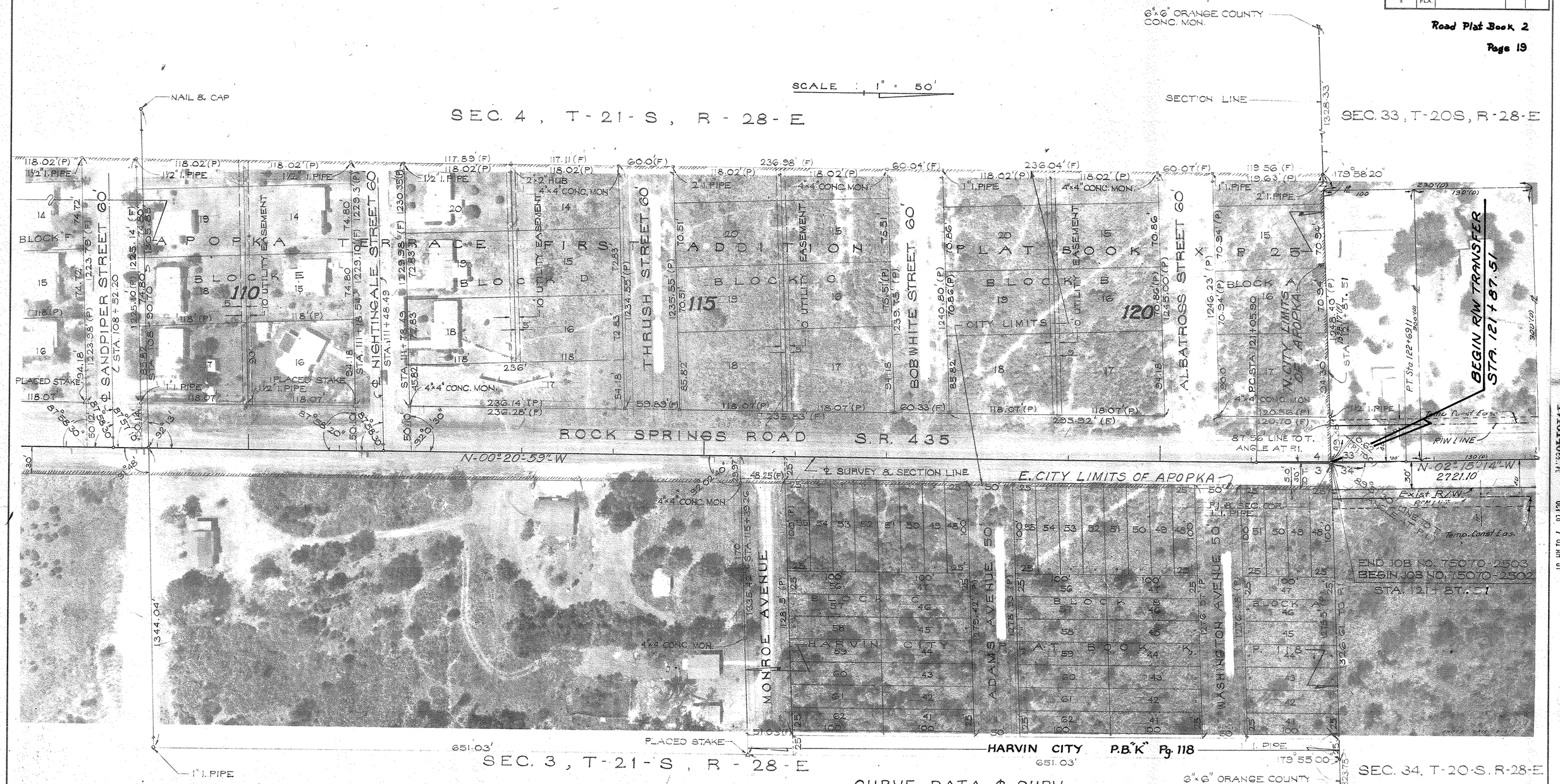
Appendix D

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. No. 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 19 thru 22.
Thomas H. Locker, County Comptroller
By: [signature], D.C.
Orange County, Florida

REVISION	BY	DATE
Rev. R/W	KAH-dds	8-15-75
Misc. Stas. 115 117.120 ±	DDD-JW	4-10-75
Added Info	HSJr-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. R. Benedict	2-6-75
TRACED			DISTRICT ENGINEER	
CHECKED	M. J. B.	11-71	Thomas E. Russo	2-12-75
COMPARED			ENGINEER OF RIGHT OF WAY	
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070-2502 SHEET 1 OF

(4)

1716140 ORANGE CO. FL

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. 1981 in Road Plat Book 2 Pages 19 thru 22.
Thomas H. Locher, County Comptroller
By: [signature], D.C.
Orange County, Florida

Oct 26 7 01 AM '81

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

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	9-15-75
Rev. R/W	KAH-dds	8-15-75
Added Notation	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	C. C. Benedict, DISTRICT ENGINEER	2-6-75
TRACED	K.A.H.	10-18-73		
CHECKED	M.J.B.	11-71	Thomas C. Russo, 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

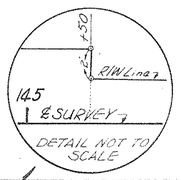
"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to ORANGE County."

Recorded in Public Records of Orange County, Florida, this 26 day of Oct. A.D. 1981 in Road Plat Book 2 Pages 13 thru 22.

Thomas H. Looser, County Comptroller
By: Walt Shackleford, D.C.
Orange County, Florida

SCALE : 1" = 50'

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



R.R. SPIKE

140 145 150

Sta 10+00 (L.D.) = Sta 140+34.69 (S.R. 435)

100' 150' ±50' 50' 70' 50' 50' 48' 50'

SURVEY & SECTION LINE

P.I. STA. 149+08.60
Δ = 0°-55'-45" Rt.
R = 14,402'

℄ STA. 149+08.60 EX'IST. R/W

30' 30' 303.87' Sta. 149+38.61

END R/W TRANSFER
STA. 149+38.61

R/W LINE

2721.10 — N-02°-15'-14"-W — ROCK SPRINGS ROAD S.R. 435 — 1319.98 — N-01°-19'-23"-W

29.98 CALC. 50' 30' 60' 90°00'00" 50' 30' 50' 90°00'00" 30' 30' 50'

℄ CONST.

212.50' 212.50 223.56' 340.17' (P) 310.18' (P) 1/2" I. PIPE

R/W LINE

Exist. R/W

P.T. Sta. 151+15.07 ℄ Const. BK =
EQUATION
Sta. 151+15.09 ℄ Survey AHD =

10' Drainage Easement By Plat

20' DRAINAGE EASEMENT BY PLAT

R/W Line

N87°51'07"E

970.0' (P) 970.0' (P) 638.34' 638.12' 638.90' (P) ℄ STA. 148+78.55

P.C. Sta. 147+02.11 ℄ Const.

NOT PLATTED
NOT INCLUDED

5 4 3 1

℄ Const. Curve Data
P.I. Sta. 149+08.60
Δ = 00°55'45" Rt.
D = 0° 13'30"
T = 206.49
L = 412.96
R = 25,464.79

2614.69' (F) STA. 149+08.60 (F) 2675.54' (F) 2675.64' (P)

℄ WELCH ROAD 60'

Sta. 149+38.61

341.20' (P) 652.40 (P) 311.20' (P)

APOPKA RANCHES P.B. Z, P. 134

2

B.I.N° 524159

860.43'(C) To S.R.W. Line of WELCH Rd

212.50' 212.50' 50' 233.34' Sta. 19+99.75 (L.D.) 50' 652.94' (P)

135.0' (P) 50' 100' DRAINAGE EASEMENT BY PLAT 1023.88' (P) 50' N02°15'51"W(R) ℄

End L.D. Survey Sta. 20+00

20 1635.63' (P) SEC. 34, T-20-S, R-28-E. 1645.37' (P) 331.10' (P) 2615.37' (P) N. Line of SW¼ Sec. 34-20-28

135.0' (P) 1045.23' (P) 1/2" I. PIPE

℄ CUSTLER ROAD 60' 30'

N.E. COR. S.W.¼ SEC. 34 (Half Cap)

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

REVISION	BY	DATE
Add P.R.W.M.T. Note	M.L.H.	2-9-81
Changed Lat. Ditch	HST-JRS	10-15-75
Rev. R/W	KAH-JRS	8-18-75
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	E.H. Benedict DISTRICT ENGINEER	2-6-75
TRACED	K.A.H.	10-18-73		
CHECKED	M.J.S.	11-71	Wm. C. Kelly ENGINEER OF RIGHT OF WAY	2-12-75
COMPARED				
INDEXED			STATE HIGHWAY ENGINEER	

SECTION 75070 - 2502 SHEET 3 OF

(6)

Oct 26 7 01 AM '81

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

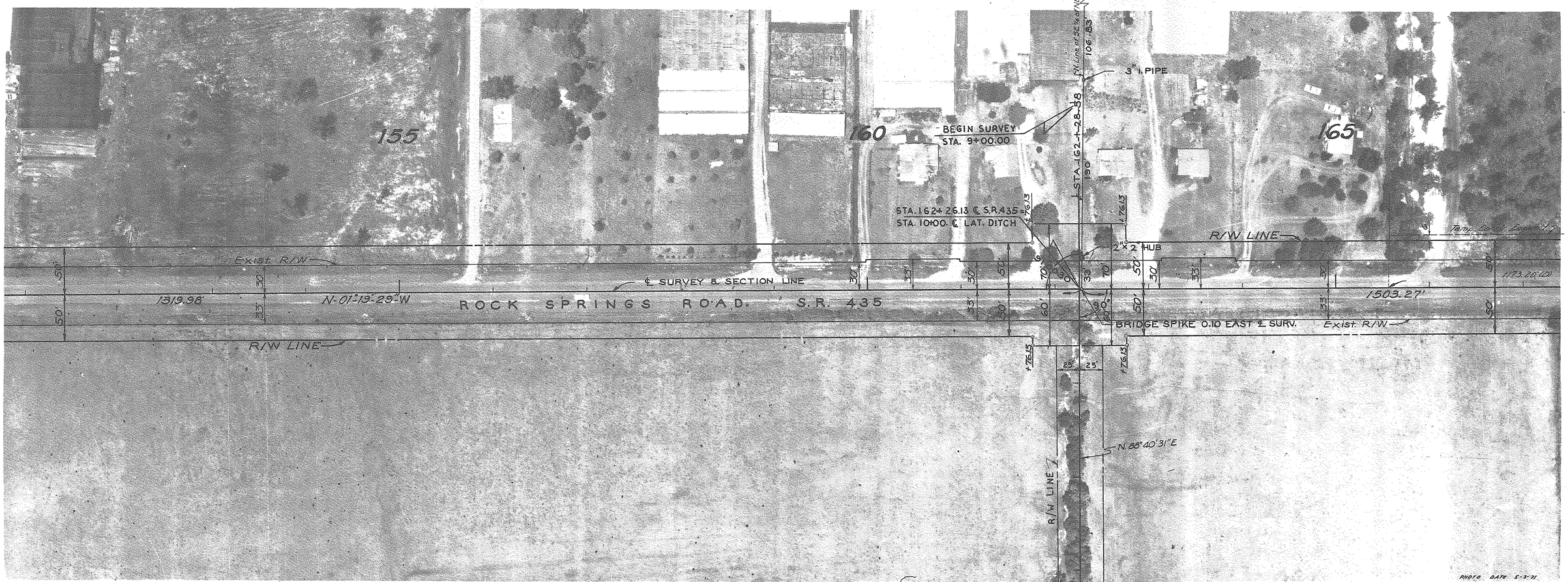
This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October, A.D. 1978 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

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



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 Permanent 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
Add Easem'nt	HST-WTH	4-14-76
Rev. Lat. Ditch	JKP-JW	9-29-75
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.	9-27-71	C. R. Benedict	2-6-75 DISTRICT ENGINEER
TRACED	K.A.H.	10-18-73	Thomas E. Lasso	2-12-75 ENGINEER OF RIGHT OF WAY
CHECKED	M.J.B.	11-71		
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.			

