



# **CENTRAL FLORIDA** ..... .....**EXPRESSWAY AUTHORITY**

**Draft Preliminary Engineering Report  
April 2018**

**SR 408 Eastern Extension PD&E Study**



## PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Metric Engineering, Inc., authorized under the provisions of Section 471.023, Florida Statutes, to offer engineering services to the public through a Professional Engineer, duly licensed under Chapter 471, Florida Statutes, Certificate of Authorization (CA) No. 2294, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice hereby reported for:

**CFX Project Number:** 408-254  
**Federal Aid Project No.:** N/A  
**Project:** SR 408 Eastern Extension from SR 50 to SR  
50/SR 520 Intersection  
**County:** Orange  
**CFX Project Manager:** Glenn Pressimone

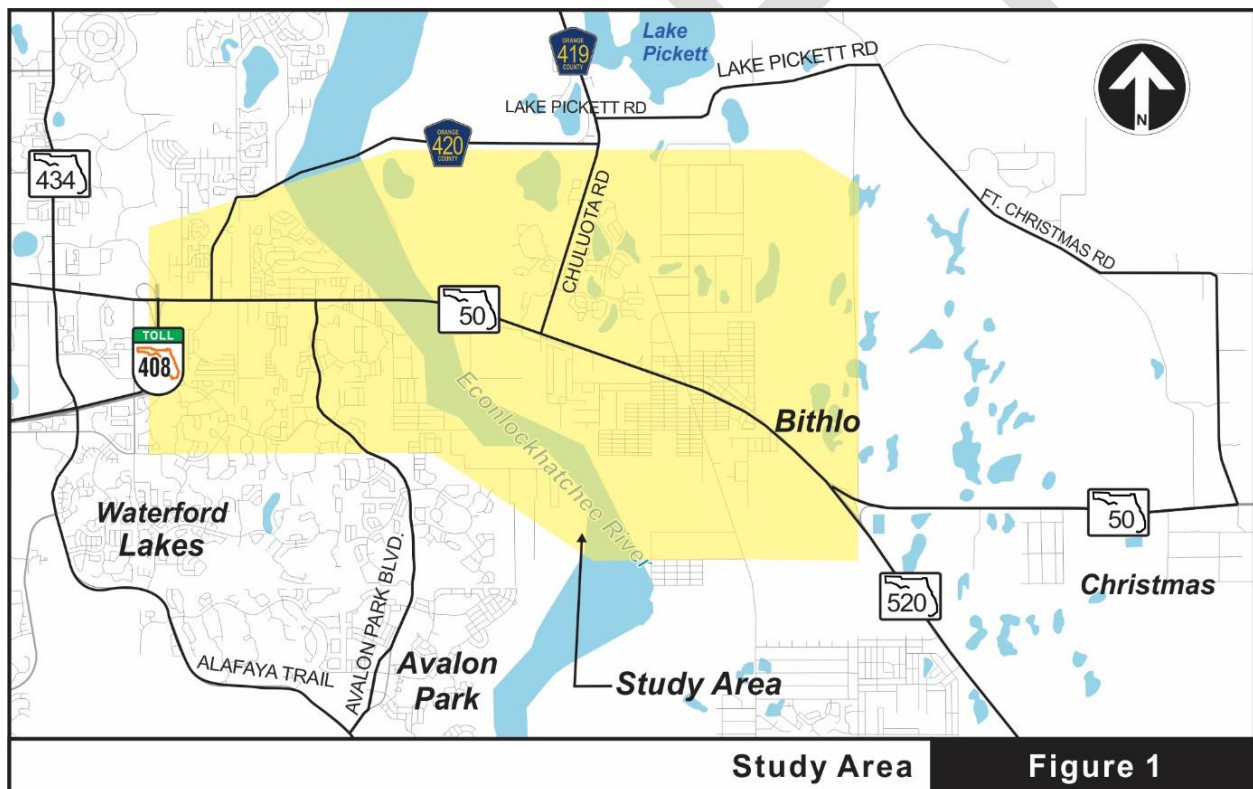
I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

**SIGNATURE:** \_\_\_\_\_  
**Name:** Robert Linares, P.E.  
**P.E. No.:** 63003  
**Firm:** Metric Engineering, Inc.  
13940 SW 136 Street,  
Suite 200  
Miami, FL 33186  
**Date:** \_\_\_\_\_

## EXECUTIVE SUMMARY

### Purpose

The purpose of the SR 408 Eastern Extension Project Development and Environment (PD&E) study is to develop a proposed improvement strategy that is technically sound, environmentally sensitive and publicly acceptable. Emphasis has been placed on the development, evaluation and documentation of detailed engineering and environmental studies including data collection, conceptual design, environmental analyses, project documentation and the preparation of a Preliminary Engineering Report. The report documents the development and evaluation of potential project alternatives, which address the various project needs and minimize impacts. In summary, this report identifies all major project elements and provides engineering solutions and recommendations.



### Project Description/Background

The Central Florida Expressway Authority (CFX) is presently evaluating the potential to extend State Road (SR) 408 from its current eastern terminus at SR 50, locally known as



East Colonial Drive, to the vicinity of the SR 50 and SR 520 interchange in northeastern Orange County. This new, approximately seven-mile eastern extension of SR 408 would constitute the first stage towards providing a east-west high-speed corridor with future connectivity to I-95, enhancing enhance safety, and increase capacity and mobility for the region and CFX's customers.

The vision of this enhanced west-east corridor has been documented in prior concept studies prepared by CFX including the SR 408 Eastern Extension Concept Development and Evaluation Study completed in 2008. A preliminary corridor evaluation was initially performed in 2015, in which different viable alternatives were considered. Those alternatives that met the basic project objectives were further evaluated and presented in a final report which recommended that the proposed SR 408 extension be collocated within the existing SR 50 corridor. However in May 2016, the Florida Department of Transportation (FDOT) notified CFX that there are issues with CFX utilizing FDOT r/w for the SR 408 extension. Thus CFX has initiated a new study to develop a new transportation corridor that will address the transportation needs while minimizing impacts to the natural, physical and cultural environments.

## Deficiencies

The overall study was initiated with a detailed, comprehensive analysis of existing substandard conditions. In general terms, some of the most critical existing deficiencies include:

- **Capacity Deficiencies:** Results of the preliminary No-Build projections reflect that even with the planned widening of SR 50 to six lanes by FDOT, there is insufficient capacity and major traffic congestion in future year projections. Additional capacity should be provided to satisfy the transportation needs of the study area.
- **Emergency Evacuation:** The East Central Florida Region has suffered from critical issues with fire and emergency services, and has been identified as a high hurricane vulnerable area by the National Oceanic Atmospheric Administration (NOAA), and thus needs sufficient and efficient evacuation routes. SR 50 has been designated as a primary evacuation route for the eastern Orange and northern Brevard Counties and any future capacity deficiency along this main evacuation route could seriously jeopardize the effectiveness of coastal evacuation.

- **Linkage Deficiencies:** SR 408 along with SR 50 are part of Florida's strategic transportation investments and provide an important connectivity function between different locations. Because of its important linkage function, the need to optimize vehicular mobility within the project limits is critical. A new expressway facility would not only improve mobility but significantly reduce the existing potential exposure to at-grade conflict points associated with traffic signals, and local access issues.
- **Planning Consistency:** CFX (formerly as OOCEA) adopted different studies like the *2030 Master Plan* which primarily focused in preserving and enhancing its system so it meets its transportation needs, and the 2008 SR 408 Eastern Extension Concept Development and Evaluation Study which recommended that the SR 408 extension should follow the SR 50 corridor out to SR 520. All proposed improvements are consistent with the Central Florida Expressway Authority (CFX) 2040 Master Plan, CFX Five-Year Work Plan, and MetroPlan Orlando 2040 Long Range Transportation plan.

## Recommendations

Results of the public involvement effort as well as the engineering and environmental studies are summarized in Section 8 of this report. After a comprehensive evaluation process, one alternative was selected as being the most effective option. In general, this alternative was the result of the generation of various typical sections and horizontal and vertical alignment combinations along the three project segments as well as various interchange configurations at each access point.

A summary of the recommended alternative is illustrated on the following pages and details can be found in Section 8.

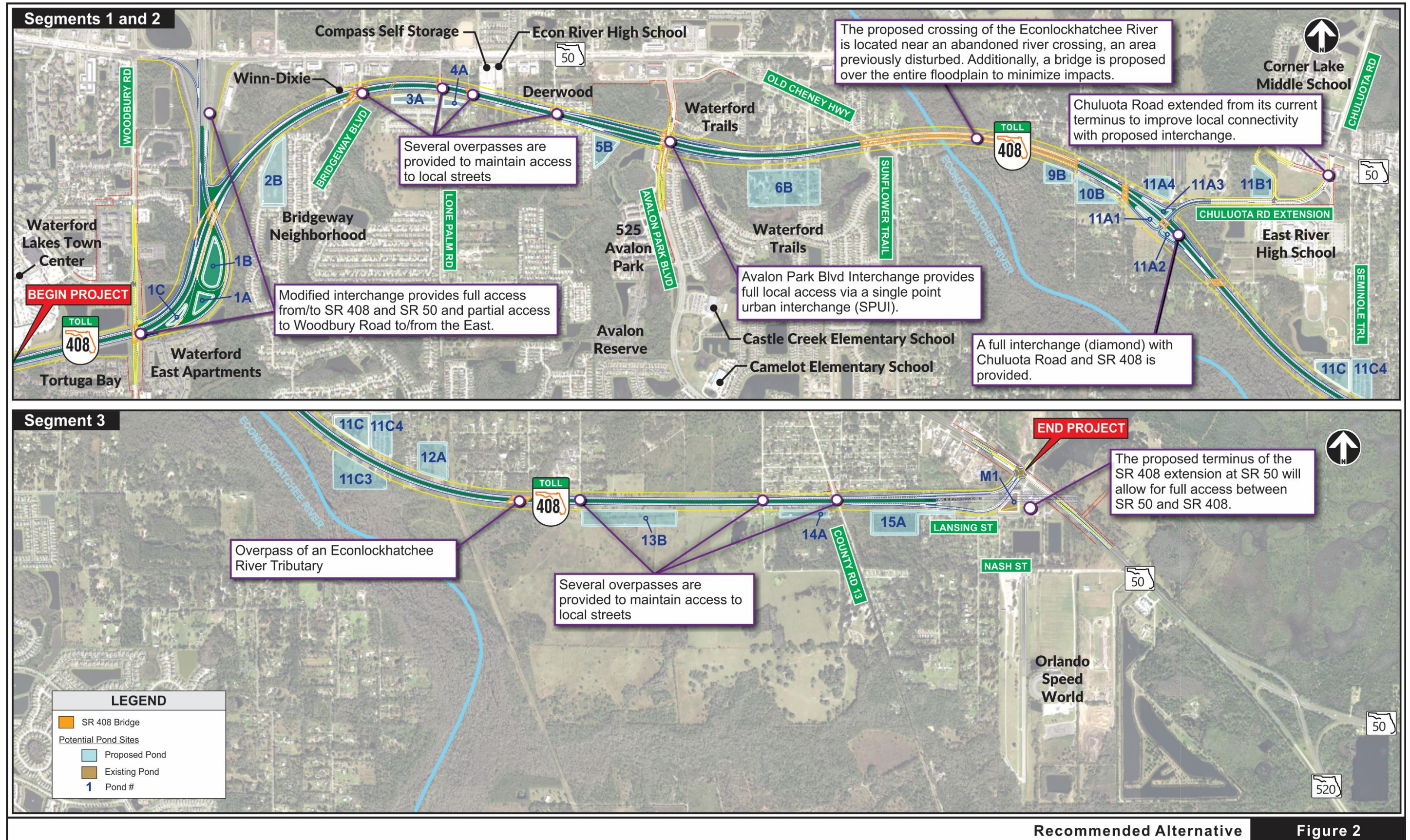
- Segment 1 (from the Begin Project to Avalon Park Blvd): Within segment 1, the recommended alternative features a four lane rural expressway typical section with 12-foot travel lanes, 12-foot outside shoulders, a 64-foot divided median, and a 94-foot border width. The section will feature several grade separations in order to provide access to local streets. There has also been a modification at the SR 408 and SR 50/Challenger Parkway interchange to provide full access between SR



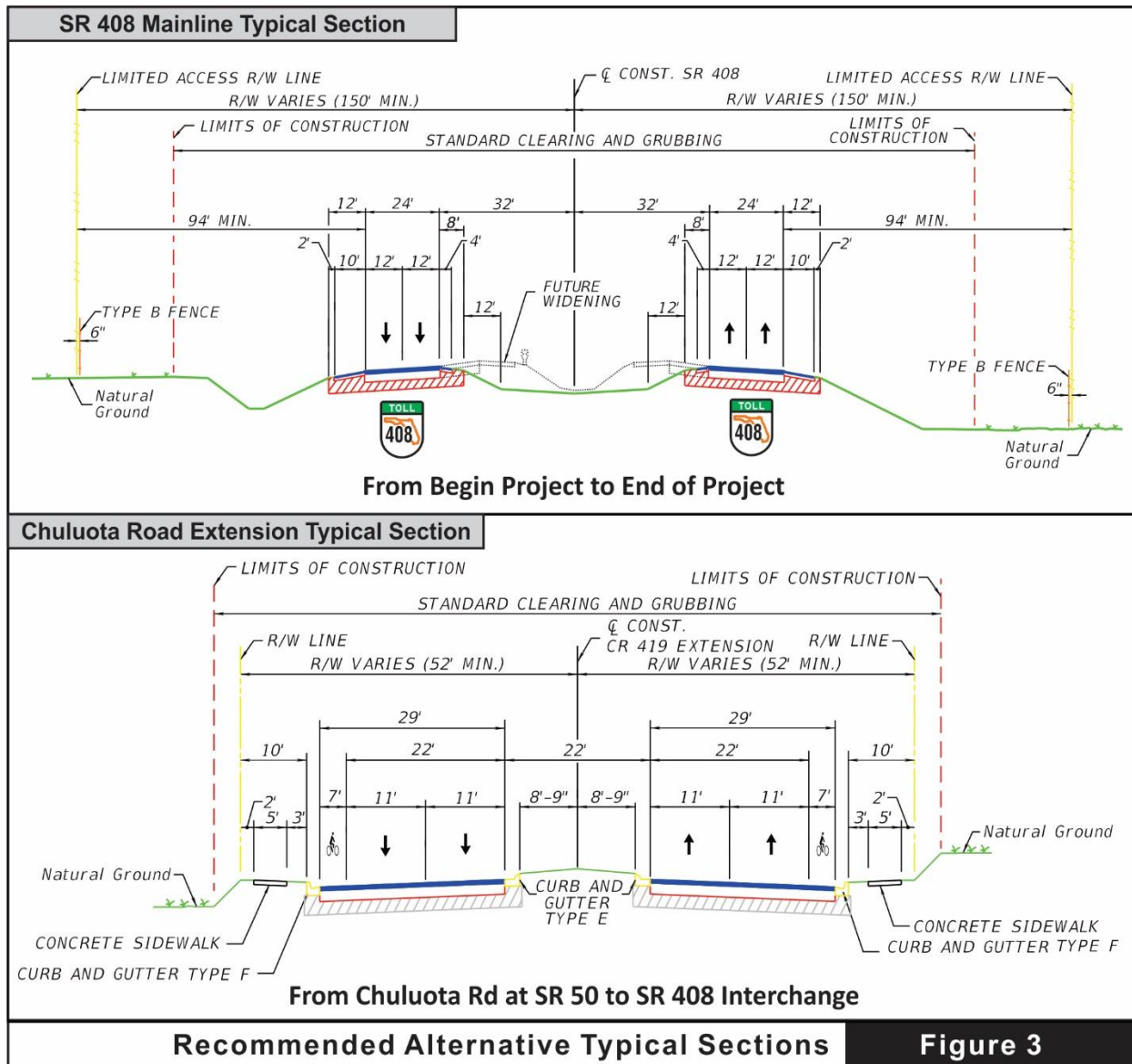
50/Challenger Parkway and SR 408. There is an additional half interchange at Woodbury Road (Woodbury Road to Eastbound SR 408 and Westbound SR 408 to Woodbury Road). Based on the results of the traffic analysis, a single point urban interchange is proposed at Avalon Park Boulevard. **Figure 2** (top) shows some of the most distinctive features of this option within segment 1, and **Figure 3** (top panel) shows the typical section. Eight (8) recommended ponds are located in Segment 1 (see **Table 1**).

- Segment 2 (from Avalon Park Blvd to Chuluota Road): Within segment 2, the recommended alternative continues the same typical section previously described under segment 1. Based on traffic projections and to minimize impacts to East River High School, County Road (CR) 419 (Chuluota Road) is extended westward to intersect with the SR 408 Extension with a full diamond interchange. The extension of Chuluota Road features an urban typical section with 11-foot travel lanes, curb and gutter, and 5-foot sidewalks on both sides of the roadway. **Figure 2** (top panel) shows some of the most distinctive features of the alternative within segment 2 and **Figure 2** (top panel) shows the typical section for the mainline of SR 408 and **Figure 3** (bottom panel) shows the typical section for the Chuluota Road extension. Seven (7) recommended ponds are located in Segment 2 (see **Table 1**).
- Segment 3 (from Chuluota Road to the eastern project terminus): Within Segment 3, the recommended alternative continues the same typical section previously described under segment 1. Some of the most important attributes within segment 3 are shown on **Figure 2** (bottom panel) and **Figure 3** (top panel) shows the typical section. Seven (7) recommended ponds are located in Segment 3 (see **Table 1**).









**Table- 1 Summary of Proposed Pond Sites**

Segment	Basin	Pond Name	Preliminary Pond Site (ac)	Remarks
1	Basin 1	Pond 1A	1.98	Existing CFX Pond expanded
		Pond 1B	5.06	Existing CFX Pond expanded
		Pond 1C	1.10	CFX Property
	Basin 2	Pond 2B	10.23	Orange County School Board
	Basin 3-4	Pond 3A	3.06	Private Property
		Pond 4A	1.80	Private Property
	Basin 5	Pond 5B	4.10	Private Property
	Basin 6-8	Pond 6B	19.73	Private Property
2	Basin 9-10	Pond 9B	3.38	Private Property
		Pond 10B	5.00	Private Property
	Basin 11A	Pond 11A1	0.92	Private Property
		Pond 11A2	0.45	Private Property
		Pond 11A3	1.16	Private Property
		Pond 11A4	3.24	Private Property
	Basin 11B	Pond 11B1	3.98	FDOT Property
3	Basin 11C	Pond 11C	5.70	Private Property
		Pond 11C3	8.85	Private Property
		Pond 11C4	5.50	Private Property
	Basin 12	Pond 12A	6.88	Private Property
	Basin 13	Pond 13B	10.45	Private Property
	Basin 14	Pond 14A	2.57	Private Property
	Basin 15	Pond 15A	8.92	Private Property

## Commitments

This section will be completed for the Final Preliminary Engineering Report.



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## 1 INTRODUCTION

### 1.1 Purpose of the Report

The purpose of the SR 408 Eastern Extension Project Development and Environment (PD&E) Study is to develop a proposed improvement strategy that is technically sound, environmentally sensitive and publicly acceptable. Emphasis has been placed on the development, evaluation and documentation of detailed engineering and environmental studies including data collection, conceptual design, environmental analyses, project documentation and the preparation of a Preliminary Engineering Report.

The Central Florida Expressway Authority (CFX) is presently evaluating the potential to extend State Road (SR) 408 from its current eastern terminus at SR 50, locally known as East Colonial Drive, to the vicinity of the SR 50 and SR 520 interchange in northeastern Orange County. This new, approximately seven-mile eastern extension of SR 408 would constitute the first stage towards providing a east-west high-speed corridor with future connectivity to I-95, enhance safety, and increase capacity and mobility for the region and CFX's customers.

### 1.2 Project Background/Description

The vision of this enhanced east-west corridor has been documented in prior concept studies prepared by CFX including the SR 408 Eastern Extension Concept Development and Evaluation Study completed in 2008. This study evaluated potential corridors for a new limited access facility between east Orange County and north Brevard County. The original study area generally parallels SR 50 from east of SR 434 to I-95. After a preliminary corridor evaluation, four viable corridors were determined to meet the criteria and were further evaluated. These corridors are shown on **Figure 1-1**. The results of the previous study indicated that "Corridor 3B (along SR 50) met the transportation need west of SR 520, providing relief of the existing and projected future traffic congestion along SR 50 from Alafaya Trail/SR 434 to SR 520. This alternative diverted the greatest number of trips, had the lowest estimated cost, and had the fewest potential impacts to environmental and community resources of any of the viable corridors considered at that time. This corridor also provided for a potential future extension of the proposed limited access facility southeast along either the SR 520 or

**2008 Study - Previously Identified Viable Corridors**

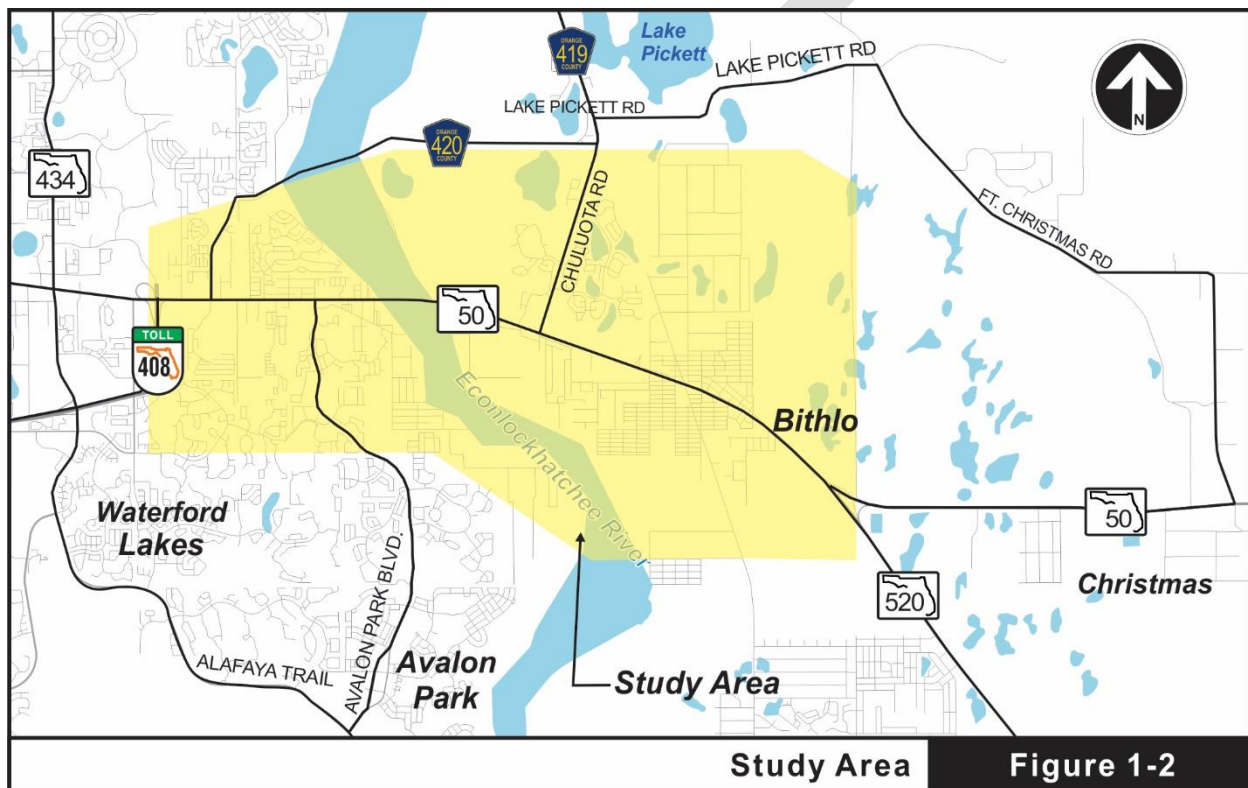
**Figure 1-1**

As part of the SR 408 Eastern Extension PD&E Study, a preliminary corridor evaluation was initially performed in 2015, in which different viable alternatives were considered. Those alternatives that met the basic project objectives were further evaluated and presented in a final report which recommended that the proposed SR 408 extension be collocated within the existing SR 50 corridor. However, in May 2016, the Florida Department of Transportation (FDOT) notified CFX that there are issues with CFX utilizing FDOT right-of-way for the SR 408 extension. As a result, new transportation corridors were developed that avoid SR 50 and that will address the transportation needs while minimizing impacts to the natural, physical and cultural environments.

The purpose of the proposed SR 408 Eastern Extension is to provide an east-west high-speed corridor with future connectivity to I-95, enhance safety, and increase capacity and mobility for the region and CFX's customers (see **Figure 1-2**). There are five existing/projected corridor needs that serve as the main justification for the proposed



improvements. These needs are: 1) providing *additional capacity* in the west-east direction to mitigate or eliminate capacity deficiencies; 2) providing *additional emergency evacuation service* to supplement the limited number of evacuation routes in this area of Central Florida; 3) providing *improved transportation connectivity/linkage* necessitated by the continued population growth and land use development reflected in various local comprehensive plans; 4) providing *transit support*; and 5) providing *planning consistency*. A brief description of each of these needs follows.



### 1.3.1 Capacity deficiency

The planned project improvements are anticipated to accommodate the expected increase in traffic due to population and employment growth along the corridor. The preliminary No-Build projections were run for years 2025, 2035 and 2045. The No-Build SR 50 traffic projections along SR 50 will be increasing and a future SR 408 Eastern Extension to SR 520 would help alleviate this increase by diverting the traffic from SR 50 to SR 408. **Table 1-1** shows the Annual Average Daily Traffic (AADT) volumes for the year 2045.



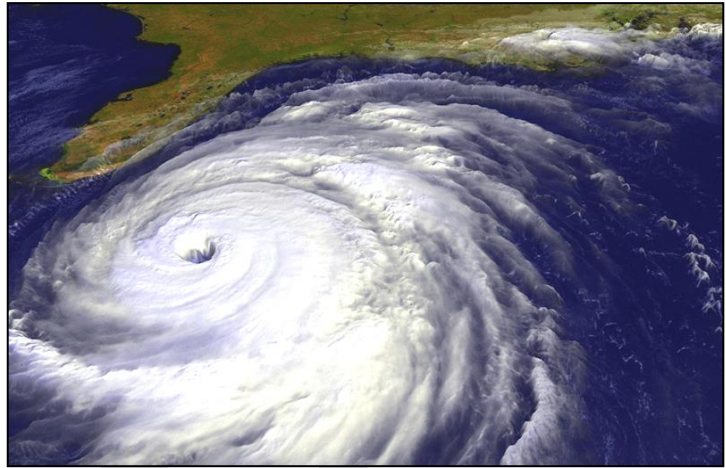
Results of the preliminary No-Build projections reflect that even with the planned widening of SR 50 to six lanes by FDOT, there is insufficient capacity in 2025 on the segment from SR 408 to CR 420 (Lake Pickett Road) and in 2035 from Lake Pickett Road to Avalon Park Boulevard. By the year 2045 the segment from Avalon Park Boulevard to Chuluota Road, although not over capacity, is projected to reach congested conditions. Unless additional capacity is provided along most project segments the vehicular mobility along this critical transportation link will be compromised.

**Table 1-1 Future Traffic Volumes**

Roadway	Limits		2045 AADT	
	From	To	SR 408	SR 50
No Build	East of SR 408		-	87,800
	Econlockhatchee River Bridge		-	50,400
	West of SR 520		-	34,500
Build	SR 408 existing eastern terminus	Bonneville Dr	33,700	66,500
	Bonneville Dr	Lake Pickett Rd	33,700	60,200
	Lake Pickett Rd	Pebble Beach Blvd	33,700	49,800
	Pebble Beach Blvd	Avalon Park Blvd	14,200	47,700-67,100
	Avalon Park Blvd	Tanner Rd	14,200-15,700	54,300-55,700
	Tanner Rd	Future Lake Pickett Development	15,700	47,800
	Future Lake Pickett Development	Chuluota Rd	15,700	41,400-51,800
	Chuluota Rd	N CR 13	3,000	45,300

### 1.3.2 Emergency Evacuation

The East Central Florida Region has been identified by the National Oceanic and Atmospheric Administration as a high hurricane vulnerable area within the United States and thus requires sufficient and efficient evacuation routes. SR 50 has been designated as a primary evacuation route for



eastern Orange and northern Brevard Counties. Along with SR 528 and SR 46 they provide the only east-west evacuation routes for the area.

A recent hurricane evacuation study conducted by the East Central Florida Regional Planning Council estimated that over 220,000 persons would potentially evacuate Brevard County during a Category 3 storm. Any future capacity deficiency along SR 50 (the main evacuation route) could seriously jeopardize the effectiveness of coastal evacuation from north Brevard County. The provision of an additional east-west facility will afford redundancy of the highway network and would greatly improve response and recovery efforts.

Another critical issue deals with fire and emergency services. In the recent past, the (open) natural lands generally abutting SR 50 east of SR 520 have been known to be an area prone to wildfires. This sometimes necessitates the closure of some key east-west facilities in the area due to visibility or safety concerns. The provision of an additional east-west facility would afford the desirable redundancy to accommodate diverted regional traffic due to natural or man-made emergencies.

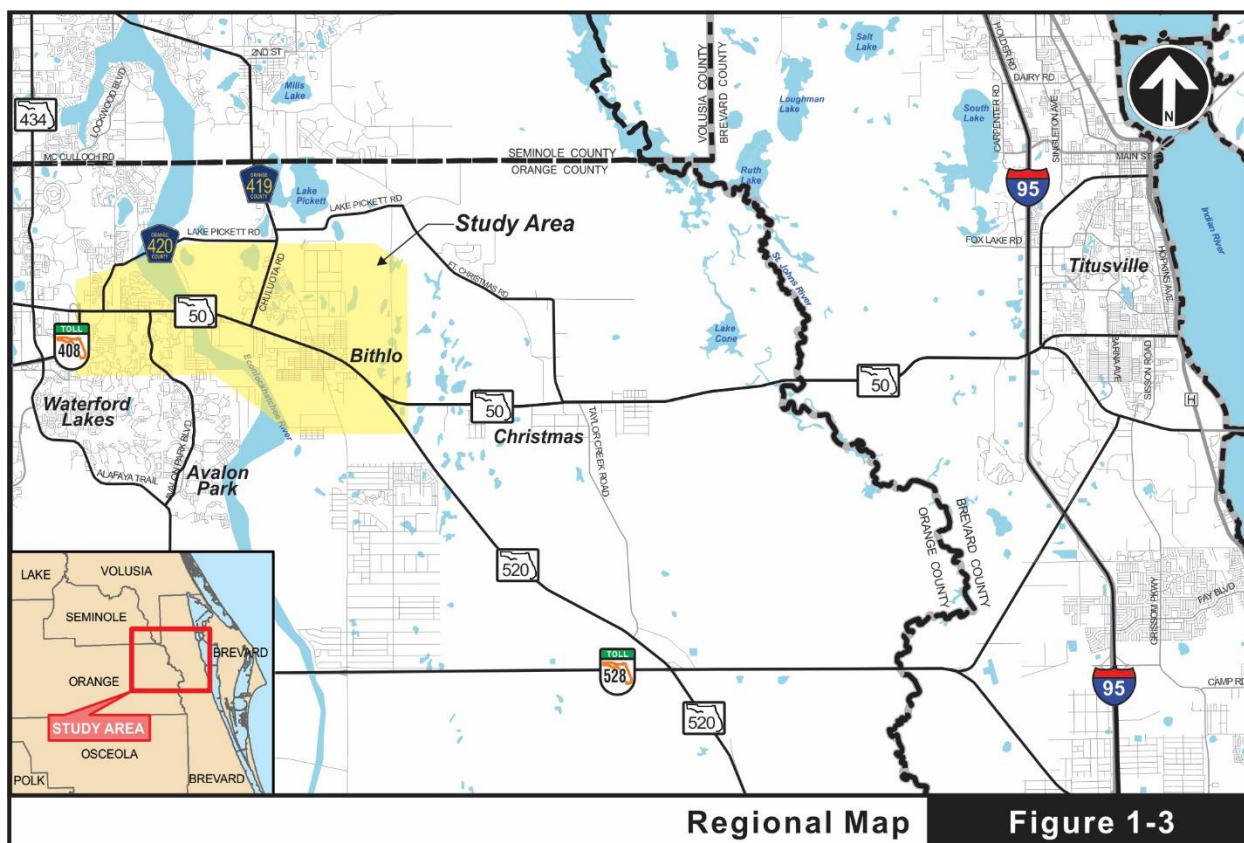
### 1.3.3 Connectivity/Linkage

On November 1, 2013, Executive Order 13-319 was signed by Governor Rick Scott, creating the East Central Florida Corridor Task Force with the purpose to evaluate and develop consensus recommendations on future transportation corridors serving

established and emerging economic activity centers in portions of Brevard, Orange, and Osceola counties. The results of the East Central Florida Corridor Task Force Final Report recommended preserving and enhancing the existing SR 50/SR 405 (Columbia Boulevard) corridor from downtown Orlando and the University of Central Florida area to Cape Canaveral, including an extension of the State Road 408/East-West Expressway from its current terminus. The SR 408 eastern extension is one piece of Florida's strategic transportation investments to support future growth and create connections between global trade activities, from Orlando International Airport and the University of Central Florida, to Cape Canaveral.

Additionally, in 2008, the CFX formerly known as the Orlando-Orange County Expressway Authority (OOCEA) completed the 2008 SR 408 Eastern Extension Concept Development and Evaluation Study for an eastward extension of SR 408. The conclusion of the study resulted in a recommendation that the SR 408 extend eastward from SR 50 to SR 520 (see **Figure 1-3**).

Within the project vicinity, SR 50 is functionally classified as a major arterial facility and provides an important connectivity function between the east Orlando area on the west and I-95 just south of Titusville on the east. As traffic continues to grow within the study corridor due to the rapid development projected within the area it is essential to maintain adequate mobility on this critical roadway link. A new expressway facility would improve mobility and the at-grade conflict points associated with traffic signals, and local access issues will shift to interchanges and grade separations by controlling conflict points through the use of ramps and bridges. In summary, the proposed SR 408 Extension will greatly enhance Central Florida's regional transportation needs and provide the initial phase of an ultimate vision of an expressway connection from east Orlando to I-95 north of SR 528.



### 1.3.4 Transit Plan Support

The Central Florida Regional Transportation Authority (LYNX) is conducting a study to enhance transit service along SR 50. The current recommended alternative is Bus Rapid Transit (BRT) service along SR 50 from the community of Oakland to SR 434/Alafaya Trail and north to UCF. The BRT corridor is identified in the LYNX Vision 2030.

A new limited access facility could support inter-agency transit service between Orange and Brevard counties. The benefits of enhanced transit service are frequently lost when the buses must travel on heavily congested roadways. The proposed roadway would support improved regional travel times and provide realistic options for commuters and visitors traveling between the two counties.

### 1.3.5 Planning Consistency

All proposed improvements are consistent with the CFX 2040 Master Plan, CFX Five-Year Work Plan, and MetroPlan Orlando 2040 Long Range Transportation Plan (**Table 1-2**).

**Table 1-2 Local Transportation Plans**

<b>Plan</b>	<b>Improvement</b>
<b>CFX 2040 Master Plan</b>	SR 408 Eastern Extension PD&E Study
<b>CFX 2018-2022 Five-Year Work Plan</b>	Project Development & Environment Study – Funded 2017-2018  15% Line & Grade – Design Funded 2019-2021
<b>MetroPlan Orlando 2040 Long Range Transportation Plan</b>	Central Florida Expressway Authority - Unfunded Needs SR 408 Eastern Extension Challenger Pkwy SR 520 New 4 Lane Expressway



## 2 ALTERNATIVE CORRIDOR ANALYSIS

### 2.1 Previous Corridor Evaluation

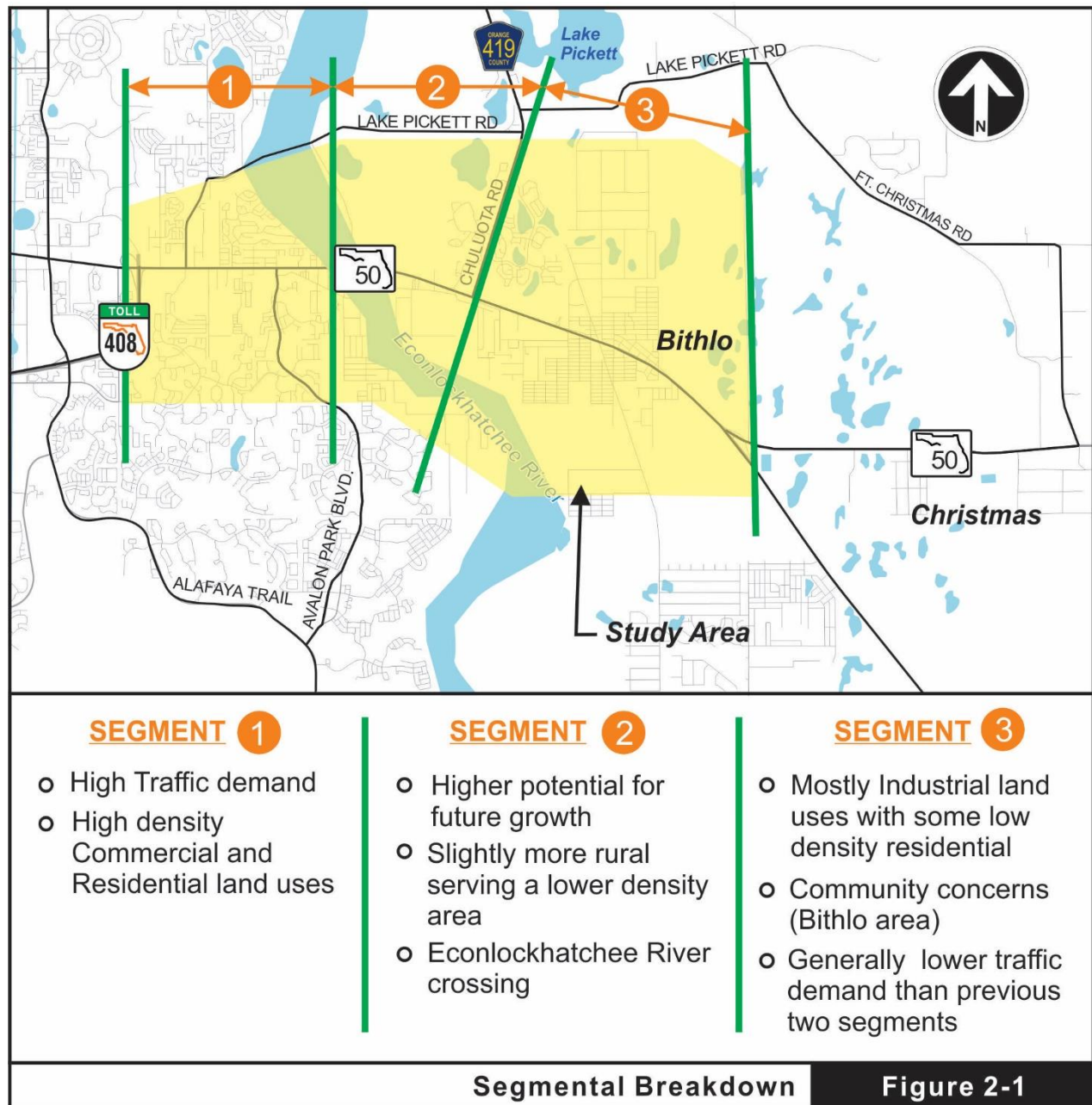
As previously stated, the SR 408 Eastern Extension Concept Development and Evaluation Study completed by CFX in 2008 evaluated various potential local corridors for a new limited access facility between east Orange County and north Brevard County. This original study recommended the use of the existing SR 50 corridor and the colocation of the proposed SR 408 Extension. However, since FDOT has expressed concerns about this potential colocation, a new corridor re-evaluation is necessary.

### 2.2 Corridor Re-Evaluation

In order to provide the greatest traffic relief and serve the greatest number of users, the study area (see **Figure 2-1**) was established as generally a half mile to the north and a half mile to the south of the existing SR 50 right-of-way as well as additional land within approximately 1.5 miles south of SR 50 and east of the Econlockhatchee River.

#### 2.2.1 Identification of Project Segments

The first step in the evaluation of the corridor options was to divide the study area into distinct analysis segments. The segmental breakdown methodology ensures that the generated corridor alternatives are more responsive to the needs of each segment rather than only to the generalized project's needs. **Figure 2-1** illustrates the study area segmental breakdown and description. Each segment has rather unique characteristics as well as potential differences in environmental, engineering and socio-economic features. In general terms, for example, Segment 1 (the study area west of the Econlockhatchee River) is generally more urbanized and exhibits a higher traffic demand than Segments 2 and 3.



Segment 2 (the area between the Econlockhatchee River and County Road 419 (Chuluota Road)) is more rural in nature and generally serves a lower density area with higher expected development growth while Segment 3 (from Chuluota Road to the eastern project terminus) has mostly industrial and low density residential development with a lower traffic demand.



### 2.2.2 Identification of Preliminary Corridors

Initially, five preliminary corridors were developed for the potential SR 408 roadway extension (see **Figure 2-2**). These corridors were developed based on constraint mapping and input from the Project and Environmental Advisory Groups. The preliminary corridors were labelled 1 through 5 from north to south, for identification purposes. Each corridor represents a 400-foot wide area for the purpose of assessing community and environmental impacts. As shown on **Figure 2-2**, Corridors 1 and 3 mostly traverse an area north of the existing SR 50 facility while Corridors 4 and 5 extend through areas south of SR 50. Corridor 2 on the other hand initially stays mostly on the north side, then crosses to the south side of SR 50. It should be noted that the following general guidelines were followed in the development of the preliminary corridors.

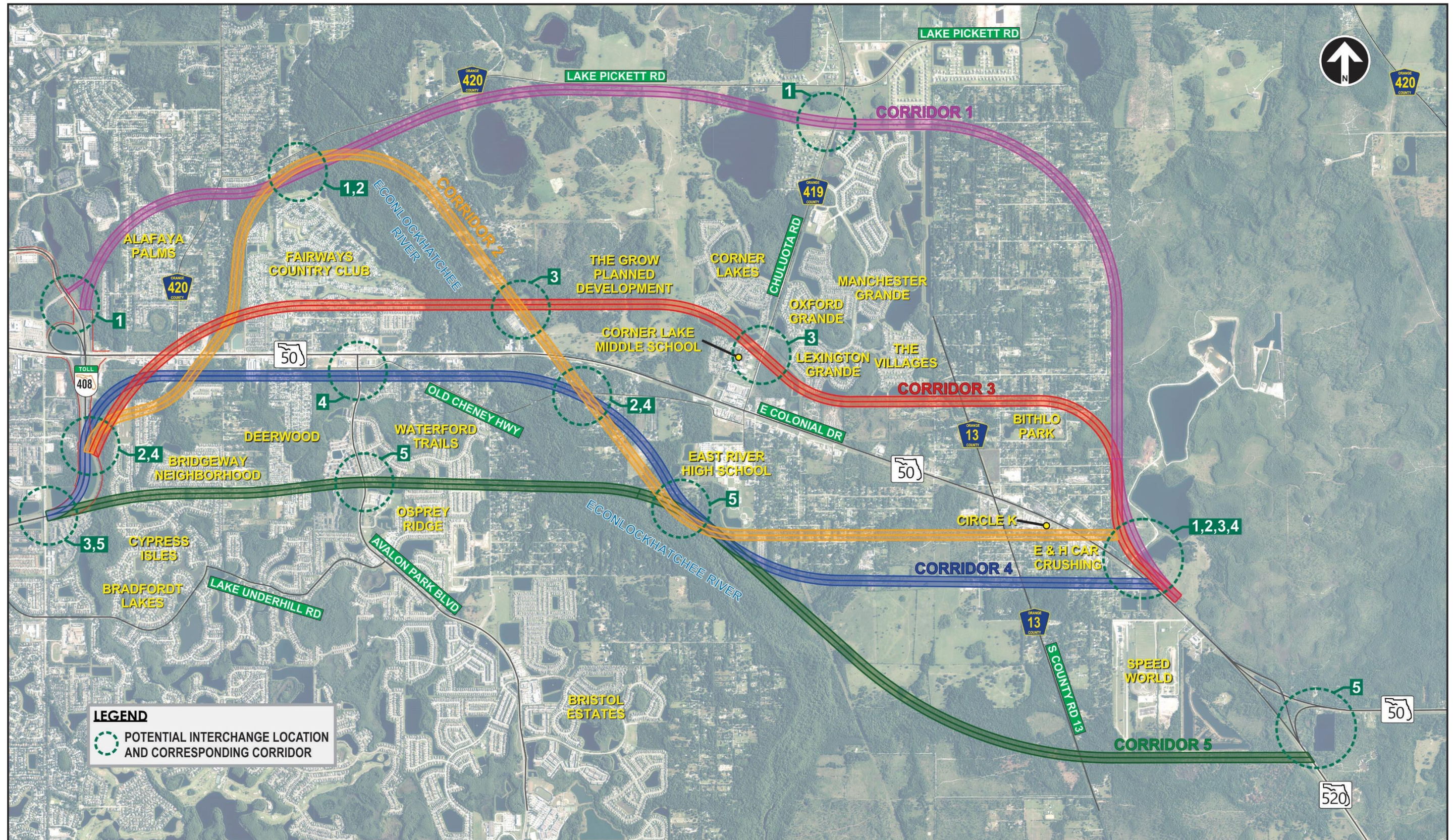
- No corridor should infringe on the existing and proposed SR 50 right-of-way
- Potential location of future interchanges along the corridors should be at least 600 feet away from existing/future SR 50 in order to minimize potential detrimental traffic operational interfaces.

A brief description of the five preliminary corridors follows:

- Preliminary Corridor 1 (see **Figure 2-2**)

Corridor 1 commences just north of the existing SR 408/SR 50 interchange and proceeds in a northeasterly direction through the Alafaya Palms community. Then the corridor crosses Lake Pickett Road and provides an interchange in the vicinity of Lake Pickett Road just west of the Econlockhatchee River crossing. The corridor continues in an eastbound direction just south of and parallel to Lake Pickett Road, at Chuluota Road. Another interchange is provided before continuing eastbound through the northeast section of the Bithlo community. The corridor then turns to the south along the eastern boundary of Bithlo and finally provides a terminal interchange at SR 50 about 0.75 mile northwest of the existing SR 50/SR 520 interchange.





Preliminary Corridor Alternatives

Figure 2-2



- Preliminary Corridor 2 (see **Figure 2-2**)

Corridor 2 commences just south of the existing SR 408/SR 50 interchange and proceeds in a northeasterly direction crossing SR 50 just east of Knight Avenue. It then follows the tributary of the Econlockhatchee River generally parallel to Lake Pickett Road and provides an interchange in the vicinity of Lake Pickett Road just west of the Econlockhatchee River crossing. At this point it veers sharply to the southeast along the Florida Power and Light (FPL) Transmission Line corridor just east of the Econlockhatchee River along S. Tanner Road. This alternative then crosses SR 50 near S. Tanner Road and provides an interchange in the vicinity of Old Cheney Highway. It then continues in a southeasterly direction until just south of the East River High School property and turns easterly until it reaches SR 50 where a terminal interchange is provided just south of the Circle K property.

- Preliminary Corridor 3 (see **Figure 2-2**)

This alternative generally begins at the same location as Corridor 2 and then proceeds northeasterly and crosses SR 50 just west of the Lake Pickett Road intersection. It then veers to the east through the Fairways Country Club residential community approximately 1,200 feet north of the existing SR 50 facility. It crosses the Econlockhatchee River and provides an interchange in the vicinity of S. Tanner Road, continues in an easterly direction, and bends southeasterly in the vicinity of Chuluota Road where an interchange is provided. It continues southeasterly and then easterly through a portion of the south-central Bithlo residential community. Finally, this corridor turns to the south north of the Bithlo Park along the eastern boundary of Bithlo and provides a terminal interchange at SR 50 about 0.75 mile northwest of the existing SR 50/SR 520 interchange.

- Preliminary Corridor 4 (see **Figure 2-2**)

Corridor 4 begins in the same general area as Corridors 2 and 3 but stays south of and parallels SR 50. After providing an interchange with Avalon Park Boulevard, the corridor crosses the Econlockhatchee River and provides another interchange in the vicinity of S. Tanner Road and Old Cheney Road. At this point it veers to the southeast generally paralleling the Econlockhatchee River and then turning eastward just south of various

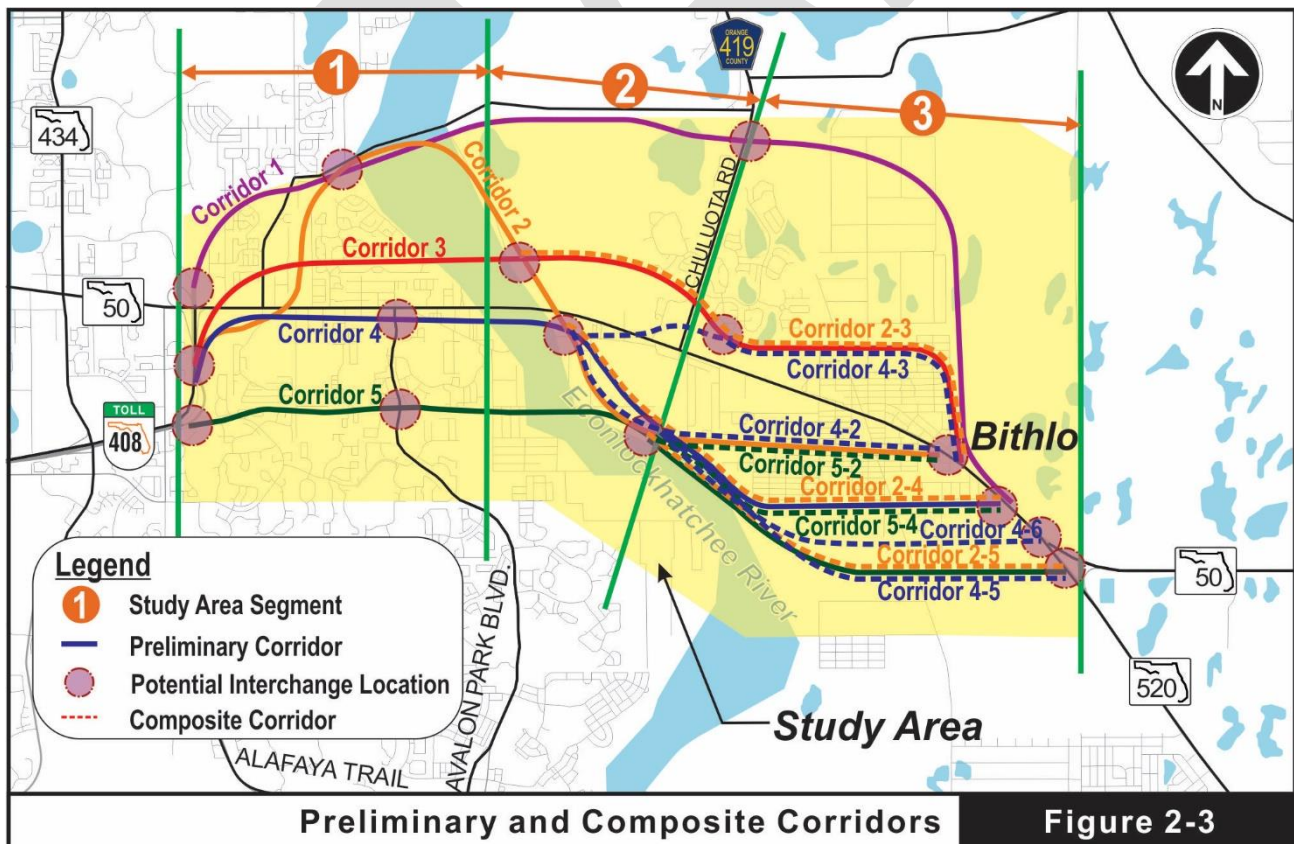


existing residential developments until reaching SR 50 just south of the E & H Car Crushing property where a terminal interchange is provided.

- **Preliminary Corridor 5** (see **Figure 2-2**)

Corridor 5 begins in the immediate vicinity of the SR 408/Woodbury Road underpass and proceeds in an easterly direction through the Bridgeway and Waterford Trails neighborhoods. After providing an interchange with Avalon Park Boulevard, the corridor continues in an easterly direction, crosses the Econlockhatchee River and provides another interchange just southwest of the East River High School property. At this point the corridor veers to the southeast and then east, terminating at SR 520/SR 50 south of the Orlando Speed World Dragway property.

Next, based on geometric design and stakeholder input received, the five preliminary corridors were combined and resulted in the generation of eight (8) additional “composite” corridors illustrated on **Figure 2-3**. Three of these resulted from generally merging the first two segments of Corridor 2 with the last segments of Corridors 3, 4, and 5. Similarly, the first two segments of Corridor 4 were combined with the last segment of Corridors 2, 3 and



5. In addition, a new variation of the last segment of Corridor 4 was considered involving a direct connection to the existing SR 50/SR 520 interchange. Although this option would directly impact the existing Orlando Speed World Dragway property it is the only alternative that would avoid additional impacts along SR 50, through a direct connection to the SR 50/SR520 terminal interchange. Lastly, the first two segments of Corridor 5 were combined with the last segment of Corridors 2 and 4. In summary, this development procedure resulted in a total of 14 possible Alternative Corridors for future consideration.

### 2.2.3 Initial Corridor Screening

An initial screening to assess how well each competing corridor satisfies the previously established project's purpose and need was conducted. An alternative that does not satisfy the project's purpose and need may be eliminated from further consideration. In order to avoid elimination, each corridor would need to provide an enhanced connection as compared to the No-Build (or No Action) Alternative. The need for enhancement is related to the predicted unsatisfactory future operating conditions as reflected in the traffic analysis if no action is taken. In addition, each corridor was evaluated for regional connectivity, emergency evacuation, transit, and support of economic development.

**Table 2-1** provides the screening criteria and obtained results related to the purpose and need compliance. In order to better appreciate the obtained outcome, color values were assigned to the results as follows: Green cells (generally high compliance); Yellow cells (generally moderate compliance) and Red cells (generally low compliance). In addition, the evaluation was conducted by segments in order to more clearly judge the performance of each corridor within each individual segment it traverses rather than its "overall" performance. This approach provides a more in-depth evaluation by showing where the corridor ranks higher and lower segmentally. The results from **Table 2-1** show that generally the corridors south of SR 50 (4, 4-2, 4-3, 4-5, 4-6, 5, 5-2 and 5-4) have slightly more green cells than those north of SR 50. In other words, the southern corridors ranked slightly higher than the northern corridors mostly due to their superior regional connectivity.

In summary, although some corridors address the purpose and need more efficiently, it was determined that all of the established corridors do address the purpose and need.

TABLE 2-1 INITIAL SCREENING/PURPOSE AND NEED COMPLIANCE																						
COMPLIANCE CRITERIA	SEG	ALTERNATIVE CORRIDORS																				
		1	2	2-3	2-4	2-5	3	4	4-2	4-3	4-5	4-6	5	5-2	5-4							
Network/Systems Connectivity Improvement	A	1	High	High	High	High	High	Medium*	High	High	High	High	High	High	High							
		2	High	Medium	High	Medium	Medium	High	Medium	Medium	High	Medium	Medium	Low	Low	Low						
		3	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium						
Enhanced Multi-Modal Potential	B	1	High	High	High	High	High	Medium*	High	High	High	High	High	High	High							
		2	High	Medium	High	Medium	Medium	High	Medium	Medium	High	Medium	Medium	Low	Low	Low						
		3	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium						
Support of Economic Development	C	1	Low	Low	Low	Low	Low	Low	High	High	High	High	High	Low	Low	Low						
		2	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium						
		3	Medium	Medium	Medium	Medium	Low	Medium	Medium	Medium	Medium	Low	Medium	Low	Medium	Medium						
Enhancement of Emergency Services and Evacuation	D	1	High	High	High	High	High	High	High	High	High	High	High	High	High							
		2	High	High	High	High	High	High	High	High	High	High	High	High	High	High						
		3	High	High	High	High	High	High	High	High	High	High	High	High	High	High						
Promotes Regional Connectivity	E	1	Medium	Medium	Medium	Medium	Medium	High	High	High	High	High	High	High	High							
		2	Medium	Medium	Medium	Medium	Medium	High	High	High	High	High	High	High	High	High						
		3	Medium	Medium	Medium	Medium	Medium	High	High	High	High	High	High	High	High	High						

\*Based on Future Residential Development

Notes: High = Highest Benefit; Medium = Neutral Benefit; Low = Low Benefit

- ABased on the provision of effective connection to the existing/proposed major transportation network within the study area
- BBased on typical section design speed, high speed facility, and strategic intermodal system criteria
- CBased on the perceived likelihood of desirable economic development adjacent to the proposed interchange locations and their compatibility with existing/proposed abutting land uses
- DBased on access, safety and design measures
- EBased on perceived effective mobility (directness) between the two project termini



## 2.2.4 Preliminary Alternative Corridor Evaluation

The preliminary alternative corridor evaluation was based on a 400-foot wide representative alignment for each of the 14 competing corridors and their effect with respect to engineering, socio-economic, and environmental issues. It should be noted that the purpose of this preliminary evaluation is not to determine the “best” corridor but rather to eliminate inferior or suboptimal alternatives. In order to better appreciate the obtained results, numerical values were assigned to the results of each evaluation component (see **Tables 2-2** and **2-3**) as follows: Green cells (generally desirable or positive impacts = +2); Yellow cells (generally minor or moderate impacts = +1) and Red cells (generally undesirable or negative impacts = 0). In addition, each evaluation component was assigned a percentage value (weight) depending on its perceived degree of importance. For example, the importance of the total engineering component was judged to merit 39% (see **Table 2-2 top**) of the total decision while the environmental (see **Table 2-2 bottom**) and socio-economic components (see **Table 2-3**) were assigned relative weights of 27% and 34%, respectively. These parameter weightings were developed from the average of individual weighting sets prepared by members of the consultant’s team, reflecting a broad range of professional backgrounds.

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PRELIMINARY ENGINEERING EVALUATION																	
EVALUATION COMPONENTS		UNITS	SEG.	ALTERNATIVE CORRIDORS													
				1	2	2-3	2-4	2-5	3	4	4-2	4-3	4-5	4-6	5	5-2	5-4
Major Utility Conflicts		Number of potential impacts	1	9	8	8	8	8	11	9	9	9	9	9	9	17	17
			2	7	8	8	8	8	3	12	12	5	12	12	12	6	6
	5%		3	21	24	19	10	13	19	22	23	19	13	14	13	23	13
Drainage Considerations		Acres (Floodplain Impacts)	1	27	75	75	75	75	51	45	45	45	45	45	11	11	11
			2	53	34	54	34	34	68	27	27	48	27	27	47	53	47
	7%		3	66	44	68	55	102	68	36	36	68	98	82	101	39	51
Reduction in Traffic Congestion/Improved Safety		Percent of Diverted Traffic	1	20%	11%	13%	11%	11%	17%	28%	24%	29%	24%	24%	29%	24%	26%
			2	14%	6%	9%	6%	6%	10%	16%	9%	24%	3%	3%	30%	29%	30%
	12%		3	17%	6%	3%	5%	3%	2%	20%	10%	3%	2%	2%	18%	6%	26%
Traffic Volume Accommodated		2045 Traffic Volumes	1	19,300	10,500	11,700	10,200	10,200	15,800	28,200	24,300	29,500	23,400	23,400	29,500	24,200	26,500
			2	8,800	13,600	5,800	3,700	3,700	5,800	10,600	5,800	16,200	2,100	2,100	19,900	19,800	20,300
	15%		3	6,700	2,200	1,000	2,100	1,000	1,000	8,300	4,200	1,400	1,000	1,000	7,500	2,200	11,400
Total Engineering Weight	39%																
Summary of Results (sum of corridor scores for each evaluation category)			1	0.44	0.10	0.10	0.10	0.10	0.29	0.44	0.44	0.44	0.44	0.44	0.51	0.46	0.46
			2	0.44	0.51	0.44	0.51	0.51	0.37	0.51	0.51	0.71	0.36	0.36	0.71	0.71	0.71
			3	0.39	0.39	0.32	0.44	0.37	0.39	0.61	0.46	0.39	0.37	0.37	0.52	0.46	0.59
Total Engineering Score for each Alternative Corridor (higher score = higher performing alternative corridors)			Totals	1.27	1.00	0.86	1.05	0.98	1.05	1.56	1.41	1.54	1.17	1.17	1.74	1.63	1.76
REMARKS			• Corridors 5-4, 5 and 5-2 generally performed the best since they provide higher congestion relief to SR 50, attracting higher traffic volumes and causing only minor utility conflicts. • Corridors 4, 4-3, 4-2 and 4-6 also produced good results and caused only minimum utility conflicts and some floodplain encroachment impacts. • Corridors 2 and 2-3 are the least effective options due to their low projected trip attraction and resulting low congestion relief to SR 50. This is likely due to their lack of directness between the project limits.														

RATING	
GOOD	= +2 POINTS
FAIR	= +1 POINT
POOR	= 0 POINTS

PRELIMINARY ENVIRONMENTAL EVALUATION																	
EVALUATION COMPONENTS		UNITS	SEG.	ALTERNATIVE CORRIDORS													
				1	2	2-3	2-4	2-5	3	4	4-2	4-3	4-5	4-6	5	5-2	5-4
Wetlands	4%	Acres	1	25	57	57	57	57	49	39	39	39	39	39	13	13	13
			2	52	34	64	34	34	42	24	24	55	24	24	37	50	37
			3	53	18	42	35	88	42	28	13	42	86	47	85	17	29
Wildlife and Habitat	3%	Average Wildlife Index Ranking	1	3.34	3.39	3.39	3.39	3.39	2.38	2.59	2.59	2.59	2.59	2.59	1.89	1.89	1.89
			2	3.51	3.89	3.88	3.89	3.89	2.81	4.64	4.64	4.3	4.64	4.64	5.63	6.15	5.63
			3	3.01	3.62	2.81	4.22	6.72	2.81	3.97	3.34	2.81	6.6	6	7.16	3.68	4.59
Ecological Connectivity	2%	New Crossings of Conservation Areas	1	5	4	4	4	4	5	6	6	6	6	6	5	5	5
			2	7	4	9	4	4	12	5	5	6	5	5	5	5	5
			3	8	9	15	7	16	15	8	6	15	15	10	11	7	6
Water Body	3%	No. of Crossings	1	5	4*	4*	4*	4*	5	4	4	4	4	4	6	6	1
			2	6	4	9	4	4	8	3	3	8	3	3	6	6	3
			3	7	3	8	2	8	8	5	3	8	8	8	7	2	2
Outstanding Florida Waterway	4%	Acres	1	6	5	5	5	5	20	0	0	0	0	0	0	0	0
			2	27	25	24	25	25	0	12	12	10	12	12	18	29	18
			3	0	11	0	36	36	0	9	5	0	33	37	34	13	10
SJRWMD Land Management Easements	4%	Acres	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			3	0	0	0	0	15	0	0	0	0	21	44	21	0	0
SJRWMD Regulatory Easements	4%	Acres	1	12	6	6	6	6	0	10	10	10	10	10	1	1	1
			2	9	8	17	8	8	10	7	7	16	7	7	4	5	4
			3	0	0	10	15	36	10	16	0	10	30	40	30	0	18
Water/Wastewater/Solid Waste Facilities	3%	No. of Facilities	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			2	0	0	0	0	0	1	0	0	0	0	0	0	0	0
			3	1	1	1	1	0	1	1	1	1	0	0	0	1	1
Total Environmental Weight			27%														
Summary of Results (sum of corridor scores for each evaluation category)			1	0.40	0.29	0.29	0.29	0.29	0.35	0.41	0.41	0.41	0.41	0.41	0.44	0.44	0.47
			2	0.23	0.32	0.19	0.32	0.32	0.29	0.40	0.40	0.24	0.40	0.40	0.30	0.22	0.36
			3	0.32	0.42	0.29	0.31	0.10	0.29	0.35	0.43	0.33	0.10	0.06	0.10	0.42	0.31
Total Environmental Score for each Alternative Corridor (higher score = higher performing alternative corridors)			Totals	0.95	1.03	0.77	0.92	0.71	0.93	1.16	1.24	0.98	0.91	0.87	0.84	1.08	1.14
REMARKS			• Corridor 4-2 generally performed the best due to its minimal impacts to wetlands, wildlife and habitat, ecological connectivity, outstanding Florida waterway, SJRWMD land management easements, SJRWMD regulatory easements, and water/wastewater/solid waste facilities. • Corridor 4 also produced good results and caused only minimum impacts to ecological connectivity, outstanding Florida waterway, SJRWMD land management easements, and water/wastewater/solid waste facilities. • Corridor 2-5 ranked the lowest, and is the least effective option due to the wetland, water body, outstanding Florida waterway, and water/wastewater/solid waste facility impacts.														

\* Follows Econlockhatchee River Tributary

Sample Calculation for Corridor 1 (Segment 1) under Residential & Commercial Units

Relative Segmental Score = Segmental Rating **2 (points)** x Major Utility Conflicts Component Weight **5%** = 0.10

Sample Calculation for Corridor 1 (Segment 1) under Wetlands

Relative Segmental Score = Segmental Rating **2 (points)** x Wetlands Component Weight **4%** = 0.08

Preliminary Corridor Evaluation

Table 2-2



PRELIMINARY SOCIO-ECONOMIC EVALUATION																	
EVALUATION COMPONENTS		QUANTITATIVE MEASURE	SEG.	ALTERNATIVE CORRIDORS													
				1	2	2-3	2-4	2-5	3	4	4-2	4-3	4-5	4-6	5	5-2	5-4
Residential & Commercial Units	Occupied Parcels / Vacant Parcels	1	38 / 18	52 / 16	52 / 16	52 / 16	52 / 16	112 / 10	21 / 5	21 / 5	5 / 5	21 / 5	21 / 5	147 / 9	147 / 9	147 / 9	
		2	18 / 4	40 / 4	38 / 4	40 / 4	40 / 4	64 / 42	67 / 13	67 / 13	62 / 8	67 / 13	67 / 13	134 / 13	132 / 13	134 / 13	
		3	84 / 38	149 / 59	64 / 42	64 / 33	36 / 4	64 / 42	66 / 32	149 / 58	64 / 42	37 / 3	10/2	11 / 2	125 / 57	40 / 31	
Community Facilities (hospitals, schools, libraries, etc.)	Number of Units	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2	0	0	1	0	0	0	2	2	3	2	2	1	1	1	
		3	0	2	0	1	1	0	1	2	0	1	1/2	1	2	1	
Community Services (fire/police, post office, government, etc.)	Number of Units	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Parks/Recreational Facilities	Acres	1	0	0	0	0	0	14	0	0	0	0	0	0	0	0	
		2	14	19	19	19	19	0	0	0	0	0	4	5	4	4	
		3	0	2	0	4	100	0	1	0	0	107	19	107	2	1	
Historic/Archaeological	Number of Sites	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		2	0	0	0	0	0	1	1	1	1	1	1	0	0	0	
		3	1	1	1	0	0	0	0	1	0	0	0	0	1	0	
Community Cohesion	Number of Communities Split	1	3	1	1	1	1	2	1	1	1	1	1	3	3	3	
		2	1	2	2	2	2	2	2	2	4	2	2	3	3	3	
		3	2	3	2	4	1	2	3	4	2	1	0	1	2	3	
Future Land Use Plan	High/Medium/Low Density Residential (Acres)	1	0/16/18	0/44/29	0/44/29	0/44/29	0/44/29	0/8/11	0/51/0	0/51/0	0/51/0	0/51/0	0/51/0	0/42/18	0/42/19	0/42/18	
		2	0/3/6	0/1/9	0/1/27	0/1/9	0/1/9	0/0/58	0/11/10	0/11/10	0/11/27	0/11/10	0/11/10	0/16/13	0/16/13	0/16/13	
		3	0/0/4	0/0/26	0/0/58	0/0/6	0/0/0	0/0/58	0/0/6	0/0/26	0/0/58	0/0/0	0	0/0/6	0/0/26	0/0/0	
Total Socio-Economic Weight		34%															
Summary of Results (sum of corridor scores for each evaluation category)			1	0.40	0.54	0.54	0.54	0.54	0.34	0.62	0.62	0.62	0.62	0.32	0.32	0.32	
			2	0.60	0.45	0.38	0.45	0.45	0.31	0.34	0.34	0.24	0.34	0.34	0.27	0.27	0.27
			3	0.37	0.15	0.31	0.30	0.48	0.39	0.30	0.15	0.39	0.48	0.60	0.56	0.22	0.38
Total Environmental Score for each Alternative Corridor (higher score = higher performing alternative corridors)			Totals	1.37	1.14	1.23	1.29	1.47	1.04	1.26	1.11	1.25	1.44	1.56	1.15	0.81	0.97
REMARKS			• Corridor 4-6 generally performed the best since it generally provided low detrimental impacts as compared to the other options. • Corridors 2-5 4, 4-5, and 1, also produced generally good results and caused only low detrimental impacts in relatively few categories. • Corridor 5-2 is the least effective option due to its high detrimental impacts to residential and commercial units, community cohesion, and future land use plan.														

RATING	
GOOD	= +2 POINTS
FAIR	= +1 POINT
POOR	= 0 POINTS

Sample Calculation for Corridor 1 (Segment 1) under Residential & Commercial Units

Relative Segmental Score = Segmental Rating **1 (point)** x Residential & Commercial Units Component Weight **8%** = 0.08

**Table 2-4** summarizes the composite results obtained previously on **Tables 2-2** and **2-3** (engineering, environmental and socio-economic evaluations). The resulting total score of the individual components illustrated on **Tables 2-2** and **2-3** is shown on the last row of **Table 2-4**. The higher ranking “superior” alternative corridors are highlighted in yellow.

LEGEND

Component Weight

Total Weight

Superior Alternative

TABLE 2-4 PRELIMINARY COMPOSITE RESULTS

EVALUATION COMPONENTS		ALTERNATIVE CORRIDORS													
		1	2	2-3	2-4	2-5	3	4	4-2	4-3	4-5	4-6	5	5-2	5-4
Engineering	<div>39%</div>	1.27	1.00	0.86	1.05	0.98	1.05	1.56	1.41	1.54	1.17	1.17	1.74	1.63	1.76
Environmental	<div>27%</div>	0.95	1.03	0.77	0.92	0.71	0.93	1.16	1.24	0.98	0.91	0.87	0.84	1.08	1.14
Socio-Economic	<div>34%</div>	1.37	1.14	1.23	1.29	1.47	1.04	1.26	1.11	1.25	1.44	1.56	1.15	0.81	0.97
Totals	<div>100%</div>	3.59	3.17	2.86	3.26	3.16	3.02	3.98	3.76	3.77	3.52	3.60	3.73	3.52	3.87

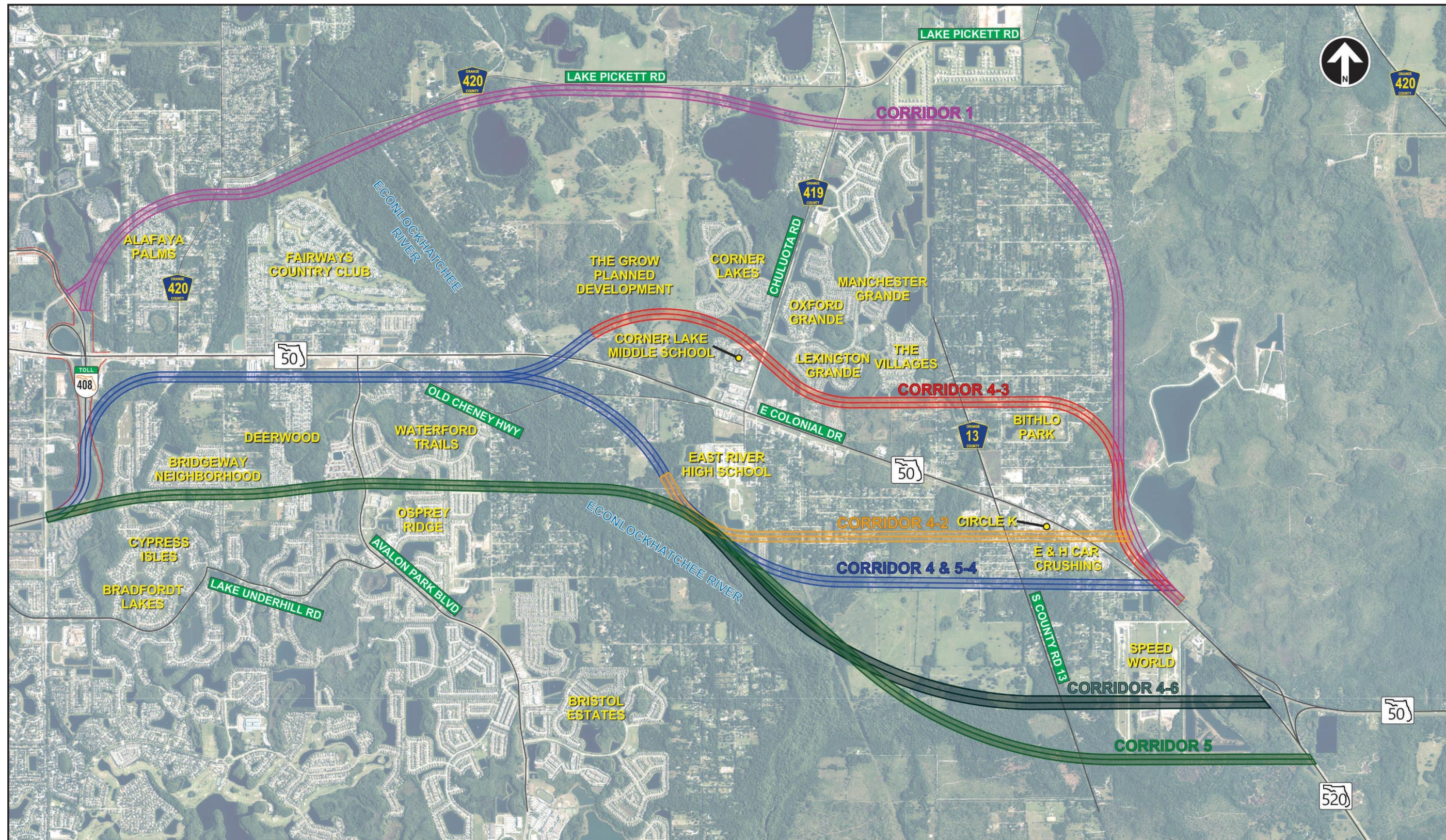
According to **Table 2-5**, Alternative Corridors 1, 4, 4-2, 4-3, 4-6, 5 and 5-4 were selected for further evaluation based on the criteria that they are the only ones that exceed the group median value of 3.56 and are within the standard deviation of 0.33. It should be noted that the objective of this phase is not necessarily to determine which options are the best but rather to identify which alternative(s) are inferior so that they can be eliminated before even more stringent evaluation criteria and procedures are used during the next evaluation phase. The results obtained show that options 2, 2-3, 2-4, 2-5, 3, 4-5, and 5-2, are inferior and were thus eliminated from further consideration. **Figure 2-4** illustrates the six remaining superior corridors.

TABLE 2-5 PRELIMINARY ALTERNATIVE CORRIDOR ELIMINATION				
CORRIDOR	SCORE	MEDIAN	STANDARD DEVIATION	REASONS FOR ELIMINATION
1	3.59	3.56	0.33	Remains Viable
2	3.17			Failed Criteria #1
2-3	2.86			Failed Criteria #1
2-4	3.26			Failed Criteria #1
2-5	3.16			Failed Criteria #1
3	3.02			Failed Criteria #1
4	3.98			Remains Viable
4-2	3.76			Remains Viable
4-3	3.77			Remains Viable
4-5	3.52			Failed Criteria #1
4-6	3.60			Remains Viable
5	3.73			Remains Viable
5-2	3.52			Failed Criteria #1
5-4	3.87			Remains Viable

Selection Criteria

- #1 - Only those alternatives which score higher than the median value for the group will be selected  
 #2 - The maximum gap between the last selected alternative and the next must not be greater than one standard deviation





Remaining Superior Alternative Corridors

Figure 2-4



### 2.2.5 Pre-Final Alternative Corridor Evaluation

In order to check the validity of the previous analysis, a multi-objective approach using a weighted numerical/descriptive technique was used for the remaining alternative corridors. **Table 2-6** is a numerical/descriptive matrix, which describes and evaluates the features of the seven (7) remaining competing corridor alternatives (see **Figure 2-4**). The evaluation used involved the generation of a weighting scheme for each of the evaluation parameters. The evaluation parameters generally fall within four general criteria categories, engineering, socio-economic, environmental, and cost. Eleven (11) different evaluation sub-criteria were used. Each sub-criteria was assigned a value depending on its perceived degree of importance. These criteria and sub-criteria weightings were developed from the average of individual weighting sets prepared by members of the consultant's team reflecting a broad range of professional backgrounds. In addition, the alternative performance with respect to each parameter was compared using two benchmarks; 1) the overall effect on the specified parameter and/or 2) the relative effect between the competing alternatives. The overall effect received one of the five judgmental values (++ = 1.00, + = 0.80, o = 0.60, - = 0.40, - - = 0.20). If, however, any of the alternatives had an overall negative effect, then the worst alternative received a (- -) and the relatively better alternative received a higher score (-). If any two values were approximately equal then they both received the relatively lowest score. If the alternatives had an overall positive effect then the best alternative received a (++) and the relatively worse alternative received a lower score (+). A common value, therefore, signifies an equal overall and relative effect. This evaluation involves a combination of both qualitative and quantitative values resulting in an overall score. Each score indicated on the matrix is the result of multiplying the judgmental analysis rating times the relative weight for that parameter. For example, in **Table 2-6**, Corridor 5-4 under the "Traffic Congestion/Safety" parameter was given a (++) designation (judgmental value = 1.0) since this option provides the greatest congestion relief to SR 50. This judgmental value of 1.0 was then multiplied by the relative weight of the "Traffic Congestion/Safety" parameter (12.0) resulting in an overall score of 12.0. Those alternative options found most feasible, which merited further development and evaluation, are shown in yellow.

LEGEND														
++ SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE 1.0														
+ GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE 0.8														
o GENERALLY NO EFFECT OR MODERATE ALTERNATIVE 0.6														
- GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE 0.4														
-- GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE 0.2														

TABLE 2-6														
PRE-FINAL ALTERNATIVE CORRIDOR EVALUATION														
CORRIDORS	ENGINEERING 33			ENVIRONMENTAL 26				SOCIO-ECONOMIC 23		COST 18		TOTAL SCORE		
	TRAFFIC CONGESTION/SAFETY 12	TRAFFIC ACCOMMODATED 11	CONNECTIVITY 10	SJRWMD REGULATORY EASEMENTS 8	WETLAND IMPACTS 6	WILDLIFE AND HABITAT 6	OUTSTANDING FLORIDA WATERWAY IMPACTS 6	COMMUNITY COHESION 13	CONTROVERSY POTENTIAL 10	CONSTRUCTION 8	R/W AND MITIGATION 10			
1	Not an effective corridor in terms of reducing congestion along SR 50 and diminishing congestion safety concerns 7.2	Low traffic volumes accommodated along the corridor 6.6	Not as effective in terms of network and systems connectivity as the other corridors due to its lack of directness 2.0	Generally moderate impacts to SJRWMD Regulatory Easements when compared to the other corridors with 21 acres of impacts 4.8	Generally high wetland impacts with 130 acres 1.2	Generally moderate impacts to wildlife and habitat with an average wildlife index ranking of 9.86 3.6	Generally high impacts to Outstanding Florida Waterways with 35 acres of impacts 2.4	Lowest impacts to community cohesion when compared to the other corridors with 6 communities split 7.8	Significant local opposition to this corridor alternative has been previously expressed 4.0	Highest potential cost of all corridor options (approximately \$325M to \$335M) 1.6	Generally moderate potential right-of-way impact costs when compared to the other alternative corridors with 200 parcel impacts and generally moderate mitigation impact costs 6.0	47.2		
4	Generally effective corridor in terms of reducing congestion and diminishing safety concerns along SR 50 9.6	Generally attracted higher volumes than Corridor 1 8.8	Supports connections to the local and regional roadway network and its proximity to SR 50 is an advantage 10.0	Generally higher impacts when compared to Corridor 1 with 34 acres of impacts to the SJRWMD Regulatory Easements 3.2	Generally moderate wetland impacts when compared to the other corridors with 90 acres 3.6	High impacts to wildlife and habitats with an Average Wildlife Index Ranking of 11.2 1.2	Moderate impacts to Outstanding Florida Waterways with 25 acres of impacts 3.6	Similar to Corridor 1 but slightly higher number of communities split (6 communities) 7.8	Moderate controversy potential due to some impacts within the first two project segments 6.0	Generally lower potential cost (approximately \$191M to \$201M) 4.8	Generally similar costs to previous corridor with 204 parcel impacts but with higher mitigation impact costs 4.0	62.6		
4-2	Generally similar to Corridor 4 within segment 1 but less effective within segments 2 and 3 and diminishing congestion safety concerns along SR 50 7.2	Overall generally similar to Corridor 1 but with higher traffic volumes attracted within Segment 1 and lower within segments 2 and 3 6.6	Generally similar to Corridor 4 but slightly less direct 8.0	Lowest impacts to SJRWMD Regulatory easements with impacts of 17 acres 4.8	Lowest impacts to wetlands with 75 acres 4.8	Generally high impacts with an Average Wildlife Index Ranking of 10.57 2.4	Moderate impacts to Outstanding Florida Waterways with 15 acres 3.6	Slightly higher number of communities impacted (7) than previous two alternatives 5.2	Generally similar to previous corridor alternative 6.0	Least potential cost of all corridor options (approximately \$160M to \$170M) 6.4	Generally higher right-of-way impact costs with 313 parcel impacts but lower mitigation impact costs than previous alternatives 4.0	59.0		
4-3	Generally similar to Corridor 4 9.6	Similar to Corridor 4 8.8	Generally similar to the previous two corridors but less direct 6.0	Generally similar impacts to Corridor 4 with 36 acres of impacts to the SJRWMD Regulatory Easements 3.2	Generally similar wetland impacts to Corridor 1 with 135 acres 1.2	Generally similar impacts to Corridor 1 with an Average Wildlife Index Ranking of 9.7 3.6	Low impacts to Outstanding Florida Waterways with 10 acres of impacts 4.8	Similar to Corridor 4-2 with 7 community split 5.2	Generally similar to previous corridor alternative 6.0	Generally high potential cost (approximately \$288M to \$298M) 3.2	Generally similar to corridor 1 with lower right-of-way costs (186 parcels) but higher mitigation impact costs 4.0	55.6		
4-6	Generally similar to corridor 4 9.6	Generally similar to corridor 4-2 6.6	Generally similar to corridor 4 with direct connection to SR 50/SR 520 intersection 10.0	Highest impacts to SJRWMD Regulatory easements with impacts of 57 acres 1.6	High wetland impacts (111 acres) 2.4	High impacts to wildlife and habitat with an Average Wildlife Index Ranking of 13.35 1.2	Second highest impacts to Outstanding Florida Waterways with 49 acres of impacts 1.2	Relatively good in terms of cohesion impacts with 3 communities impacted 10.4	Major controversy potential due to its severe impacts to Speed World and Dietrich Ranch 2.0	Generally similar to corridor 4 4.8	Significant impacts associated with Speed World and mitigation requirement for the Dietrich Mitigation Site 4.0	53.8		
5	Generally similar to previous corridor 9.6	Higher traffic attraction than all previous alternatives 11.0	Generally similar to the previous corridor but only slightly less direct 6.0	Second highest impacts to SJRWMD Regulatory easements with impacts of 48 acres 1.6	Similar to Corridor 4-3 with impacts of 135 acres 1.2	High impacts to wildlife and habitat with an Average Wildlife Index Ranking of 14.68 1.2	Highest impacts to Outstanding Florida Waterways with 55 acres of impacts 1.2	Similar to previous two alternatives with 7 community splits 5.2	Significant controversy potential due to major impacts within the first two project segments 4.0	Generally similar to previous corridor with approximate costs of \$264M to \$274M 3.2	Generally similar to Corridor 4-2 with higher right-of-way impact costs of 316 parcel impacts and even higher mitigation impact costs 2.0	46.2		
5-4	Generally the most effective of all corridors in terms of reducing congestion along SR 50 and diminishing congestion safety concerns along SR 50 12.0	Generally similar to previous corridor 11.0	Generally similar to previous corridor with minor difference in terms of directness 6.0	Generally similar to corridor 1 with impacts of 24 acres 4.8	Generally similar to Corridor 4-2 with wetland impacts of 80 acres 4.8	Generally similar to the highest impacts corridor with an Average Wildlife Index Ranking of 12.11 1.2	Generally high impacts to Outstanding Florida Waterways with 30 acres of impacts 2.4	Generally the most impacts to community cohesion with 9 communities split 2.6	Generally similar to previous corridor alternative 4.0	Generally similar to Corridor 4-2 with slightly higher corridor costs (approximately \$168M to \$178M) 6.4	Generally highest right-of-way impact costs with 343 parcel impacts with only moderate mitigation impact costs 2.0	57.2		

According to **Table 2-7**, both the group median scores and standard deviation were used as the basis for elimination of inferior options. The results obtained show that Alternative Corridors 1, 4-3, 4-6, and 5 are clearly inferior and were thus eliminated from further consideration.

**Table 2-7 Pre-Final Alternative Corridor Elimination**

Corridor	Score	Median	Standard Deviation	Reasons for Elimination
1	47.2	55.6	5.57	Failed Criterion #1
4	62.6			Remains Viable
4-2	59.0			Remains Viable
4-3	55.6			Failed Criterion #1
4-6	53.8			Failed Criterion #1
5	46.2			Failed Criterion #1
5-4	57.2			Remain Viable

Selection Criteria

#1 – Only those alternatives which score higher than the median value for the group will be selected

#2 – The maximum gap between the last selected alternative and the next must not be greater than one standard deviation

**Table 2-8** illustrates the general performance of the three remaining competing corridors. According to the table, Alternative 5-4 is the best option in terms of engineering features, but the worst in terms of socio-economic and right-of-way impacts. In addition, it will most likely generate significant controversy due to its high right-of-way and community cohesion impacts. Alternatives 4 and 4-2 are mostly similar within the first two segments, with Alternative 4 performing slightly better within segment 3 in terms of avoiding right-of-way impacts. In summary, Alternative 4 seems to be the best corridor choice in terms of providing a superior solution with an adequate balance between the four decisional components (engineering, environmental, socioeconomic and cost).



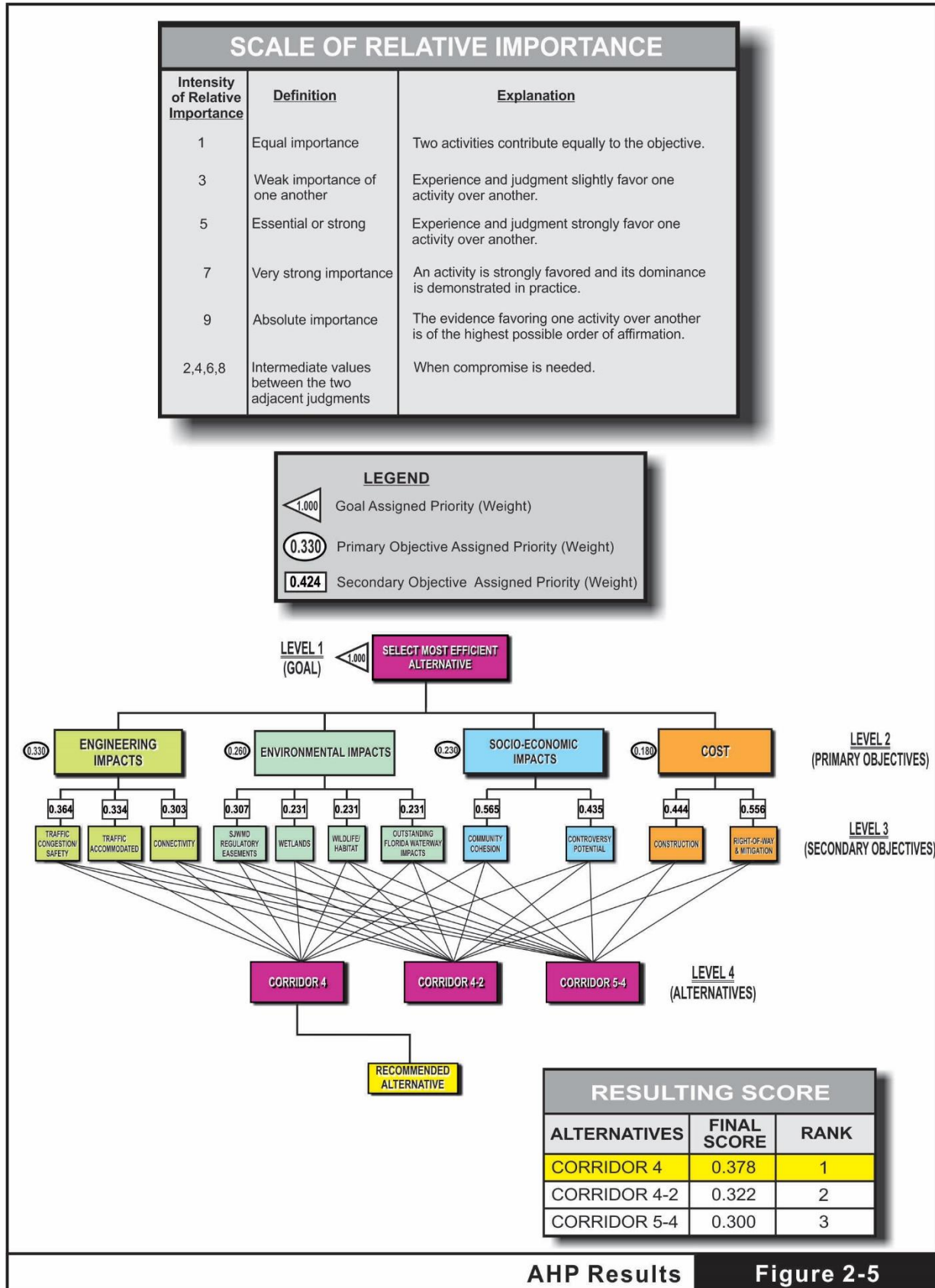
Table 2-8 Pre-Final Alternative Corridor Results

DECISIONAL COMPONENTS  ALTERNATIVES	ENGINEERING	ENVIRONMENTAL	SOCIO-ECONOMIC	COST
4	<ul style="list-style-type: none"> <li>Provides high traffic attraction and congestion relief to SR 50.</li> <li>Relatively minor potential utility conflicts</li> </ul>	<ul style="list-style-type: none"> <li>Good alternative with only minor impacts to ecological connectivity, Outstanding Florida Waterway, SJRWMD land management easements and water/wastewater/solidwaste facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Generally the best option in terms of minimizing or avoiding right-of-way impacts to private and public properties, historic/archaeological sites, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Modestly higher construction cost than the other two options but with much lower right-of-way impacts (204 parcels)</li> </ul>
4-2	<ul style="list-style-type: none"> <li>Generally similar to Alternative 4 for first two segments. Slightly less effective within segment 3. In terms of traffic attraction and congestion relief to SR 50.</li> <li>Similar to Alternative 4 in terms of utility conflicts.</li> </ul>	<ul style="list-style-type: none"> <li>Generally the best option due to its minimum impacts to wetlands wildlife and habitat, ecological connectivity, Outstanding Florida Waterway, SJRWMD land management and regulatory easements and water/wastewater/solidwaste facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Generally similar to alternative 4 for first two segments but slightly less effective within segment 3.</li> <li>Similar to alternative 4 in terms of controversy potential for the first two segments with some potential for first two segments with some potential increase within segment 3.</li> </ul>	<ul style="list-style-type: none"> <li>Lowest construction cost of remaining options, but significant right-of-way impacts to approximately 313 parcels</li> </ul>
5-4	<ul style="list-style-type: none"> <li>Generally the best option in terms of higher traffic attraction and provision of congestion relief to SR 50.</li> <li>Relatively minor potential utility conflicts</li> </ul>	<ul style="list-style-type: none"> <li>Generally comparable with Alternative 4</li> </ul>	<ul style="list-style-type: none"> <li>Generally the worst option due to its high detrimental impacts to residential and commercial units, community cohesion and future land use plans.</li> <li>Major Controversy potential expected due to its high right-of-way and cohesion impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Generally similar construction cost than Alternative 4-2 but with the highest right-of-way impacts of all options</li> </ul>

### 2.2.6 Final Alternative Corridor Evaluation

In order to further test the validity of the results of the previous pre-final corridor evaluation, the use of a more detailed evaluation procedure is necessary. The core decision-making tool used for the evaluation was the "Expert Choice" computer software, which utilizes the Analytical Hierarchy Process (AHP) procedure. The AHP method is based on the breakdown of each problem into a system of stratified levels of hierarchies where each level consists of criteria or objectives to be compared. The relative importance or priority for all the criteria in a given level is then established through a sequence of pair-wise comparisons, which will ultimately lead to the derivation of priorities (i.e., weights or importance) for each criterion. Each alternative is then compared in a series of pair-wise comparisons in relation to each of the evaluation criteria that leads to the determination of the recommended corridor alternative. A complete description of the project evaluation criteria and AHP methodology as well as the AHP computer run results are included in **Appendix A**. The results from the final alternative evaluation confirm that Corridor 4 is the top-ranked alternative (see **Figure 2-5**).

