AIR QUALITY STUDY REPORT

SR 426/CR 419 PD&E Study

From Pine Avenue to Lockwood Boulevard
City of Oviedo
Seminole County, Florida

Prepared for:

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Orlando, Florida 32803

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TABLE OF CONTENTS

Section One: Introduction 1

Section Two: Project Location and Description 2

Section Three: Land Use 3

Section Four: Traffic Volumes 4

Section Five: Methodology 5

Section Six: Results 6

APPENDICES

Figure 1 Project Location Map I

Figures 2A-2K Proposed Alignment Aerials II

Figures 3A-3C Proposed Typical Sections III

Figures 4A-4C Land Use Aerials IV

SECTION ONE
INTRODUCTION

The City of Oviedo, Florida is currently evaluating the widening of SR 426/CR 419 from a 2-lane to a 4-lane roadway. This document supplements the Florida Department of Transportation's (FDOT) PD&E Study for the improvements to SR 426/CR 419 (Broadway Street) between Pine Avenue and Lockwood Boulevard in Oviedo, Seminole County Florida. The study corridor is approximately three (3.0) miles in length (See Figure 1 for details).

This Air Quality Study was conducted to evaluate potential air quality impacts resulting from the proposed improvements to SR 426/CR 419. The study was based on Part 2, Chapter 16 "Air Quality Analysis" of the Florida Department of Transportation *Project Development and Environment* (PD&E) *Manual*. The purpose of this study is to analyze the air quality impacts based on current (2002) field conditions, mid-year (2020) and future design year (2030) traffic data for the study corridor.

SECTION TWO
PROJECT LOCATION AND DESCRIPTION

The City of Oviedo is currently evaluating the widening of SR 426/CR 419 (Broadway Street) from Pine Avenue to Lockwood Boulevard, a distance of approximately 3.0 miles. The project corridor, located in Oviedo, rests in portions of Sections 9, 10, 11, 13, 14, 15 & 16, Township 21 South, Range 31 East.

The existing two-lane roadway is proposed to be widened to four-lanes. The current roadway is a two-lane typical section consisting of one 12.0' wide travel lane in each direction and roadside swales to accommodate surface water runoff. A single left turn lane can be found at major intersections. The existing posted speed limits range from 30 to 45 miles per hour (mph) within the study corridor.

The proposed roadway typical sections would consist of two 12.0' wide travel lanes in each direction, directional turn lanes at major intersections, four foot wide outside bicycle lanes, a median width of 18.0', and a closed drainage system. The proposed alignment can be found in Figures 2A-2K. The proposed right-of-way width would be 100.0' (See Figures 3A-3C for typical sections). The proposed posted speeds would range from 45 mph from Pine Avenue to Lake Jessup Drive, 30 mph from Lake Jessup Drive to Division Street, and 45 mph from Division Street to Lockwood Boulevard. The design year for the proposed project is 2030.

SECTION THREE
LAND USE

Land use within the project corridor consists of medium density housing scattered throughout the project corridor, two medium density subdivisions near the east end of the project, churches, schools, light commercial and retail development, undeveloped parcels, and scattered forested wetlands. The active retail and commercial facilities are located in downtown Oviedo as well as near the eastern terminus of the project at Lockwood Boulevard (See Figures 4A-4C for land use information).

SECTION FOUR
TRAFFIC VOLUMES

Projected traffic volumes and directional patterns were established for the study corridor by DRMP and supplied to EMS for air quality modeling. A detailed field traffic data collection analysis was performed within the project limits. The data were presented in a report dated April 2004 entitled "Design Traffic Report for SR 426/CR 419 from Pine Avenue to Lockwood Boulevard." The predicted traffic volumes include years 2002, 2010, 2020 and 2030. Year 2002, 2020 and 2030 traffic counts were used for this study. Year 2030 Build data indicates the highest traffic volumes. The traffic study can be found in the project files.

SECTION FIVE
METHODOLOGY

The proposed improvements to SR 426/CR 419 were evaluated to determine areas representing the worst case carbon monoxide (CO) impacts. This evaluation included an assessment of design-hour traffic volumes (Years 2002, 2020 and 2030), roadway geometry, reasonable receptor sites, and posted speeds for the proposed improvements.

The FDOT's Air Quality Screening Test for urban areas would generally be used to evaluate the CO concentrations along the proposed alignment for the highest projected traffic counts (Year 2030). The screening test makes various conservative worst case assumptions about meteorology, traffic, and site conditions. The critical distance from the roadway is the determining factor in identifying receptors located within areas of significant air quality impacts.

According to data supplied to the air quality analyst, projected traffic counts were above 1,000 vehicles per hour (vph). Given that the peak hour volumes were greater than 1,000 vph but less than 10,000 vph the Air Quality Screening Test graph was necessary for this project.

The intersection with the highest vph was subjected to the Screening Test. The proposed posted speed limit (35 mph) for the build scenarios chosen represents the slowest recommended speed along the project corridor. The highest projected volume of traffic with the lowest posted speed limit would be found just west of the intersection of SR 434 and SR 426/CR 419. The projected traffic would be 1,036 vph at its peak (in the eastbound direction) for the Year 2030 build scenario. The critical distance that results from this information was determined to be less than 10.0' from the nearest travel lane. The air quality receptors would be existing sidewalks within the downtown district. The front doors of the businesses in this area are slightly further than ten feet from the center of the nearest travel lane. The proposed alignment aerials indicate that the businesses currently located in the downtown district south of SR 426 would be acquired for roadway improvements. Therefore, those sites would not be included in the air quality analysis.

A project passes the Screening Test if all reasonable receptors are more than the critical distance away from the nearest edge of any intersection leg for both the first year of project completion and the design year for all build alternatives for all years analyzed. If a project passes, no further analysis is required. Report the use and results of the Screening Test in the environmental document. In the project file include a copy of the Screening Test, data used, and results for all alternatives (no separate AQR is necessary). The Screening Test graph(s) should be clearly labeled to indicate which alternative is being screened.