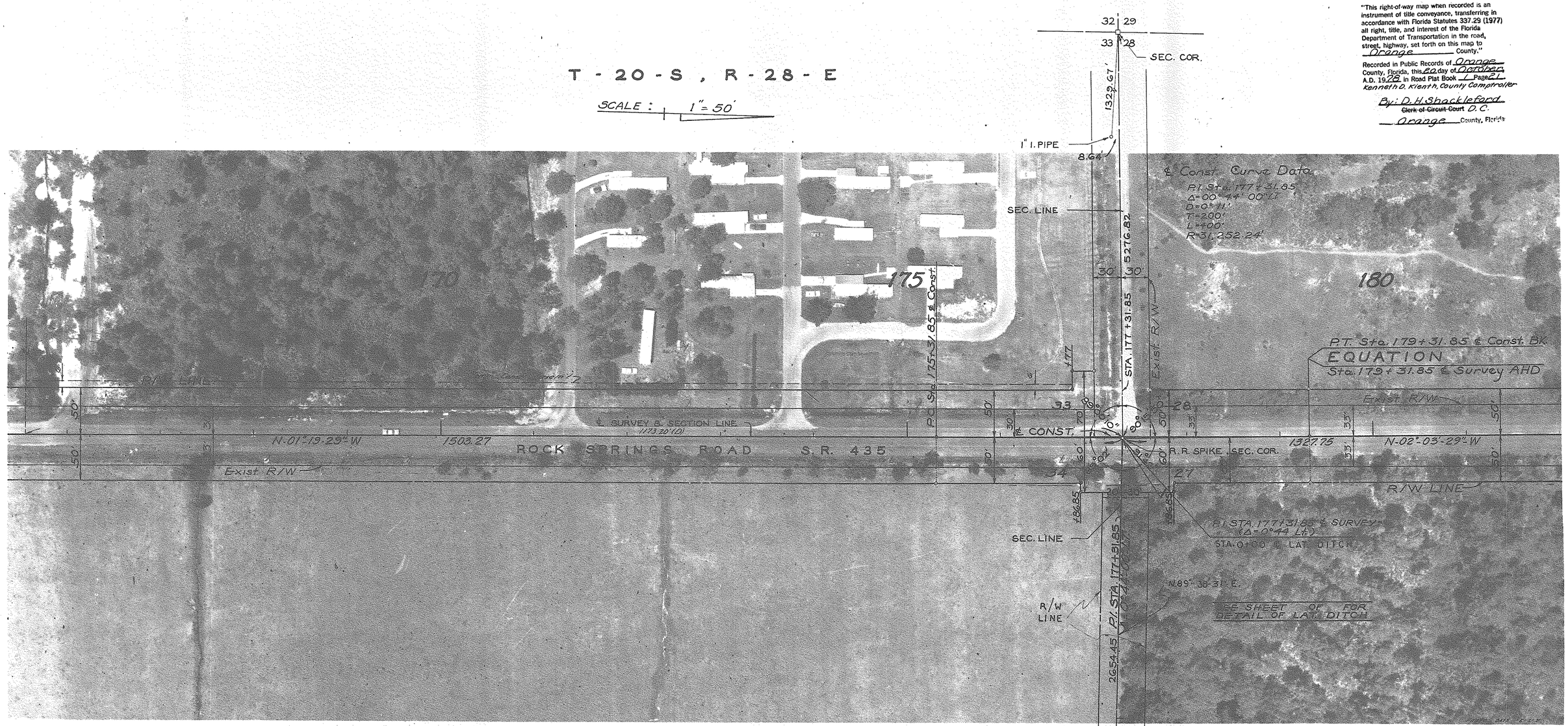
"This right-of-way map when recorded is an instrument of title conveyance, transferring in accordance with Florida Statutes 337.29 (1977) all right, title, and interest of the Florida Department of Transportation in the road, street, highway, set forth on this map to Orange County."

Recorded in Public Records of Orange County, Florida, this 20 day of October, A.D. 1978 in Road Plat Book 1 Page 21.
Kenneth D. Kienth, County Comptroller

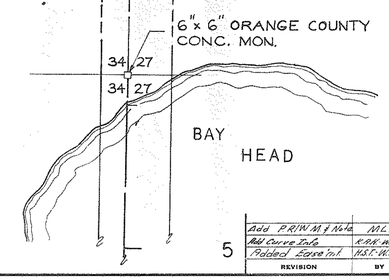
By: D. H. Shackleford
~~Clerk of Circuit Court~~ D.C.
Orange County, Florida

T - 20 - S , R - 28 - E

SCALE : 1" = 50'



B.I. No. 524159



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 Curve Info	R.A.H.-W.P.H.	7-16-76
Added Ease'nt	H.S.T.-W.P.H.	4-14-76

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	C. A. 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 8 OF

Rec'd 3-10-81 MDC MDC

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

STATE JOB NO. 75070 2503
Road Plat Book 2
Page 15

SCALE 1" = 50'

SEC. 4, T-21-S, R-28-E

3/8" I. PIPE
LARGE NAIL N.W. COR. OF N.E. 1/4 OF S.E. 1/4 SEC. 4
1281.90'
1282.44' TO P.I.
SET STAKE
190'(P)
30' 30'
244.12' (P)
244.03' (F)
4"x4" CONC. MON.
110'
60.04'(P)
59.85'(F)
4"x4" CONC. MON.
220.72' (F)
110.31' (P)
110.30'(P)
3/4" IRON PIPE
PLACE STAKE
118.02'(P) 118.02'(P)
4"x4" CONC. MON.
1/2" IRON PIPE
NAIL & CAP
APOPKA TERRACE FIRST ADDITION PLAT BOOK X PAGE 25
APOPKA HEIGHTS SUBDIVISION PLAT BOOK "K", P. 65
APOPKA HEIGHTS SUBDIVISION 3RD. REPLAT PLAT BOOK T PAGE 140
APOPKA SCHOOL PROPERTY
10 95
CITY LIMITS LINE
60' OHIO AVE. (CLOSED)
20' UTILITY EASEMENT
STA. 95+94.04 (CAL.)
597.3'
60' CALDWELL STREET
GROSSENBACHER DR.
SKY LAKE STREET
SAND PIPER STREET
10' UTILITY EASEMENT
Temp. Const. Easement
P.I. (R.R. SPIKE IN ORANGE COUNTY SEC. MANHOLE)
5° 56'45" LINE TO P.I. (ANGLE AT P.I.)
STA. 99+48.46
STA. 100+08.54
STA. 102+29.09
STA. 102+89.98
STA. 105+26.12
STA. 105+94.18
STA. 108+52.20
STA. 109+22.20
STA. 123.98
SET STAKE
110.58'
110.31' (P)
110.30' (P)
IRON PIPE
PLACED STAKE
4"x4" MON.
Exist. R/W
20.05'
50.08' (CAL.)
89°06'43.03" P.C. TO LINE (CAL.)
88°09'41.04" T. TO C. (CAL.)
TANGENT
P.I.
T.B.-N. 3-44-07-W.
CITY LIMIT LINE
N-00° 20'-59"W
12.41' ℄ CONST. TO COR.
STA. 98+38.06 (CAL.)
℄ SURVEY ℄ SECTION LINE
S.R. 435 ROCK SPRINGS RD.
R/W LINE
TEMP. CONST. EASEMT.
TANGLE WIDE STREET
℄ SUR. STA. 95+34.04
2742.88' TO P.I.
℄ CONST. STA. 95+93.96
℄ SUR. P.T. STA. 98+68.44
P.R.C. STA. 98+68.09
℄ CONST.
EQUATION (℄ CONST.) P.T. STA. 105+45.21 BK. = STA. 105+45.18 AHD. (10 LT. ℄ SUR. STA. 105+45.18
STA. 105+90.70
1344.04'
1" I. PIPE
R.R. SPIKE
B.I.No.524160

SEC. 3, T-21-S, R-28-E

CURVE DATA ℄ SURVEY

P.I. STA. 95+94.04
Δ = 02° 00' 45" RT.
D = 00° 22'
T = 274.46'
L = 548.86'
R = 15,626'
P.C. STA. 93+19.58
P.T. STA. 98+68.44

℄ Const. Curve Data

⑤	⑥	⑦
P.I. Sta. 95+93.86	P.I. Sta. 100+37.42	P.I. Sta. 103+75.98
Δ = 2°00'45" Rt.	Δ = 3°23'08" Lt.	Δ = 3°23'06" Rt.
D = 0°22'01"	D = 1°00'	D = 1°00'
T = 274.28'	T = 169.33'	T = 169.33'
L = 548.51'	L = 338.56'	L = 338.56
R = 15,616.1'	R = 5729.58'	R = 5729.58'
P.C. Sta. 93+19.58	P.R.C. Sta. 98+68.09'	P.R.C. Sta. 102+06.65
P.R.C. Sta. 98+68.09	P.R.C. Sta. 102+06.65	P.T. Sta. 105+45.21

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 Pages 9 thru 18.

Thomas H. Locker, County Comptroller
By: W. H. Shackleford, D.C.
Orange County, Florida

REVISION	BY	DATE
Removed TCE	MJB-CWB	9-12-78
Remove Temp Const Es.	S.H.L-DJC	8-17-78
Misc. Revs.	S.H.L.	10-3-77

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY MAP
STATE ROAD No. 435 ORANGE COUNTY

	BY	DATE
DRAWN	S.C.	9-27-71
TRACED		
CHECKED	M.J.B.	11-71
COMPARED		
INDEXED		

APPROVED BY — DATE
E. E. Benedict — 1-13-76 — DISTRICT ENGINEER
H. L. Wheeler — 3-4-76 — ENGINEER OF RIGHT OF WAY
STATE HIGHWAY ENGINEER

SECTION 75070-2503 SHEET 7 OF

From U.S. 441 to N. City Limits of Apopka

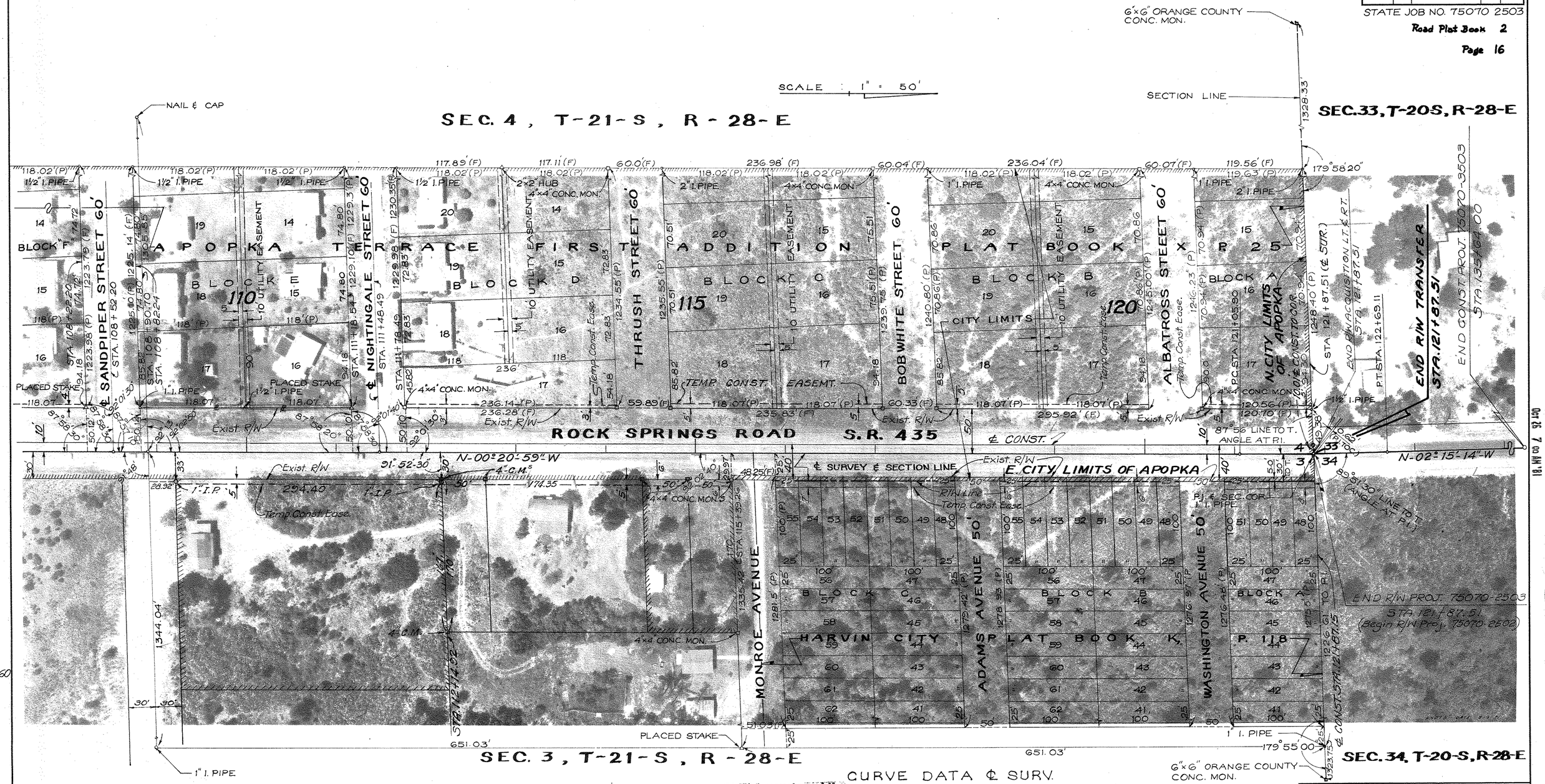
Oct 26 7 00 AM '81

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

STATE JOB NO. 75070 2503

Road Plat Book 2

Page 16



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 = 4,911.07'
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 9 thru 18.