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## 2.3 Corridor Conclusions

The obtained results indicate that Corridor 4 is the best choice to fulfill the project objectives. This option is generally in close proximity to the SR 50 corridor and could provide an effective limited access eastern extension of SR 408 from its present western terminus just east of SR 434 to the SR 50 and SR 520 junction. Most of the local trips within this corridor would be serviced by SR 50 while the proposed SR 408 extension would greatly enhance the mobility and linkage needs of the project area. It should be noted that this corridor does offer the possibility to provide future extension options further east, further increasing the system linkage between east Orange County and Brevard County.

The next steps involved the generation of various alternatives within the selected corridor which strive to mitigate or remove the existing and projected impacts and deficiencies and optimize the provision of an effective SR 408 eastern extension.

### 3 EXISTING CORRIDOR CONDITIONS

According to the results of the Corridor Analysis (summarized in Section 3 of this document), corridors generally paralleling SR 50 to the south would provide an efficient location for the eastern extension of SR 408. This section of the report will briefly describe some existing physical, operational and environmental issues prevalent within this corridor.

This section involved an on-site inventory and verification of current existing conditions as well as the collection of pertinent data that would serve as the basis for a detailed evaluation. Other important features along the study corridor such as utilities, as well as the social/environmental characteristics were reviewed and summarized. **Appendix B** of this report contains a list of references of previous study reports and other pertinent documents that were consulted during this task.

#### 3.1 SR 408 Existing Features

SR 408, also known as the Spessard L. Holland East-West Expressway, is a limited access tolled east-west expressway owned and operated by CFX. This existing three (3) lane each direction expressway currently ends at the SR 50 and Challenger Parkway interchange and has a posted speed of 65 mph.

#### 3.2 Utilities

Utility companies with known facilities within the proposed project limits were contacted and requested to submit as-built plans and information on any proposed utilities within the project limits. **Table 3-1** presents a list of utilities owners and types of utilities. A summary of the Utility location based on the responses received is included in **Appendix C**.

**Table 3-1 Existing Utilities**

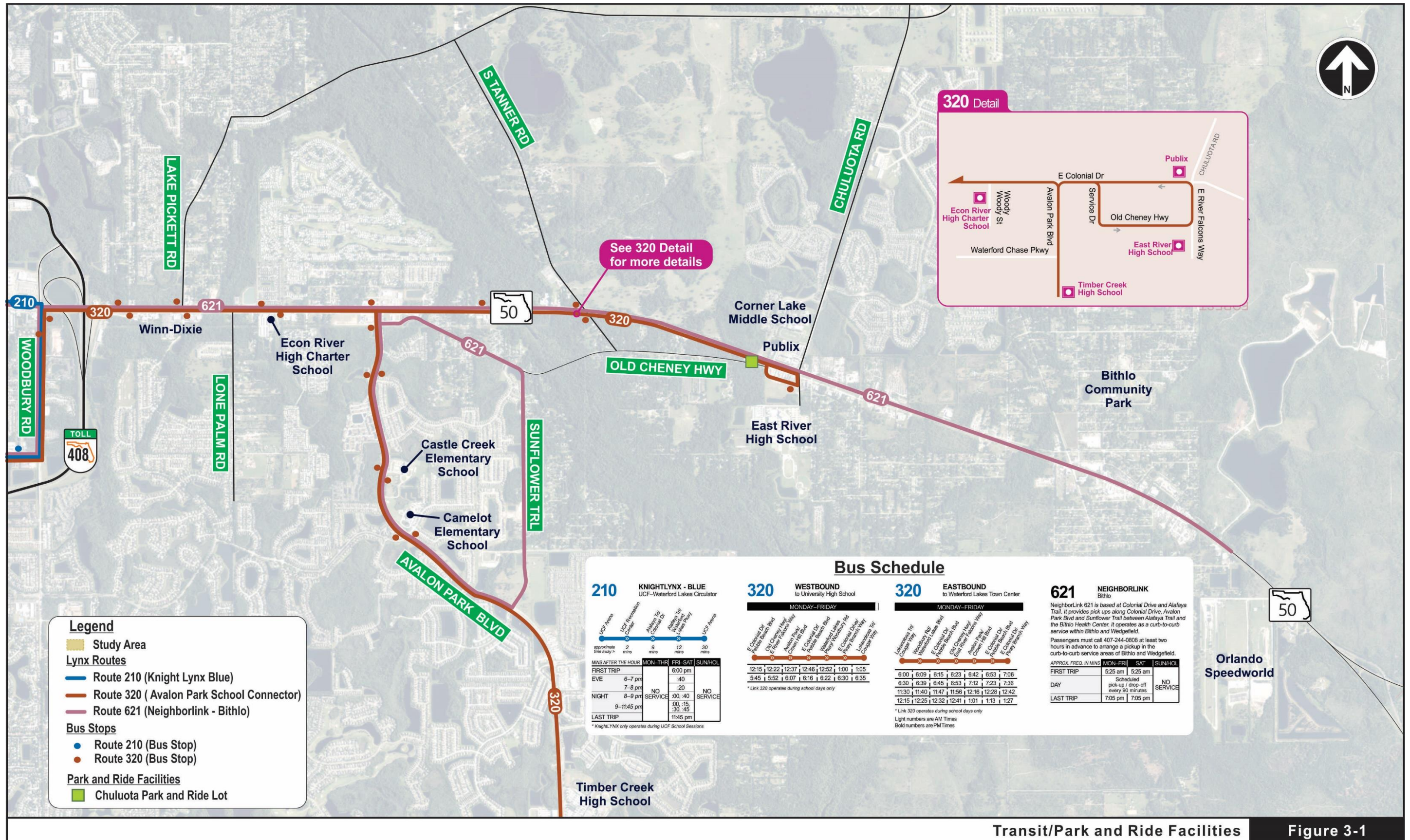
Utility	Contact Information	Utility Type
American Traffic Solutions	Santiago Martinez - (480) 596-4595	Communications/Electric
Charter Communications	Marvin Usry Jr - (407) 532-8509	Internet, Cable T.V., Phone, Fiber
City of Orlando-Wastewater	David Breitrack - (407)246-3525	Wastewater/Reclaim Water
Advanced Cabling Solutions Inc	Robert Ford - (407) 883-8881	Electric and Fiber
Duke Energy	Megan Vonstetina - (727) 893-9394	Electric
Fibernet Direct	Danny Haskett - (305) 552-2931	Fiber
Lovelace Gas Service	Garry Lovelace - (407) 277-2966	Gas
MCI	Dean Boyers - (469) 886-4238	Communications/Fiber Optic
Orange County Utilities - Waste Water	David Shorette - (407) 254-9764	Wastewater
Orange County Public Works	Roger Smith - (407) 836-7900	Traffic Signals & Fiber
Central Florida Expressway Authority	Vu Vu - (407) 843-5120	Fiber Optic
Orange County Utilities	Marc Brown - (407) 836-6869	Water
Orlando Telephone Company Inc	Jack Leopard - (407) 996-6297	Fiber and Telephone
Duke Energy	Megan Vonstetina - (727) 893-9394	Fiber
Teco Peoples Gas - Orlando	Deborah Frazier - (407)420-6609	Gas
Centurylink	George Mcelvain - (303) 992-9931	Telephone
AT&T/Distribution	Dino Farruggio - (561) 997-0240	Telephone
Comcast Cable Communications	Wade Mathews - (352) 516-3824	CATV

### 3.3 Transit/Park and Ride Facilities

The LYNX bus system serves the Orlando metropolitan area and adjacent communities with over 80 bus routes. The system is run by the Central Florida Regional Transportation Authority and provides three routes serving the project vicinity. **Figure 3-1** illustrates the three routes that serve the project vicinity.

NeighborLink 621 is based at Colonial Drive (SR 50) and Alafaya Trail (SR 434) just west of the begin project. It provides several stops along SR 50, Avalon Park Boulevard





Transit/Park and Ride Facilities

Figure 3-1



and Sunflower Trail between Alafaya Trail and the Bithlo and Wedgefield with a scheduled headway of 90 minutes, Monday thru Saturdays from 5:30 am to 7:05 pm.

KnightLYNX Blue 210 Provides a circulator service between the University of Central Florida (UCF) just north and west of the begin project and the Waterford Lakes Town Center. This circulator service only operates on Fridays and Saturdays between 6:00 pm and 12:15 am.

Avalon Park School Connector 320 Provides service along Colonial Drive (SR 50), Avalon Park Boulevard and Old Cheney Highway. Operates weekdays from 6:00 am to 7:30 am and 11:30 am to 1:30 pm in the eastbound direction and weekdays between 12:00 pm to 1:00 pm and 5:45 pm to 6:35 pm in the westbound direction.

The Chuluota Park and Ride Lot (16622 East Colonial Dr., Orlando) (see photo on the right) is a facility located approximately 0.3 of a mile west of Chuluota Road (CR 419) on the south side of SR 50. It features 87 spaces, five (5) handicapped spaces and two (2) bike lockers. It is highly visible from SR 50 and is served by LYNX (NeighborLink 621 route).



### 3.4 Environmental Characteristics

The following sections briefly summarize some of the key environmental considerations prevalent within the project study area. For more existing environmental conditions please refer to the State Environmental Impact Report (SEIR) prepared for this study.

### 3.4.1 Land Use

Land use descriptions provided for both uplands and wetlands are classified utilizing the Florida Land Use Cover and Forms Classifications System (FLUCCS) designation. Existing land use in the project area was initially determined utilizing U.S. Geological Survey (USGS) maps, historical images, aerial photographs, and land use mapping from the St. Johns River Water Management District (SJRWMD) (2012). Land use categories reported by SJRWMD were verified in the field. Field reviews generally confirmed the SJRWMD land use mapping, with minor updates to account for recent development or where natural land cover type differs from that reported by SJRWMD.

Land use categories mapped by SJRWMD are shown on **Figures 3-2 and 3-3** and land use categories in the project area are described below. Descriptions of FLUCCS codes are taken primarily from FDOT (1999) and SFWMD (2009). Land uses in the project area vary from undeveloped natural areas to highly developed residential and commercial areas. Immediately west of the project limits are Commercial and Services (FLUCCS 1400), Residential Medium density (FLUCCS 1200), and Pine Flatwoods (FLUCCS 4110) land use types. Immediately east of the project limits are Shrub and Brushland (FLUCCS 3200), Pine Flatwoods (FLUCCS 4110), and Freshwater Marshes (FLUCCS 6410) land use types.

Land use map data was inconsistent with broader conditions encountered during field inspections in three locations. The area mapped as a phosphate mine (FLUCCS 1633) just west of the project end point actually mines fill dirt, not phosphates. A broad expanse mapped as Pine Flatwoods (FLUCCS 4110) south of SR 50 at its interchange with SR 520 contains habitat that more closely matches descriptions of mixed forested wetland plant communities. An area mapped as Freshwater Marsh (FLUCCS 6410), immediately east of the southern part of 9th Street in Bithlo, is actually a highly disturbed site that has been used as an unofficial dump and is a designated brownfield. Its current grade is substantially higher than the surrounding areas and it is bordered by canals.



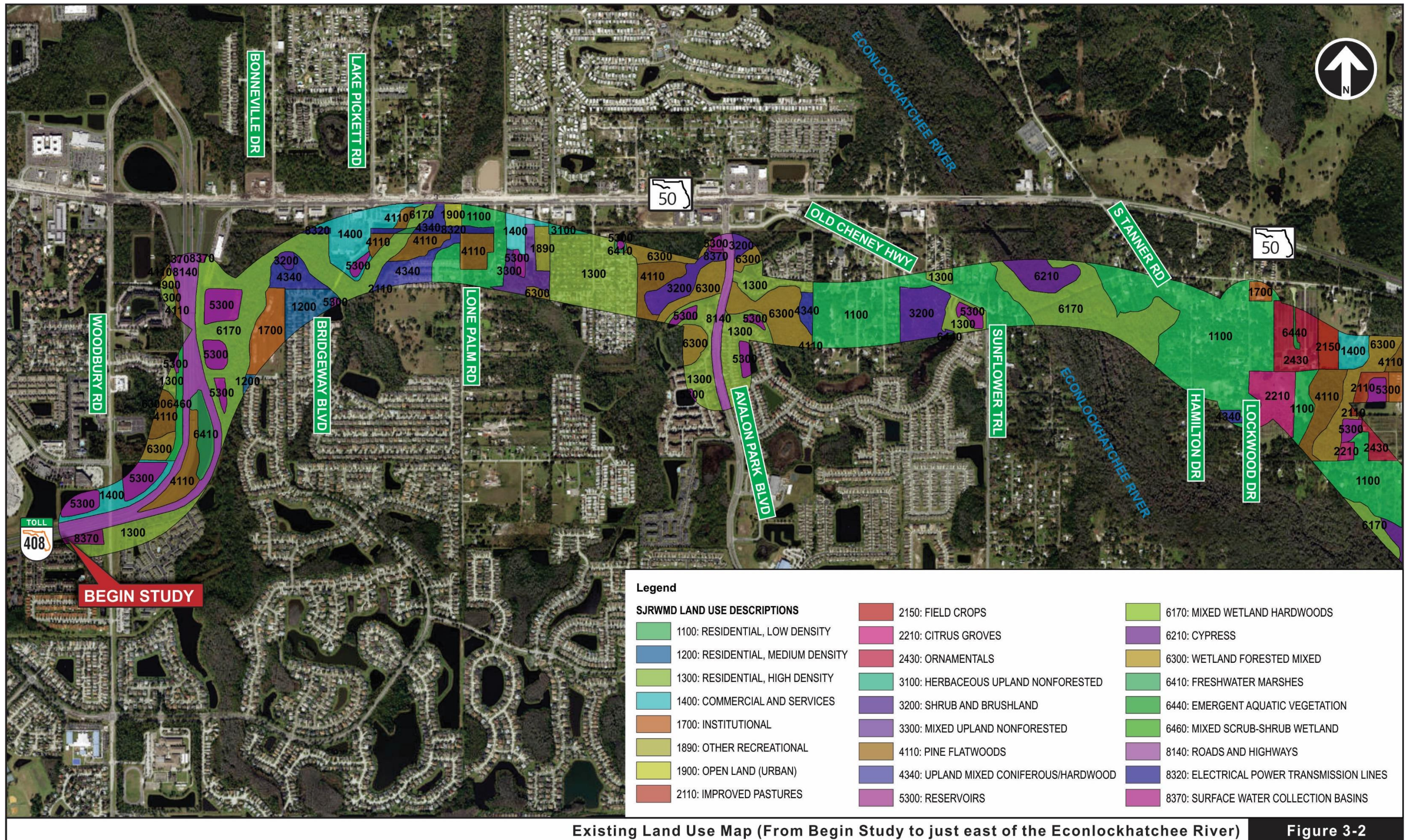


Figure 3-2



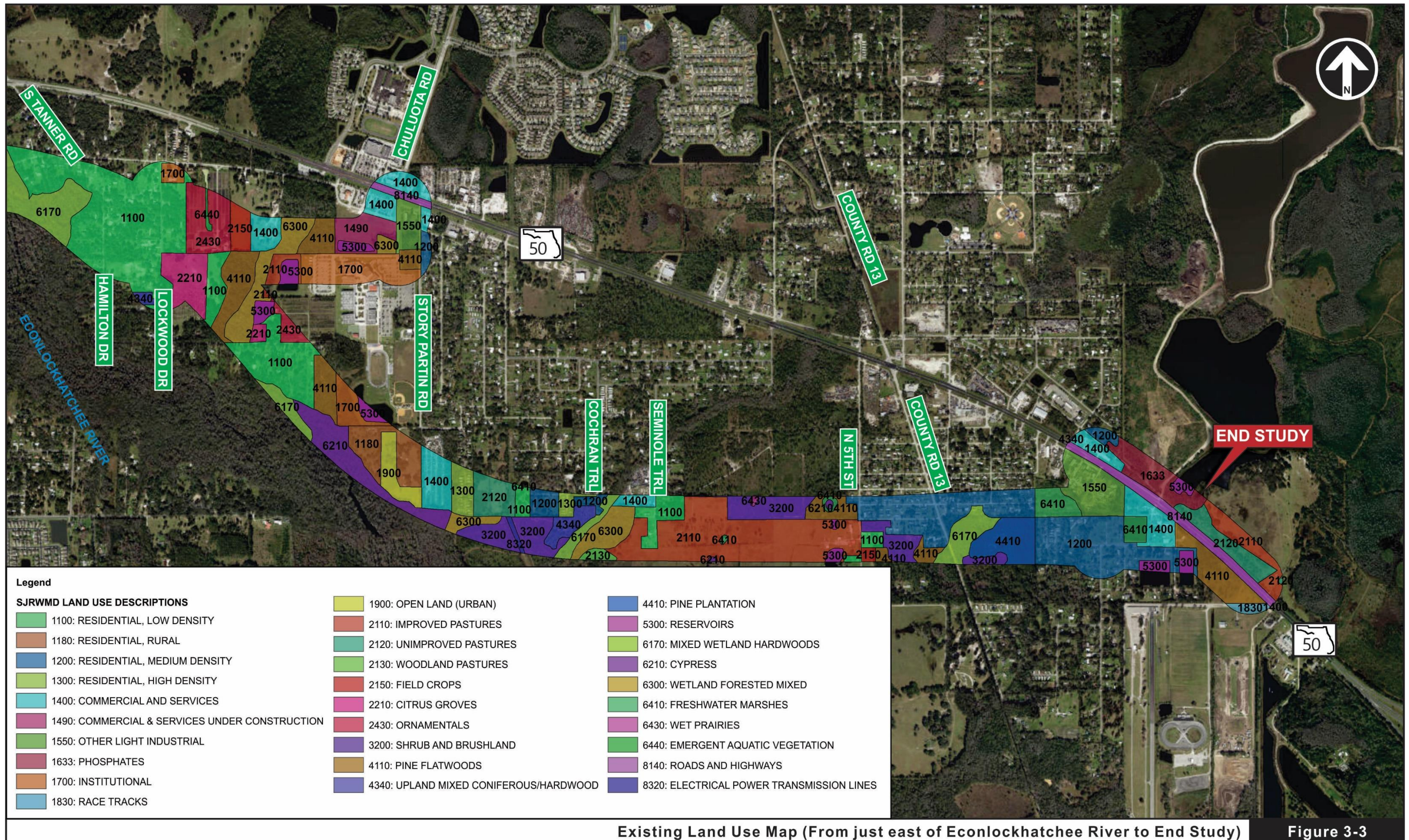


Figure 3-3



### 3.4.2 Soils

The Natural Resources Conservation Service (NRCS) (2015) indicates that twelve soil types occur in the study area (see **Figures 3-4** and **Figure 3-5**). Three hydric soil types, Sanibel muck, Samsula muck, and Wauberg fine sand, are mapped in the project area.

**Table 3-2** describes the soils listed by the Soil Survey as occurring on-site.

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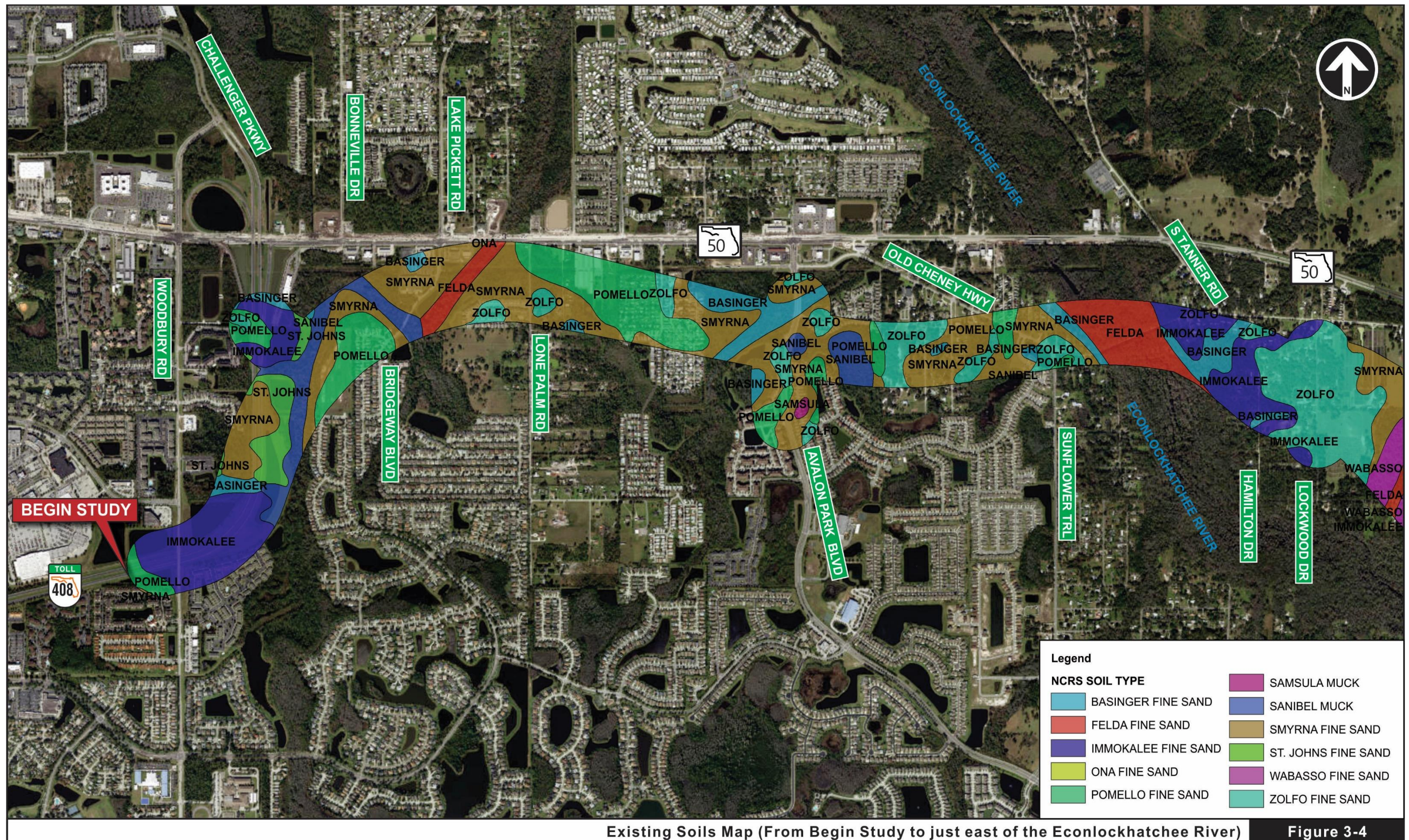


Figure 3-4



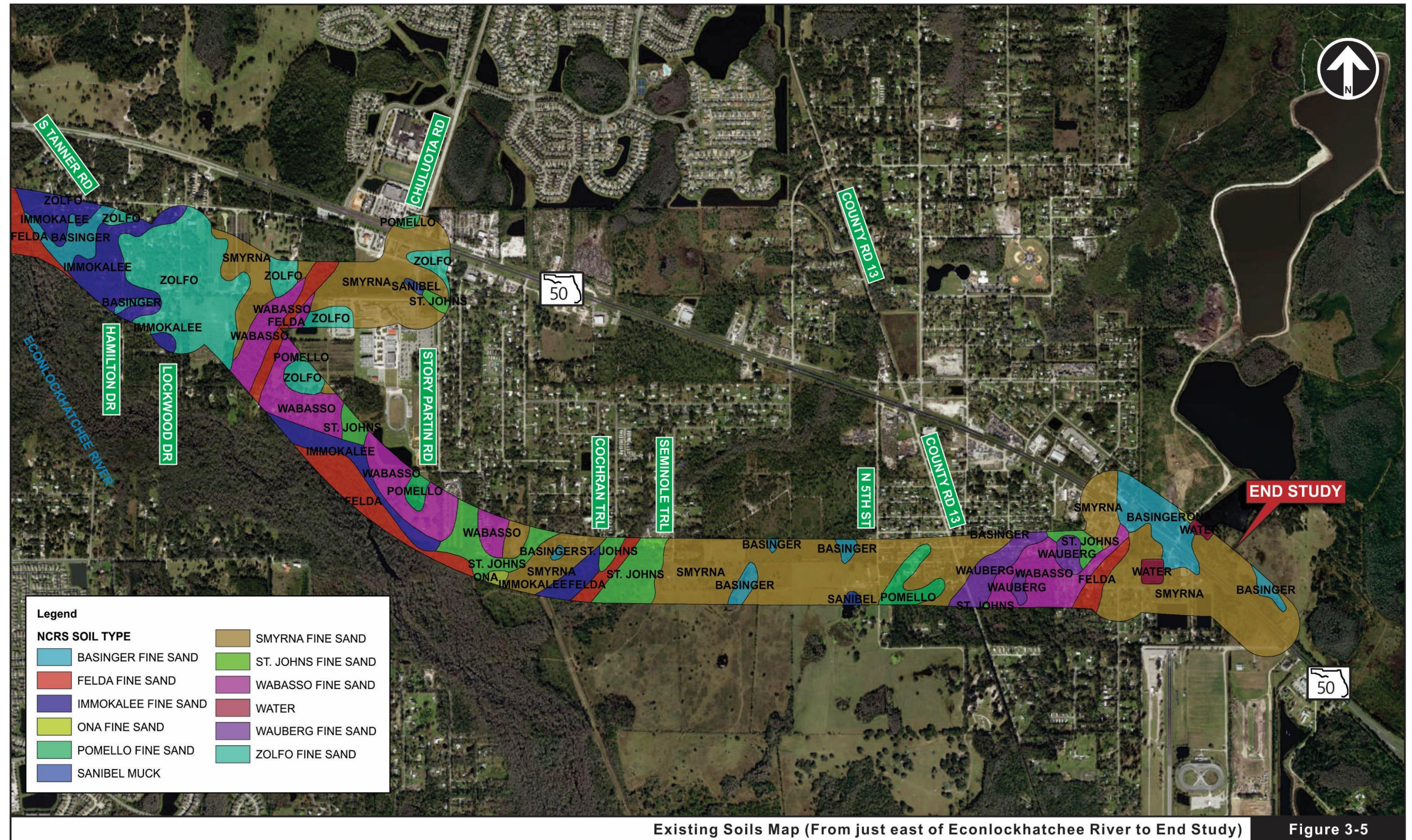


Figure 3-5



Table 3-2 On-site Soils

Soil Type	Slope	Characteristics
Basigner fine sand	0 to 2 Percent	This type consists of very deep, very poorly and poorly drained, rapidly permeable soil in low flats, sloughs, depressions and poorly defined drainage ways. They formed in sandy marine sediments. Permeability is rapid. This is not a hydric soil.
Felda fine sand	0 to 2 Percent	This soil consists of very deep, poorly drained and very poorly drained, moderately permeable soils in drainage ways, sloughs, depressions, flood plains and low flats of the southern flatwoods and the southern central Florida ridge. They formed in sandy and loamy marine deposits. Permeability is rapid to very slow depending on soil horizon. This is not a hydric soil.
Immokalee fine sand	0 to 5 Percent	This soil type consists of very deep, very poorly and poorly drained soils on flatwoods and in depressions primarily in the southern Florida flatwoods, but also occurs in the south central Florida ridge, Florida Everglades and associated areas and the southern Florida lowlands of peninsular Florida. They formed in sandy marine sediments. Permeability is very rapid to moderate. This is not a hydric soil.
Ona fine sand	0 to 2 Percent	This type consists of poorly drained, moderately permeable soils that formed in thick sandy marine sediments. They are in the flatwood areas of central and southern Florida. Permeability is moderate. This is not a hydric soil.
Pomello-Urban land complex	0 to 2 Percent	This soil type consists of nearly level, moderately well drained sandy soil that has been altered for use as building sites and is urban land or covered by houses, streets, driveways, buildings, and parking lots. Permeability is moderate where infrastructure is absent. This is a not hydric soil.
Samsula muck	>2 Percent	This soil type consists of very deep, very poorly drained, rapidly permeable soils that formed in moderately thick beds of hydrophytic plant remains and are underlain by sandy marine sediments in narrow to broad swamps and depressional areas in the flatwoods. Permeability is rapid. <b>This is a hydric soil.</b>
Sanibel muck	>2 Percent	This soil type consists of nearly level, deep, very poorly drained soil that has a muck surface layer over sandy mineral material located in ponds, drainage ways and low broad flats. Permeability is rapid. <b>This is a hydric soil.</b>
Smyrna-Smyrna wet fine sand	0 to 2 Percent	This soil type consists of very deep, poorly to very poorly drained soils formed in thick deposits of sandy marine material. Permeability is rapid to moderate. This is not hydric soil.
St. Johns fine sand	0 to 2 Percent	This soil type consists of very deep, very poorly or poorly drained, moderately permeable soils on broad flats and depressional areas of the lower Coastal Plain. They formed in sandy marine sediments. Permeability is moderate. This is not a hydric soil.
Wabasso fine sand	0 to 2 Percent	This soil type consists of very deep, very poorly and poorly drained, slowly permeable soils on flatwoods, flood plains and depressions in in the southern Florida flatwoods and to a less extent in south central Florida ridge, southern Florida lowlands and Florida Everglades and associated areas. They formed in sandy and loamy marine sediments. Permeability ranges from rapid to slow depending on soil horizon. This is not hydric soil.
Wauberg Fine Sand	0 to 2 Percent	This soil type is nearly level, poorly drained, and found in low areas on the flatwoods. Permeability is very slow, forming thick beds of loamy marine sediments within large prairie areas. Water capacity is low to medium in the surface layer, subsoil, and substratum. It is very low to low in the subsurface. This soil is well suited to improved pasture grasses, but has severe limitations for building site development, sanitary facilities, and recreational uses. <b>This is a hydric soil.</b>
Zolfo fine sand	0 to 5 Percent	This soil type consists of very deep, somewhat poorly drained soils that formed in thick beds of sandy marine deposits. These soils are on low broad landscapes that are slightly higher than adjacent flatwoods on the lower coastal plain of central Florida. Permeability is rapid to moderate. This is not hydric soil.

\*Source NRCS 2015



### 3.4.3 Contamination

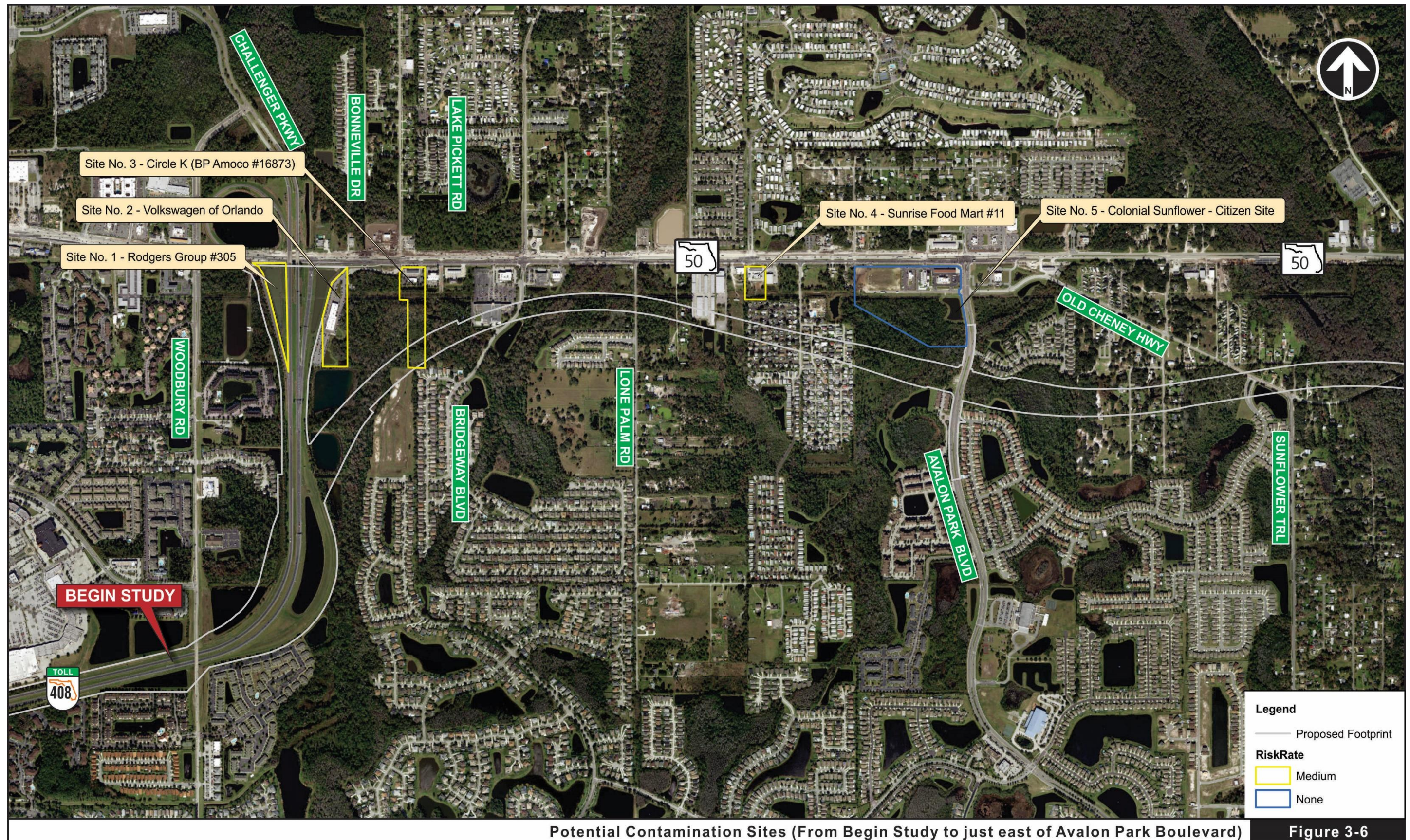
A Contamination Screening Evaluation Report (CSER) was prepared for this study. The analysis included information from Florida Department of Environmental Protection (DEP) and US Environmental Protection Agency (USEPA) databases as well as field investigations and reviews of historic and aerial photographs. No National Priorities List (NPL) superfund sites or landfills were identified within one mile of the project corridor. Out of 22 sites, 3 were assigned a risk rating of None, 4 were assigned a risk rating of Low, 14 were assigned a risk rating of Medium, and 1 was assigned a risk rating of High. Medium and High risk sites are recommended for additional assessment during final design, including soil and groundwater testing, if right-of-way acquisition or subsurface work (including construction of any structures or stormwater ponds) is proposed on or adjacent to them. A SJRWMD Environmental Resource Permit will be necessary and a Dewatering Permit is anticipated for any dewatering operations during construction. **Minimal** contamination impacts are anticipated. The contamination sites are summarized in **Table 3-3**. **Figures 3-6 through 3-8** show the locations of each site.

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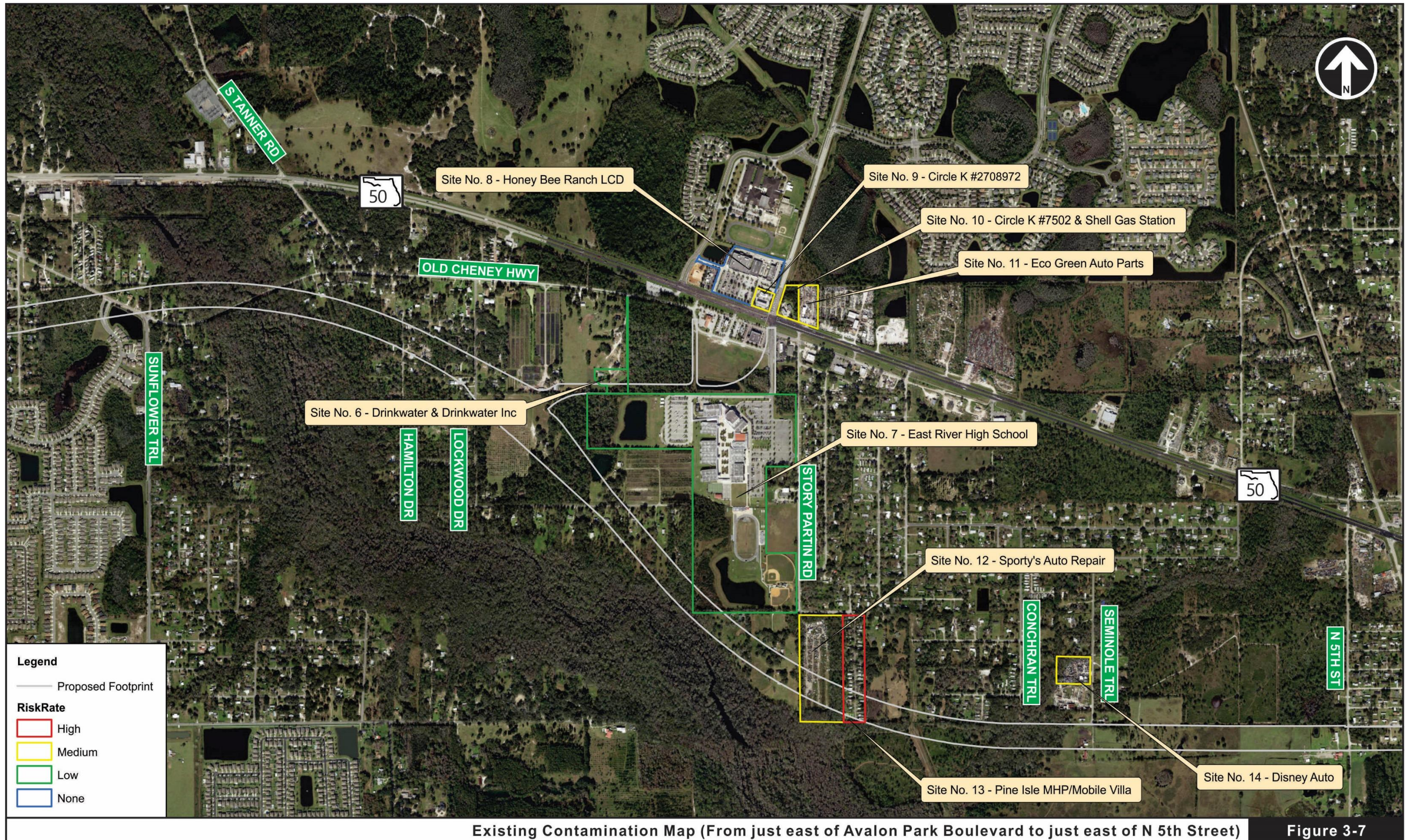
Table 3-3 Contamination Site Summary

Site #	Facility Name	Address	Facility ID (FDEP/ RCRA)	Databases	Concern		Distance of Contamination from Project Corridor	Risk Rating
1	Rodgers Group #306	E. Colonial Dr. and SR 408 Intersection	9102292	FDEP OCULUS	Petroleum Cleanup	FDOT	Co-located	Medium
2	Volkswagen of Orlando	12700 E. Colonial Dr.	SQG_204620, FLR10KE95, FLR10KO15	FDEP OCULUS	Gas, Oil, Solvents	Napleton Orlando Imports	Adjacent	Medium
3	Circle K (BP Amoco #16873)	12914 E. Colonial Dr.	9804439	FDEP OCULUS	Petroleum Cleanup	Circle K Stores Inc	Co-located	Medium
4	Sunrise Food Mart #11	14266 E. Colonial Dr.	8943447	FDEP OCULUS	Petroleum Cleanup	Orlando Petrol LLC	Adjacent	Medium
5	Colonial Sunflower - Citizen Site	No absolute address available; Planned Site	99954, 6059	None	Solid Waste	Orange County (once finalized)	Adjacent	None
6	Drinkwater & Drinkwater Inc	16578 Old Cheney Hwy.	9045622	FDEP	Fuel/Petroleum Cleanup	Margaret P. & Norman W. Drinkwater	Co-located	Low
7	East River High School	654 Columbia School Rd.	9812033	None	Petroleum Contamination	School Board of Orange County Florida	Adjacent	Low
8	Honey Bee Ranch LCD	16877 E Colonial Dr. #322	86888 (Solid Waste Facility ID), 4571	FDEP OCULUS	Construction Debris	PSM Corner Lakes Plaza LLC	Adjacent	None
9	Circle K #2708972	16891 E. Colonial Dr.	9101787	FDEP OCULUS	Gas, Oil, Solvents, UST	Circle K Stores Inc.	Adjacent	Medium
10	Circle K #7502 & Shell Gas Station	16959 E Colonial Dr.	8521400	FDEP OCULUS	Gasoline, oil, solvents	Erland L Stenberg & Mary Ann Stenberg	Adjacent	Medium
11	Eco Green Auto Parts	16969 E. Colonial Dr.	FLR000053637, SQG_74119, FLR05G750	FDEP OCULUS	Gas, Oil, Solvents	Green East Colonial Drive LLC	Adjacent	Medium
12	Sporty's Auto Repair	250 Story Partin Rd.	FLR000095232, FLR05F715	FDEP OCULUS	Petroleum products	250 Story Partin Rd. LLC	Co-located	Medium
13	Pine Isle MHP/Mobile Villa	190 Story Partin Rd.	FLA010877	FDEP	Water/sewage contaminants	Pine Isle MHP LLC	Co-located	High
14	Disney Auto	104 Seminole Trl.	FLR000049874, FLR05E268	FDEP OCULUS	Petroleum products	Aminolsharieh Bahman Tr	Adjacent	Medium
15	Atlantic Gulf Colonial Brownfield: Rocco	18800 E Colonial Dr.	BF481302000, FLR10FD46, 25403	FDEP OCULUS	Petroleum Cleanup, Oil, Solvents, Solid Waste, Groundwater Contamination	Shaka Mik LLC	Adjacent	Medium
16	East Orange Machine Shop	18776 E. Colonial Dr.	FLD984188078	FDEP OCULUS	Gas, Oil, Contaminants Related to Welding	Schuetrum Michael L	Adjacent	Medium
17	Orlando Scrap Metal Inc.	18778 E. Colonial Dr.	FLD981473499, FLD984188078, FLD984209692	FDEP OCULUS	None	Singer Metal Recycling Inc.	Adjacent	None
18	E & H Car Crushing Company, Inc	106 Gloucester St.	9202945, 93235, 9202945a, 9202945c	FDEP OCULUS	Gasoline, Oil	ERB Harold and ERB Joyce	Co-located	Medium
19	Astro Boy Auto Sales and Service	18765 E. Colonial Dr.	None	None	Paint, Solvents, Gasoline, Oil	Eccli Family Trust	Adjacent	Medium
20	R & O Towing	18801 E. Colonial Dr.	SQG_76423	FDEP OCULUS	Paint, Solvents, Gasoline, Oil	Robert Oliva	Adjacent	Medium
21	Phosphate Mine	251 Baxter Rd.	Parcel ID: 26-22-32-1312-01-000	FDEP OCULUS	Heavy Metals	40 Acres & a Mule LLC	Adjacent	Low
22	Orlando Speed World	19164 E. Colonial Dr.	9700560, 9700558, FLR000014597	FDEP OCULUS	Petroleum products	RBS JR Inc.	Adjacent	Low



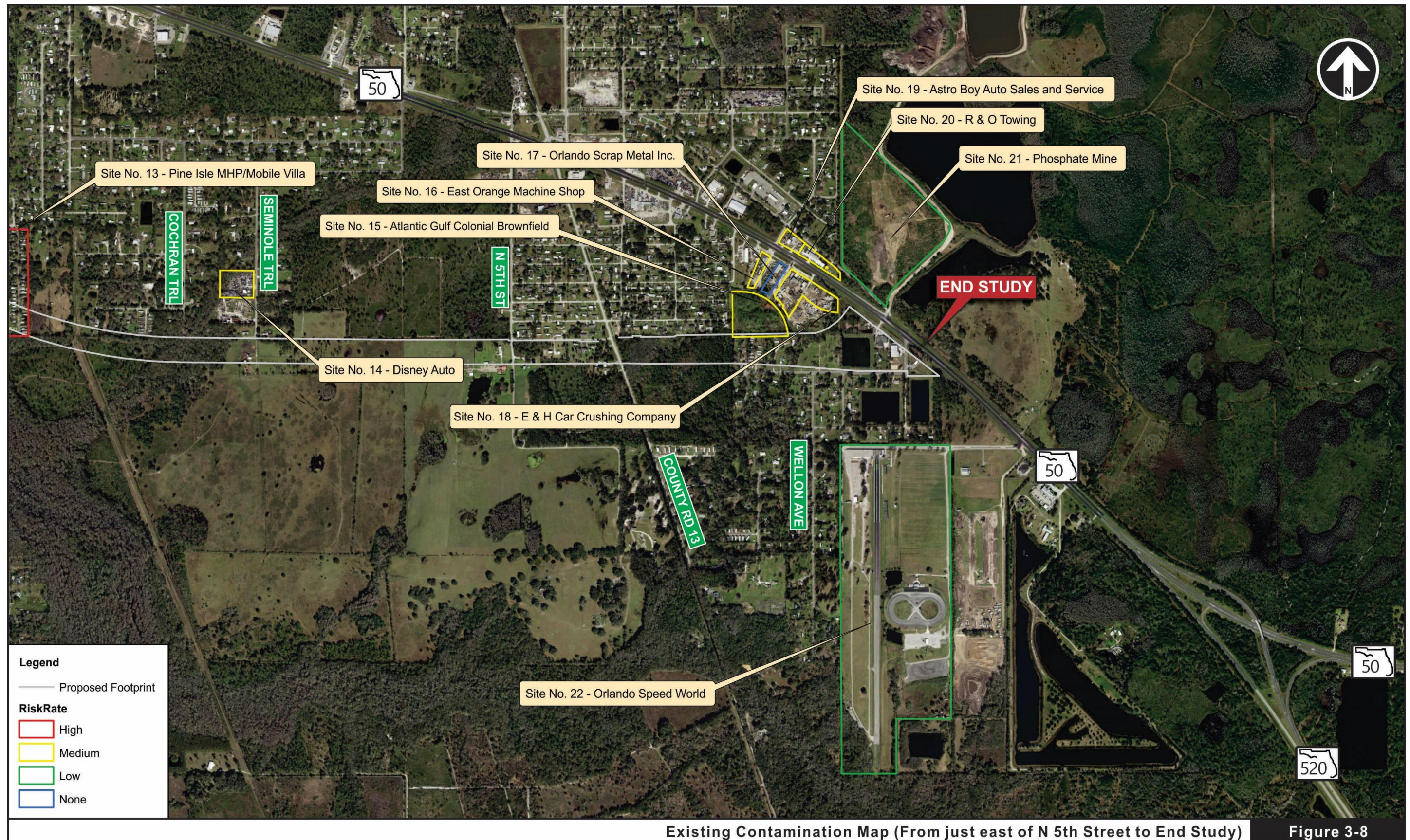






Existing Contamination Map (From just east of Avalon Park Boulevard to just east of N 5th Street)





Existing Contamination Map (From just east of N 5th Street to End Study)

Figure 3-8



### 3.4.4 Flood Zones

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (updated December 4, 2012), a large portion of the project corridor is located within Flood Zone X, which is a flood zone that has a 0.2% annual flood chance. Small portions of the project area are located within flood zones A and AE, which are flood zones that are inundated by the 100-year flood (see **Figure 3-9**). FEMA Map Nos. 12095C0280F, 12095C0285F, 12095C0295F and 12095C0315F, provide flood information for the project (see **Appendix D**). There are many naturally occurring streams and drainageways located throughout the project area.

### 3.4.5 Elevation and Hydrologic Features

**Figure 3-10** shows elevation maps created with data collected using available LiDAR in North American Datum 1983 (NAD 83). The project area has a ground elevation ranging between approximately 25 and 80 feet. The eastern and western ends of the project area have existing elevations ranging from approximately 60 to 80 feet and the elevation dips along the Econlockhatchee River basin.

Hydrologic features and wetland areas are mapped by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) and are shown on **Figure 3-11**. The Econlockhatchee River is considered an Outstanding Florida Water, is in a Riparian Habitat Protection Zone, and also has associated Special Basin Criteria that must be met for permit issuance. As shown on **Figure 3-11**, in addition to the Econlockhatchee River, several river tributaries also cross the project study area. The nearest major water features besides the Econlockhatchee River and its tributaries are Lake Tanner and Corner Lake, both located approximately one mile north of the project corridor.

Based on a review of data from the Florida Department of Health (2015), 71 potable wells are present within or adjacent to the study area. Most of these wells are concentrated in the eastern half on the study area and are associated with residential communities and commercial establishments. The project is not underlain by a Sole Source Aquifer as identified by the USEPA.



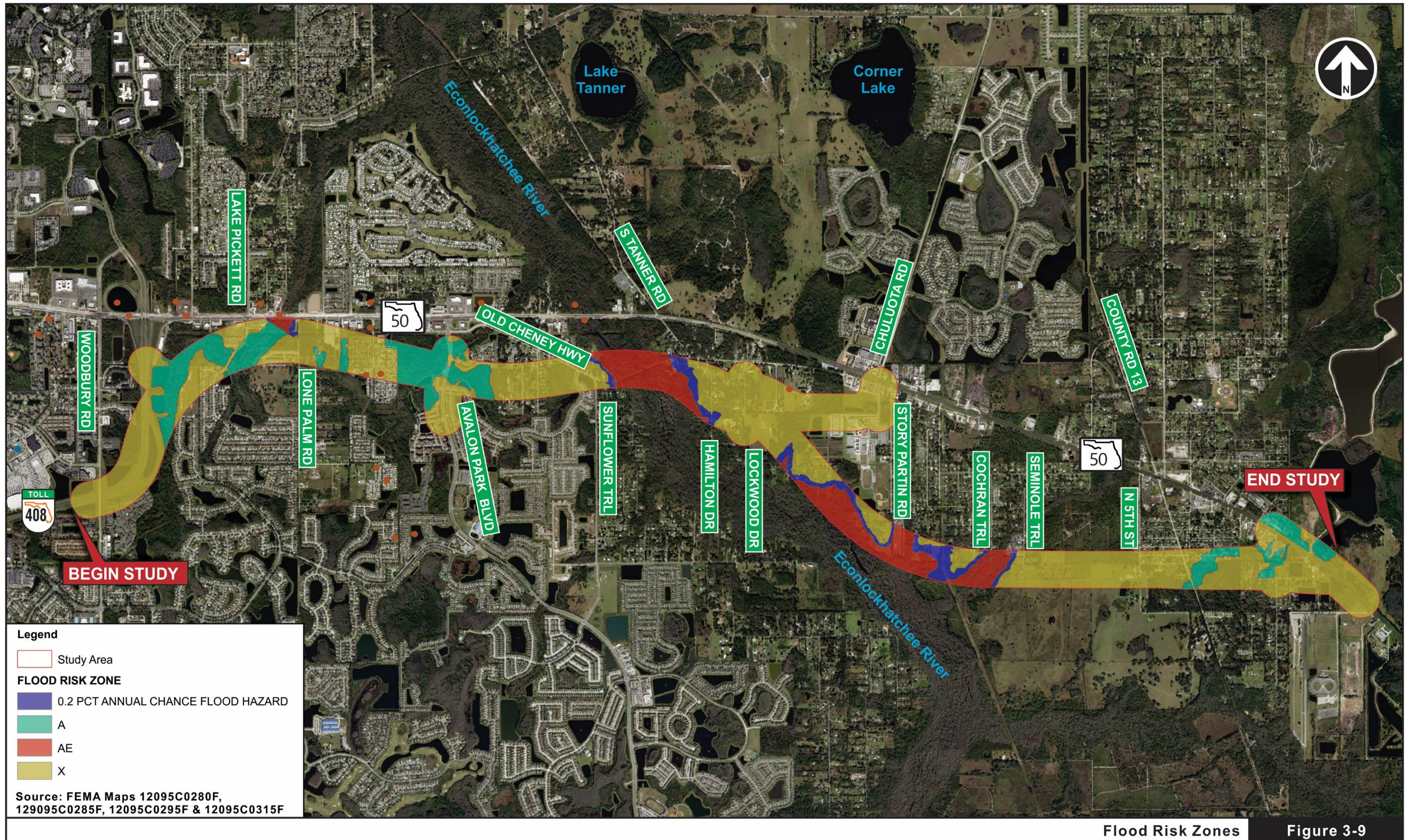
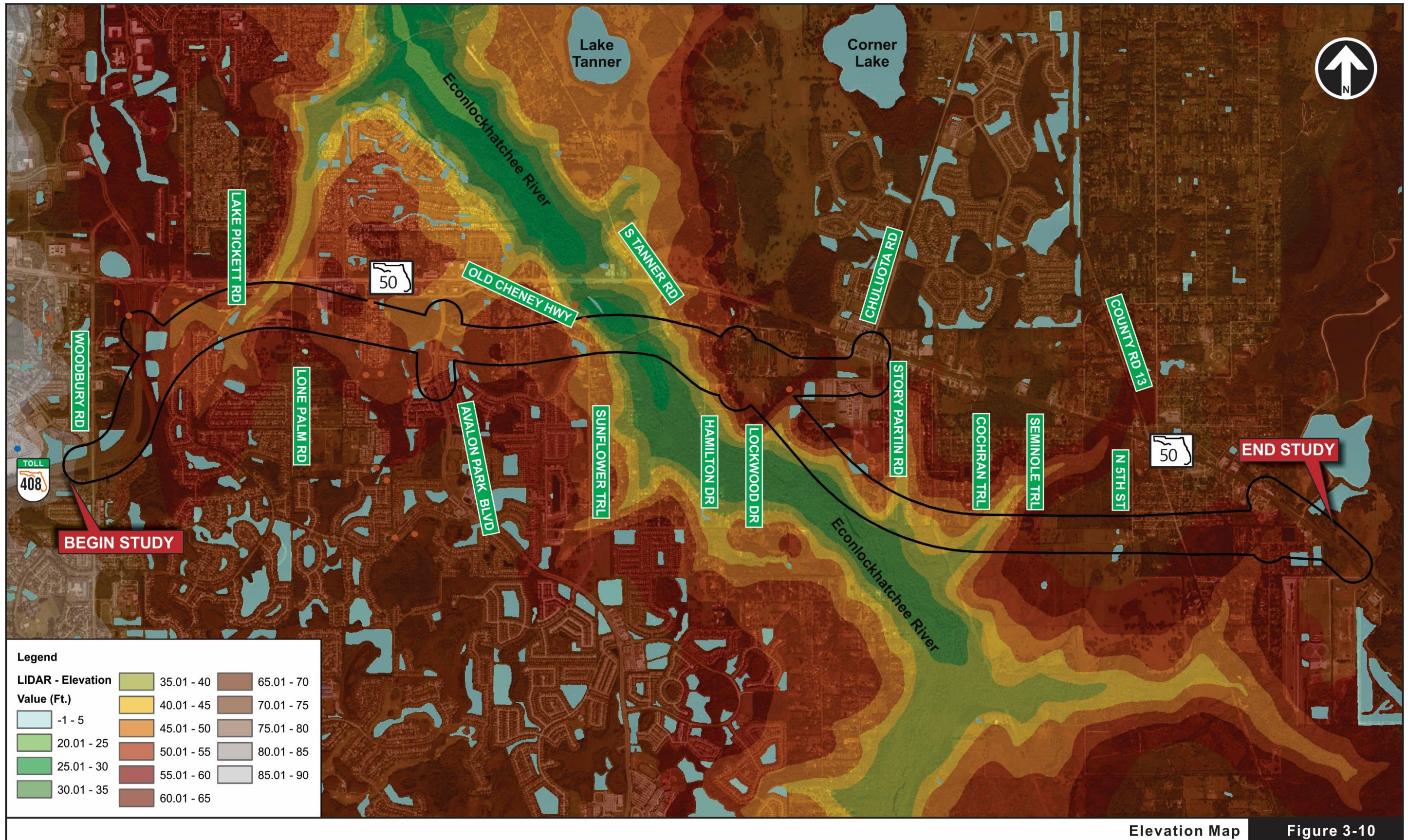
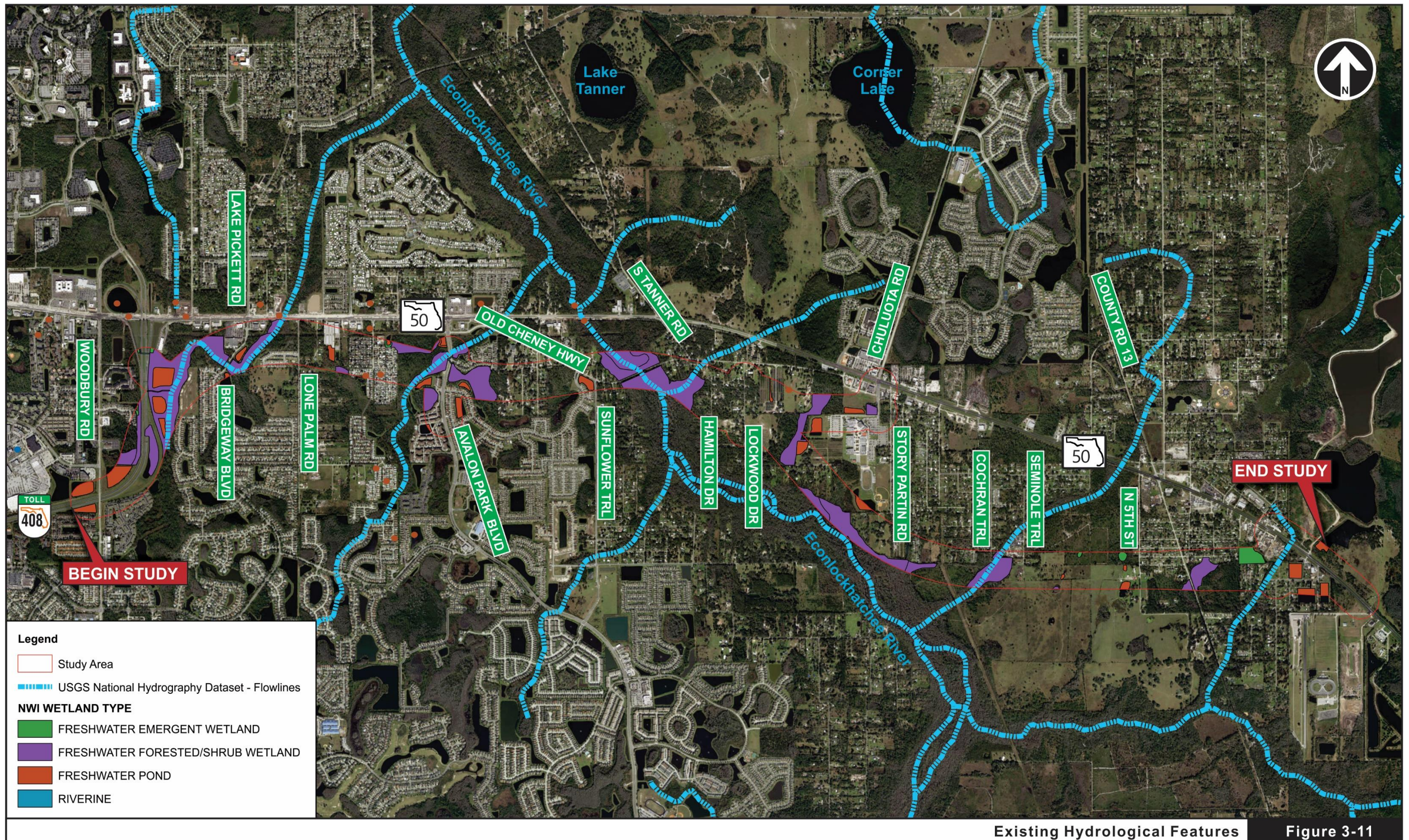


Figure 3-9











### 3.4.6 Groundwater

According to the groundwater flow-pattern map from SJRWMD, groundwater flow in the project area is generally to the south-southeast.

### 3.5 Drainage

The proposed SR 408 Eastern Extension corridor is located within the jurisdiction of the SJRWMD and hydrologically within the Big Econ Drainage Basin. The project discharges into the Econlockhatchee River, which is a tributary of the St. Johns River. The Econlockhatchee River drainage basin drains from the south to the north. Since this is a new alignment, the proposed on-site drainage basins are located within various land uses of which are urban, built-up, and wooded/wetland. The drainage conditions for the urban and built-up land uses consists of curb and gutter and open swales that collect the runoff and discharge it to existing retention facilities. Stormwater runoff from the wooded areas drain into existing wetlands or low-lying areas that are connected to the Econlockhatchee River tributaries.

The proposed SR 408 Eastern Extension corridor is a new alignment; therefore, there are no existing cross drains or bridge crossings located along the project corridor. The corridor crosses over the Econlockhatchee River, Econlockhatchee River Tributaries, and wetlands. Runoff from the proposed corridor drains to low-lying areas, such as wetlands and creeks that are connected to the Econlockhatchee River. The Econlockhatchee River is listed as an OFW per the FDEP. Projects that discharge into OFW require an additional 50% of treatment volume for proposed stormwater management facilities. The river is not listed for nutrient impairment; therefore, pollutant loading analysis is not required. The on-site drainage divides and basin limits are the same for existing and proposed conditions. A drainage map for existing condition was not prepared for this report since the on-site area foot print is the same as the proposed condition.

The SR 408 Eastern Extension corridor is divided into 15 basins, with basin 11 divided into 3 sub-Basins, 11A, 11B and 11C, for stormwater management. The basin limits are shown on **Figure 3-12**. The basin divides were based on a conceptual SR 408 Eastern Extension profile with high points and low points. The same basin divide limits were used for the proposed condition as well. An existing condition drainage map was not



prepared for this report, since the on-site basin limits and right-of-way width are the same for the existing and proposed condition. Offsite drainage patterns remain the same.

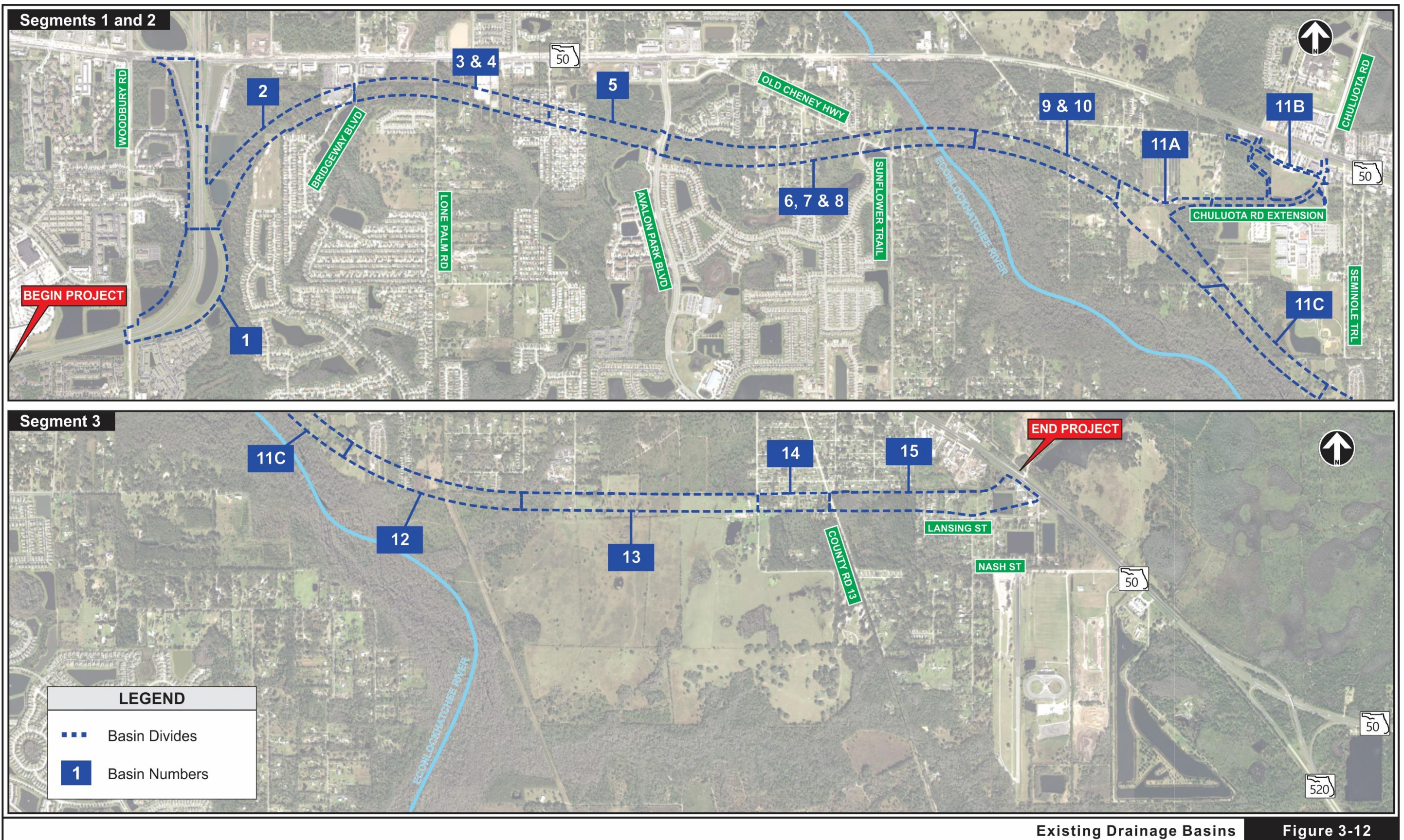
### 3.5.1 Existing Cross Drains

Considering this is a new alignment, there are no existing cross drains or bridge structures for review. However, existing cross drains upstream and downstream of the proposed alignment were taken into consideration to maintain functionality and to verify the recommended improvements do not adversely impact the overall drainage function. Refer to **Table 3-4** for existing SR 50 cross drain information. The cross drains are shown on **Figure 3-13**.

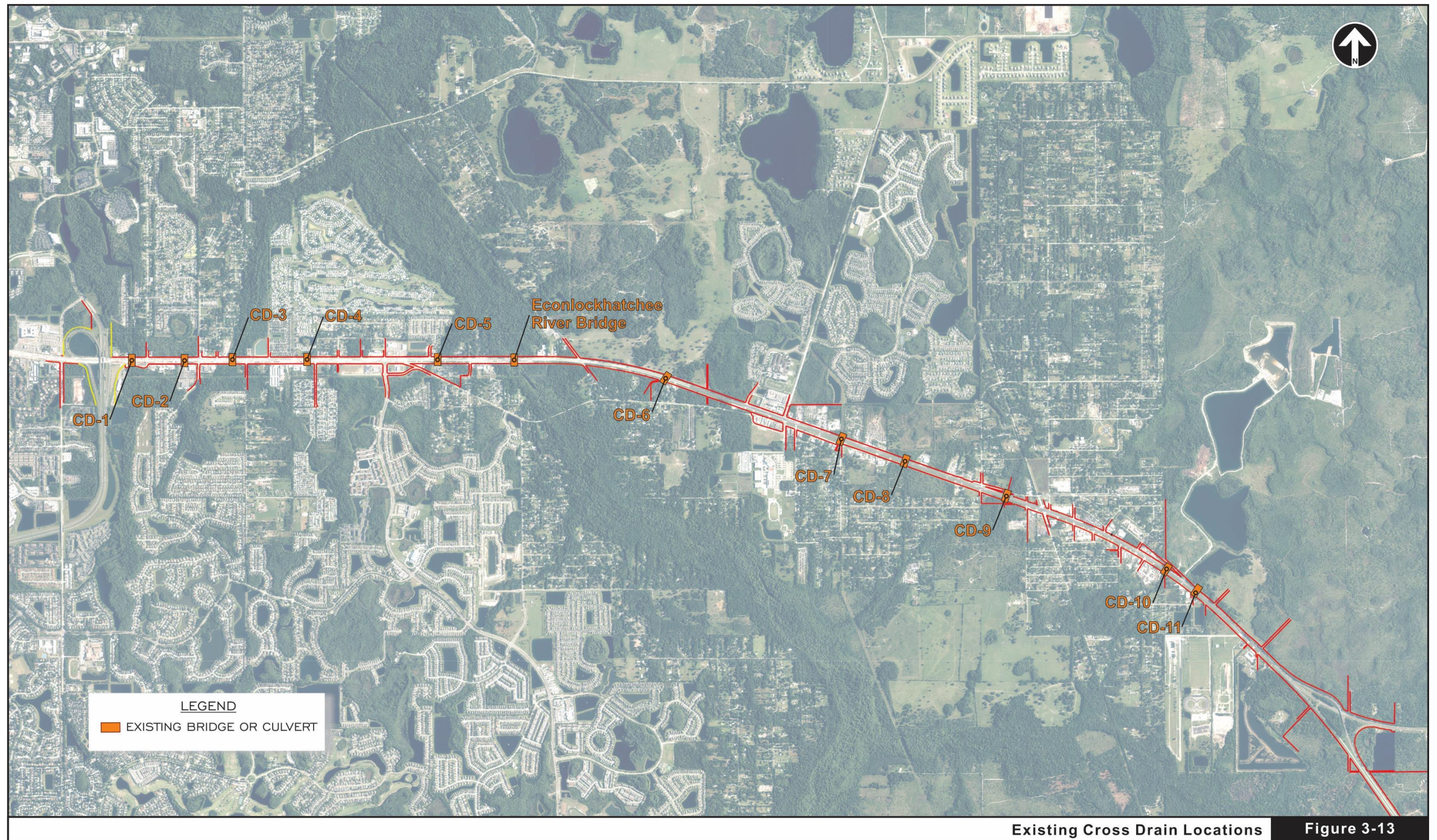
**Table 3-4 Existing SR 50 Cross Drain General Information**

Cross Drain ID	Pipe Description	50-Year DHW EL (ft)	Date of Construction
SR 50 CD-1	2-8'x6' CBC	58.57	2012
SR 50 CD-2	2-24" RCP	53.53	2012
SR 50 CD-3	2-12.95'x8.5' CBC	50.04	2012
SR 50 CD-4	1-30" RCP	54.68	2012
SR 50 CD-5	3-10'x6' CBC	43.70	1960
SR 50 CD-6	3-36" RCP	59.10	1960
SR 50 CD-7	1-4'x4' CBC & 1-54" RCP Jointed	59.10	1960
SR 50 CD-8	1-30" RCP	66.50	1960
SR 50 CD-9	1-8'x7' CBC	54.80	1960
SR 50 CD-10	1-10'x4' CBC	60.80	1960
SR 50 CD-11	1-24" RCP	61.60	1960











### 3.6 Existing Traffic Conditions

The purpose of this section is to describe data collection efforts, document field observations and summarize the existing (2015) operational characteristics of SR 50 in the Study Area. To summarize this work, the existing traffic conditions were established using the turning movement counts collected at all signalized intersections, supplemented with traffic counts collected by the FDOT and Orange County. The intersection geometry was established from field visits and aerial maps. Given that the widening of SR 50 to six lanes (three lanes in each direction) between SR 408 and a point east of Avalon Park Boulevard is underway, the lane geometry was obtained from the design plans. The 2015 traffic conditions were analyzed under the SR 50 widened configuration. The peak hour turning movement volumes were developed from counts and the intersection level of service was completed using SYNCHRO software. The roadway segment operational analysis utilized 2012 FDOT Quality and Level of Service Handbook tables.

#### 3.6.1 Data Collection

Data collection efforts in support of the project included a traffic count survey, Bluetooth Origin-Destination (O-D) survey and a travel time and delay survey. The data collection tasks were performed during the second week of April 2015. The section of SR 50 between SR 408 and Avalon Park Boulevard was under construction during the data collection period. Also, the section of SR 50 between Chuluota Road and SR 520 was being resurfaced. Due to these construction activities, representative SR 50 mainline counts were feasible at limited locations. The counts on SR 50 were supplemented with historic traffic counts obtained by the FDOT and Orange County.

##### 3.6.1.1 Traffic Counts

Traffic counts were collected along SR 50 and major cross streets intersecting SR 50. The traffic count locations are shown on **Figure 3-14**. **Table 3-5** contains the locations at which three-day classification counts were collected, including SR 50 both east and west of the SR 408 ramps and SR 50 near the Econlockhatchee River.



**Table 3-5 Locations with 3-Day Classification Counts**

SR 50 West of SR 408 Ramps
SR 50 East of SR 408 Ramps
SR 50 at Econlockhatchee River

Because of construction activities on SR 50, the classification counts on either side of SR 408 were collected through video recordings.

**Table 3-6** lists the locations at which eight-hour intersection turning movement counts were collected at all signalized intersections within the Study Area.

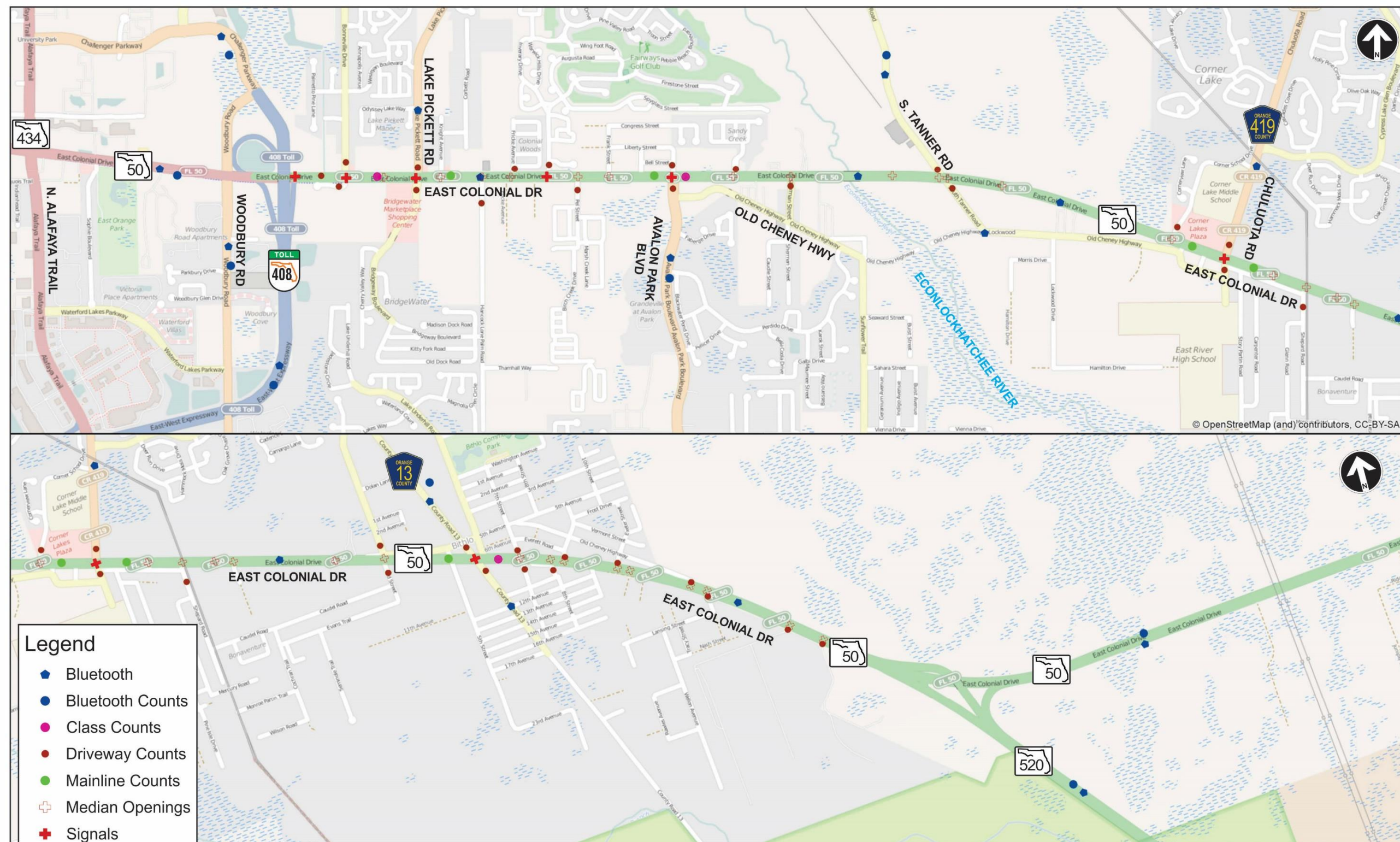
**Table 3-6 Locations on SR 50 with Turning Movement Counts (TMC's)**

SR 408 Northbound Off-Ramp
Bonneville Drive
Lake Pickett Road
Pebble Beach Boulevard
Avalon Park Boulevard
Chuluota Road (CR 419)
CR 13

**Table 3-7** lists the locations at which 24-hour counts were collected on SR 50 and the major cross streets. In addition, a series of 7-day counts were collected to supplement the Bluetooth survey as described below.

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Traffic Count Locations

Figure 3-14



**Table 3-7 Locations with 24-Hour Volume Counts**

Woodbury Road, south of SR 50	Hancock Lone Palm Road, south of SR 50
Woodbury Road, north of SR 50	Fricke Avenue, north of SR 50
Bonneville Road, north of SR 50	Pel Street, south of SR 50
Bonneville Road, south of SR 50	Frank Street, north of SR 50
Lake Pickett Drive, south of SR 50	Sandy Creek Lane, north of SR 50
Pebble Beach Boulevard, north of SR 50	Sherman Street, south of SR 50
Avalon Park Boulevard, north of SR 50	Corner School Drive, north of SR 50
Tanner Road, north of SR 50	Shepard Road, south of SR 50
Tanner Road, south of SR 50	3rd Street, north of SR 50
Chuluota Road/CR 419, south of SR 50	Belvedere Road, north of SR 50
CR 13, north of SR 50	7th Street, north of SR 50
CR 13, south of SR 50	7th Street, south of SR 50
SR 50, west of Chuluota Road	Clarendon Street, north of SR 50
SR 50, east of Chuluota Road	Exeter Street, north of SR 50
SR 50, east of CR 13	Old Cheney Highway, north of SR 50
SR 50, west of CR 13	Lansing Street, south of SR 50

All traffic counts consisting of approach volume and vehicle classification counts were adjusted using the latest FDOT axle and seasonal correction factors for Orange County to estimate 2015 annual average daily traffic (AADT).

In addition to the original counts collected as part of this study, traffic data from the SR 50 Widening Project - SR 50 from Avalon Park Boulevard to Chuluota Road: Project Traffic and PD&E and Design Report were used as references.

### 3.6.1.2 Bluetooth O-D Survey

A Bluetooth survey was conducted along SR 50, including the roadway between the intersections with SR 408 in the west through the intersection with SR 520 in the east. The purpose of this survey was to establish origin-destination (O-D) patterns within and along SR 50. The survey utilized BluFAX sensors developed and marketed by Traffax, Inc., the subconsultant performing the survey. These sensors are designed to be deployed along roadway corridors where the sensors detect and record the Bluetooth signals emanating from electronic devices in passing vehicles.



The recordings are time dated. When the same Bluetooth enabled device is identified at multiple sensors along the corridor, the analysis software is then able to reconstruct the vehicle's trip and provide information about OD patterns as well as travel times along the corridor.

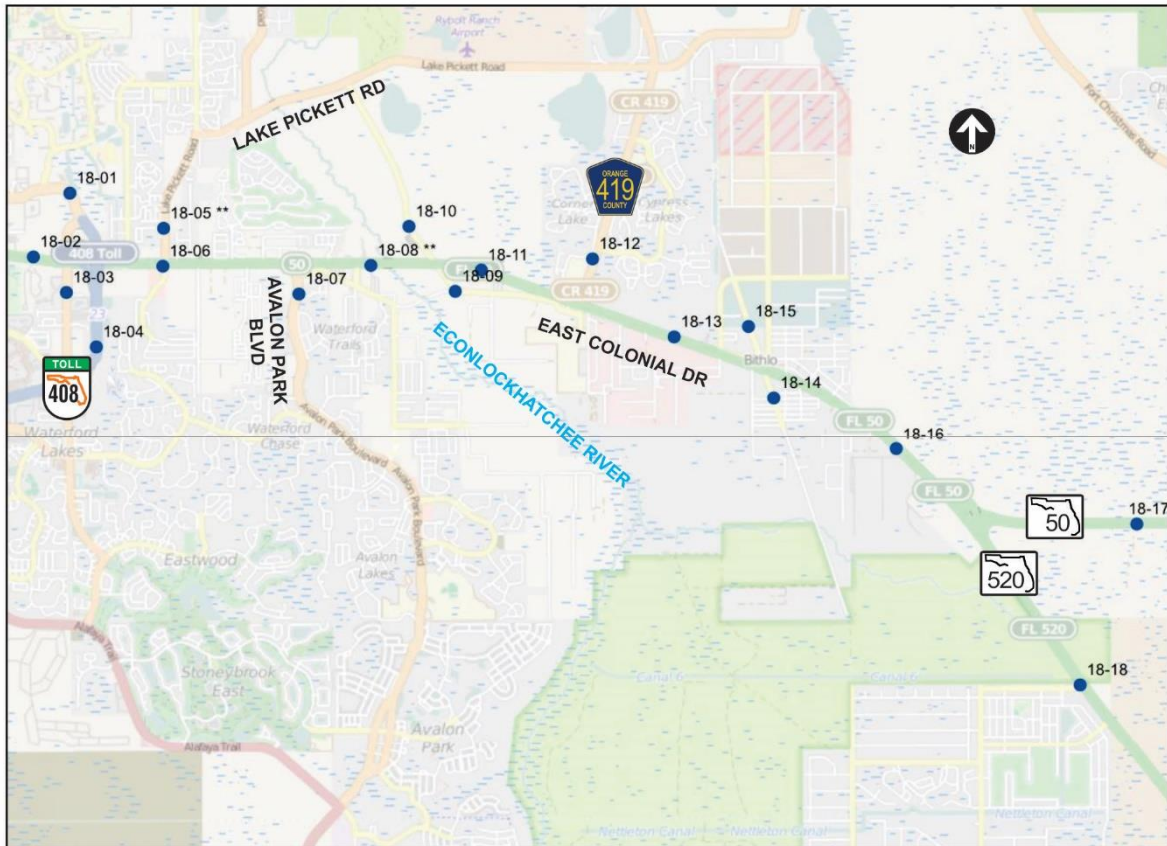
The goal of this survey was to identify traffic movement patterns of motorists along SR 50 traveling on the east-west corridor, largely between SR 408 and SR 50 in the west connected with SR 50 and SR 520 in the east. Detectors were deployed in such a way as to determine the specific access point at which motorists entered the study area; these locations are not only along SR 50 but along the major side streets forming a tight cordon of the study area. **Figure 3-15** contains a map with the detector locations and the average weekday trips factored from the Bluetooth data. Traffic counts (7-day) were obtained at each of these locations during the time of the Bluetooth survey.

The results from this survey take the form of a trip table, i.e., a table with the number of trips between each entry and exit to this portion of SR 50. The raw survey results were first simplified down to thirteen main ways into and out of this portion of SR 50.

The results were then factored to match the traffic counts entering and exiting the corridor. After the simplification and factoring, the data was summarized in a table of average weekday movements between thirteen entry/exit roadways. The rows identify entry points and the columns exit points. While there is a general pattern of symmetry in the table of trips, the volumes in this table are not precisely symmetrical. For this reason, the volumes in the westbound direction do not equal the volumes in the eastbound direction. The survey resulted in a fact-based understanding of current movements through this portion of SR 50. The two main entries and exits are SR 50 West and SR 408, followed by Woodbury Road and Avalon Park Boulevard. These are followed by Chuluota Road, SR 520, Lake Pickett Road and SR 50 East. Looking first at eastbound trips, roughly 35.2% of the trips traveling from SR 50 east and SR 520 end up traveling the whole corridor to SR 50 West. Then, looking at westbound trips, approximately 22.4% of the trips entering from SR 50 west are traveling through the corridor to SR 50 east and SR 520. A slightly smaller proportion of the trips (17.9%)



### Bluetooth Detector Locations



### Average Weekday Trips Factored from Bluetooth Detectors

	OUTBOUND	Challenger Parkway	SR 50 West	Woodbury Road	SR 408	Lake Pickett	Avalon Park	South Tanner	North Tanner	CR 419	South CR 13	North CR 13	SR 50 East	SR 520 East	Inbound Total
		18-01	18-02	18-03	18-04	18-05	18-07	18-09	18-10	18-12	18-14	18-15	18-17	18-18	
Challenger Parkway	18-01	-	302	1,000	2,038	42	194	2	6	61	2	3	59	82	3,792
SR 50 West	18-02	270	-	4,784	2,743	1,643	3,344	43	139	1,490	148	147	1,527	2,721	19,000
Woodbury Road	18-03	1,576	4,642	-	2,097	1,657	856	44	96	888	40	124	481	866	13,367
SR 408	18-04	2,983	2,723	841	-	2,360	2,574	98	159	2,067	92	240	1,984	1,098	17,218
Lake Pickett	18-05	109	2,395	1,266	3,442	-	370	5	69	197	-	22	22	103	8,000
Avalon Park	18-07	199	3,361	481	2,506	359	-	25	686	1,006	37	64	440	749	9,914
South Tanner	18-09	-	62	8	80	14	17	-	11	-	18	10	5	3	228
North Tanner	18-10	12	137	49	178	152	555	18	-	103	6	-	41	160	1,411
CR 419	18-12	63	1,397	591	2,066	297	880	21	244	-	82	125	729	2,295	8,789
South CR 13	18-14	3	236	30	181	3	32	6	56	108	-	85	46	74	859
North CR 13	18-15	5	331	76	359	12	45	11	49	7366	-	-	69	99	1,196
SR 50 East	18-17	67	1,824	270	1,764	70	387	5	201	646	22	48	-	421	5,725
SR 520 East	18-18	129	3,074	415	911	101	652	14	504	1,741	56	149	442	-	8,187
Outbound Total		5,415	20,483	9,812	18,365	6,711	9,908	291	2,218	8,389	558	1,018	5,845	8,672	97,686

Bluetooth Detectors

Figure 3-15



entering from SR 408 are traveling the entire length of the corridor to SR 50 East and SR 520. Only 19.2% of the trips traveling from SR 50 east and SR 520 used the entire corridor to reach SR 408.

The results from the Bluetooth survey were used to improve the project-specific model that was used to forecast traffic for the proposed SR 408 Eastern Extension.

### 3.6.1.3 Speed and Delay Runs

Travel time and delay data was collected using the floating-car method and utilizing QSTARZ Travel Recorder XT GPS unit, which is capable of recording its latitude and longitude in one second intervals. Multiple runs were performed on April 15, 2015 along SR 50 during the A.M. and P.M. peak periods. The travel time summary is shown in **Table 3-8**. As expected, during the A.M. peak hours, the westbound direction had lower speeds throughout the SR 50 corridor. The speeds were especially low west of Avalon Park Boulevard between Pebble Beach Boulevard and Woodbury Road. During the P.M. peak hours, both eastbound and westbound directions had lower speeds between Woodbury Road and Avalon Park Boulevard. The lower speeds could be attributed to the higher signal density along with higher turning volumes to/from SR 408 Ramps, Lake Pickett Road, and Avalon Park Boulevard.

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**Table 3-8 SR 50 Average Field Collected Speed by Period**

Start	End	Distance (Miles)	AM Average		Midday Average		PM Average	
			EB	WB	EB	WB	EB	WB
Woodbury Rd	East of SR 408	0.34	33.3	18.7	30.5	19.3	14.1	16.1
East of SR 408	Lake Pickett Rd	0.42	29.0	17.7	25.0	29.0	18.5	28.6
Lake Pickett Rd	Pebble Beach Blvd	0.52	35.4	7.8	41.0	27.0	40.9	28.8
Pebble Beach Blvd	Avalon Park Blvd	0.50	24.1	25.8	24.1	36.4	33.0	44.8
Avalon Park Blvd	Tanner Rd	1.07	50.9	34.6	52.6	32.3	46.4	37.3
Tanner Road	Chuluota Rd	1.17	46.3	51.3	50.1	53.0	28.6	54.1
Chuluota Rd	N CR 13	1.50	41.1	38.9	38.0	40.6	35.9	40.2
N CR 13	SR 50 / 520 Interchange	2.06	No Data	No Data	No Data	47.5	No Data	No Data
SR 50 / 520 Interchange	Fort Christmas Rd	3.25	No Data	No Data	61.3	62.6	No Data	No Data
SR 50 / 520 Interchange	Wedgfield / Macon Pkwy	1.49	No Data	No Data	No Data	58.2	No Data	No Data

Note: Periods correspond to the following times: AM: 6:45 to 9:45am, MD: 12:00 to 3:00pm, PM: 4:00 to 6:00pm

In addition to the SR 50 corridor, speed and delay runs were conducted during the off peak hours along Lake Pickett Road. This route is the only viable alternative that runs parallel to SR 50 and crosses the Econlockhatchee River. This route might make sense as an alternative to SR 50 for some commuters traveling from Seminole County via Chuluota Road or Tanner Road North. **Table 3-9** contains the distance and speeds along Lake Pickett Road. Even though the speed limit on Lake Pickett Road is lower than SR 50, off-peak hour speeds are comparable to the SR 50 corridor.

**Table 3-9 Lake Pickett Rd / Chuluota Rd Field Collected Speeds (off-peak)**

Start	End	Distance (Miles)	Speed (MPH)
SR 50 (via Chuluota Rd)	Lake Pickett Rd	1.9	36.4
Chuluota Rd (via Lake Pickett Rd)	Tanner Rd South	2.4	41.1
Tanner Rd South	Tanner Rd North	0.8	36.7
Tanner Rd North	SR 50	1.3	21.0

Note: This route only performed in the Counter Clockwise direction



### 3.6.2 Existing Traffic Volumes

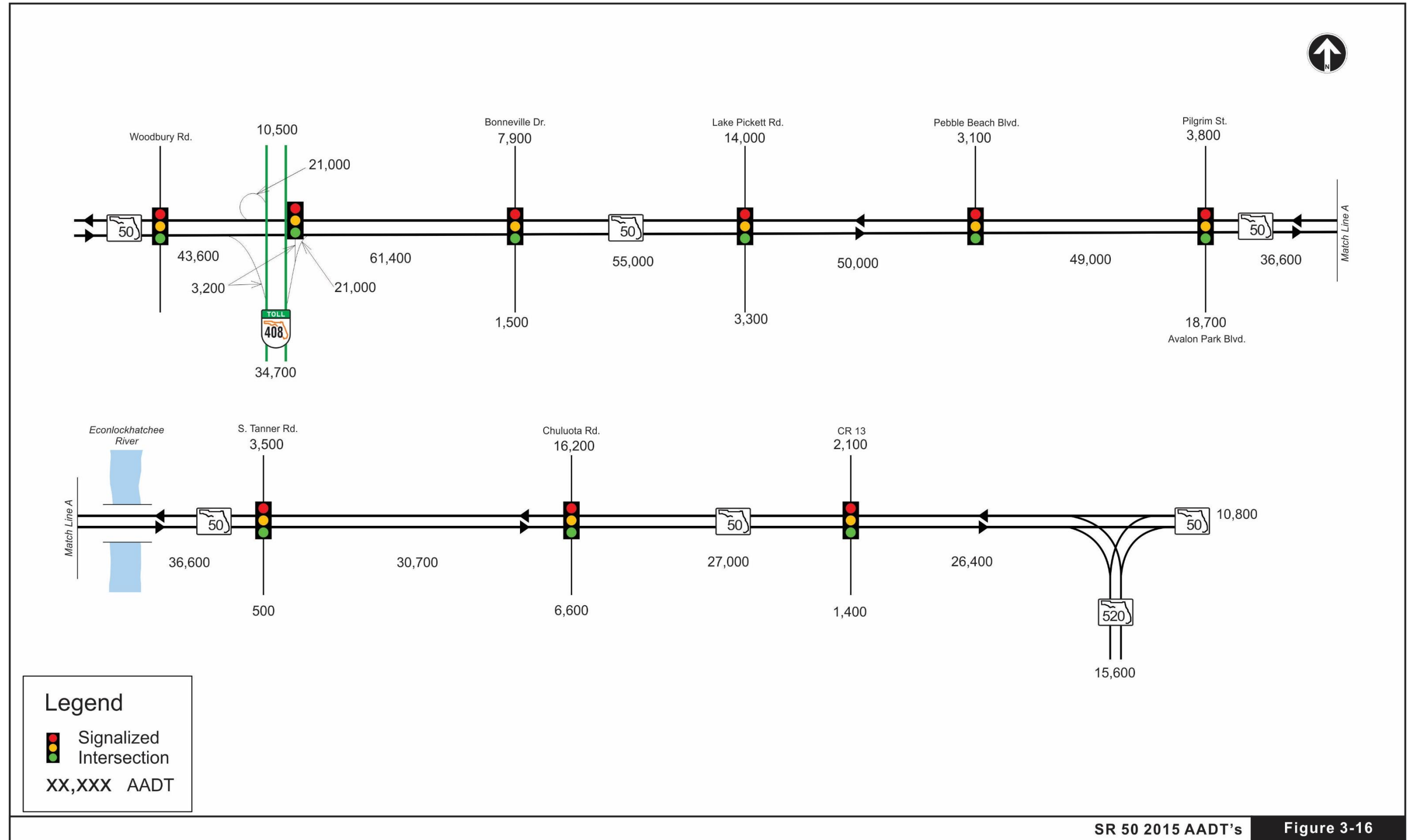
Based on results from the traffic count program and other available traffic data, summaries of traffic volumes in the SR 50 corridor were prepared, including estimates of annual average daily traffic (AADT) and A.M. and P.M. peak hour traffic volumes. A number of other traffic characteristics that might influence design such as the hourly distribution of traffic, weekly distribution of traffic, directional distribution of traffic and vehicle classification patterns were also analyzed and summaries prepared. Traffic factors used in the design process were also presented.