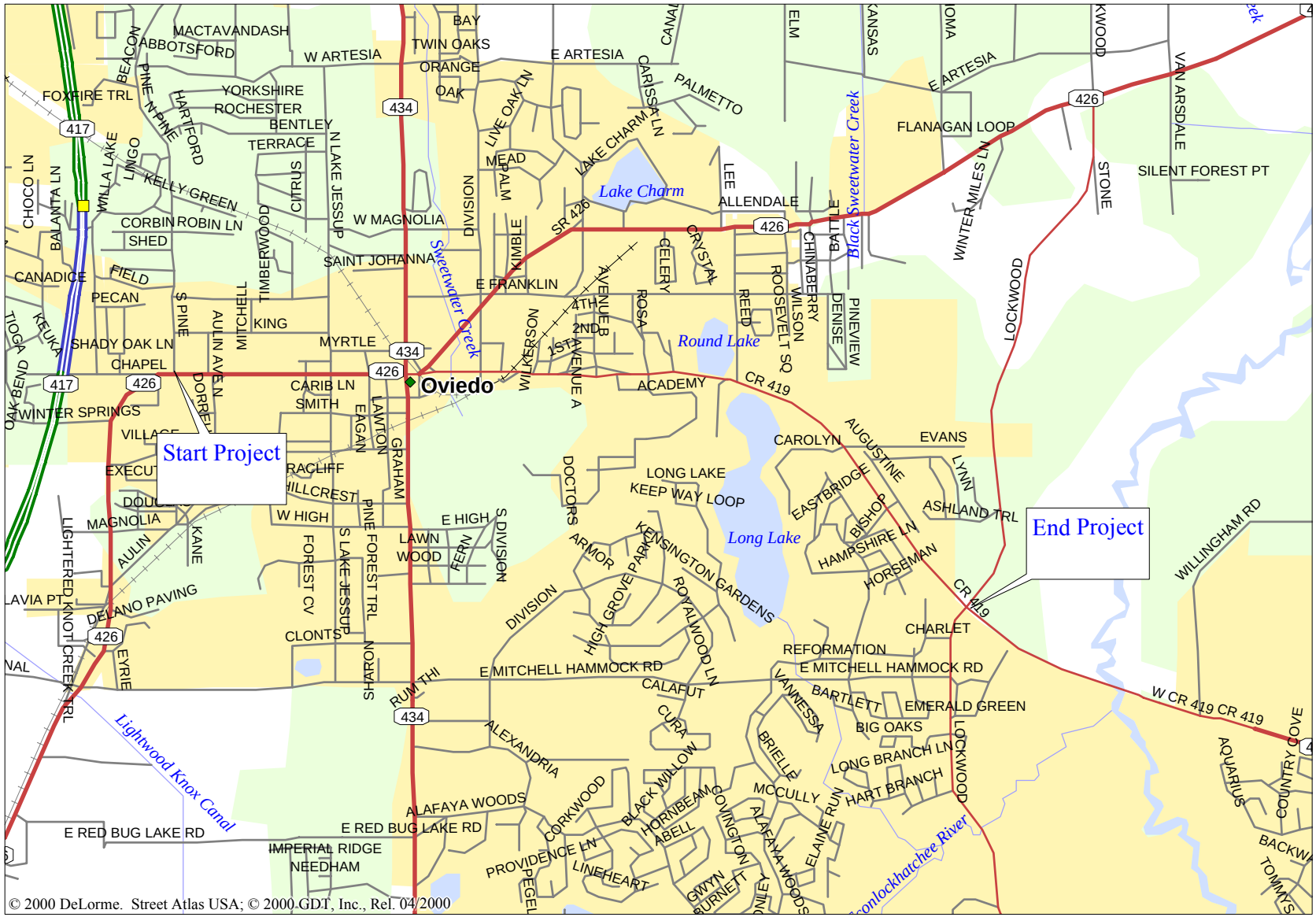
SECTION SIX
RESULTS

No potential air quality receptors will be subjected to adverse air quality impacts given that they are all beyond the critical distance (projected to be less than 10.0' from the nearest travel lane) as determined by the screening test for the Years 2020 and 2030 build scenarios. The COSCREEN model was not used for this report. Since there are very few existing sidewalks where pedestrians would gather for long durations of time, sidewalks were not considered as air quality receptors for modeling purposes for the existing (2002) and Years 2020 and 2030 no-build scenarios. No air quality receptors would be located within the critical distance for all of the Build Year scenarios. Therefore, the project passes the air quality screening test.

The project is in an area which has been designated as attainment for all air quality standards under the criteria provided in the Clean Air Act Amendments of 1990, therefore, conformity does not apply.

Construction activities will cause minor short-term air quality impacts in the form of dust from earthwork. These impacts will be minimized by adherence to all state and local regulations and to the FDOT's Standard Specification for Road and Bridge Construction.

APPENDIX I
PROJECT LOCATION MAP



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Location Map
SR 426/CR 419 Oviedo
Seminole County, FL

Date: 04/13/04
Scale: 1" = .50 Mile

Figure 1

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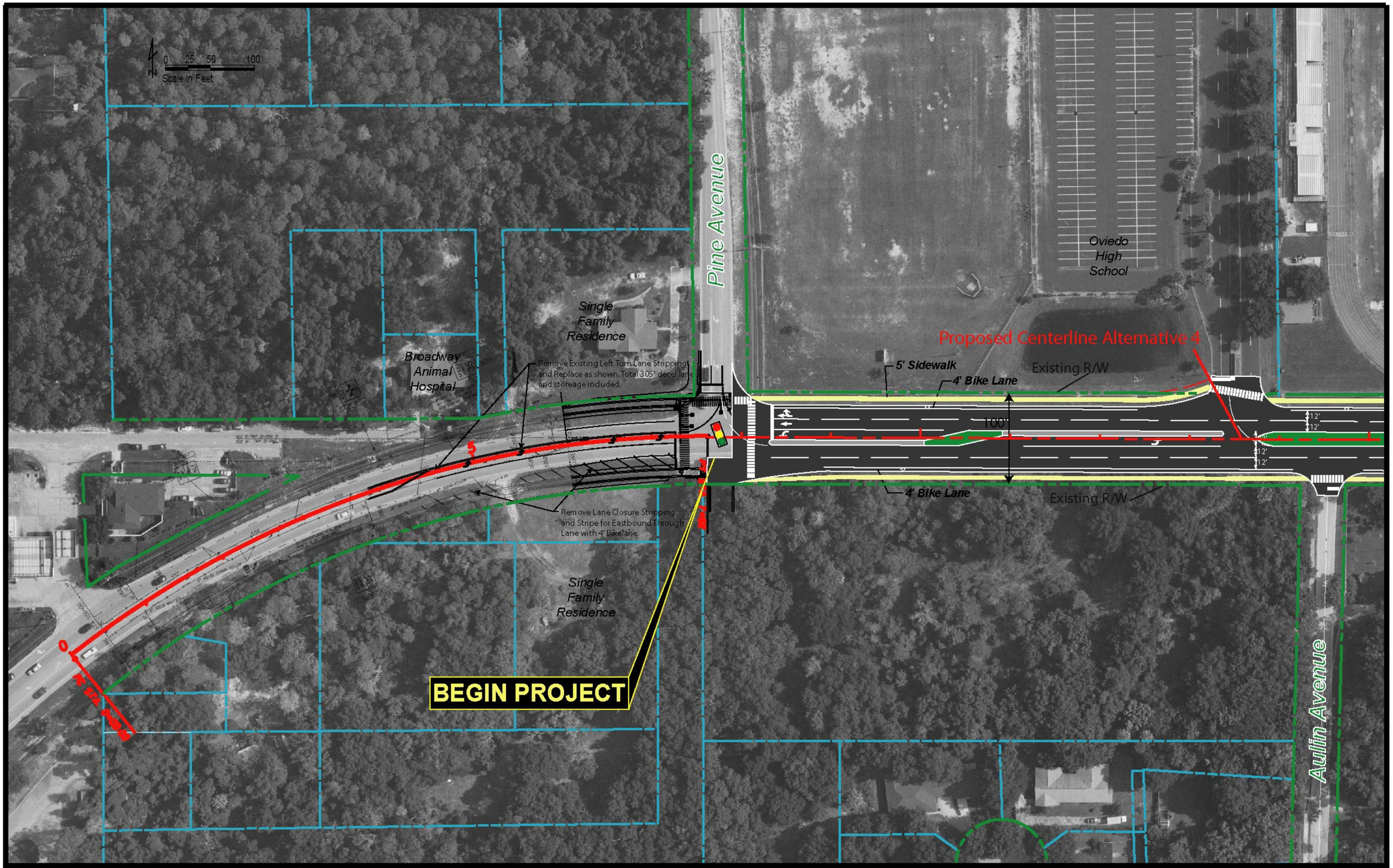
APPENDIX II