Thomas H. Locker, County Comptroller
By: [signature], D.C.
Orange County, Florida

REVISION	BY	DATE
Remove Temp Const Es.	SHL-DJC	8-17-78
Misc. Add.	SHL	10-3-77

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]	1-13-76 DISTRICT ENGINEER
TRACED				
CHECKED	M.J.B.	11-71	[signature]	3-4-76 ENGINEER OF RIGHT OF WAY
COMPARED				
INDEXED				STATE HIGHWAY ENGINEER

SECTION 75070-2503 SHEET 8 OF

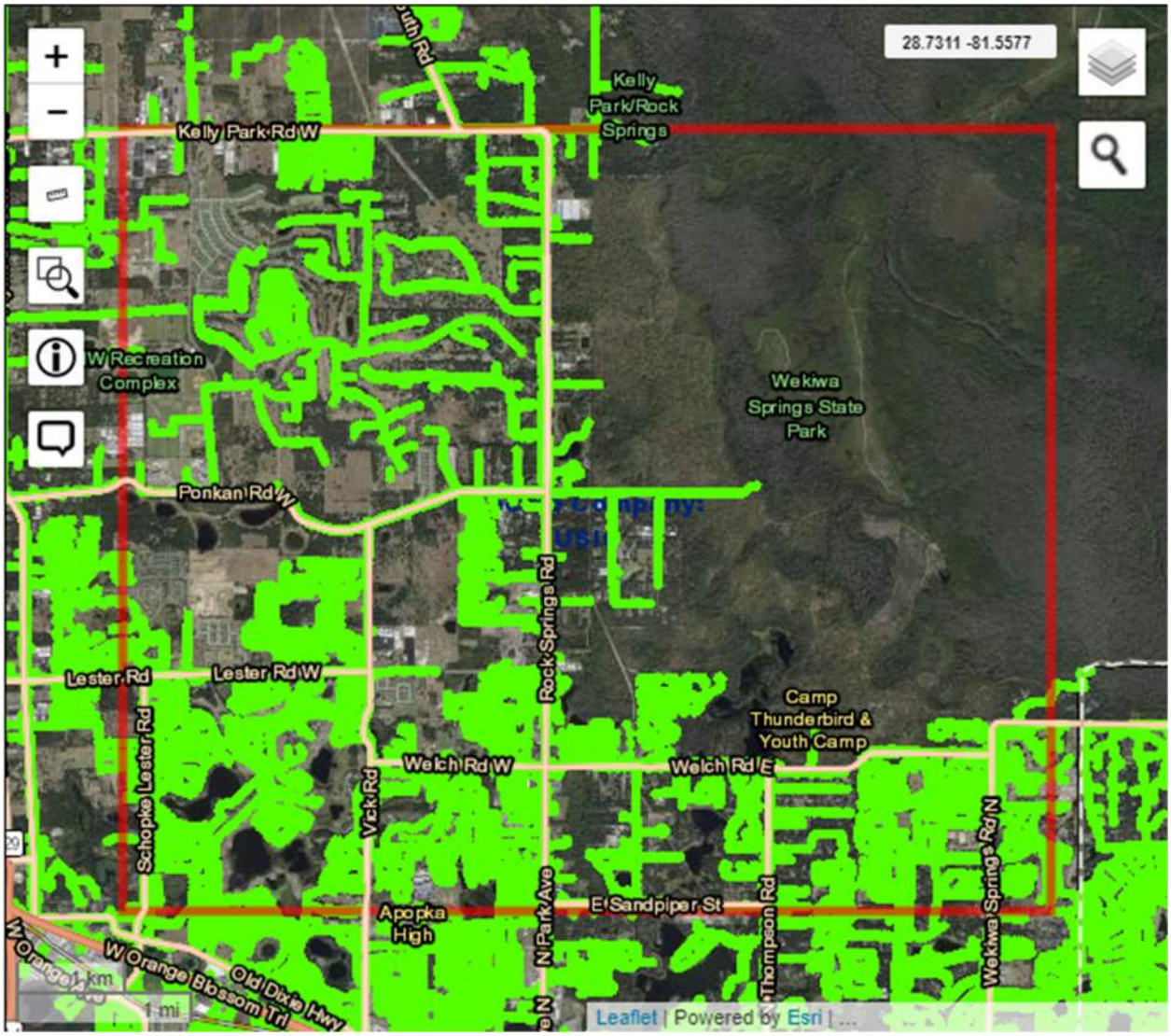
From U.S. 441 to N. City Limits of Apopka

Oct 26 7 00 AM '81

S.I.No.524160

Appendix E

Utilities

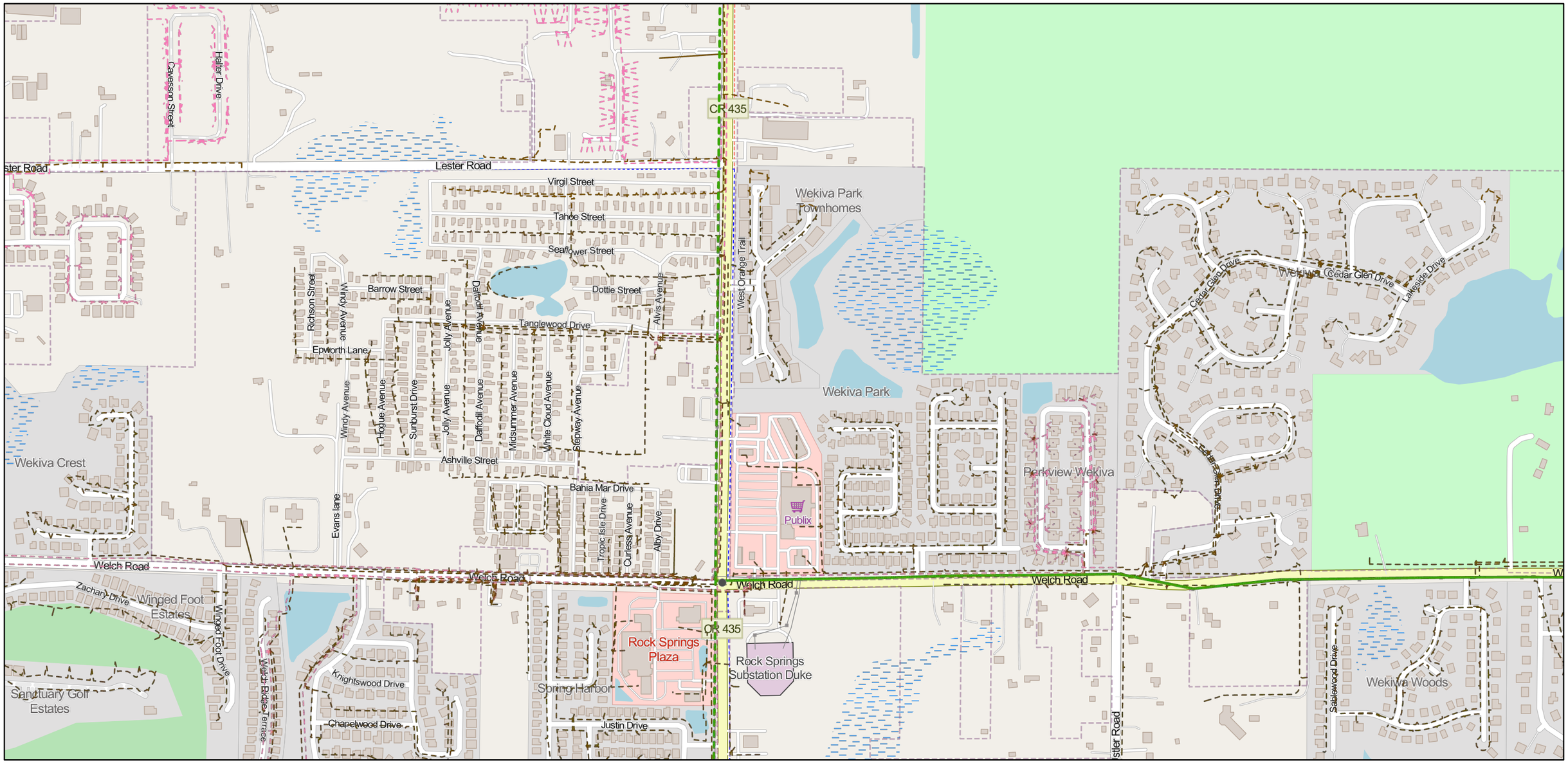


National Buried Asset
National Buried Asset
National Aerial / 3rd Party
IOF Fiber Route
Local Buried Asset
Local Buried Asset
Local Buried Asset
Local Buried Asset
Local Aerial Asset

CenturyLink™

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

LUMEN Relocate Utility Map



8/5/2021, 4:46:10 PM

Local Fiber Routes

- Underground
- Local Copper UG Route
- Local Copper Aerial Route
- METRO,UNDERGROUND

Routes Owned

- METRO,AERIAL

1:9,028

0 0.07 0.15 0.3 mi

0 0.15 0.3 0.6 km

Map data © OpenStreetMap contributors, Microsoft, Esri Community Maps contributors, Map layer by Esri

© map data Lumen

INTERNAL USE ONLY: This map data is for internal LUMEN use only and is NOT to be disseminated outside of LUMEN without authorization from RISK MANAGEMENT. Dissemination of this data outside of LUMEN without authorization will be considered a violation of company policy.