#### 3.6.2.1 Corridor Volumes

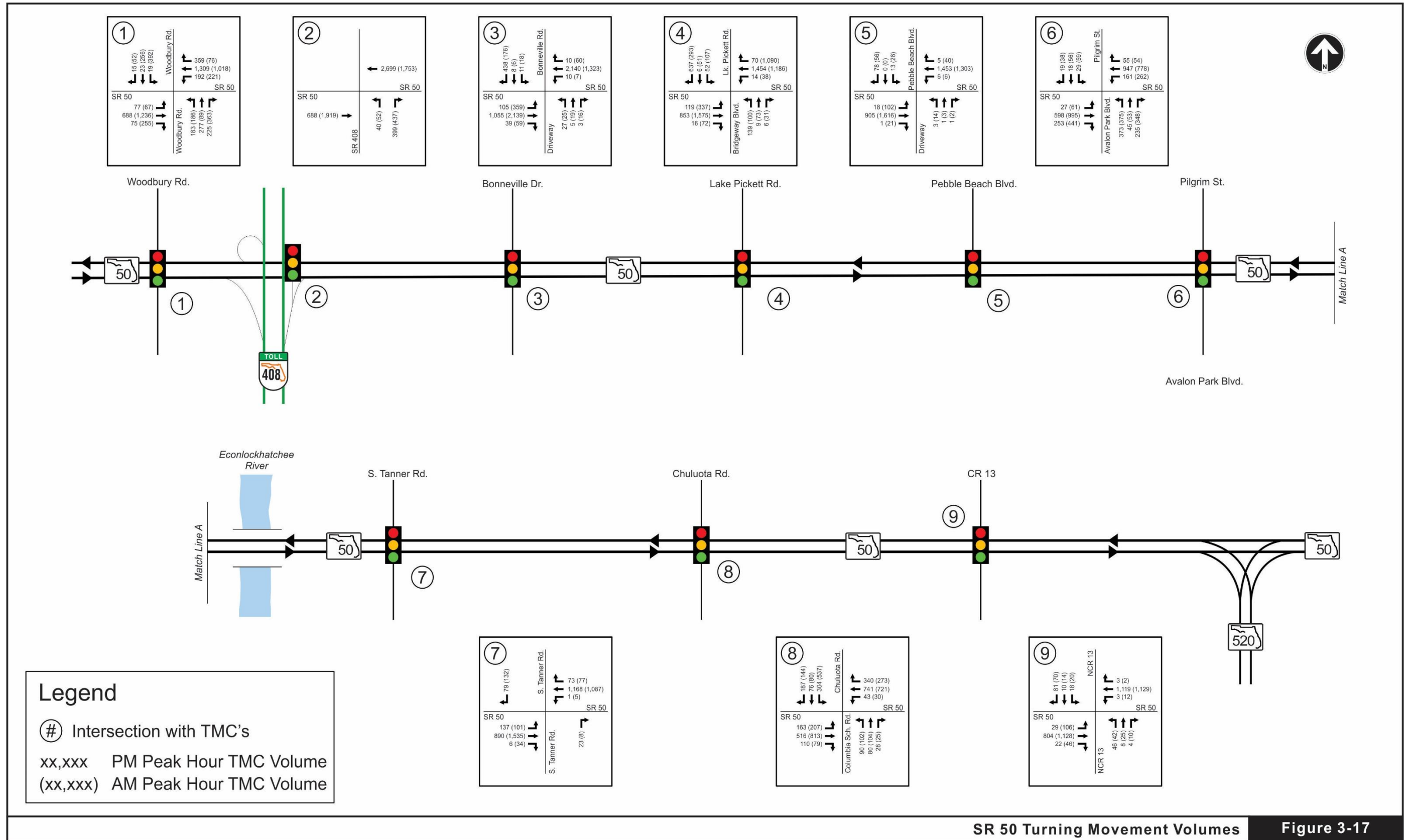
The FDOT Axle Correction and Seasonal Factors were applied to the approach volume and classification counts to estimate 2015 AADT. As the purpose of the study was to develop design hour traffic forecasts for the SR 408 Eastern Extension, the level of service analysis for the SR 50 corridor was limited to existing and future signalized intersections and major cross streets only. The 2015 AADT is shown on **Figure 3-16** and the 2015 A.M. and P.M. turning movement volumes are shown on **Figure 3-17**.

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SR 50 Turning Movement Volumes

Figure 3-17

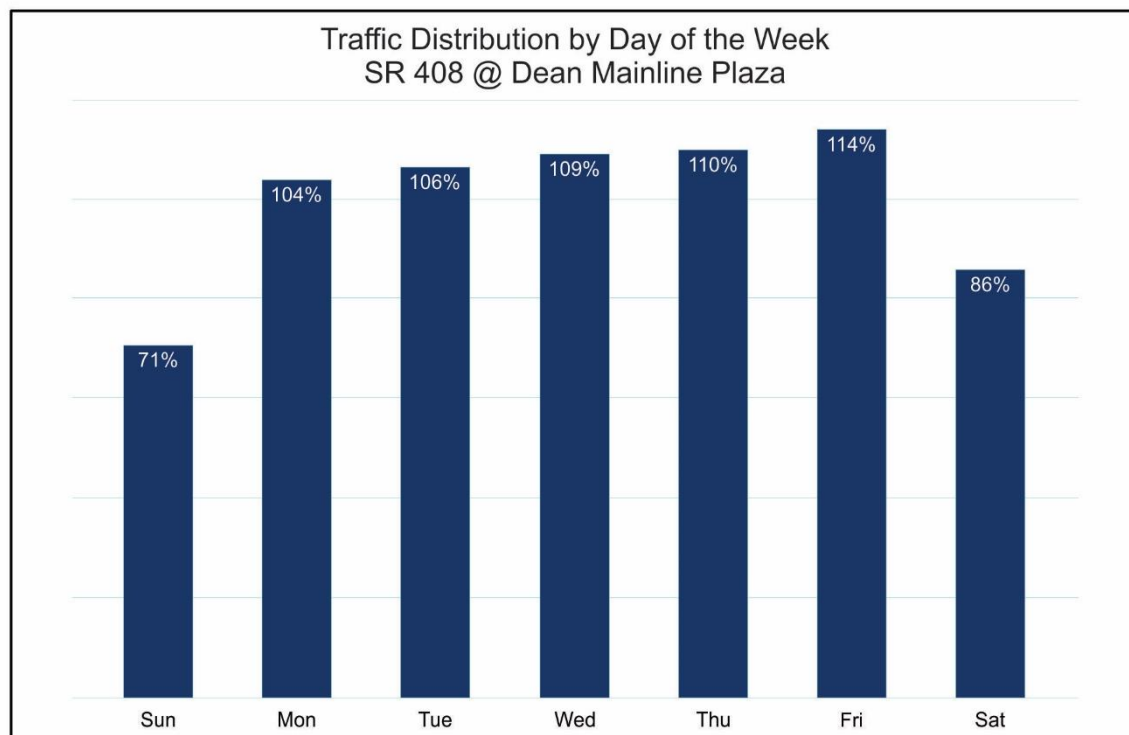
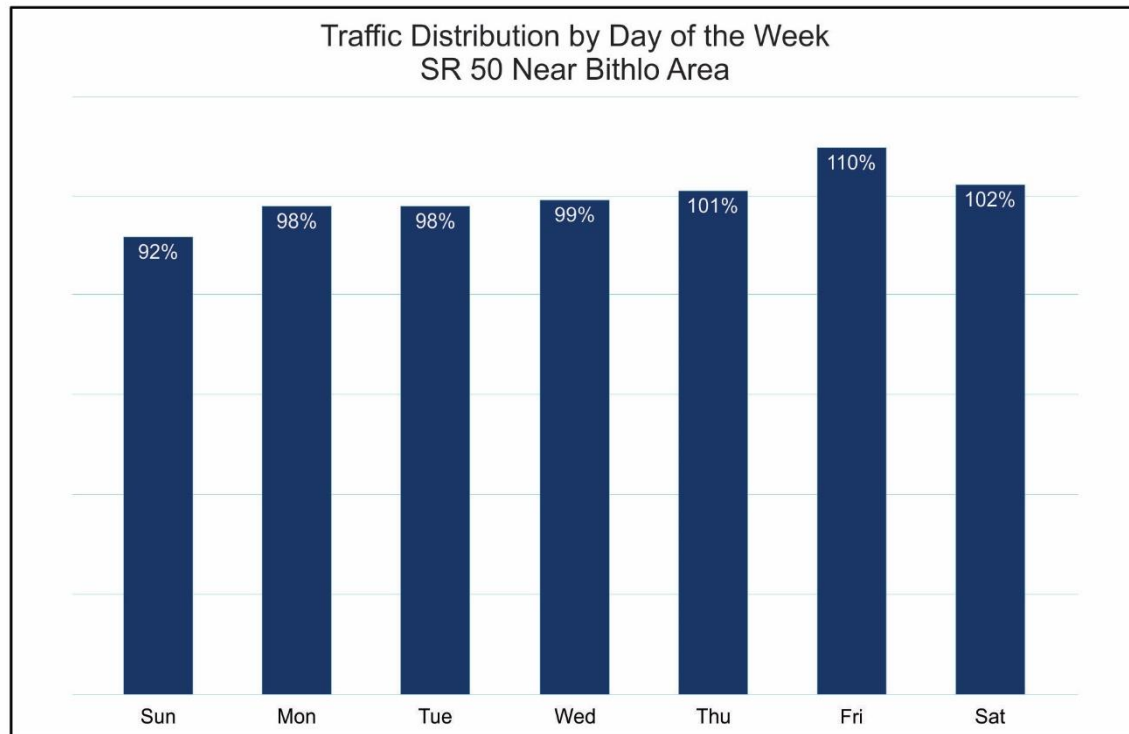


### 3.6.2.2 Daily Distribution of Traffic

As shown on **Figure 3-16**, weekday traffic volumes on SR 50 near the Bithlo area remain relatively constant over the course of the five-day work week. Traffic is highest on Fridays, with an index value of 110 (10% higher than the average day), and volumes on Monday through Thursday were very similar. Saturday traffic volume exceeds the average slightly with an index value of 102. Sundays are the lightest traveled days with a volume that is 92% of the average. **Figure 3-18** also shows the same data for SR 408 at the Dean Mainline Plaza, which shows a similar pattern. Weekday indexed traffic volumes from Monday through Thursday range from 104 to 110, or 4% to 10% higher than the average, with Friday being the peak day with an index of 114. Traffic volumes decline on Saturdays and Sundays when volumes are 86% and 71% of AADT, respectively.

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Daily Distribution of Traffic

Figure 3-18

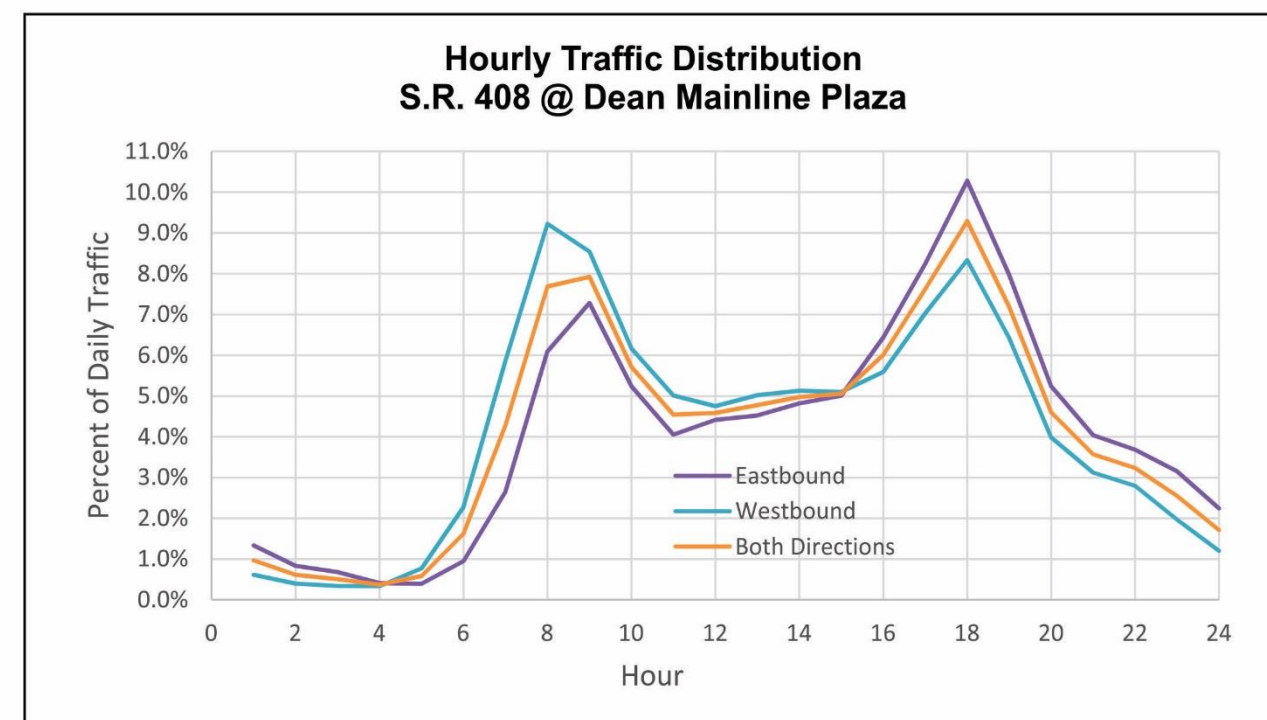
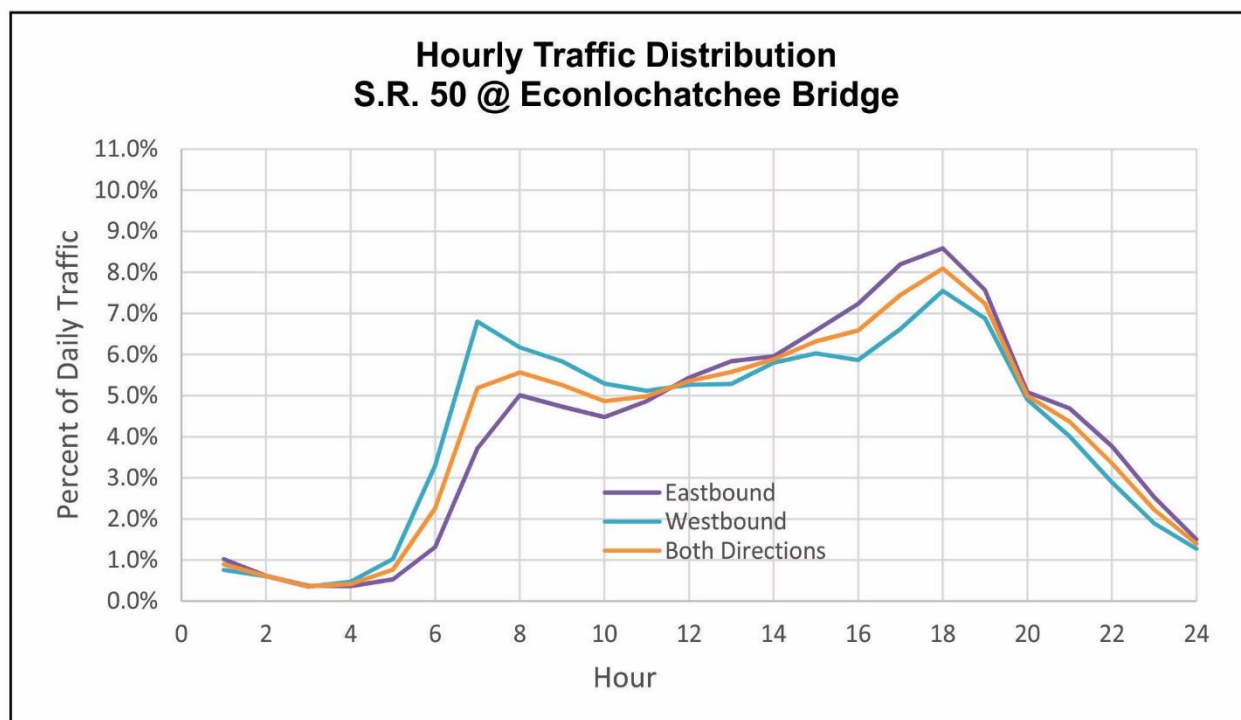
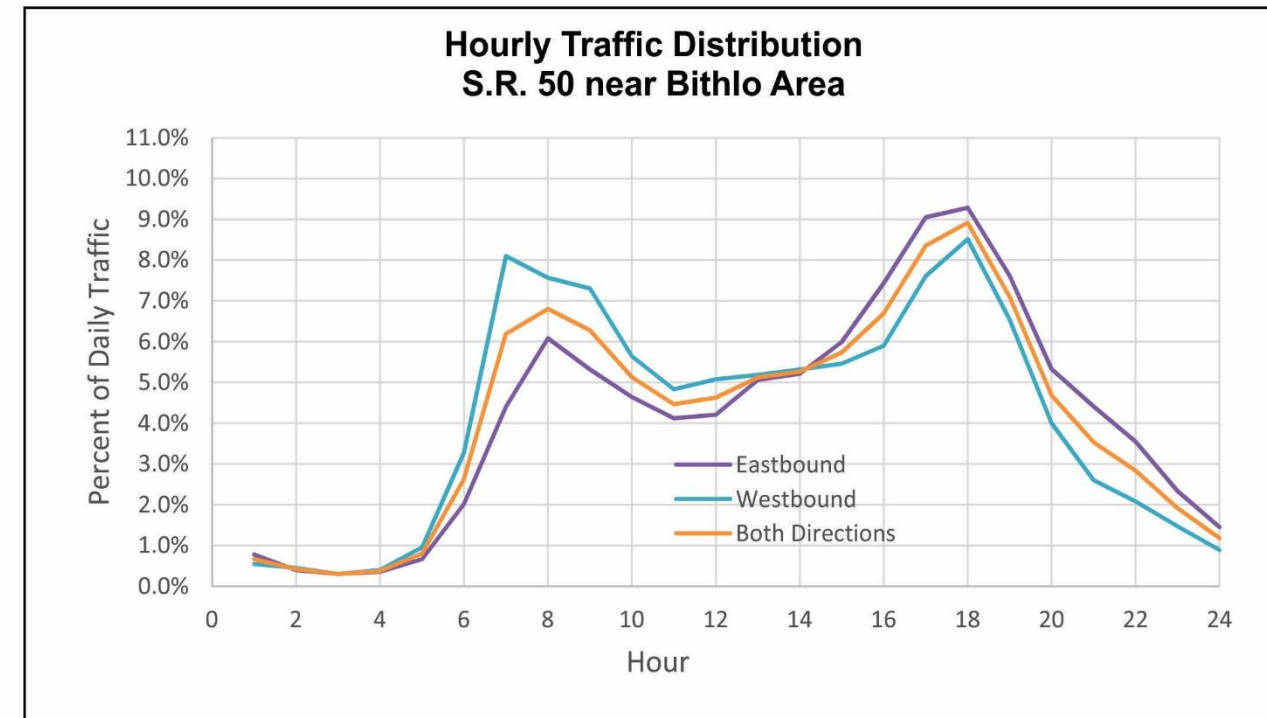
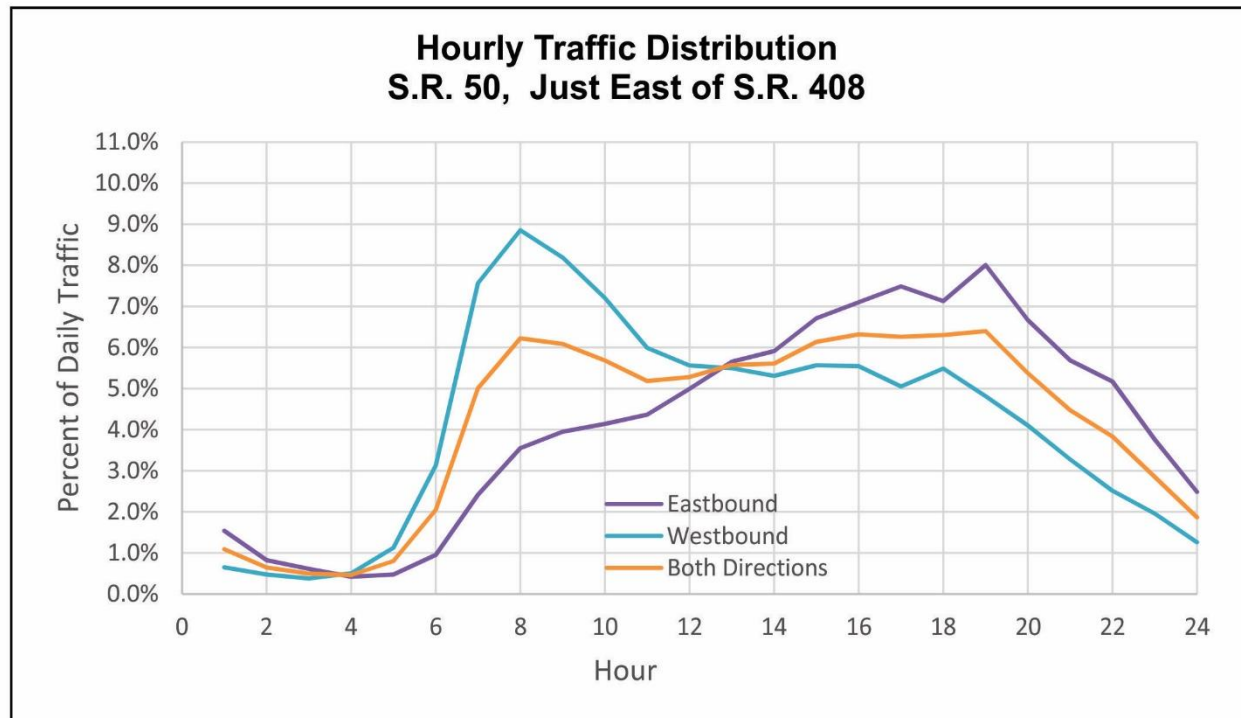


### 3.6.2.3 Hourly and Directional Distribution of Traffic (K and D Factors)

The hourly distribution of traffic includes information on the usage characteristics of the facility. The hourly distributions represent counts collected during a typical week from the Florida Transportation Information (FTI) webpage, field and CFX plaza data. **Figure 3-19** represents the hourly traffic distribution on SR 50 within the project limits and on SR 408. The traffic distribution on SR 50 east of Avalon Park Boulevard shows peaking in both directions in A.M. and P.M. peak periods, while the traffic distribution on SR 50 just east of SR 408 shows peaking in the westbound direction during the A.M. peak and in the eastbound direction during the P.M. peak. The hourly traffic distribution on SR 408 at the Dean Mainline Plaza shows traffic peaking in both directions during the A.M. and P.M. peaks. Also, the distribution shows higher peaking characteristics on SR 408 during the peak hours.

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Hourly Distribution of Traffic

Figure 3-19



**Table 3-10** shows historical K and D Factors from count stations along SR 50 within the project limits. The hourly bi-directional counts at SR 50 just east of SR 408 (**Figure 3-17**) show higher directionality both in the A.M. and P.M. peak periods. This could be due to heavy commuter traffic from Avalon Park Boulevard and Lake Pickett Road using this section of SR 50. A K-factor of 9.0% and a D-factor of 55.0% were recommended for SR 50 considering the fact that as the traffic increases the K-factor tends to lower, and also the traffic directionality observed at SR 50 near the SR 408 interchange is higher than other locations along SR 50.

**Table 3-10 SR 50 Peak Hour Traffic Characteristics**

Location	Year	K Factor	D Factor
<b>Cosite #750561</b> ON SR-50, 2.314 MI. E OF SR 408 (RVL)	2015	9.0%	53.2%
	2014	9.0%	53.2%
	2013	9.0%	53.3%
	<i>Average</i>	9.0%	53.2%
<b>Cosite #750104</b> SR-50, 0.19 MI W OF SR-520 NEAR BITHLO, ORANGE CO	2015	9.5%	52.6%
	2014	9.5%	52.6%
	2013	9.5%	52.6%
	<i>Average</i>	9.5%	52.6%

**Table 3-11** lists the A.M. and P.M. peak hour K and D Factors at all CFX facility mainline plazas. The data was obtained from the “CFX 2014 System's Traffic Data and Statistics Manual.” The P.M. peak K and D factors were used to come up with K and D factors for the SR 408 Eastern Extension. Data from SR 408 at Dean Mainline Plaza would not be representative of the SR 408 Eastern Extension characteristics as traffic peaking characteristics are influenced by traffic heading to UCF and Research Parkway. Based on knowledge of CFX facilities, it is expected that the SR 408 Eastern Extension would have similar characteristics as SR 414 as most traffic is heading to work places during the A.M. peak and to home during the P.M. peak. Similar characteristics are observed on SR 417 at the University-Mainline Plaza and SR 429 at the New Independence Parkway/Mainline Plaza. For a conservative analysis, a K-factor of 11.0% and a D-factor of 60.0% are assumed for the SR 408 Eastern Extension which is proposed to run parallel to SR 50.



**Table 3-11 CFX Facilities Peak Hour Traffic Characteristics**

Facility	Plaza Name	K-am	K-pm	D-am	D-pm
SR 408	Hiawassee Mainline Plaza	8.77%	9.54%	72.19%	64.96%
	Pine Hills Mainline Plaza	8.72%	9.21%	70.85%	61.10%
	Conway Mainline Plaza	7.89%	8.96%	68.88%	59.22%
	Dean Mainline Plaza	7.91%	9.53%	51.25%	54.94%
SR 528	Airport Mainline Plaza	7.24%	8.08%	62.28%	60.78%
	Beachline Mainline Plaza	7.37%	8.62%	67.94%	56.23%
	Dallas Mainline Plaza	6.68%	8.03%	59.60%	52.34%
SR 417	John Young Mainline Plaza	6.99%	9.32%	67.70%	62.28%
	Boggy Creek Mainline Plaza	7.59%	9.47%	57.13%	54.08%
	Curry Ford Mainline Plaza	8.76%	10.08%	52.80%	56.91%
	University Mainline Plaza	8.79%	10.23%	57.30%	58.80%
SR 429	Independence Mainline Plaza	8.07%	10.17%	64.15%	59.56%
	Forest Lake Mainline Plaza	8.86%	9.89%	62.15%	59.36%
SR 414	Hills Mainline Plaza	9.62%	10.42%	66.76%	60.99%

Source: CFX 2014 System's Traffic Data and Statistics Manual

K-am = Total AM Peak Hour Traffic / Average Weekday Total Traffic

K-pm = Total PM Peak Hour Traffic / Average Weekday Total Traffic

D-am = Peak AM Hour Directional Traffic / Total Peak AM Hour Traffic

D-pm = Peak PM Hour Directional Traffic / Total Peak PM Hour Traffic

### 3.6.2.4 Vehicle Classification

**Table 3-12** lists vehicle classification data on SR 50 in the Study Area and on SR 408 at the Dean Mainline Plaza. The table also contains the field-collected vehicle classification data at the Econlockhatchee River Bridge. The data at the Econlockhatchee River Bridge was collected during the construction of SR 50, and shows relatively high single-unit truck percentages. This data was not used for this reason. The FDOT Cosite #750104 located near Bithlo shows an average of 4.8% of trucks. The truck percentages along SR 50 could be lower than that as most of the commuter traffic joins SR 50 from Chuluota Road, Avalon Park Boulevard, and Lake Pickett Drive. The truck percentages on SR 408 are less than 1.0%. For this analysis, a Daily Truck (T24) factor of 4.5% is assumed for SR 50 and 2.0% for the SR 408 Extension. A summary of all recommended traffic design characteristics for this study appear in **Table 3-13**.



**Table 3-12 Vehicle Classification**

Count Location	Year	Passenger Vehicles	Total Trucks	Single Units Trucks	Combination Trailer Trucks	Multi Trailer Trucks
<b>Cosite #750104</b> SR 50, 0.19 mile west of SR 520 Near Bithlo	2015	95.37%	4.63%	2.81%	1.79%	0.03%
	2014	95.24%	4.76%	2.83%	1.90%	0.03%
	2013	95.09%	4.91%	2.92%	1.95%	0.04%
	Average	95.23%	4.77%	2.85%	1.88%	0.03%
<b>Cosite #751008</b> SR 50, 0.612 mile east of SR 520 Overpass	2015	94.80%	5.20%	3.82%	1.38%	0.00%
	2014	94.89%	5.11%	3.60%	1.51%	0.00%
	2013	94.41%	5.59%	3.73%	1.86%	0.00%
	Average	94.70%	5.30%	3.71%	1.58%	0.00%
<b>Field Count</b> SR 50 @ Econlockhatchee Bridge*	2015	88.86%	11.14%	9.51%	1.61%	0.02%
Count Location	Year	2- Axle	3+ Axle Vehicles	3 Axle	4 Axle	5+ Axle
SR 408 @ Dean Mainline Plaza**	2015	99.38%	0.62%	0.42%	0.10%	0.09%

\*Count was collected during the SR 50 construction. As a result, the total truck percentages, especially the single unit truck percentage is very high. Under normal conditions, the truck percentage is expected to be similar or lower than the truck percentages observed at FDOT sites east of the Bridge due to additional higher passenger vehicles from Chuluota Road, expected to cross the Econlockhatchee Bridge.

\*\* Class data on SR 408 is available by Axle Count only.

**Table 3-13 Recommended K, D and T Factors**

Location	K Factor	D Factor	T Factor
SR 50 and Cross Streets	9.0%	55.0%	4.5%
SR 408 Extension	11.0%	60.0%	2.0%

### 3.6.3 Level of Service

Along the project corridor, Level of Service (LOS) is determined by use of the FDOT 2012 Generalized Service Volume Tables for interrupted flow facilities on State Signalized Arterials. Within this context, the majority of the project (from the SR 408 interchange to the SR 520 interchange) is treated as an Urban Class I Arterial whereas



the section of SR 50 to the east and SR 520 to the south of the interchange are treated as Rural Highway. The determined LOS for 2015 AADT values are shown in the following section.

### 3.6.3.1 Existing Roadway Segment Level of Service Analysis

The minimum acceptable LOS for SR 50 is LOS E according to Orange County's Comprehensive Plan. SR 50 is classified as an urban arterial road within the study section. Using this classification, a roadway segment LOS analysis was performed for the peak direction peak hour conditions using the Year 2012 FDOT Quality and Level of Service Handbook tables. **Table 3-14** provides a summary of the roadway LOS conditions for daily, A.M. and P.M. traffic conditions.

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**Table 3-14 2015 Roadway Segment Level of Service**

Roadway	From	To	Lanes	2015 AADT	2015 Am Peak	2015 PM Peak	2015 Level of Service		
							Daily	AM Peak	PM Peak
SR 50	Woodbury Rd.	SR 408 Ramps	6L*	45,900	1,683	1,903	C	C	C
SR 50	SR 408 Ramps	Bonneville Dr.	6L*	61,400	2,795	2,490	F	C	C
SR 50	Bonneville Dr.	Lake Pickett Rd.	6L*	55,000	1,871	2,364	C	C	C
SR 50	Lake Pickett Rd.	Avalon Park Blvd.	6L*	49,000	2,021	1,466	C	C	C
SR 50	Avalon Park Blvd.	Tanner Rd.	4L	36,600	1,305	1,568	C	C	C
SR 50	Tanner Rd.	Chuluota Rd.	4L	30,700	1,061	1,175	C	C	C
SR 50	Chuluota Rd.	CR 13	4L	27,000	1,166	1,272	C	C	C
SR 50	CR 13	SR 520	4L	26,400	1,018	1,180	B	B	B
SR 50	East of SR 520		4L	10,800	393	519	B	B	B
Woodbury Rd.	North of SR 50		4L	14,300	976	1,057	D	D	D
Woodbury Rd.	South of SR 50		4L	22,400	954	1,239	D	D	D
Bonneville Dr.	North of SR 50		2L	7,900	548	334	D	D	D
Lake Pickett Rd.	North of SR 50		2L	14,000	703	458	F	F	D
Avalon Park Blvd.	South of SR 50		4L	18,700	849	769	D	D	D
Tanner Rd.	North of SR 50		2L	2,100	245	190	C	C	C
Chuluota Rd. (CR 419)	North of SR 50		2L	16,200	678	705	F	D	F
Chuluota Rd. (CR 419)	South of SR 50		2L	6,600	190	317	D	C	D
CR 13	North of SR 50		2L	2,100	105	97	C	C	C
CR 13	South of SR 50		2L	1,400	58	58	C	C	C
SR 520	East of SR 50		4L	15,600	665	713	B	B	B

\* Since Six-Laning of SR 50 is underway, SR 50 from Woodbury Road to Avalon Park Boulevard is assumed as a six-lane facility for LOS analysis

All roadway segments were found to operate at LOS E or better, except:

- SR 50 between SR 408 ramps and Bonneville Drive
- Lake Pickett Road, north of SR 50
- Chuluota Road, north of SR 50.

SR 50 between Bonneville Drive and Lake Pickett Road has four lanes in the eastbound direction, with the outer most lane designated to serve the traffic from SR 408

northbound off-ramp. Including the fourth lane in the daily LOS analysis, this segment would operate better. Improvements will be planned to Chuluota Road and Lake Pickett Road as a part of developer commitments from Lake Pickett North and South Developments.

### 3.6.3.2 Existing Intersection Level of Service Analysis

The existing A.M. and P.M. peak hour turning movement counts shown on **Figure 3-15** was utilized in performing the intersection level of service operations analysis using the SYNCHRO software. **Table 3-15** provides a summary of the intersection LOS for the peak hour conditions. Under the existing conditions, all signalized intersections were found to operate at LOS E or better during both A.M. and P.M. peak hour conditions.

**Table 3-15 2015 A.M. and P.M. Intersection Level of Service**

Intersection	Intersection Delay (sec/veh)		Intersection Level of Service	
	A.M.	P.M.	A.M.	P.M.
SR 50 @ Woodbury Rd.	37.1	59.1	D	D
SR 50 @ SR 408 Northbound Off-Ramp	33.0	14.4	C	B
SR 50 @ Bonneville Dr.	30.1	19.8	C	B
SR 50 @ Lake Pickett Rd.	52.8	41.5	D	D
SR 50 @ Pebble Beach Blvd.	11.4	15.8	B	B
SR 50 @ Avalon Park Blvd.	48.0	51.2	D	D
SR 50 @ Chuluota Rd.	29.2	51.9	C	D
SR 50 @ CR 13	10.2	14.8	B	B

## 3.7 Intelligent Transportation System

As part of the Intelligent Transportation System (ITS) review, the cost associated with installing a new ITS within the project limits of the SR 408 Extension were evaluated. The Maintenance of Communication (MOC) is a major component in any construction project impacting ITS infrastructure, especially along a Tolling Facility like the SR 408 East/West Expressway. However, this project is a new roadway corridor extension; therefore, the only existing equipment affected by construction is at the South end of the



project. The future design plans will be required to show how the preservation of the ITS and Tolling communications will be maintained throughout the construction phases. The ITS review will help develop a high-level cost estimate for the ITS in order to extend the current ITS facilities throughout the corridor.

The ITS program generally consists of Fiber Optic Network (FON), Closed Circuit Television (CCTV), Dynamic Message Signs (DMS), Arterial Dynamic Message Signs (ADMS), Traffic Monitoring Station (TMS), Data Collection Sensors (DCS), Wrong Way signs and other devices installed along roadways. This system is typically maintained, monitored, and operated 24 hours a day. The CFX has a history of success with operating and maintaining ITS. Typical successes have included reduced travel times, improved travel time reliability, decreased secondary crashes, decreased time for emergency response, and reduction in the number of stops and delays on the tolling facilities. Applying the successful operational strategies of ITS technologies, in conjunction with the roadway improvements proposed in this study, has the potential to increase mobility and reduce unnecessary delays caused by the increasing volume of traffic along the roadway facility.

### **3.7.1 Existing ITS**

This section is intended to provide a general overview of the existing conditions of the ITS system and its components along the SR 408. The ITS system and its components consist of a FON, on both sides of the road which is typically installed on the shoulders, communications infrastructure, and ITS field devices. The FON consists of a 2-72 SM fiber optic cable (FOC) backbone and 12 SM FOC lateral drop cables to field devices. The lateral drops to the tolling locations are 24 SM FOC drops to ramp sites and 48 SM FOC drops to mainline sites.

## 4 DESIGN CONTROLS & STANDARDS

Design controls and standards must be established prior to the formulation of design alternatives to ensure an adequate, safe, functional and operational roadway. These criteria are needed to develop typical sections, horizontal and vertical alignments, and other design features such as drainage, aesthetics, landscaping, and multimodal facilities. The controls and standards are those specified by the CFX.

### 4.1 Roadway Characteristics

As previously stated, SR 408, also known as Spessard L. Holland East-West Expressway, is a limited access tolled east-west expressway owned and operated by CFX. The standards that apply to this project are enumerated in **Table 4-1**.

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Table 4-1 Roadway Design Criteria

Design Element	Design Standard	Source
<u>Design Year</u>	2045	- Scope of Services
<u>Design Vehicle</u>	WB-62FL/WB-67	- AASHTO 2004, Pg. 18 - FDOT PPM Vol. I, Pgs. 1-19
<u>Design Speed</u> Rural Freeway  Urban Arterial Rural Arterial Other Frontage Road Service Road Access Road Ramp Directional Loop	70 mph ( <i>begin project to Avalon Park Blvd</i> ) 65 mph ( <i>Avalon Park Blvd to end project</i> ) 45 mph <sup>1</sup> 55 mph  45 mph 50 mph As appropriate  50 mph 30 mph	- FDOT PPM Vol. I, Tbl. 1.9.1, 1.9.2
<u>Lane Widths</u> Freeway Ramp 1-lane 2-lane Turning Roadway Arterial Collector/Service Road Bicycle Rural/Urban	12-ft  15-ft 24-ft Case dependent 12-ft (Rural: 11') 12-ft (Rural: 11')  7-ft Buffered bike lane	- FDOT PPM Vol. I, Tbl. 2.1.1, 2.1.2, 2.1.3 & 2.14.1

**Table 4-1 Roadway Design Criteria (Continued)**

Design Element	Design Standard		Source	
<u>Cross Slope (lanes 1-way)</u>				
Roadway				
2-lane (2)	-0.02 ft/ft (2)			
3-lane (3)	-0.02 ft/ft (2), -0.03 ft/ft (1)			
4-lane (4) <sub>2</sub>	+0.02 ft/ft (1), -0.02 ft/ft (2), -0.03 (1)		- PPM Vol. I, Sect. 2.1.5	
Bridge Section	-0.02 (typical, uniform, no slope break)			
<u>Max. Lane "Roll-over"</u>	4.0%			
DS < 35 mph	5.0% (between through lane & aux. lane)		- FDOT PPM Vol. I, Fig. 2.1.1	
DS => 35 mph	6.0% (between through lane & aux. lane)		- PPM Vol. I, Table 2.1.4	
<u>Median Width</u>				
Freeway				
DS 60 mph ≥	64-ft			
DS 60 mph <	40-ft			
All	26-ft (with barrier)		- FDOT PPM Vol. I, Tbl. 2.2.1	
Arterial & Collector				
DS 45 mph ≤	22-ft			
DS 45 mph >	40-ft			
Offset Left Turn Lanes				
Median width 30-ft <	Parallel offset lane		- FDOT PPM Vol. I, Sect. 2.13.3 & Fig. 2.13.2	
Median width 30-ft >	Taper offset lane		- AASHTO Exh. 9-98	
<u>Shoulder Width (lanes 1-way)</u>	Total (ft)		Paved (ft)	
	Outside	Left	Outside	Left
Freeway				
3-lane or more	12	12	10	10
2-lane	12	8	10	4
Ramp				
1-lane	6	6	4	2
2-lane	10	8	8	4
Aux. Lane	12	N/A	10	N/A
Arterial & Collector (Norm. vol.)				
2-lane divided	10	8	5	0
1-lane undivided	10	N/A	5	N/A
Service Road, 2-Lane, 2-Way, Undivided	10	N/A	5	N/A
<u>Shoulder Cross Slope</u>	0.06	0.05	-	-
<u>Max. Shoulder "Roll-over"</u>	7.0%	7.0%	-	-



Table 4-1 Roadway Design Criteria (Continued)

Design Element	Design Element				Design Element
<u>Bridge section (lanes 1-way)</u> 2-lane 3-lane or more 1-lane ramp 2-lane ramp Service Road, 2-Lane, 2-Way Undivided	10	6	-	-	- FDOT PPM Vol. I, Fig. 2.0.1, 2.0.2, 2.0.4
	10	10	-	-	
	6	6	-	-	
	10	6	-	-	
	10*	10*	-	-	
*For Normal and High Traffic Volumes					
<u>Border Width</u> Freeway Ramp Arterial/Collector DS > 45 mph DS ≤ 45 mph Arterial/Collector (Curb & Gutter) DS = 45 mph DS ≤ 40 mph	94-ft, ( <i>desirable</i> ) 94-ft, ( <i>L.O.C. plus 10-ft as min.</i> )  40-ft 33-ft  14-ft (12-ft with bike lane) 12-ft (10-ft with bike lane)				- FDOT PPM Vol. I, Tbl. 2.5.1, 2.5.2 - ( <i>CFX Policy</i> ) <sub>3</sub>
<u>Roadside Slopes</u> Front slope (for a Freeway facility with DS ≥ 45 mph)  Front slope (curb & gutter)**  Back slope**  Back slope (curb & gutter)**	Fill Height (ft) 0.0-5 5-10 10-20 > 20  All  All  All	Rate 1:6 1:6 to CZ & 1:4 1:6 to CZ & 1:3 1:2 with guardrail ( <i>Use 10-ft bench at half the height of fill</i> )  1:2 not flatter than 1:6  1:4 or 1:3 w/ standard width trap. ditch & 1:6 front slope  1:2 not flatter than 1:6		- FDOT PPM Vol. I, Tbl. 2.4.1  - ( <i>CFX Policy</i> ) <sub>3</sub>  <i>Use 1:3 slopes, avoid 1:2 slopes except where as necessary</i>	

\*\*Standards for Urban Arterials and Collectors with Curb and Gutter facility with DS ≥ 45 mph

**Table 4-1 Roadway Design Criteria (Continued)**

Design Element	Design Standard		Source
<u>Max. Grade /</u> <u>Max. Change in Grade</u>	Max. Grade	%	- FDOT PPM Vol. I, Tbl. 2.6.1, 2.6.2
Freeway (Rural / Urban); DS 65 mph - 70 mph Ramp; DS 45 mph – 50 mph Directional Loop Arterial Rural Urban Collector Frontage Road/Service Road Min. Grade Curb & Gutter	3.0%  5.0% 7.0%  3.5% 6.0% 6.5% to 9.0% 8.0% 0.3%	0.20% / 0.30%  0.60% 1.00%  0.50% 0.70% - 0.70% -	
<u>Minimum Stopping Sight Distance</u> (Grades 2.0%) (Non-Interstate/All Other Facilities)	Dsgn. Speed (mph)	Distance (ft)	- FDOT PPM Vol. I, Tbl. 2.7.1
	70	730	
	65	645	
	55	495	
	50	425	
	45	360	
	30	200	
<u>Decision Sight Distance</u> (Per avoidance maneuver)	Dsgn. Speed (mph)	Distance (ft)	- AASHTO Exh. 3-3
	70	780-1445	
	65	695-1365	
	55	535-1135	
	50	465-1030	
	45	395-930	
	30	220-620	
<u>Horizontal Curve Length</u> Freeway Others	V = Design Speed 30V (15V min.) 15V (400-ft min.)		- FDOT PPM Vol. I, Tbl. 2.8.2a
<u>Max. Curvature (Degree of Curve)</u> Freeway DS = 70 mph Rural DS = 65 mph Rural Arterial DS = 55 mph Rural DS = 45 mph Urban Collector (Urban) DS = 45 mph Frontage Road DS = 50 mph Service Road Ramp (Rural) DS = 50 mph Directional DS = 30 mph Loop	3 30' 00" 4 15' 00"  6 30' 00" 8 15' 00"  8 15' 00" 8 15' 00"  8 15' 00" 24 45' 00"		- FDOT PPM Vol. I, Tbl. 2.8.3



Table 4-1 Roadway Design Criteria (Continued)

Design Element	Design Standard		Source	
<u>Superelevation Transition</u> Tangent Curve Spirals	80% (50% min.) 20% (50% min.) (Curves 1°30' 00" do not use spirals)		-FDOT PPM Vol. I, Sect. 2.9  - (CFX Policy) <sub>3</sub>	
<u>Superelevation Rates</u>			- FDOT PPM Vol. I, Tbl. 2.9.1, 2.9.2, 2.9.3, 2.9.4	
Freeway	emax	SE Trans.		
DS = 70 mph Rural	0.10	1:200 (6 lane)		
DS = 65 mph Rural	0.10	1:250 (2 & 4 lane)	- Design Standards Ind. No. 510, 511	
Arterial				
DS = 55 mph Rural	0.10	1:225 (2 & 4 lane)	- AASHTO Exh. 3-28	
DS = 45 mph Urban	0.05	1:150		
Collector				
DS = 45 mph Frontage Road (Urban)	0.05	1:150		
DS = 50 mph Service Road (Rural)	0.10	1:200		
Ramp (Rural)				
DS = 50 mph Directional	0.10	1:200		
DS = 30 mph Loop	0.10	1:150		
<u>Vertical Curves</u> Length, L = KA	Design Speed (mph)	K-value		
		Crest	Sag	
	70	401	181	- FDOT PPM Vol. I, Tbl. 2.8.5, 2.8.6
	65	313	157	
	55	185	115	- AASHTO Exh. 3-72 (crest) 3-75 (sag)
	50	136	96	
	45	98	79	
	30	31	37	- CFX Policy <sub>3</sub>
				Note: FDOT K-values for "ALL OTHER FACILITIES" are desirable
<u>Minimum Lengths</u>				
Freeway	Crest	Sag		
DS = 70 mph Rural				
DS = 65 mph Rural				
Arterial				
DS = 55 mph Rural	500-ft	400-ft		
DS = 45 mph Urban	450-ft	350-ft		
Collector				
DS = 45 mph Frontage Road	350-ft	250-ft		
DS = 50 mph Service Road	135-ft	135-ft		
Ramp				
DS = 50 mph Directional	135-ft	135-ft		
DS = 30 mph Loop	300-ft	200-ft		
	300-ft	200-ft		
	90-ft	90-ft		

Table 4-1 Roadway Design Criteria (Continued)

Design Element	Design Standard		Source
<u>Ramps</u> Ramp Terminals Length Taper	Entrance "Parallel-Type" 900 to 1200-ft 300-ft (25:1)	Exit "Taper-Type" 550-ft (2° to 5°, 4° desirable)	- Design Standards Ind. No. 525 - AASHTO Pg. 850-856
<u>Minimum Spacing</u> Entrance to Exit <sup>6</sup> Exit to Entrance Entrance to Entrance Exit to Exit Turning Roadways	1,600 to 2,000-ft 500-ft 1,000-ft 1,000-ft 600 to 800-ft		- AASHTO Exh. 10-68, Pg. 844
<u>Lane Drop Taper</u>	L = WS (DS > 45 mph) L = WS <sup>2</sup> /60 (DS ≤ 45 mph)  50:1 min, 70:1 desirable (freeways)		- Design Standards Ind. No. 525, 526 - AASHTO Pg. 818
<u>Clear Zone</u> Freeway DS = 70 mph Rural DS = 65 mph Rural Arterial DS = 55 mph Rural DS = 45 mph Urban Collector DS = 45 mph Frontage Road DS = 50 mph Service Road Ramp DS = 50 mph Directional 1 to 2-lane DS = 30 mph Loop 1 to 2-lane	36-ft 36-ft  30-ft 4-ft (Curb & Gutter) As appropriate 4-ft (Curb & Gutter) 24-ft  14-ft to 24-ft  10-ft to 18-ft		- FDOT PPM Vol. I, Tbl. 2.11.11
<u>Vertical Clearance</u> Over Roadway Over Railroad Sign over Roadway Over Water	16'-6" 23'-6" 17'-6" 12'-0" min.		- FDOT PPM Vol. I, Tbl. 2.10.1 to 2.10.4, Sect. 2.10.1
<u>Limited Access Limits</u> Rural Urban Crossroad overpass/ no interchange	300-ft min. 100-ft min. 200-ft		- FDOT PPM Vol. I, Sect. 2.14.1



## 4.2 Drainage Criteria

The design of stormwater management facilities for this project is governed by the rules and criteria set forth by the St. Johns River Water Management District (SJRWMD) and the FDOT. These criteria were drawn from the 2013 SJRWMD Applicant's Handbook and 2016 FDOT Drainage Manual.

### ***Water Quality and Pond Recovery***

- Wet Detention (SJRWMD)
  1. Water quality treatment – Greater of 1" over the total basin or 2.5" over the impervious area
  2. Recovery – one-half the treatment volume within the first 24 to 30 hours
- Dry Retention (on-line)
  1. Treatment - Greater of 1" over the basin or 1.25" over the impervious area
  2. Recovery- Treatment volume within 72 hours
- Outstanding Florida Water (OFW) : Treat an additional fifty percent of the runoff volume
- Econlockhatchee River Hydrology Basin Criteria
  1. Mean annual storm (2.3 year return period) with a total 24 hour rainfall depth of 4.5 inches.
  2. 25-year return period

### ***Water Quantity***

- Open Basin-Post-development peak discharges shall be at or below pre-development peak discharge for the 25-year/24-hour storm event.

### ***Pond Design (FDOT Criteria)***

- Ponds shall be designed to provide a minimum 20-foot of horizontal clearance between the top edge of the normal pool elevation and the right-of-way line. Maintenance berm shall be at least 15-feet with a slope of 1:8 or flatter.
- Corners of ponds shall be rounded to provide an acceptable turning radius for maintenance equipment (30-foot minimum inside radius).
- At least 1-foot of freeboard is required above the maximum design stage of the pond below the front of the maintenance berm.

## 5 ALTERNATIVES CONSIDERED

It was previously established and summarized in Section 1 of this report, that a new transportation corridor is needed in order to meet the needs of this project. As indicated by the results shown in Section 2, Corridor 4 was selected as the best option for implementation. This section provides a comparison of various typical sections and alignments within the selected corridor to determine the most efficient final SR 408 Eastern Extension alternative. Based on the existing deficiencies, needs and existing conditions of the selected corridor and also public/agency input, a comprehensive alternative development and evaluation process was initiated and conducted for the proposed project improvements as documented herein.

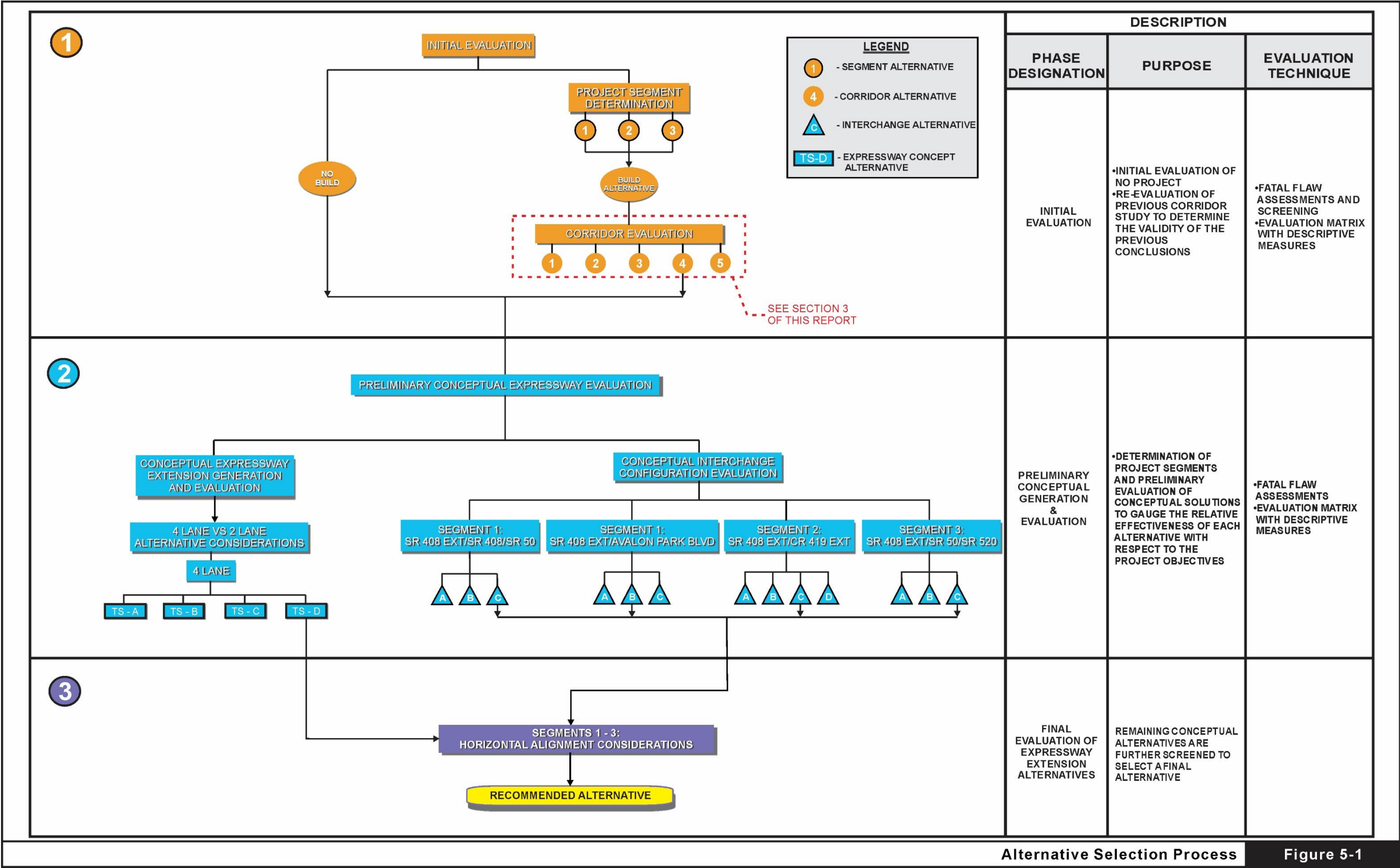
As illustrated on **Figure 5-1**, a multi-phase alternative development, evaluation and selection process was employed to properly assess all alternatives considered for the proposed improvements within the previously selected corridor. Essentially, three (3) different phases comprised the alternative selection process for the proposed project. A description of each of the three (3) different phases follows.

### 5.1 Phase 1 - Initial Evaluation

#### 5.1.1 No-Build Alternative

The "No-Build" alternative is an alternative solution frequently used in PD&E studies that assumes the retainment of existing conditions. It is mostly used as a benchmark condition in order to compare the costs and benefits of implementing the proposed improvements to those incurred by continuing to use the existing facilities. In this case, the only existing major east-west arterial facility (SR 50) within the project confines is inadequate not only in terms of future projected capacity needs but, more importantly, it would not provide the desirable redundancy in evacuation and emergency response potential nor the required additional regional connectivity to I-95 on the east. It is evident that, because of the reasons previously discussed in this document, adoption of this alternative would not solve many of the existing needs associated with the goals of this project. However, the "No-Build" alternative will be maintained as a viable option providing an effective





baseline condition by which other project alternatives will be compared throughout the project alternative selection process.

### 5.1.2 Build Alternatives

Expressway extension options need to consider various major components of providing a new, multilane facility which includes the selection of a preferred corridor in conjunction with the most efficient typical section and alignment options as well as access point locations and configurations. The generation and selection of a preferred corridor was previously discussed in Section 3. The following sections provide a detailed discussion concerning other critical system components of the preferred extension option.

## 5.2 Phase 2 - Preliminary Conceptual Expressway Evaluation

This phase entailed the generation and evaluation of alternatives for the extension of SR 408 within the previously selected corridor. Alternatives were generated for two (2) distinct system components: typical section options for the SR 408 Extension mainline and interchange configuration options.

### 5.2.1 Segmental Determination and Generation

The first step in the evaluation of the mainline options was to breakdown the project into distinct segments. The segmental breakdown methodology was previously described and utilized in the development of the various corridor options (see **Section 3.3, page 3-20**). According to the previously obtained results, the project was divided into three distinct segments (see **Figure 3-1**).



### 5.2.2 Expressway Extension Typical Sections

This task entailed the generation and preliminary evaluation of various mainline typical section options. In view of the fact that traffic projections indicate a significant drop in the traffic demand within Segment 3 (see **Table 3-2, Page 3-10**), the potential use of 2-lane options were also initially considered within that segment. **Table 5-1** summarizes the overall characteristics of a “representative” divided two-lane facility versus a four-lane facility in the context of meeting the project needs. As shown on the table, the two-lane



Table 5-1 Two Lane VS Four Lane Comparisons

Alternatives		2-LANE DIVIDED		4-LANE DIVIDED	
Parameters					
Safety	Even though the provision of a non-traversable median would virtually eliminate the fatal head-on crashes, it is a fixed object that is proximate to both directional lanes. This fixed object could be struck by errant vehicles traveling at high speeds and cause accidents. Previous statistical evidence clearly shows that from both an accident frequency and severity perspective, two lane divided highways are not as safe as four lane divided facilities.	-	Ample divided median and additional capacity contributes to a safer facility.	+	
Traffic Service	In case of increasing traffic demand, provision of a divided non-traversable median on a two-lane roadway will worsen the level-of-traffic service. In addition, the provision of lower posted and enforced speeds could produce even greater driver frustration and an overall reduction in mobility. Provision of a divided median on a two-lane facility will increase the percentage of time that a vehicle will be delayed in a platoon trying to pass. In addition, forcing vehicles to go unusually slow on this type of low access/high mobility facility will result in lower average speeds, more delay and thus overall lower service quality.	-	The provision of a divided four-lane facility would provide acceptable levels of service, throughout the project segment and accommodate potential future growth.	+	
Evacuation / Emergency Service	A divided non-traversable median will also worsen conditions in terms of hurricane evacuation or emergency services. With the non-traversable median concept, less continuous pavement is provided on each side. An accident or incident on the outbound side could easily disrupt the flow of traffic since vehicles are basically restricted by the median. Maneuvering large vehicles (Rv's, trailers, trucks, etc.) within this narrower width will be more difficult. In addition, a lower design and posted speed facility with a narrow median will not be able to evacuate as many people as a higher speed, unconstrained facility.	-	A four-lane facility provides an adequate evacuation route and improves traffic safety during a mass evacuation or emergency situation.	+	
Planning Consistency	The limited additional mobility provided by a two-lane facility extension is not consistent with the freeway/expressway functional classification envisioned in all previous/existing master plans.	-	Fully compatible with all previous/existing master plans.	+	
Provide Effective Transit Support	Potentially provides only limited (due to capacity limitations) additional interagency transit service that could extend between Orange and Brevard Counties.	-	Provides a realistic effective option for commuters and visitors traveling between the two counties.	+	
Transportation Connectivity / Linkage	Provision of only marginal additional capacity limits desired additional connectivity between Orlando and Cape Canaveral.	-	Enhances potential future connectivity between Orlando and Cape Canaveral and is consistent with the ultimate vision to provide an effective expressway connection from east Orlando to I-95 north of SR 528.	+	
Cost	Least expensive option in terms of initial capital expenditure, but will generate higher road user cost, as well as potential future expansion costs.	+	Most expensive option in terms of initial capital cost but offers reduced road user costs.	-	

**LEGEND**  
 GENERALLY POSITIVE EFFECT  
 GENERALLY NEGATIVE EFFECT

option would not fulfill the intended project needs, thus it was eliminated from further consideration.

Next, four (4) distinct 4-lane typical sections were developed covering both urban and rural options. **Table 5-2** illustrates and describes the features of the various typical section alternatives and their segmental applicability. According to the results of the table only Alternative TS-A and TS-D are viable throughout most or all of the project segments.

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Table 5-2 Initial Typical Section Evaluation

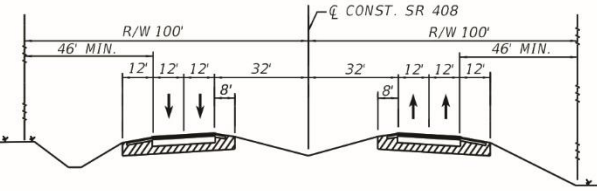
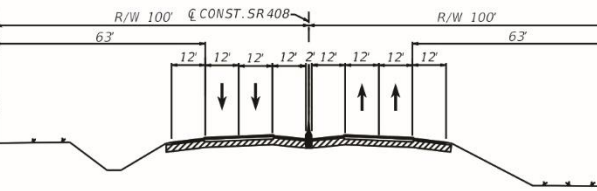
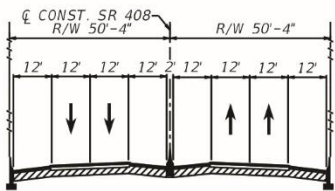
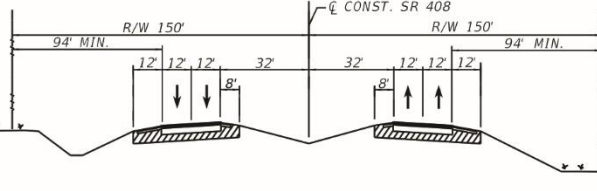
TYPICAL SECTION ALTERNATIVES	Design Speed	Median Width	Border Width	R/W Req'd	Applicable Segments		
					1	2	3
 <p>Alternative TS-A</p>	65	64'	46'	200'	✓	✓	✓
 <p>Alternative TS-B</p>	65	26'	63'	200'	X	X	X
 <p>Alternative TS-C</p>	65	26'	13'-4"	100'-8"	X	X	X
 <p>Alternative TS-D</p>	70	64'	94'	300'	✓	✓	✓

Table 5-3 is a numerical descriptive matrix which evaluates the advantages and disadvantages of the two remaining typical sections. According to the results obtained, TS-D is generally superior due to the fact that it meets all required standards and has a higher compatibility for any required future expansion.

LEGEND		
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE	1.0
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE	0.8
O	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE	0.6
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE	0.4
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE	0.2

TABLE 5-3  
PRELIMINARY TYPICAL SECTION EVALUATION

IMPACTS OPTIONS	ENGINEERING			34	ENVIRONMENTAL				30	SOCIO-ECONOMIC		20	COST		16	RANK (TOTAL SCORE)
	TRAFFIC SERVICE	OPERATIONAL ISSUES	COMPATIBILITY FOR FUTURE EXPANSION	WATER QUALITY AND DRAINAGE	POTENTIAL WETLANDS & WILDLIFE HABITAT IMPACTS	CONTAMINATION IMPACTS	NOISE	HURRICANE EVACUATION EMERGENCY RESPONSE	RELOCATION POTENTIAL	CONSTRUCTION	R/W					
	11	12	11	7	8	9	6	10	10	8	8					
TS-A	Adequate rural section that would allow high operating speeds 8.8	+ Ample section with wide median however the standard border width (94') is not met 7.2	O Limited for future expansion due to substandard border width 6.6	O Moderate amount of impervious area 4.2	O Smaller area of potential wetland and habitat impacts than TS-D 4.8	O Minor potential contamination impacts 5.4	O Minor noise impacts 3.6	+ Additional capacity and high design speed facilitates emergency response & hurricane evacuation 8.0	- Some relocations required generally due to new expressway 4.0	O Moderate construction cost 4.8	O Requires less amount of right-of-way than TS-D 4.8	62.2				
TS-D	Adequate rural section that would allow high operating speeds 8.8	+ Ample section which meets all standards 9.6	+ Generally superior to option TS-A in terms of future expansion potential 8.8	+ Generally similar to alternative TS-A but affords larger area available for stormwater treatment 5.6	- Higher area of potential wetland and habitat impacts 3.2	O Minor potential contamination impacts 5.4	O Minor noise impacts 3.6	+ Generally similar to alternative TS-A 8.0	- Generally similar to alternative TS-A 4.0	O Moderate construction cost 4.8	- Requires a large amount of r/w impacts 3.2	65.0				



### 5.2.3 Conceptual Interchange Configuration Evaluation

The main objective of this task was to screen out all non-viable (inferior) interchange configurations and thus identify at an early stage what configuration(s) would work best at each interchange location. Summaries of these evaluations are illustrated on **Figures 5-2** through **5-5**. These descriptive matrices show various potential interchange configurations at each of the four interchange locations. It should be noted that several additional interchange options were conceptually developed and preliminarily evaluated for fatal flaws from a traffic and geometric standpoint. Several options were eliminated due to serious operational and/or constructability concerns.

It should be noted that when evaluating the potential interchanges along the SR 408 Eastern Extension Corridor one parameter that was considered was that the future interchanges should be at least 600 feet away from the existing/future SR 50 in order to minimize potential detrimental traffic operational interfaces. These interchange locations have been analyzed based on the traffic models with areas of higher congestion and demand to alleviate the traffic from the neighboring local streets. The proposed interchange locations are as follows:

- Segment 1: The existing SR 50/Challenger Parkway and Avalon Park Boulevard
- Segment 2: Chuluota Road Extension
- Segment 3: End terminus at SR 50

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LEGEND			
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE	1.0	
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE	0.8	
0	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE	0.6	
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE	0.4	
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE	0.2	

PARAMETERS		15	CRITERIA WEIGHT	12.0	RESULTING SCORE	71.8	TOTAL SCORE
ENGINEERING	GEOMETRIC / OPERATIONAL FEATURES		15		12.0		
	TRAFFIC SERVICE		15		9.0		
	SAFETY		15		12.0		
SOCIOECONOMIC	CONSTRUCTIBILITY / M.O.T. IMPLICATIONS		11		6.6		
	IMPACTS TO SENSITIVE SITES		7		4.2		
	R/W & RELOCATION IMPACTS		11		6.6		
ENV.	ENVIRONMENTAL IMPACTS		11		6.6		
COST	COST		15		6.0		
SUMMARY REMARKS							
REMAINS VIABLE?							

ALTERNATIVES	A		B		C	
	Minor concern with required EB SR 50 advanced signage for traffic destined to either SB or WB SR 408 and its potential operational effect on the traffic around the Woodbury Road intersection due to its close proximity.  Relocation of existing EB SR 50 to SB SR 408 ramp affords better (longer) spacing for the consecutive entrances along SB SR 408.		Location of new interchange further south affords longer weaving distance for the SB SR 50 and Challenger Parkway traffic destined EB on the SR 408 Extension, but new exit is on the left an undesirable feature.  Geometric curvature and operating speed associated with the WB SR 408 Extension to NB movements is rather restrictive and would negatively affect the merging/weaving maneuvers with the NB SR 408 to SR 50 and to Challenger Parkway movements.		Effective interchange configuration, generally providing good operational features and additional access via Woodbury Road.	
	Generally good traffic service. Provision of direct connection from EB SR 50 to EB SR 408 extension is a major advantage. However, access to SR 50 from WB SR 408 is via Challenger Parkway could negatively impact local streets.		Design favors EB SR 408 Extension traffic and generally increases delay for the heavy NB traffic exiting at the SR 50/SR 408 interchange or continuing north to the Challenger Parkway.		Provides the best traffic service of all the alternatives.	
	Generally safe option.		Some weaving distance concerns between the proposed interchange and exit to SR 50.		Generally safe.	
	No significant constructibility nor detrimental MOT implications expected.		No significant constructibility nor detrimental MOT implications expected.		No significant constructibility nor detrimental MOT implications expected.	
	No impact to sensitive sites.		No impacts to sensitive sites.		No impacts to sensitive sites.	
	Relatively minor right-of-way impacts at SE quadrant.		Relatively minor right-of-way impacts.		Relatively minor right-of-way impacts.	
	Minor environmental impacts.		Minor environmental impacts.		Minor environmental impacts.	
	Generally high cost due to second and third level directional ramps.		Generally moderate cost.		Generally moderate cost.	
SUMMARY REMARKS		Provides good merging/diverging movements at existing SR 408/SR 50 interchange. Relatively minor r/w impacts.	Additional delay for the high NB traffic movements exiting at SR 50 and the Challenger Parkway and additional operational concerns.	Safe configuration, providing the best service at a moderate cost.		
REMAINS VIABLE?		No	No	Yes		

SR 408 Extension/SR 408/SR 50 Interchange Configurations

Figure 5-2



LEGEND				
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE	1.0		
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE	0.8		
0	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE	0.6		
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE	0.4		
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE	0.2		

PARAMETERS		15	CRITERIA WEIGHT	9.0	RESULTING SCORE	71.8	TOTAL SCORE
ENGINEERING	GEOMETRIC / OPERATIONAL FEATURES	Generally simple and common geometric configuration that avoids the interweaving traffic flows that occur on other interchange configurations. Would likely require the provision of two closely spaced signals.	0	15	9.0	12.0	9.0
	TRAFFIC SERVICE	No significant detrimental mobility effects for pedestrians and bicyclists.	0	15	9.0	12.0	9.0
	SAFETY	Generally safe configuration although it requires the use of two traffic signals.	0	15	9.0	12.0	12.0
SOCIOECONOMIC	CONSTRUCTIBILITY / M.O.T. IMPLICATIONS	No significant constructibility nor detrimental MOT implications expected. However the interchange location will likely require the relocation of the existing LYNX Route 320 bus stops.	+	11	8.8	8.8	8.8
	IMPACTS TO SENSITIVE SITES	Impacts to the conservation lands due to the interchange location. There are higher impacts because of the wider footprint of this interchange configuration.	-	7	2.8	4.2	2.8
	R/W & RELOCATION IMPACTS	Relatively minor right-of-way impacts.	0	11	6.6	6.6	6.6
ENV.	ENVIRONMENTAL IMPACTS	Generally significant environmental impacts.	-	11	4.4	6.6	4.4
COST	COST	Generally moderate cost, but required dual signal installations will increase maintenance cost.	0	15	9.0	6.0	6.0
SUMMARY REMARKS		Feasible option which generally maintains good operational conditions along Avalon Park Boulevard.	0		58.6	68.2	58.6
REMAINS VIABLE?		No			Yes	No	

ALTERNATIVES

50

Old Cheney Hwy

Legend

Mainline 408 Extension

SB Avalon to WB 408

NB Avalon to WB 408

EB 408 to NB/SB Avalon

WB 408 to NB/SB Avalon

SB Avalon to EB 408

NB Avalon to EB 408

A

50

Old Cheney Hwy

Legend

Mainline 408 Extension

NB/SB Avalon to WB 408

NB/SB Avalon to EB 408

EB 408 to NB/SB Avalon

WB 408 to NB/SB Avalon

B

50

Old Cheney Hwy

Legend

Mainline 408 Extension

EB 408 On Ramp

WB 408 On Ramp

EB 408 Off Ramp

WB 408 Off Ramp

Roundabout

C

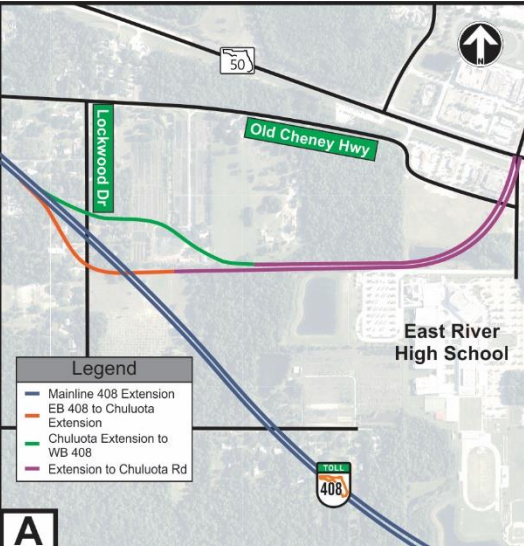


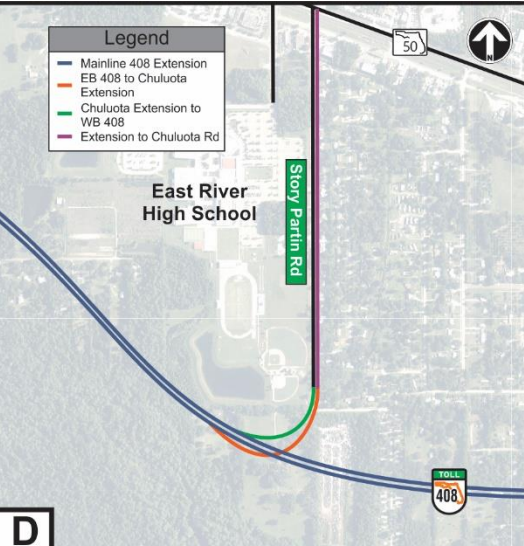
SR 408 Extension/Avalon Park Boulevard Interchange Configurations

Figure 5-3

Alternatives Considered | Draft Preliminary Engineering Report

5-10



LEGEND								
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE	1.0						
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE	0.8						
0	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE	0.6						
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE	0.4						
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE	0.2						
		15	CRITERIA WEIGHT					
		9.0	RESULTING SCORE					
		71.8	TOTAL SCORE					
PARAMETERS		ALTERNATIVES						
ENGINEERING	GEOMETRIC / OPERATIONAL FEATURES	 <div>Legend<ul style="list-style-type: none"><li>Mainline 408 Extension</li><li>EB 408 to Chuluota Extension</li><li>Chuluota Extension to WB 408</li><li>Extension to Chuluota Rd</li></ul></div>	 <div>Legend<ul style="list-style-type: none"><li>Mainline 408 Extension</li><li>EB 408 to Chuluota Extension</li><li>Chuluota Extension to WB 408</li><li>Extension to Chuluota Rd</li><li>Roundabout</li></ul></div>	 <div>Legend<ul style="list-style-type: none"><li>Mainline 408 Extension</li><li>EB 408 to Chuluota Extension</li><li>Chuluota Extension to WB 408</li><li>Chuluota Rd Extension</li><li>Chuluota Rd to EB 408</li><li>WB 408 to Chuluota Rd</li></ul></div>	 <div>Legend<ul style="list-style-type: none"><li>Mainline 408 Extension</li><li>EB 408 to Chuluota Extension</li><li>Chuluota Extension to WB 408</li><li>Extension to Chuluota Rd</li></ul></div>			
	TRAFFIC SERVICE	No significant geometric nor operational concerns and provides uninterrupted local traffic through the interchange.	+	No significant geometric nor operational concerns but local traffic must also traverse the roundabout.	0	No significant geometric nor operational concerns and provides uninterrupted local traffic through the interchange via a simple intersection.	+	
	SAFETY	Generally provides adequate traffic service although the movements to and from the east are not provided.	15	12.0	9.0	12.0	15.0	12.0
	CONSTRUCTIBILITY / M.O.T. IMPLICATIONS	Generally safe option.	15	9.0	12.0	12.0	12.0	12.0
SOCIOECONOMIC	IMPACTS TO SENSITIVE SITES	No significant constructibility nor detrimental MOT implications expected.	+	No significant constructibility nor detrimental MOT implications expected.	+	No significant constructibility nor detrimental MOT implications expected.	+	
	R/W & RELOCATION IMPACTS	Although this alternative does not directly impact any sensitive sites, it could attract a significant volume of traffic via the road serving as the main entrance to East River High School.	11	8.8	8.8	8.8	8.8	
	ENVIRONMENTAL IMPACTS	Although this alternative does not directly impact any sensitive sites, it could attract a significant volume of traffic via the road serving as the main entrance to East River High School.	7	4.2	4.2	4.2	4.2	
ENV.	ENVIRONMENTAL IMPACTS	Moderate r/w impacts around Lockwood Drive and just north of the East River High School entrance.	-	Moderate right-of-way impacts due to the wider footprint of the interchange configuration.	-	Least impacts of all alternatives.	0	
COST	COST	Minor environmental impacts.	11	6.6	6.6	6.6	6.6	
	SUMMARY REMARKS	Moderate cost.	15	9.0	9.0	9.0	9.0	
	REMAINS VIABLE?	Viable option but additional right-of-way associated with ample directional ramp in the Northeast quadrant might be controversial.	66.0	66.0	74.2	63.8		
		No	No	Yes	No			
SR 408 Extension/CR 419 Extension Interchange Configurations								
Figure 5-4								



<div>LEGEND</div> <div><div>++</div><div>+</div><div>0</div><div>-</div><div>--</div></div> <div><div>SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE</div><div>GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE</div><div>GENERALLY NO EFFECT OR MODERATE ALTERNATIVE</div><div>GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE</div><div>GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE</div></div> <div><div>1.0</div><div>0.8</div><div>0.6</div><div>0.4</div><div>0.2</div></div>		<div>ALTERNATIVES</div> <div><div><div>Legend</div><div><div>Mainline 408 Extension</div><div>EB 408 to SR 50</div><div>WB SR 50 &amp; SR 520 to WB SR 408</div><div>Local Access to Service Rd Connected to SR 50</div></div></div><div><div>50</div><div>408</div><div>520</div></div></div> <div><div><div>Legend</div><div><div>Mainline 408 Extension</div><div>EB 408 to SR 50</div><div>WB SR 50 to WB SR 408</div><div>Local Access to Service Rd Connected to SR 50</div></div></div><div><div>50</div><div>408</div><div>520</div></div></div> <div><div><div>Legend</div><div><div>Mainline 408 Extension</div><div>EB 408 to SR 50</div><div>SR 50 to WB 408</div></div></div><div><div>50</div><div>408</div><div>520</div></div></div>		
<div>PARAMETERS</div>				
<div>ENGINEERING</div>	<div>GEOMETRIC / OPERATIONAL FEATURES</div>	<div>Generally similar geometry but requires the provision of a two-way service road along the south side of SR 50 to maintain local access.</div> <div><div>15</div><div>12.0</div></div>	<div>Generally similar to previous option but will require a signal.</div> <div><div>0</div><div>9.0</div></div>	<div>Simple geometry but might require the provision of 1 traffic signal (for entering and exiting SR 408 Extension traffic).</div> <div><div>0</div><div>9.0</div></div>
	<div>TRAFFIC SERVICE</div>	<div>Generally good traffic service but some weaving concerns along SB SR 50 between the EB SR 408 off-ramp merge area and the SR 50/SR 520 interchange.</div> <div><div>15</div><div>12.0</div></div>	<div>Although this option avoids weaving concerns along SB SR 50, the new required signal will affect the operational efficiency along SR 50.</div> <div><div>0</div><div>9.0</div></div>	<div>Generally similar to Alternative B.</div> <div><div>-</div><div>9.0</div></div>
	<div>SAFETY</div>	<div>Generally safe option.</div> <div><div>15</div><div>12.0</div></div>	<div>Generally safe option.</div> <div><div>+</div><div>12.0</div></div>	<div>Generally safe option.</div> <div><div>+</div><div>12.0</div></div>
<div>SOCIOECONOMIC</div>	<div>CONSTRUCTIBILITY / M.O.T. IMPLICATIONS</div>	<div>No significant constructibility but additional MOT coordination required due to the required construction of the service road.</div> <div><div>11</div><div>8.8</div></div>	<div>Generally similar to previous option.</div> <div><div>+</div><div>8.8</div></div>	<div>No significant constructibility nor MOT problems are anticipated.</div> <div><div>+</div><div>8.8</div></div>
	<div>IMPACTS TO SENSITIVE SITES</div>	<div>No impacts to sensitive sites.</div> <div><div>7</div><div>4.2</div></div>	<div>No impacts to sensitive sites.</div> <div><div>0</div><div>4.2</div></div>	<div>No impacts to sensitive sites.</div> <div><div>0</div><div>4.2</div></div>
	<div>R/W &amp; RELOCATION IMPACTS</div>	<div>Moderate r/w impacts required.</div> <div><div>11</div><div>6.6</div></div>	<div>Moderate r/w impacts required.</div> <div><div>0</div><div>6.6</div></div>	<div>Generally less impacts than either options.</div> <div><div>++</div><div>11.0</div></div>
<div>ENV.</div>	<div>ENVIRONMENTAL IMPACTS</div>	<div>Minor environmental impacts.</div> <div><div>11</div><div>6.6</div></div>	<div>Minor environmental impacts.</div> <div><div>0</div><div>6.6</div></div>	<div>Minor environmental impacts.</div> <div><div>0</div><div>6.6</div></div>
<div>COST</div>	<div>COST</div>	<div>Generally high cost.</div> <div><div>15</div><div>6.0</div></div>	<div>Generally high cost.</div> <div><div>-</div><div>6.0</div></div>	<div>Least expensive of all options.</div> <div><div>++</div><div>15.0</div></div>
<div>SUMMARY REMARKS</div>		<div>Simple and effective configuration if weaving is not a problem.</div> <div><div>68.2</div></div>	<div>Simple and effective configuration provided that new signal does not appreciable detract the LOS.</div> <div><div>62.2</div></div>	<div>Simple and flexible solution but will require substantial modifications.</div> <div><div>75.6</div></div>
<div>REMAINS VIABLE?</div>		<div>No</div>	<div>No</div>	<div>Yes</div>
<div>SR 408 Extension/SR 50 Interchange Configurations</div>				
<div>Figure 5-5</div>				

SR 408 Extension/SR 50 Interchange Configurations

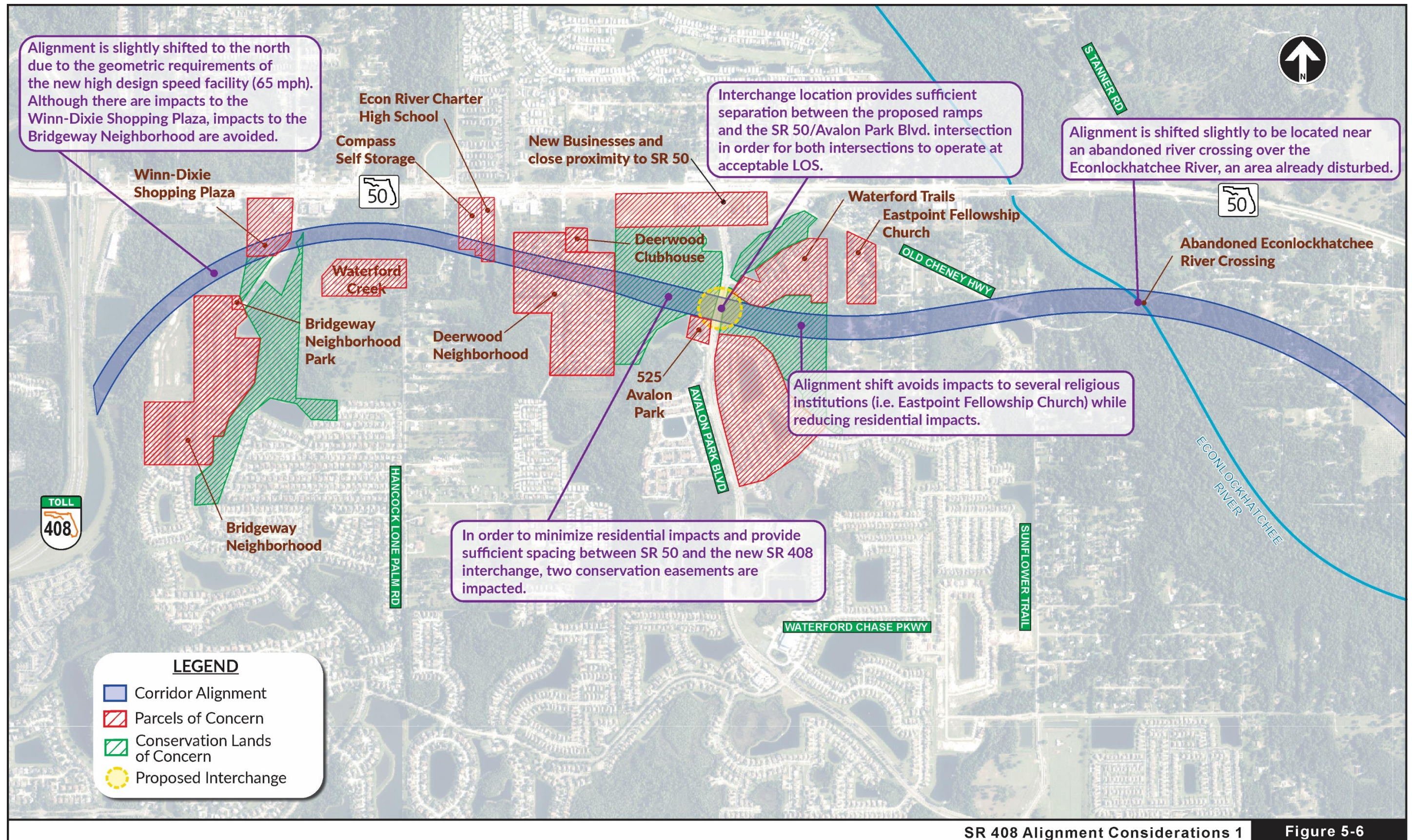
Figure 5-5

### 5.3 Phase 3 - Horizontal Alignment Considerations

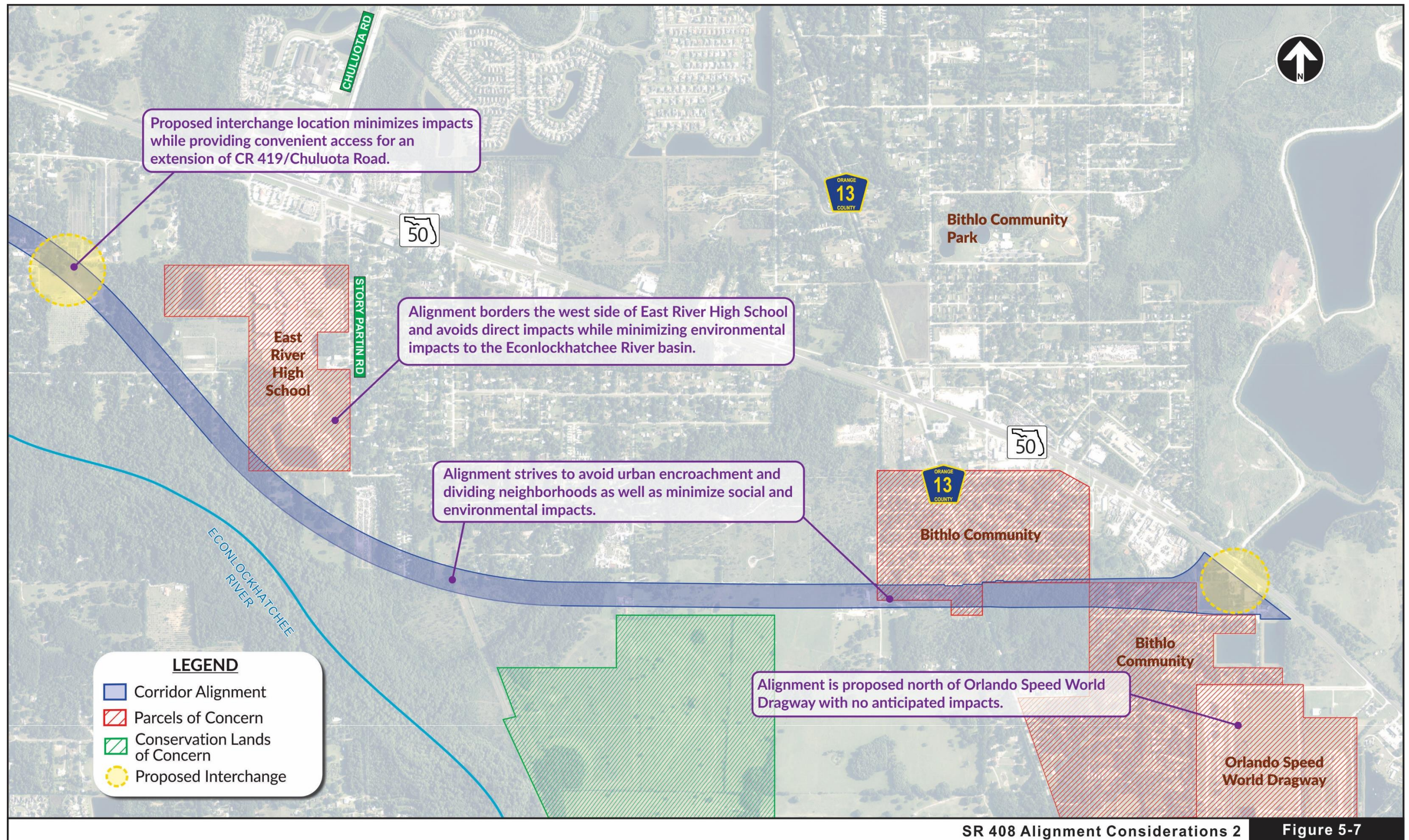
In order to evaluate different alternative roadway concepts, it is also necessary to take into account their horizontal alignment or relative position within the chosen corridor. Although the alignment is generally dictated by the design speed (65 mph in segment 1 and 70 mph in segments 2 and 3), **Figures 5-6** and **5-7** illustrate some of the critical issues involved in the selection of the recommended alignment. As previously stated, Segment 1 of the project exhibits generally urbanized conditions with various residential neighborhoods and commercial land uses. The alignment through this area strives to avoid, or at least minimize, most detrimental impacts resulting from the proposed facility. It is important to note that the ample geometric requirements associated with high design speed facilities (e.g. – smooth long curves, etc.) limits the ability to entirely avoid some impacts. In addition, the location of the proposed interchanges require that certain minimum distances to major arterial facilities (e.g. – SR 50) be maintained to ensure appropriate vehicular flow associated with proper merging, weaving and queueing distances. As shown on **Figures 5-6** and **5-7**, Segments 2 and 3 are less dense in terms of urban development. The alignment through these areas strives to maintain a delicate balance to possibly avoid urban encroachment while minimizing impacts to the existing environmental conservation easements.

Closer inspection of the selected corridor revealed that a slight deviation to the south from just west of Avalon Park Boulevard to just east of the Econlockhatchee River would be beneficial. This deviation is necessary in order to reduce residential impacts and provide sufficient spacing between SR 50 and the SR 408 extension interchange at Avalon Park Boulevard. The results of a preliminary traffic analysis determined that a new interchange at Avalon Park Boulevard needs to be located more than 600 feet south of SR 50 in order to provide adequate operations at both the new 408 interchange and the SR 50/Avalon Park Boulevard intersection.











### 5.3.1 Recommended Alternative

Based on the previous evaluation of alternatives, from an engineering, environmental socio-economic, and cost perspective, as well as assessing public comments received, the resulting recommended alternative is illustrated on **Figure 7-1** (see Page 7-2). In general terms, the proposed alternative is the best option to satisfy the project Purpose and Need. It features a four-lane divided facility with a 60-foot median width, 12-foot lanes, and a design speed of 65 – 70 mph within a 300-foot right-of-way. A partial interchange will be provided at Woodbury Road and full interchanges at SR 50/408, Avalon Park Boulevard, CR 419/Chuluota Road Extension and at the eastern project terminus with SR 50/SR 520. Additional details concerning the recommended alternative is included in Section 8.

## 6 Future Traffic Analysis

The forecasts of average daily traffic (ADT) for the No Build and Build alternatives were prepared using the project-specific travel demand model described in the Draft Traffic Technical Memorandum (DTTM). For the preliminary alternatives considered, the forecasted traffic is provided in annual average daily traffic (AADT) for design year 2045. For the final alternative, summaries of the forecasts under No Build and Build conditions of average daily traffic (ADT) and the Directional Design Hour Volumes (DDHV) are provided. This section also contains summaries of the roadway segment and intersection operation level of service for 2025 (opening year) and 2045 (design year) conditions.

The DDHVs were developed using these ADT forecasts and the recommended K and D factors. The daily and peak hour traffic operational conditions for roadway segments were conducted using the 2012 FDOT Quality and Level of Service Handbook tables. The intersection operation LOS analysis was conducted using SYNCHRO software. Mitigation measures needed at intersections and roadway segments impacted by the proposed project were considered.

### 6.1 Description of Alternatives

The 2045 forecast year, or design year, was used to evaluate the alternative corridors. Future traffic projections were developed for the No Build alternative and multiple build alternatives. All alternatives, including the No Build alternative, assume that SR 50 will be widened to 6 lanes, prior to this project's opening year, beyond the terminus of the present-day widening project, i.e., between Avalon Park Boulevard and SR 520. The Build alternatives were tolled at \$0.18 per mile and escalated in accordance with the Customer First toll rate policy.

The description of all the alternatives considered in the study was previously provided in Section 6 of this report.