PROPOSED ALIGNMENT AERIALS



DRMP

REVISIONS		
DATE	BY	DESCRIPTION

SR 426 /CR 419
PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY
From Pine Avenue to Lockwood Boulevard
City of Oviedo

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID

Best Fit Alternative

Sheet 1

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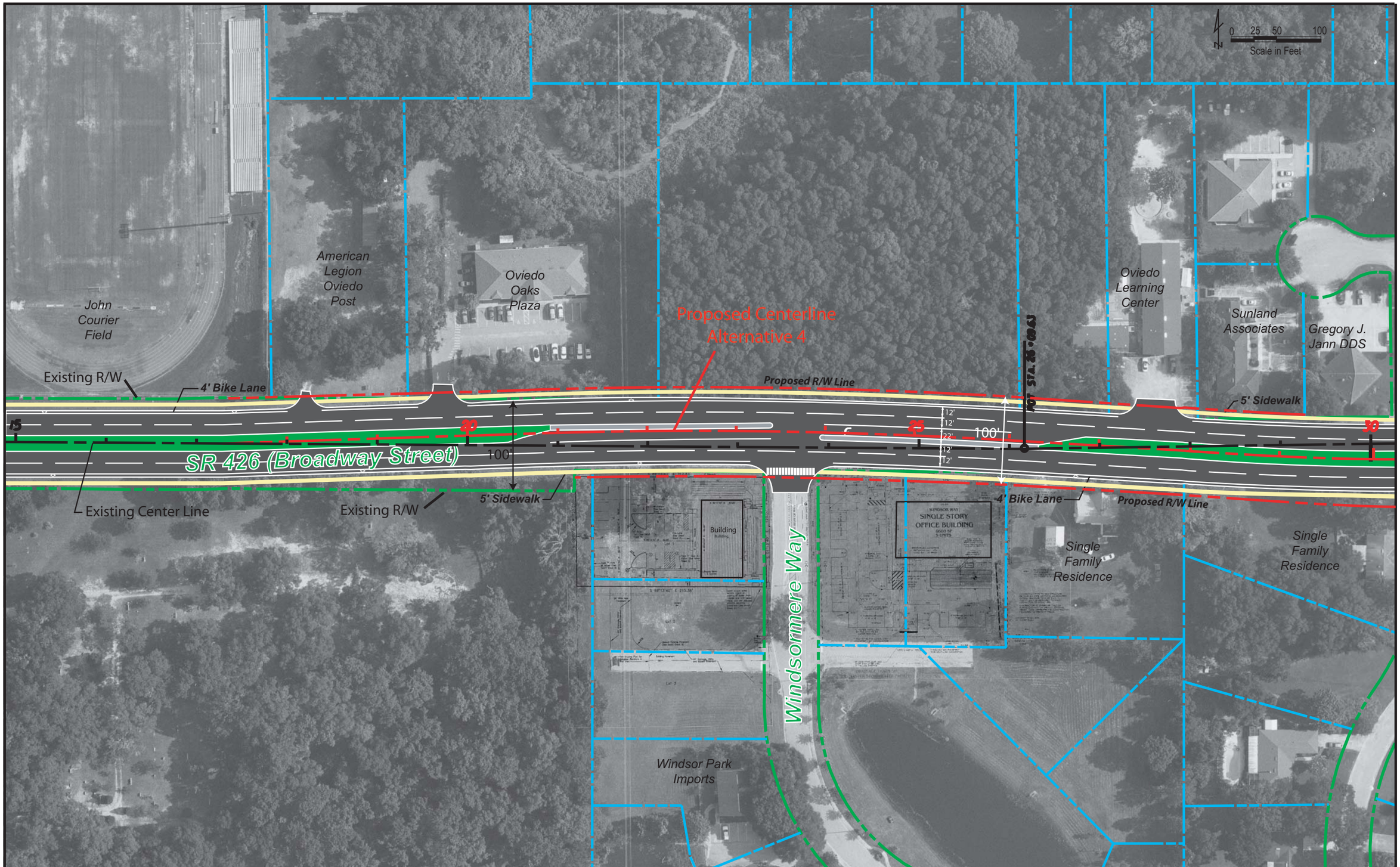

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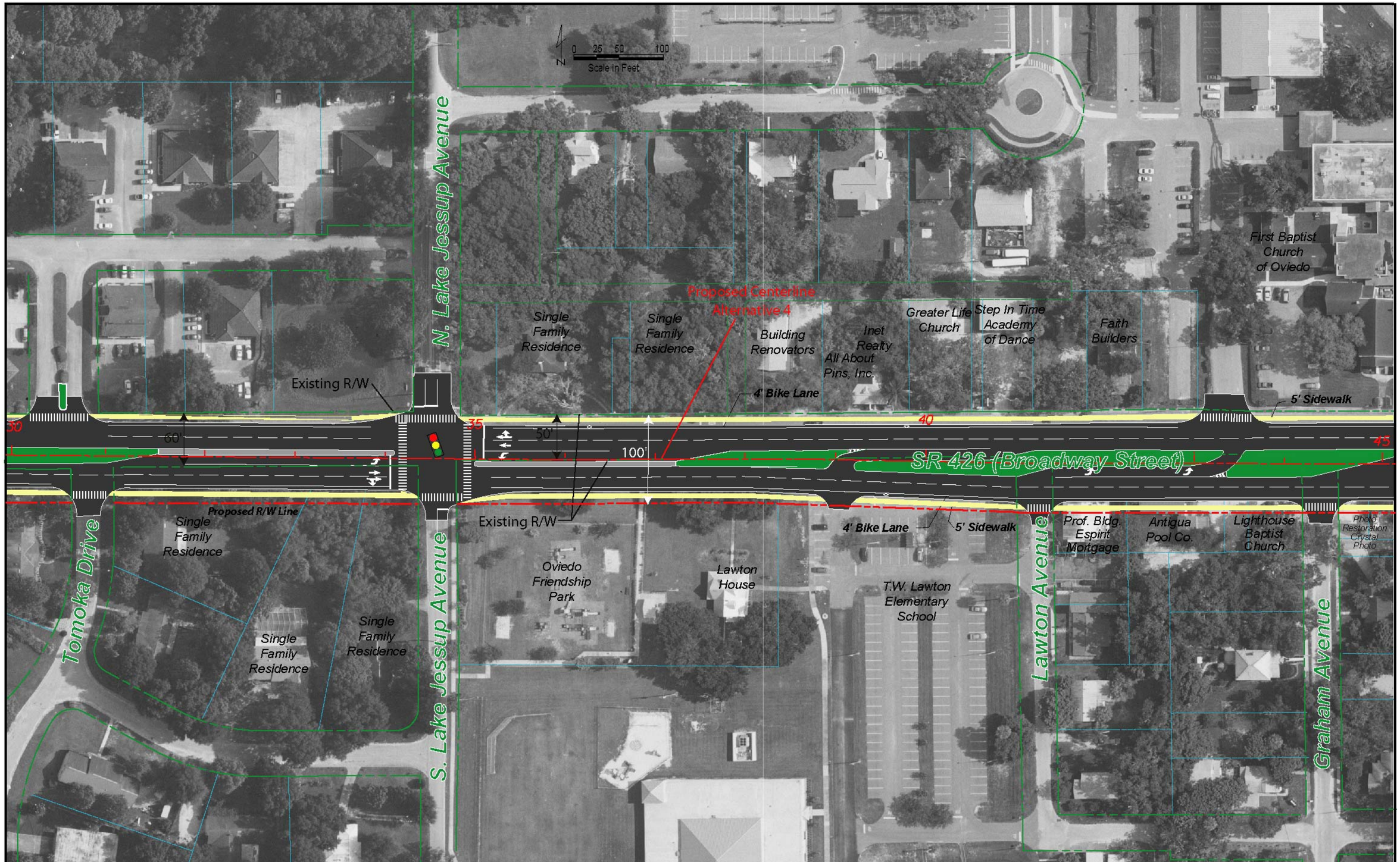