Lake Apopka Natural Gas District

District Map

Prepared by: TextBox2

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

N

6" Yellow Poly Gas Main

4" Yellow Poly Gas Main

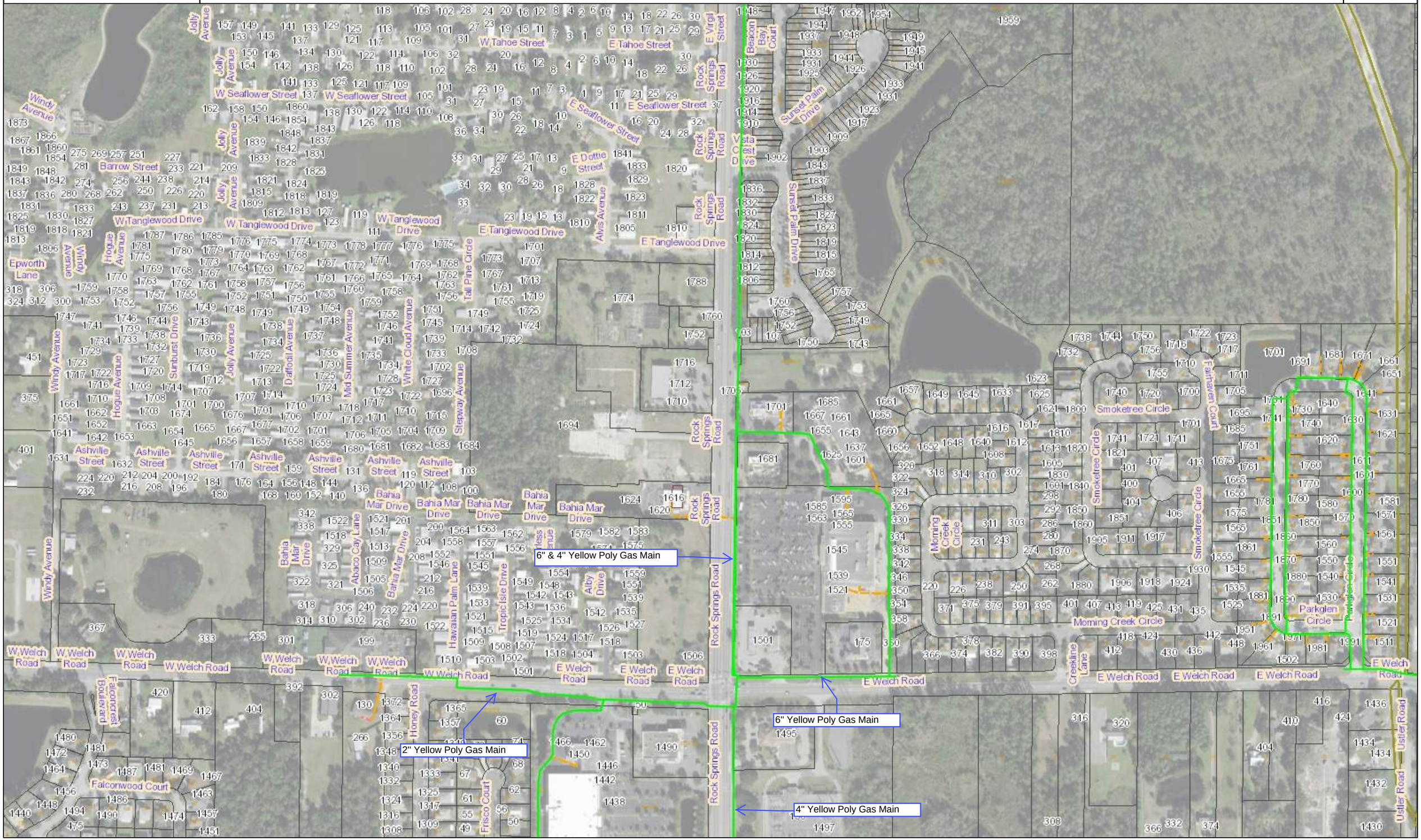
Lake Apopka Natural Gas District

District Map

Prepared by: TextBox2

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

N



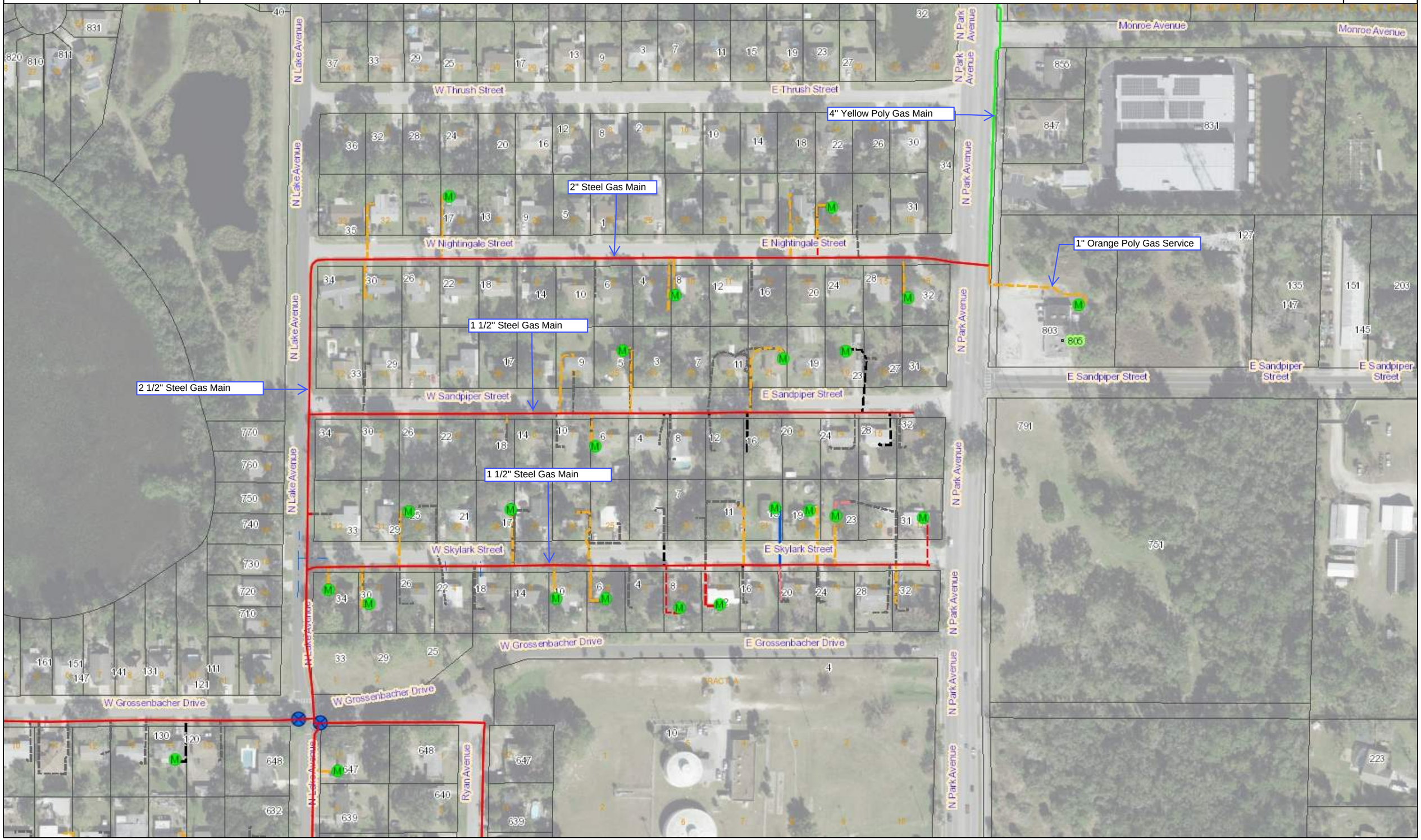
Lake Apopka Natural Gas District

District Map

Prepared by: TextBox2

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

N



Lake Apopka Natural Gas District

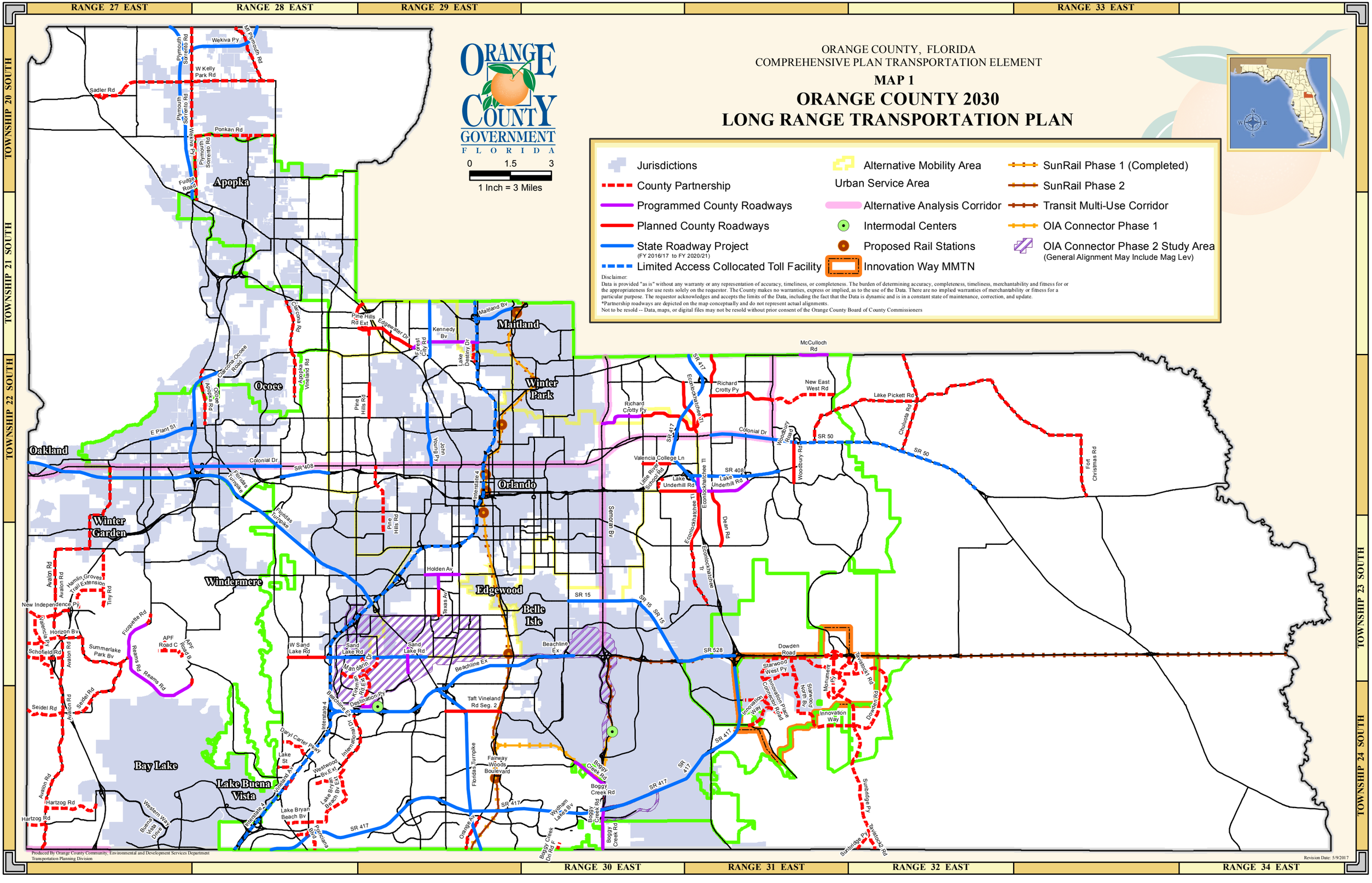
District Map

Prepared by: TextBox2

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

Appendix F

Orange County 2030 LRTP Map



RANGE 27 EAST
RANGE 28 EAST
RANGE 29 EAST
RANGE 33 EAST
RANGE 30 EAST
RANGE 31 EAST
RANGE 32 EAST
RANGE 34 EAST
TOWNSHIP 20 SOUTH
TOWNSHIP 21 SOUTH
TOWNSHIP 22 SOUTH
TOWNSHIP 23 SOUTH
TOWNSHIP 24 SOUTH
ORANGE COUNTY GOVERNMENT FLORIDA
0 1.5 3
1 Inch = 3 Miles
Jurisdictions
County Partnership
Programmed County Roadways
Planned County Roadways
State Roadway Project
(FY 2016/17 to FY 2020/21)
Limited Access Collocated Toll Facility
Alternative Mobility Area
Urban Service Area
Alternative Analysis Corridor
Intermodal Centers
Proposed Rail Stations
Innovation Way MMTN
SunRail Phase 1 (Completed)
SunRail Phase 2
Transit Multi-Use Corridor
OIA Connector Phase 1
OIA Connector Phase 2 Study Area
(General Alignment May Include Mag Lev)
Disclaimer:
Data is provided "as is" without any warranty or any representation of accuracy, timeliness, or completeness. The burden of determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requestor. The County makes no warranties, express or implied, as to the use of the Data. There are no implied warranties of merchantability or fitness for a particular purpose. The requestor acknowledges and accepts the limits of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction, and update.
*Partnership roadways are depicted on the map conceptually and do not represent actual alignments.
Not to be resold -- Data, maps, or digital files may not be resold without prior consent of the Orange County Board of County Commissioners
Apopka
Ocoee
Maitland
Winter Park
Oakland
Orlando
Winter Garden
Windermere
Edgewood
Belle Isle
Bay Lake
Lake Buena Vista
Produced By Orange County Community, Environmental and Development Services Department
Transportation Planning Division
Revision Date: 5/9/2017

Appendix G

Apopka Demographics Data

ESRI Tapestry Profiles

City of Apopka
Statistical Information

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)

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

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 " " " 15,707 Total Units
5,688 = 56.77% increase

2010 Census Housing Units: 15,707
2020 APK est. Housing Units: 20,204
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.)

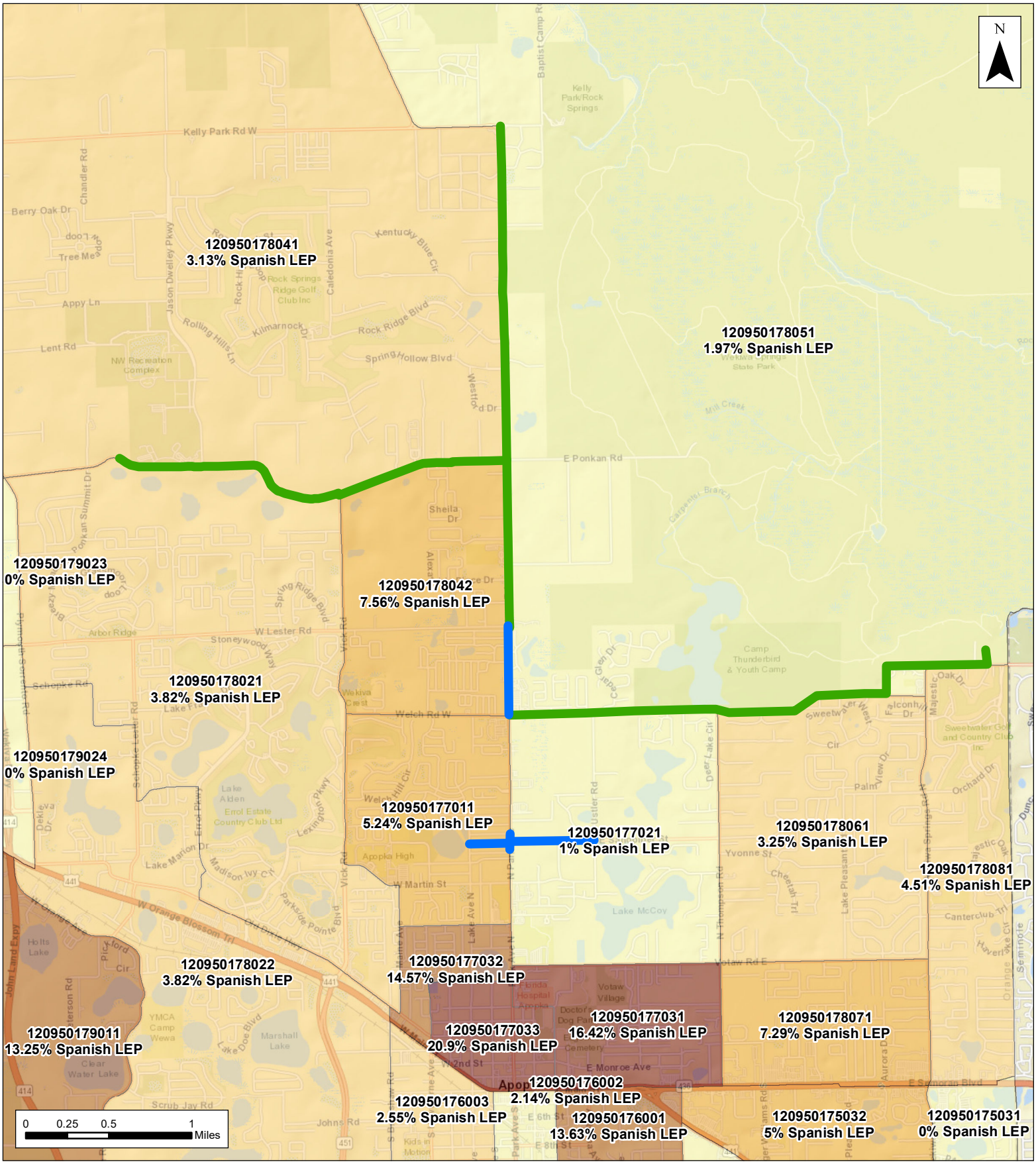
* Area Information as of December 31st for each year

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

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

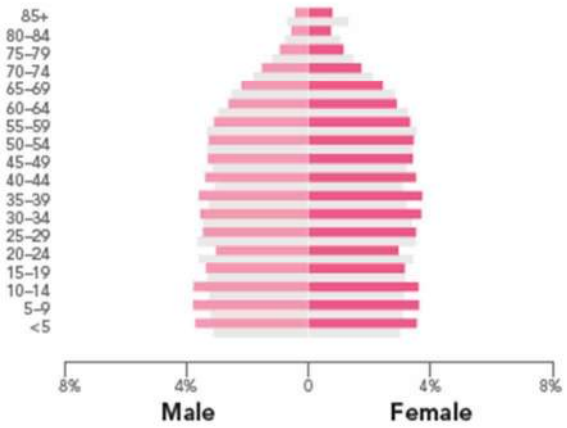
Middleburg

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 36.1 US: 38.2

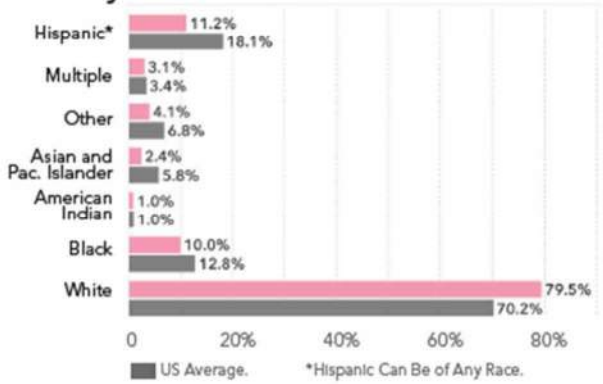
Indicates US



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: 48.5 US: 64.0



INCOME AND NET WORTH

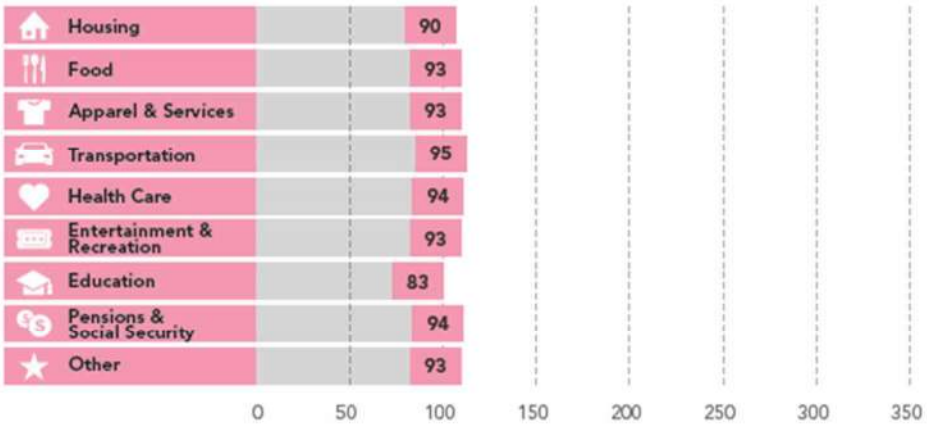
Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