## 6.2 Daily Traffic Forecasts

A project-specific travel demand model was developed to forecast traffic. The calibration of the travel demand model is described in detail in the DTTM. Using the calibrated model, traffic forecasts were developed for three future years 2025, 2035 and 2045 (reporting only 2025 and 2045) to coincide with the opening year and design year of the project. The 2025 and 2045 models included the socio-economic data from the MetroPlan Orlando (the MPO) along with the roadway network improvements identified in the MPO's Long Range Transportation Plan (LRTP) and CFX's Master Plan. In the LRTP, SR 50 from the existing 6-lane terminus at Avalon Park Boulevard to SR 520 will be widened to six lanes by year 2025. In addition, land uses for the proposed Lake Pickett Development, extending from SR 50 to the Seminole County Boundary and from Tanner Road to Chuluota Road (CR 419), are included in the model.

The travel demand model was run for the years 2025 and 2045 for both No Build and Build conditions. The No Build and Build scenarios included the same land use assumption. The No Build scenario assumed the widening of SR 50 to six lanes throughout the project limits. The Build scenario included SR 408 Eastern Extension, in addition to the 6-lane cross section for SR 50. The Project is envisioned as a tolled extension of SR 408. The Project has been coded in the network with a toll rate of \$0.18 per mile in 2015 dollars, consistent with average tolls on all new CFX facilities. The toll rates have been inflated to 2025 and 2045 using the new toll policy of a compounded annual growth rate of one and one-half percent (1.5%), in accordance with the CFX Customer First toll rate policy, adopted by the CFX Board in January 2017. Since all the alternative concepts run parallel to SR 50, the model results are comparable between these alternatives with the minor reassignment of traffic at the access points to the Project. The 2025 and 2045 model volume was converted to AADT using a Model Output Conversion Factor (MOCF) of 0.98. The MOCF for Orange County was obtained from the FTI webpage. The AADT from the 2025 and 2045 model runs are shown in **Table 6-1** and shows that the growth rates within the study area are generally lower in the No- Build scenario compared to the Build scenario. This also indicates that there is a latent demand which is not served by the six-lanes of SR 50 alone. With the addition of four lanes of SR 408 Eastern Extension, the demand on the SR 50/SR 408 corridor increases.

**Table 6-1: No Build and Build 2025 and 2045 Model Output (AADT)**

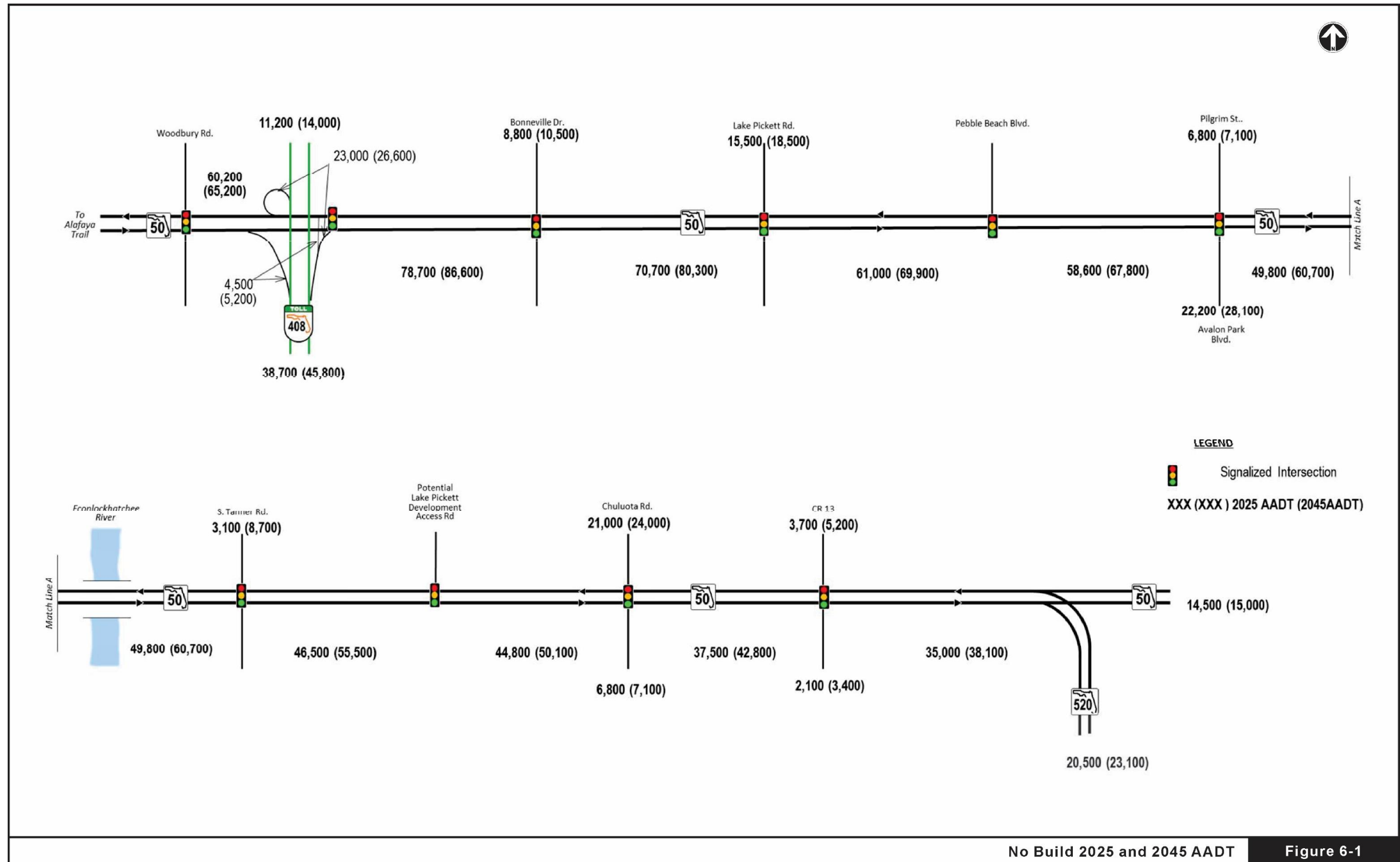
Location	2015 Base	No-Build 2025	No-Build 2045	Build 2025*	Build 2045*	No Build Growth Rate	Build Growth Rate
SR 50 East of SR 408	68,300	78,700	87,500	82,800	100,800	0.9%	1.7%
SR 50 @ Econ. River Bridge	38,500	49,800	57,900	50,400	66,100	1.7%	2.6%
SR 50 West of SR 520	29,200	34,000	36,000	34,500	40,800	0.8%	1.4%
Avalon Park South of SR 50	13,900	22,200	20,400	23,100	30,400	1.6%	2.1%
Chuluota North of SR 50	17,800	20,100	24,300	20,100	26,800	1.2%	1.2%

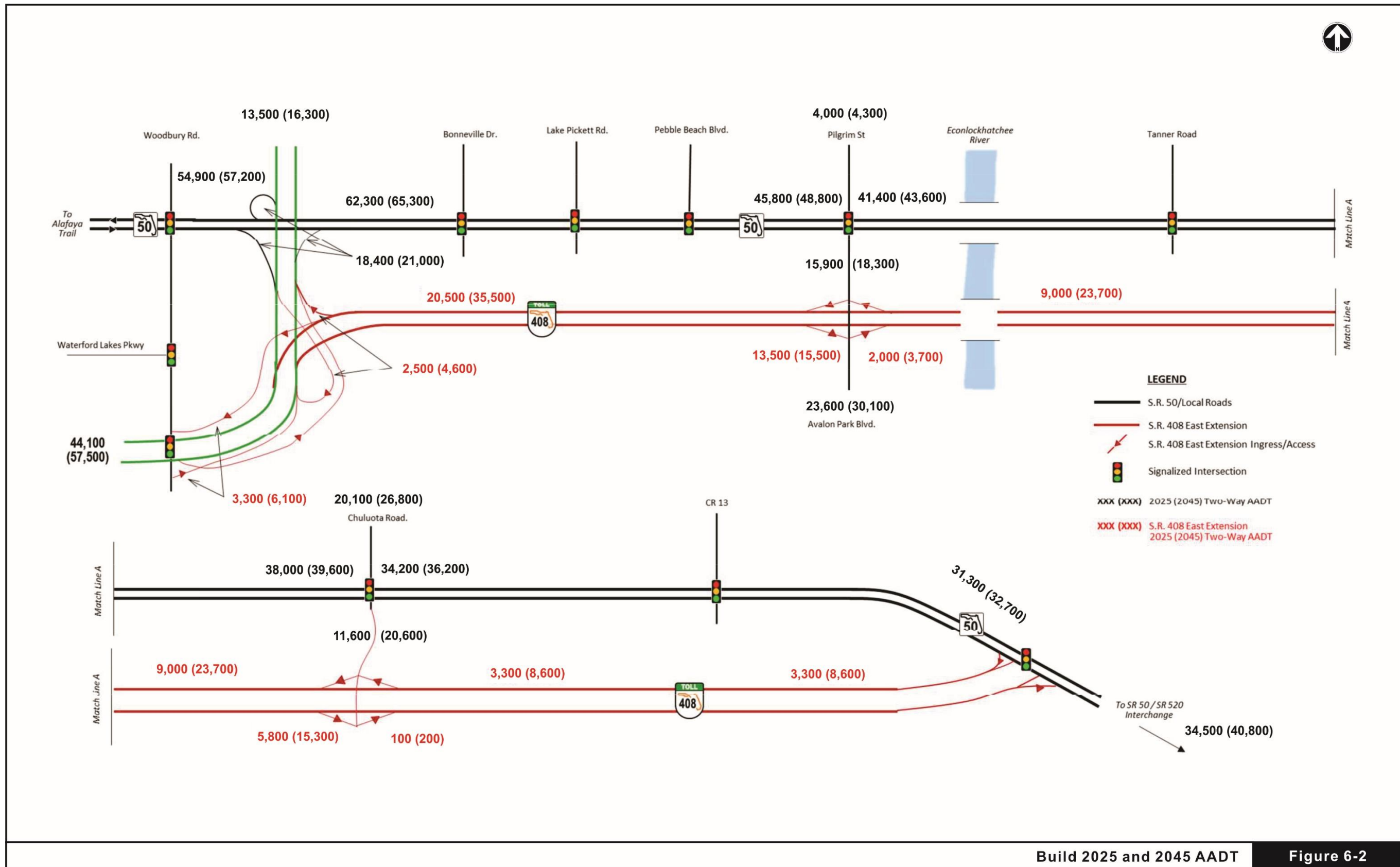
\* 2025 and 2045 Build scenarios include four lanes of SR 408 Eastern Extension along with 6-lanes of SR 50 within the limits of the Project.

Using the model output and recognizing the expected travel pattern changes due to the better access provided by the SR 408 Eastern Extension, and impacts from proposed Lake Pickett South Development, the 2025 and 2045 AADT were developed. **Figure 6-1** contains the No Build 2025 and 2045 AADTs and **Figure 6-2** shows Build 2025 and 2045 AADTs.

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Build 2025 and 2045 AADT

Figure 6-2



The daily roadway segment LOS analysis was conducted for the No Build and Build conditions using the 2012 FDOT Quality and Level of Service Handbook tables. A summary of No Build daily LOS is provided in **Table 6-2**. Under No Build conditions, by 2025, SR 50 from Woodbury Road to Avalon Park Boulevard is expected to operate at LOS F, and by 2045 an additional segment of SR 50 from Avalon Park Boulevard to Tanner Road is expected to operate at LOS F. In addition to SR 50, Chuluota Road North of SR 50 is projected to operate at LOS F. Improvements would be planned as a part of a Lake Pickett development agreement, to mitigate failing conditions on both Chuluota Road and Lake Pickett Road. However, SR 50 at a daily level is projected to operate at LOS F under the SR 50 6-lane configuration.

**Table 6-2: No-Build 2025 and 2045 Daily Roadway Segment LOS**

Roadway	From	To	Lanes	No Build AADT		No Build LOS	
				2025	2045	2025	2045
SR 50	Woodbury Rd	SR 408 Ramps	6L	60,200	65,200	F	F
	SR 408 Ramps	Bonneville Dr	6L	78,700	86,600	F	F
	Bonneville Dr	Lake Pickett Rd	6L	70,700	80,300	F	F
	Lake Pickett Rd	Pebble Beach Blvd	6L	61,000	69,900	F	F
	Pebble Beach Blvd	Avalon Park Blvd	6L	58,600	67,800	D	F
	Avalon Park Blvd	Tanner Rd	6L	49,800	60,700	C	F
	Just West of Chuluota Rd (CR 419)		6L	46,500	55,500	C	C
	Just East of Chuluota Rd (CR 419)		6L	44,800	50,100	C	C
	Just West of CR 13		6L	37,500	42,800	C	C
	CR 13	SR 520	6L	35,000	38,100	C	C
	East of SR 520		4L	14,500	15,000	B	B
Bonneville Dr	North of SR 50		2L	8,800	10,500	D	D
Lake Pickett Rd	North of SR 50		2L	15,500	18,500	F	F
Avalon Park Blvd	South of SR 50		4L	22,200	28,100	D	D
Tanner Rd	North of SR 50		2L	3,100	8,700	C	D
Chuluota Rd (CR 419)	North of SR 50		2L	20,100	24,000	F	F
	South of SR 50		2L	6,800	7,100	D	D
CR 13	North of SR 50		2L	3,700	5,200	C	C
	South of SR 50		2L	2,100	3,400	C	C
SR 520	East of SR 50		4L	20,500	23,100	B	B

A summary of Daily Build LOS is provided in **Table 6-3** and only shows the analysis of those segments of SR 50 and cross streets that directly impact the project. Under Build conditions, SR 50 from Woodbury Road to SR 408 Ramps is projected to operate at LOS F in 2025, and by 2045 an additional segment of SR 50 from the SR 408 Ramps to Lake Pickett Road is projected to operate at LOS F. The traffic volumes on SR 50 are lower under the Build condition than under the No Build condition. In addition to SR 50, Lake Pickett Road (north or SR 50) is projected to operate at LOS F. Improvements to Lake Pickett Drive would be planned as a part of the Lake Pickett development agreement to mitigate failing conditions.

The SR 408 Eastern Extension would impact the intersections of SR 50 at Avalon Park Boulevard and Chuluota Road as the off ramps that connect to SR 408 Eastern Extension are provided near these intersections. Therefore, intersection improvements are recommended for the Avalon Park Boulevard northbound approach and Chuluota Road southbound approach as mitigation measures, and also to provide better access to the SR 408 ramps located just west of Avalon Park Boulevard and those located west of Chuluota Road. Recommendations are described under the intersection operating conditions section.

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**Table 6-3: Build 2025 and 2045 Daily Roadway Segment LOS**

Roadway	From	To	Lanes	Build AADT		Build LOS	
				2025	2045	2025	2045
SR 50	Woodbury Rd	SR 408 Ramps	6L	54,900	57,200	C	C
	SR 408 Ramps	Bonneville Dr	6L	62,300	65,300	F	F
	Just West of Avalon Park Blvd		6L	45,800	48,800	C	C
	Just East of Avalon Park Blvd		6L	41,400	43,600	C	C
	Just West of Chuluota Rd		6L	38,000	39,600	C	C
	Just East of Chuluota Rd		6L	34,200	36,200	C	C
	CR 13	SR 408 Extension	6L	31,300	32,700	C	C
	SR 408 Extension	SR 520	6L	34,500	40,800	B	C
Avalon Park Blvd	South of SR 50		4L	15,900	18,300	D	D
Avalon Park Blvd	South of SR 408 Extension		4L	23,600	30,100	D	E
Chuluota Rd (CR 419)	North of SR 50		2L	20,100	26,800	D	D
	South of SR 50		4L	11,600	20,600	C	D
SR 408 Extension	SR 408	SR 408 Extension	4L	20,500	35,500	B	B
SR 408 Extension	Avalon Park Blvd	Chuluota Rd (CR 419)	4L	9,000	23,700	B	B
SR 408 Extension	Chuluota Rd (CR 419)	SR 50	4L	3,300	8,600	B	B

Under Build conditions, SR 408 Eastern Extension would provide a premium toll choice and would alleviate traffic conditions on SR 50 by diverting traffic off of the congested SR 50. The SR 408 Eastern Extension would also provide a better alternative to the traffic that is currently using SR 408 but are projected to face significant delays on SR 50 to access SR 408 under 2025 and 2045 conditions.

### 6.3 Design-Hour Traffic Forecasts and LOS

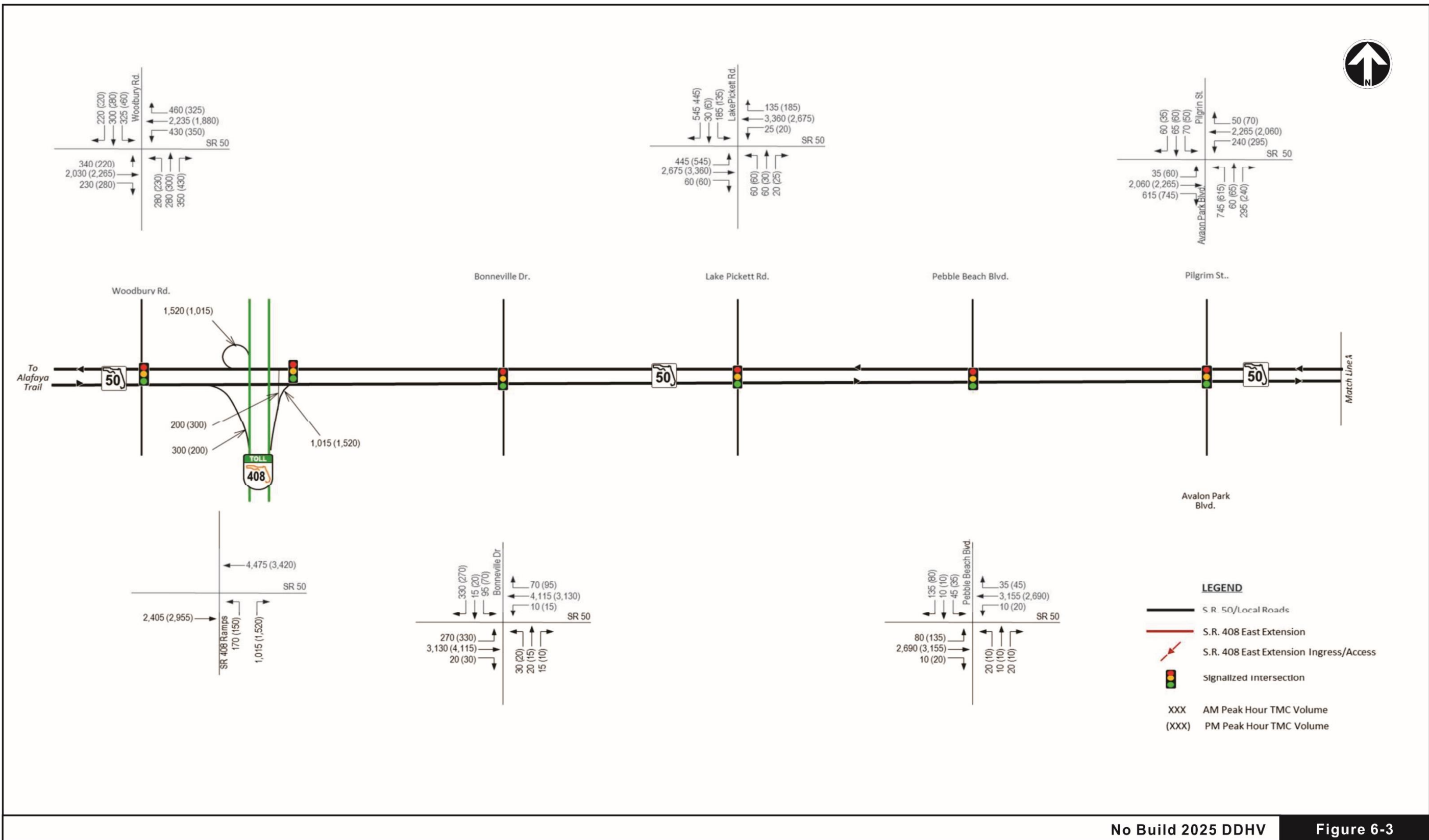
The Directional Design Hour Volume (DDHV) for traffic forecast years 2025 and 2045 were developed for the No Build and Build alternatives. DDHV were developed using the K and D factors along with forecasted AADTs described in the DTTM and present-day intersection turning movement volumes.

The DDHVs for 2025 opening year conditions are presented on **Figures 6-3** through **6-6**. **Figures 6-3** and **6-4** contains a summary of No-Build condition DDHVs. **Figure 6-5**

and **6-6** present the 2025 Build condition DDHVs. The DDHVs for 2045 design year conditions are presented on **Figures 6-7** through **6-10**. **Figures 6-7** and **6-8** provide a summary of the 2045 No Build conditions DDHVs. **Figure 6-9** and **6-10** present the 2045 DDHVs under Build condition.

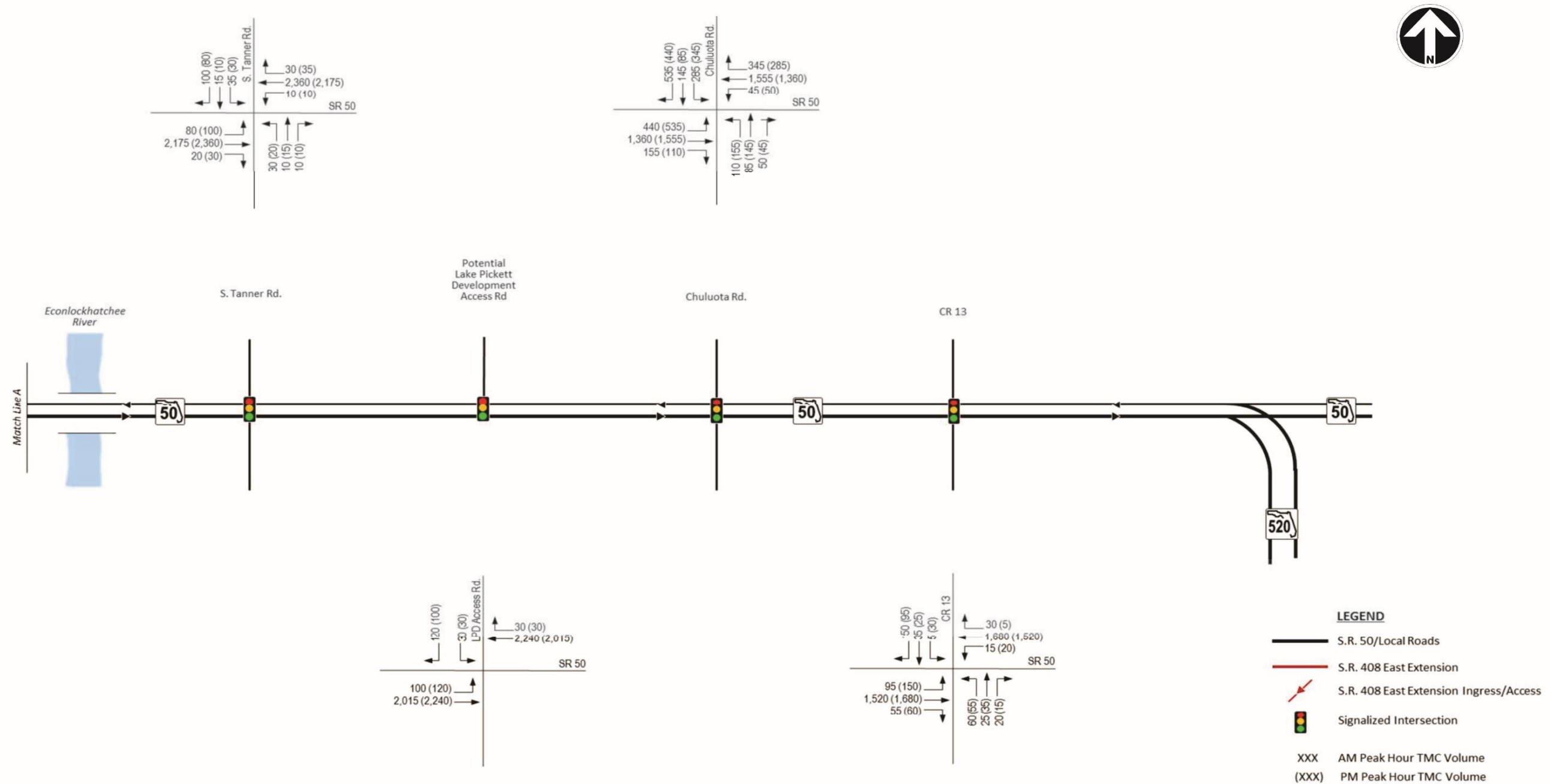
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No Build 2025 DDHV

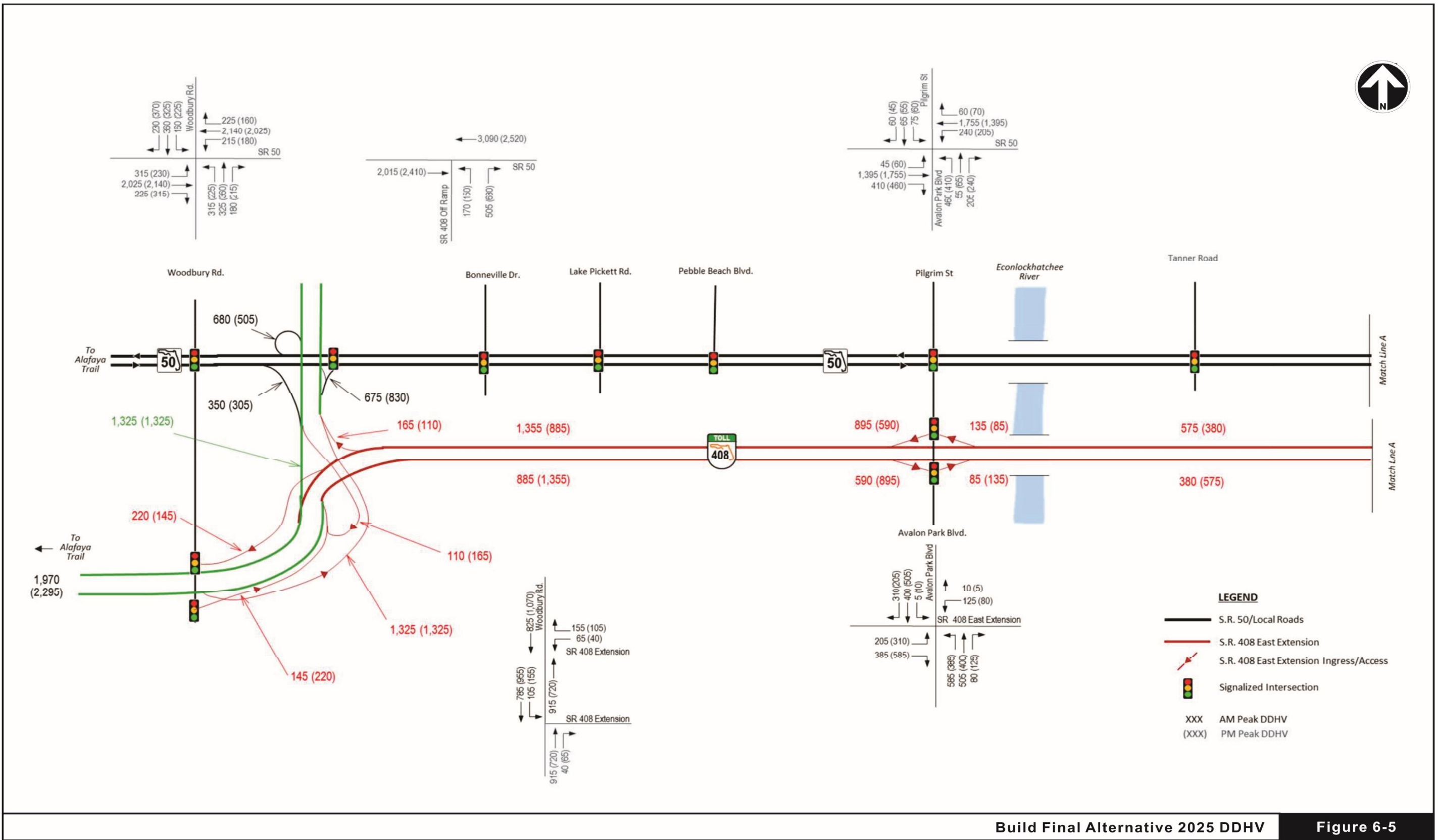
Figure 6-3

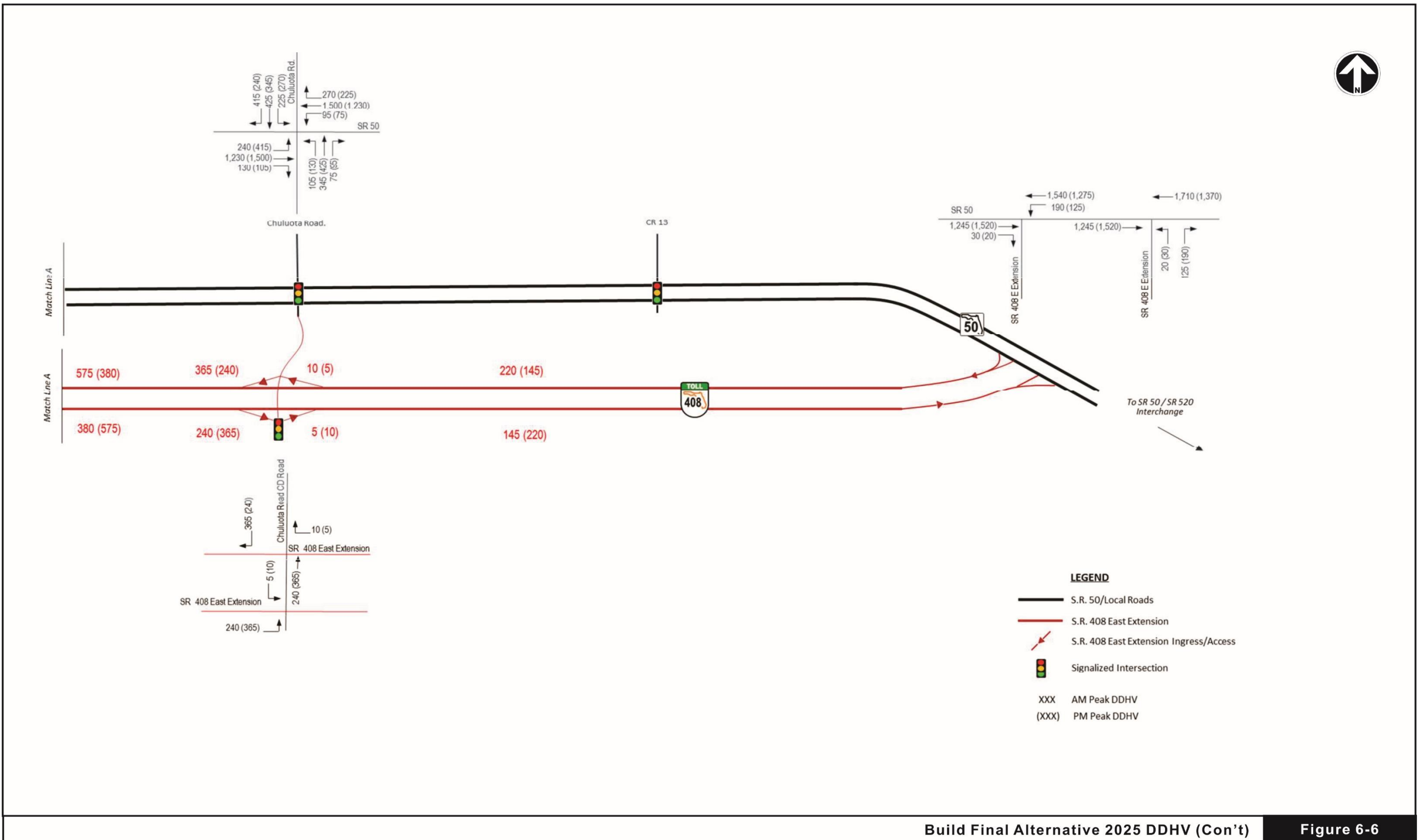


No Build 2025 DDHV (Con't)

Figure 6-4



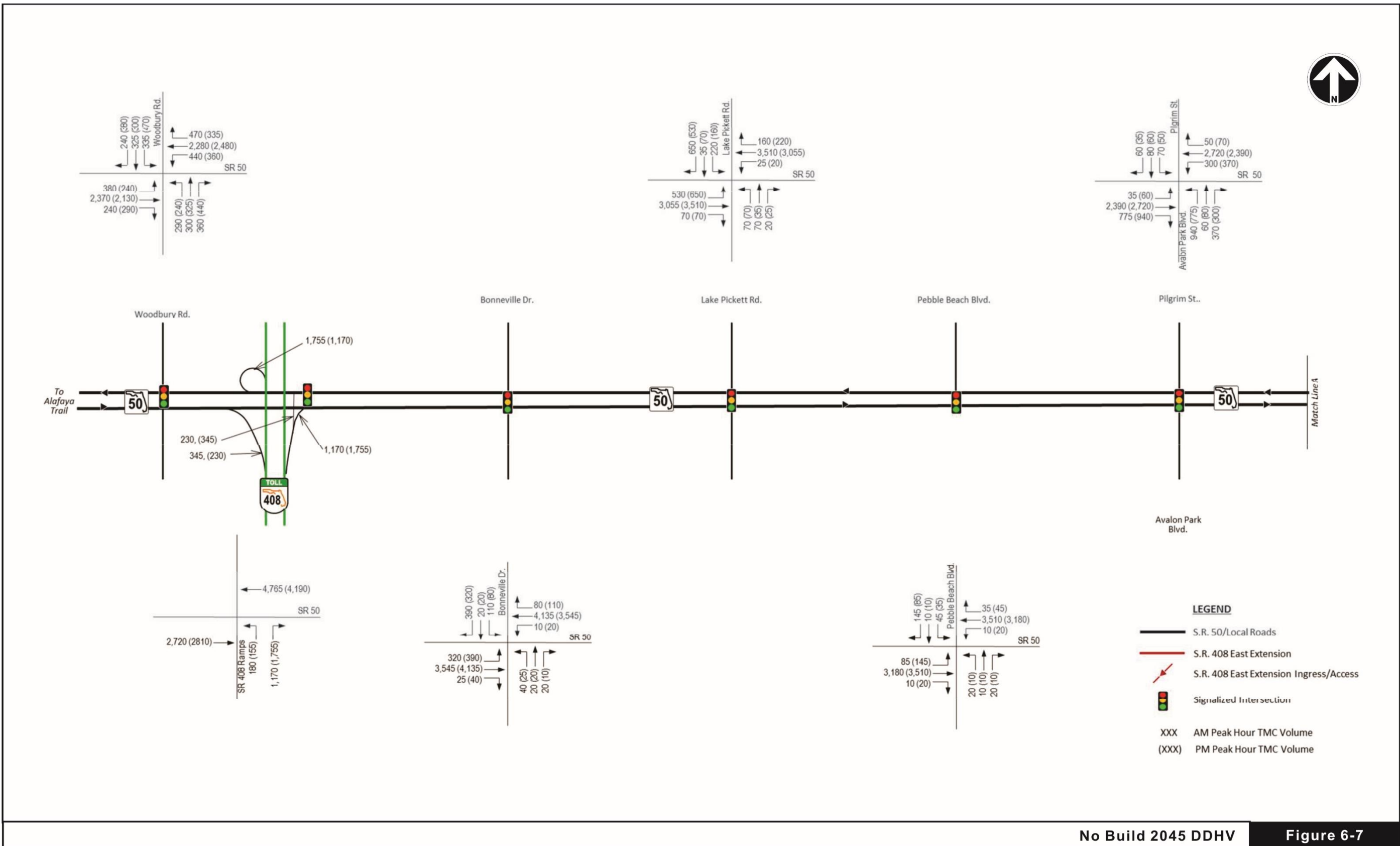


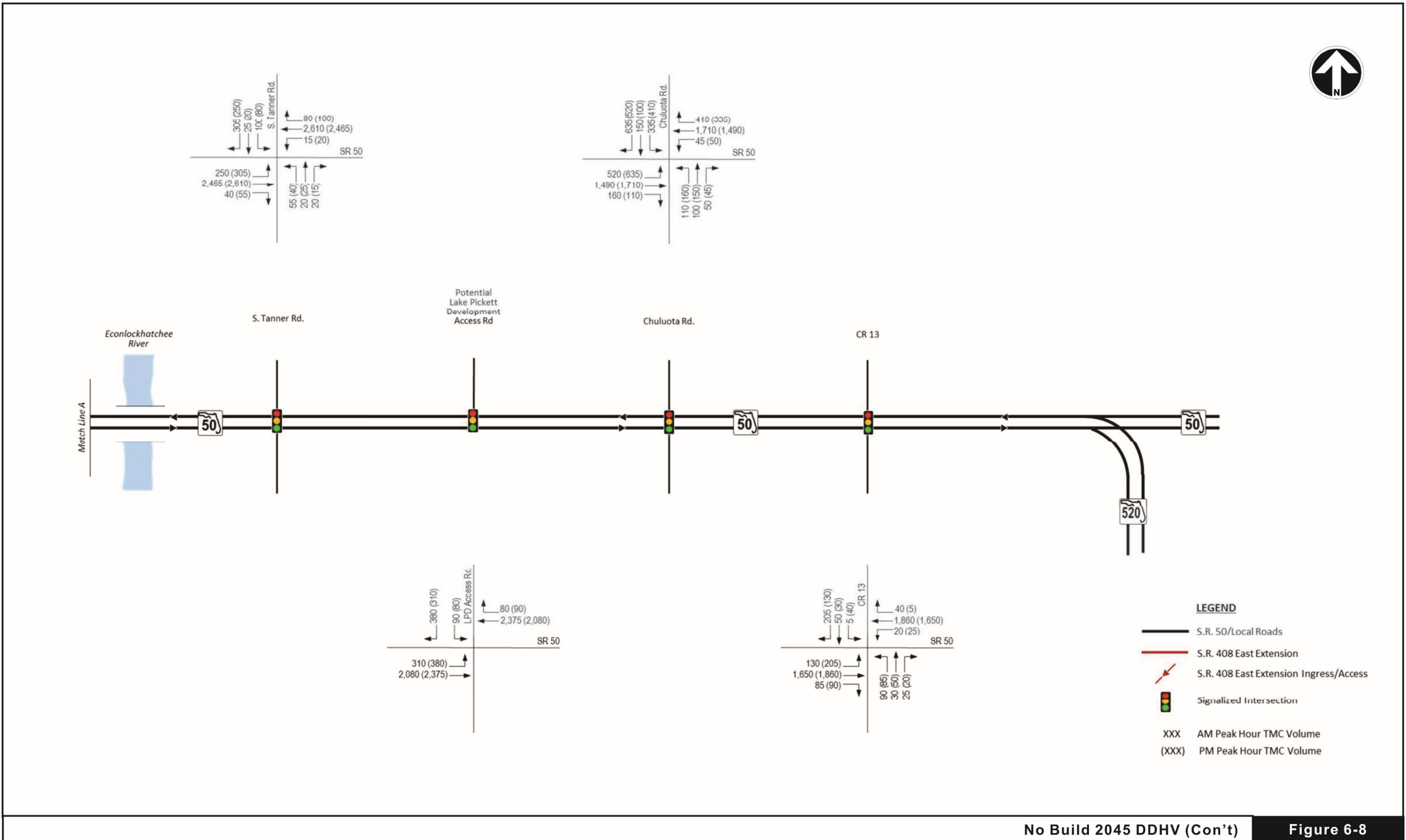


Build Final Alternative 2025 DDHV (Con't)

Figure 6-6



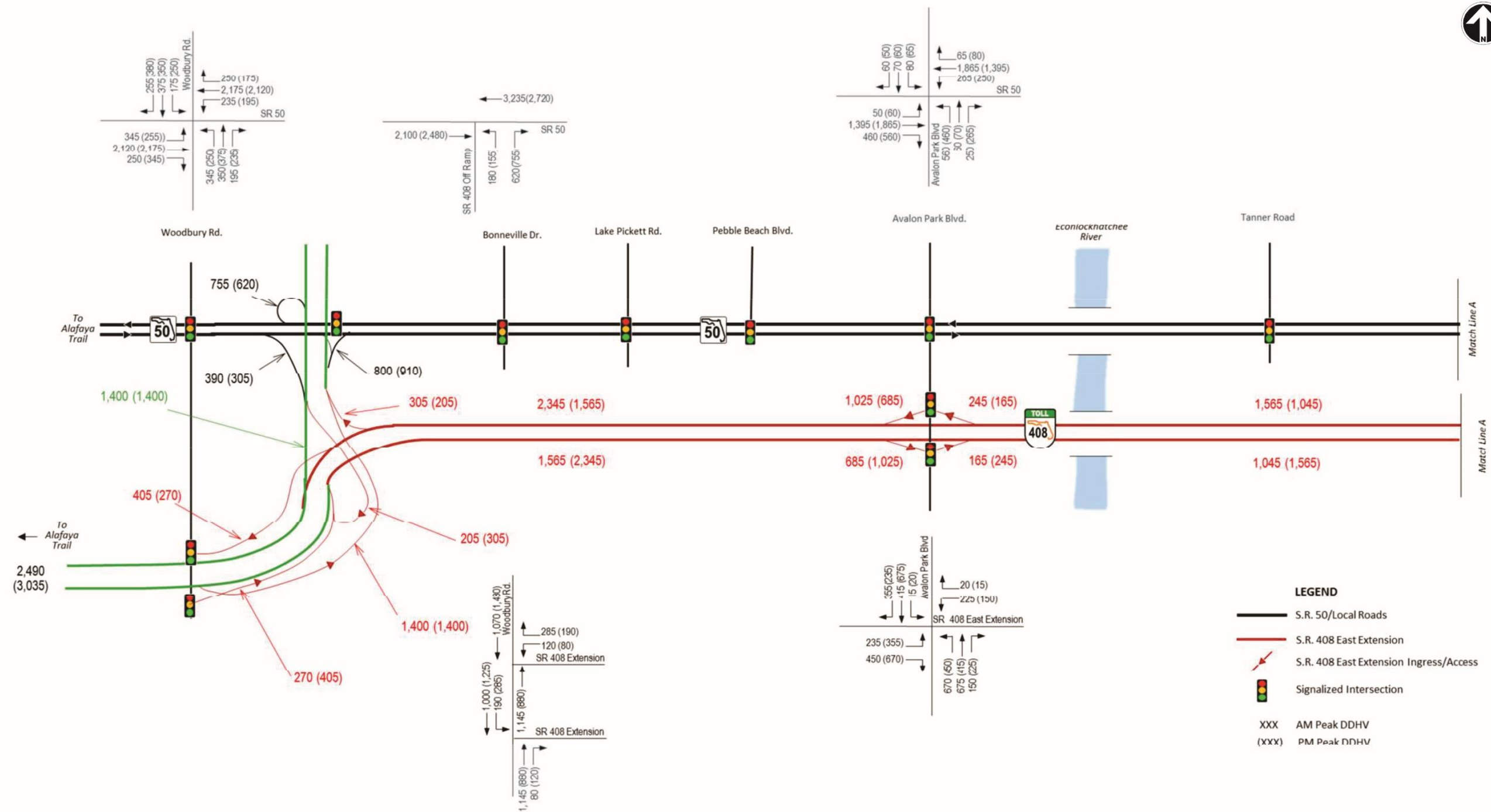




No Build 2045 DDHV (Con't)

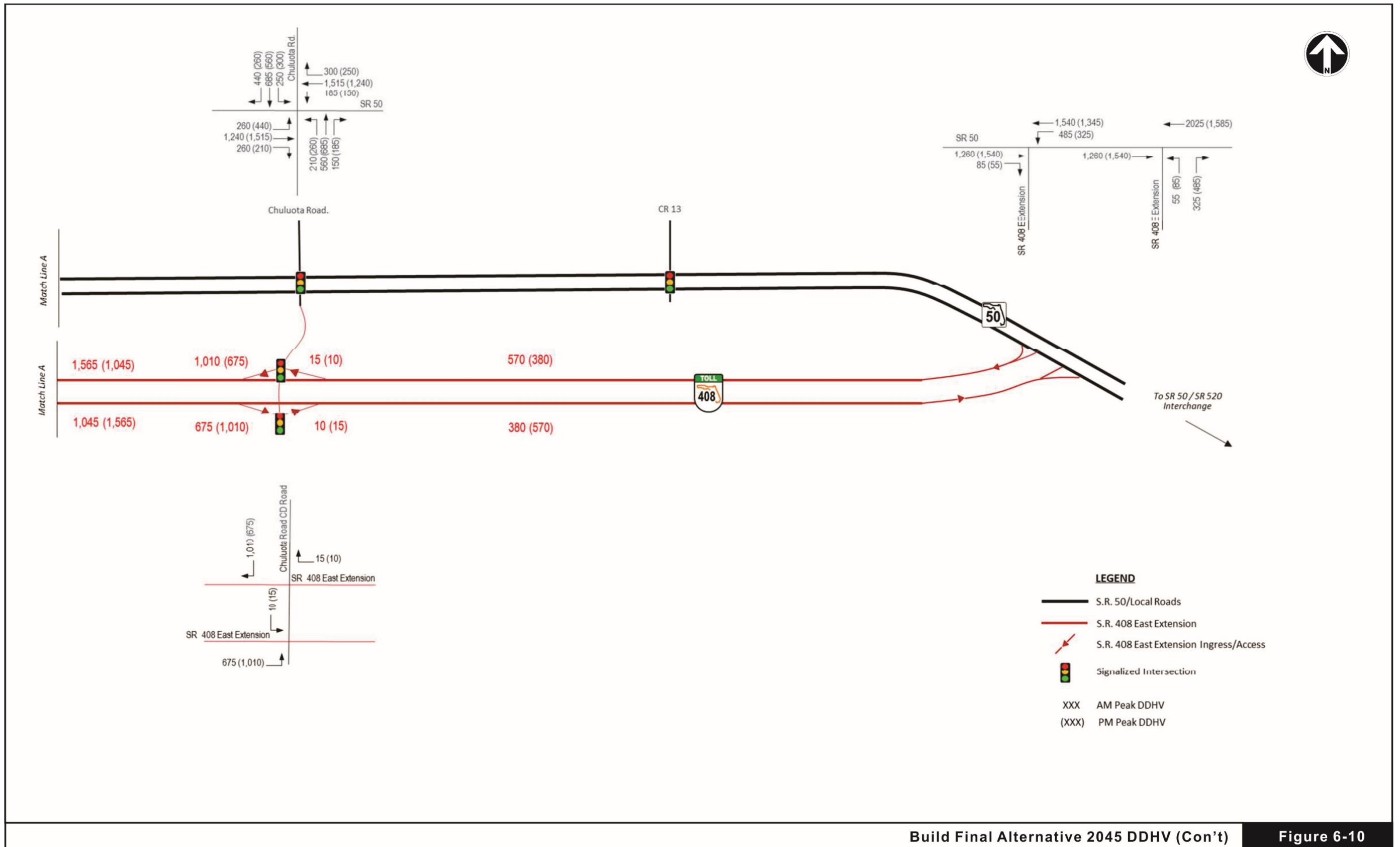
Figure 6-8





Build Final Alternative 2045 DDHV

Figure 6-9





The roadway segment LOS analysis was conducted in the PM peak hour for the No Build and Build conditions using these DDHVs. A summary of No Build Peak Hour LOS is provided in **Table 6-4** and Build Peak Hour LOS is provided in **Table 6-5**.

By the opening year 2025, under No Build conditions, SR 50 from Woodbury Road to Avalon Park Boulevard is projected to operate at LOS F in the peak direction. By 2045, the design year, an additional segment of SR 50 from Avalon Park Boulevard to Tanner Road is projected to operate at LOS F in the peak direction. In addition to SR 50, Chuluota Road (north of SR 50) is projected to operate at LOS F. Improvements to mitigate failing conditions on Chuluota Road is expected as part of the Lake Pickett development agreement. However, SR 50 at a Peak Hour level is projected to operate at LOS F under the SR 50 6-lane configuration.

Under Build conditions, in 2025, SR 50 from Woodbury Road to Lake Pickett Road is projected to operate at LOS F, but only the section from Woodbury Road to the SR 408 Ramps will continue to operate at LOS F in 2045. In 2045, SR 50 operates at LOS C for a majority of the corridor in the build condition.

Under Build conditions, SR 408 Eastern Extension would provide a premium toll choice and would alleviate traffic conditions on SR 50 by diverting traffic off the congested SR 50 corridor. The SR 408 Eastern Extension would provide a better alternative to the traffic that is currently using SR 408 but faces significant delays on SR 50 to access SR 408.

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**Table 6-4: No Build 2025 and 2045 Peak Hour Roadway Segment LOS**

Roadway	From	To	Lanes	No Build PM Peak DDHVs				No Build PM Peak LOS			
				2025		2045		2025		2045	
				EB	WB	EB	WB	EB	WB	EB	WB
SR 50	Woodbury Rd	SR 408 Ramps	6L	3,155	2,555	3,040	3,175	F	C	F	F
	SR 408 Ramps	Bonneville Dr	6L	4,475	3,420	4,565	4,190	F	F	F	F
	Bonneville Dr	Lake Pickett Rd	6L	4,195	3,240	4,225	3,675	F	F	F	F
	Lake Pickett Rd	Pebble Beach Blvd	6L	3,520	2,880	3,695	3,295	F	C	F	F
	Pebble Beach Blvd	Avalon Park Blvd	6L	3,200	2,755	3,555	3,225	F	C	F	F
	Avalon Park Blvd	Tanner Rd	6L	2,555	2,425	3,070	2,830	C	C	F	C
	Just West of Chuluota Rd (CR 419)		6L	2,200	1,955	2,455	2,170	C	C	C	C
	Just East of Chuluota Rd (CR 419)		6L	1,945	1,695	2,165	1,875	C	C	C	C
	Just West of CR 13		6L	1,890	1,670	2,155	1,865	C	C	C	C
	CR 13	SR 520	6L	1,725	1,545	1,920	1,680	C	C	C	C
	East of SR 520		4L	715	645	760	665	B	B	B	B
Bonneville Dr	North of SR 50		2L	440	360	520	420	D	D	D	D
Lake Pickett Rd	North of SR 50		2L	760	640	905	760	F	D	F	F
Avalon Park Blvd	South of SR 50		4L	920	1,100	1,155	1,370	D	D	D	D
Tanner Rd	North of SR 50		2L	150	120	430	350	C	C	D	D
Chuluota Rd (CR 419)	North of SR 50		2L	870	965	1,120	1,030	F	F	F	F
	South of SR 50		2L	345	245	355	260	D	C	D	C
CR 13	North of SR 50		2L	190	150	260	200	C	C	C	C
	South of SR 50		2L	105	105	155	145	C	C	C	C
SR 520	East of SR 50		4L	1,010	900	1,160	1,015	B	B	B	B



**Table 6-5: Build 2025 and 2045 Peak Hour Roadway Segment LOS**

Roadway	From	To	Lanes	Build PM Peak DDHV				Build PM Peak LOS			
				2025		2045		2025		2045	
				EB	WB	EB	WB	EB	WB	EB	WB
SR 50	Woodbury Rd	SR 408 Ramps	6L	2,715	2,365	2,785	2,490	C	C	C	C
	SR 408 Ramps	Bonneville Dr	6L	3,090	2,520	3,235	2,720	F	C	F	C
	Just West of Avalon Park Blvd		6L	2,275	1,850	2,485	1,905	C	C	C	C
	Just East of Avalon Park Blvd		6L	2,055	1,675	2,195	1,725	C	C	C	C
	Just West of Chuluota Rd		6L	2,020	1,600	2,165	1,760	C	C	C	C
	Just East of Chuluota Rd		6L	1,865	1,530	2,000	1,640	C	C	C	C
	CR 13	SR 408 Extension	6L	1,540	1,275	1,595	1,345	C	C	C	C
	SR 408 Extension	SR 520	6L	1,710	1,370	2,025	1,585	B	B	C	B
Avalon Park Blvd	South of SR 50		4L	715	720	795	870	D	D	D	D
Avalon Park Blvd	South of SR 408 Extension		4L	910	1,170	1,090	1,495	D	D	D	D
Chuluota Rd (CR 419)	North of SR 50		2L	1,065	855	1,375	1,120	D	D	D	D
	South of SR 50		4L	650	525	1,130	920	C	C	D	D
SR 408 Extension	SR 408	SR 408 Extension	4L	1,355	885	2,345	1,565	B	B	C	B
	Avalon Park Blvd	Chuluota Rd (CR 419)	4L	575	380	1,565	1,045	B	B	B	B
	Chuluota Rd (CR 419)	SR 50	4L	220	145	570	380	B	B	B	B

The No Build and Build 2025 and 2045 A.M. and P.M. peak hour turning movement counts shown on **Figures 6-3 through 6-10** were utilized in performing the intersection level of service operations analysis using the SYNCHRO software. **Table 6-6** provides a summary of the intersection LOS for the peak hour conditions under 2025 conditions and **Table 6-7** provides a summary of 2045 peak hour intersection LOS. The Synchro output is provided in **Appendix E**. Only those intersections directly impacted by project traffic were analyzed for peak hour intersection LOS.

Under the 2025 opening year conditions, as shown in **Table 6-6**, the SR 50/Woodbury Road and SR 50/SR 408 NB Off-Ramp intersection operate at LOS F in the No Build condition. All the major signalized intersections within the project area are projected to operate at LOS E or better with the SR 408 Eastern Extension project.

In the 2045 Design Year, under the No Build conditions as shown in **Table 6-7**, significant impacts are projected at SR 50/Woodbury Road intersection, SR 50/SR 408 Northbound Off-Ramp, and SR 50/Avalon Park Boulevard, with these intersections operating at LOS F. Under the 2045 Build conditions, as shown in **Table 6-7**, all major signalized intersection roads operate at LOS E or better with the SR 408 Eastern Extension project, with the exception of the SR 50/Woodbury Road intersection in the AM Peak that operates at LOS F, although it is operating better than in the No Build AM peak condition.

**Table 6-6: No Build and Build 2025 Peak Hour Intersection LOS**

Intersection	Intersection Delay (sec/veh)				Intersection LOS			
	No Build		Build		No Build		Build	
	AM	PM	AM	PM	AM	PM	AM	PM
SR 50 @ Woodbury Rd	114.3	99.8	74.6	65.4	F	F	F	E
SR 50 @ SR 408 Northbound Off-Ramp	94.6	61.6	26.8	35.1	F	E	C	D
SR 50 @ Avalon Park Blvd	65.1	56.6	41.7	41.6	E	E	D	D
SR 50 @ Chuluota Rd (CR 419)	46.1	48.8	51.3	60.4	D	D	D	E
Woodbury Rd @ SR 408 Extension Off Ramp	N/A	N/A	5.1	5.0	N/A	N/A	A	A
Woodbury Rd @ SR 408 Extension On Ramp	N/A	N/A	19.0	20.7	N/A	N/A	B	C
Avalon Park Blvd @ SR 408 Extension Ramps	N/A	N/A	35.1	35.1	N/A	N/A	D	D
Chuluota Rd @ SR 408 Extension Ramps	N/A	N/A	7.8	6.1	N/A	N/A	A	A
SR 50 @ SR 408 Extension On Ramp	N/A	N/A	15.6	17.7	N/A	N/A	B	B
SR 50 @ SR 408 Extension Off Ramp	N/A	N/A	6.8	21.7	N/A	N/A	A	C

**Table 6-7: No Build and Build 2045 Peak Hour Intersection LOS**

Intersection	Intersection Delay (sec/veh)				Intersection LOS			
	No Build		Build		No Build		Build	
	AM	PM	AM	PM	AM	PM	AM	PM
SR 50 @ Woodbury Rd	139.1	131.0	80.3	72.8	F	F	F	E
SR 50 @ SR 408 Northbound Off-Ramp	143.3	116.3	33.8	38.4	F	F	C	D
SR 50 @ Avalon Park Blvd	100.9	93.4	44.6	40.4	F	F	D	D
SR 50 @ Chuluota Rd (CR 419)	53.3	55.3	60.5	65.3	D	E	E	E
Woodbury Rd @ SR 408 Extension Off Ramp	N/A	N/A	10.7	6.4	N/A	N/A	B	A
Woodbury Rd @ SR 408 Extension On Ramp	N/A	N/A	19.8	26.7	N/A	N/A	B	C
Avalon Park Blvd @ SR 408 Extension Ramps	N/A	N/A	37.6	39.2	N/A	N/A	D	D
Chuluota Rd @ SR 408 Extension Ramps	N/A	N/A	6.7	7.9	N/A	N/A	A	A
SR 50 @ SR 408 Extension On Ramp	N/A	N/A	23.6	20.8	N/A	N/A	C	C
SR 50 @ SR 408 Extension Off Ramp	N/A	N/A	12.0	25.4	N/A	N/A	B	C



In summary, the following intersection improvements are recommended:

- Future geometry proposed as a part of SR 50 improvements are maintained with additional improvements as follows:
  - At SR 50/Chuluota Road, an additional southbound through lane is recommended with the following geometry: two southbound exclusive left turn lanes, two southbound through lanes and one southbound right turn lane. The additional southbound through turn lane improves the intersection operation and provides a better access to SR 408 Eastern Extension, which is located just south of the intersection at SR 50. Intersection geometry in the northbound direction is recommended to be changed from a northbound exclusive left turn lane, northbound shared left turn/through lane and a northbound exclusive right turn lane, to a northbound exclusive left turn lane, northbound exclusive through lane and a northbound shared through/right turn lane with the other approaches retained from the SR 50 widening plans.
- Future geometry on intersecting cross streets proposed as part of the SR 408 Eastern Extension is recommended as follows:
  - At Woodbury Road, the planned improvements on Woodbury Road at the location of the SR 408 Eastern Extension is a 4-lane section. It is recommended that a southbound exclusive left turn lane and a northbound exclusive right turn lane be provided for the east bound on-ramp.
  - At Avalon Park Boulevard, the existing 4-lane section at the location of the SR 408 Eastern Extension interchange is recommended that northbound exclusive dual left turn lanes for the westbound on-ramp and southbound exclusive right turn lane be provided for the westbound on-ramp, and southbound exclusive left turn lane and northbound exclusive right turn lane be provided for the eastbound on-ramp.

## 7 RECOMMENDED ALTERNATIVE

After a comprehensive evaluation process, one alternative was selected as being the most effective option. This alternative is illustrated on **Figure 7-1**. In general, these alternatives were the result of the generation of various typical sections and horizontal and vertical alignment combinations as well as various interchange configurations at each access point. For more details see **Appendix F** for the Concept Plans.

The recommended project typical sections are depicted on **Figure 7-2**.

Based on constructability and financial considerations, the recommended alternative has been divided in three distinct construction segments as follows:

Construction Segment 1: From the begin project to Avalon Park Boulevard. This segment includes the construction of the SR 408 eastern extension from the begin project (just west of Woodbury Road) to Avalon Park Boulevard. It would thus provide an initial effective connection through the study area with the highest traffic demand.

Construction Segment 2: From Avalon Park Boulevard to Chuluota Road. This segment would extend SR 408 from Avalon Park Boulevard to Chuluota Road. It would provide a new Econlockhatchee River crossing, an interchange at Chuluota Road and the proposed Chuluota Road extension connection to SR 50.

Construction Segment 3: From Chuluota Road to the eastern project terminus including the terminal interchange at SR 50.

### 7.1 Preliminary Roadway Design

#### 7.1.1 Proposed Typical Sections

##### SR 408 Mainline:

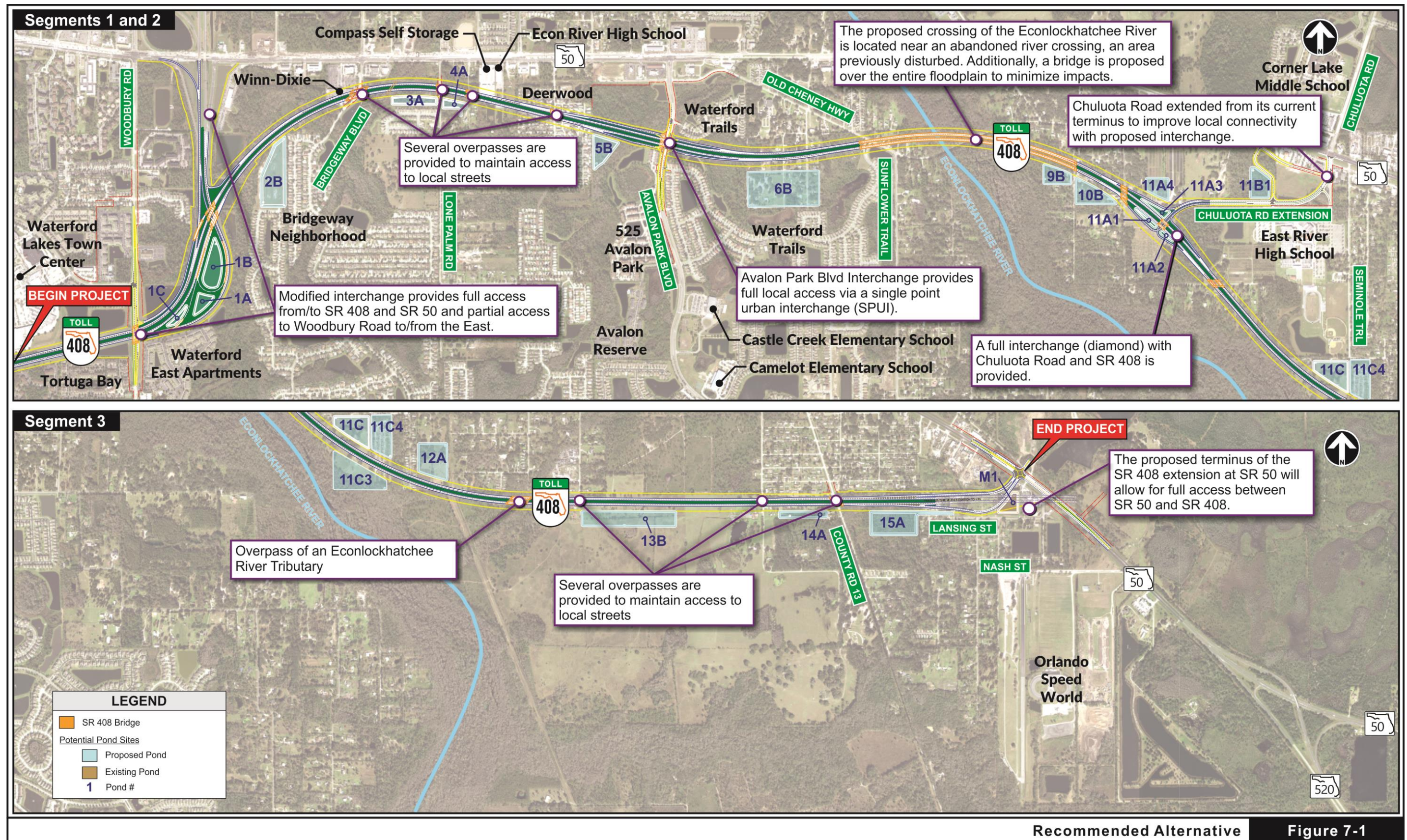
Results of the public involvement effort as well as the engineering and environmental studies indicate that the typical sections for the SR 408 mainline for the eastern extension are as follows:



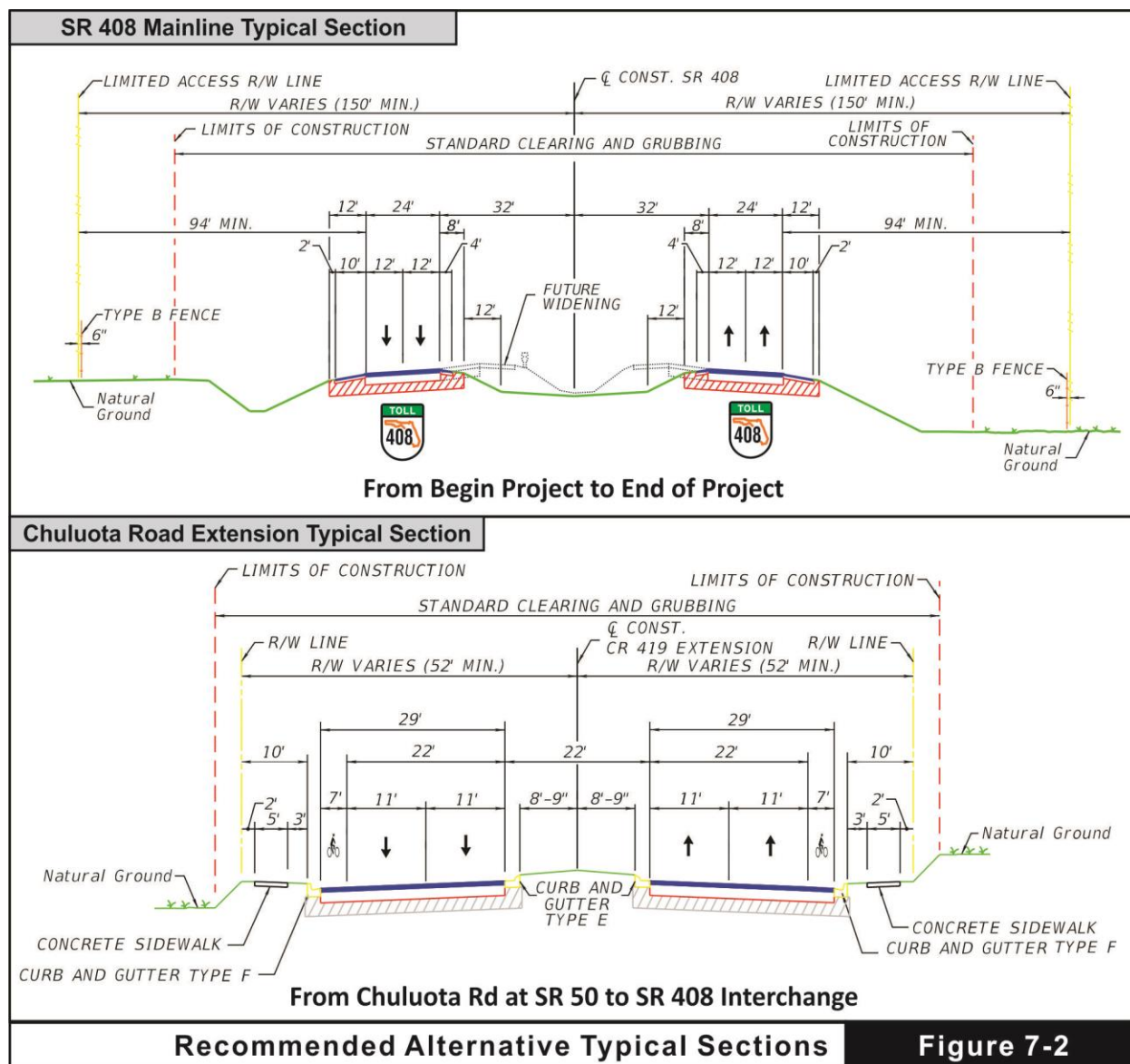
- Construction Segment 1: Within Construction Segment 1, the recommended alternative features a 4-lane rural expressway typical section with 12-foot travel lanes, 12-foot outside shoulders, a 64-foot divided median, and a 94-foot border width. The section will feature several grade separations in order to provide access to local streets.
- Construction Segment 2: Within Construction Segment 2, the recommended alternative continues the same typical section previously described under CS-1.
- Construction Segment 3: Within Construction Segment 3, the recommended alternative continues the same typical section previously described under Construction Segments 1 and 2.

It should be noted that the SR 408 Eastern Extension typical section has been designed to accommodate a possible 6-lane expansion if needed in the future. The typical section package prepared for this project is included in **Appendix F** and shows the proposed SR 408 and Chuluota Road extension typical sections.









### SR 50:

At the SR 408 and SR 50 interchange north of SR 520 the recommended alternative proposes to modify SR 50 by adding left turn lanes at the proposed intersection with SR 408.

In coordination with the Florida Department of Transportation (FDOT) the access and typical section modifications of SR 50 is in line with the previously proposed access management from the SR 50 widening (currently on hold) (see **Appendix G** for meeting minutes). The proposed access management class for SR 50 is access class 3 and under access management class 3, directional median openings are allowed at 1,320-

feet spacing and full median openings at 2,640-feet. As was previously mentioned, there is an ongoing PD&E study along SR 50 being conducted by the Florida Turnpike Enterprise.

### Woodbury Road:

The recommended alternative features a four-lane urban typical section with 12-foot travel lanes, 6-foot sidewalks, and a 22-foot divided raised median. The section will feature a new grade separation over the SR 408 mainline. There has been coordination with Orange County for the Woodbury Road typical section (see **Appendix G**).

## 7.1.2 Horizontal Alignment

For the recommended Alternative, the horizontal curves are described in **Table 7-1**.

**Table 7-1 Proposed Horizontal Curves**

Location	Curve	PC STA	PI STA	D	Delta	L (ft)	R (ft)
SR 408 Mainline	A-1	380+73.18	389+18.05	4'00'00"	61'04'01" (LT)	1,526.67	1,432.39
	A-2	1031+19.20	1035+83.14	2'28'27"	22'39'24" (RT)	915.76	2,315.83
	A-3	499+79.42	511+30.21	1'00'00"	22'42'43" (LT)	2,271.37	5,730.00
	A-4	536+39.60	568+27.21	1'00'00"	58'10'41" (RT)	5,817.82	5,729.58
	A-5	612+66.74	638+62.31	48'44'47"	48'44'32" (LT)	4,874.23	5,729.58
	A-6	684+47.18	690+58.59	0'05'00"	1'01'08" (LT)	1,222.79	68,754.00
	A-7	738+23.22	752+52.34	0'23'47"	11'17'22" (RT)	2,848.99	14,459.16
SR 408 to Challenger Parkway/SR 50	B-1	1008+33.35	1021+35.11	5'11'35"	99'25'56" (LT)	1,914.76	1,103.34
	B-2	1031+19.20	1035+83.14	2'28'27"	22'39'24" (RT)	915.76	2,315.83
Avalon Park Blvd Interchange	C-1	3000+00.00	3005+68.94	2'11'45"	24'36'01" (RT)	1,111.77	2,609.38
	C-2	3011+20.35	3012+31.94	0'32'28"	1'12'27" (RT)	223.17	10,590.53
	C-3	3013+43.52	3016+50.45	4'02'55"	24'28'24" (LT)	604.49	1,415.21
Chuluota Road Extension	D-1	4000+00.00	4000+91.72	8'27'51"	15'25'58" (RT)	182.33	676.92
	D-2	4004+32.34	4007+50.97	7'49'58"	47'04'30" (RT)	601.00	731.49
	D-3	4025+93.24	4032+75.02	8'26'18"	90'14'01" (LT)	1,069.34	679.00
SR 408/SR 50 Interchange	E-1	5000+00.00	5004+88.72	0'21'16"	3'27'44" (RT)	977.14	16,170.96
	E-2	5009+77.14	5014+94.98	0'24'59"	4'18'40" (RT)	1,035.19	13,758.24
	E-3	5020+12.33	5025+56.74	0'24'59"	4'31'55" (RT)	1,088.24	13,758.24

## 7.1.3 Vertical Alignment

For the recommended Alternative, the vertical curves are described in **Table 7-2**.



Table 7-2 Proposed Vertical Curves

Location	Curve Type	VPI Station (ft)	VPI Elevation	Grade (Back) %	Grade (Ahead) %	Length of Curve (ft)	K
SR 408 Mainline	Sag	390+25.00	67.61	-0.358	+1.800	800	371
	Crest	404+70.00	93.62	+1.800	-0.300	1800	857
	Sag	467+50.00	74.78	-0.300	+0.300	800	1333
	Crest	505+00.00	86.03	+0.300	-0.300	1800	3000
	Sag	519+00.00	81.83	-0.300	+0.300	800	1333
	Crest	560+00.00	94.13	+0.300	-0.300	1000	1667
	Crest	603+00.00	81.23	-0.300	-2.713	1000	414
	Sag	614+98.42	48.72	-2.713	+0.822	800	226
	Crest	629+08.48	60.31	+0.822	-0.479	1000	1329
	Sag	643+93.08	53.19	-0.479	+1.175	800	484
	Crest	666+00.00	79.13	+1.175	-0.300	1000	1143
	Crest	676+00.00	82.13	+0.300	-0.766	1000	938
	Sag	686+98.47	73.71	-0.766	+1.200	800	407
	Crest	700+00.00	89.33	+1.200	-0.300	1000	667
	Sag	727+00.00	81.23	-0.300	+0.637	800	854
	Crest	756+79.89	100.22	+0.637	-0.300	1800	1920

#### 7.1.4 Bicycle and Pedestrian Accommodations

SR 408 is proposed as a limited access facility; therefore, no bicycle nor pedestrian facility will be provided along the SR 408 Eastern Extension. Along the extension of Chuluota Road there are proposed 7-foot bicycle lanes and continuous 5-foot concrete sidewalks along the north and south side of the Chuluota Road Extension. Also there are various grade separations that will be provided along the mainline of SR 408 which will allow pedestrian connectivity throughout various local streets.

#### 7.1.5 Potential Design Exceptions and Variations

No design exceptions or variations are anticipated at this time.

#### 7.1.6 Lighting

Along SR 408 lighting will be provided. A lighting analysis will be done in final design to determine lighting requirements. It should also be noted that pedestrian lighting under the proposed structures has been requested by Orange County.

### 7.1.7 Proposed ITS Devices

**DMS and ADMS:** DMS will provide motorists with travel information, such as travel time, amber alerts, traffic incident, and others. The signs will be strategically placed in advance of off-ramps to allow the motorist to decide to remain on the highway or find an alternative route. The ADMS will be placed at each interchange to alert motorists of travel time and incidents prior to entering the tolling facilities.

**CCTV Cameras:** The purpose of the CCTV cameras is to provide 100% comprehensive video coverage along SR 408. The cameras will also cover mainline and ramp toll plazas, side streets, and views of the DMS to verify that the correct information is being displayed. The cameras will be placed using approximately one-mile spacing.

**TMS:** The Traffic Monitoring Stations will provide volume, lane occupancy, and speed information in multiple detection zones. Each vehicle detection device will collect and process the data on a lane-by-lane basis. The vehicle detectors will automatically identify and detect speed fluctuations along the road and send an alert to the operator(s) at the Regional Traffic Management Center (RTMC). TMS sensors will be installed at every on/off ramp and in between the interchanges.

**DCS:** The DCS is used in travel time analysis by detecting transponders. The DCS sites will be installed at every on/off ramp and will collect accurate travel time information to be disseminated to the traveling public via DMS signs.

**Underground Power Distribution System:** An underground power distribution system with Uninterrupted Power Supply (UPS) backup will be included as part of the analysis for the new SR 408 extension. For the purpose of this study, one power service per HUB location will be considered. The future design firm shall be responsible for verifying the proposed locations, determining available power sources and voltages, and coordinating with Utility Companies. The electrical design will consist of commercially available power sources. Disconnects and service meters are to be installed at all locations.

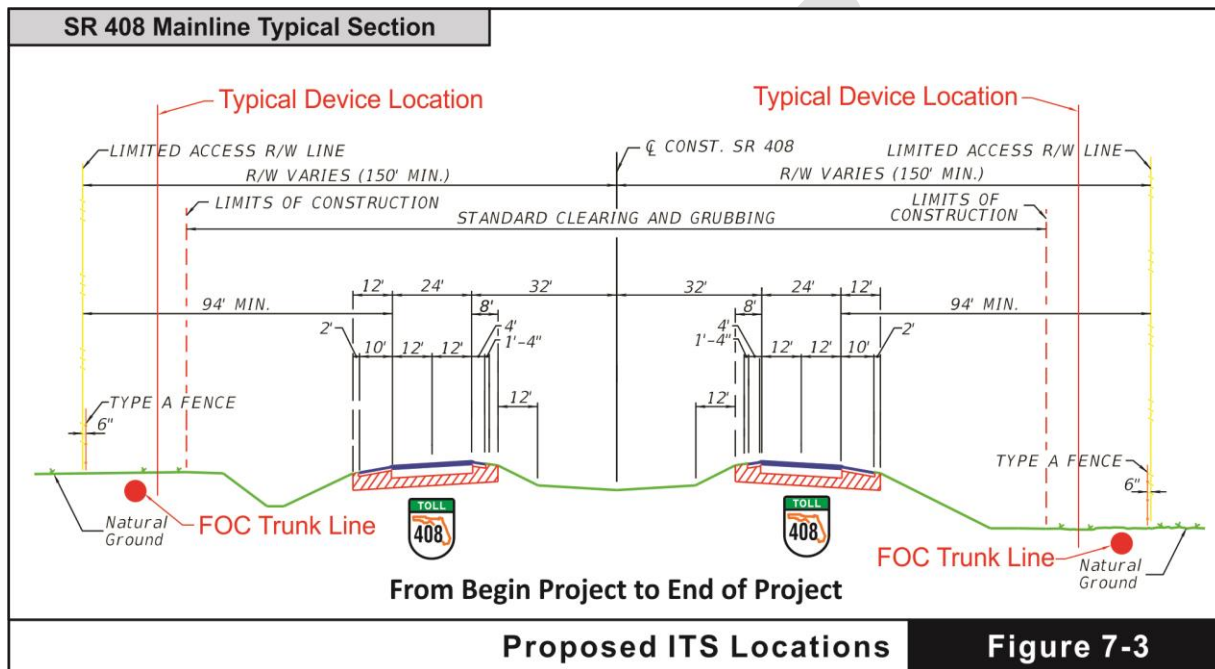
**Wrong Way signs:** The “Wrong Way” signs are equipped with flashing beacons to prevent wrong way drivers from entering CFX’s expressway system. The devices also send out alerts to the RTMC where operators can post wrong way driving alerts on



overhead Dynamic Message Signs when these events are detected. The Wrong Way signs are included in the cost estimate for every on-ramp within the extension.

#### 7.1.7.1 Roadway Design Configuration

The design and cost estimate for the ITS system is based on the typical section described in previous sections. The ITS equipment and conduit are recommended to be installed in the locations identified on **Figure 7-3**.



#### 7.1.7.2 ITS Cost Estimate

As part of this study, a high-level cost analysis was performed to determine the preliminary funding requirements for the replacement of existing ITS infrastructure as well as for the deployment of the new ITS devices.

There are several items that will be included to ensure a fully functional system and efficient ITS devices. The capital cost pricing used in this calculation was a combination of the FDOT Long Range Estimate and past projects' Engineer's Estimates. In addition to the capital cost, a 10% cost of mobilization, a 10% cost of design, a 15% cost of Construction Engineering Inspector (CEI), a 3% cost of MOC, and a 10% cost of contingency were included in the estimate. Below is the list of the primary items:

- Fiber Optic Cable and Hardware
- Pull Boxes
- Conduit
- Power Services, Service Wire and Conduit for new power connections
- CCTV Cameras
- Data Collection Sensors (DCS)
- Traffic Monitoring Stations (TMS)
- Dynamic Message Signs (DMS) and Arterial Dynamic Message Signs (ADMS)
- Wrong Way Signs
- Field Ethernet Switches
- Cabinets

Note: This estimate does not include any tolling items – as tolling items are estimated separately.

The overall engineer's estimate capital cost is \$11,579,308. For a detailed cost breakdown and item descriptions, please see **Appendix I**.

## 7.2 Structural Analysis

A Bridge Analysis Report (BAR) was prepared for this study. The structural plans for the proposed structures are included in **Appendix F**. A summary of the proposed structures is presented in **Tables 7-3** through **7-5**. **Figures 7-4** depict the location of each structure.

### 7.2.1 Bridge Summary

#### Construction Segment 1

A total of 14 new bridges are proposed within this segment. Six of the 14 have long spans and are recommended to be composed of steel plate or steel tub girder type superstructures. The remaining 8 have medium length spans and are recommended to be composed of prestressed concrete Florida I beam type superstructures. Unless otherwise noted, bridge superstructures are recommended to be supported by pile bent piers.



Table 7-3: Construction Segment 1 Bridge Summary

Bridge No.	Bridge Location/Description	Possible Superstructure				Possible Substructure		Total Superstructure Depth (ft)	No. of Spans	Bridge Length (ft)	Average Bridge Width (ft)	Deck Area (sf)	\$/SF	Estimated Cost
		Anticipated Type	Min. CL Radius (ft)	Max Span Length (ft)	Approximate Depth (ft)	Anticipated Type	Approximate Depth below Superstructure (ft)							
1A	Woodbury Rd over SR 408	Prestressed Concrete Florida I Beams	N/A	113	4.92	Multicolumn, Pile Bents	0	4.92	2	209	102.50	21,423	120	\$2,570,700
1	SR 408 EB On Ramp Over SR 408 EB Off Ramp	Curved Steel Plate Girders	1,390	250	9.25	Multicolumn, Pile Bents	0	9.25	3	470	35.67	16,763	182	\$3,050,927
2	SR 408 EB Over SR 408 EB On/Off Ramps	Steel Plate Girders	N/A	207	8.88	Pile Bents	0	8.88	1	207	76.00	15,732	172	\$2,705,904
3	SR 408 WB Over SR 408 EB On/Off Ramps	Steel Plate Girders	N/A	211	8.88	Pile Bents	0	8.88	1	211	50.67	10,691	172	\$1,838,916
4	SR 408 WB Off Ramp Over SR 408 EB On/Off Ramps	Steel Plate Girders	N/A	197	8.88	Pile Bents	0	8.88	1	197	29.67	5,845	172	\$1,005,338
5	SR 408 WB Off Ramp Over SR 408 WB On Ramp	Prestressed Concrete Florida I Beams	3,820	174	8.21	Straddle, Pile Bents	1.5	9.71	2	347	38.67	13,417	125	\$1,677,167
6	SR 408 WB Over Bridgeway Blvd	Steel Plate Girders	7,699	229	9.88	Pile Bents	0	9.88	1	229	64.17	14,694	172	\$2,527,397
7	SR 408 EB Over Bridgeway Blvd	Steel Plate Girders	7,579	237	9.88	Pile Bents	0	9.88	1	237	48.17	11,416	172	\$1,963,466
8	SR 408 WB Over Hancock Lone Palm Rd	Prestressed Concrete Florida I Beams	N/A	71	4.17	Pile Bents	0	4.17	1	71	54.17	3,846	120	\$461,500
9	SR 408 EB Over Hancock Lone Palm Rd	Prestressed Concrete Florida I Beams	N/A	72	4.17	Pile Bents	0	4.17	1	72	48.17	3,468	120	\$416,160
10	SR 408 WB Over Fricke Ave	Transversely PT - P/S Concrete Slab Units	N/A	42	1.67	Pile Bents	0	1.67	1	42	51.08	2,146	135	\$289,643
11	SR 408 EB Over Fricke Ave	Transversely PT - P/S Concrete Slab Units	N/A	42	1.67	Pile Bents	0	1.67	1	42	44.67	1,876	135	\$253,260
12	SR 408 WB Over Pel St	Prestressed Concrete Florida I Beams	N/A	73	4.17	Pile Bents	0	4.17	1	73	69.92	5,104	120	\$612,470
13	SR 408 EB Over Pel St	Prestressed Concrete Florida I Beams	N/A	73	4.17	Pile Bents	0	4.17	1	73	44.67	3,261	120	\$391,280

Total Estimated Bridge Cost - Segment 1 = \$19,764,126  
Total Bridge Area (SF) - Segment 1 = 129,681  
Average Cost/SF - Segment 1 = \$152.41

Table 7-4: Construction Segment 2 Bridge Summary

Bridge No.	Bridge Location/Description	Possible Superstructure				Possible Substructure		Total Superstructure Depth (ft)	No. of Spans	Bridge Length (ft)	Average Bridge Width (ft)	Deck Area (sf)	\$/SF	Estimated Cost
		Anticipated Type	Min. CL Radius (ft)	Max Span Length (ft)	Approx. Depth (ft)	Anticipated Type	Approx. Depth below Superstructure (ft)							
14	SR 408 WB Over Avalon Park Blvd	Steel Plate Girders	N/A	230	9.63	Pile Bents	0	9.63	1	230	50.67	11,653	172	\$2,004,373
15	SR 408 EB Over Avalon Park Blvd	Steel Plate Girders	N/A	230	9.63	Pile Bents	0	9.63	1	230	50.67	11,653	172	\$2,004,373
16	SR 408 WB Over Econlockhatchee River	Steel Plate Girders & Prestressed Concrete Florida I Beams	N/A	250	10.38	Hammerhead, Pile Bents	4	14.38	30	3,808	51.55	196,301	180	\$35,334,130
17	SR 408 EB Over Econlockhatchee River	Steel Plate Girders & Prestressed Concrete Florida I Beams	N/A	250	10.38	Hammerhead, Pile Bents	4	14.38	30	3,835	45.74	175,409	180	\$31,573,610
18	SR 408 WB On Ramp Over Lockwood Dr	Prestressed Concrete Florida I Beams	N/A	91	4.17	Pile Bents	0	4.17	1	91	29.67	2,700	120	\$323,960
19	SR 408 WB Over Lockwood Dr	Prestressed Concrete Florida I Beams	N/A	96	4.17	Pile Bents	0	4.17	1	96	44.67	4,288	120	\$514,560
20	SR 408 EB Over Lockwood Dr	Prestressed Concrete Florida I Beams	N/A	98	4.17	Pile Bents	0	4.17	1	98	44.67	4,377	120	\$525,280
21	SR 408 EB Off Ramp Over Lockwood Dr	Prestressed Concrete Florida I Beams	N/A	169	7.21	Pile Bents	0	7.21	1	169	29.67	5,014	120	\$601,640

Total Estimated Bridge Cost - Segment 2 = \$72,881,926  
Total Bridge Area (SF) - Segment 2 = 411,395  
Average Cost/SF - Segment 2 = \$177

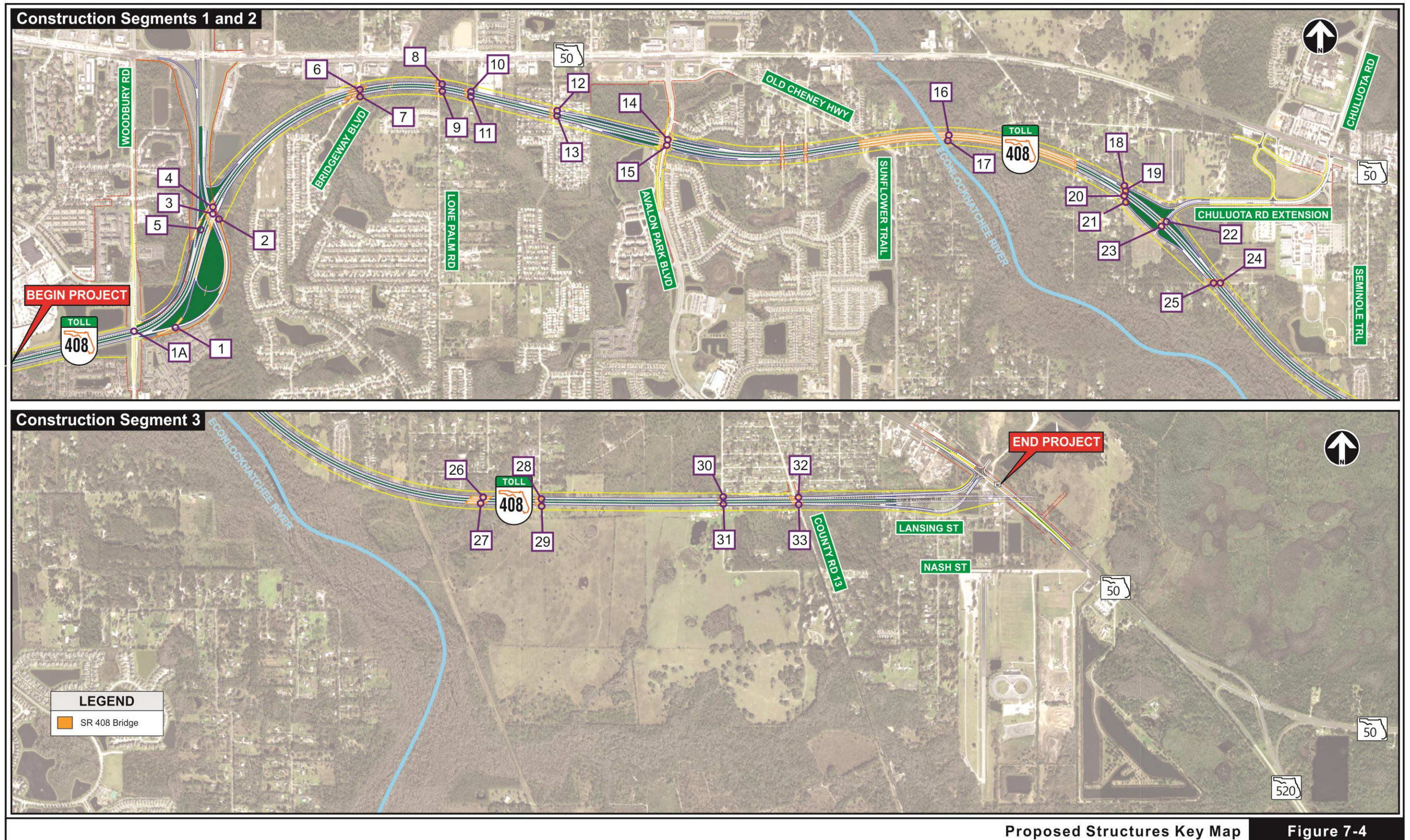


Table 7-5: Construction Segment 3 Bridge Summary

Bridge No.	Bridge Location/Description	Possible Superstructure				Possible Substructure		Total Superstructure Depth (ft)	No. of Spans	Bridge Length (ft)	Average Bridge Width (ft)	Deck Area (sf)	\$/SF	Estimated Cost
		Anticipated Type	Min. CL Radius (ft)	Max Span Length (ft)	Approximate Depth (ft)	Anticipated Type	Approximate Depth below Superstructure (ft)							
22	SR 408 WB Over SR 408 On/Off Ramps Chuluota Rd (CR 419)	Prestressed Concrete Florida I Beams	N/A	121	4.92	Pile Bents	0	4.92	1	121	44.67	5,405	120	\$648,560
23	SR 408 EB Over SR 408 On/Off Ramps Chuluota Rd (CR 419)	Prestressed Concrete Florida I Beams	N/A	122	4.92	Pile Bents	0	4.92	1	122	44.67	5,449	120	\$653,920
24	SR 408 WB Over Hamilton Dr	Prestressed Concrete Florida I Beams	N/A	106	4.17	Pile Bents	0	4.17	1	106	44.67	4,735	120	\$568,160
25	SR 408 EB Over Hamilton Dr	Prestressed Concrete Florida I Beams	N/A	106	4.17	Pile Bents	0	4.17	1	106	56.33	5,971	120	\$716,560
26	SR 408 WB Over Econlockhatchee River Tributary	Prestressed Concrete Florida I Beams	N/A	152	7.21	Pile Bents	0	7.21	2	305	45.67	13,928	120	\$1,671,400
27	SR 408 EB Over Econlockhatchee River Tributary	Prestressed Concrete Florida I Beams	N/A	150	7.21	Pile Bents	0	7.21	2	300	51.67	15,500	120	\$1,860,000
28	SR 408 WB Over Seminole Trail	Prestressed Concrete Florida I Beams	N/A	81	4.17	Pile Bents	0	4.17	1	81	44.67	3,618	120	\$434,160
29	SR 408 EB Over Seminole Trail	Prestressed Concrete Florida I Beams	N/A	81	4.17	Pile Bents	0	4.17	1	81	44.67	3,618	120	\$434,160
30	SR 408 WB Over N. 5th St	Prestressed Concrete Florida I Beams	N/A	70	4.17	Pile Bents	0	4.17	1	70	44.67	3,127	120	\$375,200
31	SR 408 EB Over N. 5th St	Prestressed Concrete Florida I Beams	N/A	70	4.17	Pile Bents	0	4.17	1	70	44.67	3,127	120	\$375,200
32	SR 408 WB Over North County Rd 13	Prestressed Concrete Florida I Beams	N/A	128	5.67	Pile Bents	0	5.67	1	128	59.50	7,616	120	\$913,920
33	SR 408 EB Over North County Rd 13	Prestressed Concrete Florida I Beams	N/A	128	5.67	Pile Bents	0	5.67	1	128	45.50	5,824	120	\$698,880

Total Estimated Bridge Cost - Segment 3 = \$9,350,120  
Total Bridge Area (SF) - Segment 3 = 77,918  
Average Cost/SF - Segment 3 = \$120







## Construction Segment 2

A total of eight (8) new bridges are proposed within this segment. Four (4) of the proposed bridges are single span bridges composed of prestressed concrete Florida I beam type superstructures founded on pile end bents.

### *SR 408 Over Econlockhatchee River*

These bridges are a two-lane structure carrying EB & WB mainline SR 408 traffic over the Econlockhatchee River. The EB and WB bridges have an approximate required overall length of 3,835 and 3,808 feet, respectively, and each have 30 spans. The first two spans are designed to span over the intersection of Perdido Dr. and Old Cheney Hwy and the remaining spans are designed to go over the wetlands of the Econlockhatchee River. To minimize wetland impacts, the spans over the Econlockhatchee River facilitates the span by span methodology wherein a following span in a sequence of spans is constructed from a previously constructed span. This will eliminate temporary impacts associated with falsework and multiple access points required for the construction of longer span bridges.