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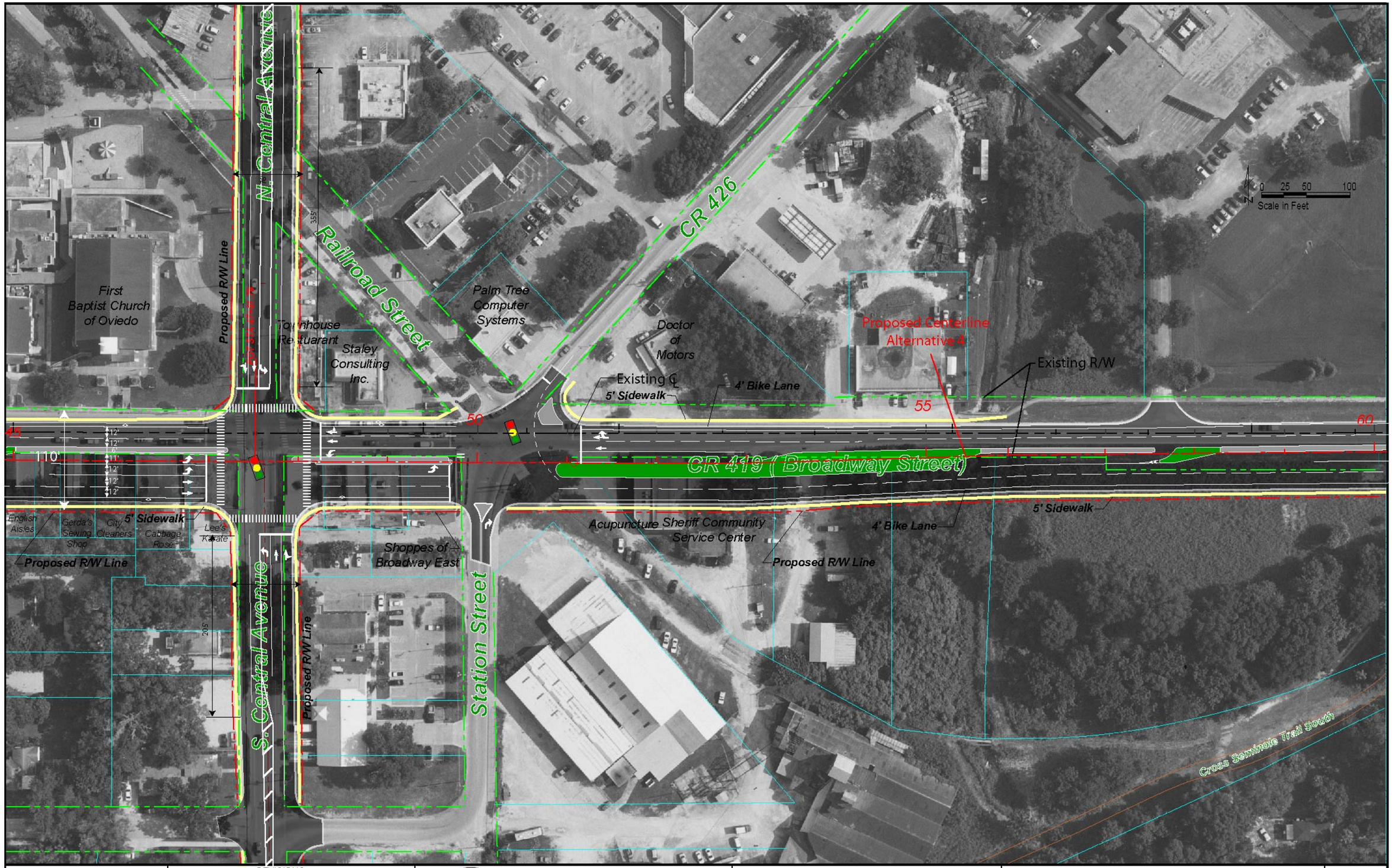

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490'		

SR 426 /CR 419
PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY
From Pine Avenue to Lockwood Boulevard
City of Oviedo

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

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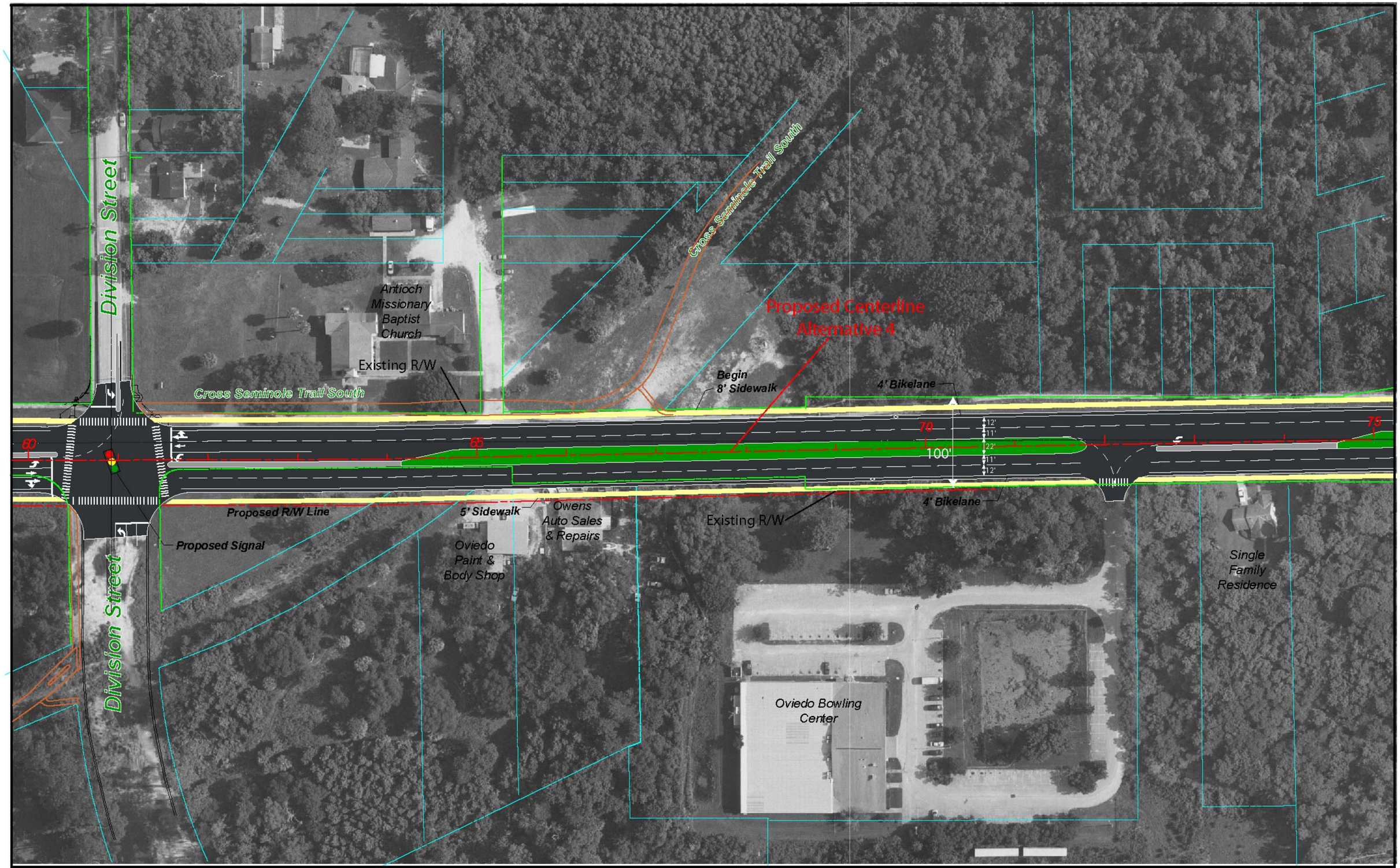