Median Net Worth

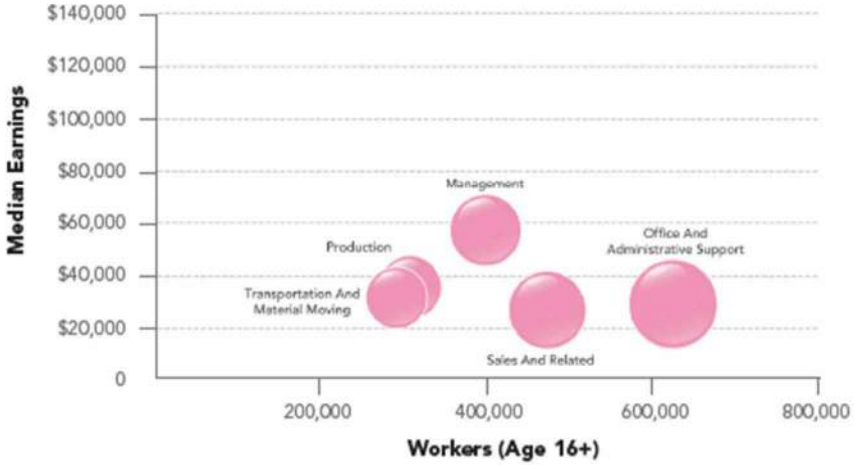
AVERAGE HOUSEHOLD BUDGET INDEX

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.



4C

LifeMode Group: Family Landscapes

Middleburg

TAPESTRY SEGMENTATION
esri.com/tapestry

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

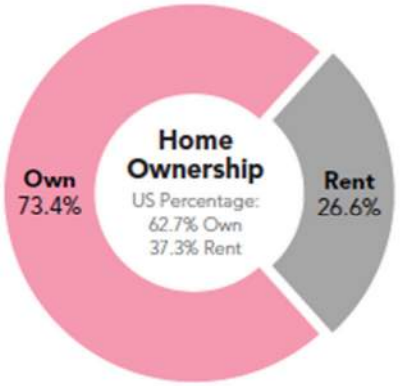
- Residents are partial to domestic vehicles; they like to drive trucks, SUVs, or motorcycles.
- Entertainment is primarily family-oriented, TV and movie rentals or theme parks and family restaurants.
- Spending priorities also focus on family (children's toys and apparel) or home DIY projects.
- Sports 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



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.

4C

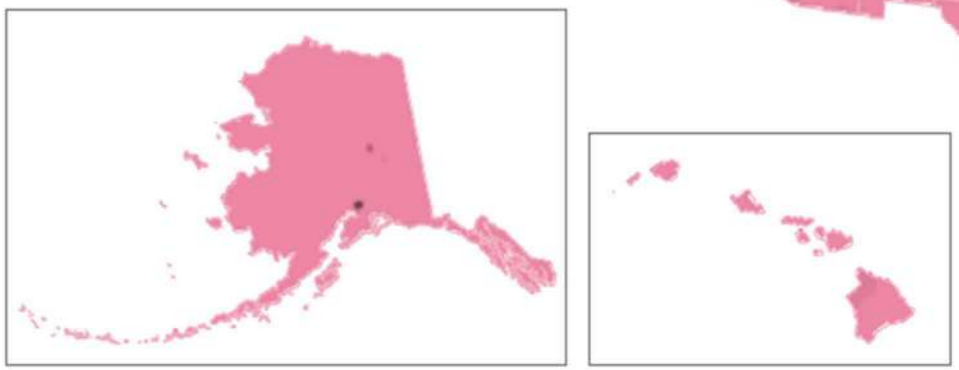
LifeMode Group: Family Landscapes

Middleburg

TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

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



Copyright © 2021 Esri. All rights reserved. Esri, the Esri globe logo, The Science of Where, Tapestry, @esri.com, and esri.com are trademarks, service marks, or registered marks of Esri in the United States, the European Community, or certain other jurisdictions. Other companies and products or services mentioned herein may be trademarks, service marks, or registered marks of their respective mark owners.

G1804565
ESRIDOM/21dm

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)

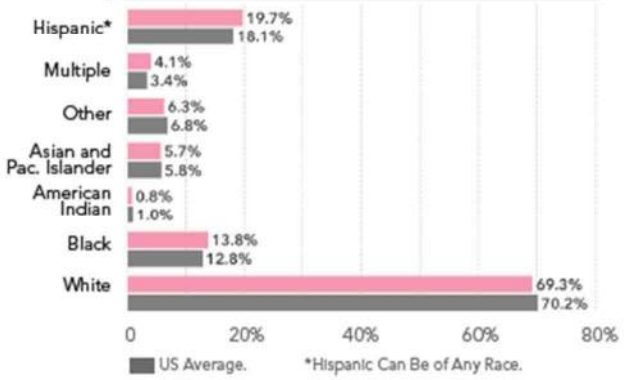
Median Age: 37.7 US: 38.2

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

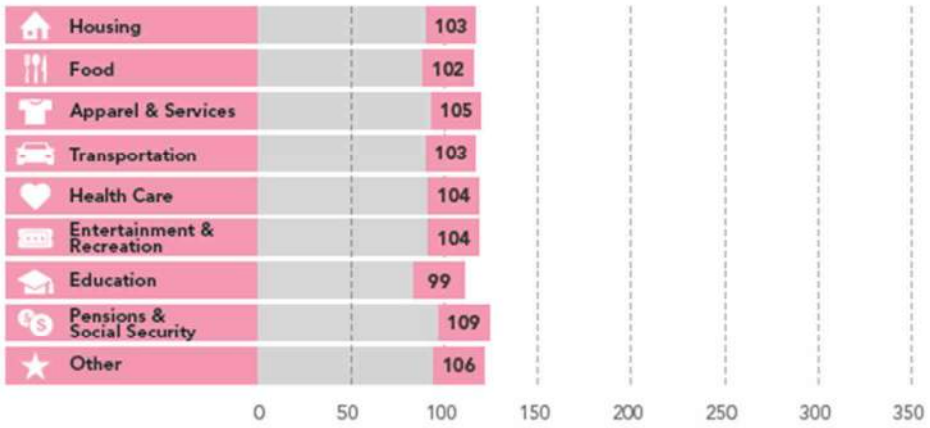
Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

Median Net Worth

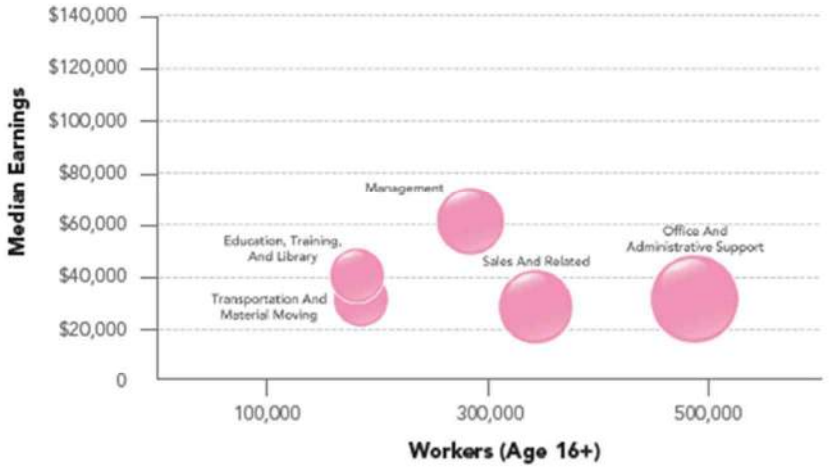
AVERAGE HOUSEHOLD BUDGET INDEX

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.)

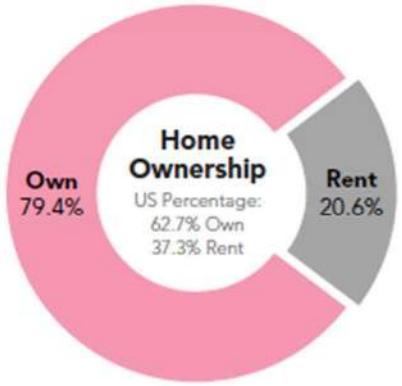
- Enjoy working on home improvement projects and watching DIY networks.
- Make frequent trips to warehouse/club and home improvement stores in their minivan or SUV.
- Own a giant screen TV with fiber-optic connection and premium cable; rent movies from Netflix.
- Very comfortable with new technology; 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

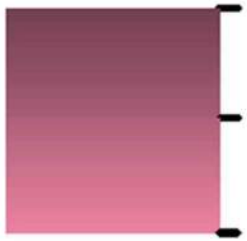
LifeMode Group: Family Landscapes

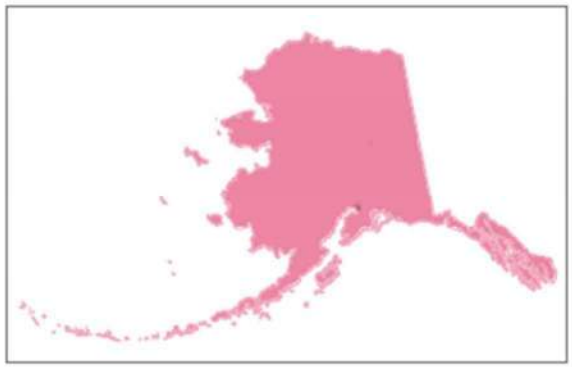
Home Improvement

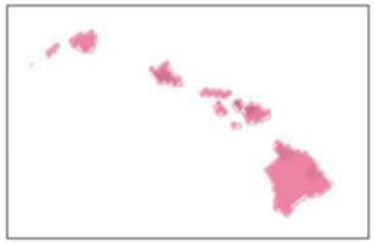
TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

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







Copyright © 2021 Esri. All rights reserved. Esri, the Esri globe logo, The Science of Where, Tapestry, @esri.com, and esri.com are trademarks, service marks, or registered marks of Esri in the United States, the European Community, or certain other jurisdictions. Other companies and products or services mentioned herein may be trademarks, service marks, or registered marks of their respective mark owners.

G1804565
ESRI/CGI/71dm

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

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

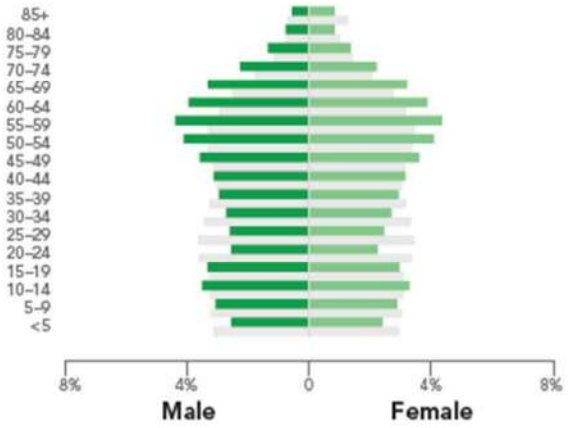
Green Acres

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 43.9 US: 38.2

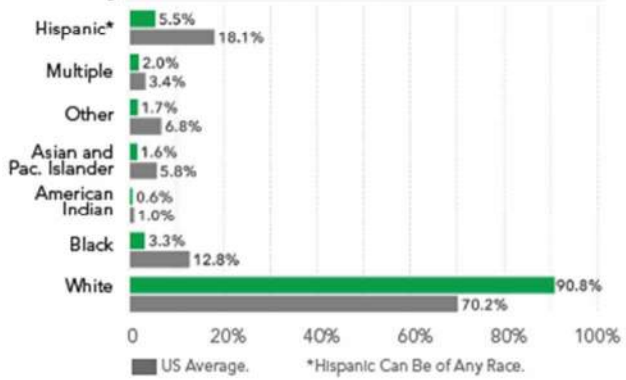
Indicates US



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

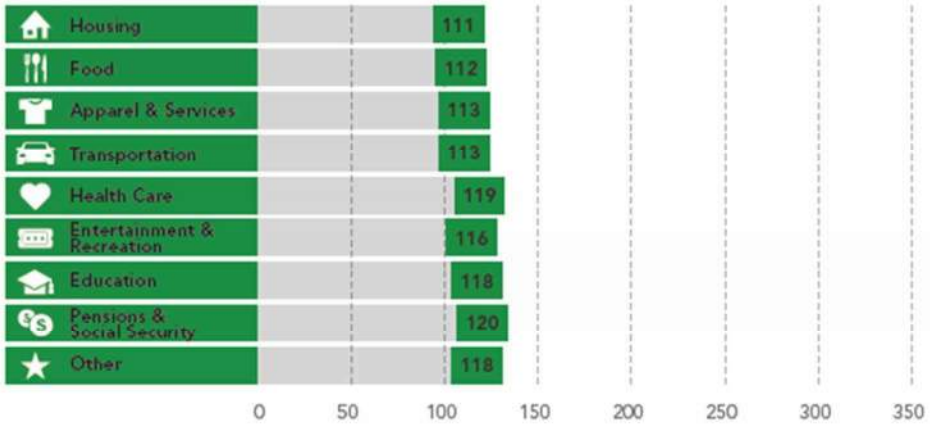
Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