## Construction Segment 3

A total of 12 new bridges are proposed within this segment. With the exception of bridge Nos. 26 and 27, all of the bridges are single span bridges composed of prestressed concrete Florida I beam type superstructures founded on pile end bents. Bridge Nos. 26 and 27 are two span bridges over a tributary of the Econlockhatchee River and are recommended to be constructed of prestressed concrete Florida I beams as well.

For all segments, possible foundation types for the bridges include 18-inch and 24-inch square prestressed concrete piles, steel H-piles, steel pipe piles, and drilled shafts. Selection of the foundation system should give significant consideration for systems that reduce the potential for vibration and noise impacts at locations within a 1,000-foot radius of residential and/or commercial structures. Therefore prestressed concrete piles would be less desirable than the low displacement piling such as steel H-piles and steel pipe piles for bridges within close proximity of existing structures. Low displacement piles require lower impact hammer energy levels and thus create lower noise and

vibration levels during installation. Large non-redundant drilled shaft foundations, if feasible, would also have lower noise and vibration levels, and will also have the potential to reduce the area of impact at ground level.

### 7.3 Utility Impact Potential

To determine the extent of utility adjustments from project improvements, local utility companies with known facilities within the project limits were contacted and requested to submit the location of their existing and planned facilities. Refer to **Table 3-3** (see Page 3-2) for a list of utilities present within the project limits.

There are various transmission lines being impacted south of SR 50 approaching Avalon Park Boulevard and a Lift Station that is located west of Avalon Park Boulevard. Due to impacts by the recommended alternative, most utilities will need to be relocated. Coordination will continue through final design.



## 7.4 Drainage

The Pond Siting Report (PSR) prepared for this project divided the corridor into fifteen (15) drainage basins and identified recommended pond sites for each. The intent of the PSR was to evaluate and recommend potential pond locations for each basin. The project was divided into 15 on-site drainage basins. The drainage basins were divided based on high points of the proposed bridge overpass, which maintain flow connectivity to side streets. Scuppers may be used to collect runoff on the proposed bridges when the spread cannot be contained within the shoulder. Shoulder gutter inlets will be used to collect runoff from segments of the bridge with MSE walls and at high fill areas. Bridge drainage shall be evaluated during the design phase. Most of the offsite runoff flows into low lying areas such as wetlands and Econlockhatchee River tributaries. The offsite runoff will be conveyed through the proposed cross drains. Some of the offsite runoff that drains into the project basin can be collected in by-pass swales at the toe of the embankment and directed to proposed cross drains per historical flow paths. There is enough right-of-way (300 feet) for the entire SR 408 corridor to provide by-pass swales. The other option is to collect offsite runoff in swales or ditch bottom inlets and route it through the stormwater ponds without providing treatment or attenuation. This evaluation shall be performed during the final design. **Table 7-6** below lists the preferred pond locations for each basin.

Pond location recommendations (**Figure 7-5**) are based on preliminary data calculations, reasonable engineering judgement, and assumptions. Pond sizes and locations may change during final design as more detailed information becomes available.

Table 7-6: Proposed Pond Sites

Construction Segment	Basin	Pond Name	Preliminary Pond Site (ac)	Remarks
1	Basin 1	Pond 1A	1.98	Existing CFX Pond expanded
		Pond 1B	5.06	Existing CFX Pond expanded
		Pond 1C	1.10	CFX Property
	Basin 2	Pond 2B	10.23	Orange County School Board
	Basin 3-4	Pond 3A	3.06	Private Property
		Pond 4A	1.80	Private Property
	Basin 5	Pond 5B	4.10	Private Property
	Basin 6-8	Pond 6B	19.73	Private Property
2	Basin 9-10	Pond 9B	3.38	Private Property
		Pond 10B	5.00	Private Property
	Basin 11A	Pond 11A1	0.92	Private Property
		Pond 11A2	0.45	Private Property
		Pond 11A3	1.16	Private Property
		Pond 11A4	3.24	Private Property
	Basin 11B	Pond 11B1	3.98	FDOT Property
	3	Basin 11C	Pond 11C	5.70
Pond 11C3			8.85	Private Property
Pond 11C4			5.50	Private Property
Basin 12		Pond 12A	6.88	Private Property
Basin 13		Pond 13B	10.45	Private Property
Basin 14		Pond 14A	2.57	Private Property
Basin 15		Pond 15A	8.92	Private Property





Proposed Pond Sites

Figure 7-5



### 7.4.1 Proposed Cross Drains

The roadway geometry is limited in order to minimize impacts and meet the requirements for the proposed design speed. Different interchange layouts and considerations were made to provide alternative conceptual designs. Fourteen cross drain locations were selected once the alignment and the most effective interchange layouts were identified. The proposed cross drain locations were also chosen based on the natural flow of the land from the surrounding floodplains and wetlands. The proposed SR 408 Eastern Extension corridor will have floodplain impacts along most of the corridor. These floodplain impacts will be mitigated by routing this volume to the project's proposed storm water management facilities, and roadside swales. Refer to **Table 7-7** for calculated culvert size, flow direction, and floodplain status.

**Table 7-7 Proposed SR-408 Cross Drain General Information**

Cross Drain ID	Pipe Description	Flow Direction	Receiving Water Body	Within Floodplain (Yes/No)
CD-1	3-11'x5' CBC	North	Unnamed Tributary(1)	Yes (Zone A)
CD-2	4-10'x5' CBC	South	Unnamed Tributary(1)	Yes (Zone A)
CD-3	3-11'x7' CBC	North	Unnamed Tributary(1)	Yes (Zone A)
CD-3A	1-30" RCP	South	Unnamed Tributary(2)	Yes (Zone A)
CD-4	2-8'x4' CBC	North	Unnamed Tributary(2)	Yes (Zone A)
CD-5	2-72" RCP	North	Floodplain	Yes (Zone A)
CD-6	2-72" RCP	North	Floodplain	Yes (Zone A)
CD-7	2-48" RCP	South	Wetland	Yes (Zone X)
CD-8	1-10'x5' CBC	South	Wetland	Yes (Zone X)
CD-9	1-72" RCP	South	Floodplain	Yes (Zone AE)
CD-10	2-6'x4' CBC	South	Channel E	Yes (Zone AE)
CD-11	2-24" RCP	South	Channel K	Yes (Zone A)
CD-12	2-8'x4' CBC	South	Channel KE	Yes (Zone A)
CD-13	1-48" RCP	South	Channel M	Yes (Zone X)



## 7.4.2 Permit Agency Coordination

### **St. Johns River Water Management District**

This project is within the jurisdiction of the SJRWMD. The SJRWMD will require an ERP and potentially a dewatering permit for this project prior to initiating construction. In addition to the standard requirements of an ERP, Special Basin Criteria apply and impacts within the Econlockhatchee River Riparian Habitat Protection Zone require additional mitigation. The office responsible for the technical review of the permit application package will be the SJRWMD.

### **Florida Fish and Wildlife Conservation Commission**

FWC will provide commentary during the ERP review process. FWC may conduct field reviews and comment to the SJRWMD on any adverse effects the proposed activity may have on state protected wildlife species and their habitats.

### **US Army Corps of Engineers**

Because impacts to wetlands under the jurisdiction of USACE would total more than one-half acre, a USACE standard permit (Dredge/Fill) is anticipated. Unavoidable impacts to jurisdictional wetlands will require mitigation. The USACE provides a separate and independent review of the ERP from the SJRWMD.

### **Environmental Protection Agency**

The EPA requires permits for stormwater discharge to Waters of the United States in association with the National Pollutant Discharge Elimination System (NPDES) and the Clean Water Act. The permit application requirements include a stormwater pollution prevention plan indicating both structural and non-structural controls to be implemented. A NPDES permit is anticipated. An FDEP NPDES permit is anticipated.

### **U.S. Fish and Wildlife Service**

No adverse impacts to federally listed species are anticipated. The USFWS will require mitigation for unavoidable impacts to wood stork Suitable Foraging Habitat.

## 7.5 Construction Cost Estimate

The construction cost estimate for this project is summarized in **Table 7-9**. For more details see **Appendix H**.

**Table 7-9 Construction Cost Estimate per Segment**

Cost	Construction Segment 1	Construction Segment 2	Construction Segment 3
<b>Construction Cost</b>	\$130,179,177	\$149,412,134	\$890,708,231
<b>Engineering/Administration/Legal (24%)</b>	\$31,243,003	\$35,858,912	\$21,380,925
<b>Right-of-Way</b>	\$91,300,000	\$64,300,000	\$44,400,000
<b>Mitigation</b>	\$6,196,058	\$3,872,931	\$5,227,912
<b>Toll Collection Equipment</b>	\$1,260,000	\$1,260,000	\$1,260,000
<b>Construction Segment Total</b>	\$260,178,238	\$254,703,978	\$163,366,119
<b>TOTAL COST</b>	<b>\$678,248,335</b>		



## 7.6 Environmental Impacts

The following sections briefly summarize some of the key environmental considerations prevalent within the project study area. For more detailed information on the proposed environmental conditions, please refer to the SEIR prepared for this study.

### 7.6.1 Contamination

Information was obtained for this report through observations during on-site visits and database information from FDEP and EPA. No NPL superfund sites or landfills were identified within one mile of the project corridor. Out of 22 sites, 2 were assigned a risk rating of None, 4 were assigned a risk rating of Low, 13 were assigned a risk rating of Medium, and 3 were assigned a risk rating of High. Medium and High risk sites are recommended for additional assessment, including soil and groundwater testing, if right-of-way acquisition or subsurface work (including construction of any structures or stormwater ponds) is proposed on or adjacent to them. A SJRWMD Environmental Resource Permit will be necessary and a Dewatering Permit is anticipated for any dewatering operations during construction.

### 7.6.2 Floodplains

The project will impact the 100-year floodplain in three different ways:

- Longitudinal roadway widening impacts resulting from filling the floodplain areas associated with the Econ River and its tributaries.
- Impact due to proposed pond locations in floodplain.
- Impact due to proposed cross drains in floodplain.

The longitudinal impact due to the recommended SR 408 Eastern Extension alignment cannot be avoided. During the final design phase of the project, every effort should be taken to minimize floodplain impacts. During the design phase, floodplain impacts should be mitigated by routing to proposed stormwater management facilities and roadside swales. Also, a Bridge Hydraulics Report (BHR) will be prepared during the design phase to document the hydraulic impacts of the recommended SR 408 Eastern Extension alignment.

The FEMA's Flood Insurance Rate Map (FIRM) for Orange County shows that a portion of the project lies within the 100-year floodplain areas Zone AE (100-year Base flood elevations are provided) and Zone A (100 year base flood elevations are not provided, areas with 1% change of flooding). Most of the project lies within flood Zone X (Areas of minimal flood hazard and above the 500-year flood zone). FEMA Map No. 12095C0280F, 129095C0285F, 12095C0295F and 12095C0315F, provide flood information for the project. Floodplain impact will occur throughout the project corridor and includes the Econlockhatchee River and its tributaries.

Total floodplain impact due to roadway fill for the entire proposed project corridor is 100.28 ac-ft. Available compensation in the proposed stormwater ponds and floodplain compensation ponds are 107.47 ac-ft. The dredge and fill volume are based on limited information available during the PD&E study. A detail evaluation has to be done during the final design. Based on the preliminary evaluation the project will provide more floodplain compensation than the impacts. Therefore, a cup for cup compensation is provided by the project. Two floodplain compensation pond sites were identified for this project in Basin 11C. The pond sites are Pond 11C3 and Pond 11C4. Both Pond 11C3 and Pond 11C4 are selected as the recommended floodplain compensation ponds. Beside these two floodplain compensation ponds, several stormwater ponds located adjacent to floodplains will also provide floodplain compensation. Floodplain impacts due to the proposed corridor were calculated and documented in the Pond Siting Report, a supplemental document to this report.

### 7.6.3 Noise

A traffic noise analysis was performed following Code of Federal Regulations Title 23 Part 772 (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, using methodology established by the Florida Department of Transportation (FDOT) in the *Project Development and Environment Manual*, Part 2, Chapter 18 (dated June 14, 2017). The purpose of the noise study is to identify noise-sensitive sites that would be impacted with the proposed project and evaluate abatement measures at impacted noise-sensitive sites.



Noise barriers were considered for all noise-sensitive receptor sites where Design Year traffic noise levels were predicted to equal or exceed the Noise Abatement Criteria (NAC). As such, noise barriers were considered at 13 locations to mitigate noise impacts. Since traffic management and alignment modifications were determined to not be viable abatement measures, noise barriers were determined to be the only potentially viable abatement measure that could be implemented for this project.

Nine noise barriers are predicted to benefit 526 residences, including 417 that are predicted to be impacted by improvements planned with this project, at a cost below the cost reasonable criteria (\$42,000 per benefited sites) (see **Table 7-10**). The recommended noise barriers will be further considered as the design plans and more detailed elevation data for the planned improvements to extend SR 408 described. The noise barriers recommended are summarized in the table on the following page and graphically shown in the appendices of this report.

Noise abatement is not feasible and/or reasonable for the remaining 89 impacted residences because of isolated impacted homes and/or unreasonable cost.

Table 7-10 Recommended Noise Barriers

Barrier Alternative	Barrier Height (feet)	Est, Barrier Length <sup>1</sup> (feet)	Barrier Location	Number of Impacted Residences	Number of Impacted Residences Within a Noise Reduction Range			Number of Benefited Residences				Total Estimated Cost <sup>4</sup>	Cost Per Benefited Residence
					5-5.9 dB(A)	6-5.9 dB(A)	≥ 7 dB(A)	Impacted <sup>2</sup>	Other <sup>3</sup>	Total	Average Reduction dB(A)		
Noise Barrier for Crest at Waterford Lakes													
NC-CWL-03	14	2,500	Right of Way	39	2	0	78	80	23	103	9.1	\$1,050,000	\$10,194
Noise Barrier for Waterford Lakes, Bridgewater, and Waterford Creek													
NC-WL-04	Varies 8-14	8,400	Mainline Shoulder	111	1	2	108	111	48	159	9.3	\$3,523,800	\$22,162
Noise Barrier for Deerwood Mobile Park Homes (South of SR 408 Extension)													
NC-DWS-02	14	2,000	Mainline Shoulder	56	5	11	36	52	6	58	7.1	\$840,000	\$14,483
Noise Barrier for Deerwood Mobile Park Homes (North of SR 408 Extension)													
NC-DWN-03	Varies 8-16	2,000	Mainline Shoulder	45	4	16	25	45	0	45	7.0	\$810,000	\$18,000
Noise Barrier for Waterford Trails and Single-Family Homes (South of SR 408 Extension)													
NC-WTS-03	Varies 8-14	5,600	Mainline Shoulder	47	9	9	19	37	27	64	7.0	\$2,118,000	\$33,094
Noise Barrier for Waterford Trails and Single-Family Homes (North of SR 408 Extension)													
NC-WTN-04	Varies 8-14	5,000	Mainline Shoulder	51	5	25	15	45	24	69	5.9	\$1,794,000	\$26,000
Noise Barrier for Seaward Plantation Estates (North of SR 408 Extension)													
NC-SP-03	Varies 8-14	1,850	Mainline Shoulder	10	2	3	2	7	7	14	5.1	\$588,000	\$42,000
Noise Barrier for Pine Island Mobile Villas (North of SR 408 Extension)													
NC-PIMHP-03	Varies 16-20	900	Right of Way	12	6	0	6	12	0	12	5.8	\$504,000	\$42,000
Noise Barrier for Bithlo (North of SR 408 Extension)													
NC-C-04	Varies 8-18	3,500	Mainline Shoulder & Right of Way	76	10	19	47	76	3	79	5.8	\$1,488,000	\$18,835





## 8 Summary of Public Involvement Activities

A public involvement program was developed and implemented for this SR 408 Eastern Extension PD&E study. The program is documented in the Public Involvement Program (PIP) (see **Appendix I**), a companion document to this PD&E study. The purpose of the program is to outline the public involvement approach to be taken with the project, provide and share project information with persons living and working in the area, listen to ideas and concerns and to solicit and incorporate input received during the study process.

Public information meetings began in October 2015 and have continued throughout the study process. The public involvement effort for this phase of the project included five (5) public meetings (the Public Hearing is scheduled for April 26, 2018), with six (6) additional Project Advisory Group (PAG) meetings and six (6) Environmental Advisory Group (EAG) meetings. **Table 8-1** lists the members of both groups and the respective company/organization. It should be noted that the first two public meetings as well as the EAG and PAG meetings 1 through 3 were held during the initial phase of the PD&E study that included alternatives along SR 50.



**Table 8-1 PAG / EAG Group Members**

Group	Name	Company/Organization
<b>PAG</b>	Frank Sheperd	American Legion Post 242
	Joe Wallace	Central Florida Research Park
	Sean Froelich	"Sustany" Development (Formerly Lake Pickett North)
	Hugh Harling, Jr.	East Central Florida Regional Planning Council
	Stephanie Lerret	East Orlando Chamber of Commerce
	Amy Sirmans	FDOT District Five
	RJ Mueller	FixMyRoad.Org
	Scott Merritt	Greater Orlando Builders Association
	Dwight Saathoff, Esq	Project Finance and Development, LLC (Formerly Lake Pickett South)
	Edward Johnson	LYNX
	Tiffany Homler	LYNX
	Gary Huttman	MetroPlan Orlando
	Keith Caskey	MetroPlan Orlando
	Renzo Nastasi	Orange County Community Env. & Dev Services/Transportation Planning
	Marcos Bastian	Orange County Community Env. & Dev Services/Transportation Planning
	Greg Gologowski	Orange County Community Env. & Dev Services/Transportation Planning
	Mark Massaro	Orange County Public Works
	Ron Toporek	Orlando Utilities Commission
	Jean Jreij	Seminole County Public Works
	Frank Consoli	Seminole County Public Works
	Lynda Glinski	Simon Properties/Waterford Lakes Town Center
	<b>Tim McKinney</b>	United Global Outreach (Florida Hospital Affiliate)
	Maria Yebra-Teimouri	University of Central Florida
	Loren Bender	Valencia State College – East and Winter Park
	Bob Kamm	Space Coast MPO (Brevard County)
	Georganna Gillette	Space Coast MPO (Brevard County)
	Bobby Beagles	Christmas Community Association/Florida Farm Bureau Orange County
	W. Don Whyte	Deseret Cattle & Citrus Company
	Mohammed Abdallah, P.E	Traffic & Mobility Consultants, LLC

\* Also with Avalon Park Group

Table 8-1 PAG / EAG Group Members (Continued)

Group	Name	Company/Organization
EAG	Terry Zable	Atkins North America, Inc.
	Ryan Smart	1000 Friends of Florida
	David Clark	FDEP Division of State Lands
	Paula Allen	FDEP Division of State Lands
	William Walsh	FDOT District Five
	Catherine Owen	FDOT District Five
	Dave Herbster	Florida Dept. of Environmental Protection
	Brian Barnett	Florida Fish & Wildlife
	Stan Austin	National Park Service
	Deborah Green	Orange Audubon Society
	Dennis Weatherford	Orange County Environmental Protection Division
	Marge Holt	Sierra Club
	David Eunice	SJRWMD (St. Johns River Water Management District)
	Ken Lewis	SJRWMD (St. Johns River Water Management District)
	James Hollingshead	SJRWMD (St. Johns River Water Management District)
	Temperince Morgan	The Nature Conservancy
	Zakia Williams	US Fish & Wildlife Service
	Darci McGee	Brevard County Department of Natural Resources
	Charles Lee	Audubon Florida

**Appendix G** includes sign-in sheets and meeting summaries from each of the meetings held to date. For a complete list of all public involvement activities and coordination meetings held see **Appendix I**. Exhibits and project information were provided for public review and comment at each meeting. All input received served as valuable information that was taken into consideration for the refinement of the alternatives and the development of the recommended alternative. Representatives from the CFX were available at each meeting to discuss the project and answer questions.



#### Environmental Advisory Group (EAG) Meeting 4

An EAG meeting was held on January 10, 2017. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. The project study was introduced as well as the study overview, history and purpose was presented. Five (5) corridor alternatives were identified to the group. A total of 15 people attended the meeting, and the sign-in sheets and meeting minutes are included in **Appendix I**.

#### Project Advisory Group (PAG) Meeting 4

A PAG meeting was held on January 10, 2017. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. The project study was introduced as well as the study overview, history and purpose was presented. Five (5) corridor alternatives were identified to the group. A total of 21 people attended the meeting, and the sign-in sheets and meeting minutes are included in **Appendix I**.

#### Alternatives Corridor Public Workshop

An Alternatives Corridor Public Workshop was held on February 16, 2017. The meeting was an open-house format and presented the Corridor Alternatives that were developed in order to obtain public feedback. The workshop provided an opportunity for residents, business owners, stakeholders and other interested parties to view the project alternatives with members of CFX and the consultant team to get answers to questions and responses to their concerns. Four hundred sixty two (462) people attended the meeting and one hundred forty eight (148) comment sheets were received. The sign-in sheets and comment sheets are included in **Appendix I**.

### Environmental Advisory Group (EAG) Meeting 5

An EAG meeting was held on June 1, 2017. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. The evaluation of the 13 corridor alternatives that were created was presented. Also, the meeting provided the introduction of the preferred corridor (Corridor 4) and the alignment within the corridor being studied. A total of 18 people attended the meeting, and the sign-in sheets and meeting minutes are included in **Appendix I**.

### Project Advisory Group (PAG) Meeting 5

A PAG meeting was held on June 1, 2017. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. The evaluation of the 13 corridors was introduced with the preferred corridor (Corridor 4) being introduced at the PAG meeting. A total of 24 people attended the meeting, and the sign-in sheets and meeting minutes are included in **Appendix I**.

### Alternatives Public Workshop

An Alternatives Public Workshop was held on Thursday, June 8, 2017. The meeting was an open-house format and presented the alternatives developed in order to obtain public feedback. The workshop provided an opportunity for residents, business owners, stakeholders and other interested parties to view the project alternative with members of CFX and the consultant team to get answers to questions and responses to their concerns. Five hundred ten (510) people from the general public, not including media/elected officials, consultants and CFX representatives, attended the meeting and one hundred twenty-eight (128) comment sheets were received. The sign-in sheets and comment sheets are included in **Appendix I**.

### Environmental Advisory Group (EAG) Meeting 6

An EAG meeting was held on October 10, 2017. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. An update of the preferred corridor (Corridor 4) was provided based on the latest information and refinements to the alignment and the recommended alternative was presented. A total of



15 people attended the meeting, and the sign-in sheets and meeting minutes are included in **Appendix I**.

#### Project Advisory Group (PAG) Meeting 6

A PAG meeting was held on October 10, 2017. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. An update of the preferred corridor (Corridor 4) was provided based on the latest information and refinements to the alignment and the recommended alternative was presented. A total of 23 people attended the meeting, and the sign-in sheets and meeting minutes are included in **Appendix I**.

#### Public Hearing

The Public Hearing is scheduled to be held on April 26, 2018. This section will be updated after the Public Hearing.

## **APPENDIX A – CORRIDOR REPORT ANALYTICAL HIERARCHY PROCESS RESULTS**



## Alternatives Evaluation

The final evaluation of the various corridor alternatives for the proposed SR 408 Eastern Extension involved essentially a multi-objective/multi-attribute decision making process. The establishment of the relative importance of each objective/criteria was critical in order to ultimately choose the most efficient or “best” corridor alternative. This process involved decisions which must make trade-offs between different and often conflicting objectives/criteria. The core decision making tool utilized during the evaluation was the Analytic Hierarchical Process (AHP). This process was developed by Thomas J. Saaty for decision analysis of complex subjective problems involving a large number of criteria. This appendix documents the application of the AHP computer decision making software used to determine the recommended corridor alternative for the proposed project. Study participants started by addressing pertinent issues such as setting priorities, subsequently establishing criteria and criteria weights, and finally by evaluating the various alternatives for the proposed project improvements. **Figure A-1** illustrates the methodology utilized in the evaluation of the corridor alternatives for the proposed project.

## Evaluation Methodology

The Analytic Hierarchy Process (AHP) method is based on the breakdown of each problem into a system of stratified levels or hierarchies where each level consists of criteria or objectives to be compared. Each of the criteria or objectives in a level is further broken down in subsequent levels into sub-criteria or objectives that are easier to quantify. The relative importance or priority for all the criteria in a given level is then established through a sequence of pair-wise comparisons which will ultimately lead to the derivation of priorities (i.e., weights or importance) for each criterion as well as the determination of the recommended corridor alternative. Pair-wise comparisons have been technically proven to be more reliable in eliciting human judgment than directly assigning weights. Once the hierarchy was established and agreed upon, a questionnaire was developed based on pair-wise comparisons of the established

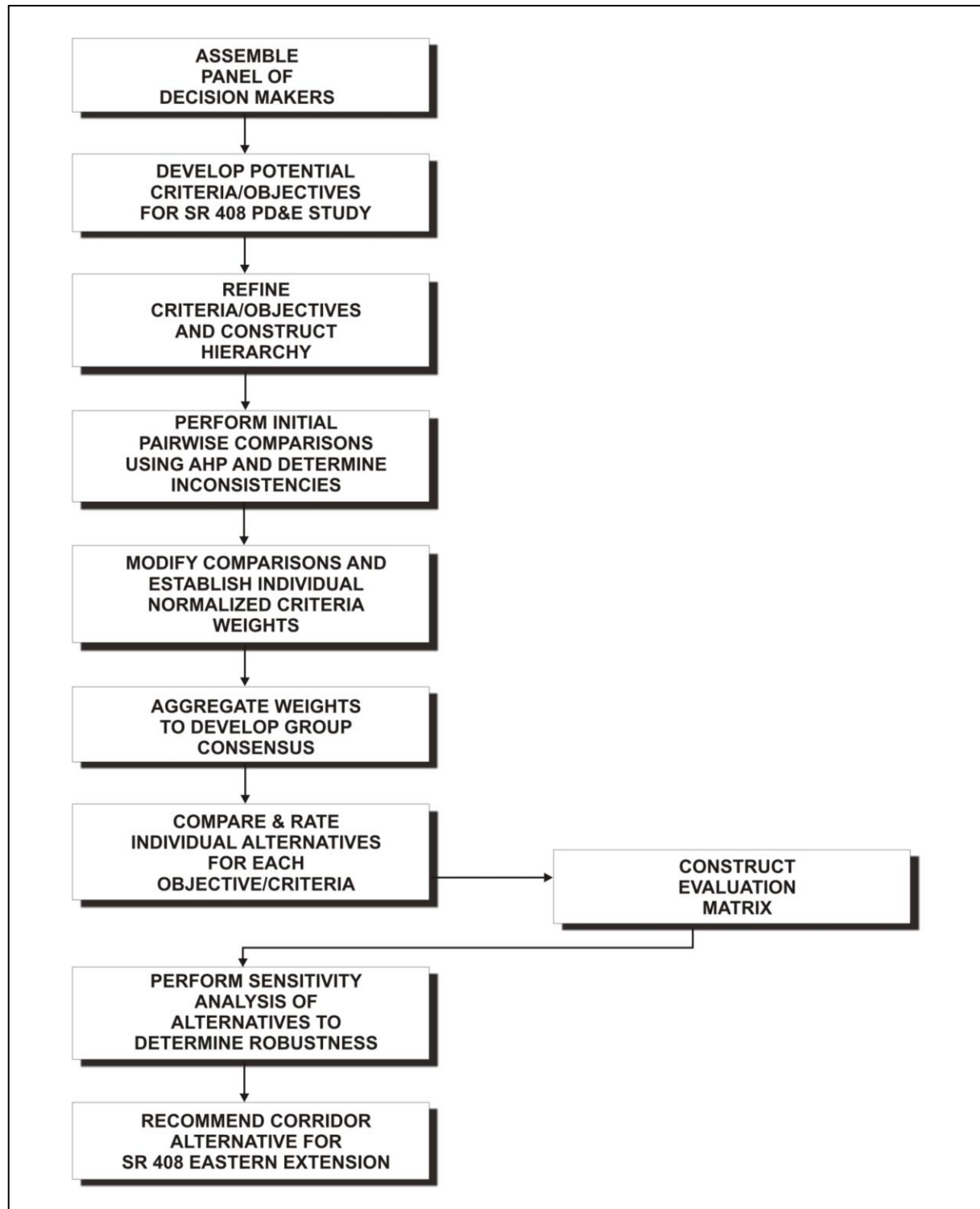


Figure A-1 – Evaluation Methodology Flowchart



**Figure A-1** criteria. It should be noted that even though project questionnaires are often utilized by participants to establish the importance, priority or weight of each criterion, in our case the panel participants agreed to adopt the weights previously established during the previous evaluation phase (see values at top of **Table 3 & Figure 5**). However, a questionnaire was developed to compare each of the four (4) corridor alternatives based on each parameter comprising the criteria. After the questionnaires were completed, the data was input into the computer program.

## Evaluation Results

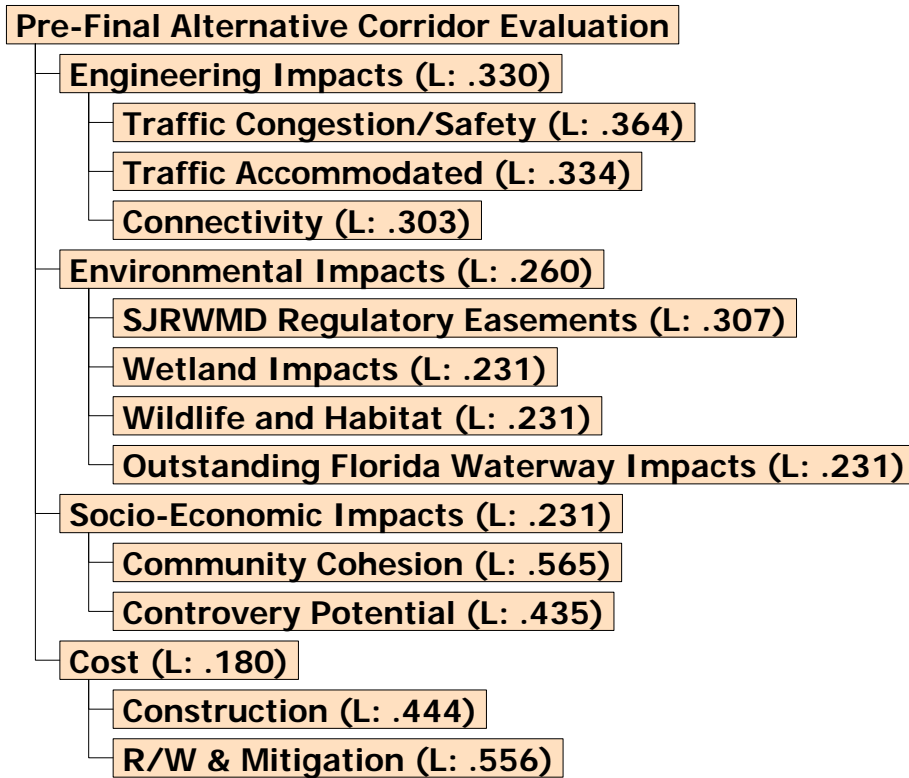
The AHP computer application was performed with a group consensus results obtained by aggregating the responses of all participants and applying the group median method. The group median judgments and preferences were then incorporated into the AHP computer program. The AHP computer application results are included at the end of this appendix and **Table A-1** provides a brief explanation of the included outputs. A thorough sensitivity analysis of the results was conducted after finding the recommended roadway alternative as selected by the participants of the study through the execution of the program. The analysis included the investigation of sensitive criterion or criteria within the results. The AHP software also includes a sensitivity analysis feature. This feature investigates the effect of the ranking of the recommended roadway alternative if criteria take on other possible values. The sensitivity analysis identifies the relatively sensitive criteria (i.e., those that can not be changed much without changing the ranking of the top roadway alternative) to try to estimate these more closely, and then to select a solution which remains a good one over the ranges of likely values of the sensitive parameters. Usually there will be some criteria that can be assigned any reasonable value without affecting the ranking of the recommended alternative. However, there may also be criteria with likely values that would yield a new ranking of the recommended alternative.

<b>Page No.</b>	<b>Table A-1 Contents</b>
1 to 2	Weight assignment for all Primary & Secondary objectives and Final Computed results for both competing alternatives
3	Weight Assignment graph for Primary Objectives
4	Weight Assignment graph for Engineering Impacts
5 to 7	Computed alternative results with respect to secondary objectives of traffic congestion/safety, traffic accommodated, and connectivity
8	Weight Assignment graph for Environmental Impacts
9 to 12	Computed alternative results with respect to secondary objectives of SJRWMD Regulatory Easement impacts, wetland impacts, wildlife and habitat, and outstanding Florida waterway impacts
13	Weight Assignment graph for Socio-Economic Impacts
14 to 15	Computed alternative results with respect to secondary objectives of Community Cohesion and controversy potential
16	Weight Assignment graph for Cost Objectives
17 & 18	Computed alternative results with respect to secondary objectives of construction/engineering/administration and legal, and wetland mitigation
18 to 19	Synthesis of computed alternative results

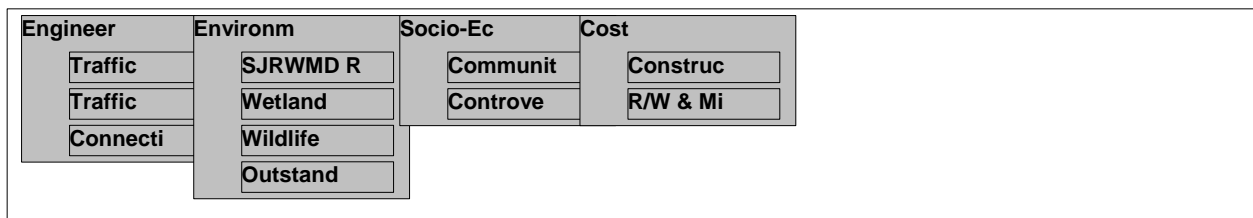


Model Name: Pre-Final Alternative Corridor Evaluation RD version

## Treeview



## Cluster view



## Alternatives

<b>Corridor 4</b>	<b>.677</b>
<b>Corridor 4-2</b>	<b>.226</b>
<b>Corridor 5-4</b>	<b>.097</b>

## Data Grid

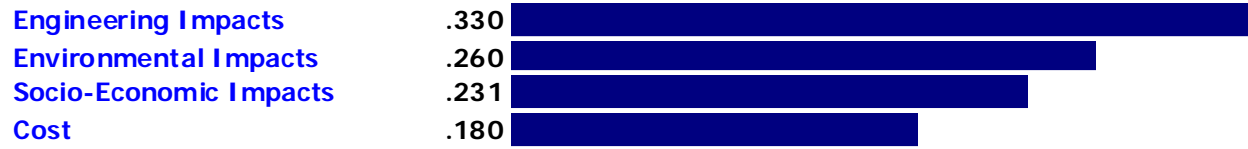
	Pairwise	Pairwise	Pairwise	Pairwise	Pairwise	Pairwise
Alternative	Engineer Traffic Congestion (L: .364)	Engineer Traffic Accommoda (L: .334)	Engineer Connectivit (L: .303)	Environm SJRWMD Regulatory Easements (L: .307)	Environm Wetland Impacts (L: .231)	Environm Wildlife and Habitat (L: .231)
<input checked="" type="checkbox"/> Corridor 4	.35	.35	1.00	.50	.50	.50
<input checked="" type="checkbox"/> Corridor 4-2	.12	.12	.50	1.00	1.00	1.00
<input checked="" type="checkbox"/> Corridor 5-4	1.00	1.00	.33	1.00	1.00	.50

	Pairwise	Pairwise	Pairwise	Pairwise	Pairwise
Alternative	Environm Outstanding Florida Waterway Impacts (L: .231)	Socio-Ec Community Cohesion (L: .565)	Socio-Ec Controversy Potential (L: .435)	Cost Constructio (L: .444)	Cost R/W & Mitigation (L: .556)
<input checked="" type="checkbox"/> Corridor 4	1.00	1.00	1.00	.33	1.00
<input checked="" type="checkbox"/> Corridor 4-2	1.00	.33	1.00	1.00	.33
<input checked="" type="checkbox"/> Corridor 5-4	.33	.14	.14	.67	.14



## Priority Graphs

**Priorities with respect to:**  
Pre-Final Alternative Corridor Evalu...



Inconsistency = 0.00

with 0 missing judgments.

**Priorities with respect to:**  
**Pre-Final Alternative Corridor Evaluatio**  
**>Engineering Impacts**

**Traffic Congestion/Safety**  
**Traffic Accommodated**  
**Connectivity**



Inconsistency = 0.00  
with 0 missing judgments.




**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Engineering Impacts  
    >Traffic Congestion/Safety

Corridor 4	.236	
Corridor 4-2	.082	
Corridor 5-4	.682	

Inconsistency = 0.00

with 0 missing judgments.

**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
>Engineering Impacts  
>Traffic Accommodated

Corridor 4	.236	
Corridor 4-2	.082	
Corridor 5-4	.682	

Inconsistency = 0.00

with 0 missing judgments.







**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Engineering Impacts  
    >Connectivity

Corridor 4	.545	
Corridor 4-2	.273	
Corridor 5-4	.182	

Inconsistency = 0.00

with 0 missing judgments.

**Priorities with respect to:**  
**Pre-Final Alternative Corridor Evaluation**  
**>Environmental Impacts**

<b>SJRWMD Regulatory Easements</b>	<b>.307</b>	
<b>Wetland Impacts</b>	<b>.231</b>	
<b>Wildlife and Habitat</b>	<b>.231</b>	
<b>Outstanding Florida Waterway Impacts</b>	<b>.231</b>	

Inconsistency = 0.00

with 0 missing judgments.



**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Environmental Impacts  
    >SJRWMD Regulatory Easeme...

Corridor 4	.200	
Corridor 4-2	.400	
Corridor 5-4	.400	

Inconsistency = 0.00

with 0 missing judgments.

**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Environmental Impacts  
    >Wetland Impacts

Corridor 4	.200	
Corridor 4-2	.400	
Corridor 5-4	.400	

Inconsistency = 0.00

with 0 missing judgments.



**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Environmental Impacts  
    >Wildlife and Habitat

Corridor 4	.250	
Corridor 4-2	.500	
Corridor 5-4	.250	

Inconsistency = 0.00

with 0 missing judgments.

**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Environmental Impacts  
    >Outstanding Florida Waterw...

Corridor 4	.429	
Corridor 4-2	.429	
Corridor 5-4	.143	

Inconsistency = 0.00

with 0 missing judgments.



**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
>Socio-Economic Impacts

Community Cohesion  
Controversy Potential

.565

.435

Inconsistency = 0.00

with 0 missing judgments.

**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Socio-Economic Impacts  
    >Community Cohesion



Inconsistency = 0.00

with 0 missing judgments.



**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Socio-Economic Impacts  
    >Controversy Potential

Corridor 4	.467	
Corridor 4-2	.467	
Corridor 5-4	.067	

Inconsistency = 0.00

with 0 missing judgments.

**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
>Cost

**Construction**

.444



**R/W & Mitigation**

.556



Inconsistency = 0.00

with 0 missing judgments.



**Priorities with respect to:**  
Pre-Final Alternative Corridor Evaluati  
    >Cost  
    >Construction

Corridor 4	.167	
Corridor 4-2	.500	
Corridor 5-4	.333	

Inconsistency = 0.00  
with 0 missing judgments.

**Priorities with respect to:**  
 Pre-Final Alternative Corridor Evaluati  
 >Cost  
 >R/W & Mitigation

Corridor 4	.677	
Corridor 4-2	.226	
Corridor 5-4	.097	

Inconsistency = 0.00

with 0 missing judgments.

### Synthesis: Details

Alts	Level 1	Level 2	Prty	
Total ...			<b>0.378</b>	Final Score = Total Sum
	<b>Total Cost (L: .180)</b>		<b>0.069</b>	
	Cost (L: .180)	Construct...	.01447	
		R/W & Mi...	.05427	
	<b>Total Engineering Impacts (L: .330)</b>		<b>0.097</b>	
	Engineering Impacts (L: .330)	Traffic Co...	.02253	
		Traffic Ac...	.02067	
		Connectiv...	.05416	
Corrido...	<b>Total Environmental Impacts (L: .260)</b>		<b>0.087</b>	
	Environmental Impacts (L: .260)	SJRWMD...	.02162	
		Wetland I...	.01625	
		Wildlife a...	.01625	
		Outstandi...	.03251	
	<b>Total Socio-Economic Impacts (L: .231)</b>		<b>0.125</b>	
	Socio-Economic Impacts (L: .231)	Communi...	.07066	
		Controver...	.05435	
Total ...			<b>0.322</b>	
	<b>Total Cost (L: .180)</b>		<b>0.062</b>	
	Cost (L: .180)	Construct...	.04342	
		R/W & Mi...	.01809	
	<b>Total Engineering Impacts (L: .330)</b>		<b>0.042</b>	
	Engineering Impacts (L: .330)	Traffic Co...	.00781	
		Traffic Ac...	.00717	
		Connectiv...	.02708	
Corrido...	<b>Total Environmental Impacts (L: .260)</b>		<b>0.141</b>	
	Environmental Impacts (L: .260)	SJRWMD...	.04323	
		Wetland I...	.03251	
		Wildlife a...	.03251	
		Outstandi...	.03251	
	<b>Total Socio-Economic Impacts (L: .231)</b>		<b>0.078</b>	
	Socio-Economic Impacts (L: .231)	Communi...	.02355	
		Controver...	.05435	
Total ...			<b>0.300</b>	
Corrido...	<b>Total Cost (L: .180)</b>		<b>0.037</b>	



Alts	Level 1	Level 2	Prty
Corrido...	Cost (L: .180)	Construct...	.02894
		R/W & Mi...	.00775
	<b>Total Engineering Impacts (L: .330)</b>		<b>0.143</b>
	Engineering Impacts (L: .330)	Traffic Co...	.06499
		Traffic Ac...	.05962
		Connectiv...	.01805
	<b>Total Environmental Impacts (L: .260)</b>		<b>0.103</b>
	Environmental Impacts (L: .260)	SJRWMD...	.04323
		Wetland I...	.03251
		Wildlife a...	.01625
		Outstandi...	.01084
	<b>Total Socio-Economic Impacts (L: .231)</b>		<b>0.018</b>
	Socio-Economic Impacts (L: .231)	Communi...	.01009
		Controver...	.00776

## **APPENDIX B – REFERENCE DOCUMENTS**



## **A. Reference Documents**

1. Orlando Orange County Expressway Authority (OOCEA) 2030 Master Plan
2. 2008 SR 408 East Extension Concept Development and Evaluation Study
3. Central Florida Expressway Authority (CFX) 2040 Master Plan
4. CFX 2018-2022 Five Year Work Plan
5. CFX Five-Year Work Plan
6. MetroPlan Orlando 2040 Long Range Transportation Plan

## **B. Companion Documents**

1. Draft State Environmental Impact Report
2. Final Contamination Screening Evaluation Report
3. Final Natural Resources Evaluation
4. Final Air Quality Memorandum
5. Final Water Quality Impact
6. Draft Location Hydraulic Report
7. Draft Pond Siting Report
8. Draft Noise Study Report
9. Final Corridor Analysis Technical Memorandum
10. Draft Traffic Technical Memorandum
11. Draft Bridge Analysis Report
12. Draft Utility Assessment Report
13. Draft Cultural Resource Assessment Survey

## APPENDIX C – UTILITY CONFLICTS

Table C-1 - Existing Utilities

Utility & Contact Information	Utility Type	Description	Remarks
Advanced Cabling Solutions Inc Robert Ford (407) 883-8881	Electric and Fiber	No Response	No Response
American Traffic Solutions Santiago Martinez (480) 596 - 4595	Communications/ Electric	No Response	No Response
AT&T Distribution Dino Farruggio (561) 997-0240	Telephone	Aerial Cable	<ul style="list-style-type: none"><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 383</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 456</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 461</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 517</li><li>• Runs perpendicular to SR 408 at approximately SR 408 Baseline STA 537</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 551</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 569</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 579</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 602</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 702</li><li>• Runs along south side of SR 408 from approximately SR 408 Baseline STA 730 to STA 738</li><li>• Runs along south side of SR 408 from approximately SR 408 Baseline STA 738 to STA 750</li><li>• Runs along north side of E. Colonial Dr. from approximately SR 50 Baseline STA 5000 to STA 5003</li><li>• Runs along south side of E. Colonial Dr. from approximately SR 50 Baseline STA 5000 to STA 5030</li><li>• Crosses perpendicular to SR 408 at approximately EB SR 408/Challenger Parkway Baseline STA 1001</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 550</li><li>• Runs along east side of Woodbury Rd. from approximately Woodbury Rd Baseline STA 2009 to STA 2019 then runs perpendicular at STA 2020</li><li>• Runs along west side of Woodbury Rd. from approximately Woodbury Rd Baseline STA 2009 to STA 2040</li><li>• Runs along south side of SR 408 from approximately Chuluota Road Extension Baseline STA 4015 to STA 4030</li><li>• Runs along east side of Chuluota Rd. from approximately Chuluota Road Extension Baseline STA 4028 to STA 4031</li></ul>
		Buried Cable	<ul style="list-style-type: none"><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 441</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 471</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 475</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 476</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 477</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 478</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 482</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 497</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 518</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 522</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 534</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 569</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 641</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 642</li><li>• Runs parallel to SR 408 from approximately SR 408 Baseline STA 704 to STA 714</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 714</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 715</li><li>• Crosses perpendicular to SR 408 at approximately SR 408 Baseline STA 731</li></ul>



**Table C-1 - Existing Utilities (Continued)**

Utility & Contact Information	Utility Type	Description	Remarks
AT&T Distribution Dino Farruggio (561) 997-0240	Telephone	Buried Cable	<ul style="list-style-type: none"><li>• Runs along south side of SR 408 from approximately SR 408 Baseline STA 738 to STA 750</li><li>• Runs along north side of E. Colonial Dr. from approximately SR 50 Baseline STA 5000 to STA 5003</li><li>• Runs along north side of E. Colonial Dr. from approximately SR 50 Baseline STA 5000 to STA 5030</li><li>• Runs along south side of E. Colonial Dr. from approximately SR 50 Baseline STA 5000 to STA 5030</li><li>• Crosses perpendicular to SR 408 at approximately SR 50 Baseline STA 5019</li><li>• Crosses perpendicular to SR 408 at approximately SR 50 Baseline STA 1060</li><li>• Runs along east side of Woodbury Rd. from approximately Woodbury Rd Baseline STA 2000 to STA 2009</li><li>• Runs along east side of Woodbury Rd. from approximately Woodbury Rd Baseline STA 2021 to STA 2029</li><li>• Runs along west side of Woodbury Rd. from approximately Woodbury Rd Baseline STA 2009 to STA 2030</li><li>• Runs along west side of Woodbury Rd. from approximately Woodbury Rd Baseline STA 2036 to STA 2040</li><li>• Runs along west side of Avalon Park Blvd. from approximately Avalon Park Blvd Baseline STA 3000 to STA 3011</li><li>• Runs along east side of Avalon Park Blvd. from approximately Avalon Park Blvd Baseline STA 3000 to STA 3015</li><li>• Runs along west side of Avalon Park Blvd. from approximately Avalon Park Blvd Baseline STA 3011 to STA 3019</li><li>• Runs along east side of Chuluota Rd. from approximately Chuluota Road Extension Baseline STA 4034 to STA 4037</li></ul>
Central Florida Expressway Authority Vu Vu (407) 843-5120	Fiber Optics	No Response	No Response
Centurylink George Mcelvain (303) 992-9931	Telephone	No Response	No Response
Charter Communications Marvin Usry Jr (407) 532-8509	Internet, Cable T.V, Phone, Fiber	No Response	No Response
City of Orlando – Wastewater David Breitrick (407) 246-3525	Wastewater/Recla im Water	No Response	No Response
Comcast Cable Communications Wade Mathews (352) 516-3824	CATV	No Response	No Response
Duke Energy Megan Vonstetina (727) 893-9394	Electric	No Response	No Response
Duke Energy Megan Vonstetina (727) 893-9394	Fiber	No Response	No Response
Fibernet Direct Danny Haskett (305) 552-2931	Fiber	Fiber	<ul style="list-style-type: none"><li>• Runs along north/west and south/east side of the existing SR 408 from approximately SR 408 Baseline STA 355 to STA 1060</li><li>• Crosses perpendicular the proposed SR 408 eastern extension mainline approximately from SR 408 Baseline STA 385 to STA 403 and STA 408</li><li>• Crosses perpendicular the existing SR 408 approximately at SR 408 Baseline STA 1043 and STA 1048</li><li>• Runs along the west side of Avalon Park Boulevard approximately from Avalon Park Blvd Baseline STA 3000 to STA 3020</li><li>• Runs along the east side of Avalon Park Boulevard approximately from Avalon Park Blvd Baseline STA 3010 to STA 3020</li></ul>
Lovelace Gas Service Garry Lovelace (407) 277-2966	Gas		<ul style="list-style-type: none"><li>• No existing utilities located within the project limits</li></ul>
MCI Dean Boyers (469) 886-4238	Communications/ Fiber Optic	No Response	No Response
Orange County Public Works Roger Smith (407) 836-6869	Traffic Signals & Fiber	No Response	No Response
Orange County Utilities – Waste Water David Shorette (407) 254-9764	Wastewater	No Response	No Response

**Table C-1 - Existing Utilities (Continued)**

Utility & Contact Information	Utility Type	Description	Remarks
Orange County Utilities Marc Brown (407) 836-6869	Water	4" PVC Force Main	<ul style="list-style-type: none"><li>Runs perpendicular to the SR 408 eastern extension at approximately SR 408 Baseline STA 456 (runs along the east side of Lone Palm Road)</li><li>Runs along Woodbury Road on the east side approximately from Woodbury Rd Baseline STA 2020 to 2027</li><li>Crosses Woodbury Road at approximately Woodbury Rd Baseline STA 2020</li><li>Runs across Old Cheney Highway at Chuluota Road Extension STA 4500</li><li>Runs along Columbia School Road approximately from Chuluota Road Extension STA 4032 to East River High School entry</li></ul>
		6" PVC Force Main	<ul style="list-style-type: none"><li>Runs perpendicular to Woodbury road at approximately Woodbury Rd Baseline STA 2000</li></ul>
		8" PVC Force Main	<ul style="list-style-type: none"><li>Runs along the north of existing SR 408 from approximately SR 408 Baseline STA 352 to STA 370</li><li>Runs perpendicular to the proposed SR 408 eastern extension at approximately SR 408 Baseline STA 441 (runs along the east side of Bridgeway Boulevard)</li><li>Runs perpendicular to the proposed SR 408 eastern extension at approximately SR 408 Baseline STA 477 (runs along Pel Street)</li></ul>
		12" PVC Force Main	<ul style="list-style-type: none"><li>Runs along the west side of Avalon Park Boulevard approximately from Avalon Park Blvd Baseline STA 3012 to STA 3020</li></ul>
Orange County Utilities Marc Brown (407) 836-6869	Water	16" PVC Force Main	<ul style="list-style-type: none"><li>Runs along Old Cheney Highway and crosses the proposed SR 408 eastern extension approximately from SR 408 Baseline STA 531 to STA 536 (Sunflower Trail)</li><li>Crosses perpendicular Woodbury Road at approximately Woodbury Rd Baseline STA 2020</li></ul>
		24" PVC Force Main	<ul style="list-style-type: none"><li>Runs along the south side of Old Cheney Highway and crosses the proposed SR 408 eastern extension approximately SR 408 Baseline STA 548 to STA 554</li></ul>
		8" PVC Gravity Main	<ul style="list-style-type: none"><li>Runs perpendicular to the proposed SR 408 eastern extension at approximately SR 408 Baseline STA 477 (runs along Pel Street)</li><li>Runs along Avalon Park Boulevard approximately from Avalon Park Blvd Baseline STA 3007 to STA 3016</li><li>Runs perpendicular to Avalon Park Boulevard approximately at Avalon Park Blvd Baseline STA 3007 and at STA 3016</li><li>Runs along the east side of Woodbury Road approximately from Avalon Park Blvd Baseline STA 2035 to STA 2040</li><li>Runs along Old Cheney Highway approximately from Chuluota Road Extension Baseline STA 4500 to STA 4509</li><li>Crosses the proposed Chuluota Road Extension approximately at Chuluota Road Extension Baseline STA 4034 to STA 4032</li></ul>
		8" PVC Water Main	<ul style="list-style-type: none"><li>Runs along west side of Woodbury Road approximately from Woodbury Rd Baseline STA 2034 to STA 2040</li></ul>
		10" PVC Water Main	<ul style="list-style-type: none"><li>Runs perpendicular to the proposed SR 408 eastern extension at approximately SR 408 Baseline STA 441 (runs along the west side of Bridgeway Boulevard)</li></ul>
		12" PVC Water Main	<ul style="list-style-type: none"><li>Runs perpendicular to the proposed SR 408 eastern extension at approximately SR 408 Baseline STA 456 (runs along the west side of Lone Palm Road)</li><li>Runs on the east side of Avalon Park Boulevard approximately from Avalon Park Blvd Baseline STA 3006 to STA 3020</li></ul>
		16" PVC Water Main	<ul style="list-style-type: none"><li>Runs along Columbia School Road approximately from Chuluota Rd Extension Baseline STA 4032 to STA 4037</li></ul>
		24" DI Water Main	<ul style="list-style-type: none"><li>Runs along Old Cheney Highway and crosses the proposed SR 408 eastern extension approximate from SR 408 Baseline STA 532 to STA 537 and STA 548 to STA 554</li><li>Runs perpendicular to the proposed SR 408 eastern extension approximately at SR 408 Baseline STA 382 (runs on the east side of Woodbury Road)</li><li>Runs along the east side of Woodbury road from approximately Woodbury Rd Baseline STA 2000 to STA 2040</li></ul>
		Pump Station F3051	<ul style="list-style-type: none"><li>Located at Avalon Park Boulevard approximately at Avalon Park Blvd Baseline STA 3012</li></ul>
		Pump Station F3102	<ul style="list-style-type: none"><li>Located at Old Cheney Highway approximately at Chuluota Rd Extension Baseline STA 4500</li></ul>
Orlando Telephone Company Inc Jack Leopard (407) 996-6297	Fiber Optics	Underground FOC	<ul style="list-style-type: none"><li>Runs perpendicular to the proposed SR 408 eastern extension at approximately SR 408 Baseline STA 496 (runs along the west side of Avalon Park Blvd), SR 408 Baseline STA 517 (runs along the west side of Caudle Street)</li><li>Runs on the north side of SR 50 from SR 50 Baseline STA 5000 to STA 5030</li></ul>
Teco Peoples Gas Deborah Frazier (407) 420-6609	Gas	2" Coated Steel Gas line	<ul style="list-style-type: none"><li>Runs along approximately SR 408 Baseline STA 440 to STA 442 (along Bridgeway Boulevard)</li><li>Runs along the south side of the SR 408 eastern extension along Woodbury Road approximately Woodbury Rd Baseline STA 2000 to 2002</li></ul>

## APPENDIX D – FEMA FIRM MAPS



Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was State Plane Florida East FIPS Zone 0901. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov>, or contact the National Geodetic Survey at the following address:

Spatial Reference System Division  
National Geodetic Survey, NOAA  
Silver Spring Metro Center  
1315 East-West Highway  
Silver Spring, Maryland 20910  
(301) 713-3191

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by Orange County, Florida.

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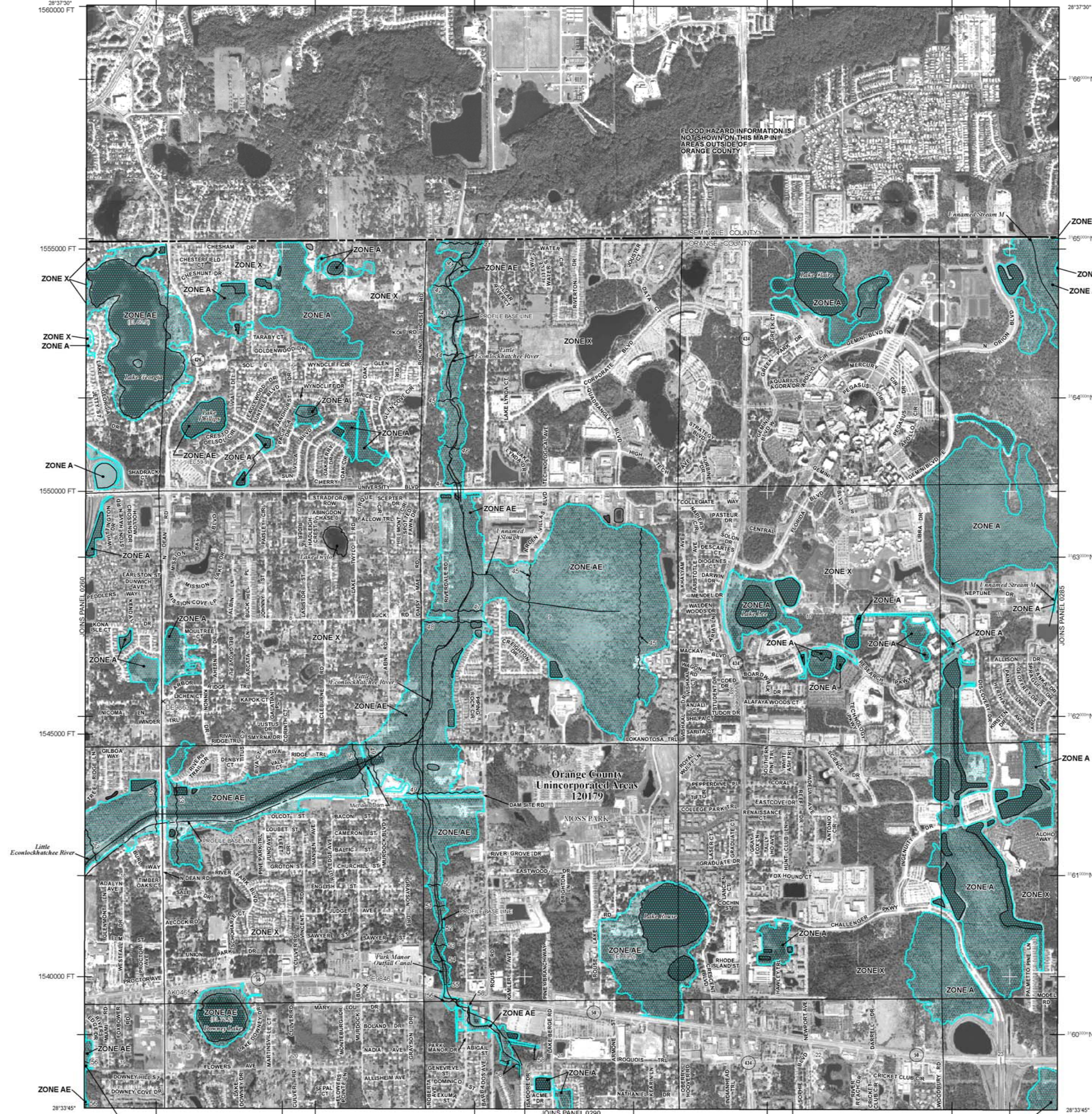
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If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2827) or visit the FEMA website at <http://www.fema.gov/business/nfip>.

NOGVD29 to NAVD88 Vertical Datum Conversion Table (feet)				
Watershed Name	Minimum Conversion	Maximum Conversion	Average Conversion	Maximum Offset
Big Econlockhatchee River	-1.03	-1.15	-1.09	0.06
Boggy Creek	-0.91	-1.01	-0.96	0.05
Cypress Creek	-0.87	-0.91	-0.89	0.02
Howell Branch	-0.96	-1.05	-0.98	0.07
Lake Apopka	-0.87	-0.97	-0.91	0.06
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Little Econlockhatchee River	-0.92	-1.07	-1.01	0.09
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St. Johns River	-1.06	-1.33	-1.19	0.14
Wekiva River	-0.88	-1.01	-0.94	0.07



**ZONE A** No Base Flood Elevations determined.

**ZONE AE** Base Flood Elevations determined.

**ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

**ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

**ZONE AR** Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently deteriorated. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

**ZONE A99** Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

**ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

**ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

**ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.

**ZONE D** Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet\*

Base Flood Elevation value where uniform within zone; elevation in feet\*

\* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

Cross section line

Transit line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

47°50'00"E

6000000 FT

DX5510, X

M1.5

MAP REPOSITORIES

Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

DECEMBER 6, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

SEPTEMBER 25, 2009 - To update corporate limits, to change Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to delete Special Flood Hazard Areas, to update map format, to add roads and road names, to incorporate previously issued Letters of Map Revision, to reflect updated topographic information, and to incorporate previously issued Letters of Map Amendment.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6629.

MAP SCALE 1" = 1000'

500 0 500 1,000 1,500 2,000 FEET

500 0 500 1,000 1,500 2,000 METERS

**NFIP**

**PANEL 0280F**

**FIRM**

**FLOOD INSURANCE RATE MAP**

**ORANGE COUNTY, FLORIDA**

**AND INCORPORATED AREAS**

**PANEL 280 OF 750**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER PANEL SUFFIX

ORANGE COUNTY 120179 0280 F

Notice to User: The Map Number shown below should be used when playing map order, the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**

**12095C0280F**

**B-1**



For more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was State Plane Florida East FIPS Zone 0501. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/>, or contact the National Geodetic Survey at the following address:

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Silver Spring Metro Center  
1315 East-West Highway  
Silver Spring, Maryland 20910  
(301) 713-3191

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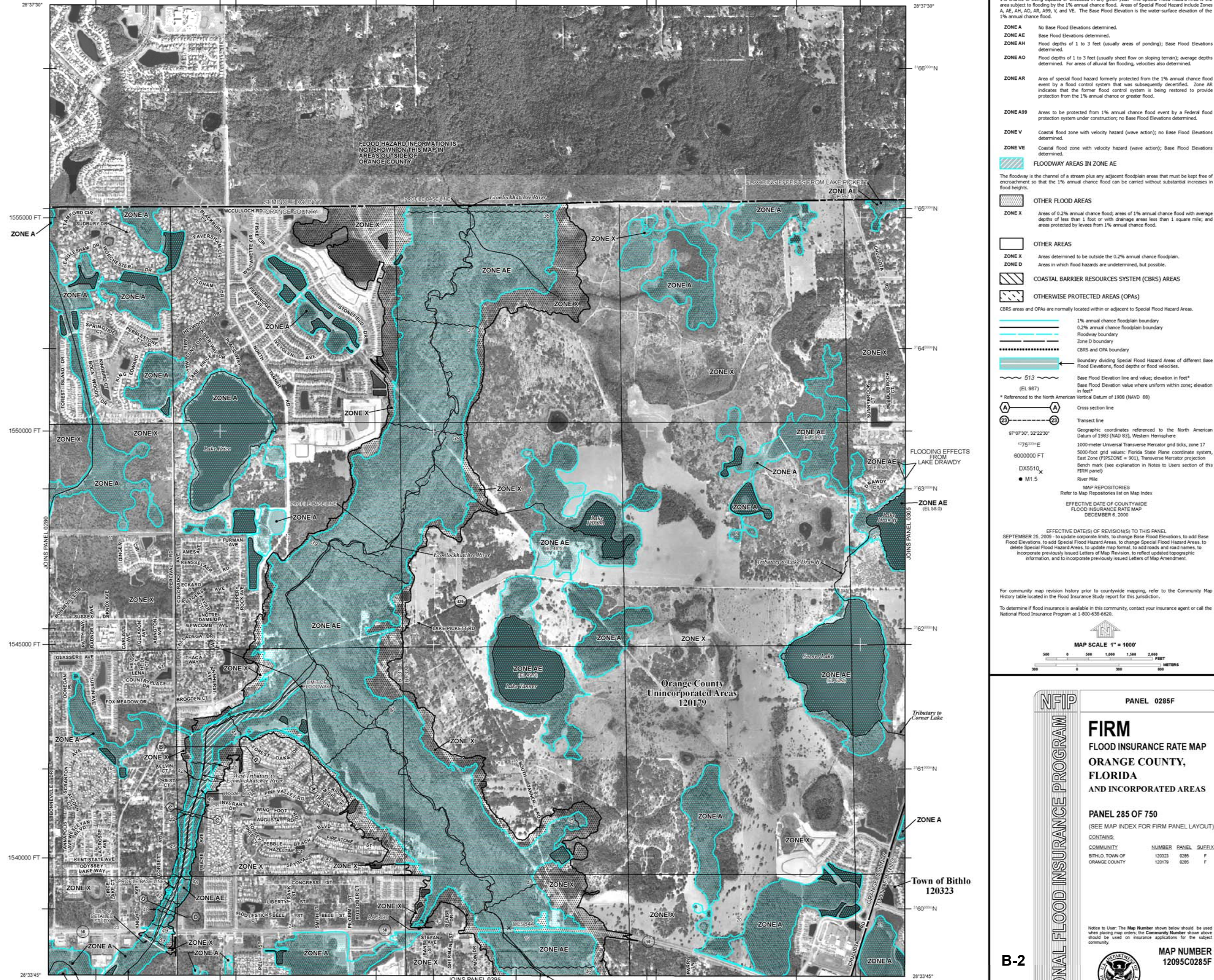
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St. Johns River	-1.06	-1.33	-1.19	0.14
Wekiva River	-0.88	-1.01	-0.94	0.07





Base Flood Elevations (BFEs) and/or floodways have been determined; users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

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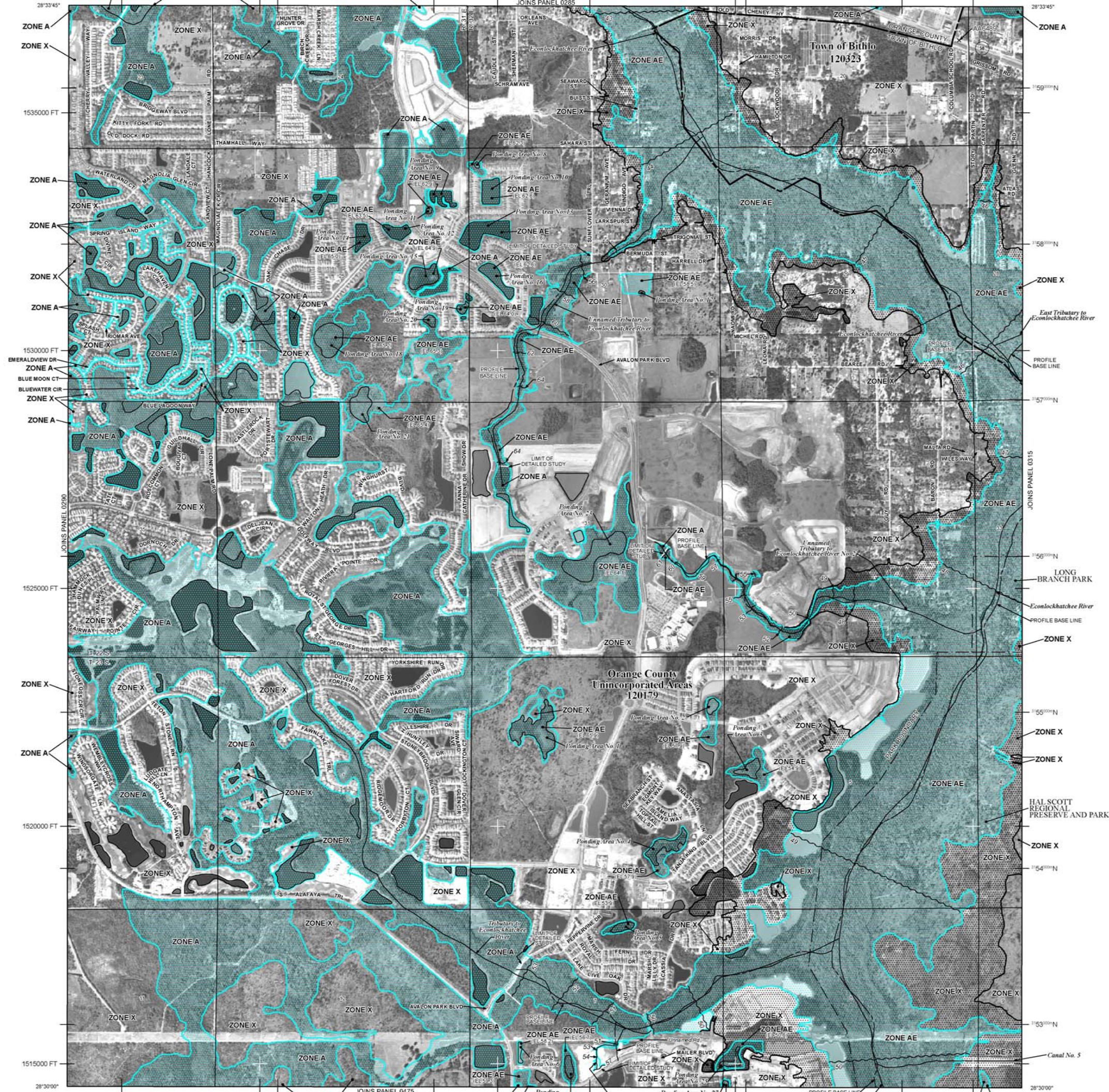
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Wekiva River	-0.88	-1.01	-0.94	0.07



**ZONE A** No Base Flood Elevations determined.

**ZONE AE** Base Flood Elevations determined.

**ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

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**ZONE AR** Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently deteriorated. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

**ZONE A99** Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

**ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

**ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

**ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.

**ZONE D** Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet\*

Base Flood Elevation value where uniform within zone; elevation in feet\*

\* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

Cross section line

Transit line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

47°50'00"E

6000000 FT

DX5510, X

M1.5

MAP REPOSITORIES

Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

DECEMBER 6, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

SEPTEMBER 25, 2009: to update corporate limits, to change Base Flood Elevations, to add Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to delete Special Flood Hazard Areas, to update map format, to add roads and road names, to incorporate previously issued Letters of Map Revision, to reflect updated topographic information, and to incorporate previously issued Letters of Map Amendment.

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MAP SCALE 1" = 1000'

500 0 500 1,000 1,500 2,000 FEET

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**NFIP**

**PANEL 0295F**

**FIRM**

**FLOOD INSURANCE RATE MAP**

**ORANGE COUNTY, FLORIDA**

**AND INCORPORATED AREAS**

**PANEL 295 OF 750**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER PANEL SUFFIX

BITHLO TOWN OF 120323 0295 F

ORANGE COUNTY 120179 0295 F

Notice to User: The Map Number shown below should be used when playing map series; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**

**12095C0295F**

**B-3**

**NATIONAL FLOOD INSURANCE PROGRAM**



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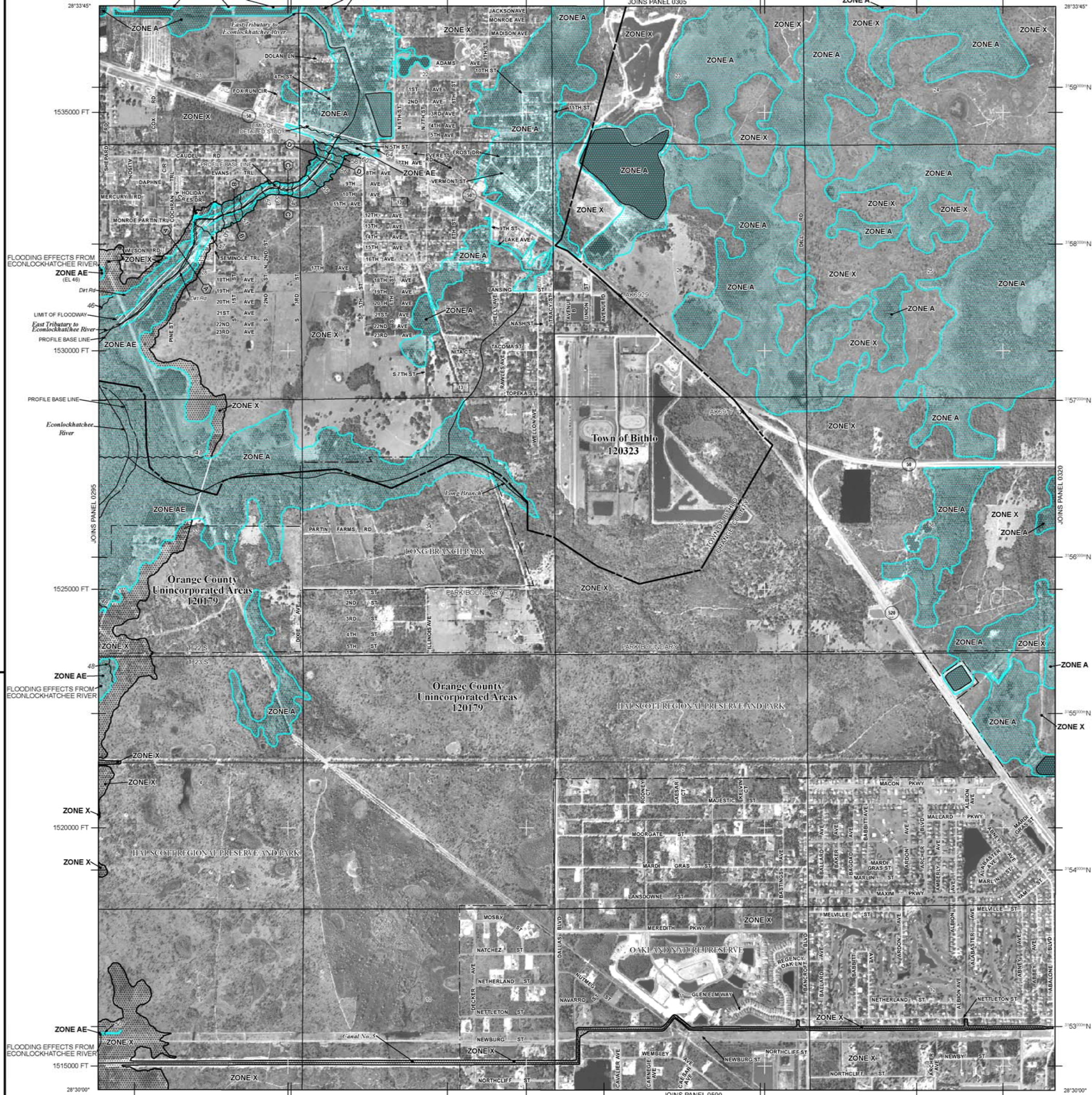
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Lake Apopka	-0.87	-0.97	-0.91	0.06
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**Zone A** No Base Flood Elevations determined.

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**FLOODWAY AREAS IN ZONE AE**

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0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet\*

Base Flood Elevation value where uniform within zone; elevation in feet\*

\* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

Cross section line

Transit line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid ticks, zone 17

5000-foot grid values: Florida State Plane coordinate system, East Zone (FIPSZONE = 901), Transverse Mercator projection

Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile

MAP REPOSITORIES

Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

DECEMBER 6, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

SEPTEMBER 25, 2009: To update corporate limits, to change Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to delete Special Flood Hazard Areas, to update map format, to add roads and road names, to incorporate previously issued Letters of Map Revision, to reflect updated topographic information, and to incorporate previously issued Letters of Map Amendment.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 500 1,000 1,500 2,000 FEET

500 0 500 1,000 1,500 2,000 METERS

**NFIP**

**PANEL 0315F**

**FIRM**

**FLOOD INSURANCE RATE MAP**

**ORANGE COUNTY, FLORIDA**

**AND INCORPORATED AREAS**

**PANEL 315 OF 750**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BITHLO, TOWN OF	120323	0315	F
ORANGE COUNTY	120179	0315	F

Notice to User: The Map Number shown below should be used when playing map order, the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER**

**12095C0315F**

**B-4**



## APPENDIX E – TRAFFIC





























**A.M. Peak – Synchro Output**



# Lanes, Volumes, Timings

## 3: Woodbury Rd & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 		
Volume (vph)	77	688	75	192	1309	358	183	277	225	19	23	15
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3302	0	3433	1753	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1770	3302	0	3433	1753	0
Satd. Flow (RTOR)			103			242		119			14	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	748	82	209	1423	389	199	546	0	21	41	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Total Split (s)	26.0	64.0	64.0	46.0	84.0	84.0	45.0	60.0		10.0	25.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Act Effect Green (s)	22.0	60.0	60.0	42.0	80.0	80.0	41.0	56.0		6.0	21.0	
Actuated g/C Ratio	0.12	0.33	0.33	0.23	0.44	0.44	0.23	0.31		0.03	0.12	
v/c Ratio	0.39	0.44	0.14	0.51	0.63	0.46	0.49	0.49		0.18	0.19	
Control Delay	78.7	47.9	3.6	64.5	28.6	7.1	65.4	40.5		88.5	53.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	78.7	47.9	3.6	64.5	28.6	7.1	65.4	40.5		88.5	53.0	
LOS	E	D	A	E	C	A	E	D		F	D	
Approach Delay		46.8			28.2			47.1			65.0	
Approach LOS		D			C			D			E	

### Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 71 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 37.1



Intersection LOS: D

Intersection Capacity Utilization 56.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Woodbury Rd & SR 50

			
ø1	ø2 (R)	ø3	ø4
46 s	64 s	45 s	25 s
			
ø5	ø6 (R)	ø7	ø8
26 s	84 s	10 s	60 s

Lanes, Volumes, Timings  
6: SR 408 Off Ramp & SR 50

8/22/2016

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Volume (vph)	688	0	0	2699	40	399
Satd. Flow (prot)	5085	0	0	5085	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	5085	0	0	5085	3433	1583
Satd. Flow (RTOR)						269
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	748	0	0	2934	43	434
Turn Type	NA			NA	Prot	Prot
Protected Phases	2			2	8	8
Permitted Phases						
Total Split (s)	129.0			129.0	51.0	51.0
Total Lost Time (s)	4.0			4.0	4.0	4.0
Act Effect Green (s)	125.0			125.0	47.0	47.0
Actuated g/C Ratio	0.69			0.69	0.26	0.26
v/c Ratio	0.21			0.83	0.05	0.71
Control Delay	7.4			37.6	50.1	29.0
Queue Delay	0.0			2.3	0.0	0.0
Total Delay	7.4			39.8	50.1	29.0
LOS	A			D	D	C
Approach Delay	7.4			39.8	30.9	
Approach LOS	A			D	C	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 33.0




Intersection LOS: C

Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: SR 408 Off Ramp & SR 50

























  02 (R)	 08
129 s	51 s



# Lanes, Volumes, Timings

## 9: Bonneville Dr & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Volume (vph)	105	1055	39	10	2140	10	27	5	3	11	8	438
Satd. Flow (prot)	1770	6376	0	1770	5080	0	0	1772	0	1770	1589	0
Flt Permitted	0.950			0.950				0.426		0.745		
Satd. Flow (perm)	1770	6376	0	1770	5080	0	0	785	0	1388	1589	0
Satd. Flow (RTOR)		7			1			3			147	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	1189	0	11	2337	0	0	37	0	12	485	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Total Split (s)	22.0	108.0		9.0	95.0		63.0	63.0		63.0	63.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Act Effct Green (s)	18.0	104.0		5.0	91.0			59.0		59.0	59.0	
Actuated g/C Ratio	0.10	0.58		0.03	0.51			0.33		0.33	0.33	
v/c Ratio	0.64	0.32		0.22	0.91			0.14		0.03	0.78	
Control Delay	107.8	17.9		90.9	27.9			41.4		41.5	47.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	2.4	
Total Delay	107.8	17.9		90.9	27.9			41.4		41.5	50.0	
LOS	F	B		F	C			D		D	D	
Approach Delay		25.8			28.2			41.4			49.8	
Approach LOS		C			C			D			D	

### Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 85 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 30.1

Intersection LOS: C

Intersection Capacity Utilization 84.9%

ICU Level of Service E

Analysis Period (min) 15

























Splits and Phases: 9: Bonneville Dr & SR 50

			
9 s	108 s		63 s
			
22 s	95 s		63 s

# Lanes, Volumes, Timings

## 12: Bridgeway Blvd/Lake Pickett Rd & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	119	853	16	14	1454	70	139	29	6	52	6	637
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1681	1699	0	0	1538	1504
Flt Permitted	0.950			0.950			0.950	0.971			0.993	
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1681	1699	0	0	1538	1504
Satd. Flow (RTOR)			55			79		2			134	134
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							37%					46%
Lane Group Flow (vph)	129	927	17	15	1580	76	95	95	0	0	382	374
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6						4
Total Split (s)	15.0	83.0	83.0	9.0	77.0	77.0	28.0	28.0		60.0	60.0	60.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			4.0	4.0
Act Effct Green (s)	11.0	79.0	79.0	5.0	73.0	73.0	24.0	24.0			56.0	56.0
Actuated g/C Ratio	0.06	0.44	0.44	0.03	0.41	0.41	0.13	0.13			0.31	0.31
v/c Ratio	0.62	0.42	0.02	0.31	0.77	0.11	0.42	0.42			0.67	0.67
Control Delay	129.1	13.4	0.1	122.2	73.9	22.0	78.1	76.3			40.7	40.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	129.1	13.4	0.1	122.2	73.9	22.0	78.1	76.3			40.7	40.3
LOS	F	B	A	F	E	C	E	E			D	D
Approach Delay		27.1			72.0			77.2			40.5	
Approach LOS		C			E			E			D	

### Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 97 (54%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 52.8









Intersection LOS: D

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15




















Splits and Phases: 12: Bridgeway Blvd/Lake Pickett Rd & SR 50

				
9 s	83 s		60 s	28 s
				
15 s	77 s			



Lanes, Volumes, Timings  
7: Pebble Beach Blvd & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	905	1	6	1453	5	3	1	1	13	0	78
Satd. Flow (prot)	1770	5085	0	1770	5085	0	0	1760	0	0	1770	1583
Flt Permitted	0.950			0.950				0.932			0.754	
Satd. Flow (perm)	1770	5085	0	1770	5085	0	0	1689	0	0	1405	1583
Satd. Flow (RTOR)					1			1				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	985	0	7	1584	0	0	5	0	0	14	85
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Total Split (s)	18.0	132.0		12.0	126.0		36.0	36.0		36.0	36.0	36.0
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Act Effect Green (s)	14.0	128.0		8.0	122.0			32.0			32.0	32.0
Actuated g/C Ratio	0.08	0.71		0.04	0.68			0.18			0.18	0.18
v/c Ratio	0.15	0.27		0.09	0.46			0.02			0.06	0.24
Control Delay	57.1	18.1		84.2	5.6			55.8			62.4	12.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	57.1	18.1		84.2	5.6			55.8			62.4	12.7
LOS	E	B		F	A			E			E	B
Approach Delay		18.9			5.9			55.8			19.7	
Approach LOS		B			A			E			B	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 54 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 11.4







Intersection LOS: B

Intersection Capacity Utilization 46.3%

ICU Level of Service A























Analysis Period (min) 15

Splits and Phases: 7: Pebble Beach Blvd & SR 50

		
12 s	132 s	36 s
		
18 s	126 s	36 s

Lanes, Volumes, Timings  
17: Avalon Park Blvd/Pilgrim St & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	27	598	253	161	947	55	373	45	235	29	18	19
Satd. Flow (prot)	1770	3539	1583	1770	5045	0	1681	1702	1583	0	1807	1583
Flt Permitted	0.950			0.231			0.950	0.962			0.970	
Satd. Flow (perm)	1770	3539	1583	430	5045	0	1681	1702	1583	0	1807	1583
Satd. Flow (RTOR)			268		6				255			79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							44%					
Lane Group Flow (vph)	29	650	275	175	1089	0	227	227	255	0	52	21
Turn Type	Prot	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2	6					8			4
Total Split (s)	15.0	65.0	65.0	31.0	81.0		60.0	60.0	60.0	24.0	24.0	24.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0
Act Effect Green (s)	11.0	61.0	61.0	92.0	77.0		56.0	56.0	56.0		20.0	20.0
Actuated g/C Ratio	0.06	0.34	0.34	0.51	0.43		0.31	0.31	0.31		0.11	0.11
v/c Ratio	0.27	0.54	0.39	0.42	0.50		0.43	0.43	0.38		0.26	0.09
Control Delay	70.2	100.1	49.2	15.9	28.6		52.6	52.4	6.2		77.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	70.2	100.1	49.2	15.9	28.6		52.6	52.4	6.2		77.0	0.7
LOS	E	F	D	B	C		D	D	A		E	A
Approach Delay		84.5			26.8			35.9			55.0	
Approach LOS		F			C			D			E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 115 (64%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 48.0







Intersection LOS: D

Intersection Capacity Utilization 53.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 17: Avalon Park Blvd/Pilgrim St & SR 50

























			
31 s	65 s	24 s	60 s
			
15 s	81 s		



# Lanes, Volumes, Timings

## 23: Chuluota School Rd/Chuluota Rd & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	163	516	110	43	741	340	90	80	28	304	76	187
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1681	1761	1583	1681	1718	1583
Flt Permitted	0.181			0.442			0.950	0.995		0.950	0.971	
Satd. Flow (perm)	337	3539	1583	823	3539	1583	1681	1761	1583	1681	1718	1583
Satd. Flow (RTOR)			120			365			79			203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							10%			38%		
Lane Group Flow (vph)	177	561	120	47	805	370	88	97	30	205	208	203
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2		2	6		6			8			4
Total Split (s)	29.0	91.0	91.0	10.0	72.0	72.0	31.0	31.0	31.0	48.0	48.0	48.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Act Effct Green (s)	97.0	87.0	87.0	74.0	68.0	68.0	27.0	27.0	27.0	44.0	44.0	44.0
Actuated g/C Ratio	0.54	0.48	0.48	0.41	0.38	0.38	0.15	0.15	0.15	0.24	0.24	0.24
v/c Ratio	0.47	0.33	0.15	0.13	0.60	0.45	0.35	0.37	0.10	0.50	0.50	0.38
Control Delay	16.8	13.7	0.5	19.1	38.4	2.7	73.1	73.4	0.6	63.5	63.3	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	13.7	0.5	19.1	38.4	2.7	73.1	73.4	0.6	63.5	63.3	8.1
LOS	B	B	A	B	D	A	E	E	A	E	E	A
Approach Delay		12.5			26.8			63.1			45.2	
Approach LOS		B			C			E			D	

### Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 89 (49%), Referenced to phase 2:EBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 29.2































Intersection LOS: C

Intersection Capacity Utilization 56.6%

ICU Level of Service B

Analysis Period (min) 15





















Splits and Phases: 23: Chuluota School Rd/Chuluota Rd & SR 50

														
10 s	91 s		48 s	31 s										
														
29 s	72 s													

# Lanes, Volumes, Timings

26: CR 13 & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	804	22	3	1119	3	46	8	4	18	10	81
Satd. Flow (prot)	1770	3525	0	1770	3539	0	0	1786	1583	1770	1615	0
Flt Permitted	0.187			0.287				0.665		0.693		
Satd. Flow (perm)	348	3525	0	535	3539	0	0	1239	1583	1291	1615	0
Satd. Flow (RTOR)		4							30		88	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	898	0	3	1219	0	0	59	4	20	99	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Total Split (s)	12.0	135.0		11.0	134.0		34.0	34.0	34.0	34.0	34.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Act Effect Green (s)	139.0	131.0		137.0	130.0			30.0	30.0	30.0	30.0	
Actuated g/C Ratio	0.77	0.73		0.76	0.72			0.17	0.17	0.17	0.17	
v/c Ratio	0.10	0.35		0.01	0.48			0.29	0.01	0.09	0.29	
Control Delay	3.5	3.8		4.0	11.3			70.0	0.0	65.0	16.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	3.5	3.8		4.0	11.3			70.0	0.0	65.0	16.9	
LOS	A	A		A	B			E	A	E	B	
Approach Delay		3.8			11.3			65.5			25.0	
Approach LOS		A			B			E			C	

## Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 10.5




Intersection LOS: B

Intersection Capacity Utilization 47.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 26: CR 13 & SR 50

			
11 s	135 s		34 s
			
12 s	134 s		34 s



**P.M. Peak – Synchro Output**

































# Lanes, Volumes, Timings

## 3: Woodbury Rd & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 		 		
Volume (vph)	67	1236	255	221	1018	76	186	89	363	392	256	52
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	3115	0	3433	1814	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1770	3115	0	3433	1814	0
Satd. Flow (RTOR)			277			73		279			5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	1343	277	240	1107	83	202	492	0	426	335	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						
Total Split (s)	20.0	62.0	62.0	38.0	80.0	80.0	34.0	44.0		36.0	46.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Act Effect Green (s)	15.0	57.0	57.0	33.0	75.0	75.0	29.0	39.0		31.0	41.0	
Actuated g/C Ratio	0.08	0.32	0.32	0.18	0.42	0.42	0.16	0.22		0.17	0.23	
v/c Ratio	0.50	0.83	0.40	0.74	0.52	0.12	0.71	0.55		0.72	0.80	
Control Delay	91.1	62.7	6.1	67.8	61.4	26.2	86.2	28.7		78.2	80.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	91.1	62.7	6.1	67.8	61.4	26.2	86.2	28.7		78.2	80.1	
LOS	F	E	A	E	E	C	F	C		E	F	
Approach Delay		54.6			60.5			45.4			79.1	
Approach LOS		D			E			D			E	

### Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 71 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 59.1












Intersection LOS: E

Intersection Capacity Utilization 79.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Woodbury Rd & SR 50

					
38 s	62 s	34 s	46 s		
					
20 s	80 s	36 s	44 s		

Lanes, Volumes, Timings  
6: SR 408 Off Ramp & SR 50

8/22/2016

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Volume (vph)	1919	0	0	1753	52	437
Satd. Flow (prot)	5085	0	0	5085	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	5085	0	0	5085	3433	1583
Satd. Flow (RTOR)						12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2086	0	0	1905	57	475
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	4	
Permitted Phases						4
Total Split (s)	120.0			120.0	60.0	60.0
Total Lost Time (s)	5.0			5.0	5.0	5.0
Act Effect Green (s)	115.0			115.0	55.0	55.0
Actuated g/C Ratio	0.64			0.64	0.31	0.31
v/c Ratio	0.64			0.59	0.05	0.97
Control Delay	4.5			5.1	44.4	91.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	4.5			5.1	44.4	91.7
LOS	A			A	D	F
Approach Delay	4.5			5.1	86.7	
Approach LOS	A			A	F	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 82 (46%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 14.4

Intersection LOS: B

Intersection Capacity Utilization 72.5%

ICU Level of Service C

Analysis Period (min) 15





























Splits and Phases: 6: SR 408 Off Ramp & SR 50

→ ø2 (R)	120 s	↖ ø4	60 s
← ø6 (R)	120 s		



Lanes, Volumes, Timings  
9: Bonneville Dr & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			  			  	
Volume (vph)	359	2139	59	7	1323	60	25	19	16	18	6	176
Satd. Flow (prot)	1770	6382	0	1770	5055	0	0	1762	0	1770	1593	0
Flt Permitted	0.950			0.950				0.545		0.683		
Satd. Flow (perm)	1770	6382	0	1770	5055	0	0	980	0	1272	1593	0
Satd. Flow (RTOR)		8			5			8			191	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	390	2389	0	8	1503	0	0	65	0	20	198	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Total Split (s)	69.0	139.0		9.0	79.0		32.0	32.0		32.0	32.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effct Green (s)	64.0	134.0		4.0	74.0			27.0		27.0	27.0	
Actuated g/C Ratio	0.36	0.74		0.02	0.41			0.15		0.15	0.15	
v/c Ratio	0.62	0.50		0.21	0.72			0.42		0.11	0.49	
Control Delay	73.9	6.9		76.1	24.1			70.2		67.9	13.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	73.9	6.9		76.1	24.1			70.2		67.9	13.6	
LOS	E	A		E	C			E		E	B	
Approach Delay		16.3			24.4			70.2			18.6	
Approach LOS		B			C			E			B	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 104 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 19.8

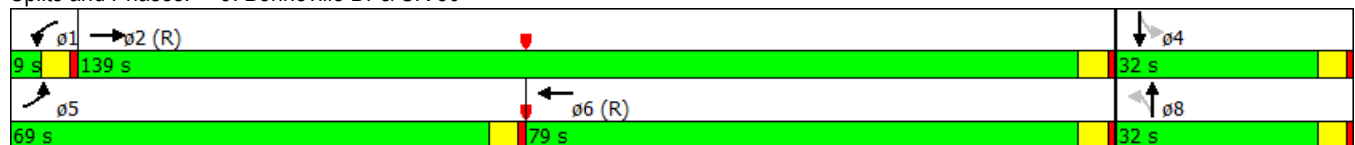
Intersection LOS: B

Intersection Capacity Utilization 78.0%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 9: Bonneville Dr & SR 50



# Lanes, Volumes, Timings

## 12: Bridgeway Blvd/Lake Pickett Rd & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	337	1575	72	38	1186	109	100	73	31	107	51	293
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1681	1690	0	0	1646	1504
Flt Permitted	0.950			0.950			0.950	0.996			0.978	
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1681	1690	0	0	1646	1504
Satd. Flow (RTOR)			73			103		9			13	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							10%					26%
Lane Group Flow (vph)	366	1712	78	41	1289	118	98	124	0	0	254	235
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2			6						4
Total Split (s)	34.0	89.0	89.0	14.0	69.0	69.0	29.0	29.0		48.0	48.0	48.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0			5.0	5.0
Act Effect Green (s)	29.0	84.0	84.0	9.0	64.0	64.0	24.0	24.0			43.0	43.0
Actuated g/C Ratio	0.16	0.47	0.47	0.05	0.36	0.36	0.13	0.13			0.24	0.24
v/c Ratio	0.66	0.72	0.10	0.47	0.71	0.19	0.44	0.53			0.63	0.44
Control Delay	83.5	23.1	3.7	116.8	51.5	12.3	78.6	76.5			66.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay	83.5	23.1	3.7	116.8	51.5	12.3	78.6	76.5			66.1	8.4
LOS	F	C	A	F	D	B	E	E			E	A
Approach Delay		32.6			50.2			77.4			38.4	
Approach LOS		C			D			E			D	

### Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 91 (51%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 41.5





































Intersection LOS: D

Intersection Capacity Utilization 70.6%

ICU Level of Service C

Analysis Period (min) 15




















Splits and Phases: 12: Bridgeway Blvd/Lake Pickett Rd & SR 50

																	
14 s	89 s								48 s				29 s				
																	
34 s	69 s																



Lanes, Volumes, Timings  
7: Pebble Beach Blvd & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	102	1616	21	6	1303	40	14	3	2	28	0	56
Satd. Flow (prot)	1770	5075	0	1770	5065	0	0	1771	0	0	1770	1583
Flt Permitted	0.950			0.950				0.827			0.744	
Satd. Flow (perm)	1770	5075	0	1770	5065	0	0	1519	0	0	1386	1583
Satd. Flow (RTOR)		3			4			2				73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	1780	0	7	1459	0	0	20	0	0	30	61
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		4
Total Split (s)	41.0	138.0		13.0	110.0		29.0	29.0		29.0	29.0	29.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Act Effect Green (s)	36.0	133.0		8.0	105.0			24.0			24.0	24.0
Actuated g/C Ratio	0.20	0.74		0.04	0.58			0.13			0.13	0.13
v/c Ratio	0.31	0.47		0.09	0.49			0.10			0.16	0.22
Control Delay	49.6	15.6		88.5	11.6			64.8			71.7	10.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	49.6	15.6		88.5	11.6			64.8			71.7	10.7
LOS	D	B		F	B			E			E	B
Approach Delay		17.6			12.0			64.8			30.8	
Approach LOS		B			B			E			C	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 72 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 15.8







Intersection LOS: B

Intersection Capacity Utilization 55.2%

ICU Level of Service B























Analysis Period (min) 15

Splits and Phases: 7: Pebble Beach Blvd & SR 50

 φ1	 φ2 (R)	 φ4
13 s	138 s	29 s
 φ5	 φ6 (R)	 φ8
41 s	110 s	29 s

Lanes, Volumes, Timings  
17: Avalon Park Blvd/Pilgrim St & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	995	441	262	778	54	375	53	348	59	56	38
Satd. Flow (prot)	1770	3539	1583	1770	5034	0	1681	1706	1583	0	1816	1583
Flt Permitted	0.950			0.081			0.950	0.964			0.975	
Satd. Flow (perm)	1770	3539	1583	151	5034	0	1681	1706	1583	0	1816	1583
Satd. Flow (RTOR)			300		9				370			103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							43%					
Lane Group Flow (vph)	66	1082	479	285	905	0	233	233	378	0	125	41
Turn Type	Prot	NA	Perm	pm+pt	NA		Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2	6					8			4
Total Split (s)	18.0	74.0	74.0	39.0	95.0		42.0	42.0	42.0	25.0	25.0	25.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0		5.0	5.0
Act Effct Green (s)	13.0	69.0	69.0	108.0	90.0		37.0	37.0	37.0		20.0	20.0
Actuated g/C Ratio	0.07	0.38	0.38	0.60	0.50		0.21	0.21	0.21		0.11	0.11
v/c Ratio	0.52	0.80	0.61	0.72	0.36		0.68	0.67	0.61		0.62	0.15
Control Delay	112.3	79.7	41.7	67.5	13.6		76.9	76.2	10.4		90.7	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	112.3	79.7	41.7	67.5	13.6		76.9	76.2	10.4		90.7	1.2
LOS	F	E	D	E	B		E	E	B		F	A
Approach Delay		69.8			26.5			46.9			68.6	
Approach LOS		E			C			D			E	

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 108 (60%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 51.2





Intersection LOS: D

Intersection Capacity Utilization 73.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 17: Avalon Park Blvd/Pilgrim St & SR 50

























				
39 s	74 s		25 s	42 s
				
18 s	95 s			



# Lanes, Volumes, Timings

## 23: Chuluota School Rd/Chuluota Rd & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	207	813	79	30	721	273	102	104	25	537	80	144
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1681	1763	1583	1681	1706	1583
Flt Permitted	0.150			0.285			0.950	0.996		0.950	0.964	
Satd. Flow (perm)	279	3539	1583	531	3539	1583	1681	1763	1583	1681	1706	1583
Satd. Flow (RTOR)			81			276			103			105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							10%			43%		
Lane Group Flow (vph)	225	884	86	33	784	297	100	124	27	333	338	157
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2		2	6		6			8			4
Total Split (s)	32.0	86.0	86.0	9.0	63.0	63.0	27.0	27.0	27.0	58.0	58.0	58.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Act Effct Green (s)	90.0	81.0	81.0	62.0	58.0	58.0	22.0	22.0	22.0	53.0	53.0	53.0
Actuated g/C Ratio	0.50	0.45	0.45	0.34	0.32	0.32	0.12	0.12	0.12	0.29	0.29	0.29
v/c Ratio	0.62	0.56	0.11	0.16	0.69	0.43	0.49	0.58	0.10	0.67	0.67	0.29
Control Delay	30.6	30.3	2.4	47.5	84.8	31.2	82.5	86.1	0.7	63.8	63.7	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	30.3	2.4	47.5	84.8	31.2	82.5	86.1	0.7	63.8	63.7	18.4
LOS	C	C	A	D	F	C	F	F	A	E	E	B
Approach Delay		28.3			69.4			75.5			55.2	
Approach LOS		C			E			E			E	

### Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 96 (53%), Referenced to phase 2:EBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 51.9































Intersection LOS: D

Intersection Capacity Utilization 67.5%

ICU Level of Service C

Analysis Period (min) 15






















Splits and Phases: 23: Chuluota School Rd/Chuluota Rd & SR 50

														
9 s	86 s					58 s						27 s		
														
32 s	63 s													

# Lanes, Volumes, Timings

26: CR 13 & SR 50

8/22/2016

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	1128	46	12	1129	2	42	25	10	20	14	70
Satd. Flow (prot)	1770	3518	0	1770	3539	0	0	1805	1583	1770	1630	0
Flt Permitted	0.162			0.199				0.727		0.673		
Satd. Flow (perm)	302	3518	0	371	3539	0	0	1354	1583	1254	1630	0
Satd. Flow (RTOR)		6							73		76	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	1276	0	13	1229	0	0	73	11	22	91	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Total Split (s)	25.0	136.0		11.0	122.0		33.0	33.0	33.0	33.0	33.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0	5.0	5.0	
Act Effect Green (s)	142.0	131.0		123.0	117.0			28.0	28.0	28.0	28.0	
Actuated g/C Ratio	0.79	0.73		0.68	0.65			0.16	0.16	0.16	0.16	
v/c Ratio	0.29	0.50		0.04	0.53			0.35	0.04	0.11	0.29	
Control Delay	2.0	8.5		5.4	18.0			73.2	0.2	67.2	20.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	2.0	8.5		5.4	18.0			73.2	0.2	67.2	20.1	
LOS	A	A		A	B			E	A	E	C	
Approach Delay		8.0			17.8			63.6			29.3	
Approach LOS		A			B			E			C	

## Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 59 (33%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 14.8

Intersection LOS: B

Intersection Capacity Utilization 60.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 26: CR 13 & SR 50

																	
11 s	136 s												33 s				
25 s																	33 s



**Appendix D**  
Synchro Level of Service Output – Future Conditions



























**No-Build 2025**

**AM Peak – Synchro Output**



Lanes, Volumes, Timings  
3: Woodbury Rd & SR 50

11/29/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	2030	230	430	2235	460	280	280	350	325	300	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	625		675	700		300	500		250	390		250
Storage Lanes	2		1	2		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3245	0	3433	1744	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3245	0	3433	1744	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175			201			171			20
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1500			1390			1000			1000	
Travel Time (s)		22.7			21.1			22.7			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	358	2137	242	453	2353	484	295	663	0	342	548	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	21.0	71.0	31.0	25.0	75.0	30.0	31.0	54.0		30.0	53.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Act Effct Green (s)	16.0	66.0	97.0	20.0	70.0	97.7	26.0	51.3		22.7	48.0	
Actuated g/C Ratio	0.09	0.37	0.54	0.11	0.39	0.54	0.14	0.28		0.13	0.27	
v/c Ratio	1.17	1.15	0.26	1.19	1.19	0.51	1.16	0.63		0.79	1.14	
Control Delay	173.6	122.8	6.8	149.0	130.6	23.7	169.1	44.3		89.9	141.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	173.6	122.8	6.8	149.0	130.6	23.7	169.1	44.3		89.9	141.4	
LOS	F	F	A	F	F	C	F	D		F	F	
Approach Delay		119.2			117.4			82.7			121.6	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~258	~1079	37	~329	~1245	341	~409	275		204	~737	
Queue Length 95th (ft)	#371	#1161	88	m225	m871	m216	#614	352		262	#984	
Internal Link Dist (ft)		1420			1310			920			920	
Turn Bay Length (ft)	625		675	700		300	500			390		
Base Capacity (vph)	305	1864	933	381	1977	968	255	1046		476	479	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.17	1.15	0.26	1.19	1.19	0.50	1.16	0.63		0.72	1.14	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 70 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 114.3

Intersection LOS: F

Intersection Capacity Utilization 114.3%

ICU Level of Service H



# Lanes, Volumes, Timings

## 3: Woodbury Rd & SR 50

11/29/2017

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.









Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Woodbury Rd & SR 50

 Ø1	 Ø2 (R)	 Ø3	 Ø4
30 s	54 s	25 s	71 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
31 s	53 s	21 s	75 s

Lanes, Volumes, Timings  
6: SR 408 Off Ramp & SR 50

11/29/2017

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Volume (vph)	2405	0	0	4475	170	1015
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		300	300
Storage Lanes		0	0		2	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	5085	0	0	5085	3170	1441
Flt Permitted					0.988	
Satd. Flow (perm)	5085	0	0	5085	3170	1441
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					11	227
Link Speed (mph)	45			45	30	
Link Distance (ft)	1390			1100	1000	
Travel Time (s)	21.1			16.7	22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	2532	0	0	4711	713	534
Turn Type	NA			NA	Prot	Free
Protected Phases	4			8	2	
Permitted Phases						Free
Total Split (s)	141.0			141.0	39.0	
Total Lost Time (s)	5.0			5.0	5.0	
Act Effct Green (s)	136.0			136.0	34.0	180.0
Actuated g/C Ratio	0.76			0.76	0.19	1.00
v/c Ratio	0.66			1.23	1.74dr	0.37
Control Delay	38.3			126.4	154.3	0.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	38.3			126.4	154.3	0.7
LOS	D			F	F	A
Approach Delay	38.3			126.4	88.5	
Approach LOS	D			F	F	
Queue Length 50th (ft)	1057			~2480	~511	0
Queue Length 95th (ft)	m904			m256	#645	0
Internal Link Dist (ft)	1310			1020	920	
Turn Bay Length (ft)					300	300
Base Capacity (vph)	3842			3842	607	1441
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.66			1.23	1.17	0.37

Intersection Summary

Area Type: Other  
 Cycle Length: 180  
 Actuated Cycle Length: 180  
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.23  
 Intersection Signal Delay: 94.6  
 Intersection Capacity Utilization 110.4%  
 Intersection LOS: F  
 ICU Level of Service H

# Lanes, Volumes, Timings

## 6: SR 408 Off Ramp & SR 50

11/29/2017

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

























Splits and Phases: 6: SR 408 Off Ramp & SR 50

 02 (R)	 04
39 s	141 s
	 08
	141 s



Lanes, Volumes, Timings  
17: Avalon Park Blvd/Pilgrim St & SR 50

11/29/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	2060	615	240	2265	50	745	60	295	70	65	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		1000	400		300	300		300	0		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1681	1697	1583	1770	1729	0
Flt Permitted	0.950			0.950			0.950	0.959		0.950		
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	1681	1697	1583	1770	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			647			109			152		20	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2625			1010			1000			302	
Travel Time (s)		39.8			15.3			22.7			6.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							46%					
Lane Group Flow (vph)	37	2168	647	253	2384	53	423	424	311	74	131	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Total Split (s)	10.0	85.0	85.0	19.0	94.0	94.0	60.0	60.0	60.0	16.0	16.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Act Effct Green (s)	3.0	78.0	78.0	12.0	87.0	87.0	53.0	53.0	53.0	9.0	9.0	
Actuated g/C Ratio	0.02	0.43	0.43	0.07	0.48	0.48	0.29	0.29	0.29	0.05	0.05	
v/c Ratio	1.28	0.98	0.62	1.11	0.97	0.06	0.86	0.85	0.54	0.84	1.25	
Control Delay	321.3	65.6	4.8	164.1	57.4	0.2	77.2	76.4	30.1	141.2	221.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	321.3	65.6	4.8	164.1	57.4	0.2	77.2	76.4	30.1	141.2	221.1	
LOS	F	E	A	F	E	A	E	E	C	F	F	
Approach Delay		55.1			66.3			64.3			192.3	
Approach LOS		E			E			E			F	
Queue Length 50th (ft)	~54	923	0	~174	993	0	500	500	159	88	~168	
Queue Length 95th (ft)	#145	#1037	81	#275	#1072	0	#693	#690	266	#193	#324	
Internal Link Dist (ft)		2545			930			920			222	
Turn Bay Length (ft)	600		1000	400		300	300		300			
Base Capacity (vph)	29	2203	1052	228	2457	821	494	499	573	88	105	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.28	0.98	0.62	1.11	0.97	0.06	0.86	0.85	0.54	0.84	1.25	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.28

Intersection Signal Delay: 65.1

Intersection LOS: E

Intersection Capacity Utilization 99.7%

ICU Level of Service F

Analysis Period (min) 15

# Lanes, Volumes, Timings

## 17: Avalon Park Blvd/Pilgrim St & SR 50

11/29/2017

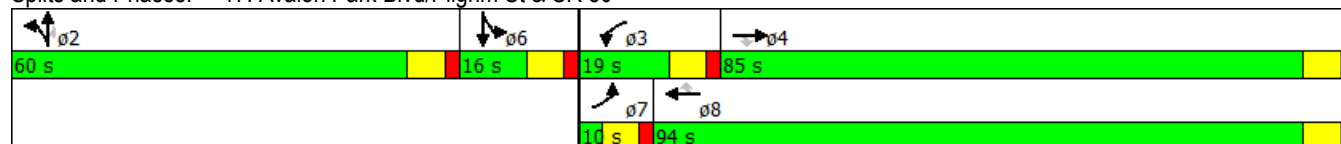
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























Splits and Phases: 17: Avalon Park Blvd/Pilgrim St & SR 50



# Lanes, Volumes, Timings

## 23: Chuluota School Rd/Chuluota Rd & SR 50

11/29/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1360	155	45	1555	345	110	85	50	285	145	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		350	545		300	350		350	250		250
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163			246			152			67
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1175			1645			500			1000	
Travel Time (s)		17.8			24.9			11.4			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	463	1432	163	47	1637	363	116	89	53	300	153	563
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Total Split (s)	53.0	108.0	108.0	17.0	72.0	72.0	24.0	26.0	26.0	29.0	31.0	53.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Act Effct Green (s)	37.8	93.2	93.2	8.8	61.0	61.0	17.2	19.2	19.2	18.8	20.8	65.8
Actuated g/C Ratio	0.23	0.56	0.56	0.05	0.37	0.37	0.10	0.12	0.12	0.11	0.13	0.40
v/c Ratio	0.59	0.50	0.17	0.50	0.87	0.49	0.63	0.41	0.17	0.77	0.65	0.84
Control Delay	60.4	23.1	2.7	99.1	55.4	15.3	90.1	78.2	1.1	86.3	84.6	52.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	23.1	2.7	99.1	55.4	15.3	90.1	78.2	1.1	86.3	84.6	52.0
LOS	E	C	A	F	E	B	F	E	A	F	F	D
Approach Delay		29.9			49.3			67.7			67.0	
Approach LOS		C			D			E			E	
Queue Length 50th (ft)	241	360	0	53	623	94	129	96	0	172	167	514
Queue Length 95th (ft)	306	409	36	104	734	205	#226	165	0	235	260	688
Internal Link Dist (ft)		1095			1565			420			920	
Turn Bay Length (ft)	600		350	545		300	350		350	250		250
Base Capacity (vph)	967	3147	1041	108	2025	778	184	216	318	462	274	750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.46	0.16	0.44	0.81	0.47	0.63	0.41	0.17	0.65	0.56	0.75

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 165.2

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 46.1

Intersection LOS: D

Intersection Capacity Utilization 86.8%

ICU Level of Service E

Analysis Period (min) 15



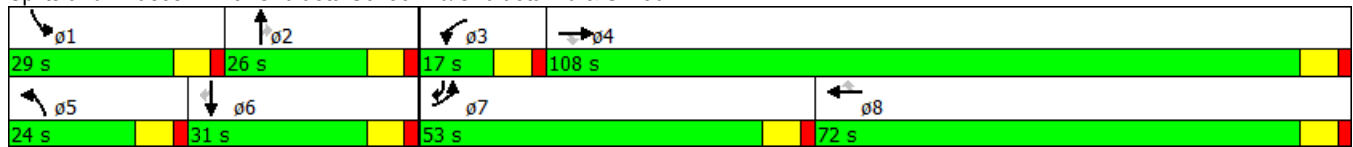
# Lanes, Volumes, Timings

## 23: Chuluota School Rd/Chuluota Rd & SR 50

11/29/2017

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 23: Chuluota School Rd/Chuluota Rd & SR 50



**No-Build 2025**

**PM Peak – Synchro Output**





























# Lanes, Volumes, Timings

## 3: Woodbury Rd & SR 50

11/29/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	2265	280	350	1880	325	230	300	430	460	280	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	625		675	700		300	500		250	390		250
Storage Lanes	2		1	2		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3228	0	3433	1710	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3228	0	3433	1710	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			249			171			119			35
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1500			1390			1000			1000	
Travel Time (s)		22.7			21.1			22.7			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	232	2384	295	368	1979	342	242	769	0	484	653	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.0	75.0	25.0	21.0	81.0	34.0	25.0	50.0		34.0	59.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Act Effct Green (s)	10.0	70.0	95.0	16.0	76.0	109.1	20.0	45.9		28.1	54.0	
Actuated g/C Ratio	0.06	0.39	0.53	0.09	0.42	0.61	0.11	0.26		0.16	0.30	
v/c Ratio	1.22	1.21	0.31	1.21	0.92	0.33	1.23	0.92dr		0.90	1.22	
Control Delay	202.3	144.0	5.0	161.2	34.8	11.2	202.5	63.3		94.9	161.7	
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	202.3	144.0	5.0	161.2	34.8	11.2	202.5	63.3		94.9	161.7	
LOS	F	F	A	F	C	B	F	E		F	F	
Approach Delay		134.6			49.1			96.6			133.3	
Approach LOS		F			D			F			F	
Queue Length 50th (ft)	~172	~1249	26	~269	899	157	~351	398		292	~912	
Queue Length 95th (ft)	#270	#1325	80	m#225	m756	m128	#542	486		#383	#1169	
Internal Link Dist (ft)		1420			1310			920			920	
Turn Bay Length (ft)	625		675	700		300	500			390		
Base Capacity (vph)	190	1977	953	305	2147	1033	196	911		553	537	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	39	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.22	1.23	0.31	1.21	0.92	0.33	1.23	0.84		0.88	1.22	

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 70 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 99.8

Intersection LOS: F

Intersection Capacity Utilization 118.7%

ICU Level of Service H

# Lanes, Volumes, Timings

## 3: Woodbury Rd & SR 50

11/29/2017

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

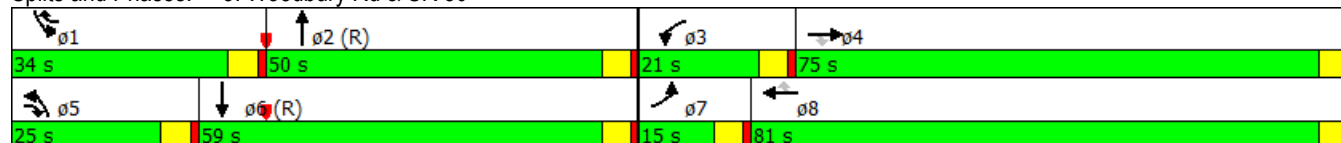
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 3: Woodbury Rd & SR 50



Lanes, Volumes, Timings  
6: SR 408 Off Ramp & SR 50

11/29/2017

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Volume (vph)	2955	0	0	3420	150	1520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		300	300
Storage Lanes		0	0		2	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	5085	0	0	5085	3137	1441
Flt Permitted					0.992	
Satd. Flow (perm)	5085	0	0	5085	3137	1441
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1	354
Link Speed (mph)	45			45	30	
Link Distance (ft)	1390			1100	1000	
Travel Time (s)	21.1			16.7	22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	3111	0	0	3600	958	800
Turn Type	NA			NA	Prot	Free
Protected Phases	4			8	2	
Permitted Phases						Free
Total Split (s)	120.0			120.0	60.0	
Total Lost Time (s)	5.0			5.0	5.0	
Act Effct Green (s)	115.0			115.0	55.0	180.0
Actuated g/C Ratio	0.64			0.64	0.31	1.00
v/c Ratio	0.96			1.11	1.65dr	0.56
Control Delay	58.5			67.7	89.9	1.5
Queue Delay	2.8			0.0	0.0	0.0
Total Delay	61.3			67.7	89.9	1.6
LOS	E			E	F	A
Approach Delay	61.3			67.7	49.7	
Approach LOS	E			E	D	
Queue Length 50th (ft)	1256			~1751	586	0
Queue Length 95th (ft)	m1088			m243	#741	0
Internal Link Dist (ft)	1310			1020	920	
Turn Bay Length (ft)					300	300
Base Capacity (vph)	3248			3248	959	1441
Starvation Cap Reductn	6			4	0	0
Spillback Cap Reductn	90			0	0	25
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.99			1.11	1.00	0.56

Intersection Summary

Area Type: Other  
 Cycle Length: 180  
 Actuated Cycle Length: 180  
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.11  
 Intersection Signal Delay: 61.6  
 Intersection Capacity Utilization 94.8%

Intersection LOS: E  
 ICU Level of Service F



# Lanes, Volumes, Timings

## 6: SR 408 Off Ramp & SR 50

11/29/2017

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

























dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 6: SR 408 Off Ramp & SR 50

 Ø2 (R)	 Ø4
60 s	120 s
	 Ø8
	120 s

Lanes, Volumes, Timings  
17: Avalon Park Blvd/Pilgrim St & SR 50

11/29/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	2265	745	295	2060	70	615	65	240	50	60	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		1000	400		300	300		300	0		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1681	1701	1583	1770	1758	0
Flt Permitted	0.950			0.950			0.950	0.961		0.950		
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	1681	1701	1583	1770	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			754			109			147		12	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2625			1010			1000			302	
Travel Time (s)		39.8			15.3			22.7			6.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	63	2384	784	311	2168	74	356	359	253	53	100	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Total Split (s)	19.0	92.0	92.0	24.0	97.0	97.0	48.0	48.0	48.0	16.0	16.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Act Effct Green (s)	10.6	85.0	85.0	17.0	91.4	91.4	41.0	41.0	41.0	9.0	9.0	
Actuated g/C Ratio	0.06	0.47	0.47	0.09	0.51	0.51	0.23	0.23	0.23	0.05	0.05	
v/c Ratio	0.61	0.99	0.68	0.96	0.84	0.09	0.93	0.93	0.53	0.60	1.01	
Control Delay	106.2	63.3	5.8	120.0	42.0	1.1	98.8	97.8	29.3	110.6	163.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	106.2	63.3	5.8	120.0	42.0	1.1	98.8	97.8	29.3	110.6	163.2	
LOS	F	E	A	F	D	A	F	F	C	F	F	
Approach Delay		50.2			50.3			80.3			145.0	
Approach LOS		D			D			F			F	
Queue Length 50th (ft)	74	1016	19	192	805	0	438	442	109	63	~107	
Queue Length 95th (ft)	131	#1135	123	#295	869	8	#654	#654	210	#127	#250	
Internal Link Dist (ft)		2545			930			920			222	
Turn Bay Length (ft)	600		1000	400		300	300		300			
Base Capacity (vph)	118	2401	1145	324	2582	857	382	387	474	88	99	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.99	0.68	0.96	0.84	0.09	0.93	0.93	0.53	0.60	1.01	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 56.6

Intersection LOS: E

Intersection Capacity Utilization 95.1%

ICU Level of Service F

Analysis Period (min) 15

# Lanes, Volumes, Timings

## 17: Avalon Park Blvd/Pilgrim St & SR 50

11/29/2017







~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 17: Avalon Park Blvd/Pilgrim St & SR 50

























 Ø2	 Ø6	 Ø3	 Ø4
48 s	16 s	24 s	92 s
		 Ø7	 Ø8
		19 s	97 s



# Lanes, Volumes, Timings

## 23: Chuluota School Rd/Chuluota Rd & SR 50

11/29/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	535	1555	110	50	1360	285	155	145	45	345	85	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		350	545		300	350		350	250		250
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116			225			152			77
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1175			1645			500			1000	
Travel Time (s)		17.8			24.9			11.4			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	563	1637	116	53	1432	300	163	153	47	363	89	463
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Total Split (s)	47.0	97.0	97.0	18.0	68.0	68.0	33.0	31.0	31.0	34.0	32.0	47.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Act Effct Green (s)	33.1	82.7	82.7	9.4	55.7	55.7	26.3	24.3	24.3	22.3	20.3	60.5
Actuated g/C Ratio	0.20	0.50	0.50	0.06	0.34	0.34	0.16	0.15	0.15	0.14	0.12	0.37
v/c Ratio	0.81	0.64	0.14	0.52	0.83	0.44	0.58	0.55	0.13	0.78	0.39	0.73
Control Delay	73.2	31.9	3.9	97.7	55.1	13.2	75.9	76.7	0.7	81.6	73.4	44.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.2	31.9	3.9	97.7	55.1	13.2	75.9	76.7	0.7	81.6	73.4	44.5
LOS	E	C	A	F	E	B	E	E	A	F	E	D
Approach Delay		40.5			49.3			66.5			62.0	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	313	490	0	59	527	57	174	163	0	206	93	382
Queue Length 95th (ft)	394	565	36	115	634	152	273	260	0	274	159	523
Internal Link Dist (ft)		1095			1565			420			920	
Turn Bay Length (ft)	600		350	545		300	350		350	250		250
Base Capacity (vph)	847	2825	931	120	1914	736	283	276	363	572	287	700
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.58	0.12	0.44	0.75	0.41	0.58	0.55	0.13	0.63	0.31	0.66

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 163.8

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 48.8

Intersection LOS: D

Intersection Capacity Utilization 82.3%

ICU Level of Service E









Analysis Period (min) 15

# Lanes, Volumes, Timings

## 23: Chuluota School Rd/Chuluota Rd & SR 50

11/29/2017

Splits and Phases: 23: Chuluota School Rd/Chuluota Rd & SR 50

 Ø1	 Ø2	 Ø3	 Ø4
34 s	31 s	18 s	97 s
 Ø5	 Ø6	 Ø7	 Ø8
33 s	32 s	47 s	68 s

**Build 2025**











**AM Peak – Synchro Output**



# Lanes, Volumes, Timings

## 1: Woodbury & SR 408 Off Ramp

11/17/2017

									
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø6
Lane Configurations									
Volume (vph)	65	155	915	0	0	825			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	400	0		300	350				
Storage Lanes	1	1		0	0				
Taper Length (ft)	25				25				
Satd. Flow (prot)	1770	1583	3539	0	0	5085			
Flt Permitted	0.950								
Satd. Flow (perm)	1770	1583	3539	0	0	5085			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)		163							
Link Speed (mph)	30		30			30			
Link Distance (ft)	878		175			388			
Travel Time (s)	20.0		4.0			8.8			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	68	163	963	0	0	868			
Turn Type	Prot	Prot	NA			NA			
Protected Phases	8	8	2 6			2 6	1	2	6
Permitted Phases		8							
Minimum Split (s)	12.0	12.0					9.0	21.0	21.0
Total Split (s)	30.0	30.0					52.0	68.0	22.0
Total Split (%)	25.0%	25.0%					43%	57%	18%
Yellow Time (s)	4.0	4.0					4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0							
Total Lost Time (s)	5.0	5.0							
Lead/Lag	Lag	Lag							Lead
Lead-Lag Optimize?	Yes	Yes							Yes
Act Effct Green (s)	25.0	25.0	85.0			85.0			
Actuated g/C Ratio	0.21	0.21	0.71			0.71			
v/c Ratio	0.18	0.36	0.38			0.24			
Control Delay	40.7	8.3	0.4			6.3			
Queue Delay	4.2	0.0	0.1			0.0			
Total Delay	45.0	8.3	0.5			6.4			
LOS	D	A	A			A			
Approach Delay	19.1		0.5			6.4			
Approach LOS	B		A			A			
Queue Length 50th (ft)	44	0	0			77			
Queue Length 95th (ft)	85	57	0			94			
Internal Link Dist (ft)	798		95			308			
Turn Bay Length (ft)	400								
Base Capacity (vph)	368	458	2506			3601			
Starvation Cap Reductn	0	0	530			0			
Spillback Cap Reductn	239	0	0			203			
Storage Cap Reductn	0	0	0			0			
Reduced v/c Ratio	0.53	0.36	0.49			0.26			

### Intersection Summary

Area Type: Other

# Lanes, Volumes, Timings

## 1: Woodbury & SR 408 Off Ramp

11/17/2017

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green, Master Intersection

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 5.1

Intersection LOS: A

Intersection Capacity Utilization 43.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Woodbury & SR 408 Off Ramp

 <p>#1 #2 68 s</p>	 <p>#2 52 s</p>		
	<table> <tr> <td data-bbox="893 630 1136 724">  <p>#1 22 s</p> </td><td data-bbox="1136 630 1466 724">  <p>#1 30 s</p> </td></tr> </table>	 <p>#1 22 s</p>	 <p>#1 30 s</p>
 <p>#1 22 s</p>	 <p>#1 30 s</p>		

# Lanes, Volumes, Timings

## 2: Woodbury Rd/Woodbury & SR 408 On Ramp

11/17/2017

							ø6	ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations			↑↑	↑	↑	↑↑		
Volume (vph)	0	0	915	40	105	785		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0		300	0			
Storage Lanes	0	0		1	1			
Taper Length (ft)	25				25			
Satd. Flow (prot)	0	0	3539	1583	1770	3539		
Flt Permitted					0.950			
Satd. Flow (perm)	0	0	3539	1583	1770	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)				42				
Link Speed (mph)	30		30			30		
Link Distance (ft)	880		590			175		
Travel Time (s)	20.0		13.4			4.0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	963	42	111	826		
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		1	2	6	8
Permitted Phases				2				
Minimum Split (s)			21.0	21.0	9.0	21.0	21.0	12.0
Total Split (s)			68.0	68.0	52.0	68.0	22.0	30.0
Total Split (%)			56.7%	56.7%	43.3%	56.7%	18%	25%
Yellow Time (s)			4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)			1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0		
Total Lost Time (s)			5.0	5.0	5.0	5.0		
Lead/Lag							Lead	Lag
Lead-Lag Optimize?							Yes	Yes
Act Effct Green (s)			63.0	63.0	47.0	63.0		
Actuated g/C Ratio			0.52	0.52	0.39	0.52		
v/c Ratio			0.52	0.05	0.16	0.44		
Control Delay			19.9	4.3	35.7	14.1		
Queue Delay			0.0	0.0	11.6	0.7		
Total Delay			19.9	4.3	47.3	14.9		
LOS			B	A	D	B		
Approach Delay			19.2			18.7		
Approach LOS			B			B		
Queue Length 50th (ft)			246	0	71	99		
Queue Length 95th (ft)			305	18	122	268		
Internal Link Dist (ft)	800		510			95		
Turn Bay Length (ft)				300				
Base Capacity (vph)			1857	851	693	1857		
Starvation Cap Reductn			0	0	550	651		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.52	0.05	0.78	0.68		

### Intersection Summary

Area Type: Other



# Lanes, Volumes, Timings

## 2: Woodbury Rd/Woodbury & SR 408 On Ramp

11/17/2017

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green, Master Intersection

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 19.0

Intersection LOS: B

Intersection Capacity Utilization 43.2%

ICU Level of Service A

Analysis Period (min) 15























Splits and Phases: 2: Woodbury Rd/Woodbury & SR 408 On Ramp

<div> <div>#1 #2</div> <div> </div> <div>ø2</div> </div> <div>68 s</div>	<div> <div>#2</div> <div> </div> <div>ø1</div> </div> <div>52 s</div>
	<div> <div>#1</div> <div> </div> <div>ø6 (R)</div> </div> <div>22 s</div> <div> <div>#1</div> <div> </div> <div>ø8</div> </div> <div>30 s</div>

# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

11/17/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	205	0	385	125	0	10	585	505	80	5	400	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		400	250		0	600		100	250		100
Storage Lanes	0		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	0	1583	1770	0	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	0	1583	1770	0	1583	3433	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129			153			211			269
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		714			762			660			506	
Travel Time (s)		16.2			17.3			15.0			11.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	216	0	405	132	0	11	616	532	84	5	421	326
Turn Type	Prot		pt+ov	Prot		pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4 5	3		8 1	5	2		1	6	
Permitted Phases			7			3			2			6
Detector Phase	7		4 5	3		8 1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0			4.0			4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0			12.0			12.0	24.0	24.0	12.0	24.0	24.0
Total Split (s)	40.0			31.0			49.0	84.0	84.0	12.0	47.0	47.0
Total Split (%)	26.7%			20.7%			32.7%	56.0%	56.0%	8.0%	31.3%	31.3%
Yellow Time (s)	5.0			5.0			5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0			3.0			3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0			8.0			8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead			Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes								
Recall Mode	None			None			None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	25.5		76.4	16.5		29.8	33.6	97.6	97.6	5.7	61.6	61.6
Actuated g/C Ratio	0.17		0.51	0.11		0.20	0.22	0.65	0.65	0.04	0.41	0.41
v/c Ratio	0.72		0.47	0.68		0.03	0.80	0.23	0.08	0.07	0.29	0.40
Control Delay	72.5		15.8	81.0		0.1	63.2	13.6	0.1	72.0	33.4	9.6
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.5		15.8	81.0		0.1	63.2	13.6	0.1	72.0	33.4	9.6
LOS	E		B	F		A	E	B	A	E	C	A
Approach Delay								37.5			23.3	
Approach LOS								D			C	
Queue Length 50th (ft)	202		179	126		0	296	82	0	5	135	32
Queue Length 95th (ft)	284		174	194		0	344	196	0	20	234	138
Internal Link Dist (ft)		634			682			580			426	
Turn Bay Length (ft)	250		400	250			600		100	250		100
Base Capacity (vph)	377		931	271		408	938	2302	1103	67	1452	808
Starvation Cap Reductn	0		0	0		0	0	0	0	0	0	0
Spillback Cap Reductn	0		0	0		0	0	0	0	0	0	0

# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

11/17/2017













Lane Group	ø4	ø8
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	8
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	20.0	12.0
Total Split (s)	23.0	14.0
Total Split (%)	15%	9%
Yellow Time (s)	3.5	5.0
All-Red Time (s)	0.5	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	Lag
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		



# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

11/17/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0		0	0		0	0	0	0	0	0	0
Reduced v/c Ratio	0.57		0.44	0.49		0.03	0.66	0.23	0.08	0.07	0.29	0.40

### Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 35.1









Intersection LOS: D

Intersection Capacity Utilization 59.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Avalon Park & SR 408 Extension Ramps

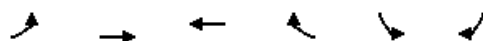
 ø1	 ø2 (R)	 ø3	 ø4
12 s	84 s	31 s	23 s
 ø5	 ø6 (R)	 ø7	 ø8
49 s	47 s	40 s	14 s

Lane Group	ø4	ø8
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

# Lanes, Volumes, Timings

## 4: SR 408 Extension Off Ramp & to Chuluota

11/17/2017



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	FF				F	
Volume (vph)	240	0	0	0	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3433	0	0	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	0	0	0	1770	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						
Link Speed (mph)		30	30		30	
Link Distance (ft)		432	524		456	
Travel Time (s)		9.8	11.9		10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	253	0	0	0	5	0
Turn Type	Prot				Prot	
Protected Phases	7				6	
Permitted Phases						
Minimum Split (s)	12.0				21.0	
Total Split (s)	60.0				30.0	
Total Split (%)	66.7%				33.3%	
Yellow Time (s)	4.0				4.0	
All-Red Time (s)	1.0				1.0	
Lost Time Adjust (s)	0.0				0.0	
Total Lost Time (s)	5.0				5.0	
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	55.0				25.0	
Actuated g/C Ratio	0.61				0.28	
v/c Ratio	0.12				0.01	
Control Delay	7.5				23.8	
Queue Delay	0.0				0.0	
Total Delay	7.5				23.8	
LOS	A				C	
Approach Delay					23.8	
Approach LOS					C	
Queue Length 50th (ft)	28				2	
Queue Length 95th (ft)	43				10	
Internal Link Dist (ft)		352	444		376	
Turn Bay Length (ft)						
Base Capacity (vph)	2097				491	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.12				0.01	

### Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2: and 6:SBL, Start of Green



## Lanes, Volumes, Timings

### 4: SR 408 Extension Off Ramp & to Chuluota

11/17/2017

Natural Cycle: 40

Control Type: Pretimed

Maximum v/c Ratio: 0.12

Intersection Signal Delay: 7.8

Intersection LOS: A

Intersection Capacity Utilization 17.7%

ICU Level of Service A



















Analysis Period (min) 15

Splits and Phases: 4: SR 408 Extension Off Ramp & to Chuluota



Lanes, Volumes, Timings  
5: SR 408 Extension On Ramp & SR 50

11/17/2017

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	10	1245	30	190	1540	0	0	0	0	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	900		0	0		0	0		0
Storage Lanes	1		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	3433	3539	0	0	0	0	0	1750	0
Flt Permitted	0.950			0.950							0.984	
Satd. Flow (perm)	1770	3539	1583	3433	3539	0	0	0	0	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			80								11	
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		737			1151			664			401	
Travel Time (s)		10.1			15.7			15.1			9.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1311	32	200	1621	0	0	0	0	0	33	0
Turn Type	Prot	NA	Perm	Prot	NA					Split	NA	
Protected Phases	1	6		5	2					4	4	
Permitted Phases			6									
Minimum Split (s)	23.0	23.0	23.0	11.0	23.0					12.0	12.0	
Total Split (s)	23.0	111.0	111.0	25.0	113.0					14.0	14.0	
Total Split (%)	15.3%	74.0%	74.0%	16.7%	75.3%					9.3%	9.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0					5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0					2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0						0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0						7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Act Effct Green (s)	16.0	104.0	104.0	18.0	106.0						7.0	
Actuated g/C Ratio	0.11	0.69	0.69	0.12	0.71						0.05	
v/c Ratio	0.06	0.53	0.03	0.49	0.65						0.36	
Control Delay	61.2	12.2	0.0	60.0	11.9						62.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0						0.0	
Total Delay	61.2	12.2	0.0	60.0	11.9						62.1	
LOS	E	B	A	E	B						E	
Approach Delay		12.3			17.2						62.1	
Approach LOS		B			B						E	
Queue Length 50th (ft)	10	304	0	95	347						21	
Queue Length 95th (ft)	31	356	0	139	375						59	
Internal Link Dist (ft)		657			1071			584			321	
Turn Bay Length (ft)			300	900								
Base Capacity (vph)	188	2453	1122	411	2500						92	
Starvation Cap Reductn	0	0	0	0	0						0	
Spillback Cap Reductn	0	0	0	0	0						0	
Storage Cap Reductn	0	0	0	0	0						0	
Reduced v/c Ratio	0.06	0.53	0.03	0.49	0.65						0.36	

Intersection Summary

Area Type: Other

# Lanes, Volumes, Timings

## 5: SR 408 Extension On Ramp & SR 50

11/17/2017

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 15.6





Intersection LOS: B

Intersection Capacity Utilization 66.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: SR 408 Extension On Ramp & SR 50

 Ø1	 Ø2 (R)	 Ø4
23 s	113 s	14 s
 Ø5	 Ø6 (R)	
25 s	111 s	



# Lanes, Volumes, Timings

## 6: SR 408 Extension Off Ramp & SR 50

11/17/2017

	→	↘	↙	←	↗	↖
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑↑			↑↑	↘	↖
Volume (vph)	1245	0	0	1710	20	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3539	0	0	3539	1770	2787
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						132
Link Speed (mph)	50			50	30	
Link Distance (ft)	1151			925	636	
Travel Time (s)	15.7			12.6	14.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1311	0	0	1800	21	132
Turn Type	NA			NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases						2
Minimum Split (s)	20.0			20.0	20.0	20.0
Total Split (s)	125.0			125.0	25.0	25.0
Total Split (%)	83.3%			83.3%	16.7%	16.7%
Yellow Time (s)	3.5			3.5	3.5	3.5
All-Red Time (s)	0.5			0.5	0.5	0.5
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	4.0			4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	121.0			121.0	21.0	21.0
Actuated g/C Ratio	0.81			0.81	0.14	0.14
v/c Ratio	0.46			0.63	0.09	0.26
Control Delay	5.5			6.9	57.3	10.0
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	5.5			6.9	57.3	10.0
LOS	A			A	E	B
Approach Delay	5.5			6.9	16.5	
Approach LOS	A			A	B	
Queue Length 50th (ft)	373			308	18	0
Queue Length 95th (ft)	437			356	46	35
Internal Link Dist (ft)	1071			845	556	
Turn Bay Length (ft)						
Base Capacity (vph)	2854			2854	247	503
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.46			0.63	0.09	0.26

### Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:NEL and 6:, Start of Green

# Lanes, Volumes, Timings

## 6: SR 408 Extension Off Ramp & SR 50

11/17/2017

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 6.8




Intersection LOS: A

Intersection Capacity Utilization 57.3%

ICU Level of Service B

























Analysis Period (min) 15

Splits and Phases: 6: SR 408 Extension Off Ramp & SR 50

 Ø2 (R)	 Ø4
25 s	125 s
	 Ø8
	125 s

Lanes, Volumes, Timings  
101: Woodbury & SR 50

11/29/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	315	2025	225	215	2140	225	315	325	180	160	360	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		550	450		150	450		0	400		0
Storage Lanes	2		1	2		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3352	0	1770	3334	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3352	0	1770	3334	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55			91			52			67
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		901			1164			915			681	
Travel Time (s)		13.7			17.6			20.8			15.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	332	2132	237	226	2253	237	332	531	0	168	621	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	2 3	1	6	6 7	3	8		7	4	
Permitted Phases												
Total Split (s)	23.0	89.0		18.0	84.0		39.0	42.0		31.0	34.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Act Effct Green (s)	17.0	83.0	122.0	12.0	78.0	109.0	33.0	36.0		25.0	28.0	
Actuated g/C Ratio	0.09	0.46	0.68	0.07	0.43	0.61	0.18	0.20		0.14	0.16	
v/c Ratio	1.02	0.91	0.22	0.99	1.02	0.24	1.02	0.75		0.69	1.08	
Control Delay	133.3	51.9	8.7	138.4	74.6	10.3	125.9	68.2		89.0	121.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	133.3	51.9	8.7	138.4	74.6	10.3	125.9	68.2		89.0	121.7	
LOS	F	D	A	F	E	B	F	E		F	F	
Approach Delay		58.1			74.3			90.4			114.8	
Approach LOS		E			E			F			F	
Queue Length 50th (ft)	~213	850	75	140	~1031	73	~415	285		192	~392	
Queue Length 95th (ft)	#323	916	114	#237	#1110	122	#628	358		283	#526	
Internal Link Dist (ft)		821			1084			835			601	
Turn Bay Length (ft)	550		550	450		150	450			400		
Base Capacity (vph)	324	2344	1090	228	2203	994	324	712		245	575	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.02	0.91	0.22	0.99	1.02	0.24	1.02	0.75		0.69	1.08	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 74.6

Intersection LOS: E

Intersection Capacity Utilization 105.1%

ICU Level of Service G



# Lanes, Volumes, Timings

## 101: Woodbury & SR 50

11/29/2017

Analysis Period (min) 15

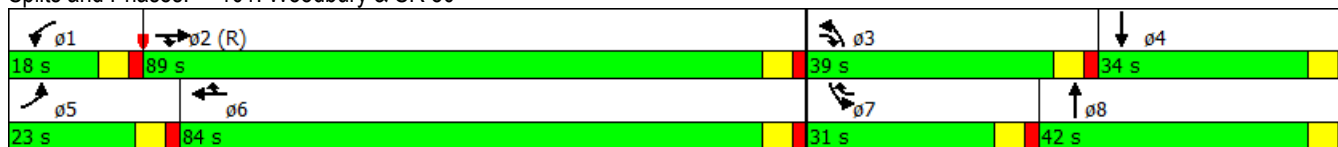
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.







Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury & SR 50



Lanes, Volumes, Timings  
102: SR 408 Off Ramp & SR 50

11/17/2017

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↑	↑↑
Volume (vph)	2015	0	0	3090	170	505
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	5085	0	0	5085	1770	2787
Flt Permitted					0.950	
Satd. Flow (perm)	5085	0	0	5085	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						33
Link Speed (mph)	30			30	30	
Link Distance (ft)	824			895	538	
Travel Time (s)	18.7			20.3	12.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2121	0	0	3253	179	532
Turn Type	NA			NA	Prot	Prot
Protected Phases	2			2	4	4
Permitted Phases						
Minimum Split (s)	22.0			22.0	22.0	22.0
Total Split (s)	134.0			134.0	46.0	46.0
Total Split (%)	74.4%			74.4%	25.6%	25.6%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.0			2.0	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.0			6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	128.0			128.0	40.0	40.0
Actuated g/C Ratio	0.71			0.71	0.22	0.22
v/c Ratio	0.59			0.90	0.46	0.82
Control Delay	13.7			25.4	65.0	74.2
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	13.7			25.4	65.0	74.2
LOS	B			C	E	E
Approach Delay	13.7			25.4	71.8	
Approach LOS	B			C	E	
Queue Length 50th (ft)	426			1057	185	325
Queue Length 95th (ft)	459			1106	270	409
Internal Link Dist (ft)	744			815	458	
Turn Bay Length (ft)						
Base Capacity (vph)	3616			3616	393	645
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.59			0.90	0.46	0.82

Intersection Summary

Area Type: Other  
 Cycle Length: 180  
 Actuated Cycle Length: 180  
 Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Lanes, Volumes, Timings  
102: SR 408 Off Ramp & SR 50

11/17/2017

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 26.8

Intersection LOS: C

Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15

























Splits and Phases: 102: SR 408 Off Ramp & SR 50





Lanes, Volumes, Timings  
103: Avalon Park Blvd/Pilgrim St & SR 50

11/17/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	1395	410	240	1755	60	460	55	205	75	65	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		500	250		250	300		0	0		0
Storage Lanes	1		1	2		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1681	1702	1583	0	3319	0
Flt Permitted	0.950			0.950			0.950	0.962			0.982	
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	1681	1702	1583	0	3319	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			261			55			216		29	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1099			1266			987			623	
Travel Time (s)		25.0			28.8			22.4			14.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							44%					
Lane Group Flow (vph)	47	1468	432	253	1847	63	271	271	216	0	210	0
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		4	4	
Permitted Phases						6			8			
Minimum Split (s)	8.0	20.0		8.0	20.0	20.0	20.0	20.0	20.0	12.0	12.0	
Total Split (s)	14.0	82.0		26.0	94.0	94.0	50.0	50.0	50.0	22.0	22.0	
Total Split (%)	7.8%	45.6%		14.4%	52.2%	52.2%	27.8%	27.8%	27.8%	12.2%	12.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Act Effct Green (s)	10.0	78.0	124.0	22.0	90.0	90.0	46.0	46.0	46.0		18.0	
Actuated g/C Ratio	0.06	0.43	0.69	0.12	0.50	0.50	0.26	0.26	0.26		0.10	
v/c Ratio	0.48	0.67	0.37	0.60	0.73	0.08	0.63	0.62	0.38		0.59	
Control Delay	99.0	42.5	3.0	81.5	37.4	6.7	67.1	66.7	7.7		73.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay	99.0	42.5	3.0	81.5	37.4	6.7	67.1	66.7	7.7		73.8	
LOS	F	D	A	F	D	A	E	E	A		E	
Approach Delay		35.1			41.7			50.0			73.8	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	55	504	32	148	620	5	302	302	0		109	
Queue Length 95th (ft)	104	557	53	200	674	33	417	416	72		158	
Internal Link Dist (ft)		1019			1186			907			543	
Turn Bay Length (ft)	250		500	250		250	300					
Base Capacity (vph)	98	2203	1171	419	2542	819	429	434	565		358	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Reduced v/c Ratio	0.48	0.67	0.37	0.60	0.73	0.08	0.63	0.62	0.38		0.59	

Intersection Summary

Area Type: Other

# Lanes, Volumes, Timings

## 103: Avalon Park Blvd/Pilgrim St & SR 50

11/17/2017

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 41.7







Intersection LOS: D

Intersection Capacity Utilization 70.7%

ICU Level of Service C

























Analysis Period (min) 15

Splits and Phases: 103: Avalon Park Blvd/Pilgrim St & SR 50

 Ø1	 Ø2 (R)	 Ø4	 Ø8
26 s	82 s	22 s	50 s
 Ø5	 Ø6		
14 s	94 s		

Lanes, Volumes, Timings  
104: Chuluota Rd & SR 50

11/17/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	1230	130	95	1500	270	105	345	75	225	425	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		300	300		300
Storage Lanes	2		1	2		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3444	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3444	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102			148			14			67
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			752			780			580	
Travel Time (s)		15.6			17.1			17.7			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	253	1295	137	100	1579	284	111	442	0	237	447	437
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	6 7
Permitted Phases												
Minimum Split (s)	11.0	23.0		11.0	23.0		11.0	23.0		11.0	23.0	
Total Split (s)	27.0	86.0		16.0	75.0		26.0	53.0		25.0	52.0	
Total Split (%)	15.0%	47.8%		8.9%	41.7%		14.4%	29.4%		13.9%	28.9%	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Act Effct Green (s)	20.0	79.0	105.0	9.0	68.0	93.0	20.0	47.0		19.0	46.0	73.0
Actuated g/C Ratio	0.11	0.44	0.58	0.05	0.38	0.52	0.11	0.26		0.11	0.26	0.41
v/c Ratio	0.66	0.58	0.14	0.58	0.82	0.32	0.57	0.49		0.65	0.49	0.64
Control Delay	86.0	39.3	5.3	97.8	55.0	12.4	87.9	56.5		86.6	59.3	41.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	86.0	39.3	5.3	97.8	55.0	12.4	87.9	56.5		86.6	59.3	41.0
LOS	F	D	A	F	D	B	F	E		F	E	D
Approach Delay		43.6			51.0			62.8			57.9	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	150	420	17	60	617	86	127	227		141	239	355
Queue Length 95th (ft)	203	468	51	96	679	152	201	287		192	300	487
Internal Link Dist (ft)		608			672			700			500	
Turn Bay Length (ft)	300		300	300		300	300			300		300
Base Capacity (vph)	381	2231	965	171	1921	889	196	909		362	904	681
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.66	0.58	0.14	0.58	0.82	0.32	0.57	0.49		0.65	0.49	0.64

Intersection Summary

Area Type: Other



# Lanes, Volumes, Timings

## 104: Chuluota Rd & SR 50

11/17/2017

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 80

Control Type: Pretimed

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 51.3

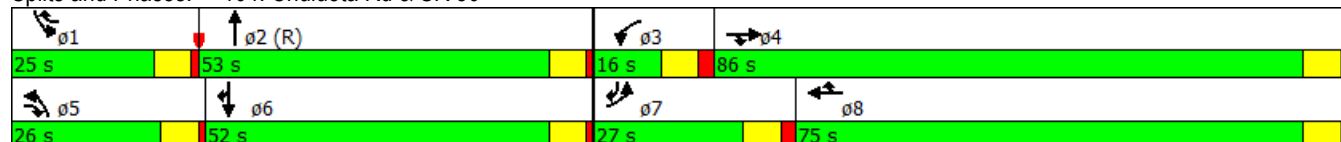
Intersection LOS: D

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 104: Chuluota Rd & SR 50



**Build 2025**

**PM Peak – Synchro Output**

# Lanes, Volumes, Timings

## 1: Woodbury & SR 408 Off Ramp

							ø1	ø2	ø6
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Volume (vph)	40	105	720	0	0	1070			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	400	0		300	350				
Storage Lanes	1	1		0	0				
Taper Length (ft)	25				25				
Satd. Flow (prot)	1770	1583	3539	0	0	5085			
Flt Permitted	0.950								
Satd. Flow (perm)	1770	1583	3539	0	0	5085			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)		111							
Link Speed (mph)	30		30			30			
Link Distance (ft)	878		175			388			
Travel Time (s)	20.0		4.0			8.8			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	42	111	758	0	0	1126			
Turn Type	Prot	Prot	NA			NA			
Protected Phases	8	8	2 6			2 6	1	2	6
Permitted Phases		8							
Minimum Split (s)	12.0	12.0					9.0	21.0	21.0
Total Split (s)	28.0	28.0					50.0	70.0	22.0
Total Split (%)	23.3%	23.3%					42%	58%	18%
Yellow Time (s)	4.0	4.0					4.0	4.0	4.0
All-Red Time (s)	1.0	1.0					1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0							
Total Lost Time (s)	5.0	5.0							
Lead/Lag	Lag	Lag							Lead
Lead-Lag Optimize?	Yes	Yes							Yes
Act Effct Green (s)	23.0	23.0	87.0			87.0			
Actuated g/C Ratio	0.19	0.19	0.72			0.72			
v/c Ratio	0.12	0.28	0.30			0.31			
Control Delay	41.4	9.5	0.3			6.1			
Queue Delay	2.6	0.0	0.2			0.0			
Total Delay	44.0	9.5	0.5			6.1			
LOS	D	A	A			A			
Approach Delay	18.9		0.5			6.1			
Approach LOS	B		A			A			
Queue Length 50th (ft)	27	0	0			99			
Queue Length 95th (ft)	60	49	0			118			
Internal Link Dist (ft)	798		95			308			
Turn Bay Length (ft)	400								
Base Capacity (vph)	339	393	2565			3686			
Starvation Cap Reductn	0	0	918			0			
Spillback Cap Reductn	226	0	0			627			
Storage Cap Reductn	0	0	0			0			
Reduced v/c Ratio	0.37	0.28	0.46			0.37			

### Intersection Summary

Area Type: Other



# Lanes, Volumes, Timings

## 1: Woodbury & SR 408 Off Ramp

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green, Master Intersection

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 5.0

Intersection LOS: A

Intersection Capacity Utilization 36.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Woodbury & SR 408 Off Ramp

<div> <div>#1</div> <div>#2</div> <div> <div>↓</div> <div>↑</div> <div>↓</div> <div>↑</div> </div> <div>ø2</div> </div> <div>70 s</div>	<div> <div>#2</div> <div> <div>↙</div> <div>↘</div> </div> <div>ø1</div> </div> <div>50 s</div>
	<div> <div>#1</div> <div> <div>↓</div> <div>↑</div> </div> <div>ø6 (R)</div> </div> <div>22 s</div> <div> <div>#1</div> <div> <div>↙</div> <div>↘</div> </div> <div>ø8</div> </div> <div>28 s</div>

# Lanes, Volumes, Timings

## 2: Woodbury Rd/Woodbury & SR 408 On Ramp

							ø6	ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations			↑↑	↑	↑	↑↑		
Volume (vph)	0	0	720	65	155	955		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0		300	0			
Storage Lanes	0	0		1	1			
Taper Length (ft)	25				25			
Satd. Flow (prot)	0	0	3539	1583	1770	3539		
Flt Permitted					0.950			
Satd. Flow (perm)	0	0	3539	1583	1770	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)				68				
Link Speed (mph)	30		30			30		
Link Distance (ft)	880		590			175		
Travel Time (s)	20.0		13.4			4.0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	758	68	163	1005		
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		1	2	6	8
Permitted Phases				2				
Minimum Split (s)			21.0	21.0	9.0	21.0	21.0	12.0
Total Split (s)			70.0	70.0	50.0	70.0	22.0	28.0
Total Split (%)			58.3%	58.3%	41.7%	58.3%	18%	23%
Yellow Time (s)			4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)			1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0		
Total Lost Time (s)			5.0	5.0	5.0	5.0		
Lead/Lag							Lead	Lag
Lead-Lag Optimize?							Yes	Yes
Act Effct Green (s)			65.0	65.0	45.0	65.0		
Actuated g/C Ratio			0.54	0.54	0.38	0.54		
v/c Ratio			0.40	0.08	0.25	0.52		
Control Delay			16.8	3.3	39.2	13.8		
Queue Delay			0.0	0.0	47.3	0.4		
Total Delay			16.8	3.3	86.5	14.2		
LOS			B	A	F	B		
Approach Delay			15.7			24.3		
Approach LOS			B			C		
Queue Length 50th (ft)			172	0	112	260		
Queue Length 95th (ft)			217	21	181	320		
Internal Link Dist (ft)	800		510			95		
Turn Bay Length (ft)				300				
Base Capacity (vph)			1916	888	663	1916		
Starvation Cap Reductn			0	0	505	421		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.40	0.08	1.03	0.67		

### Intersection Summary

Area Type: Other

## Lanes, Volumes, Timings

### 2: Woodbury Rd/Woodbury & SR 408 On Ramp

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green, Master Intersection

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 20.7

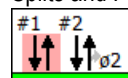
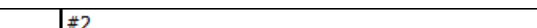


Intersection LOS: C

Intersection Capacity Utilization 36.8%

ICU Level of Service A

Analysis Period (min) 15























Splits and Phases: 2: Woodbury Rd/Woodbury & SR 408 On Ramp

 70 s	 50 s
	 22 s  28 s



# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	0	585	80	0	5	385	400	125	10	505	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		400	250		0	600		100	250		100
Storage Lanes	0		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	0	1583	1770	0	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	0	1583	1770	0	1583	3433	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			71			153			211			269
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		714			762			660			506	
Travel Time (s)		16.2			17.3			15.0			11.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	0	616	84	0	5	405	421	132	11	532	216
Turn Type	Prot		pt+ov	Prot		pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4 5	3		8 1	5	2		1	6	
Permitted Phases			7			3			2			6
Detector Phase	7		4 5	3		8 1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0			4.0			4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0			12.0			12.0	24.0	24.0	12.0	24.0	24.0
Total Split (s)	53.0			23.0			36.0	71.0	71.0	12.0	47.0	47.0
Total Split (%)	35.3%			15.3%			24.0%	47.3%	47.3%	8.0%	31.3%	31.3%
Yellow Time (s)	5.0			5.0			5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	3.0			3.0			3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0			8.0			8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead			Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes								
Recall Mode	None			None			None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	44.7		83.8	12.0		25.4	24.4	80.5	80.5	6.4	54.2	54.2
Actuated g/C Ratio	0.30		0.56	0.08		0.17	0.16	0.54	0.54	0.04	0.36	0.36
v/c Ratio	0.62		0.67	0.60		0.01	0.73	0.22	0.14	0.15	0.42	0.29
Control Delay	50.8		23.3	83.5		0.0	67.1	21.0	0.3	73.2	39.5	2.5
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8		23.3	83.5		0.0	67.1	21.0	0.3	73.2	39.5	2.5
LOS	D		C	F		A	E	C	A	E	D	A
Approach Delay								37.6			29.5	
Approach LOS								D			C	
Queue Length 50th (ft)	265		360	81		0	196	102	0	11	208	0
Queue Length 95th (ft)	395		386	138		0	243	183	0	33	301	24
Internal Link Dist (ft)		634			682			580			426	
Turn Bay Length (ft)	250		400	250			600		100	250		100
Base Capacity (vph)	557		956	177		384	652	1899	947	74	1277	743
Starvation Cap Reductn	0		0	0		0	0	0	0	0	0	0
Spillback Cap Reductn	0		0	0		0	0	0	0	0	0	0













# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

Lane Group	ø4	ø8
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	8
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	4.0	4.0
Minimum Split (s)	20.0	12.0
Total Split (s)	44.0	14.0
Total Split (%)	29%	9%
Yellow Time (s)	3.5	5.0
All-Red Time (s)	0.5	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	Lag
Lead-Lag Optimize?	Yes	
Recall Mode	None	None
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		

## Lanes, Volumes, Timings

### 3: Avalon Park & SR 408 Extension Ramps

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0		0	0		0	0	0	0	0	0	0
Reduced v/c Ratio	0.59		0.64	0.47		0.01	0.62	0.22	0.14	0.15	0.42	0.29

#### Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 35.1

Intersection LOS: D

Intersection Capacity Utilization 67.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Avalon Park & SR 408 Extension Ramps

 ø1	 ø2 (R)	 ø3	 ø4
12 s	71 s	23 s	44 s
 ø5	 ø6 (R)	 ø7	 ø8
36 s	47 s	53 s	14 s



## Lanes, Volumes, Timings









### 3: Avalon Park & SR 408 Extension Ramps

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Lane Group	ø4	ø8
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

# Lanes, Volumes, Timings

## 4: SR 408 Extension Off Ramp & to Chuluota

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	365	0	0	0	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3433	0	0	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	0	0	0	1770	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						
Link Speed (mph)		30	30		30	
Link Distance (ft)		432	524		456	
Travel Time (s)		9.8	11.9		10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	384	0	0	0	11	0
Turn Type	Prot				Prot	
Protected Phases	7				6	
Permitted Phases						
Minimum Split (s)	12.0				21.0	
Total Split (s)	66.0				24.0	
Total Split (%)	73.3%				26.7%	
Yellow Time (s)	4.0				4.0	
All-Red Time (s)	1.0				1.0	
Lost Time Adjust (s)	0.0				0.0	
Total Lost Time (s)	5.0				5.0	
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	61.0				19.0	
Actuated g/C Ratio	0.68				0.21	
v/c Ratio	0.17				0.03	
Control Delay	5.5				28.6	
Queue Delay	0.0				0.0	
Total Delay	5.5				28.6	
LOS	A				C	
Approach Delay					28.6	
Approach LOS					C	
Queue Length 50th (ft)	35				5	
Queue Length 95th (ft)	51				19	
Internal Link Dist (ft)		352	444		376	
Turn Bay Length (ft)						
Base Capacity (vph)	2326				373	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.17				0.03	
<b>Intersection Summary</b>						
Area Type:	Other					
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced to phase 2: and 6:SBL, Start of Green						

## Lanes, Volumes, Timings

### 4: SR 408 Extension Off Ramp & to Chuluota

Natural Cycle: 40

Control Type: Pretimed

Maximum v/c Ratio: 0.17

Intersection Signal Delay: 6.1

Intersection LOS: A

Intersection Capacity Utilization 21.2%

ICU Level of Service A

Analysis Period (min) 15



















Splits and Phases: 4: SR 408 Extension Off Ramp & to Chuluota





# Lanes, Volumes, Timings

## 5: SR 408 Extension On Ramp & SR 50

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	10	1520	20	125	1275	0	0	0	0	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	900		0	0		0	0		0
Storage Lanes	1		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	3433	3539	0	0	0	0	0	1750	0
Flt Permitted	0.950			0.950							0.984	
Satd. Flow (perm)	1770	3539	1583	3433	3539	0	0	0	0	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131								11	
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		737			1151			664			401	
Travel Time (s)		10.1			15.7			15.1			9.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1600	21	132	1342	0	0	0	0	0	33	0
Turn Type	Prot	NA	Perm	Prot	NA					Split	NA	
Protected Phases	1	6		5	2					4	4	
Permitted Phases			6									
Minimum Split (s)	23.0	23.0	23.0	11.0	23.0					12.0	12.0	
Total Split (s)	23.0	104.0	104.0	32.0	113.0					14.0	14.0	
Total Split (%)	15.3%	69.3%	69.3%	21.3%	75.3%					9.3%	9.3%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0					5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0					2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0						0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0						7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Act Effct Green (s)	16.0	97.0	97.0	25.0	106.0						7.0	
Actuated g/C Ratio	0.11	0.65	0.65	0.17	0.71						0.05	
v/c Ratio	0.06	0.70	0.02	0.23	0.54						0.36	
Control Delay	61.2	19.2	0.1	42.0	12.4						62.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0						0.0	
Total Delay	61.2	19.2	0.1	42.0	12.4						62.1	
LOS	E	B	A	D	B						E	
Approach Delay		19.2			15.0						62.1	
Approach LOS		B			B						E	
Queue Length 50th (ft)	10	502	0	58	290						21	
Queue Length 95th (ft)	31	582	0	92	398						59	
Internal Link Dist (ft)		657			1071			584			321	
Turn Bay Length (ft)			300	900								
Base Capacity (vph)	188	2288	1069	572	2500						92	
Starvation Cap Reductn	0	0	0	0	0						0	
Spillback Cap Reductn	0	0	0	0	0						0	
Storage Cap Reductn	0	0	0	0	0						0	
Reduced v/c Ratio	0.06	0.70	0.02	0.23	0.54						0.36	

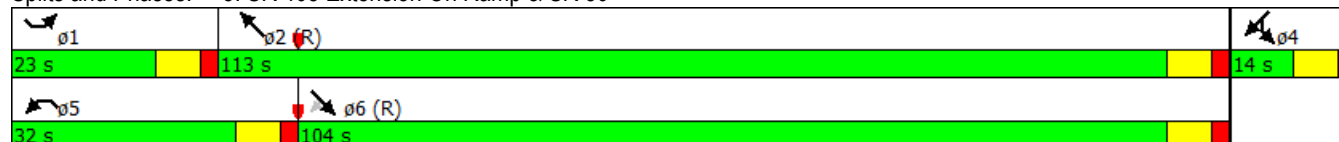
### Intersection Summary

Area Type: Other

# Lanes, Volumes, Timings 5: SR 408 Extension On Ramp & SR 50







Cycle Length: 150  
Actuated Cycle Length: 150  
Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green  
Natural Cycle: 70  
Control Type: Pretimed  
Maximum v/c Ratio: 0.70  
Intersection Signal Delay: 17.7      Intersection LOS: B  
Intersection Capacity Utilization 66.4%      ICU Level of Service C  
Analysis Period (min) 15

Splits and Phases: 5: SR 408 Extension On Ramp & SR 50



# Lanes, Volumes, Timings

## 6: SR 408 Extension Off Ramp & SR 50

						
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑↑			↑↑	↑	↑↑
Volume (vph)	1520	0	0	1370	30	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3539	0	0	3539	1770	2787
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						76
Link Speed (mph)	50			50	30	
Link Distance (ft)	1151			925	636	
Travel Time (s)	15.7			12.6	14.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1600	0	0	1442	32	200
Turn Type	NA			NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases						2
Minimum Split (s)	20.0			20.0	20.0	20.0
Total Split (s)	104.0			104.0	46.0	46.0
Total Split (%)	69.3%			69.3%	30.7%	30.7%
Yellow Time (s)	3.5			3.5	3.5	3.5
All-Red Time (s)	0.5			0.5	0.5	0.5
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	4.0			4.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	100.0			100.0	42.0	42.0
Actuated g/C Ratio	0.67			0.67	0.28	0.28
v/c Ratio	0.68			0.61	0.06	0.24
Control Delay	26.4			15.5	40.2	26.2
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	26.4			15.5	40.2	26.2
LOS	C			B	D	C
Approach Delay	26.4			15.5	28.2	
Approach LOS	C			B	C	
Queue Length 50th (ft)	823			391	23	52
Queue Length 95th (ft)	947			456	52	90
Internal Link Dist (ft)	1071			845	556	
Turn Bay Length (ft)						
Base Capacity (vph)	2359			2359	495	835
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.68			0.61	0.06	0.24
Intersection Summary						
Area Type:	Other					
Cycle Length: 150						
Actuated Cycle Length: 150						
Offset: 0 (0%), Referenced to phase 2:NEL and 6:, Start of Green						



## Lanes, Volumes, Timings

### 6: SR 408 Extension Off Ramp & SR 50

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 21.7





Intersection LOS: C

Intersection Capacity Utilization 55.3%

























ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: SR 408 Extension Off Ramp & SR 50

  02 (R)	 04
46 s	104 s
	 08
	104 s

Lanes, Volumes, Timings  
101: Woodbury & SR 50

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	2140	315	180	2025	160	225	360	215	225	325	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		550	450		150	450		0	400		0
Storage Lanes	2		1	2		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3341	0	1770	3256	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3341	0	1770	3256	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			55			60			128
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		901			1164			915			681	
Travel Time (s)		13.7			17.6			20.8			15.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	242	2253	332	189	2132	168	237	605	0	237	731	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	2 3	1	6	6 7	3	8		7	4	
Permitted Phases												
Total Split (s)	19.0	91.0		17.0	89.0		32.0	39.0		33.0	40.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Act Effct Green (s)	13.0	85.0	117.0	11.0	83.0	116.0	26.0	33.0		27.0	34.0	
Actuated g/C Ratio	0.07	0.47	0.65	0.06	0.46	0.64	0.14	0.18		0.15	0.19	
v/c Ratio	0.98	0.94	0.31	0.90	0.91	0.16	0.93	0.92		0.89	1.02	
Control Delay	133.0	53.8	11.1	123.5	51.9	8.7	115.2	83.8		107.7	95.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	133.0	53.8	11.1	123.5	51.9	8.7	115.2	83.8		107.7	95.8	
LOS	F	D	B	F	D	A	F	F		F	F	
Approach Delay		55.5			54.4			92.7			98.7	
Approach LOS		E			D			F			F	
Queue Length 50th (ft)	150	916	123	116	850	49	281	341		279	~410	
Queue Length 95th (ft)	#246	983	179	#196	916	84	#458	#452		#446	#547	
Internal Link Dist (ft)		821			1084			835			601	
Turn Bay Length (ft)	550		550	450		150	450			400		
Base Capacity (vph)	247	2401	1056	209	2344	1039	255	661		265	718	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.98	0.94	0.31	0.90	0.91	0.16	0.93	0.92		0.89	1.02	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 65.4

Intersection LOS: E

Intersection Capacity Utilization 99.8%

ICU Level of Service F

# Lanes, Volumes, Timings

## 101: Woodbury & SR 50

Analysis Period (min) 15









~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.







Splits and Phases: 101: Woodbury & SR 50

 <p>ø1</p>	 <p>ø2 (R)</p>	 <p>ø3</p>	 <p>ø4</p>
17 s	91 s	32 s	40 s
 <p>ø5</p>	 <p>ø6</p>	 <p>ø7</p>	 <p>ø8</p>
19 s	89 s	33 s	39 s



# Lanes, Volumes, Timings

## 102: SR 408 Off Ramp & SR 50

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↑	↑↑
Volume (vph)	2480	0	0	2520	150	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	5085	0	0	5085	1770	2787
Flt Permitted					0.950	
Satd. Flow (perm)	5085	0	0	5085	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						5
Link Speed (mph)	30			30	30	
Link Distance (ft)	824			895	538	
Travel Time (s)	18.7			20.3	12.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2611	0	0	2653	158	716
Turn Type	NA			NA	Prot	Prot
Protected Phases	2			2	4	4
Permitted Phases						
Minimum Split (s)	22.0			22.0	22.0	22.0
Total Split (s)	117.0			117.0	63.0	63.0
Total Split (%)	65.0%			65.0%	35.0%	35.0%
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.0			2.0	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.0			6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	111.0			111.0	57.0	57.0
Actuated g/C Ratio	0.62			0.62	0.32	0.32
v/c Ratio	0.83			0.85	0.28	0.81
Control Delay	30.3			31.0	47.9	64.5
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	30.3			31.0	47.9	64.5
LOS	C			C	D	E
Approach Delay	30.3			31.0	61.5	
Approach LOS	C			C	E	
Queue Length 50th (ft)	860			889	141	442
Queue Length 95th (ft)	914			945	209	534
Internal Link Dist (ft)	744			815	458	
Turn Bay Length (ft)						
Base Capacity (vph)	3135			3135	560	885
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.83			0.85	0.28	0.81
Intersection Summary						
Area Type:	Other					
Cycle Length: 180						
Actuated Cycle Length: 180						
Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green						

## Lanes, Volumes, Timings

### 102: SR 408 Off Ramp & SR 50

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 35.1

Intersection LOS: D

Intersection Capacity Utilization 81.7%























ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 102: SR 408 Off Ramp & SR 50



Lanes, Volumes, Timings  
103: Avalon Park Blvd/Pilgrim St & SR 50

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1755	60	205	1395	75	410	65	240	60	55	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		500	250		250	300		0	0		0
Storage Lanes	1		1	2		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1681	1708	1583	0	3330	0
Flt Permitted	0.950			0.950			0.950	0.965			0.982	
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	1681	1708	1583	0	3330	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63			68			194		25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1099			1266			987			623	
Travel Time (s)		25.0			28.8			22.4			14.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							43%					
Lane Group Flow (vph)	63	1847	63	216	1468	79	246	254	253	0	168	0
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		4	4	
Permitted Phases						6			8			
Minimum Split (s)	8.0	20.0		8.0	20.0	20.0	20.0	20.0	20.0	12.0	12.0	
Total Split (s)	17.0	91.0		24.0	98.0	98.0	48.0	48.0	48.0	17.0	17.0	
Total Split (%)	9.4%	50.6%		13.3%	54.4%	54.4%	26.7%	26.7%	26.7%	9.4%	9.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Act Effct Green (s)	13.0	87.0	131.0	20.0	94.0	94.0	44.0	44.0	44.0		13.0	
Actuated g/C Ratio	0.07	0.48	0.73	0.11	0.52	0.52	0.24	0.24	0.24		0.07	
v/c Ratio	0.50	0.75	0.05	0.57	0.55	0.09	0.60	0.61	0.47		0.64	
Control Delay	94.3	40.2	0.8	82.3	29.9	5.9	67.3	67.6	17.4		80.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay	94.3	40.2	0.8	82.3	29.9	5.9	67.3	67.6	17.4		80.6	
LOS	F	D	A	F	C	A	E	E	B		F	
Approach Delay		40.6			35.2			50.6			80.6	
Approach LOS		D			D			D			F	
Queue Length 50th (ft)	73	642	0	127	420	6	273	283	55		87	
Queue Length 95th (ft)	130	698	7	175	464	36	383	394	149		133	
Internal Link Dist (ft)		1019			1186			907			543	
Turn Bay Length (ft)	250		500	250		250	300					
Base Capacity (vph)	127	2457	1169	381	2655	859	410	417	533		263	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Reduced v/c Ratio	0.50	0.75	0.05	0.57	0.55	0.09	0.60	0.61	0.47		0.64	

Intersection Summary

Area Type: Other



## Lanes, Volumes, Timings

### 103: Avalon Park Blvd/Pilgrim St & SR 50

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 41.6

Intersection LOS: D

Intersection Capacity Utilization 69.5%

























ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 103: Avalon Park Blvd/Pilgrim St & SR 50

 Ø1	 Ø2 (R)	 Ø4	 Ø8
24 s	91 s	17 s	48 s
 Ø5	 Ø6		
17 s	98 s		

Lanes, Volumes, Timings  
104: Chuluota Rd & SR 50

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	415	1500	105	75	1230	225	130	425	95	270	345	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		300	300		300
Storage Lanes	2		1	2		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3444	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3444	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			139			15			155
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			752			780			580	
Travel Time (s)		15.6			17.1			17.7			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	437	1579	111	79	1295	237	137	547	0	284	363	253
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	6 7
Permitted Phases												
Minimum Split (s)	11.0	23.0		11.0	23.0		11.0	23.0		11.0	23.0	
Total Split (s)	35.0	74.0		18.0	57.0		40.0	62.0		26.0	48.0	
Total Split (%)	19.4%	41.1%		10.0%	31.7%		22.2%	34.4%		14.4%	26.7%	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Act Effct Green (s)	28.0	67.0	107.0	11.0	50.0	76.0	34.0	56.0		20.0	42.0	77.0
Actuated g/C Ratio	0.16	0.37	0.59	0.06	0.28	0.42	0.19	0.31		0.11	0.23	0.43
v/c Ratio	0.82	0.83	0.11	0.38	0.92	0.32	0.41	0.51		0.75	0.44	0.33
Control Delay	86.7	56.3	2.6	86.7	73.8	14.8	68.5	51.2		90.4	60.9	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	86.7	56.3	2.6	86.7	73.8	14.8	68.5	51.2		90.4	60.9	13.8
LOS	F	E	A	F	E	B	E	D		F	E	B
Approach Delay		59.7			65.7			54.6			57.0	
Approach LOS		E			E			D			E	
Queue Length 50th (ft)	261	623	0	47	548	72	144	272		170	195	71
Queue Length 95th (ft)	328	685	29	78	612	142	221	335		226	250	144
Internal Link Dist (ft)		608			672			700			500	
Turn Bay Length (ft)	300		300	300		300	300			300		300
Base Capacity (vph)	534	1892	986	209	1412	748	334	1081		381	825	765
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.82	0.83	0.11	0.38	0.92	0.32	0.41	0.51		0.75	0.44	0.33

Intersection Summary

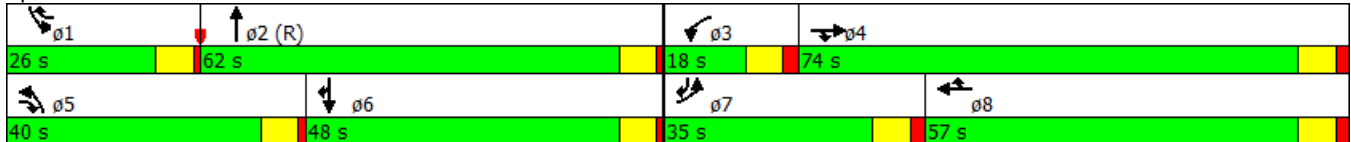
Area Type: Other

## Lanes, Volumes, Timings

### 104: Chuluota Rd & SR 50

Cycle Length: 180  
 Actuated Cycle Length: 180  
 Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 60.4  
 Intersection LOS: E  
 Intersection Capacity Utilization 79.8%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 104: Chuluota Rd & SR 50





























**No-Build 2045**  
**AM Peak – Synchro Output**

Lanes, Volumes, Timings  
1: Woodbury Rd & SR 50

2045 No Build Constrained AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	2370	240	440	2280	470	290	300	360	335	325	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	625		675	700		300	500		250	390		250
Storage Lanes	2		1	2		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3249	0	3433	1744	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3249	0	3433	1744	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152			168			163			20
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1500			1390			1000			1000	
Travel Time (s)		22.7			21.1			22.7			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	400	2495	253	463	2400	495	305	695	0	353	595	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	21.0	74.0	30.0	23.0	76.0	31.0	30.0	52.0		31.0	53.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Act Effct Green (s)	16.0	69.0	99.0	18.0	71.0	99.4	25.0	49.6		23.4	48.0	
Actuated g/C Ratio	0.09	0.38	0.55	0.10	0.39	0.55	0.14	0.28		0.13	0.27	
v/c Ratio	1.31	1.28	0.27	1.35	1.20	0.52	1.24	0.69		0.79	1.24	
Control Delay	220.0	174.3	8.8	214.1	129.0	24.6	198.6	48.3		89.2	175.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	220.0	174.3	8.8	214.1	129.0	24.6	198.6	48.3		89.2	175.9	
LOS	F	F	A	F	F	C	F	D		F	F	
Approach Delay		166.8			125.3			94.1			143.6	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~311	~1361	56	~365	~1276	408	~445	306		210	~853	
Queue Length 95th (ft)	#427	#1434	111	m196	m767	m197	#653	387		268	#1105	
Internal Link Dist (ft)		1420			1310			920			920	
Turn Bay Length (ft)	625		675	700		300	500			390		
Base Capacity (vph)	305	1949	939	343	2005	969	245	1013		495	479	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.31	1.28	0.27	1.35	1.20	0.51	1.24	0.69		0.71	1.24	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 70 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 139.1

Intersection LOS: F

Intersection Capacity Utilization 122.8%

ICU Level of Service H

# Lanes, Volumes, Timings

## 1: Woodbury Rd & SR 50

2045 No Build Constrained AM

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.









Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Woodbury Rd & SR 50

 ø1	 ø2 (R)	 ø3	 ø4
31 s	52 s	23 s	74 s
 ø5	 ø6 (R)	 ø7	 ø8
30 s	53 s	21 s	76 s



## Lanes, Volumes, Timings

### 2: SR 408 Off Ramp & SR 50

2045 No Build Constrained AM

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Volume (vph)	2720	0	0	4765	180	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		300	300
Storage Lanes		0	0		2	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	5085	0	0	5085	3160	1441
Flt Permitted					0.988	
Satd. Flow (perm)	5085	0	0	5085	3160	1441
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					3	304
Link Speed (mph)	45			45	30	
Link Distance (ft)	1390			1100	1000	
Travel Time (s)	21.1			16.7	22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	2863	0	0	5016	805	616
Turn Type	NA			NA	Prot	Free
Protected Phases	4			8	2	
Permitted Phases						Free
Total Split (s)	128.0			128.0	52.0	
Total Lost Time (s)	5.0			5.0	5.0	
Act Effct Green (s)	123.0			123.0	47.0	180.0
Actuated g/C Ratio	0.68			0.68	0.26	1.00
v/c Ratio	0.82			1.44	1.48dr	0.43
Control Delay	54.2			220.0	90.0	0.9
Queue Delay	0.2			0.0	0.0	0.0
Total Delay	54.4			220.0	90.0	0.9
LOS	D			F	F	A
Approach Delay	54.4			220.0	51.4	
Approach LOS	D			F	D	
Queue Length 50th (ft)	1190			~2923	489	0
Queue Length 95th (ft)	m949			m#1366	#629	0
Internal Link Dist (ft)	1310			1020	920	
Turn Bay Length (ft)					300	300
Base Capacity (vph)	3474			3474	827	1441
Starvation Cap Reductn	127			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.86			1.44	0.97	0.43

#### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.44

Intersection Signal Delay: 143.3

Intersection LOS: F

Intersection Capacity Utilization 117.9%

ICU Level of Service H

## Lanes, Volumes, Timings

### 2: SR 408 Off Ramp & SR 50

2045 No Build Constrained AM

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

























Splits and Phases: 2: SR 408 Off Ramp & SR 50

 <p>ø2 (R)</p>	 <p>ø4</p>
52 s	128 s
	 <p>ø8</p>
	128 s

# Lanes, Volumes, Timings

## 3: Avalon Park Blvd/Pilgrim St & SR 50

2045 No Build Constrained AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	2390	775	300	2720	50	940	60	370	70	80	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		1000	400		300	300		300	0		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1681	1695	1583	1770	1744	0
Flt Permitted	0.950			0.950			0.950	0.958		0.950		
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	1681	1695	1583	1770	1744	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			790			109			152			16
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2625			1010			1000			302	
Travel Time (s)		39.8			15.3			22.7			6.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							47%					
Lane Group Flow (vph)	37	2516	816	316	2863	53	524	528	389	74	147	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Total Split (s)	11.0	88.0	88.0	22.0	99.0	99.0	51.0	51.0	51.0	19.0	19.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Act Effct Green (s)	4.0	81.0	81.0	15.0	92.0	92.0	44.0	44.0	44.0	12.0	12.0	
Actuated g/C Ratio	0.02	0.45	0.45	0.08	0.51	0.51	0.24	0.24	0.24	0.07	0.07	
v/c Ratio	0.95	1.10	0.71	1.10	1.10	0.06	1.28	1.28	0.78	0.63	1.12	
Control Delay	210.3	98.0	6.3	155.7	93.5	0.1	194.5	193.3	49.7	104.8	177.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	210.3	98.0	6.3	155.7	93.5	0.1	194.5	193.3	49.7	104.8	177.3	
LOS	F	F	A	F	F	A	F	F	D	F	F	
Approach Delay		77.0			98.0			155.0			153.0	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	45	~1228	17	~218	~1400	0	~820	~826	275	87	~181	
Queue Length 95th (ft)	#133	#1301	128	#326	#1461	0	#1074	#1081	418	#157	#342	
Internal Link Dist (ft)		2545			930			920			222	
Turn Bay Length (ft)	600		1000	400		300	300		300			
Base Capacity (vph)	39	2288	1146	286	2599	862	410	414	501	118	131	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.95	1.10	0.71	1.10	1.10	0.06	1.28	1.28	0.78	0.63	1.12	

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.28

Intersection Signal Delay: 100.9

Intersection LOS: F

Intersection Capacity Utilization 114.7%

ICU Level of Service H

Analysis Period (min) 15



## Lanes, Volumes, Timings

### 3: Avalon Park Blvd/Pilgrim St & SR 50

2045 No Build Constrained AM







~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























Splits and Phases: 3: Avalon Park Blvd/Pilgrim St & SR 50

 Ø2	 Ø6	 Ø3	 Ø4
51 s	19 s	22 s	88 s
		 Ø7	 Ø8
		11 s	99 s

# Lanes, Volumes, Timings

## 4: Chuluota School Rd/Chuluota Rd & SR 50

2045 No Build Constrained AM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	520	1490	160	45	1710	410	110	100	50	335	150	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		350	545		300	350		350	250		250
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			168			271			152			67
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1175			1645			500			1000	
Travel Time (s)		17.8			24.9			11.4			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	547	1568	168	47	1800	432	116	105	53	353	158	668
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Total Split (s)	57.0	114.0	114.0	17.0	74.0	74.0	21.0	21.0	21.0	28.0	28.0	57.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Act Effct Green (s)	48.4	109.3	109.3	8.9	67.0	67.0	16.0	16.0	16.0	20.4	20.4	75.9
Actuated g/C Ratio	0.27	0.61	0.61	0.05	0.37	0.37	0.09	0.09	0.09	0.11	0.11	0.42
v/c Ratio	0.59	0.51	0.16	0.54	0.95	0.57	0.74	0.64	0.19	0.91	0.75	0.95
Control Delay	60.2	21.4	2.3	106.0	66.6	19.0	106.7	97.8	1.5	105.4	99.2	67.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	21.4	2.3	106.0	66.6	19.0	106.7	97.8	1.5	105.4	99.2	67.7
LOS	E	C	A	F	E	B	F	F	A	F	F	E
Approach Delay		29.3			58.4			82.9			83.2	
Approach LOS		C			E			F			F	
Queue Length 50th (ft)	293	398	0	56	772	152	138	124	0	218	186	703
Queue Length 95th (ft)	358	437	35	105	#872	272	#243	197	0	#309	#291	#974
Internal Link Dist (ft)		1095			1565			420			920	
Turn Bay Length (ft)	600		350	545		300	350		350	250		250
Base Capacity (vph)	954	3089	1027	98	1894	759	157	165	279	401	217	719
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.51	0.16	0.48	0.95	0.57	0.74	0.64	0.19	0.88	0.73	0.93

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 179.9

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 53.3

Intersection LOS: D

Intersection Capacity Utilization 96.0%

ICU Level of Service F

Analysis Period (min) 15

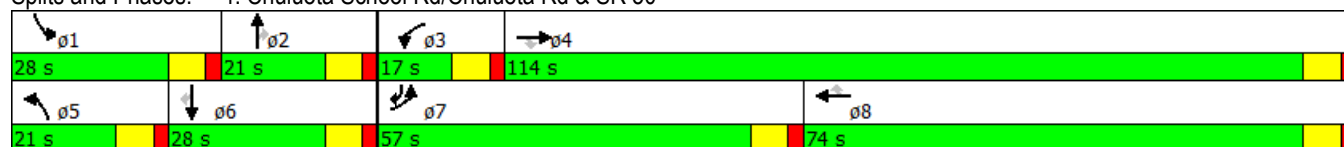
# Lanes, Volumes, Timings

## 4: Chuluota School Rd/Chuluota Rd & SR 50

2045 No Build Constrained AM

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 4: Chuluota School Rd/Chuluota Rd & SR 50





























**No-Build 2045**  
**PM Peak – Synchro Output**

# Lanes, Volumes, Timings

## 1: Woodbury Rd & SR 50

2045 No Build Constrained PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	2130	290	360	2480	335	240	325	440	470	300	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	625		675	700		300	500		250	390		250
Storage Lanes	2		1	2		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3235	0	3433	1706	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3235	0	3433	1706	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			240			155			140			37
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1500			1390			1000			1000	
Travel Time (s)		22.7			21.1			22.7			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	253	2242	305	379	2611	353	253	805	0	495	716	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	15.0	73.0	22.0	23.0	81.0	33.0	22.0	51.0		33.0	62.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Act Effct Green (s)	10.0	68.0	90.0	18.0	76.0	108.6	17.0	46.4		27.6	57.0	
Actuated g/C Ratio	0.06	0.38	0.50	0.10	0.42	0.60	0.09	0.26		0.15	0.32	
v/c Ratio	1.33	1.17	0.33	1.10	1.22	0.35	1.51	0.91dr		0.94	1.27	
Control Delay	239.3	129.7	6.8	150.2	145.7	10.3	308.9	62.6		101.1	179.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	239.3	129.7	6.8	150.2	145.7	10.3	308.9	62.6		101.1	179.6	
LOS	F	F	A	F	F	B	F	E		F	F	
Approach Delay		126.2			131.9			121.5			147.5	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~198	~1147	40	~261	~1376	107	~414	410		302	~1032	
Queue Length 95th (ft)	#299	#1227	103	#376	#1446	171	#610	500		#410	#1294	
Internal Link Dist (ft)		1420			1310			920			920	
Turn Bay Length (ft)	625		675	700		300	500			390		
Base Capacity (vph)	190	1921	911	343	2147	1019	167	936		534	565	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.33	1.17	0.33	1.10	1.22	0.35	1.51	0.86		0.93	1.27	

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.51

Intersection Signal Delay: 131.0

Intersection LOS: F

Intersection Capacity Utilization 123.8%

ICU Level of Service H

# Lanes, Volumes, Timings

## 1: Woodbury Rd & SR 50

2045 No Build Constrained PM

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.









Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 1: Woodbury Rd & SR 50







 ø1	 ø2 (R)	 ø3	 ø4
33 s	51 s	23 s	73 s
 ø5	 ø6 (R)	 ø7	 ø8
22 s	62 s	15 s	81 s



## Lanes, Volumes, Timings

### 2: SR 408 Off Ramp & SR 50

2045 No Build Constrained PM

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↑↑↑	↑
Volume (vph)	2810	0	0	4190	155	1755
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		300	300
Storage Lanes		0	0		1	0
Taper Length (ft)			25		25	
Satd. Flow (prot)	5085	0	0	5085	3129	1441
Flt Permitted					0.993	
Satd. Flow (perm)	5085	0	0	5085	3129	1441
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					2	354
Link Speed (mph)	45			45	30	
Link Distance (ft)	1390			1100	1000	
Travel Time (s)	21.1			16.7	22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						50%
Lane Group Flow (vph)	2958	0	0	4411	1087	923
Turn Type	NA			NA	Prot	Free
Protected Phases	4			8	2	
Permitted Phases						Free
Total Split (s)	120.0			120.0	60.0	
Total Lost Time (s)	5.0			5.0	5.0	
Act Effct Green (s)	115.0			115.0	55.0	180.0
Actuated g/C Ratio	0.64			0.64	0.31	1.00
v/c Ratio	0.91			1.36	1.91dr	0.64
Control Delay	33.5			192.5	128.5	2.2
Queue Delay	0.3			0.0	0.0	0.0
Total Delay	33.9			192.5	128.5	2.2
LOS	C			F	F	A
Approach Delay	33.9			192.5	70.5	
Approach LOS	C			F	E	
Queue Length 50th (ft)	1061			~2495	~767	0
Queue Length 95th (ft)	1119			#2494	#907	0
Internal Link Dist (ft)	1310			1020	920	
Turn Bay Length (ft)					300	300
Base Capacity (vph)	3248			3248	957	1441
Starvation Cap Reductn	51			91	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.93			1.40	1.14	0.64

#### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.36

Intersection Signal Delay: 116.3

Intersection LOS: F

Intersection Capacity Utilization 112.3%

ICU Level of Service H

Analysis Period (min) 15

## Lanes, Volumes, Timings

### 2: SR 408 Off Ramp & SR 50

2045 No Build Constrained PM

~ Volume exceeds capacity, queue is theoretically infinite.



Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

























Splits and Phases: 2: SR 408 Off Ramp & SR 50

 02	 04
60 s	120 s
	 08
	120 s

# Lanes, Volumes, Timings

## 3: Avalon Park Blvd/Pilgrim St & SR 50

2045 No Build Constrained PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	2720	940	370	2390	70	775	80	300	50	60	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		1000	400		300	300		0	0		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1681	1701	1583	1770	1758	0
Flt Permitted	0.950			0.950			0.950	0.961		0.950		
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	1681	1701	1583	1770	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			823			109			152			12
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2625			1010			1000			302	
Travel Time (s)		39.8			15.3			22.7			6.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	63	2863	989	389	2516	74	449	451	316	53	100	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Total Split (s)	15.0	92.0	92.0	24.0	101.0	101.0	52.0	52.0	52.0	12.0	12.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Act Effct Green (s)	8.0	85.0	85.0	17.0	94.0	94.0	45.0	45.0	45.0	5.0	5.0	
Actuated g/C Ratio	0.04	0.47	0.47	0.09	0.52	0.52	0.25	0.25	0.25	0.03	0.03	
v/c Ratio	0.81	1.19	0.84	1.20	0.95	0.08	1.07	1.06	0.62	1.08	1.67	
Control Delay	140.5	132.5	13.8	180.4	49.6	1.0	125.0	122.7	36.1	227.2	401.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	140.5	132.5	13.8	180.4	49.6	1.0	125.0	122.7	36.1	227.2	401.1	
LOS	F	F	B	F	D	A	F	F	D	F	F	
Approach Delay		102.6			65.5			101.1			340.9	
Approach LOS		F			E			F			F	
Queue Length 50th (ft)	75	~1489	183	~286	1013	0	~614	~613	176	~70	~157	
Queue Length 95th (ft)	#170	#1549	444	#402	1080	8	#862	#857	292	#175	#298	
Internal Link Dist (ft)		2545			930			920			222	
Turn Bay Length (ft)	600		1000	400		300	300					
Base Capacity (vph)	78	2401	1181	324	2655	878	420	425	509	49	60	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.81	1.19	0.84	1.20	0.95	0.08	1.07	1.06	0.62	1.08	1.67	

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.67

Intersection Signal Delay: 93.4

Intersection LOS: F

Intersection Capacity Utilization 110.8%

ICU Level of Service H

Analysis Period (min) 15



# Lanes, Volumes, Timings

## 3: Avalon Park Blvd/Pilgrim St & SR 50

2045 No Build Constrained PM







~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























Splits and Phases: 3: Avalon Park Blvd/Pilgrim St & SR 50

 Ø2	 Ø6	 Ø3	 Ø4
52 s	12 s	24 s	92 s
	 Ø7	 Ø8	
	15 s	101 s	

# Lanes, Volumes, Timings

## 4: Chuluota School Rd/Chuluota Rd & SR 50

2045 No Build Constrained PM

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	635	1710	110	50	1490	335	160	150	45	410	100	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		350	545		300	350		350	250		250
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	1770	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			242			152			87
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1175			1645			500			1000	
Travel Time (s)		17.8			24.9			11.4			22.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	668	1800	116	53	1568	353	168	158	47	432	105	547
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Total Split (s)	47.0	97.0	97.0	18.0	68.0	68.0	36.0	31.0	31.0	34.0	29.0	47.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Act Effct Green (s)	37.9	91.0	91.0	9.6	59.7	59.7	29.1	24.1	24.1	25.3	20.3	65.3
Actuated g/C Ratio	0.22	0.52	0.52	0.05	0.34	0.34	0.17	0.14	0.14	0.14	0.12	0.37
v/c Ratio	0.90	0.68	0.13	0.55	0.90	0.51	0.57	0.62	0.14	0.87	0.49	0.85
Control Delay	82.8	33.9	4.7	102.9	63.6	16.6	77.1	83.9	0.8	92.0	81.4	55.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.8	33.9	4.7	102.9	63.6	16.6	77.1	83.9	0.8	92.0	81.4	55.6
LOS	F	C	A	F	E	B	E	F	A	F	F	E
Approach Delay		45.2			56.3			70.4			72.6	
Approach LOS		D			E			E			E	
Queue Length 50th (ft)	397	594	4	62	652	99	187	180	0	260	117	507
Queue Length 95th (ft)	#492	649	41	115	716	204	276	267	0	#339	187	685
Internal Link Dist (ft)		1095			1565			420			920	
Turn Bay Length (ft)	600		350	545		300	350		350	250		250
Base Capacity (vph)	786	2642	875	111	1776	710	294	256	348	530	234	663
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.68	0.13	0.48	0.88	0.50	0.57	0.62	0.14	0.82	0.45	0.83

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 175.1

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 55.3

Intersection LOS: E

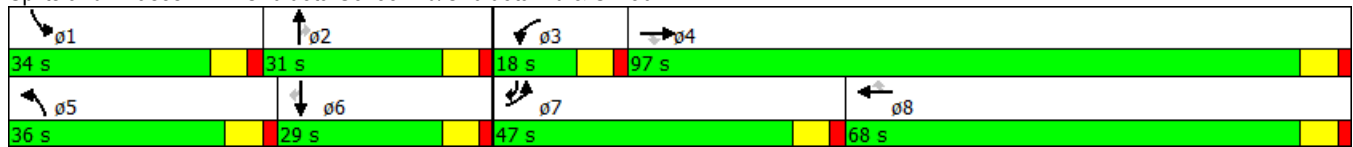
Intersection Capacity Utilization 89.8%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 4: Chuluota School Rd/Chuluota Rd & SR 50





**Build 2045**

**AM Peak – Synchro Output**

# Lanes, Volumes, Timings

## 1: Woodbury & SR 408 Off Ramp

2045 AM Build

							ø1	ø2	ø6
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Volume (vph)	120	285	1145	0	0	1070			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	400	0		300	350				
Storage Lanes	1	1		0	0				
Taper Length (ft)	25				25				
Satd. Flow (prot)	1770	1583	3539	0	0	5085			
Flt Permitted	0.950								
Satd. Flow (perm)	1770	1583	3539	0	0	5085			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)		128							
Link Speed (mph)	30		30			30			
Link Distance (ft)	878		175			388			
Travel Time (s)	20.0		4.0			8.8			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	126	300	1205	0	0	1126			
Turn Type	Prot	Prot	NA			NA			
Protected Phases	8	8	2 6			2 6	1	2	6
Permitted Phases		8							
Total Split (s)	26.0	26.0					39.0	81.0	13.0
Total Lost Time (s)	5.0	5.0							
Act Effct Green (s)	21.0	21.0	89.0			89.0			
Actuated g/C Ratio	0.18	0.18	0.74			0.74			
v/c Ratio	0.41	0.79	0.46			0.30			
Control Delay	48.6	42.4	0.5			5.4			
Queue Delay	30.2	0.0	0.1			0.1			
Total Delay	78.8	42.4	0.6			5.4			
LOS	E	D	A			A			
Approach Delay	53.1		0.6			5.4			
Approach LOS	D		A			A			
Queue Length 50th (ft)	88	130	0			91			
Queue Length 95th (ft)	149	#265	0			109			
Internal Link Dist (ft)	798		95			308			
Turn Bay Length (ft)	400								
Base Capacity (vph)	309	382	2624			3771			
Starvation Cap Reductn	0	0	265			0			
Spillback Cap Reductn	176	0	0			853			
Storage Cap Reductn	0	0	0			0			
Reduced v/c Ratio	0.95	0.79	0.51			0.39			

### Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green, Master Intersection

Control Type: Pretimed

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 10.7

Intersection LOS: B

Intersection Capacity Utilization 57.6%

ICU Level of Service B

# Lanes, Volumes, Timings

## 1: Woodbury & SR 408 Off Ramp






2045 AM Build

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodbury & SR 408 Off Ramp

<div> <div>#1 #2</div> <div>   </div> <div>ø2</div> </div> <div>81 s</div>	<div> <div>#2</div> <div>  </div> <div>ø1</div> </div> <div>39 s</div>
	<div> <div>#1</div> <div>  </div> <div>ø6 (R)</div> </div> <div>13 s</div> <div> <div>#1</div> <div>  </div> <div>ø8</div> </div> <div>26 s</div>



## Lanes, Volumes, Timings

### 2: Woodbury Rd/Woodbury & SR 408 On Ramp

2045 AM Build

							ø6	ø8
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations			↑↑	↑	↑	↑↑		
Volume (vph)	0	0	1145	80	190	1000		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0		300	0			
Storage Lanes	0	0		1	1			
Taper Length (ft)	25				25			
Satd. Flow (prot)	0	0	3539	1583	1770	3539		
Flt Permitted					0.950			
Satd. Flow (perm)	0	0	3539	1583	1770	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)				84				
Link Speed (mph)	30		30			30		
Link Distance (ft)	880		590			175		
Travel Time (s)	20.0		13.4			4.0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	1205	84	200	1053		
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		1	2	6	8
Permitted Phases				2				
Total Split (s)			81.0	81.0	39.0	81.0	13.0	26.0
Total Lost Time (s)			5.0	5.0	5.0	5.0		
Act Effct Green (s)			76.0	76.0	34.0	76.0		
Actuated g/C Ratio			0.63	0.63	0.28	0.63		
v/c Ratio			0.54	0.08	0.40	0.47		
Control Delay			13.3	1.9	47.3	9.7		
Queue Delay			0.0	0.0	70.0	0.3		
Total Delay			13.3	1.9	117.3	10.0		
LOS			B	A	F	B		
Approach Delay			12.6			27.2		
Approach LOS			B			C		
Queue Length 50th (ft)			253	0	143	243		
Queue Length 95th (ft)			309	18	221	295		
Internal Link Dist (ft)	800		510			95		
Turn Bay Length (ft)				300				
Base Capacity (vph)			2241	1033	501	2241		
Starvation Cap Reductn			0	0	354	571		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.54	0.08	1.36	0.63		

#### Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green, Master Intersection

Control Type: Pretimed

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 19.8

Intersection LOS: B

Intersection Capacity Utilization 57.6%






ICU Level of Service B

# Lanes, Volumes, Timings 2: Woodbury Rd/Woodbury & SR 408 On Ramp

2045 AM Build

Analysis Period (min) 15























Splits and Phases: 2: Woodbury Rd/Woodbury & SR 408 On Ramp

<div> <div>#1 #2</div> <div>   </div> <div>ø2</div> </div>	<div> <div>#2</div> <div>  </div> <div>ø1</div> </div>
81 s	39 s
	<div> <div>#1</div> <div>  </div> <div>ø6 (R)</div> </div> <div> <div>#1</div> <div>  </div> <div>ø8</div> </div>
	<div>13 s</div> <div>26 s</div>

# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

2045 AM Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	235	0	450	225	0	20	670	675	150	15	415	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		400	250		0	600		100	250		100
Storage Lanes	0		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	0	1583	1770	0	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	0	1583	1770	0	1583	3433	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			58			95			153			244
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		714			762			660			506	
Travel Time (s)		16.2			17.3			15.0			11.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	0	474	237	0	21	705	711	158	16	437	374
Turn Type	Prot		pt+ov	Prot		pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4 5	3		8 1	5	2		1	6	
Permitted Phases			7			3			2			6
Total Split (s)	40.0			48.0			44.0	68.0	68.0	14.0	38.0	38.0
Total Lost Time (s)	8.0			8.0			8.0	8.0	8.0	8.0	8.0	8.0
Act Effct Green (s)	29.2		84.6	25.5		42.9	37.7	87.1	87.1	6.9	50.9	50.9
Actuated g/C Ratio	0.19		0.56	0.17		0.29	0.25	0.58	0.58	0.05	0.34	0.34
v/c Ratio	0.72		0.52	0.79		0.04	0.82	0.35	0.16	0.20	0.36	0.54
Control Delay	69.2		17.1	77.6		0.1	60.9	19.4	3.7	73.7	41.1	18.5
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2		17.1	77.6		0.1	60.9	19.4	3.7	73.7	41.1	18.5
LOS	E		B	E		A	E	B	A	E	D	B
Approach Delay								36.4			31.5	
Approach LOS								D			C	
Queue Length 50th (ft)	235		222	225		0	337	209	2	15	173	99
Queue Length 95th (ft)	324		234	305		0	387	291	43	41	256	238
Internal Link Dist (ft)		634			682			580			426	
Turn Bay Length (ft)	250		400	250			600		100	250		100
Base Capacity (vph)	377		932	472		555	894	2055	983	83	1200	698
Starvation Cap Reductn	0		0	0		0	0	0	0	0	0	0
Spillback Cap Reductn	0		0	0		0	0	0	0	0	0	0
Storage Cap Reductn	0		0	0		0	0	0	0	0	0	0
Reduced v/c Ratio	0.66		0.51	0.50		0.04	0.79	0.35	0.16	0.19	0.36	0.54

### Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 37.6

Intersection LOS: D

Intersection Capacity Utilization 65.1%

ICU Level of Service C



# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

2045 AM Build

Lane Group	ø4	ø8
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	8
Permitted Phases		
Total Split (s)	20.0	28.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

# Lanes, Volumes, Timings 3: Avalon Park & SR 408 Extension Ramps

2045 AM Build

Analysis Period (min) 15









Splits and Phases: 3: Avalon Park & SR 408 Extension Ramps



# Lanes, Volumes, Timings

## 4: SR 408 Extension Off Ramp & to Chuluota

2045 AM Build

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	675	0	0	0	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3433	0	0	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	0	0	0	1770	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						
Link Speed (mph)		30	30		30	
Link Distance (ft)		432	524		456	
Travel Time (s)		9.8	11.9		10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	711	0	0	0	11	0
Turn Type	Prot				Prot	
Protected Phases	7				6	
Permitted Phases						
Total Split (s)	66.0				24.0	
Total Lost Time (s)	5.0				5.0	
Act Effct Green (s)	61.0				19.0	
Actuated g/C Ratio	0.68				0.21	
v/c Ratio	0.31				0.03	
Control Delay	6.3				28.6	
Queue Delay	0.0				0.0	
Total Delay	6.3				28.6	
LOS	A				C	
Approach Delay					28.6	
Approach LOS					C	
Queue Length 50th (ft)	73				5	
Queue Length 95th (ft)	98				19	
Internal Link Dist (ft)		352	444		376	
Turn Bay Length (ft)						
Base Capacity (vph)	2326				373	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.31				0.03	

### Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2: and 6:SBL, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 6.7

Intersection Capacity Utilization 30.1%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A



## Lanes, Volumes, Timings

### 4: SR 408 Extension Off Ramp & to Chuluota

2045 AM Build



















Splits and Phases: 4: SR 408 Extension Off Ramp & to Chuluota



# Lanes, Volumes, Timings

## 5: SR 408 Extension On Ramp & SR 50

2045 AM Build

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	10	1260	85	485	1595	0	0	0	0	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	900		0	0		0	0		0
Storage Lanes	1		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	3433	3539	0	0	0	0	0	1750	0
Flt Permitted	0.950			0.950							0.984	
Satd. Flow (perm)	1770	3539	1583	3433	3539	0	0	0	0	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131								11	
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		737			1151			664			401	
Travel Time (s)		10.1			15.7			15.1			9.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1326	89	511	1679	0	0	0	0	0	33	0
Turn Type	Prot	NA	Perm	Prot	NA					Split	NA	
Protected Phases	1	6		5	2					4	4	
Permitted Phases			6									
Total Split (s)	23.0	91.0	91.0	44.0	112.0					15.0	15.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0						7.0	
Act Effct Green (s)	16.0	84.0	84.0	37.0	105.0						8.0	
Actuated g/C Ratio	0.11	0.56	0.56	0.25	0.70						0.05	
v/c Ratio	0.06	0.67	0.09	0.60	0.68						0.32	
Control Delay	61.2	25.3	0.8	45.6	15.8						58.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0						0.0	
Total Delay	61.2	25.3	0.8	45.6	15.8						58.8	
LOS	E	C	A	D	B						E	
Approach Delay		24.1			22.8						58.8	
Approach LOS		C			C						E	
Queue Length 50th (ft)	10	465	0	231	474						21	
Queue Length 95th (ft)	31	543	8	293	584						59	
Internal Link Dist (ft)		657			1071			584			321	
Turn Bay Length (ft)			300	900								
Base Capacity (vph)	188	1981	944	846	2477						103	
Starvation Cap Reductn	0	0	0	0	0						0	
Spillback Cap Reductn	0	0	0	0	0						0	
Storage Cap Reductn	0	0	0	0	0						0	
Reduced v/c Ratio	0.06	0.67	0.09	0.60	0.68						0.32	

### Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 23.6

Intersection LOS: C

Intersection Capacity Utilization 69.5%

ICU Level of Service C

# Lanes, Volumes, Timings 5: SR 408 Extension On Ramp & SR 50

2045 AM Build

Analysis Period (min) 15

Splits and Phases: 5: SR 408 Extension On Ramp & SR 50







 ø1	 ø2 (R)		 ø4
23 s	112 s		15 s
 ø5	 ø6 (R)		
44 s	91 s		



# Lanes, Volumes, Timings

## 6: SR 408 Extension Off Ramp & SR 50

2045 AM Build

						
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑↑			↑↑	↘	↗
Volume (vph)	1260	0	0	2025	55	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3539	0	0	3539	1770	2787
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						211
Link Speed (mph)	50			50	30	
Link Distance (ft)	1151			925	636	
Travel Time (s)	15.7			12.6	14.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1326	0	0	2132	58	342
Turn Type	NA			NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases						2
Total Split (s)	123.0			123.0	27.0	27.0
Total Lost Time (s)	4.0			4.0	4.0	4.0
Act Effct Green (s)	119.0			119.0	23.0	23.0
Actuated g/C Ratio	0.79			0.79	0.15	0.15
v/c Ratio	0.47			0.76	0.21	0.57
Control Delay	9.1			10.3	58.0	25.9
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	9.1			10.3	58.0	25.9
LOS	A			B	E	C
Approach Delay	9.1			10.3	30.6	
Approach LOS	A			B	C	
Queue Length 50th (ft)	550			490	50	65
Queue Length 95th (ft)	642			567	96	125
Internal Link Dist (ft)	1071			845	556	
Turn Bay Length (ft)						
Base Capacity (vph)	2807			2807	271	605
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.47			0.76	0.21	0.57

### Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NEL and 6:, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 12.0

Intersection Capacity Utilization 66.0%

Analysis Period (min) 15

Intersection LOS: B


ICU Level of Service C

# Lanes, Volumes, Timings

## 6: SR 408 Extension Off Ramp & SR 50

























2045 AM Build

Splits and Phases: 6: SR 408 Extension Off Ramp & SR 50

 <p>ø2 (R)</p> <p>27 s</p>	 <p>ø4</p> <p>123 s</p>
	 <p>ø8</p> <p>123 s</p>

Lanes, Volumes, Timings  
101: Woodbury & SR 50

2045 AM Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	345	2120	240	235	2175	250	345	350	195	175	375	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		550	450		150	450		0	400		0
Storage Lanes	2		1	2		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3348	0	1770	3323	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3348	0	1770	3323	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			48			109			54			78
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		901			1164			915			681	
Travel Time (s)		13.7			17.6			20.8			15.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	363	2232	253	247	2289	263	363	573	0	184	663	0
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6						
Total Split (s)	23.0	90.0	39.0	17.0	84.0	28.0	39.0	45.0		28.0	34.0	
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0		5.0	6.0	
Act Effct Green (s)	18.0	84.0	124.0	12.0	78.0	107.0	34.0	39.0		23.0	28.0	
Actuated g/C Ratio	0.10	0.47	0.69	0.07	0.43	0.59	0.19	0.22		0.13	0.16	
v/c Ratio	1.06	0.94	0.23	1.08	1.04	0.27	1.09	0.75		0.81	1.14	
Control Delay	138.6	54.6	8.8	157.5	79.1	10.6	139.4	66.3		102.5	138.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	138.6	54.6	8.8	157.5	79.1	10.6	139.4	66.3		102.5	138.6	
LOS	F	D	A	F	E	B	F	E		F	F	
Approach Delay		61.3			79.6			94.7			130.8	
Approach LOS		E			E			F			F	
Queue Length 50th (ft)	~241	911	82	~167	~1063	81	~479	307		215	~436	
Queue Length 95th (ft)	#354	978	123	#268	#1142	134	#699	381		#350	#571	
Internal Link Dist (ft)		821			1084			835			601	
Turn Bay Length (ft)	550		550	450		150	450			400		
Base Capacity (vph)	343	2373	1105	228	2203	985	334	767		226	582	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.06	0.94	0.23	1.08	1.04	0.27	1.09	0.75		0.81	1.14	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 80.3

Intersection LOS: F

Intersection Capacity Utilization 107.9%

ICU Level of Service G



# Lanes, Volumes, Timings

## 101: Woodbury & SR 50

2045 AM Build

Analysis Period (min) 15

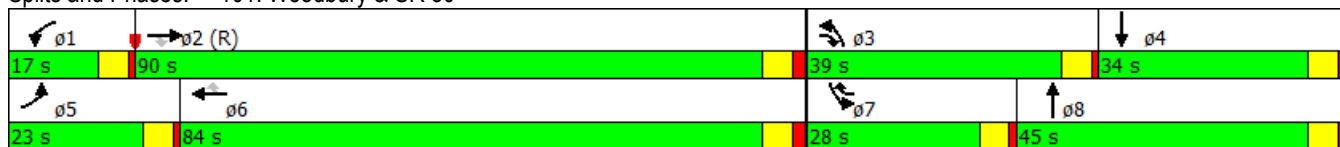
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 101: Woodbury & SR 50



# Lanes, Volumes, Timings

## 102: SR 408 Off Ramp & SR 50

2045 AM Build

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘	↗
Volume (vph)	2100	0	0	3235	180	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	5085	0	0	5085	1770	2787
Flt Permitted					0.950	
Satd. Flow (perm)	5085	0	0	5085	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						26
Link Speed (mph)	30			30	30	
Link Distance (ft)	824			895	538	
Travel Time (s)	18.7			20.3	12.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2211	0	0	3405	189	653
Turn Type	NA			NA	Prot	Prot
Protected Phases	2			2	4	4
Permitted Phases						
Total Split (s)	132.0			132.0	48.0	48.0
Total Lost Time (s)	6.0			6.0	6.0	6.0
Act Effct Green (s)	126.0			126.0	42.0	42.0
Actuated g/C Ratio	0.70			0.70	0.23	0.23
v/c Ratio	0.62			0.96	0.46	0.97
Control Delay	15.3			32.7	63.5	93.6
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	15.3			32.7	63.5	93.6
LOS	B			C	E	F
Approach Delay	15.3			32.7	86.8	
Approach LOS	B			C	F	
Queue Length 50th (ft)	477			1259	194	425
Queue Length 95th (ft)	513			1312	281	#573
Internal Link Dist (ft)	744			815	458	
Turn Bay Length (ft)						
Base Capacity (vph)	3559			3559	413	670
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.62			0.96	0.46	0.97

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 33.8

Intersection Capacity Utilization 82.5%

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings  
102: SR 408 Off Ramp & SR 50























2045 AM Build

Splits and Phases: 102: SR 408 Off Ramp & SR 50



Lanes, Volumes, Timings  
103: Avalon Park Blvd/Pilgrim St & SR 50

2045 AM Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	1395	460	265	1865	65	560	60	250	80	70	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		500	250		250	300		0	0		0
Storage Lanes	1		1	2		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1681	1701	1583	0	3323	0
Flt Permitted	0.950			0.950			0.950	0.961			0.981	
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	1681	1701	1583	0	3323	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			202			55			220		26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1099			1266			987			623	
Travel Time (s)		25.0			28.8			22.4			14.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	53	1468	484	279	1963	68	324	328	263	0	221	0
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		4	4	
Permitted Phases						6			8			
Total Split (s)	16.0	82.0		25.0	91.0	91.0	53.0	53.0	53.0	20.0	20.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Act Effct Green (s)	12.0	78.0	127.0	21.0	87.0	87.0	49.0	49.0	49.0		16.0	
Actuated g/C Ratio	0.07	0.43	0.71	0.12	0.48	0.48	0.27	0.27	0.27		0.09	
v/c Ratio	0.45	0.67	0.41	0.70	0.80	0.09	0.71	0.71	0.45		0.69	
Control Delay	93.4	42.5	4.0	86.5	42.2	7.9	68.8	68.7	12.8		82.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay	93.4	42.5	4.0	86.5	42.2	7.9	68.8	68.7	12.8		82.2	
LOS	F	D	A	F	D	A	E	E	B		F	
Approach Delay		34.5			46.6			52.7			82.2	
Approach LOS		C			D			D			F	
Queue Length 50th (ft)	61	504	55	166	707	8	366	371	38		120	
Queue Length 95th (ft)	114	557	83	221	767	38	495	502	126		171	
Internal Link Dist (ft)		1019			1186			907			543	
Turn Bay Length (ft)	250		500	250		250	300					
Base Capacity (vph)	118	2203	1176	400	2457	793	457	463	591		319	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Reduced v/c Ratio	0.45	0.67	0.41	0.70	0.80	0.09	0.71	0.71	0.45		0.69	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 44.6

Intersection LOS: D

Intersection Capacity Utilization 76.0%

ICU Level of Service D









# Lanes, Volumes, Timings 103: Avalon Park Blvd/Pilgrim St & SR 50

2045 AM Build

























Analysis Period (min) 15

Splits and Phases: 103: Avalon Park Blvd/Pilgrim St & SR 50

 Ø1	 Ø2 (R)	 Ø4	 Ø8
25 s	82 s	20 s	53 s
 Ø5	 Ø6		
16 s	91 s		

Lanes, Volumes, Timings  
104: Chuluota Rd & SR 50

2045 AM Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	1240	260	185	1515	300	210	560	150	250	685	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		300	300		300
Storage Lanes	2		1	2		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3426	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3426	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			61			97			19			97
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			752			780			580	
Travel Time (s)		15.6			17.1			17.7			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	274	1305	274	195	1595	316	221	747	0	263	721	463
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	6 7
Permitted Phases												
Total Split (s)	24.0	71.0		23.0	70.0		35.0	60.0		26.0	51.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0		6.0	6.0	
Act Effct Green (s)	17.0	64.0	99.0	16.0	63.0	89.0	29.0	54.0		20.0	45.0	69.0
Actuated g/C Ratio	0.09	0.36	0.55	0.09	0.35	0.49	0.16	0.30		0.11	0.25	0.38
v/c Ratio	0.85	0.72	0.31	0.64	0.90	0.38	0.78	0.72		0.69	0.82	0.70
Control Delay	102.5	53.1	17.6	89.4	63.1	20.4	91.0	59.3		87.2	72.2	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	102.5	53.1	17.6	89.4	63.1	20.4	91.0	59.3		87.2	72.2	42.6
LOS	F	D	B	F	E	C	F	E		F	E	D
Approach Delay		55.1			59.1			66.5			65.5	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	167	491	131	117	656	157	254	407		157	426	371
Queue Length 95th (ft)	#244	547	195	164	721	236	#378	486		210	508	515
Internal Link Dist (ft)		608			672			700			500	
Turn Bay Length (ft)	300		300	300		300	300			300		300
Base Capacity (vph)	324	1808	898	305	1779	831	285	1041		381	884	666
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.85	0.72	0.31	0.64	0.90	0.38	0.78	0.72		0.69	0.82	0.70

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 60.5

Intersection LOS: E

Intersection Capacity Utilization 88.9%

ICU Level of Service E

# Lanes, Volumes, Timings

## 104: Chuluota Rd & SR 50

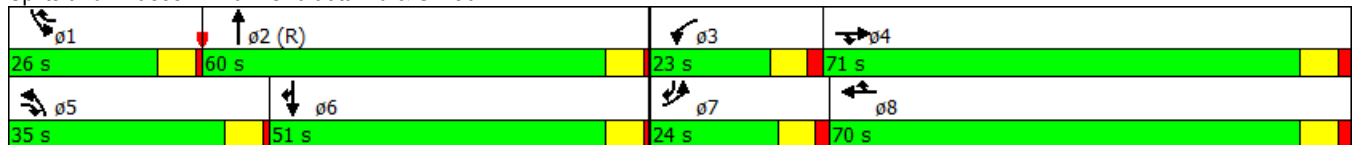
2045 AM Build

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 104: Chuluota Rd & SR 50



**Build 2045**











**PM Peak – Synchro Output**



# Lanes, Volumes, Timings

## 1: Woodbury & SR 408 Off Ramp

2045 PM Build

									
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø1	ø2	ø6
Lane Configurations									
Volume (vph)	80	190	880	0	0	1430			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	400	0		300	350				
Storage Lanes	1	1		0	0				
Taper Length (ft)	25				25				
Satd. Flow (prot)	1770	1583	3539	0	0	5085			
Flt Permitted	0.950								
Satd. Flow (perm)	1770	1583	3539	0	0	5085			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)		200							
Link Speed (mph)	30		30			30			
Link Distance (ft)	878		175			388			
Travel Time (s)	20.0		4.0			8.8			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	84	200	926	0	0	1505			
Turn Type	Prot	Prot	NA			NA			
Protected Phases	8	8	2 6			2 6	1	2	6
Permitted Phases		8							
Total Split (s)	28.0	28.0					50.0	70.0	22.0
Total Lost Time (s)	5.0	5.0							
Act Effct Green (s)	23.0	23.0	87.0			87.0			
Actuated g/C Ratio	0.19	0.19	0.72			0.72			
v/c Ratio	0.25	0.43	0.36			0.41			
Control Delay	43.5	8.7	0.4			6.8			
Queue Delay	12.0	0.0	0.1			0.1			
Total Delay	55.4	8.7	0.5			7.0			
LOS	E	A	A			A			
Approach Delay	22.5		0.5			7.0			
Approach LOS	C		A			A			
Queue Length 50th (ft)	56	0	0			146			
Queue Length 95th (ft)	104	63	0			171			
Internal Link Dist (ft)	798		95			308			
Turn Bay Length (ft)	400								
Base Capacity (vph)	339	465	2565			3686			
Starvation Cap Reductn	0	0	592			0			
Spillback Cap Reductn	226	0	0			868			
Storage Cap Reductn	0	0	0			0			
Reduced v/c Ratio	0.74	0.43	0.47			0.53			

### Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green, Master Intersection

Control Type: Pretimed

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 6.4

Intersection LOS: A

Intersection Capacity Utilization 48.4%

ICU Level of Service A

# Lanes, Volumes, Timings

## 1: Woodbury & SR 408 Off Ramp

2045 PM Build

Analysis Period (min) 15






Splits and Phases: 1: Woodbury & SR 408 Off Ramp

<div> <div>#1</div> <div>#2</div> <div> <div>↓↑</div> <div>↓↑</div> </div> <div>ø2</div> </div>	<div> <div>#2</div> <div> <div>↙</div> <div>↘</div> </div> <div>ø1</div> </div>
70 s	50 s
	<div> <div>#1</div> <div> <div>↓↑</div> <div>↙</div> </div> <div>ø6 (R)</div> </div> <div> <div>#1</div> <div> <div>↙</div> <div>↘</div> </div> <div>ø8</div> </div>
	<div>22 s</div> <div>28 s</div>

# Lanes, Volumes, Timings

## 2: Woodbury Rd/Woodbury & SR 408 On Ramp

2045 PM Build

								
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	ø6	ø8
Lane Configurations			↑↑	↗	↘	↑↑		
Volume (vph)	0	0	880	120	285	1225		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0		300	0			
Storage Lanes	0	0		1	1			
Taper Length (ft)	25				25			
Satd. Flow (prot)	0	0	3539	1583	1770	3539		
Flt Permitted					0.950			
Satd. Flow (perm)	0	0	3539	1583	1770	3539		
Right Turn on Red		Yes		Yes				
Satd. Flow (RTOR)				126				
Link Speed (mph)	30		30			30		
Link Distance (ft)	880		590			175		
Travel Time (s)	20.0		13.4			4.0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	0	926	126	300	1289		
Turn Type			NA	Perm	Prot	NA		
Protected Phases			2		1	2	6	8
Permitted Phases				2				
Total Split (s)			70.0	70.0	50.0	70.0	22.0	28.0
Total Lost Time (s)			5.0	5.0	5.0	5.0		
Act Effct Green (s)			65.0	65.0	45.0	65.0		
Actuated g/C Ratio			0.54	0.54	0.38	0.54		
v/c Ratio			0.48	0.14	0.45	0.67		
Control Delay			18.1	2.6	42.9	16.9		
Queue Delay			0.0	0.0	63.4	0.1		
Total Delay			18.1	2.6	106.3	17.0		
LOS			B	A	F	B		
Approach Delay			16.3			33.9		
Approach LOS			B			C		
Queue Length 50th (ft)			224	0	220	380		
Queue Length 95th (ft)			278	28	323	457		
Internal Link Dist (ft)	800		510			95		
Turn Bay Length (ft)				300				
Base Capacity (vph)			1916	915	663	1916		
Starvation Cap Reductn			0	0	445	77		
Spillback Cap Reductn			0	0	0	0		
Storage Cap Reductn			0	0	0	0		
Reduced v/c Ratio			0.48	0.14	1.38	0.70		

### Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 6:NBSB, Start of Green, Master Intersection

Control Type: Pretimed

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 26.9

Intersection Capacity Utilization 48.4%

Intersection LOS: C








ICU Level of Service A

# Lanes, Volumes, Timings 2: Woodbury Rd/Woodbury & SR 408 On Ramp

2045 PM Build

Analysis Period (min) 15

Splits and Phases: 2: Woodbury Rd/Woodbury & SR 408 On Ramp























<div> <div>#1</div> <div>#2</div> <div>   </div> <div>ø2</div> </div>	<div> <div>#2</div> <div>  </div> <div>ø1</div> </div>
70 s	50 s
	<div> <div>#1</div> <div>   </div> <div>ø6 (R)</div> </div> <div> <div>#1</div> <div>   </div> <div>ø8</div> </div>
	<div>22 s</div> <div>28 s</div>



# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

2045 PM Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	335	0	670	150	0	15	450	415	225	20	675	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		400	250		0	600		100	250		100
Storage Lanes	0		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	0	1583	1770	0	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	0	1583	1770	0	1583	3433	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			36			153			211			269
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		714			762			660			506	
Travel Time (s)		16.2			17.3			15.0			11.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	0	705	158	0	16	474	437	237	21	711	247
Turn Type	Prot		pt+ov	Prot		pt+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7		4 5	3		8 1	5	2		1	6	
Permitted Phases			7			3			2			6
Total Split (s)	51.0			28.0			34.0	69.0	69.0	14.0	49.0	49.0
Total Lost Time (s)	8.0			8.0			8.0	8.0	8.0	8.0	8.0	8.0
Act Effct Green (s)	46.3		90.3	17.3		33.2	26.1	72.7	72.7	6.6	47.7	47.7
Actuated g/C Ratio	0.31		0.60	0.12		0.22	0.17	0.48	0.48	0.04	0.32	0.32
v/c Ratio	0.65		0.73	0.77		0.03	0.79	0.25	0.27	0.27	0.63	0.36
Control Delay	52.0		24.4	88.5		0.1	69.6	25.1	5.7	78.1	48.0	4.7
Queue Delay	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0		24.4	88.5		0.1	69.6	25.1	5.7	78.1	48.0	4.7
LOS	D		C	F		A	E	C	A	E	D	A
Approach Delay								39.5			37.7	
Approach LOS								D			D	
Queue Length 50th (ft)	277		424	151		0	229	143	15	20	322	0
Queue Length 95th (ft)	428		538	231		0	297	195	72	51	410	51
Internal Link Dist (ft)		634			682			580			426	
Turn Bay Length (ft)	250		400	250			600		100	250		100
Base Capacity (vph)	555		979	236		473	624	1715	876	79	1125	686
Starvation Cap Reductn	0		0	0		0	0	0	0	0	0	0
Spillback Cap Reductn	0		0	0		0	0	0	0	0	0	0
Storage Cap Reductn	0		0	0		0	0	0	0	0	0	0
Reduced v/c Ratio	0.64		0.72	0.67		0.03	0.76	0.25	0.27	0.27	0.63	0.36

### Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 39.2

Intersection LOS: D

Intersection Capacity Utilization 81.8%

ICU Level of Service D

# Lanes, Volumes, Timings

## 3: Avalon Park & SR 408 Extension Ramps

2045 PM Build









Lane Group	ø4	ø8
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	4	8
Permitted Phases		
Total Split (s)	39.0	16.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

# Lanes, Volumes, Timings 3: Avalon Park & SR 408 Extension Ramps

2045 PM Build

Analysis Period (min) 15










Splits and Phases: 3: Avalon Park & SR 408 Extension Ramps

 <p>ø1</p>	 <p>ø2 (R)</p>	 <p>ø3</p>	 <p>ø4</p>
<p>14 s</p>	<p>69 s</p>	<p>28 s</p>	<p>39 s</p>
 <p>ø5</p>	 <p>ø6 (R)</p>	 <p>ø7</p>	 <p>ø8</p>
<p>34 s</p>	<p>49 s</p>	<p>51 s</p>	<p>16 s</p>

# Lanes, Volumes, Timings

## 4: SR 408 Extension Off Ramp & to Chuluota

2045 PM Build

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	 					
Volume (vph)	1010	0	0	0	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3433	0	0	0	1770	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	0	0	0	1770	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						
Link Speed (mph)		30	30		30	
Link Distance (ft)		432	524		456	
Travel Time (s)		9.8	11.9		10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1063	0	0	0	16	0
Turn Type	Prot				Prot	
Protected Phases	7				6	
Permitted Phases						
Total Split (s)	66.0				24.0	
Total Lost Time (s)	5.0				5.0	
Act Effct Green (s)	61.0				19.0	
Actuated g/C Ratio	0.68				0.21	
v/c Ratio	0.46				0.04	
Control Delay	7.5				28.8	
Queue Delay	0.0				0.0	
Total Delay	7.5				28.8	
LOS	A				C	
Approach Delay					28.8	
Approach LOS					C	
Queue Length 50th (ft)	127				7	
Queue Length 95th (ft)	164				24	
Internal Link Dist (ft)		352	444		376	
Turn Bay Length (ft)						
Base Capacity (vph)	2326				373	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.46				0.04	
Intersection Summary						
Area Type:	Other					
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced to phase 2: and 6:SBL, Start of Green						
Control Type: Pretimed						
Maximum v/c Ratio: 0.46						
Intersection Signal Delay: 7.9				Intersection LOS: A		
Intersection Capacity Utilization 39.6%				ICU Level of Service A		
Analysis Period (min) 15						



## Lanes, Volumes, Timings

### 4: SR 408 Extension Off Ramp & to Chuluota

2045 PM Build



















Splits and Phases: 4: SR 408 Extension Off Ramp & to Chuluota



# Lanes, Volumes, Timings

## 5: SR 408 Extension On Ramp & SR 50

2045 PM Build

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	10	1540	55	325	1345	0	0	0	0	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	900		0	0		0	0		0
Storage Lanes	1		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	3539	1583	3433	3539	0	0	0	0	0	1750	0
Flt Permitted	0.950			0.950							0.984	
Satd. Flow (perm)	1770	3539	1583	3433	3539	0	0	0	0	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131								11	
Link Speed (mph)		50			50			30			30	
Link Distance (ft)		737			1151			664			401	
Travel Time (s)		10.1			15.7			15.1			9.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1621	58	342	1416	0	0	0	0	0	33	0
Turn Type	Prot	NA	Perm	Prot	NA					Split	NA	
Protected Phases	1	6		5	2					4	4	
Permitted Phases			6									
Total Split (s)	23.0	104.0	104.0	32.0	113.0					14.0	14.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0						7.0	
Act Effct Green (s)	16.0	97.0	97.0	25.0	106.0						7.0	
Actuated g/C Ratio	0.11	0.65	0.65	0.17	0.71						0.05	
v/c Ratio	0.06	0.71	0.05	0.60	0.57						0.36	
Control Delay	61.2	19.5	0.1	48.4	15.2						62.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0						0.0	
Total Delay	61.2	19.5	0.1	48.4	15.2						62.1	
LOS	E	B	A	D	B						E	
Approach Delay		19.1			21.7						62.1	
Approach LOS		B			C						E	
Queue Length 50th (ft)	10	514	0	163	368						21	
Queue Length 95th (ft)	31	596	0	217	478						59	
Internal Link Dist (ft)		657			1071			584			321	
Turn Bay Length (ft)			300	900								
Base Capacity (vph)	188	2288	1069	572	2500						92	
Starvation Cap Reductn	0	0	0	0	0						0	
Spillback Cap Reductn	0	0	0	0	0						0	
Storage Cap Reductn	0	0	0	0	0						0	
Reduced v/c Ratio	0.06	0.71	0.05	0.60	0.57						0.36	

### Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 20.8

Intersection LOS: C

Intersection Capacity Utilization 72.7%

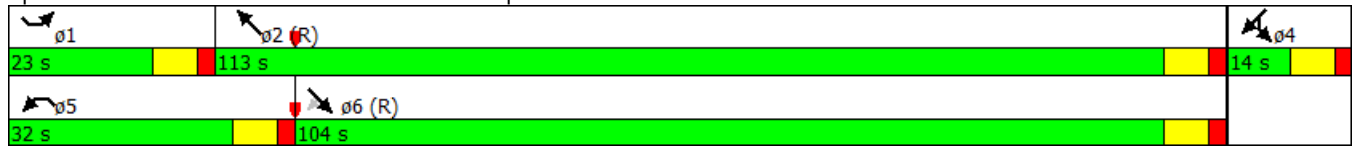
ICU Level of Service C

# Lanes, Volumes, Timings 5: SR 408 Extension On Ramp & SR 50

2045 PM Build







Analysis Period (min) 15

Splits and Phases: 5: SR 408 Extension On Ramp & SR 50



Lanes, Volumes, Timings  
6: SR 408 Extension Off Ramp & SR 50

2045 PM Build

						
Lane Group	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑↑			↑↑	↘	↗
Volume (vph)	1540	0	0	1585	85	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3539	0	0	3539	1770	2787
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						73
Link Speed (mph)	50			50	30	
Link Distance (ft)	1151			925	636	
Travel Time (s)	15.7			12.6	14.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1621	0	0	1668	89	511
Turn Type	NA			NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases						2
Total Split (s)	104.0			104.0	46.0	46.0
Total Lost Time (s)	4.0			4.0	4.0	4.0
Act Effct Green (s)	100.0			100.0	42.0	42.0
Actuated g/C Ratio	0.67			0.67	0.28	0.28
v/c Ratio	0.69			0.71	0.18	0.61
Control Delay	26.6			17.9	42.2	43.5
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	26.6			17.9	42.2	43.5
LOS	C			B	D	D
Approach Delay	26.6			17.9	43.3	
Approach LOS	C			B	D	
Queue Length 50th (ft)	843			507	66	213
Queue Length 95th (ft)	958			586	115	283
Internal Link Dist (ft)	1071			845	556	
Turn Bay Length (ft)						
Base Capacity (vph)	2359			2359	495	832
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.69			0.71	0.18	0.61

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:NEL and 6:, Start of Green  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 25.4  
 Intersection Capacity Utilization 66.2%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service C





# Lanes, Volumes, Timings

## 6: SR 408 Extension Off Ramp & SR 50

























2045 PM Build

Splits and Phases: 6: SR 408 Extension Off Ramp & SR 50

 <p>ø2 (R)</p>	 <p>ø4</p>
<p>46 s</p>	<p>104 s</p>
	 <p>ø8</p> <p>104 s</p>

Lanes, Volumes, Timings  
101: Woodbury & SR 50

2045 PM Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	255	2175	345	195	2120	175	250	375	235	250	350	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		550	450		150	450		0	400		0
Storage Lanes	2		1	2		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3334	0	1770	3263	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3334	0	1770	3263	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			55			66			123
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		901			1164			915			681	
Travel Time (s)		13.7			17.6			20.8			15.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	268	2289	363	205	2232	184	263	642	0	263	768	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	5	2	2 3	1	6	6 7	3	8		7	4	
Permitted Phases												
Total Split (s)	20.0	91.0		17.0	88.0		32.0	39.0		33.0	40.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Act Effct Green (s)	14.0	85.0	117.0	11.0	82.0	115.0	26.0	33.0		27.0	34.0	
Actuated g/C Ratio	0.08	0.47	0.65	0.06	0.46	0.64	0.14	0.18		0.15	0.19	
v/c Ratio	1.00	0.95	0.35	0.98	0.96	0.18	1.03	0.97		0.99	1.07	
Control Delay	135.9	55.8	12.4	138.9	59.2	9.5	136.6	91.6		127.3	110.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	135.9	55.8	12.4	138.9	59.2	9.5	136.6	91.6		127.3	110.4	
LOS	F	E	B	F	E	A	F	F		F	F	
Approach Delay		57.8			62.0			104.7			114.7	
Approach LOS		E			E			F			F	
Queue Length 50th (ft)	~167	942	150	127	931	58	~331	365		316	~462	
Queue Length 95th (ft)	#271	1010	212	#219	#1005	96	#529	#496		#517	#602	
Internal Link Dist (ft)		821			1084			835			601	
Turn Bay Length (ft)	550		550	450		150	450			400		
Base Capacity (vph)	267	2401	1051	209	2316	1031	255	665		265	716	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.00	0.95	0.35	0.98	0.96	0.18	1.03	0.97		0.99	1.07	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 72.8

Intersection LOS: E

Intersection Capacity Utilization 104.0%

ICU Level of Service G

# Lanes, Volumes, Timings

## 101: Woodbury & SR 50

2045 PM Build

Analysis Period (min) 15









~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.







Splits and Phases: 101: Woodbury & SR 50

 <p>ø1</p>	 <p>ø2 (R)</p>	 <p>ø3</p>	 <p>ø4</p>
17 s	91 s	32 s	40 s
 <p>ø5</p>	 <p>ø6</p>	 <p>ø7</p>	 <p>ø8</p>
20 s	88 s	33 s	39 s

# Lanes, Volumes, Timings

## 102: SR 408 Off Ramp & SR 50

2045 PM Build

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↑	↑↑
Volume (vph)	2480	0	0	2720	155	755
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	5085	0	0	5085	1770	2787
Flt Permitted					0.950	
Satd. Flow (perm)	5085	0	0	5085	1770	2787
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						5
Link Speed (mph)	30			30	30	
Link Distance (ft)	824			895	538	
Travel Time (s)	18.7			20.3	12.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2611	0	0	2863	163	795
Turn Type	NA			NA	Prot	Prot
Protected Phases	2			2	4	4
Permitted Phases						
Total Split (s)	117.0			117.0	63.0	63.0
Total Lost Time (s)	6.0			6.0	6.0	6.0
Act Effct Green (s)	111.0			111.0	57.0	57.0
Actuated g/C Ratio	0.62			0.62	0.32	0.32
v/c Ratio	0.83			0.91	0.29	0.90
Control Delay	30.3			36.0	48.1	72.1
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	30.3			36.0	48.1	72.1
LOS	C			D	D	E
Approach Delay	30.3			36.0	68.0	
Approach LOS	C			D	E	
Queue Length 50th (ft)	860			1051	146	510
Queue Length 95th (ft)	914			1109	216	#635
Internal Link Dist (ft)	744			815	458	
Turn Bay Length (ft)						
Base Capacity (vph)	3135			3135	560	885
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.83			0.91	0.29	0.90

### Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 38.4

Intersection Capacity Utilization 84.3%

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lanes, Volumes, Timings  
102: SR 408 Off Ramp & SR 50























2045 PM Build

Splits and Phases: 102: SR 408 Off Ramp & SR 50



Lanes, Volumes, Timings  
103: Avalon Park Blvd/Pilgrim St & SR 50

2045 PM Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	1865	560	250	1395	80	460	70	265	65	60	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		500	250		250	300		0	0		0
Storage Lanes	1		1	2		1	1		1	0		0
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	1681	1706	1583	0	3326	0
Flt Permitted	0.950			0.950			0.950	0.964			0.982	
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	1681	1706	1583	0	3326	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			202			72			194		26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1099			1266			987			623	
Travel Time (s)		25.0			28.8			22.4			14.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)							43%					
Lane Group Flow (vph)	63	1963	589	263	1468	84	276	282	279	0	184	0
Turn Type	Prot	NA	pt+ov	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	5	2	2 8	1	6		8	8		4	4	
Permitted Phases						6			8			
Total Split (s)	17.0	91.0		24.0	98.0	98.0	47.0	47.0	47.0	18.0	18.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Act Effct Green (s)	13.0	87.0	130.0	20.0	94.0	94.0	43.0	43.0	43.0		14.0	
Actuated g/C Ratio	0.07	0.48	0.72	0.11	0.52	0.52	0.24	0.24	0.24		0.08	
v/c Ratio	0.50	0.80	0.49	0.69	0.55	0.10	0.69	0.69	0.53		0.65	
Control Delay	94.3	42.2	4.8	87.2	29.9	5.8	72.5	72.6	21.8		80.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay	94.3	42.2	4.8	87.2	29.9	5.8	72.5	72.6	21.8		80.6	
LOS	F	D	A	F	C	A	E	E	C		F	
Approach Delay		35.1			37.1			55.6			80.6	
Approach LOS		D			D			E			F	
Queue Length 50th (ft)	73	707	81	157	420	7	315	323	84		97	
Queue Length 95th (ft)	130	767	118	210	464	37	435	444	188		145	
Internal Link Dist (ft)		1019			1186			907			543	
Turn Bay Length (ft)	250		500	250		250	300					
Base Capacity (vph)	127	2457	1199	381	2655	861	401	407	525		282	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0		0	
Reduced v/c Ratio	0.50	0.80	0.49	0.69	0.55	0.10	0.69	0.69	0.53		0.65	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 40.4

Intersection LOS: D

Intersection Capacity Utilization 74.4%







ICU Level of Service D

# Lanes, Volumes, Timings 103: Avalon Park Blvd/Pilgrim St & SR 50

2045 PM Build

























Analysis Period (min) 15

Splits and Phases: 103: Avalon Park Blvd/Pilgrim St & SR 50

 <p>ø1</p>	 <p>ø2 (R)</p>	 <p>ø4</p>	 <p>ø8</p>
<p>24 s</p>	<p>91 s</p>	<p>18 s</p>	<p>47 s</p>
 <p>ø5</p>	 <p>ø6</p>		
<p>17 s</p>	<p>98 s</p>		

Lanes, Volumes, Timings  
104: Chuluota Rd & SR 50

2045 PM Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1515	210	150	1240	250	260	685	185	300	560	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		300	300		300
Storage Lanes	2		1	2		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	1770	3426	0	3433	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	1770	3426	0	3433	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			61			139			20			97
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		688			752			780			580	
Travel Time (s)		15.6			17.1			17.7			13.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	463	1595	221	158	1305	263	274	916	0	316	589	274
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	6 7
Permitted Phases												
Total Split (s)	35.0	74.0		18.0	57.0		40.0	62.0		26.0	48.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		6.0	6.0		6.0	6.0	
Act Effct Green (s)	28.0	67.0	107.0	11.0	50.0	76.0	34.0	56.0		20.0	42.0	77.0
Actuated g/C Ratio	0.16	0.37	0.59	0.06	0.28	0.42	0.19	0.31		0.11	0.23	0.43
v/c Ratio	0.87	0.84	0.23	0.76	0.92	0.35	0.82	0.85		0.83	0.71	0.37
Control Delay	91.0	56.8	12.7	104.9	74.6	17.2	89.8	65.4		96.5	69.1	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	91.0	56.8	12.7	104.9	74.6	17.2	89.8	65.4		96.5	69.1	23.5
LOS	F	E	B	F	E	B	F	E		F	E	C
Approach Delay		59.5			68.6			71.1			65.8	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	279	632	84	96	553	94	315	526		191	341	140
Queue Length 95th (ft)	#368	695	132	#151	#619	171	#462	618		#266	414	220
Internal Link Dist (ft)		608			672			700			500	
Turn Bay Length (ft)	300		300	300		300	300			300		300
Base Capacity (vph)	534	1892	965	209	1412	748	334	1079		381	825	732
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.87	0.84	0.23	0.76	0.92	0.35	0.82	0.85		0.83	0.71	0.37

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Control Type: Pretimed

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 65.3

Intersection LOS: E

Intersection Capacity Utilization 91.6%

ICU Level of Service F



# Lanes, Volumes, Timings

## 104: Chuluota Rd & SR 50









2045 PM Build

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 104: Chuluota Rd & SR 50

 Ø1	 Ø2 (R)	 Ø3	 Ø4
26 s	62 s	18 s	74 s
 Ø5	 Ø6	 Ø7	 Ø8
40 s	48 s	35 s	57 s

## APPENDIX F – CONCEPT PLANS

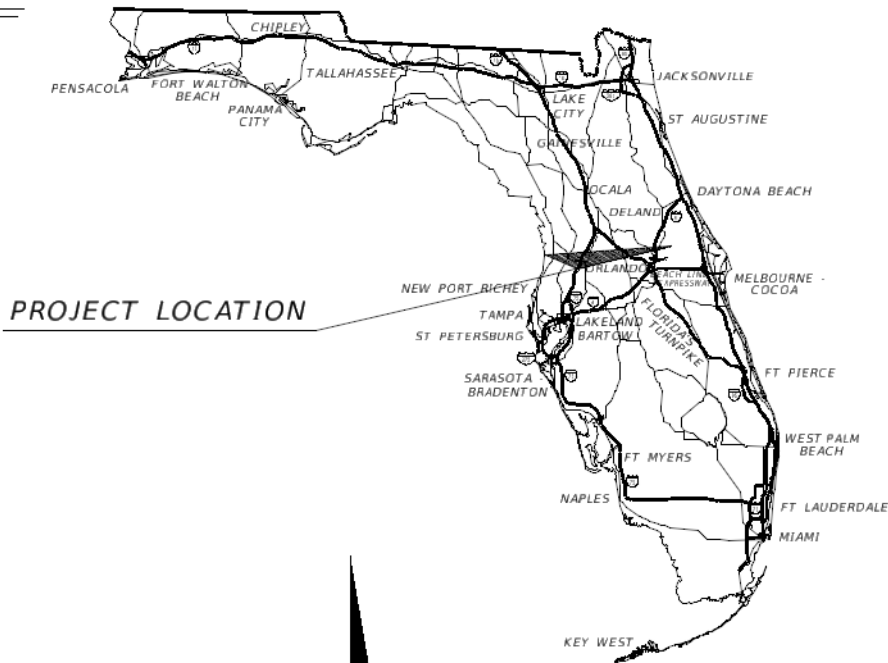
## CONCEPT PLANS

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

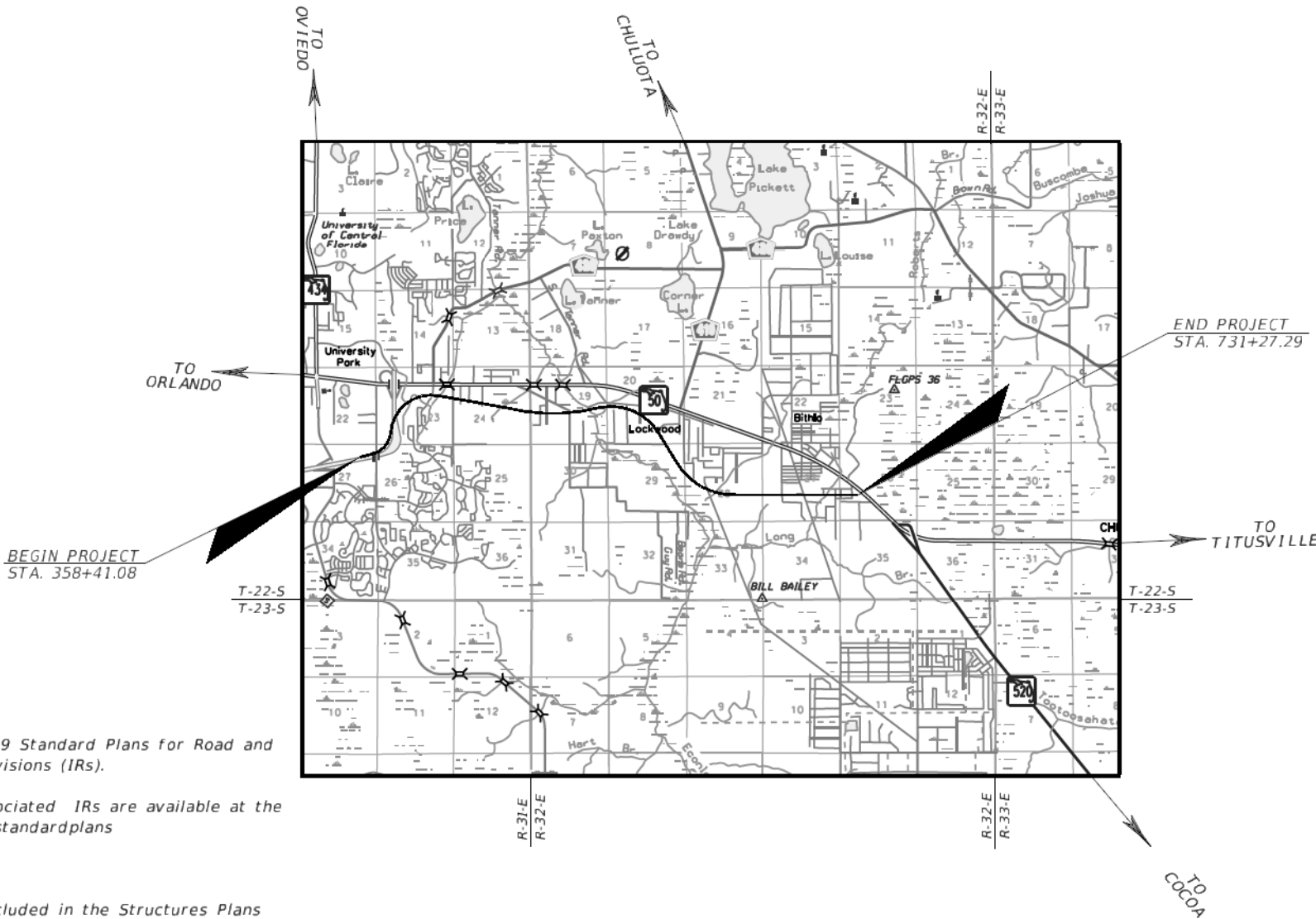
CONCEPT PLANS

SR 408 EASTERN EXTENSION  
ORANGE COUNTY (75008)  
STATE ROAD NO. 408

INDEX OF ROADWAY PLANS	
SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-4	PROJECT LAYOUT
5-11	TYPICAL SECTIONS
12-53	PLAN SHEETS



PROJECT LOCATION



GOVERNING STANDARD PLANS

Florida Department of Transportation, FY2018-19 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

Applicable IRs: IR536-001-01, IR521-001-01

Standard Plans for Bridge Construction are included in the Structures Plans Component.

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, July 2018 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

ROADWAY PLANS  
ENGINEER OF RECORD:

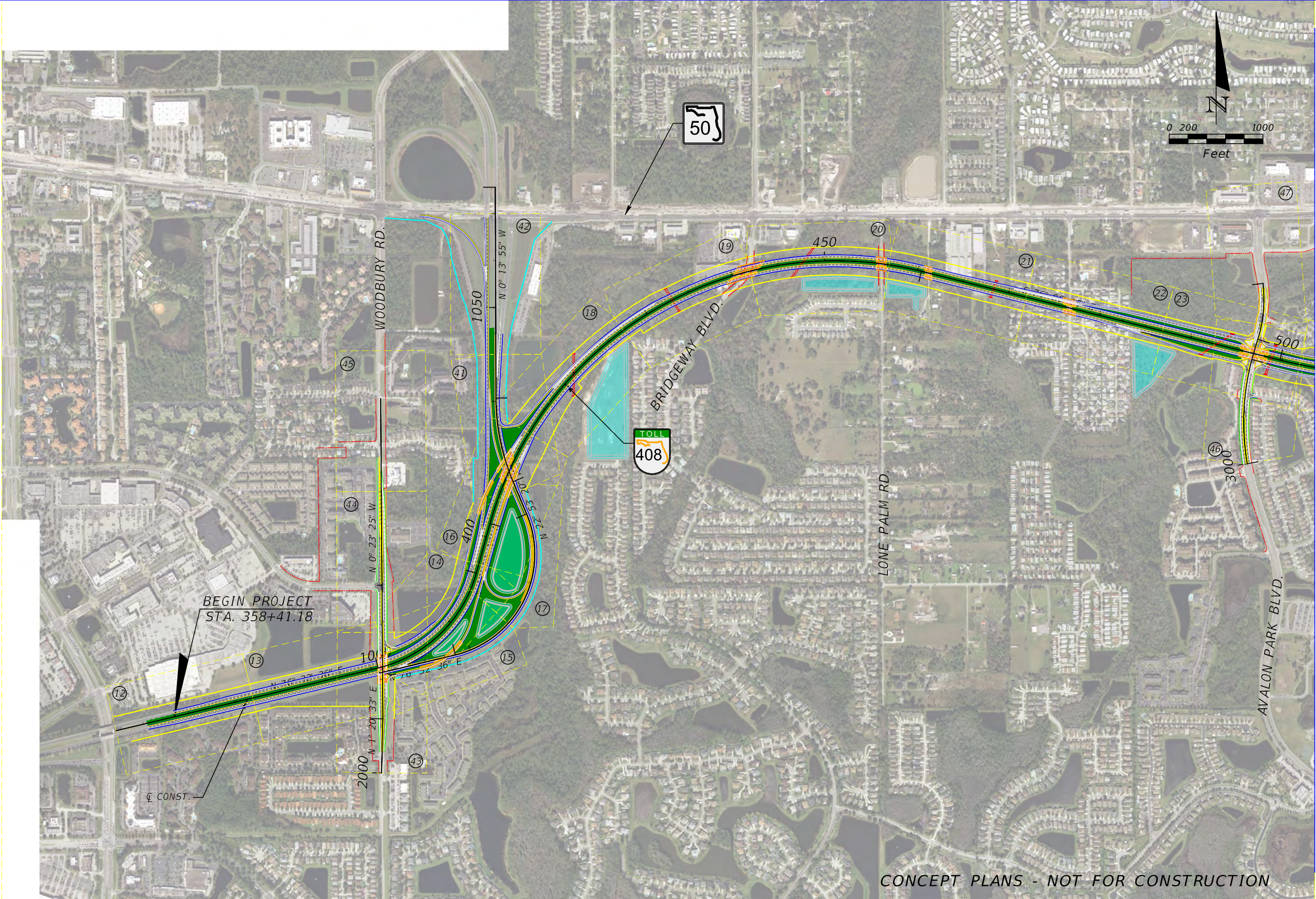
C. BRIAN FULLER, P.E. 49542  
METRIC ENGINEERING, INC.  
615 CRESCENT EXECUTIVE CT, SUITE 524  
LAKE MARY, FLORIDA 32746  
TEL. (407) 644-1898  
FAX. (407) 644-2376

VENDOR NO.: F-59-1685550  
CERTIFICATE OF AUTHORIZATION 2294

CFX PROJECT MANAGER:  
JONATHAN WILLIAMSON, AICP

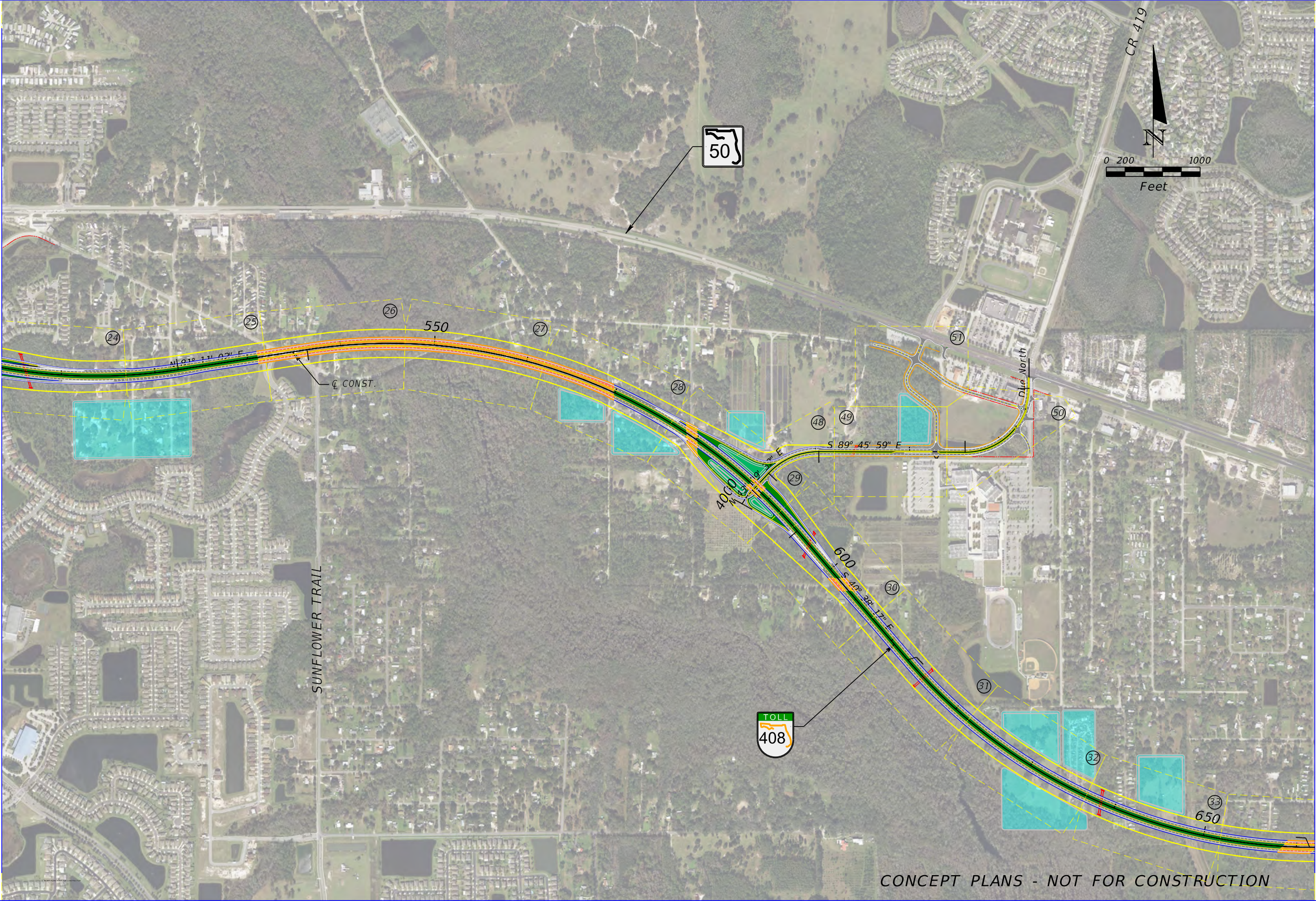
FISCAL YEAR	SHEET NO.
18	1





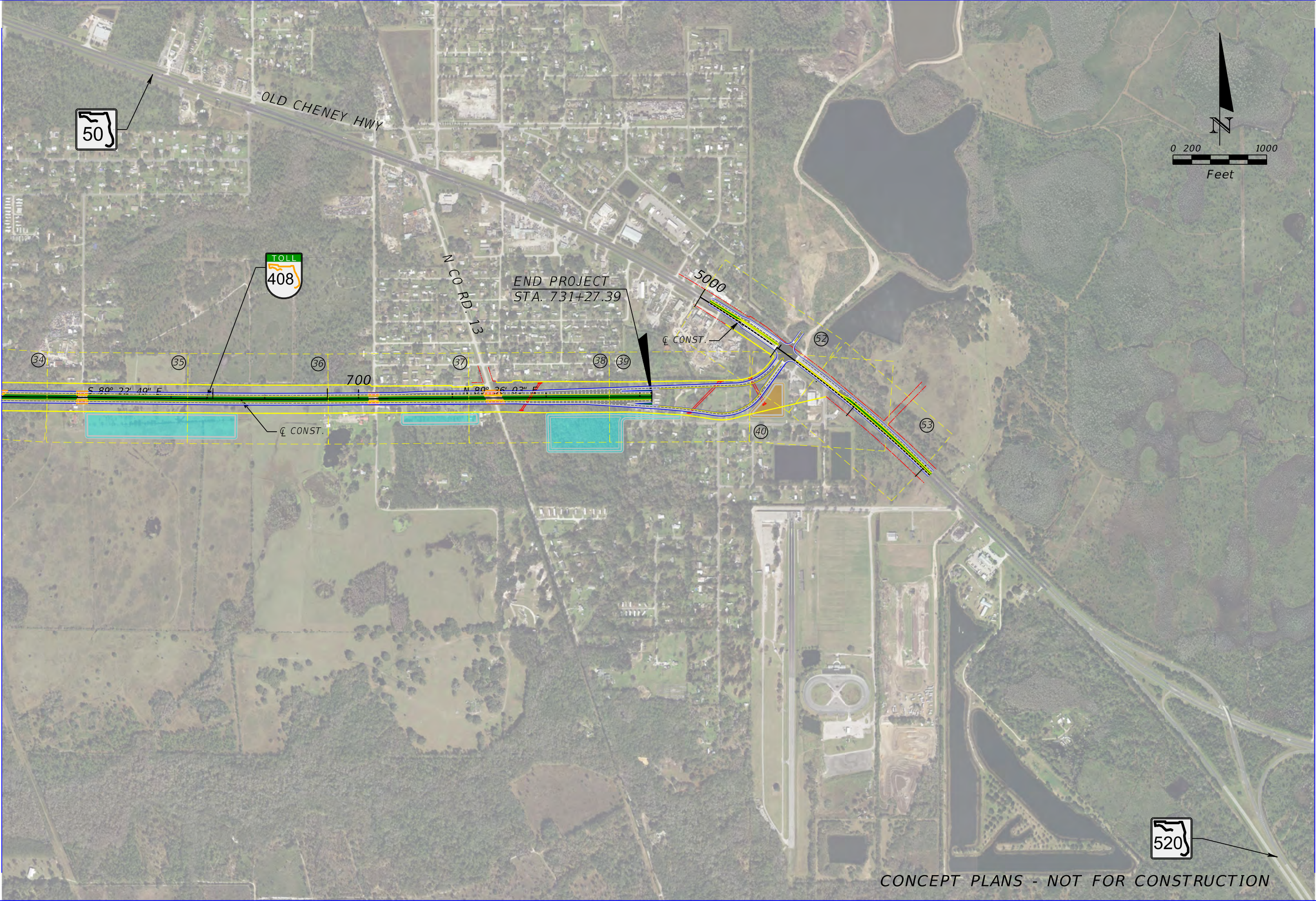
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PROJECT LAYOUT	SHEET NO.  2
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





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DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		



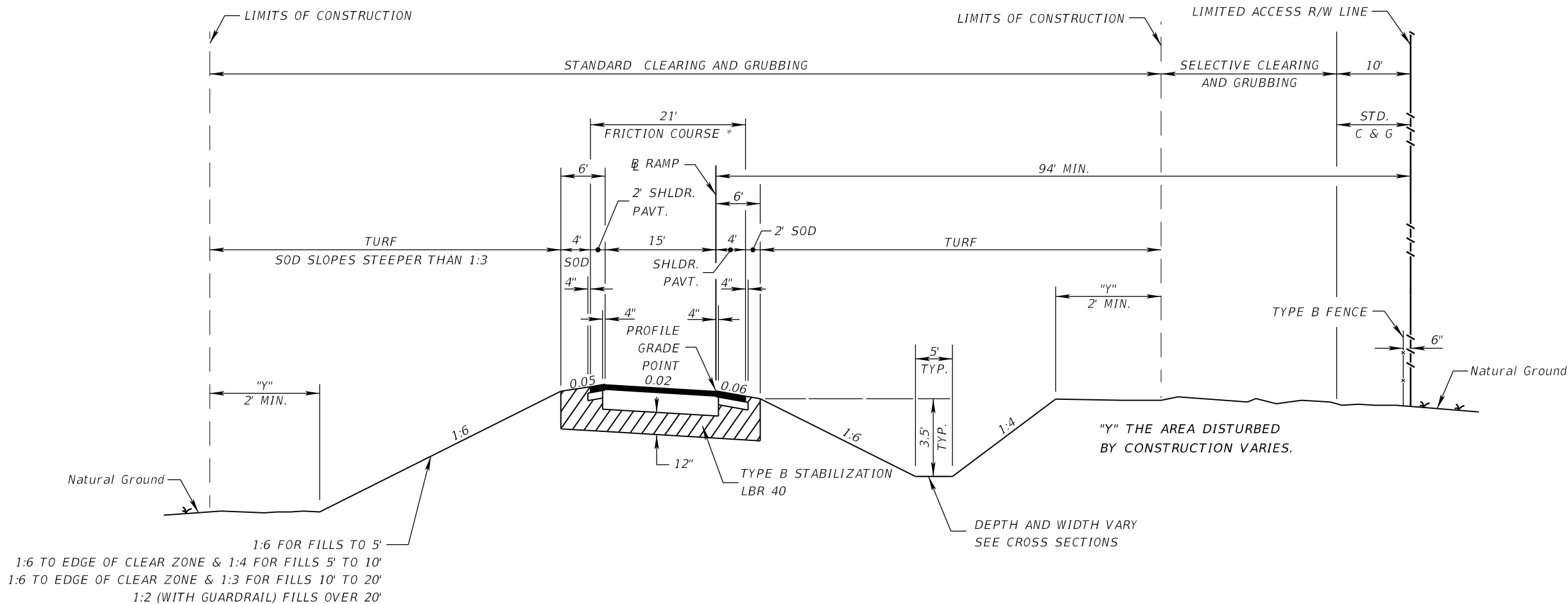


REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PROJECT LAYOUT	SHEET NO.  4
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		









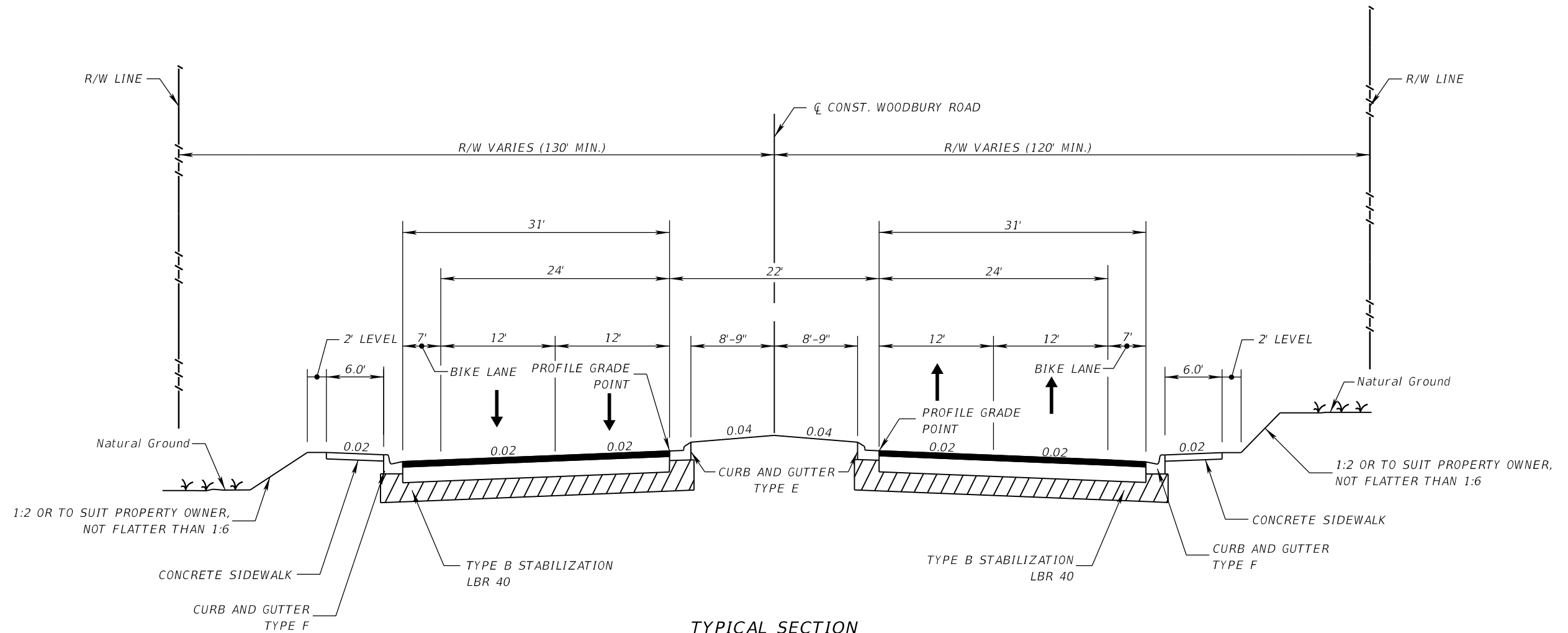
TYPICAL SECTION  
(SINGLE LANE RAMP)

NEW CONSTRUCTION

DESIGN SPEED  
DIRECTIONAL RAMP = 50 MPH  
LOOP RAMP = 30 MPH

REVISIONS				C. BRIAN FULLER, P.E. P.E. LICENSE NUMBER 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 CERTIFICATE OF AUTHORIZATION: 2294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					408	ORANGE	408254		6

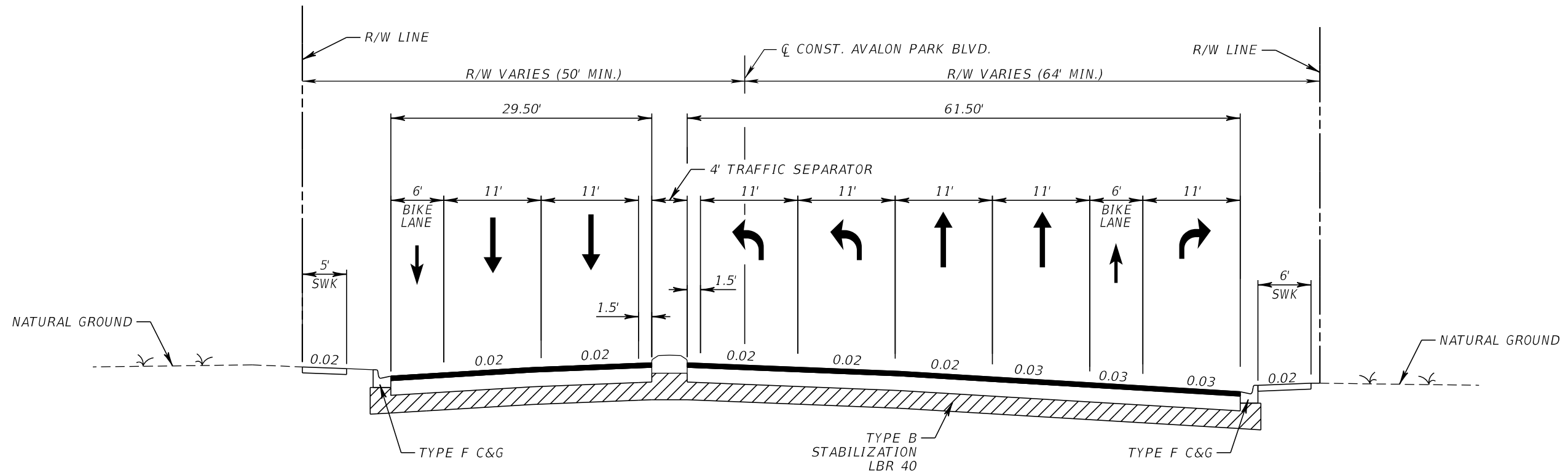




TYPICAL SECTION  
WOODBURY ROAD (4-LANE)  
STA 2002+28.27 TO STA 2033+69.39

DESIGN SPEED = 45 MPH

REVISIONS				C. BRIAN FULLER, P.E. P.E. LICENSE NUMBER 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 CERTIFICATE OF AUTHORIZATION: 2294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					408	ORANGE	408254		8

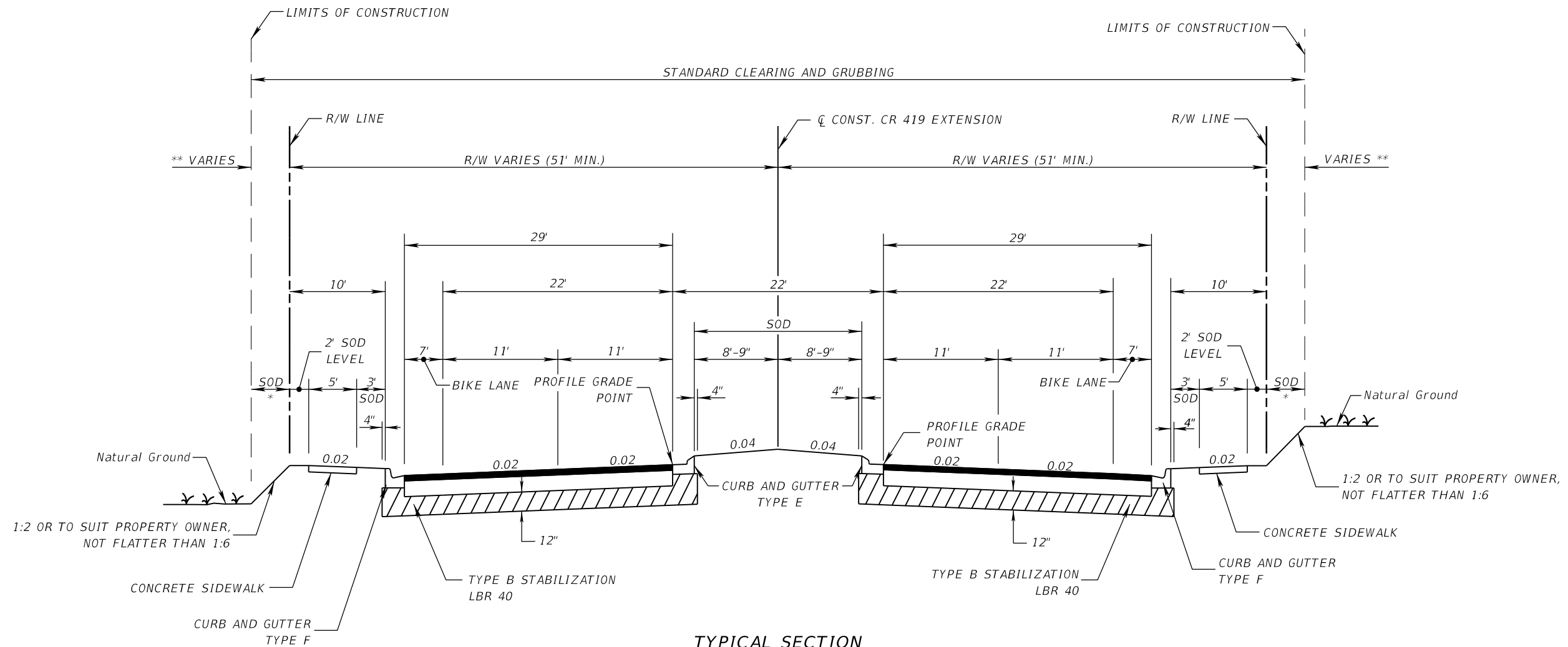


TYPICAL SECTION  
 AVALON PARK (4-LANE)  
 STA 3000+00.00 TO STA 3019+03.14

DESIGN SPEED = 45 MPH

REVISIONS				C. BRIAN FULLER, P.E. P.E. LICENSE NUMBER 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 CERTIFICATE OF AUTHORIZATION: 2294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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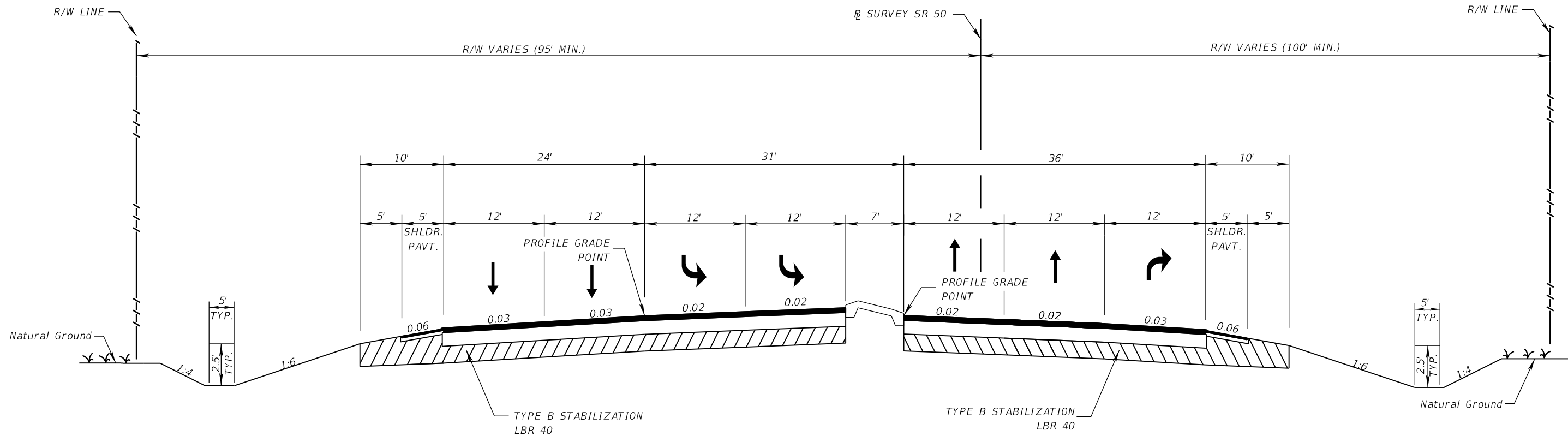


TYPICAL SECTION  
CR 419 EXTENSION (4-LANE)  
STA 4001+82.33 TO STA 4037+98.12

NEW CONSTRUCTION

DESIGN SPEED = 40 MPH

REVISIONS				C. BRIAN FULLER, P.E. P.E. LICENSE NUMBER 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 CERTIFICATE OF AUTHORIZATION: 2294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					408	ORANGE	408254		10



TYPICAL SECTION  
SR 50 (4-LANE)  
STA 5001+14.28 TO STA 5031+00.00

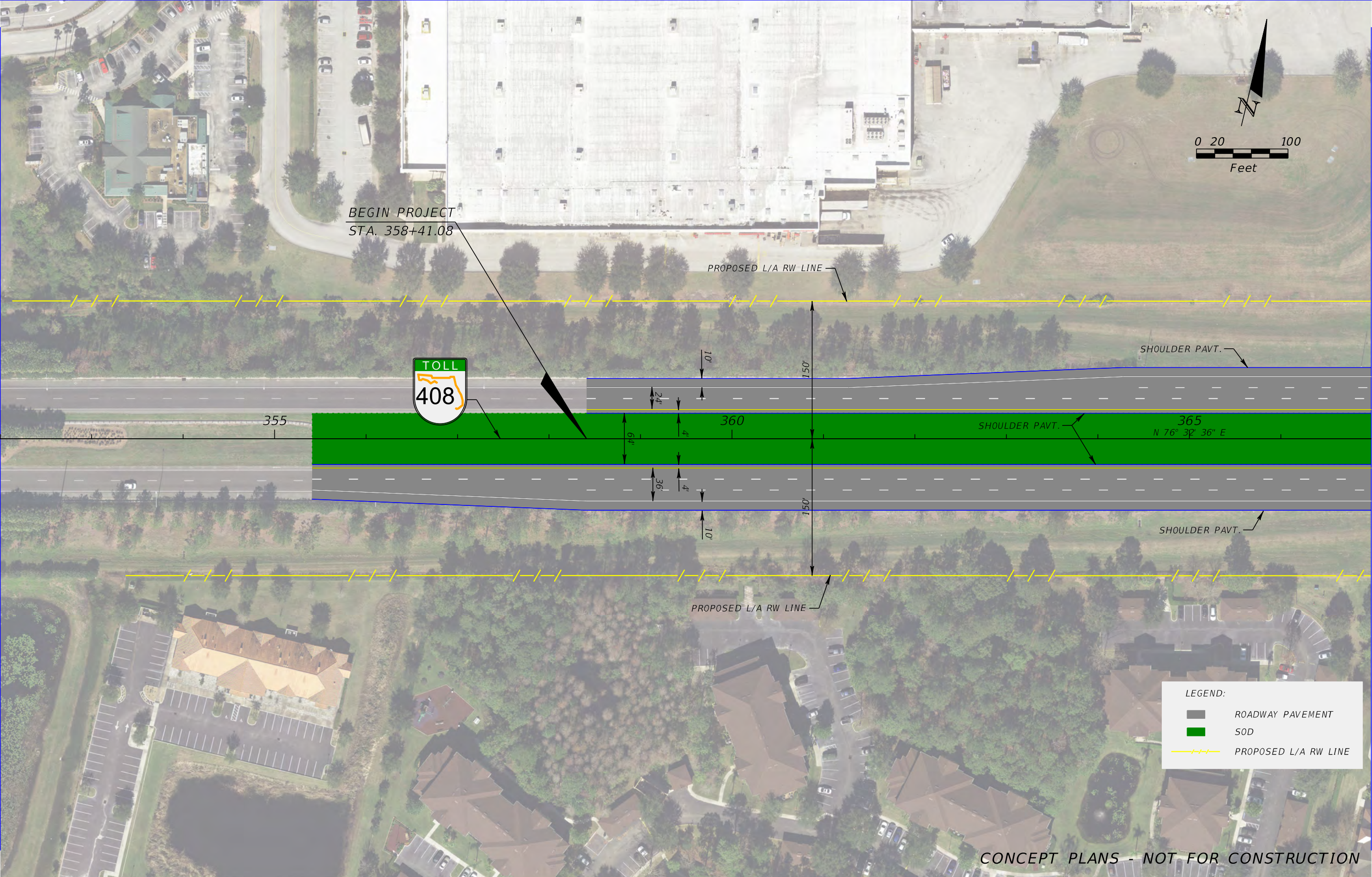
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REVISIONS				C. BRIAN FULLER, P.E. P.E. LICENSE NUMBER 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 CERTIFICATE OF AUTHORIZATION: 2294	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					408	ORANGE	408254		11