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SR 426 /CR 419
PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY
From Pine Avenue to Lockwood Boulevard
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID

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SR 426 /CR 419
PROJECT DEVELOPMENT &
ENVIRONMENT (PD&E) STUDY
From Pine Avenue to Lockwood Boulevard
City of Oviedo

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID

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PROJECT DEVELOPMENT &
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From Pine Avenue to Lockwood Boulevard
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID

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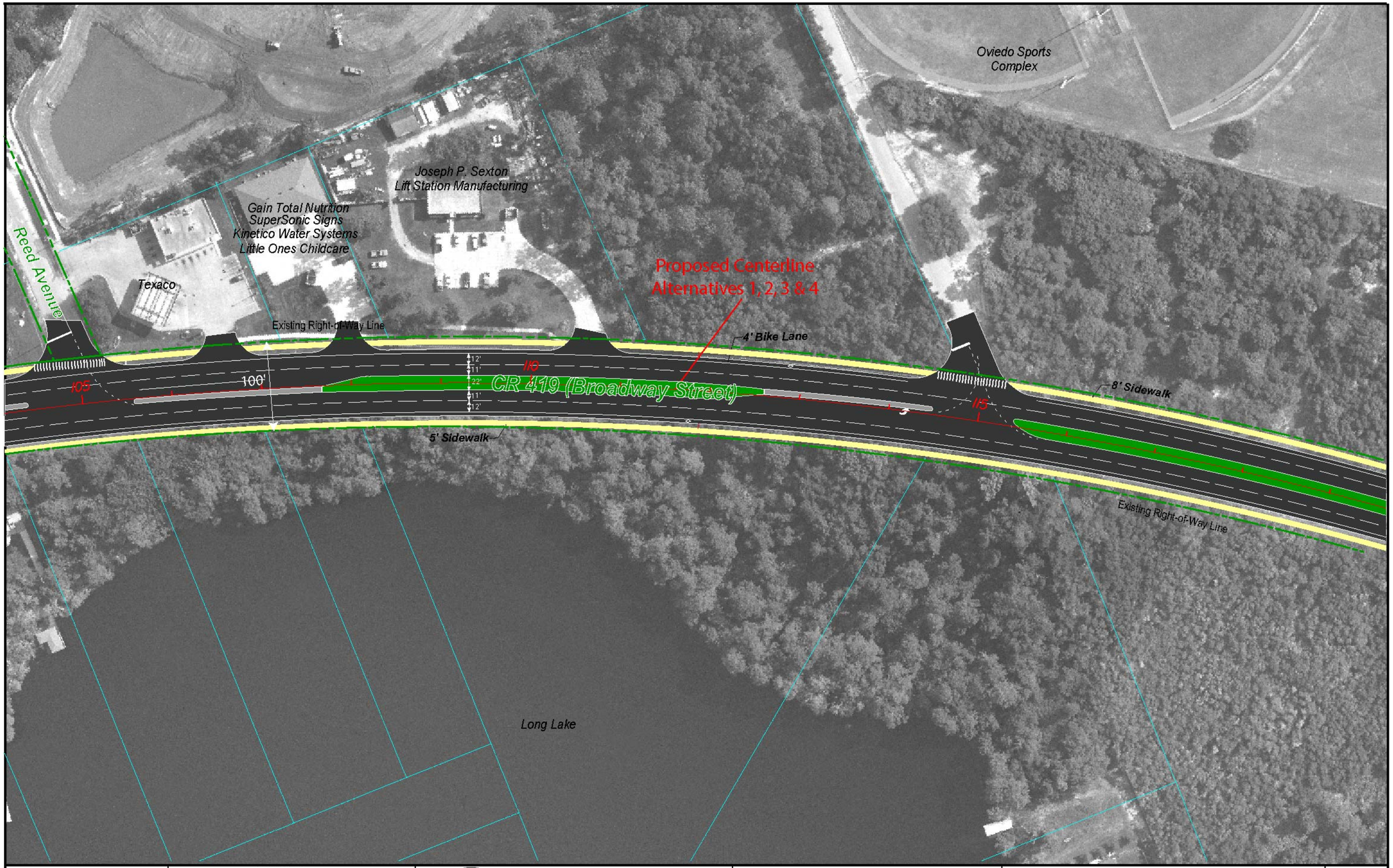

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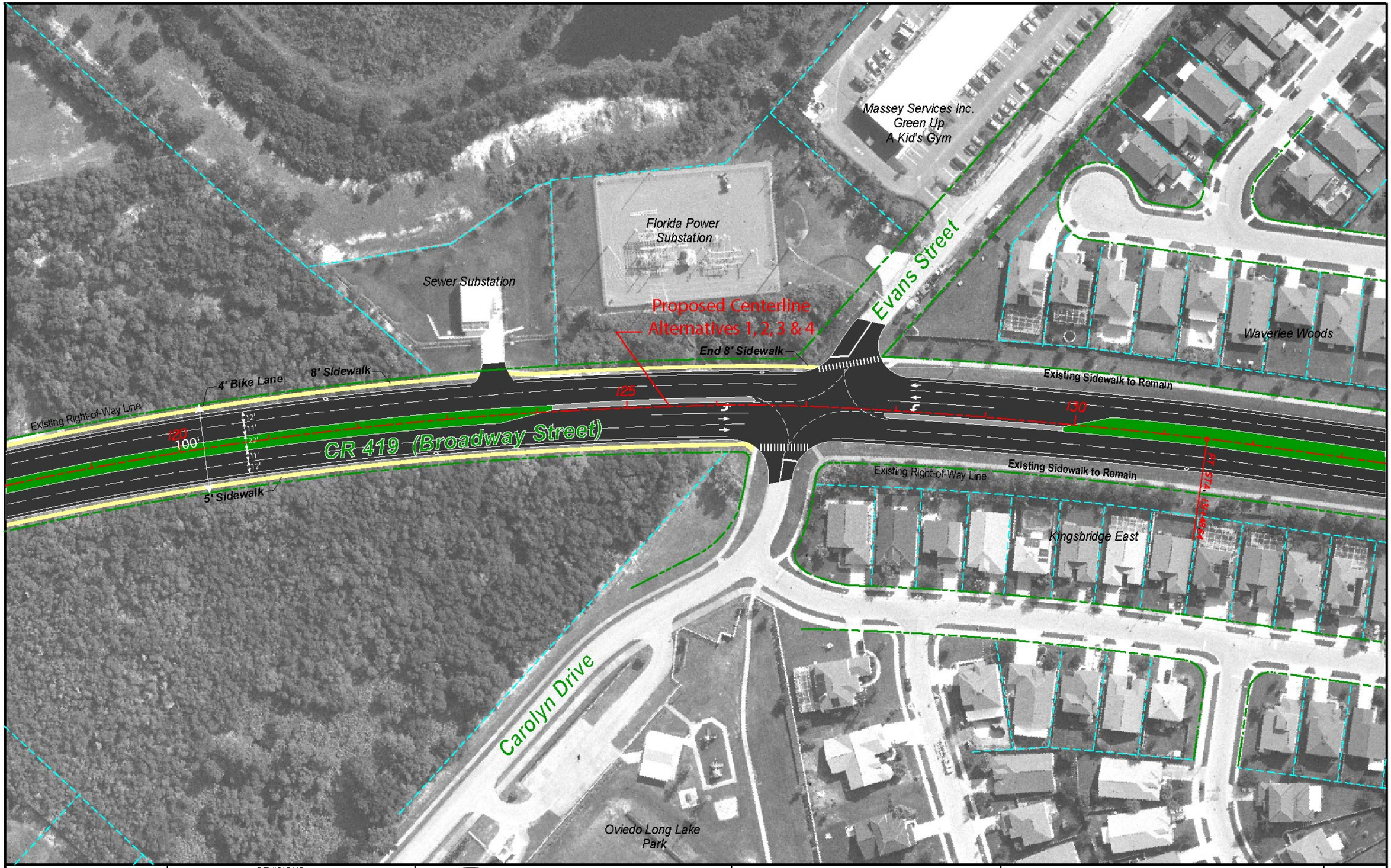