Median Net Worth

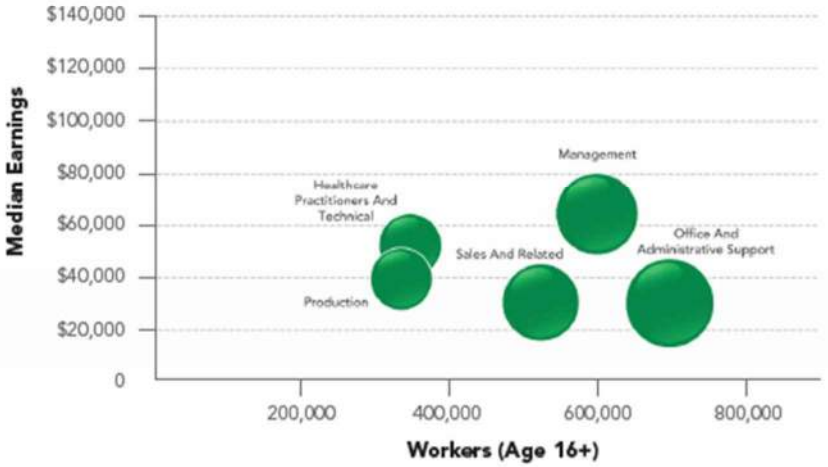
AVERAGE HOUSEHOLD BUDGET INDEX

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
esri.com/tapestry

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

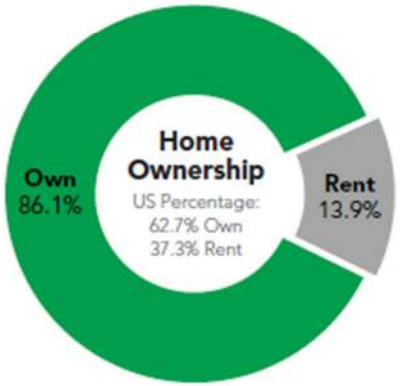
- Purchasing choices reflect *Green Acres* residents' country life, including a variety of vehicles, from trucks and SUVs to ATVs and motorcycles, preferably late model.
- Homeowners favor DIY home improvement projects and gardening.
- Media of choice are provided by satellite service, radio, and television, 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

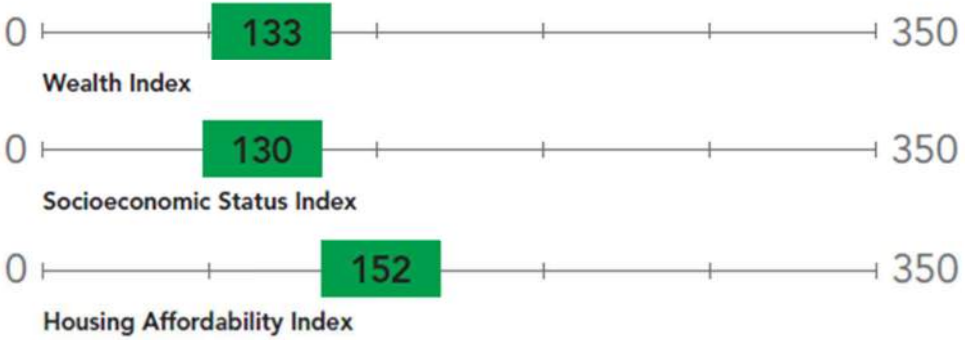


POPULATION CHARACTERISTICS

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

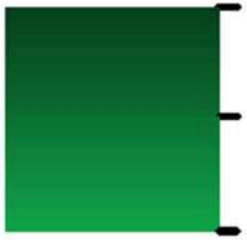
LifeMode Group: Cozy Country Living

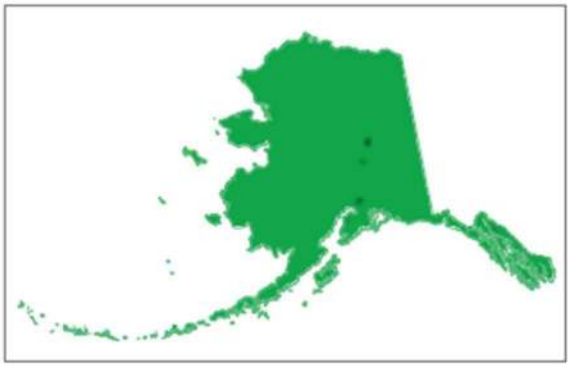
Green Acres

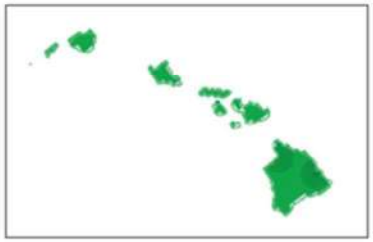
TAPESTRY SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

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







Copyright © 2021 Esri. All rights reserved. Esri, the Esri globe logo, The Science of Where, Tapestry, @esri.com, and esri.com are trademarks, service marks, or registered marks of Esri in the United States, the European Community, or certain other jurisdictions. Other companies and products or services mentioned herein may be trademarks, service marks, or registered marks of their respective mark owners.