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DEPARTMENT OF TRANSPORTATION

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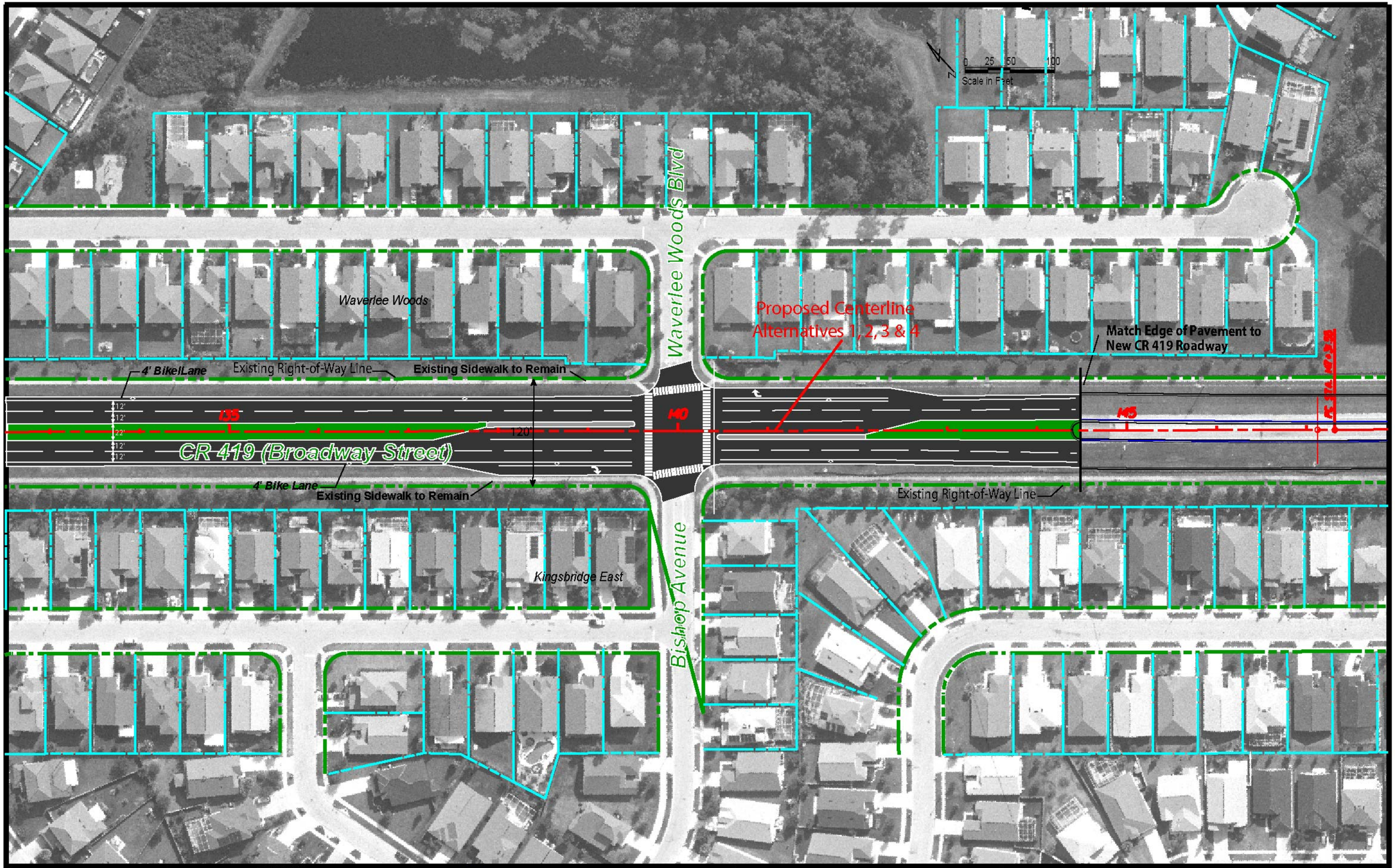

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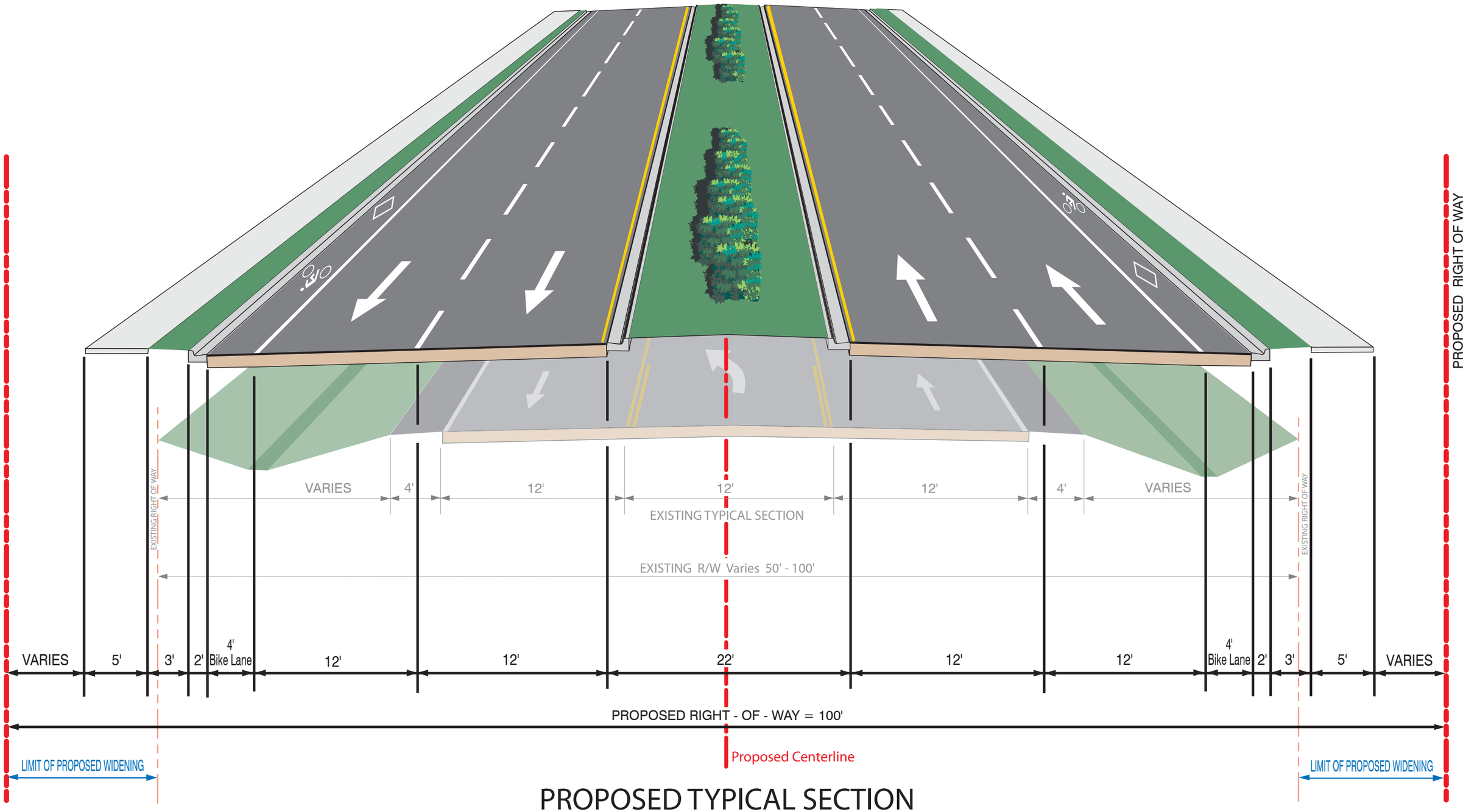
APPENDIX III

PROPOSED ROADWAY TYPICAL CROSS-SECTIONS

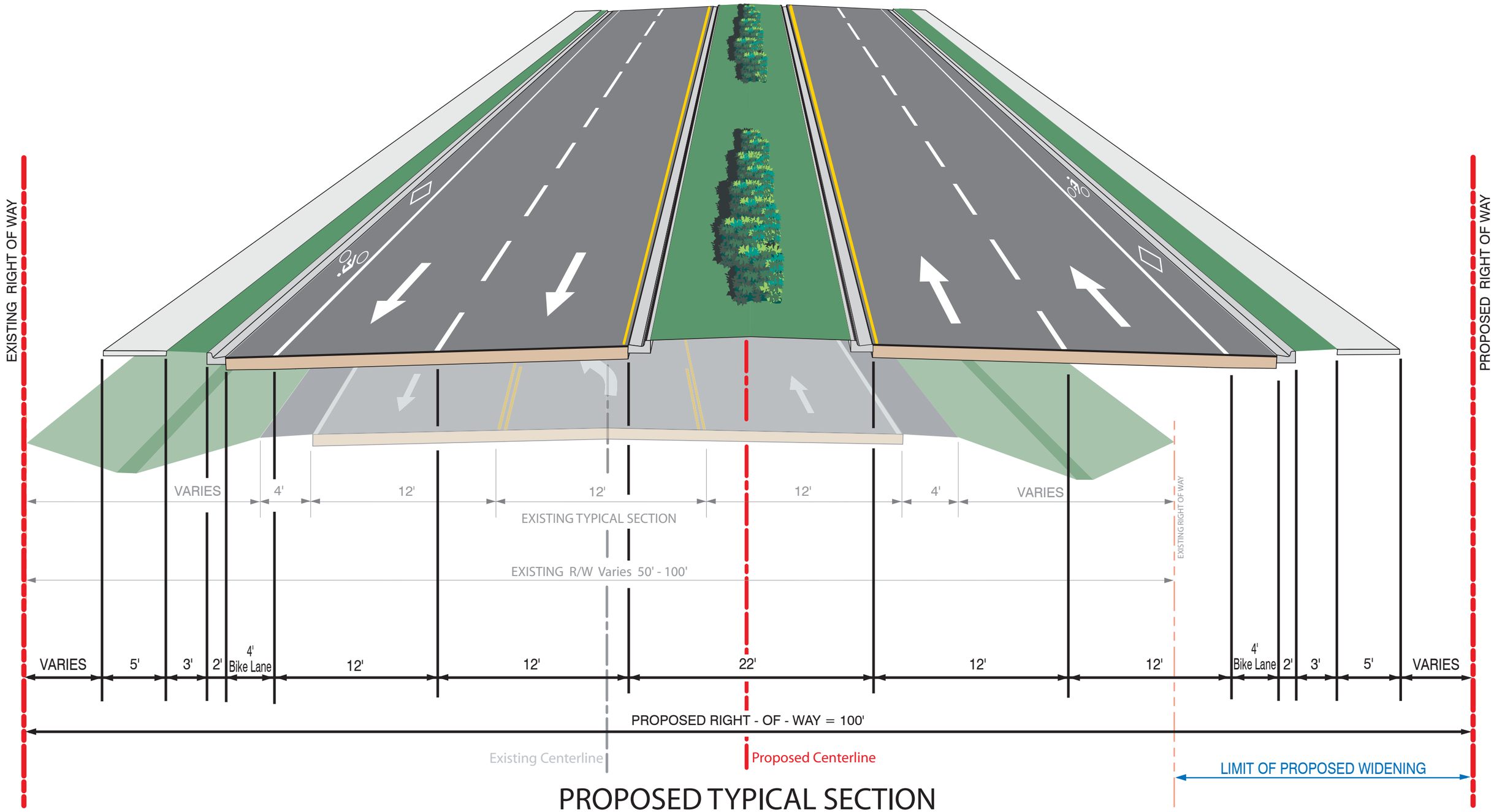


PROPOSED TYPICAL SECTION

ALTERNATIVE 4 (Recomended Alternative)

(WIDEN TO NORTH AND SOUTH OF EXISTING)