G1804565
ESRIOC6/21dm

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

esri THE SCIENCE OF WHERE

Appendix H

Environmental Analysis Maps

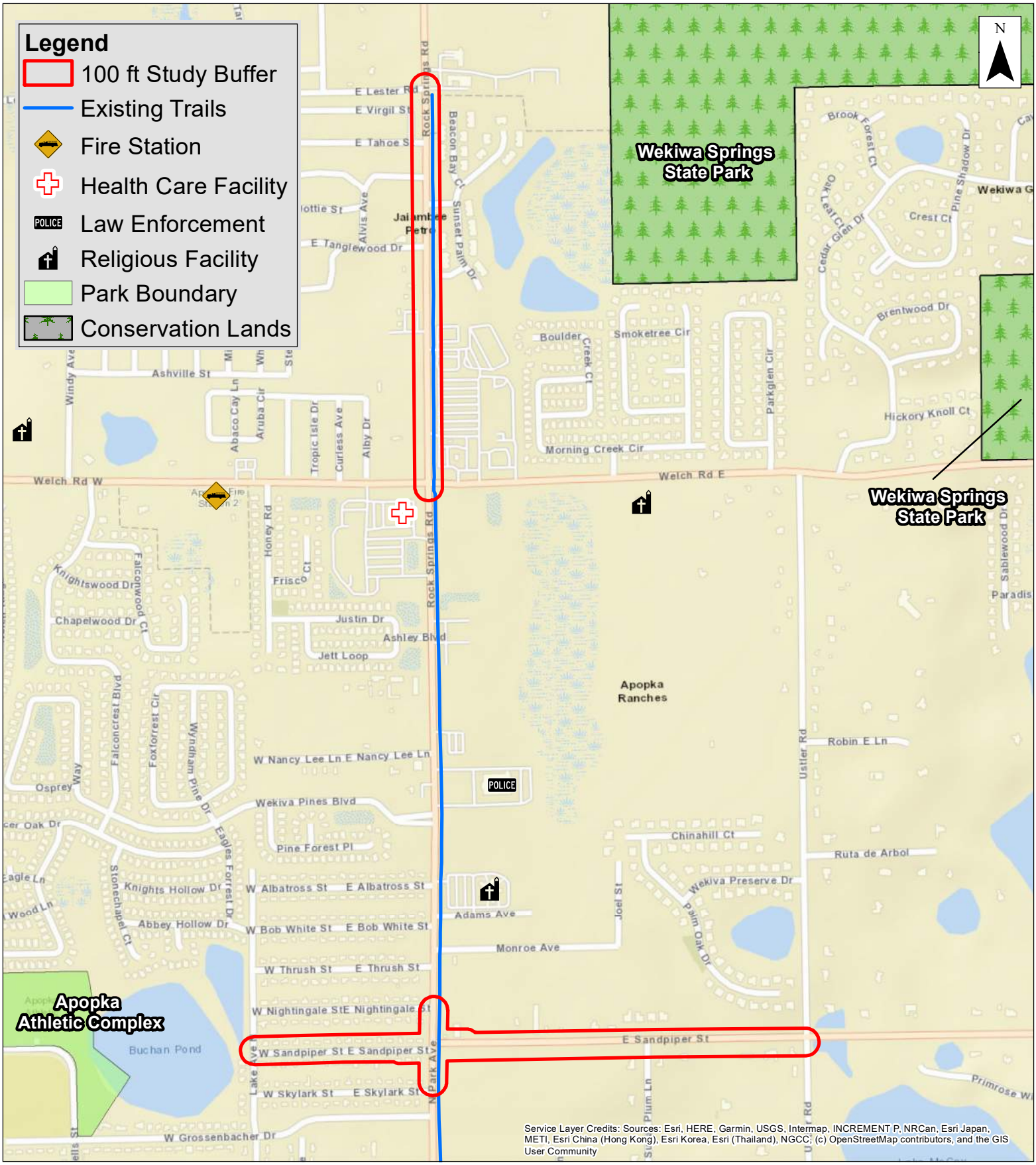


Exhibit A

Rock Springs Road Corridor Study

Orange County, FL
Cultural and Social Facilities Map
September 2021

0 400 800 Feet

Note: GIS data downloaded from FGDL July 2021

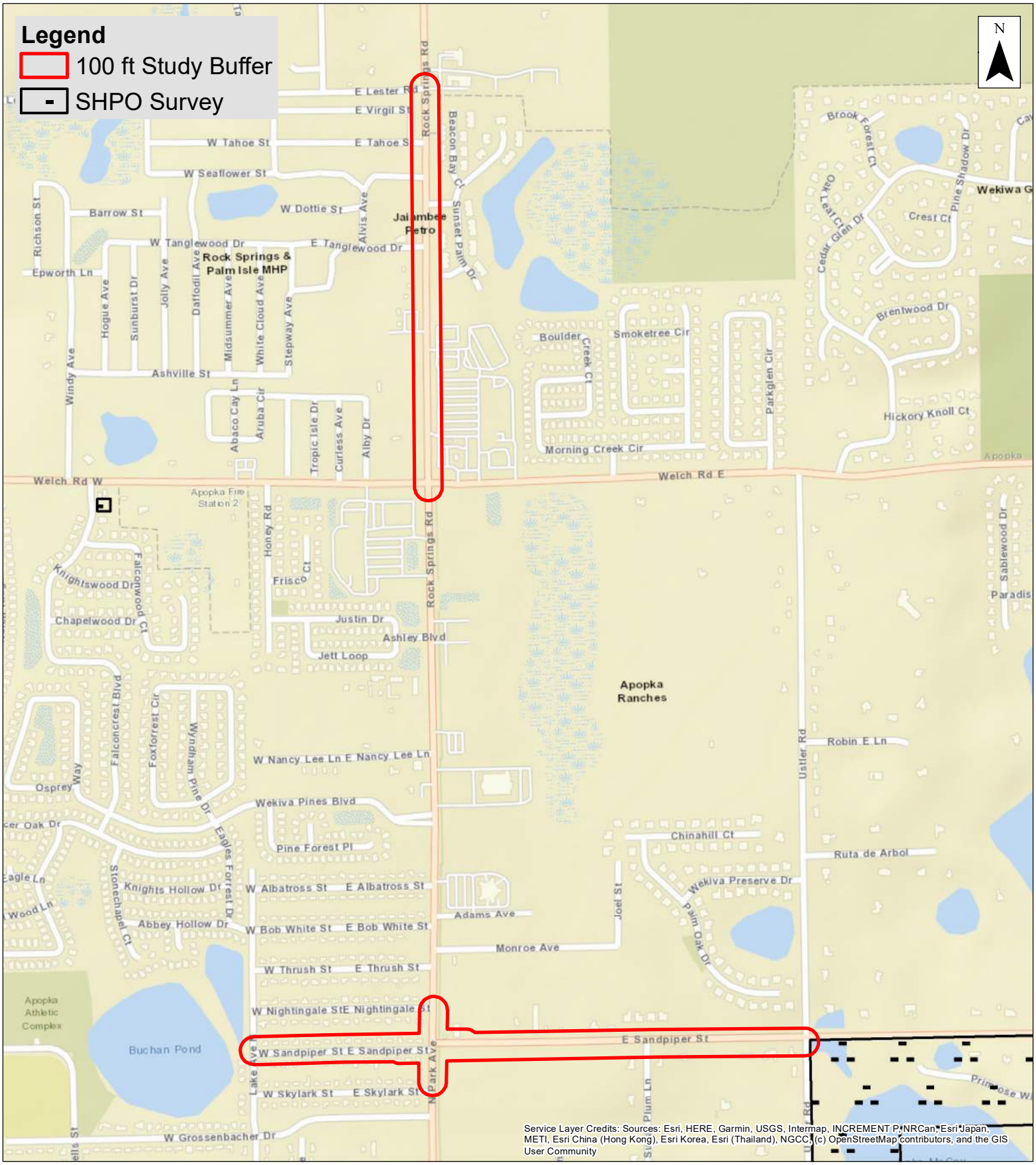


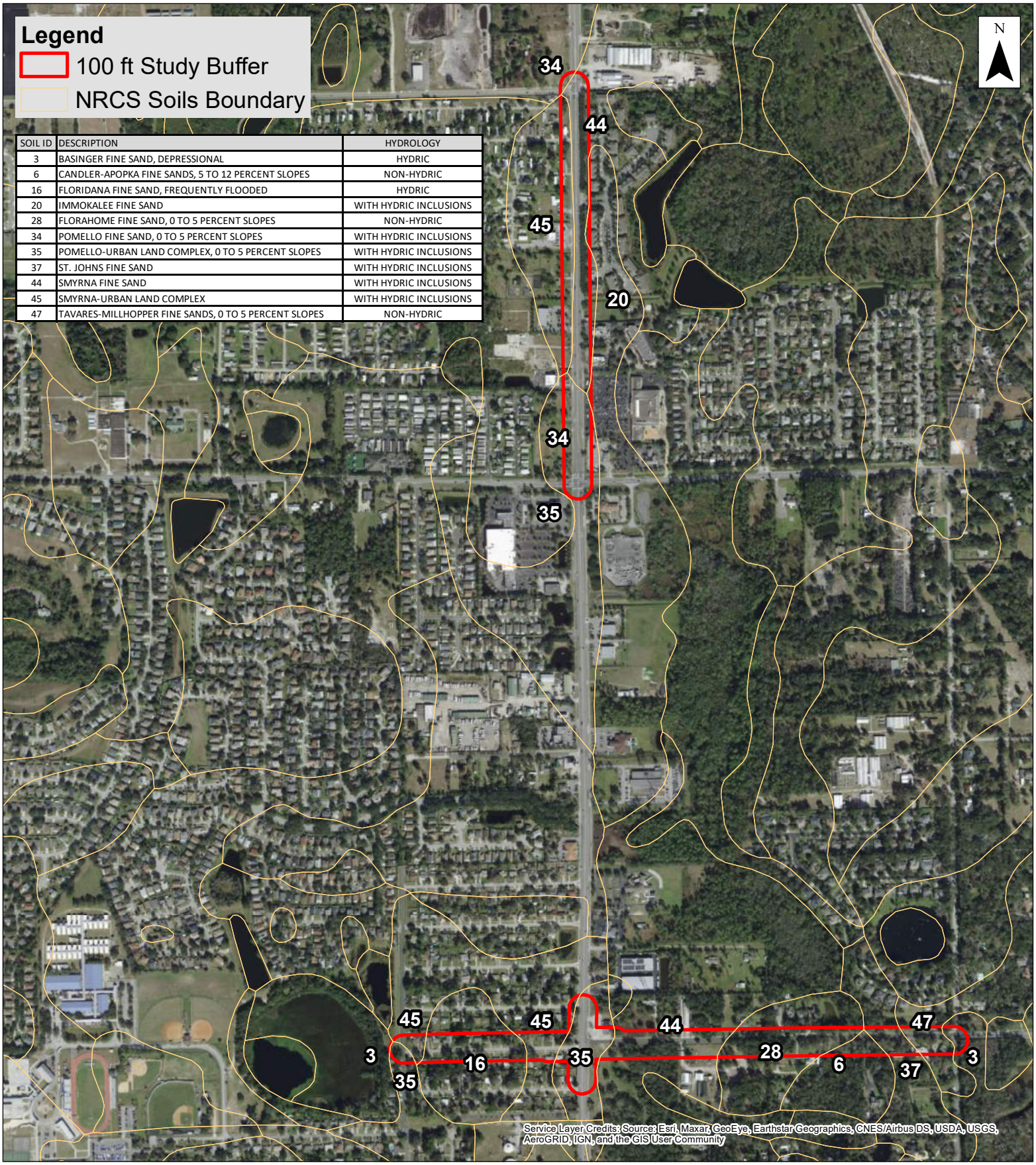
Exhibit B

Rock Springs Road Corridor 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

0 400 800 Feet



SOIL ID	DESCRIPTION	HYDROLOGY
3	BASINGER FINE SAND, DEPRESSIONAL	HYDRIC
6	CANDLER-APOPKA FINE SANDS, 5 TO 12 PERCENT SLOPES	NON-HYDRIC
16	FLORIDANA FINE SAND, FREQUENTLY FLOODED	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
47	TAVARES-MILLHOPPER FINE SANDS, 0 TO 5 PERCENT SLOPES	NON-HYDRIC

Exhibit C

Rock Springs Road Corridor Study

Orange County, FL
NRCS Soils Map
September 2021

Source: NRCS Soils GIS Data
downloaded July 2021

0 400 800 Feet

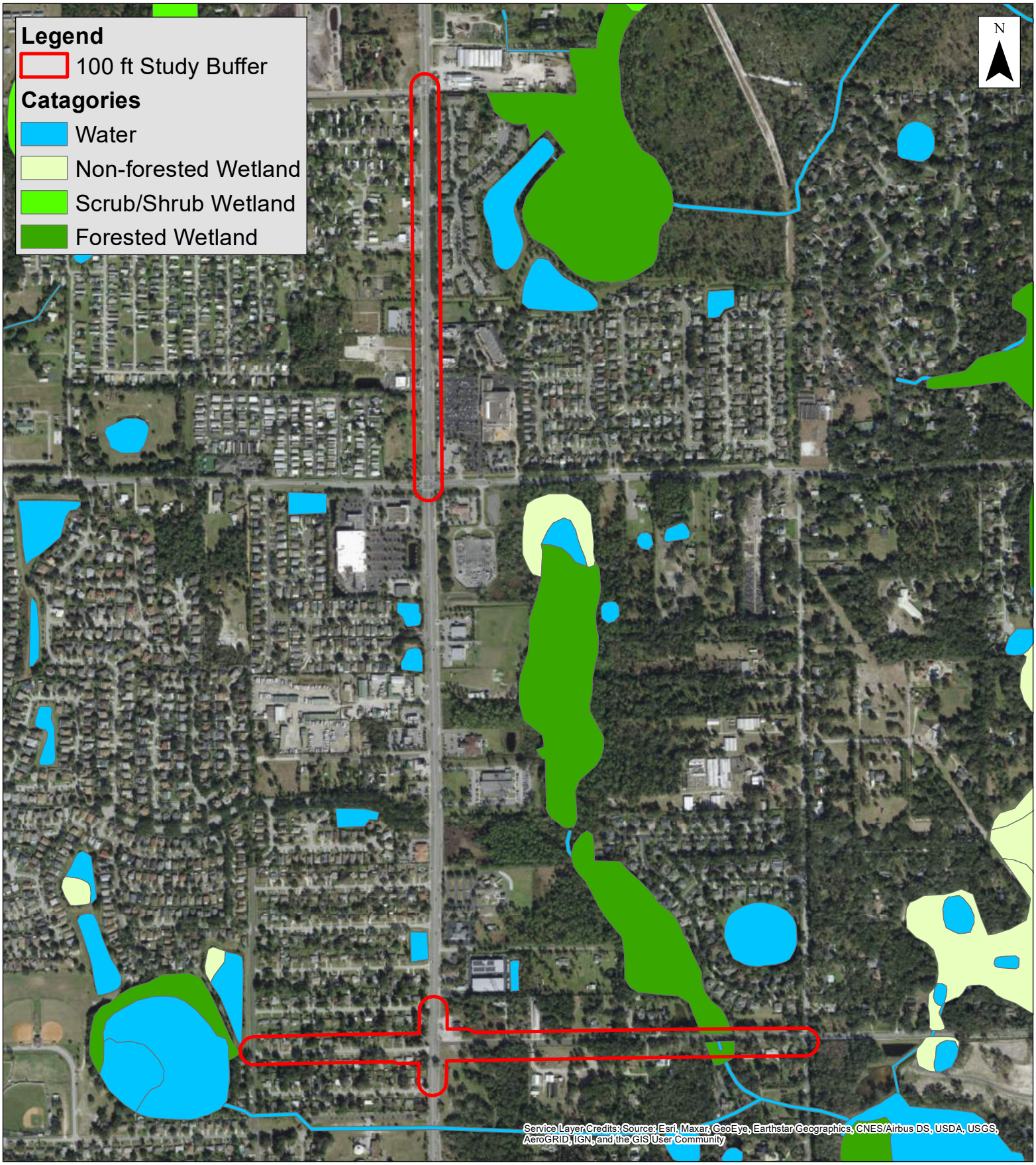


Exhibit D

Rock Springs Road Corridor Study

Orange County, FL
Wetlands and Surface Waters Map
September 2021

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

0 400 800
Feet

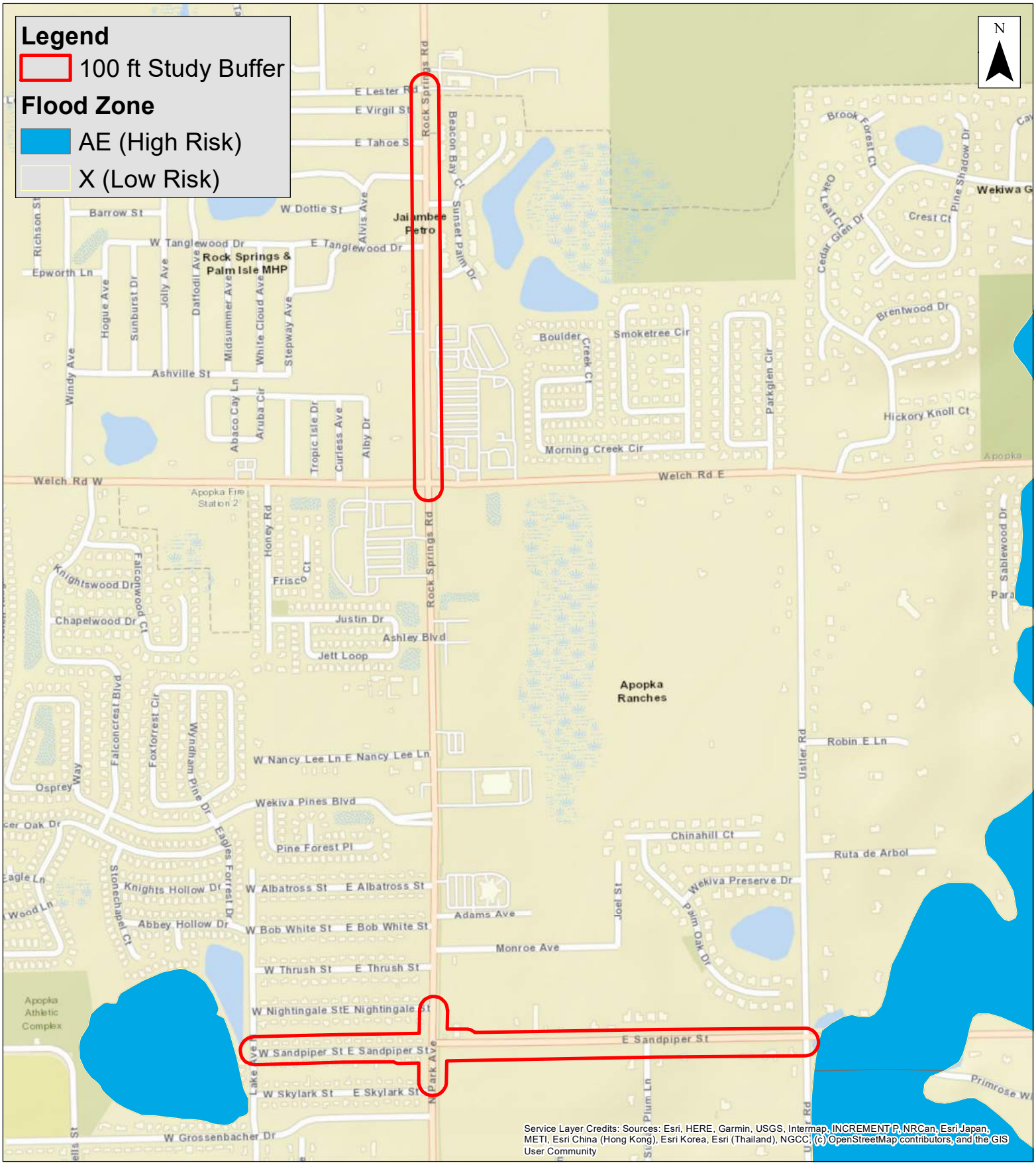


Exhibit E

Rock Springs Road Corridor Study

Orange County, FL
Floodplain Map
September 2021

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

0 400 800 Feet

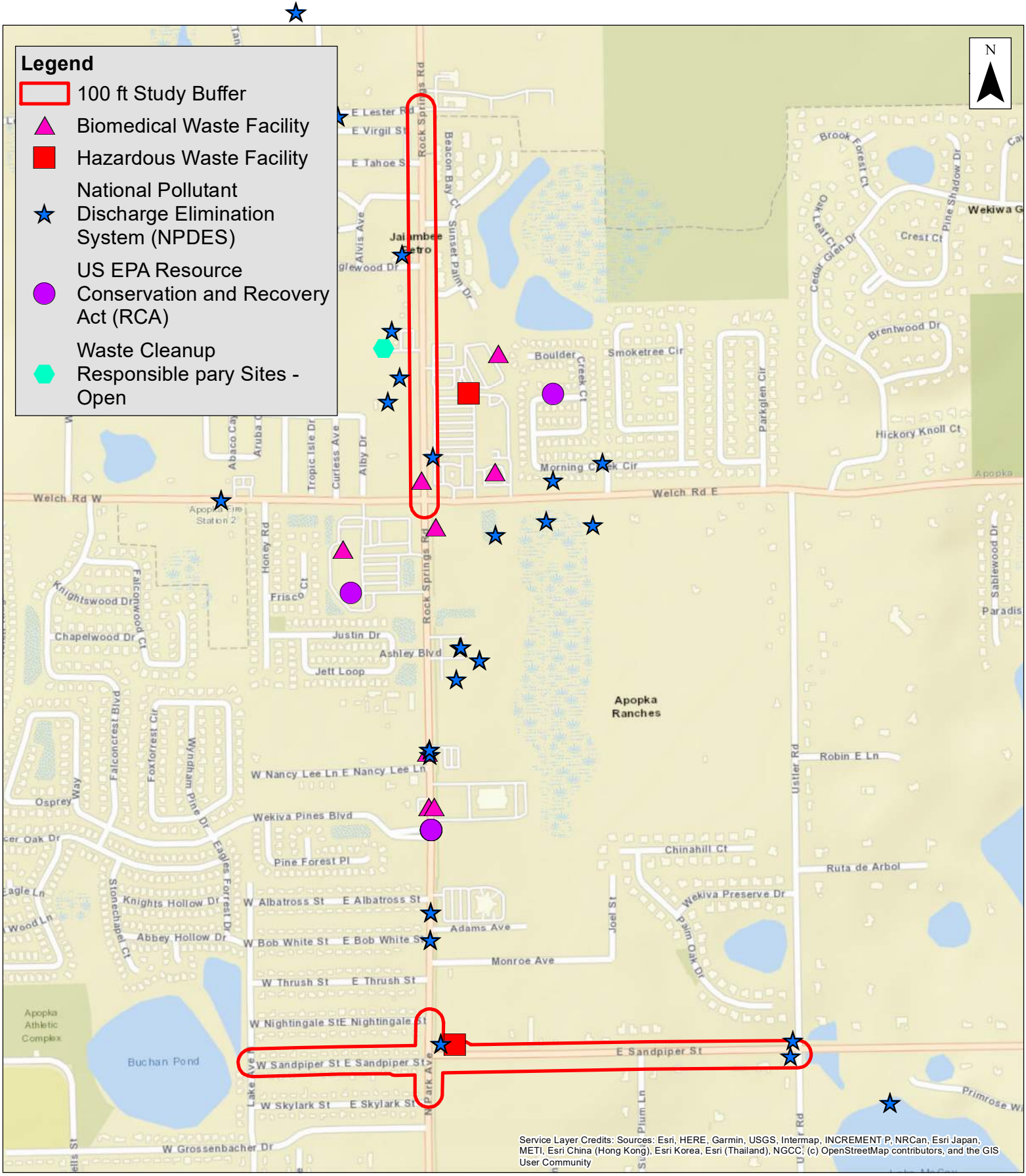


Exhibit F

Rock Springs Road Corridor 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).

0 400 800 Feet

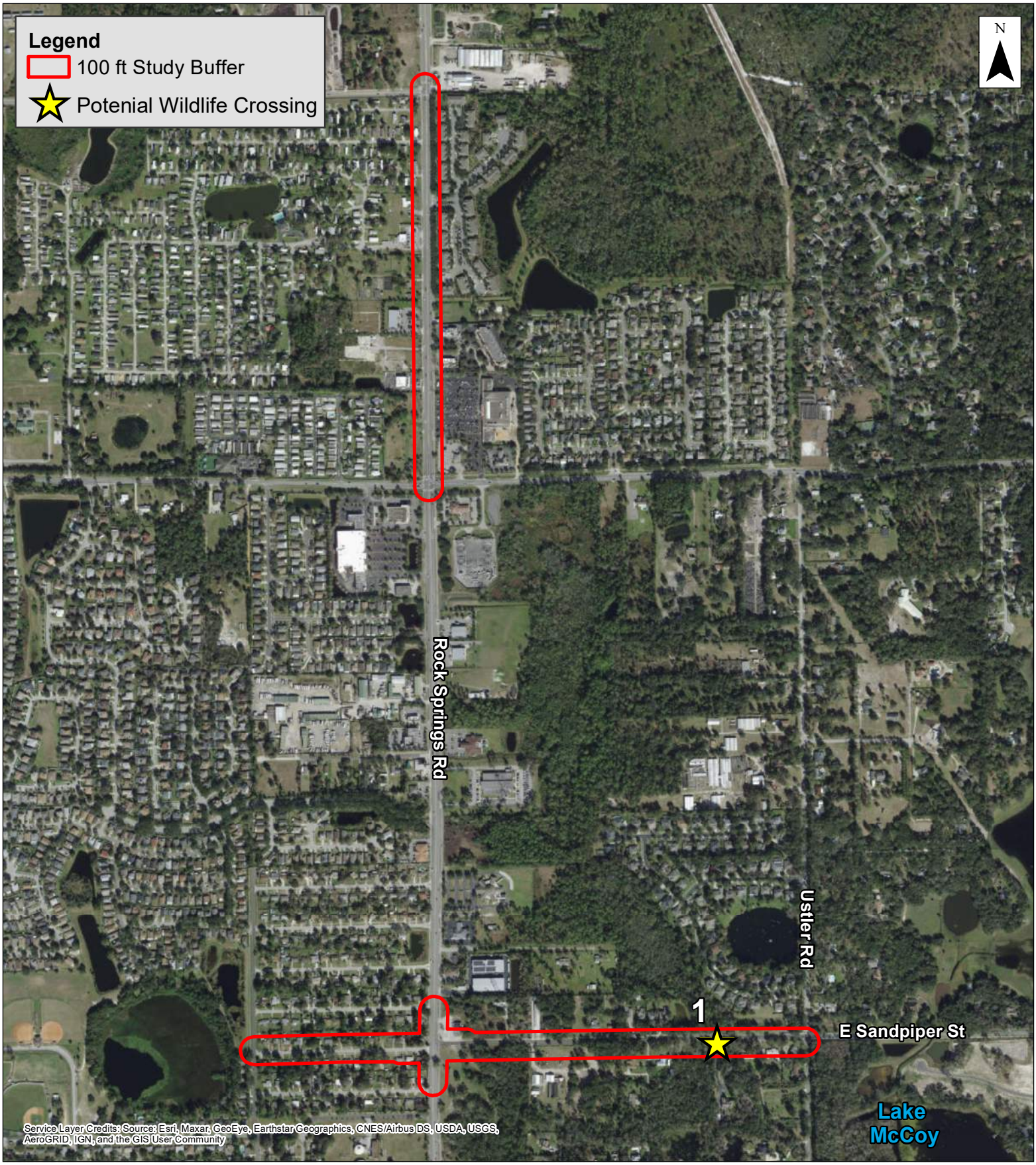


Exhibit G

Rock Springs Road Corridor Study

Orange County, FL
Potential Wildlife Crossing Map
September 2021

0 400 800 Feet

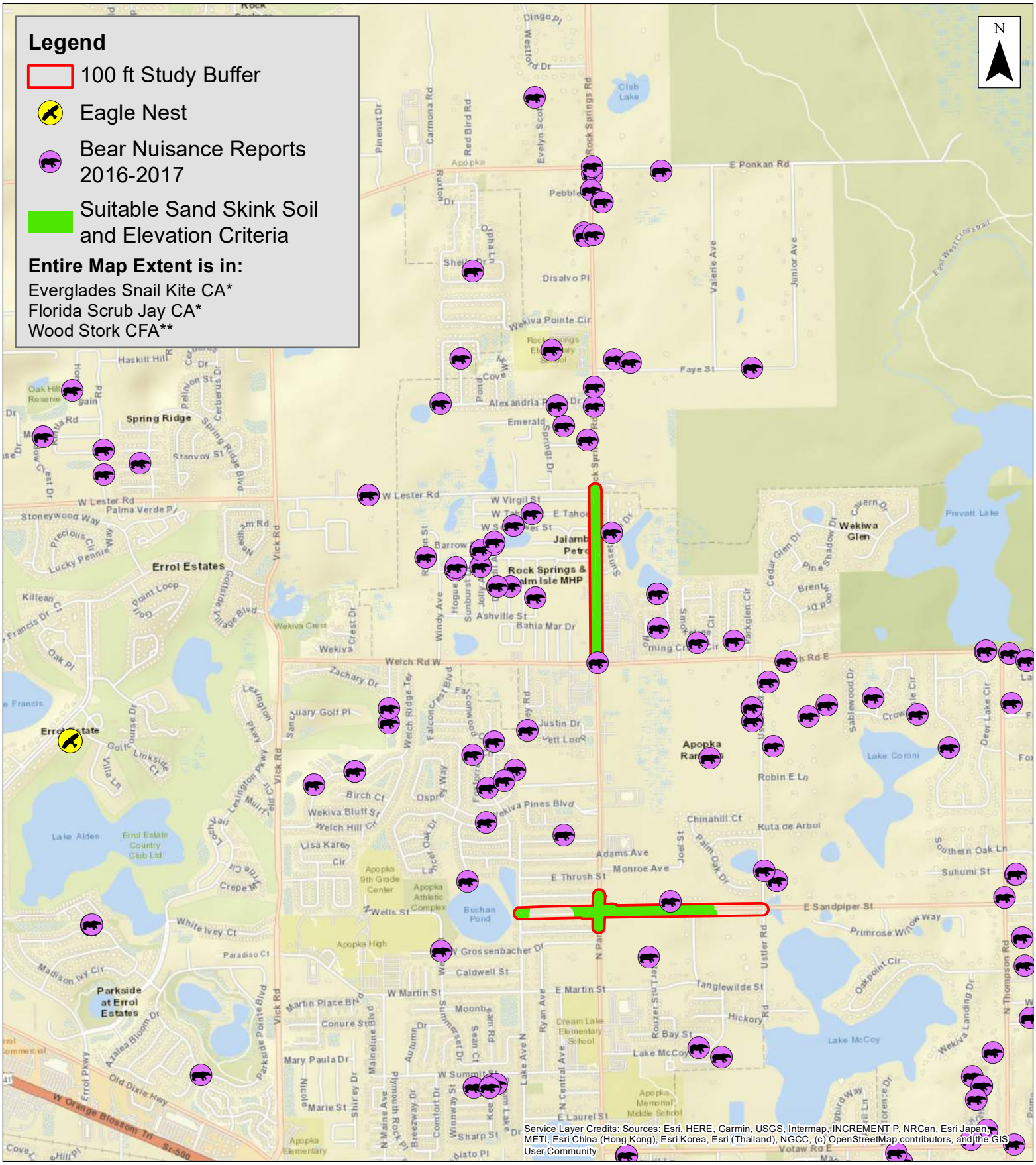


Exhibit H

Rock Springs Road Corridor Study

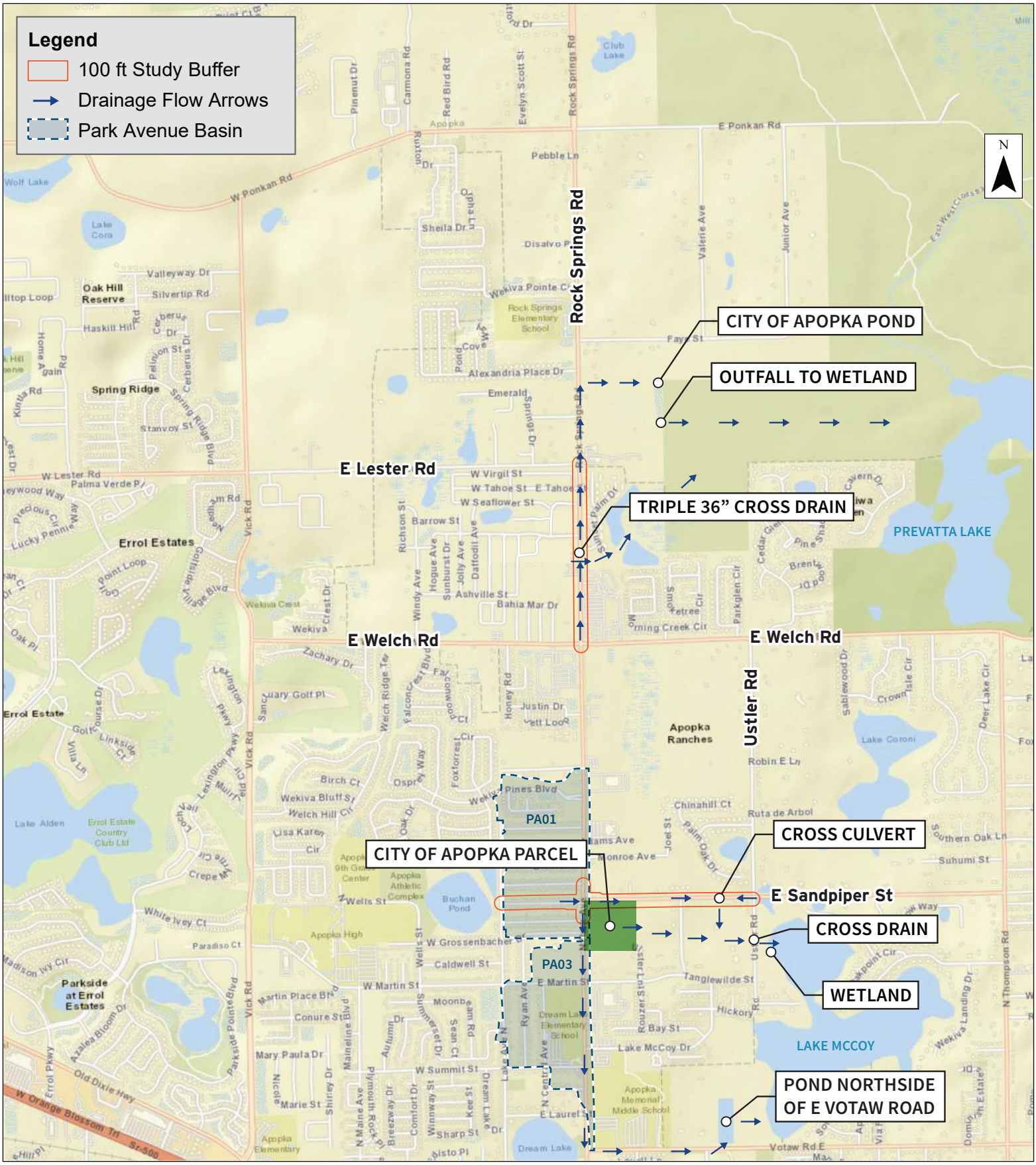
Orange County, FL
Protected Species Map
September 2021

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

0 900 1,800 Feet

Appendix I

Drainage Map



Rock Springs Road Corridor Study

Exhibit A

Orange County, FL
Drainage 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 1,000 2,000 Feet