PINE AVENUE TO TOMOKA DRIVE

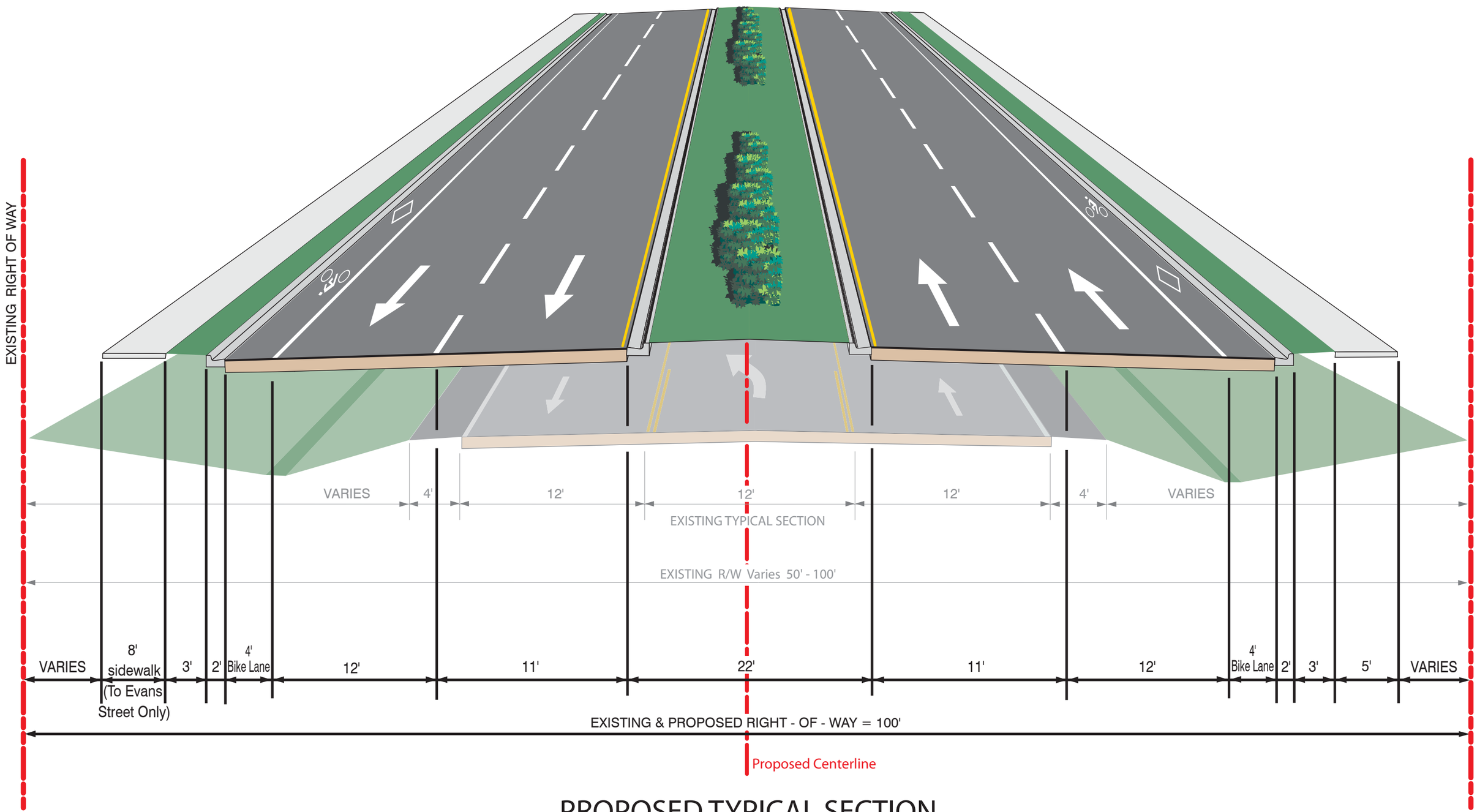


PROPOSED TYPICAL SECTION

ALTERNATIVE 4 (Recommended Alternative)

(WIDEN TO SOUTH OF EXISTING)

TOMOKA DRIVE TO EAST OF DIVISION STREET



PROPOSED TYPICAL SECTION
ALTERNATIVE 4 (Recommended Alternative)
EAST OF DIVISION STREET TO EAST OF WAVERLEE WOODS BLVD.

APPENDIX IV
LAND USE AERIALS

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FLUCFCS Map
SR 426/CR 419 Oviedo
Seminole County, FL

Date: 04/13/04
Scale: 1" = 500'

Figure 4A

g:/proj/ems/02168/av/sr426.apr

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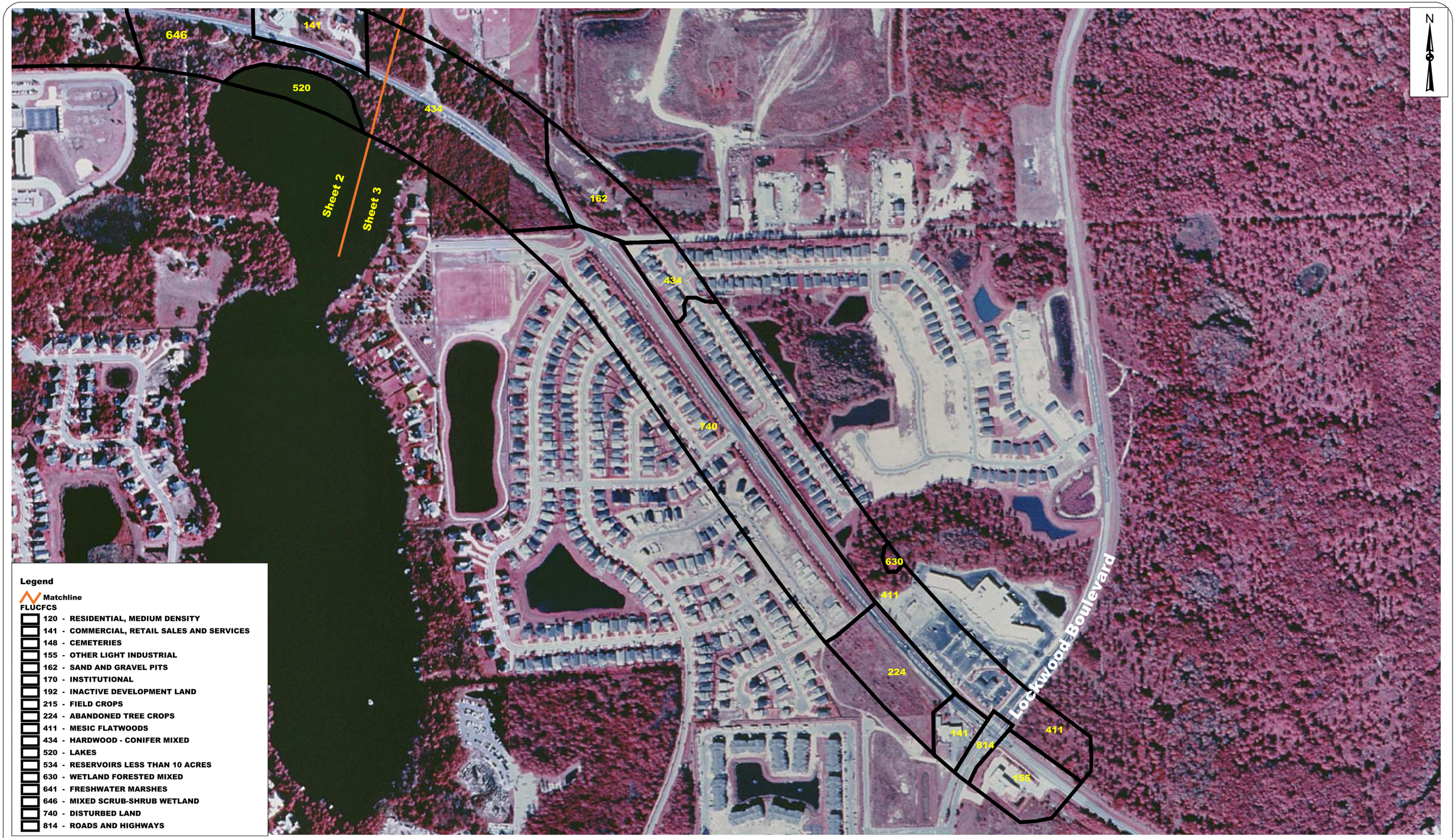
FLUCFCS Map
SR 426/CR 419 Oviedo
Seminole County, FL

Date: 04/13/04
Scale: 1" = 500'

Figure 4B



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FLUCFCS Map
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Figure 4C