352+00.00

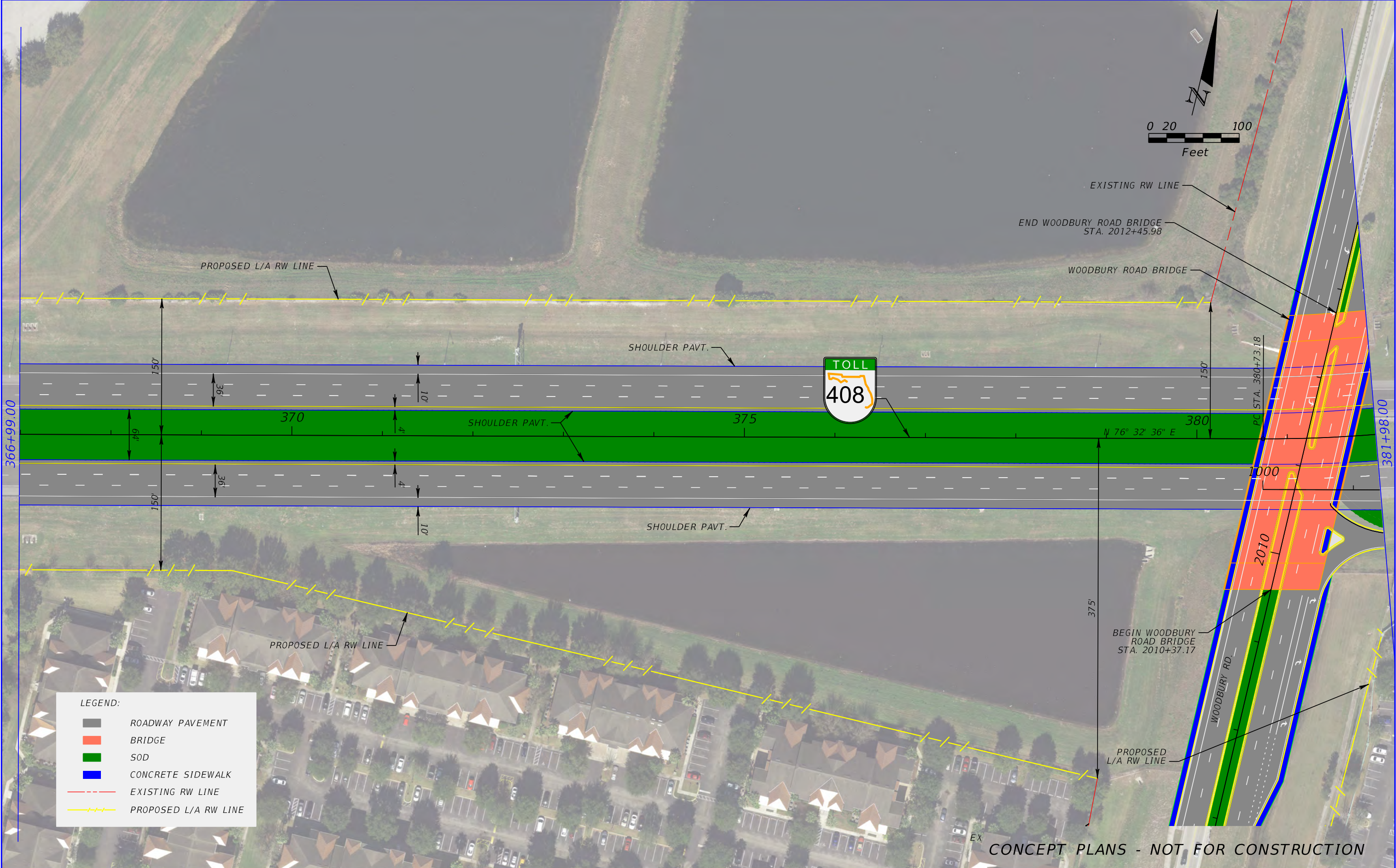
366+99.00



CONCEPT PLANS - NOT FOR CONSTRUCTION

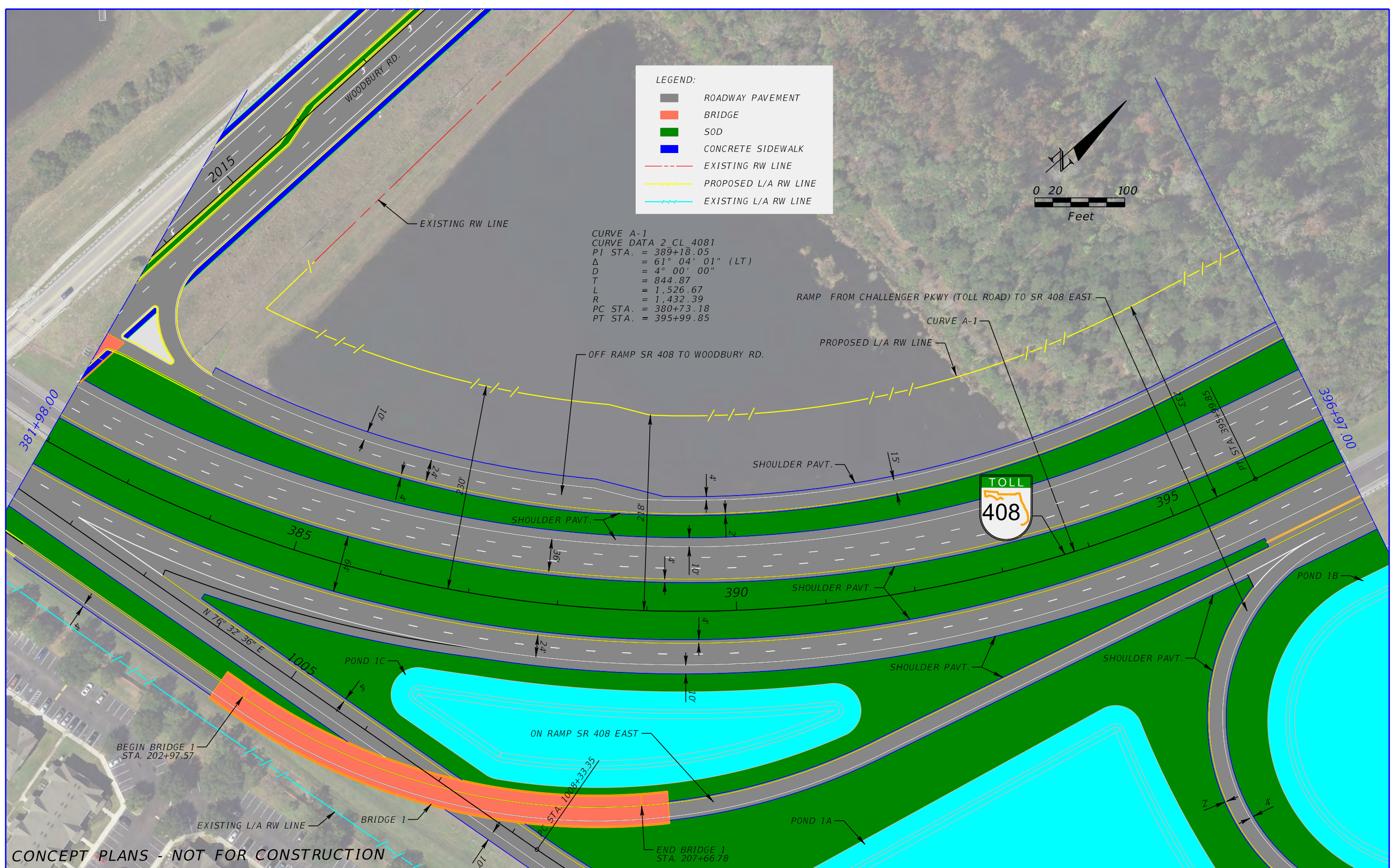
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		12





REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  13
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			<i>PLAN SHEET</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		14
					SR 408	ORANGE	408254		

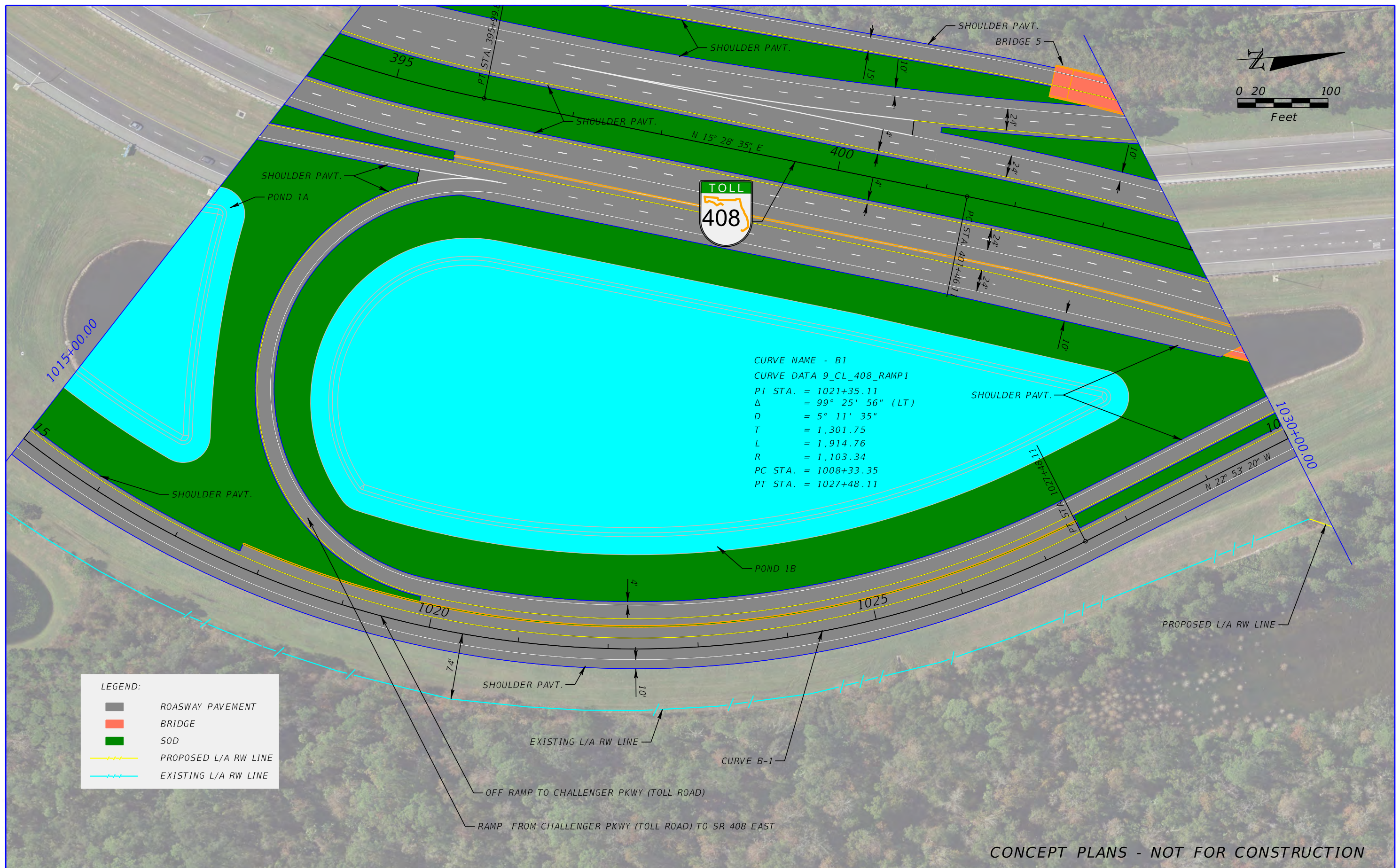






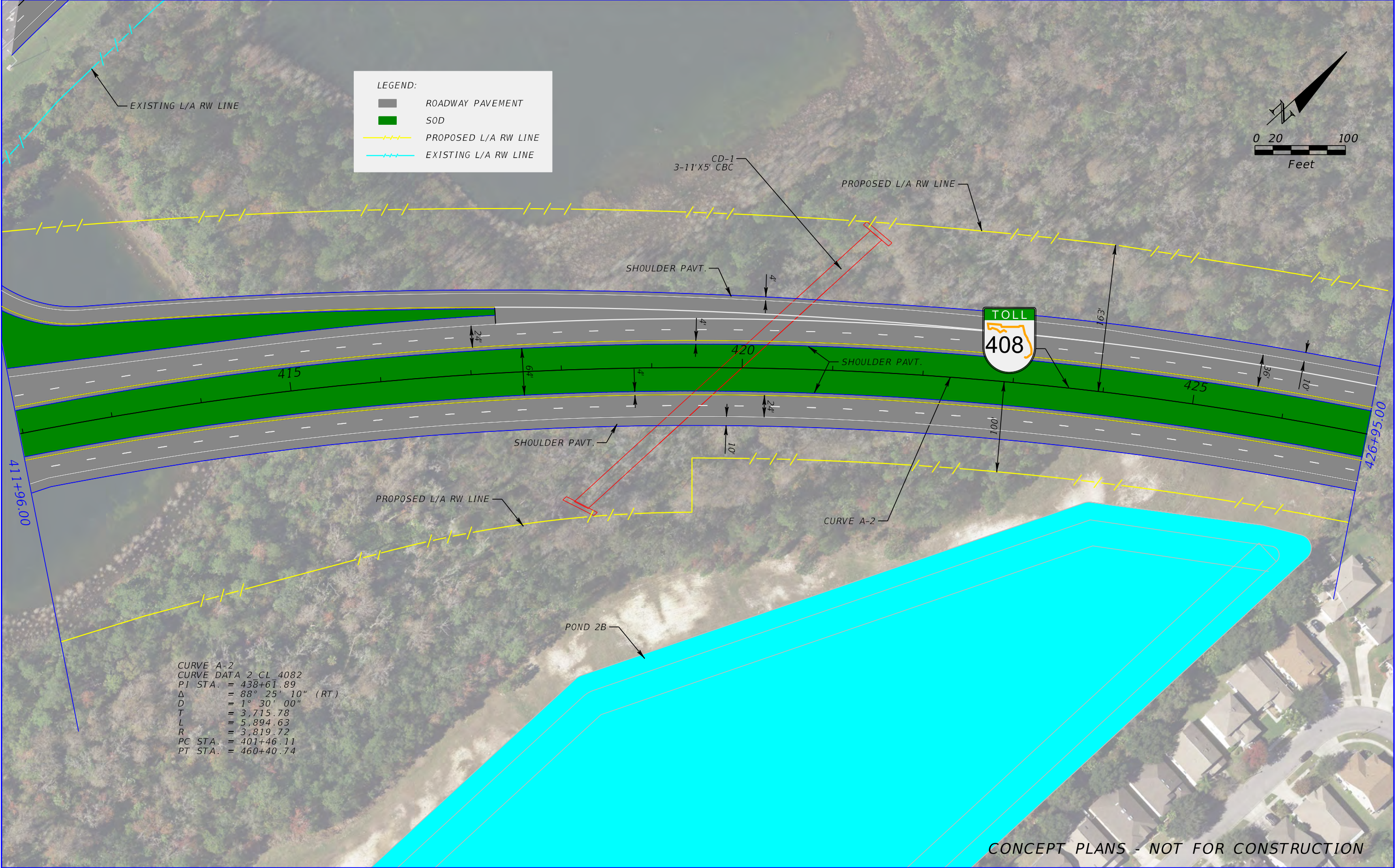






REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			<div>PLAN SHEET</div>	SHEET NO.
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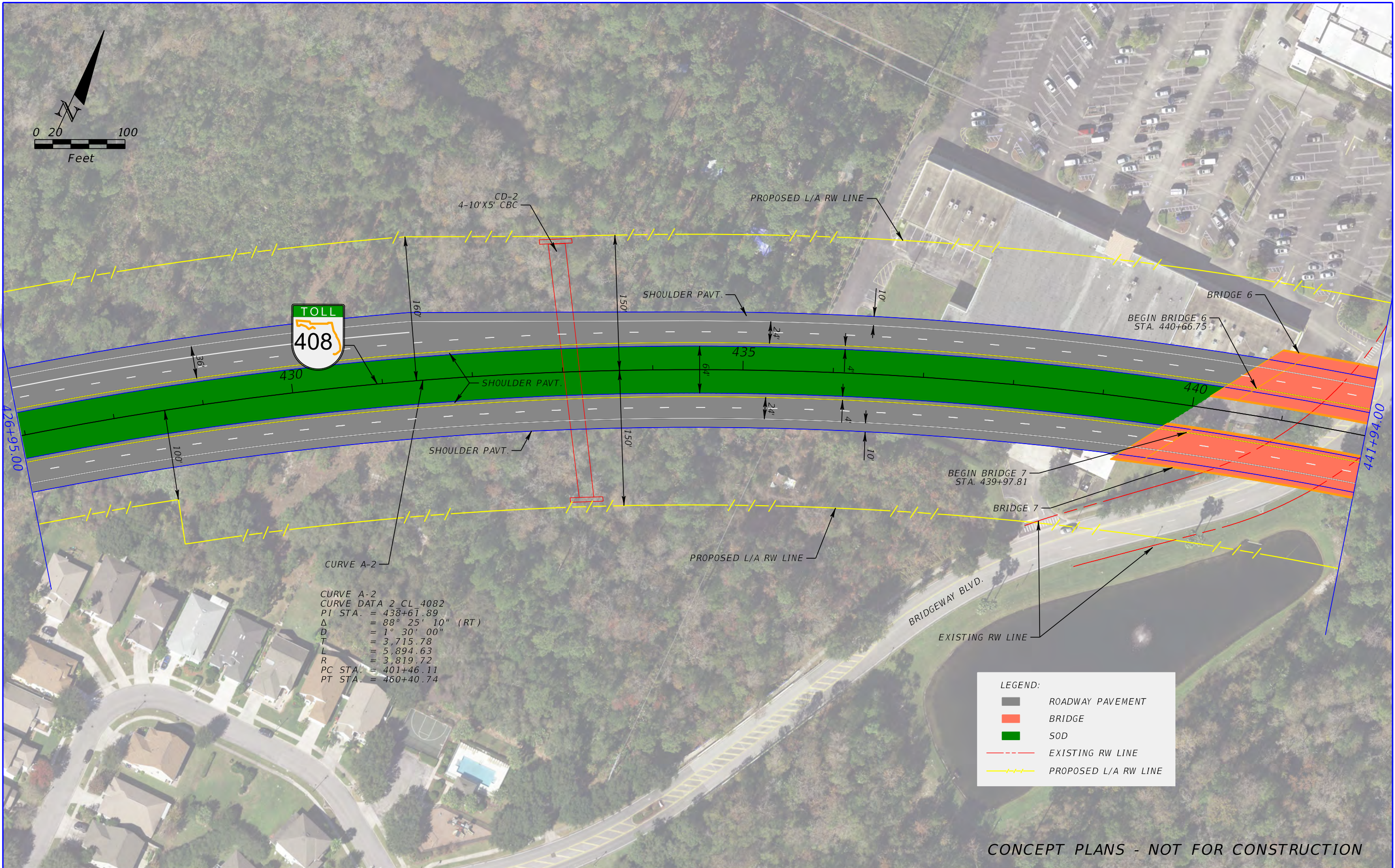




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L = 5,894.63  
R = 3,819.72  
PC STA. = 401+46.11  
PT STA. = 460+40.74

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  18
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





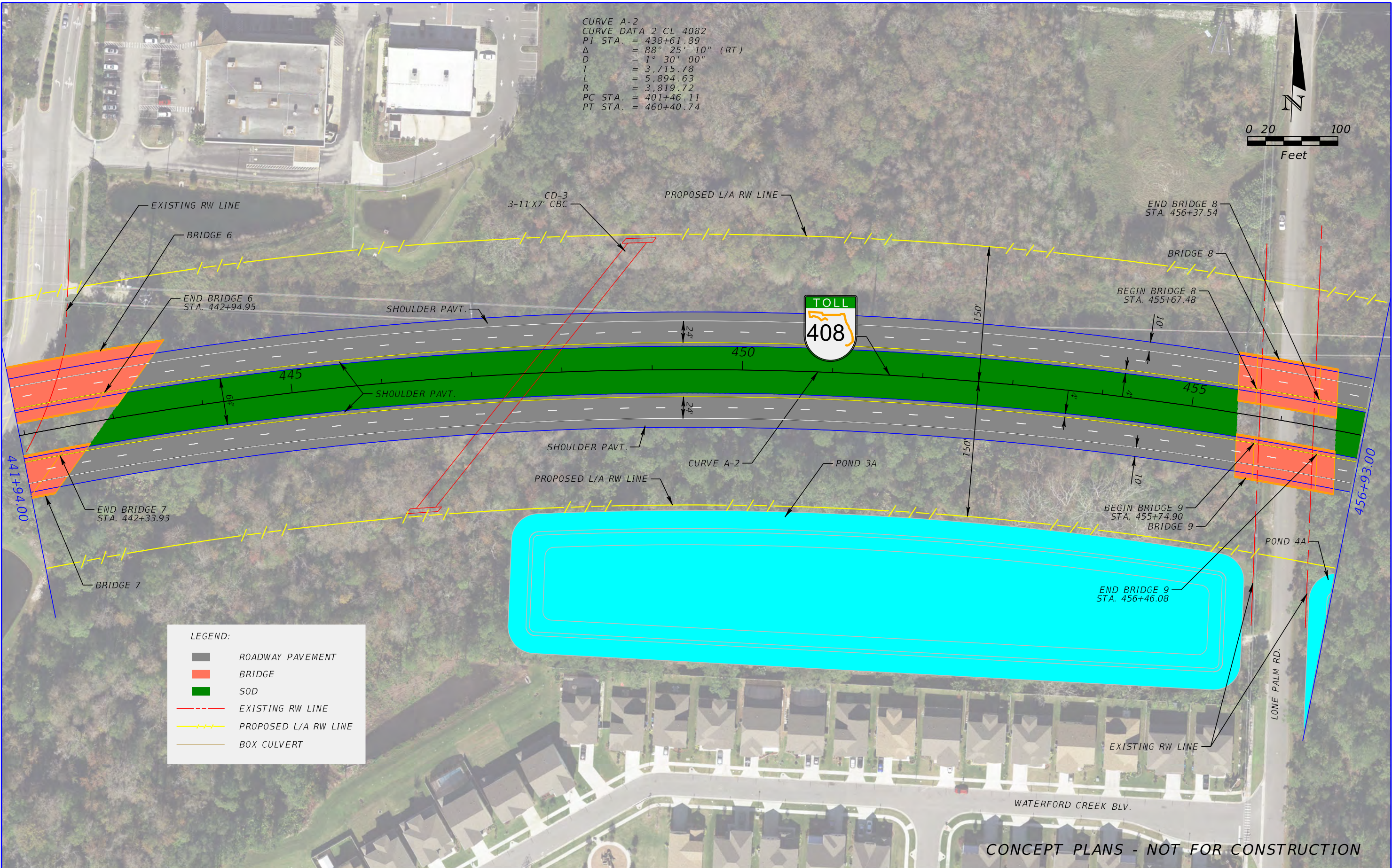
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L = 5,894.63  
R = 3,819.72  
PC STA. = 401+46.11  
PT STA. = 460+40.74

LEGEND:

- ROADWAY PAVEMENT
- BRIDGE
- SOD
- EXISTING RW LINE
- PROPOSED L/A RW LINE

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  19
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
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R = 3,819.72  
PC STA. = 401+46.11  
PT STA. = 460+40.74

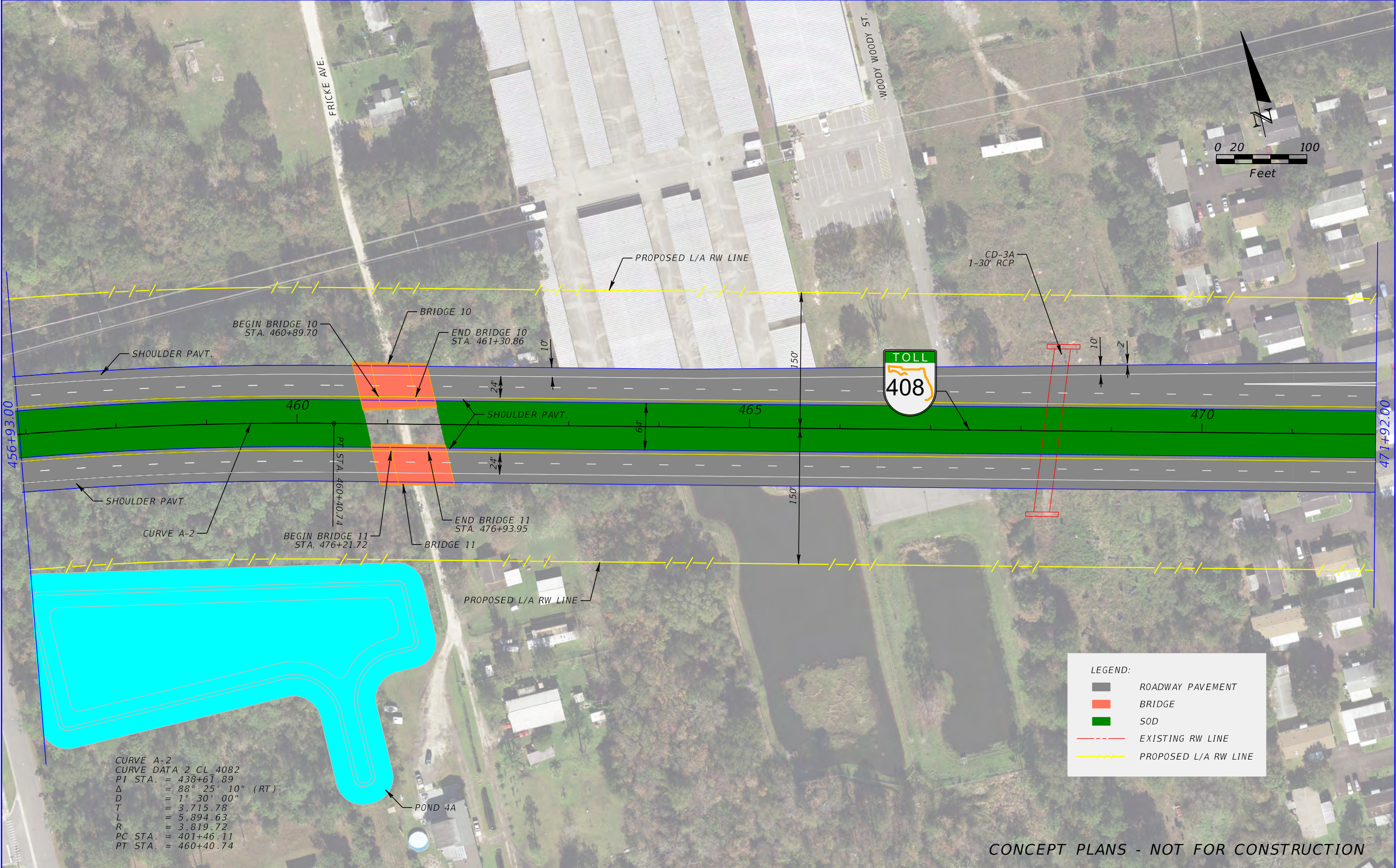
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Feet

LEGEND:

- ROADWAY PAVEMENT
- BRIDGE
- SOD
- EXISTING RW LINE
- PROPOSED L/A RW LINE
- BOX CULVERT

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  20
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





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D = 1° 30' 00"  
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L = 5,894.63  
R = 3,819.72  
PC STA. = 401+46.11  
PT STA. = 460+40.74

LEGEND:

ROADWAY PAVEMENT

BRIDGE

SOD

EXISTING RW LINE

PROPOSED L/A RW LINE

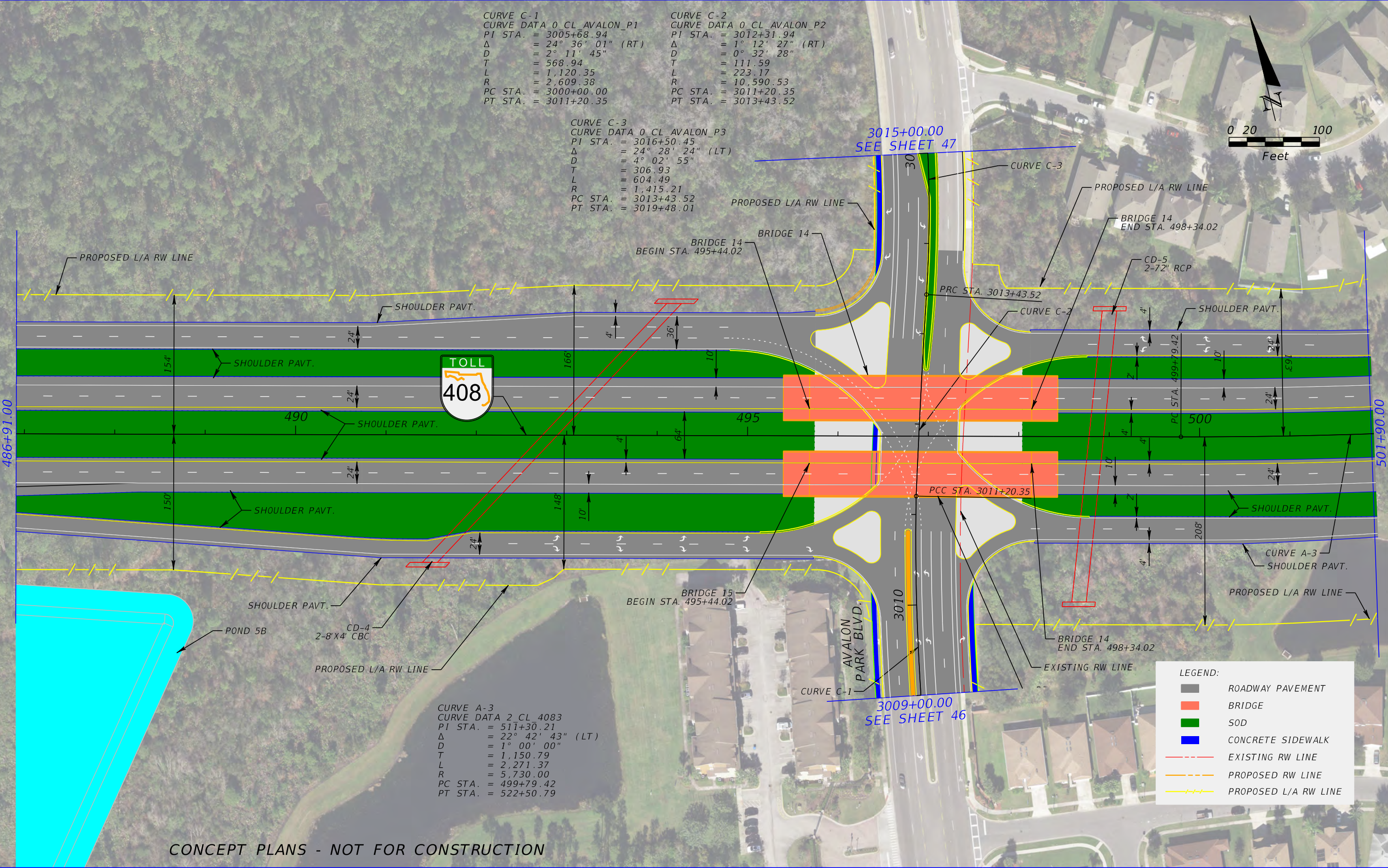
CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  21
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		









CURVE C-1  
CURVE DATA 0 CL\_AVALON\_P1  
PI STA. = 3005+68.94  
Δ = 24° 36' 01" (RT)  
D = 2° 11' 45"  
T = 568.94  
L = 1,120.35  
R = 2,609.38  
PC STA. = 3000+00.00  
PT STA. = 3011+20.35

CURVE C-2  
CURVE DATA 0 CL\_AVALON\_P2  
PI STA. = 3012+31.94  
Δ = 1° 12' 27" (RT)  
D = 0° 32' 28"  
T = 111.59  
L = 223.17  
R = 10,590.53  
PC STA. = 3011+20.35  
PT STA. = 3013+43.52

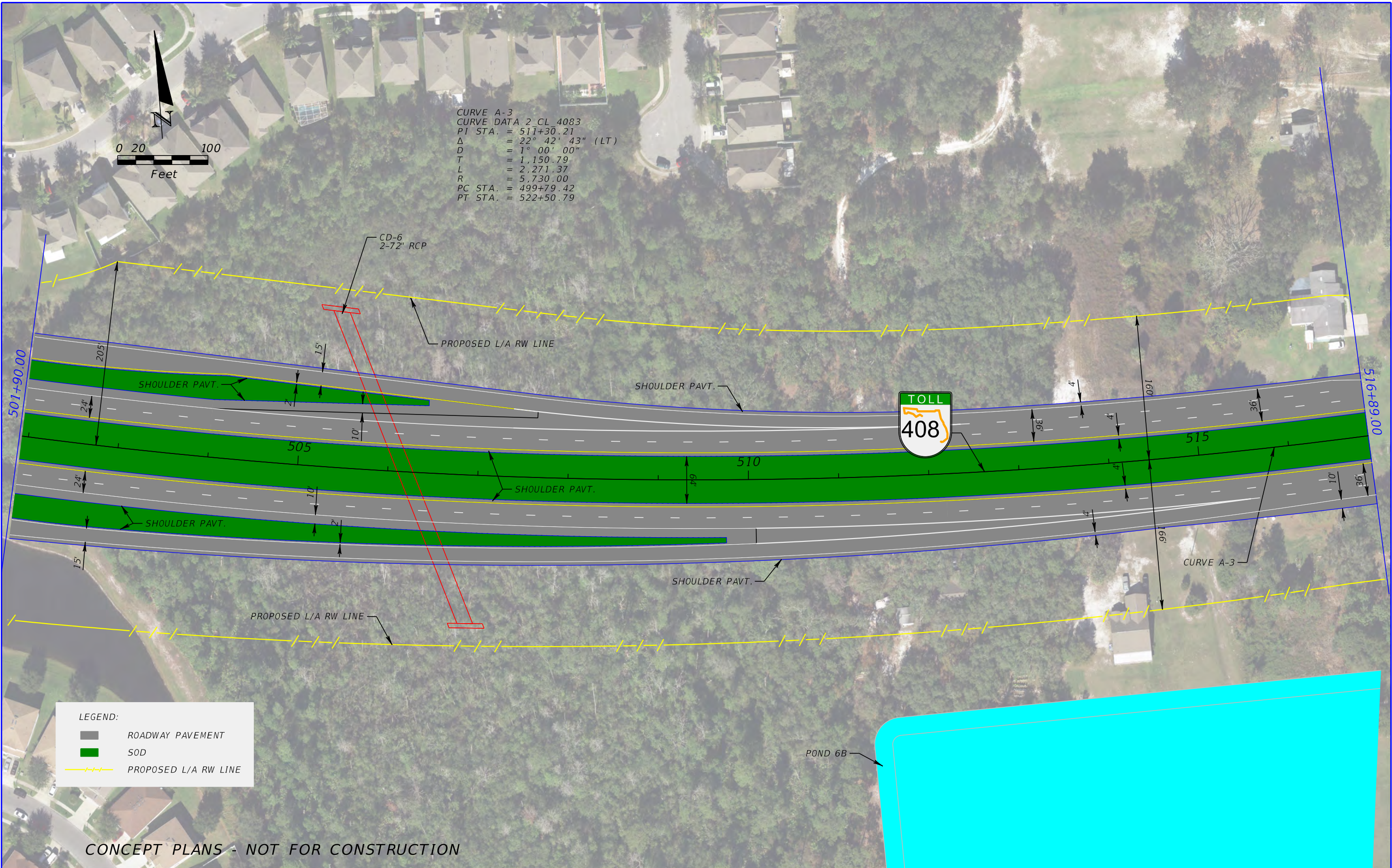
CURVE C-3  
CURVE DATA 0 CL\_AVALON\_P3  
PI STA. = 3016+50.45  
Δ = 24° 28' 24" (LT)  
D = 4° 02' 55"  
T = 306.93  
L = 604.49  
R = 1,415.21  
PC STA. = 3013+43.52  
PT STA. = 3019+48.01

CURVE A-3  
CURVE DATA 2 CL\_4083  
PI STA. = 511+30.21  
Δ = 22° 42' 43" (LT)  
D = 1° 00' 00"  
T = 1,150.79  
L = 2,271.37  
R = 5,730.00  
PC STA. = 499+79.42  
PT STA. = 522+50.79

CONCEPT PLANS - NOT FOR CONSTRUCTION

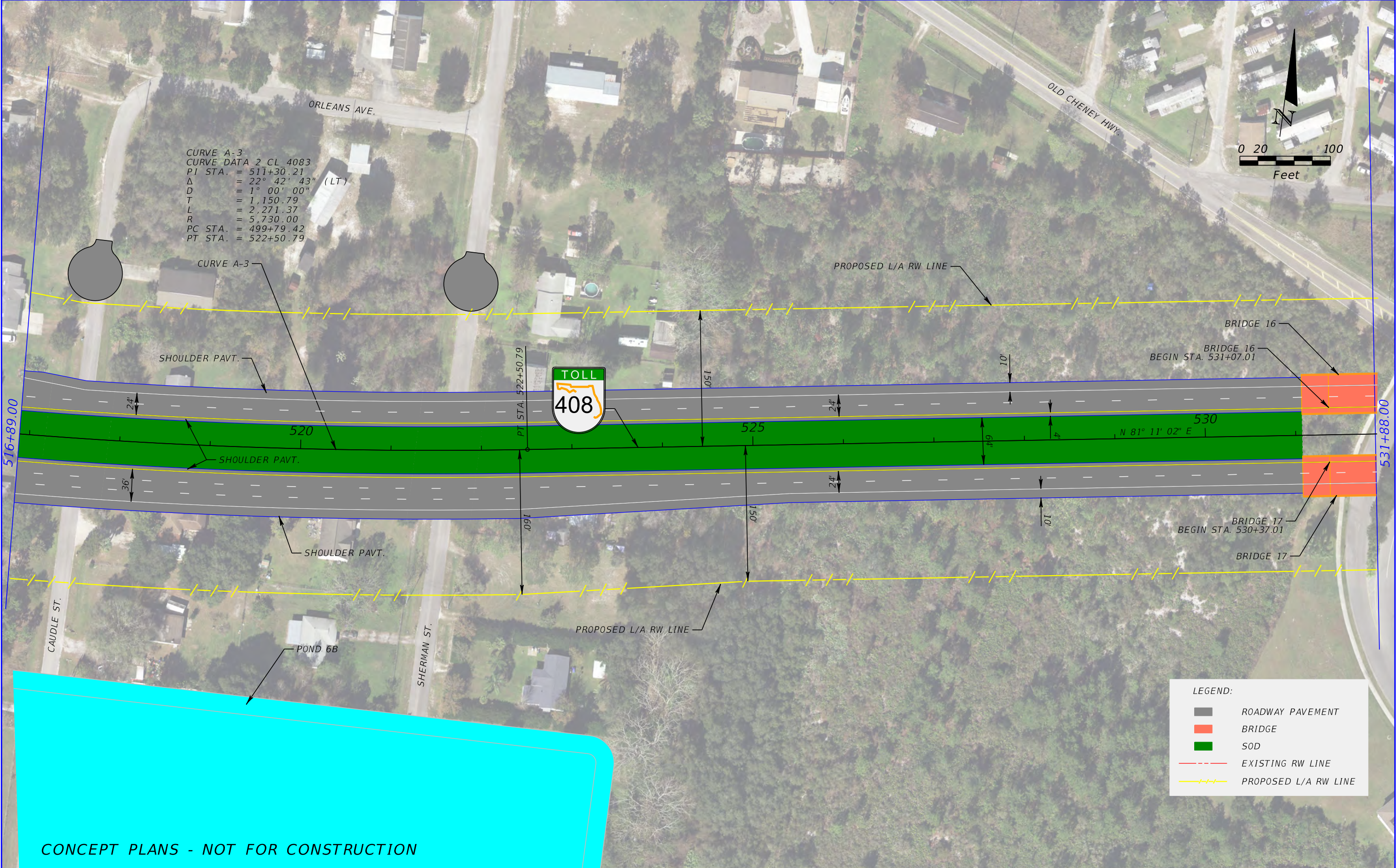
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  23
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





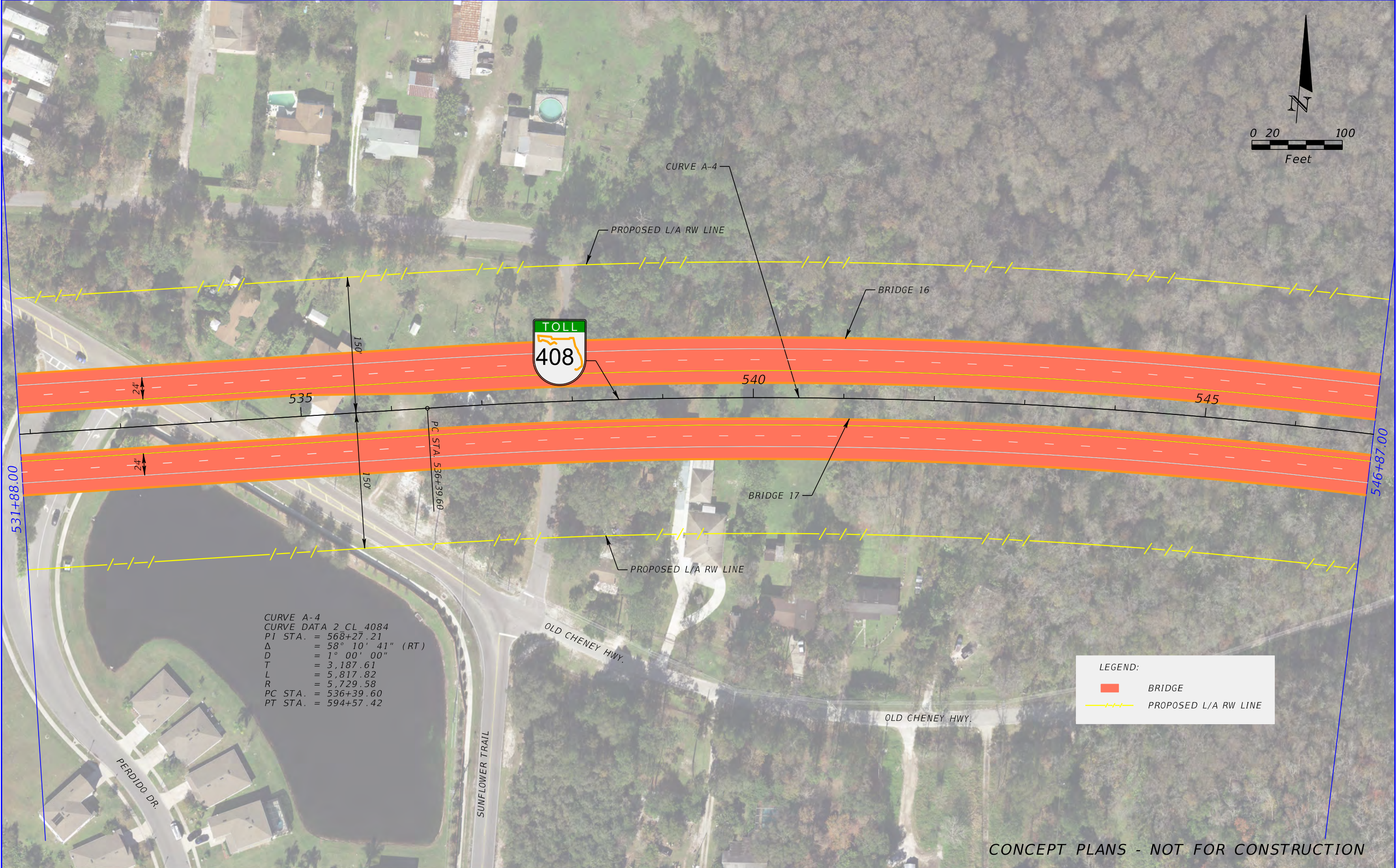
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  24
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  25
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





CURVE A-4  
CURVE DATA 2 CL 4084  
PI STA. = 568+27.21  
Δ = 58° 10' 41" (RT)  
D = 1° 00' 00"  
T = 3,187.61  
L = 5,817.82  
R = 5,729.58  
PC STA. = 536+39.60  
PT STA. = 594+57.42

LEGEND:

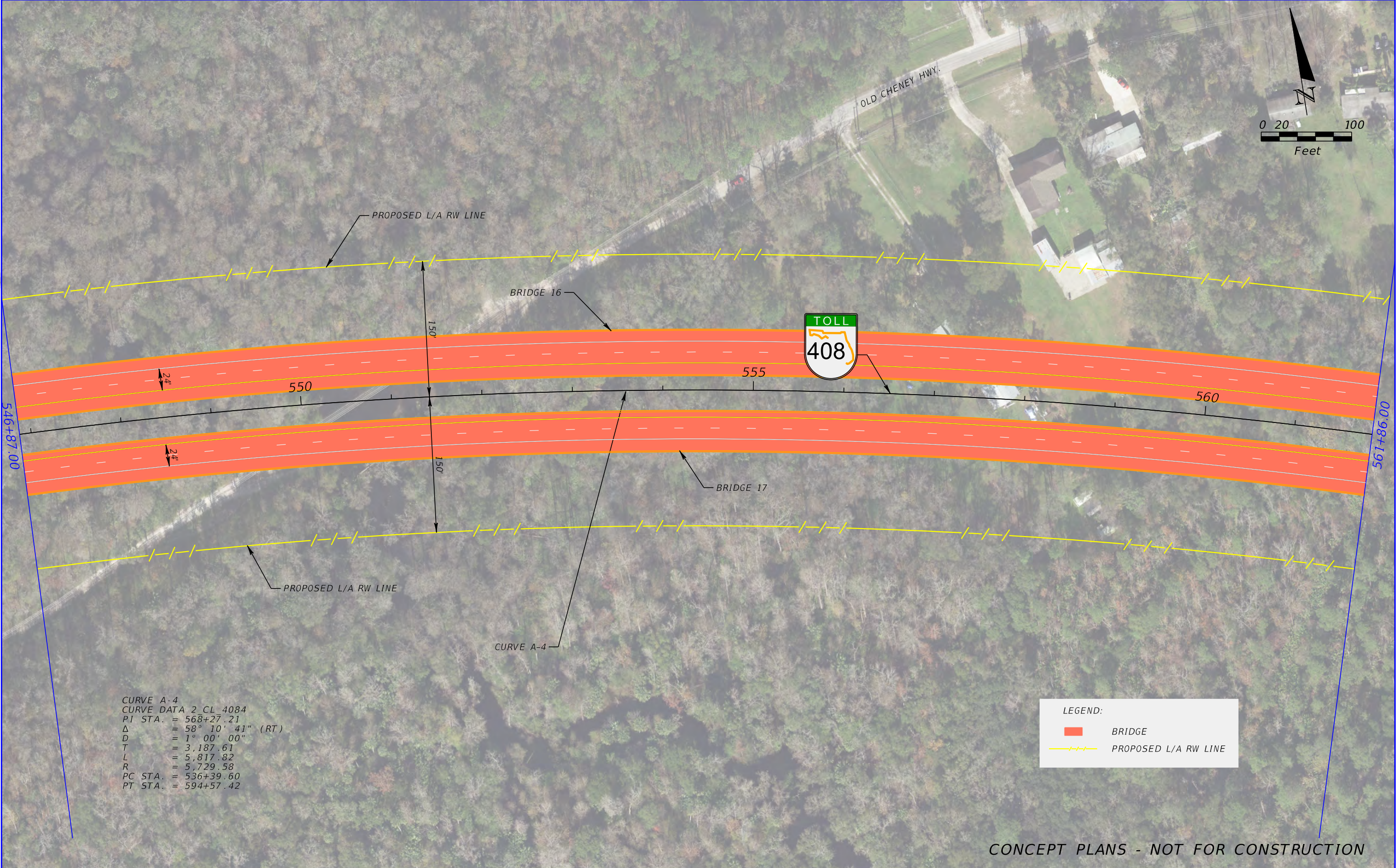
BRIDGE

PROPOSED L/A RW LINE



CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  26
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





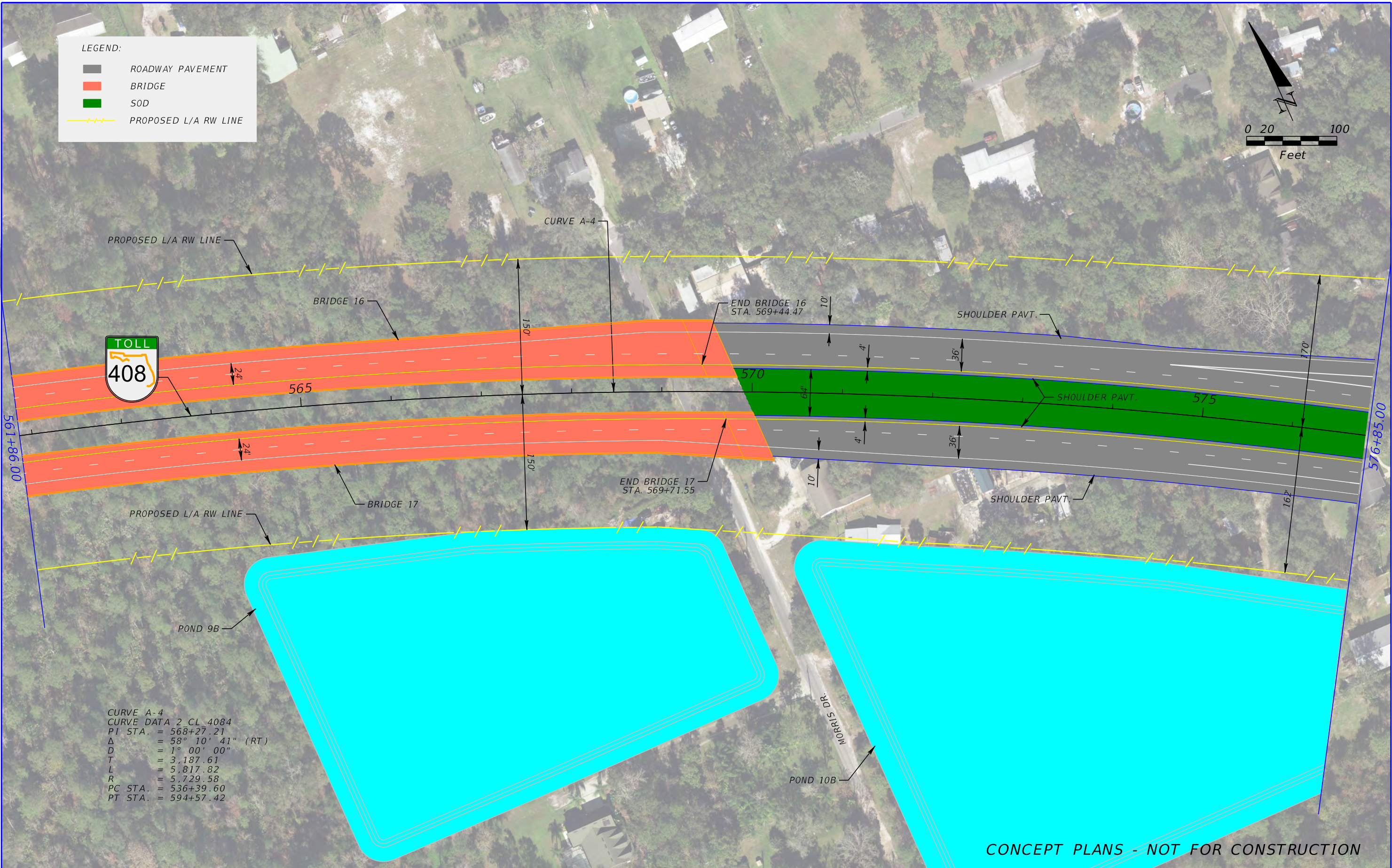
CURVE A-4  
CURVE DATA 2 CL 4084  
PI STA. = 568+27.21  
Δ = 58° 10' 41" (RT)  
D = 1° 00' 00"  
T = 3,187.61  
L = 5,817.82  
R = 5,729.58  
PC STA. = 536+39.60  
PT STA. = 594+57.42

LEGEND:  
 BRIDGE  
 PROPOSED L/A RW LINE

CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  27
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





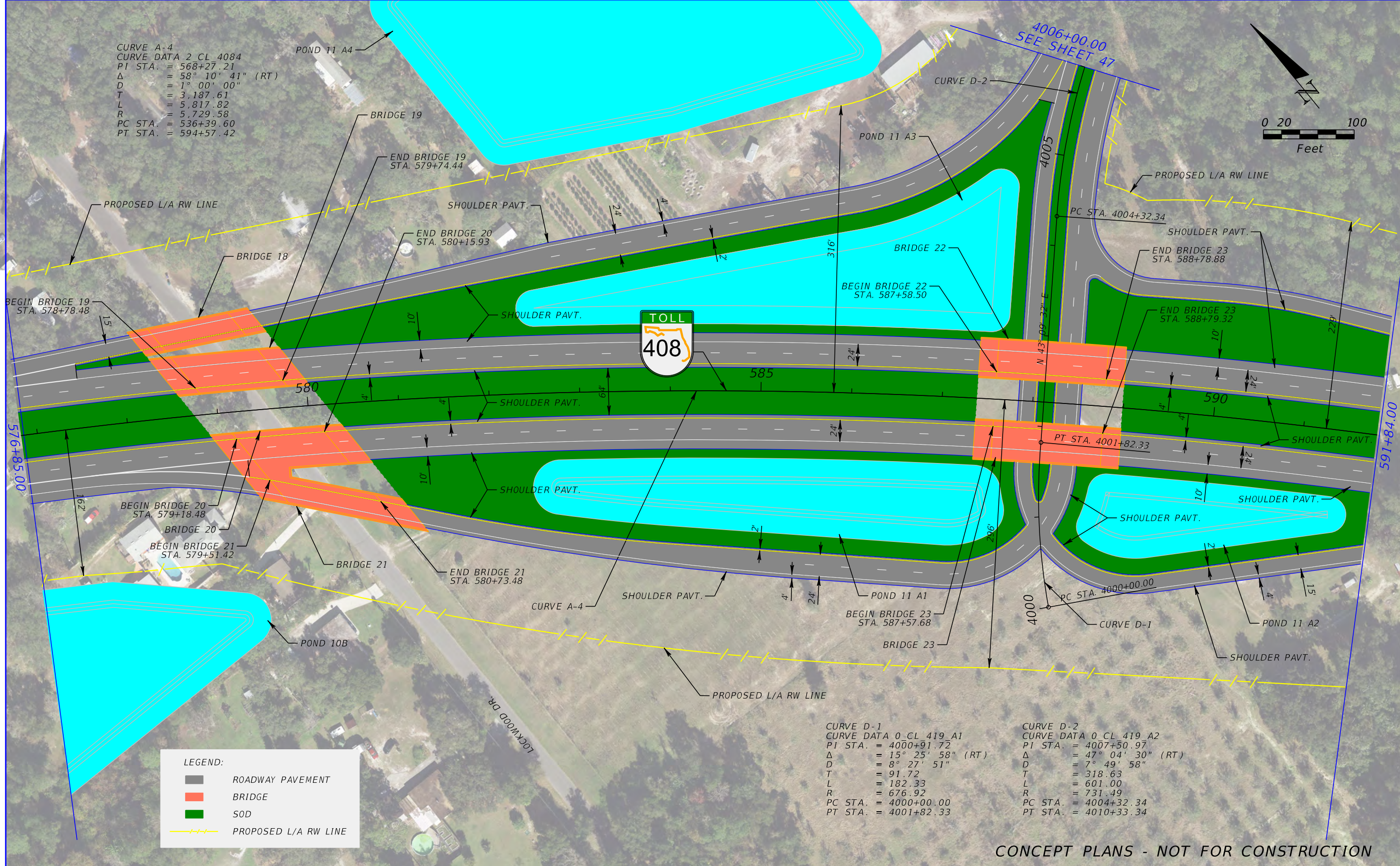
CURVE A-4  
CURVE DATA 2 CL 4084  
PI STA. = 568+27.21  
Δ = 58° 10' 41" (RT)  
D = 1° 00' 00"  
T = 3,187.61  
L = 5,817.82  
R = 5,729.58  
PC STA. = 536+39.60  
PT STA. = 594+57.42

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		28
					SR 408	ORANGE	408254		



CURVE A-4  
CURVE DATA 2 CL 4084  
PI STA. = 568+27.21  
 $\Delta$  = 58° 10' 41" (RT)  
D = 1° 00' 00"  
T = 3,187.61  
L = 5,817.82  
R = 5,729.58  
PC STA. = 536+39.60  
PT STA. = 594+57.42

0 20 100  
Feet



LEGEND:

- ROADWAY PAVEMENT
- BRIDGE
- SOD
- PROPOSED L/A RW LINE

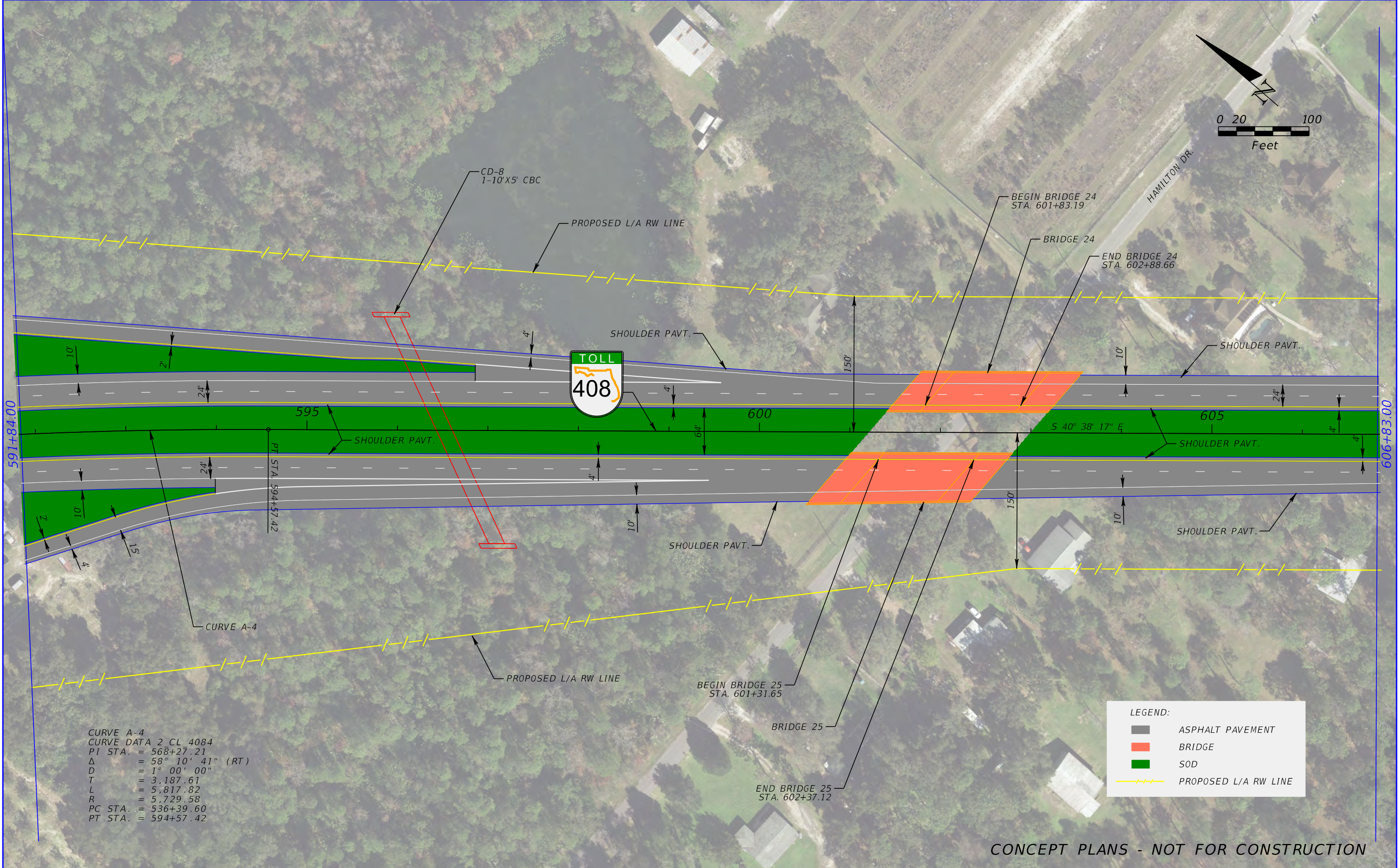
CURVE D-1  
CURVE DATA 0 CL 419 A1  
PI STA. = 4000+91.72  
 $\Delta$  = 15° 25' 58" (RT)  
D = 8° 27' 51"  
T = 91.72  
L = 182.33  
R = 676.92  
PC STA. = 4000+00.00  
PT STA. = 4001+82.33

CURVE D-2  
CURVE DATA 0 CL 419 A2  
PI STA. = 4007+50.97  
 $\Delta$  = 47° 04' 30" (RT)  
D = 7° 49' 58"  
T = 318.63  
L = 601.00  
R = 731.49  
PC STA. = 4004+32.34  
PT STA. = 4010+33.34

CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  29
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		



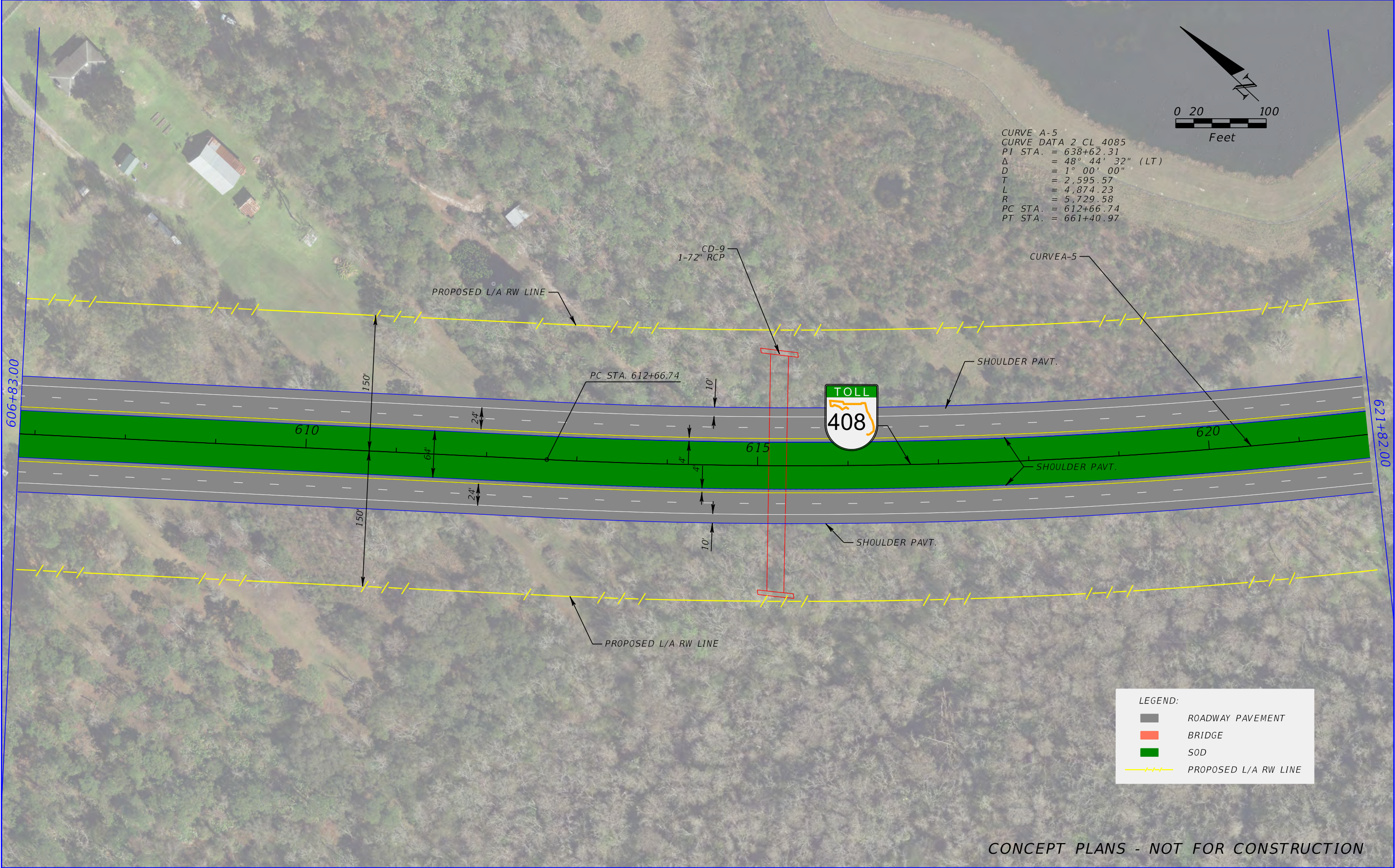


CURVE A-4  
CURVE DATA 2 CL 4084  
PI STA. = 568+27.21  
Δ = 58° 10' 41" (RT)  
D = 1° 00' 00"  
T = 3,187.61  
L = 5,817.82  
R = 5,729.58  
PC STA. = 536+39.60  
PT STA. = 594+57.42

CONCEPT PLANS - NOT FOR CONSTRUCTION

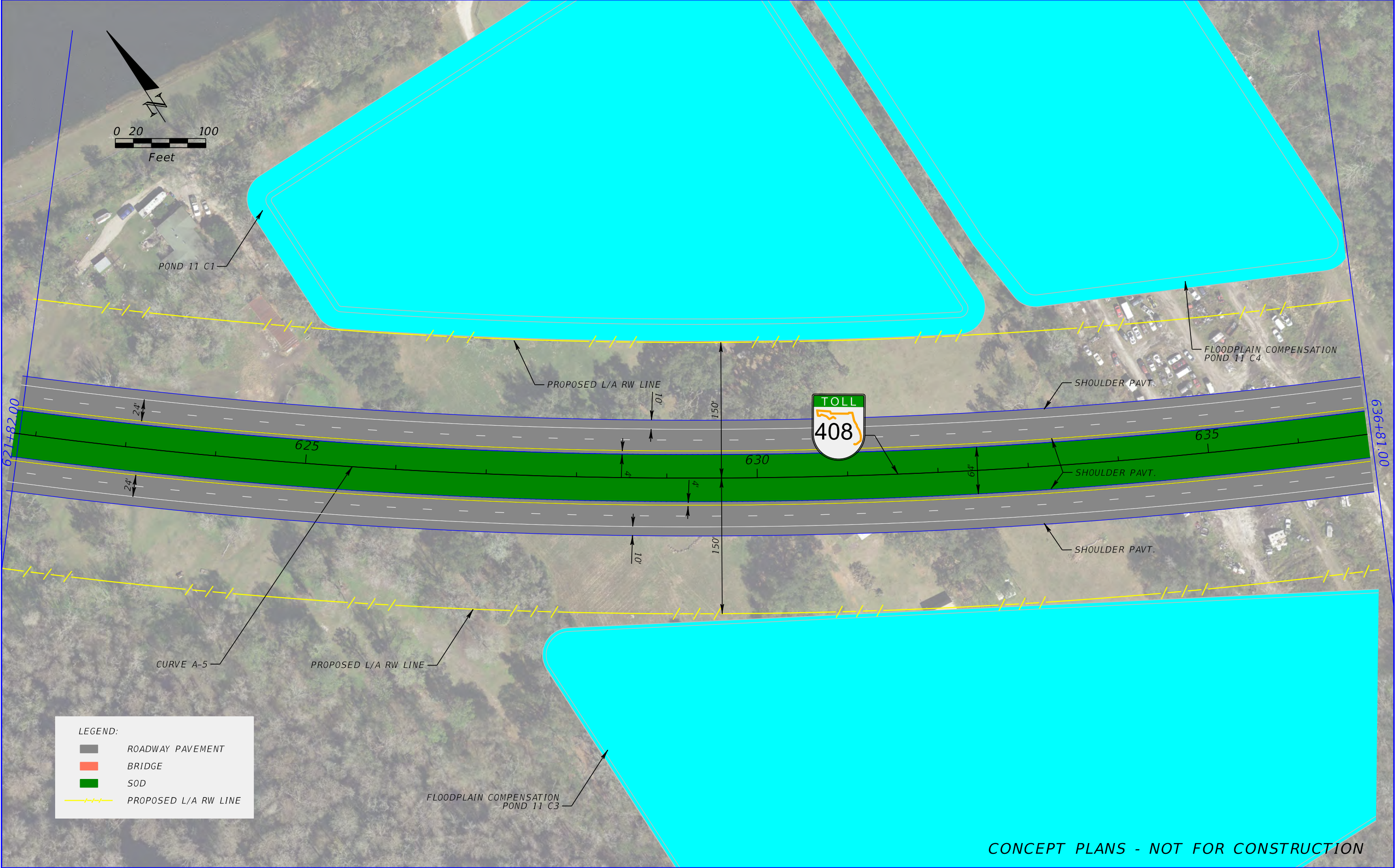
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  30
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





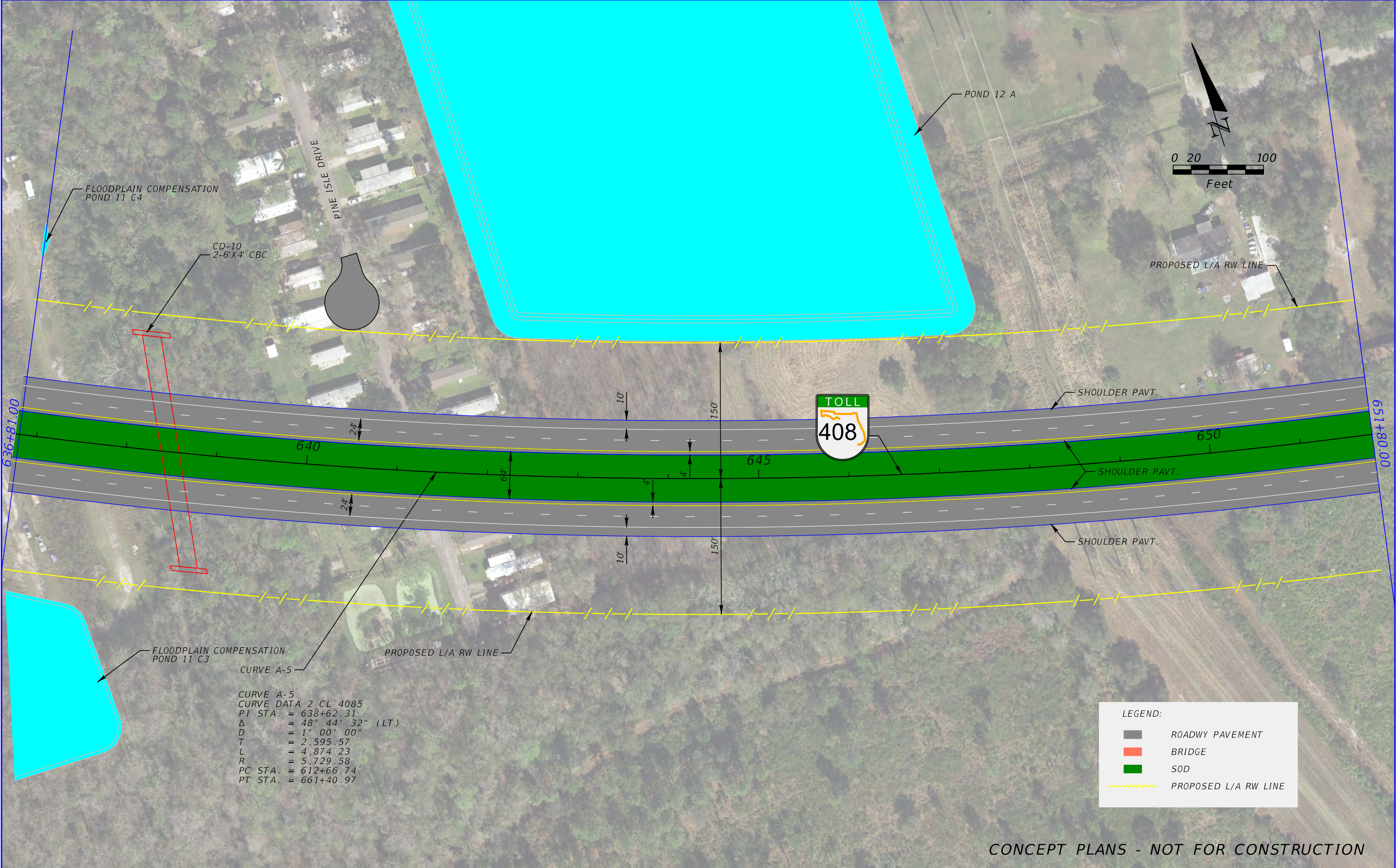
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  31
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  32
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





CURVE A-5  
CURVE DATA 2 CL 4085  
PI STA. = 638+62.31  
 $\Delta$  = 48° 44' 32" (LT)  
D = 1° 00' 00"  
T = 2,595.57  
L = 4,874.23  
R = 5,729.58  
PC STA. = 612+66.74  
PT STA. = 661+40.97

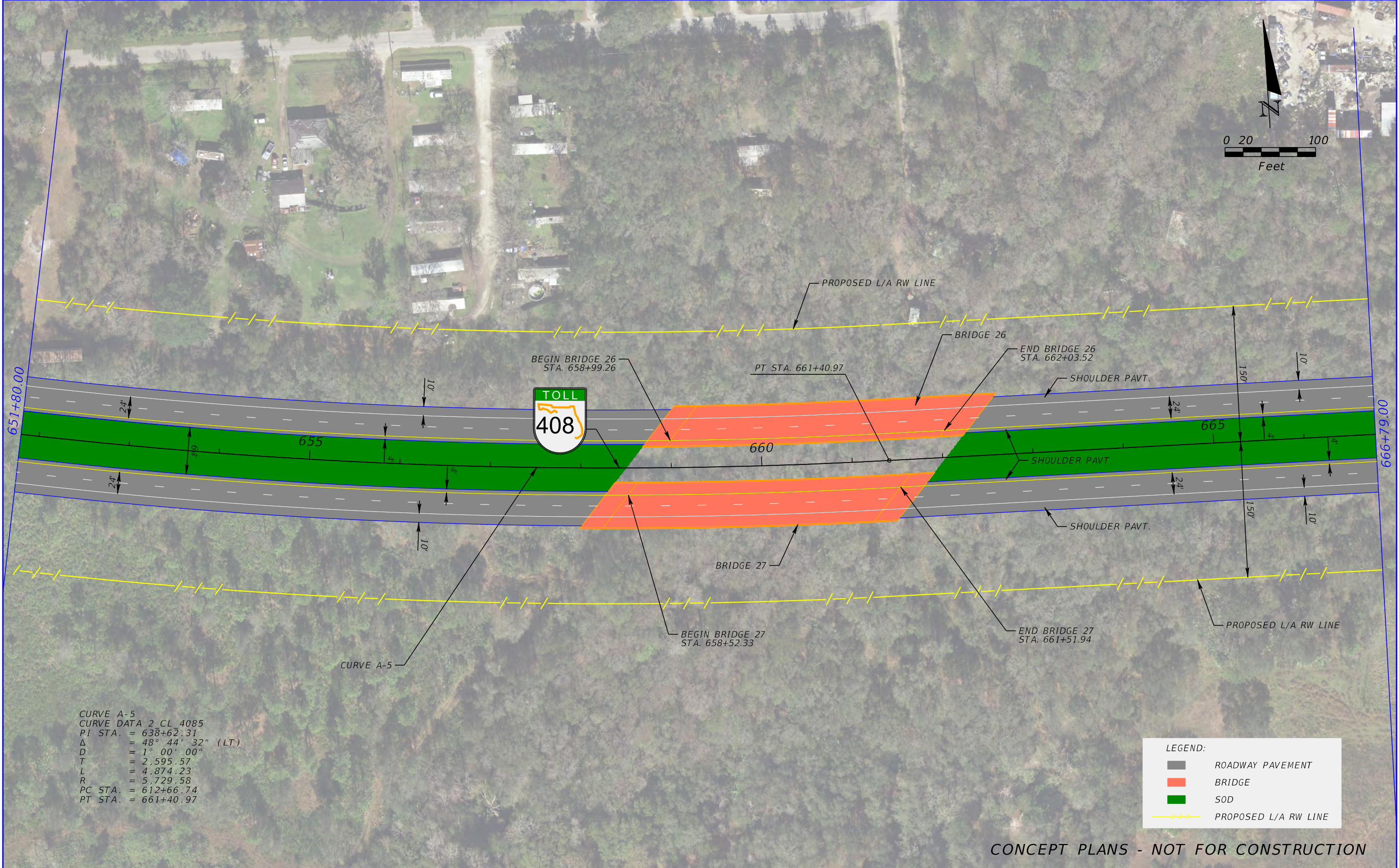
LEGEND:

	ROADWAY PAVEMENT
	BRIDGE
	SOD
	PROPOSED L/A RW LINE

CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  33
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





CURVE A-5  
CURVE DATA 2 CL 4085  
PI STA. = 638+62.31  
 $\Delta$  = 48° 44' 32" (LT)  
D = 1° 00' 00"  
T = 2,595.57  
L = 4,874.23  
R = 5,729.58  
PC STA. = 612+66.74  
PT STA. = 661+40.97

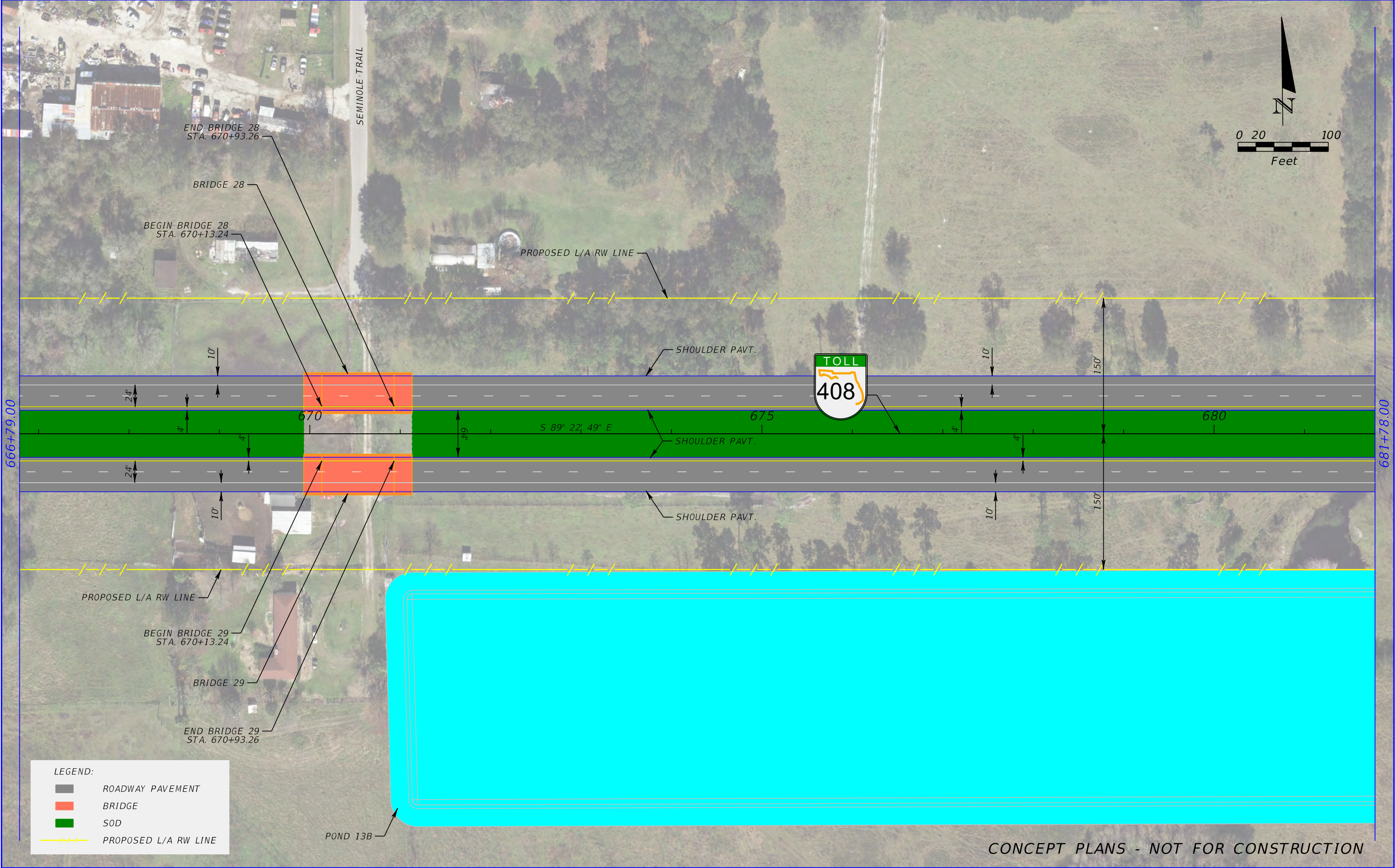
LEGEND:

	ROADWAY PAVEMENT
	BRIDGE
	SOD
	PROPOSED L/A RW LINE

CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  34
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		

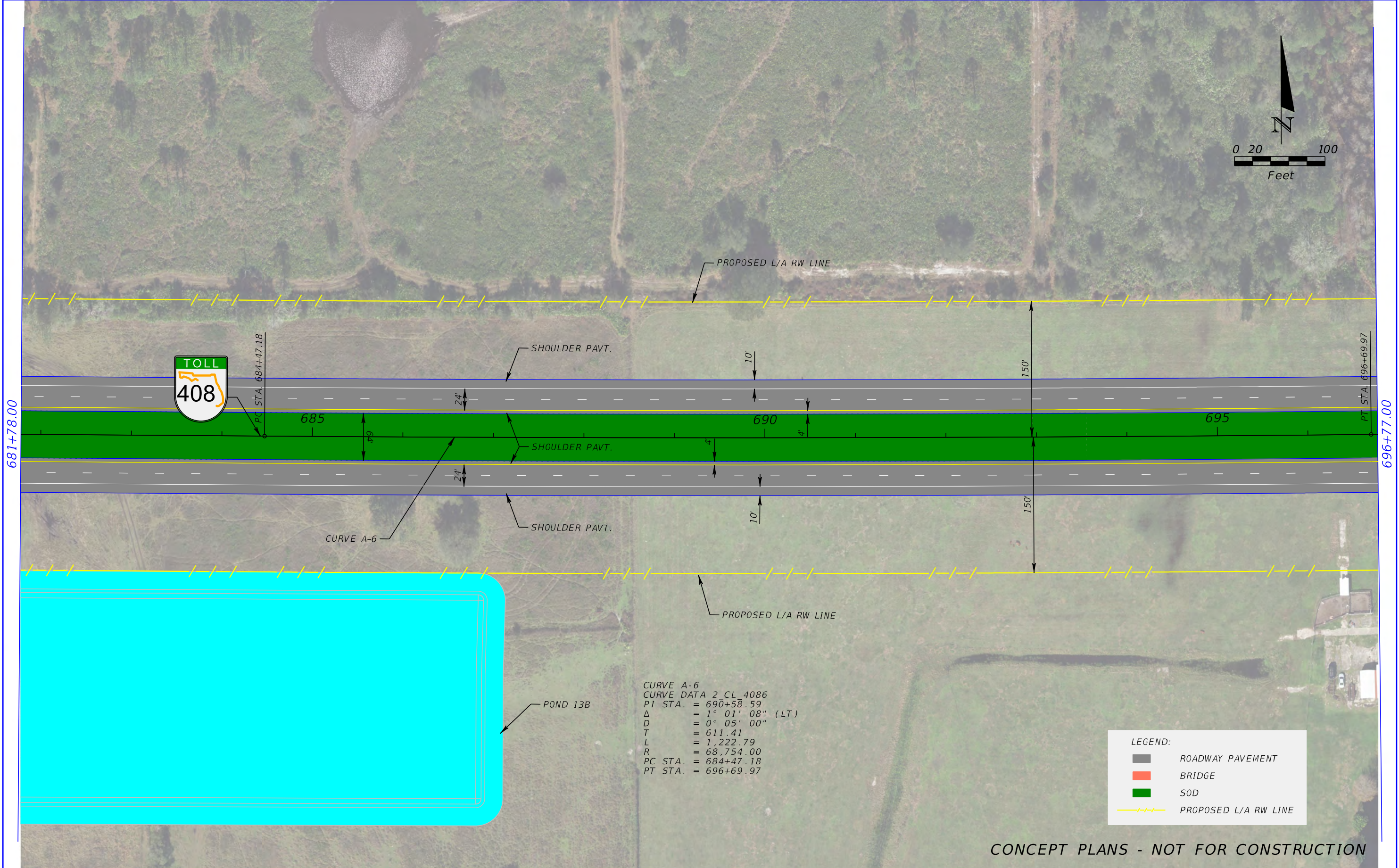




CONCEPT PLANS - NOT FOR CONSTRUCTION

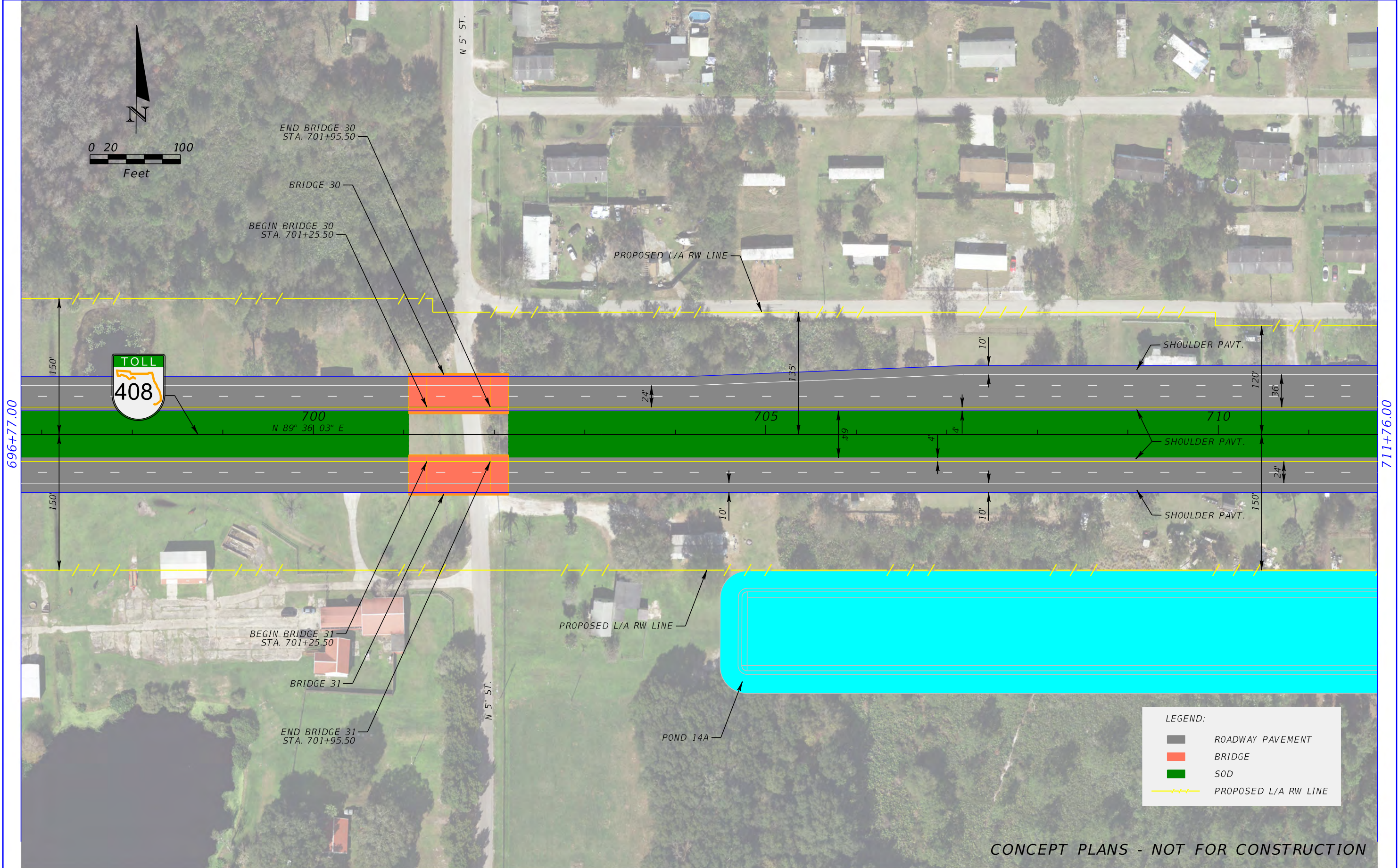
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		35





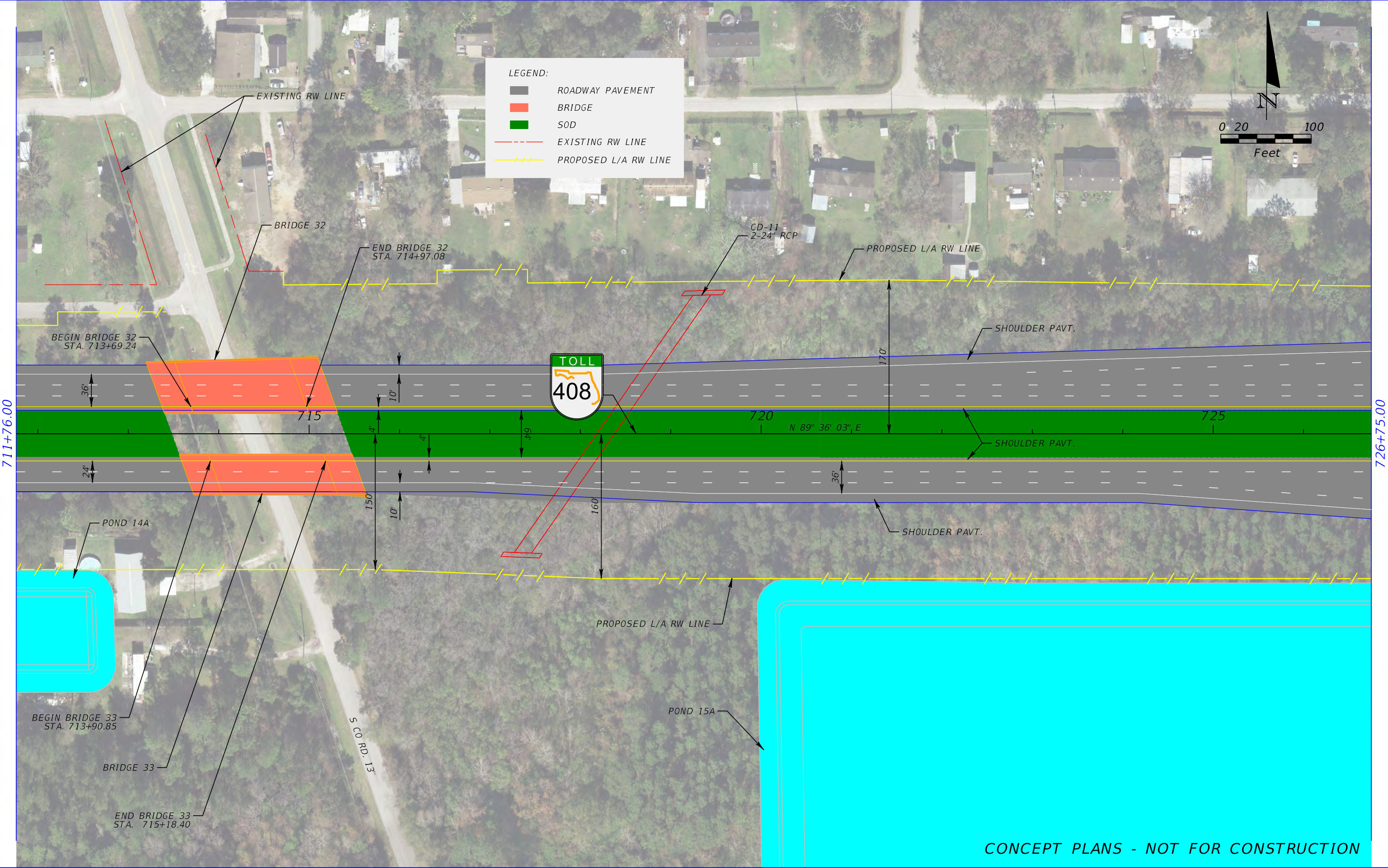
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		36





REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  37
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





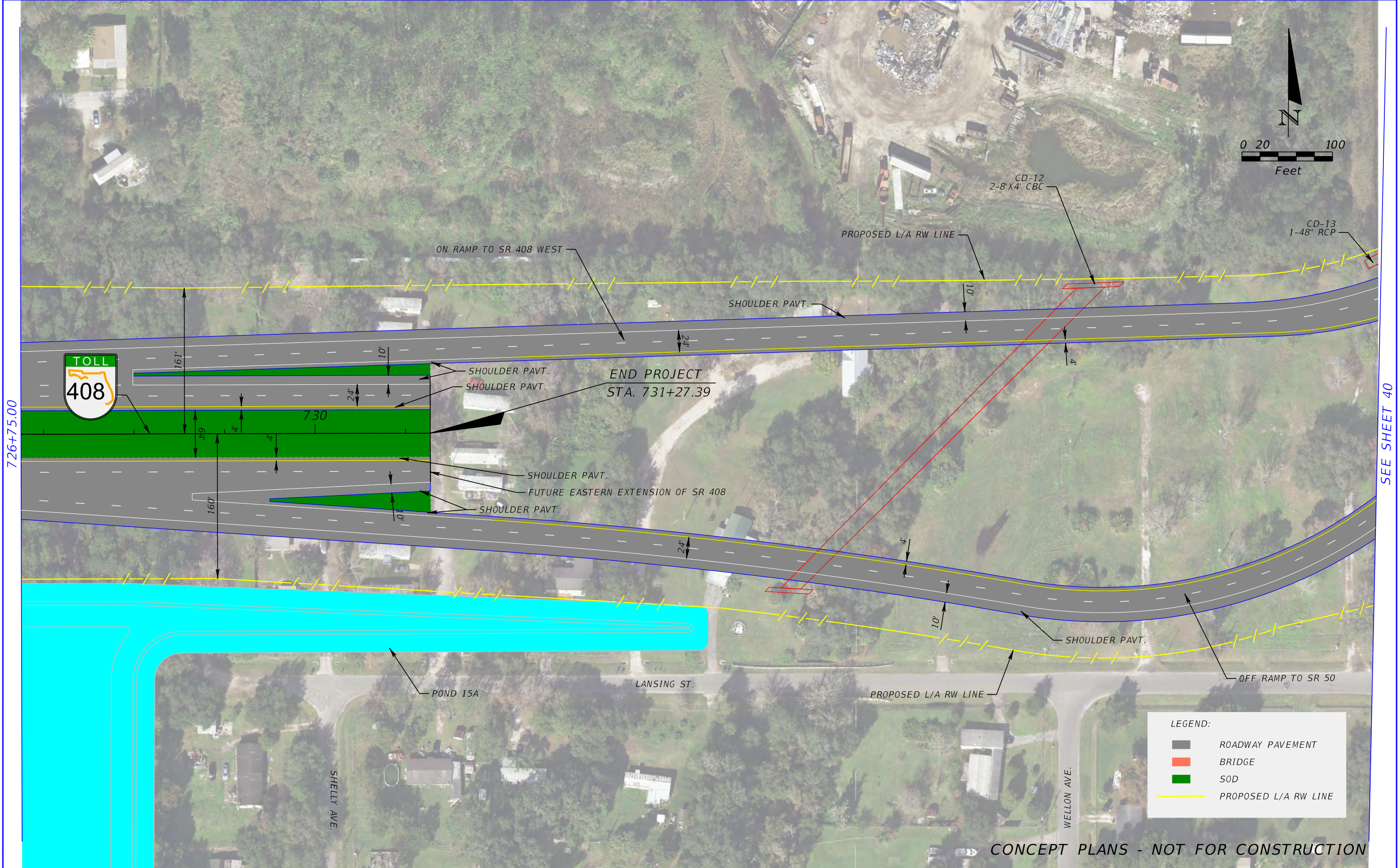
711+76.00

726+75.00

CONCEPT PLANS - NOT FOR CONSTRUCTION

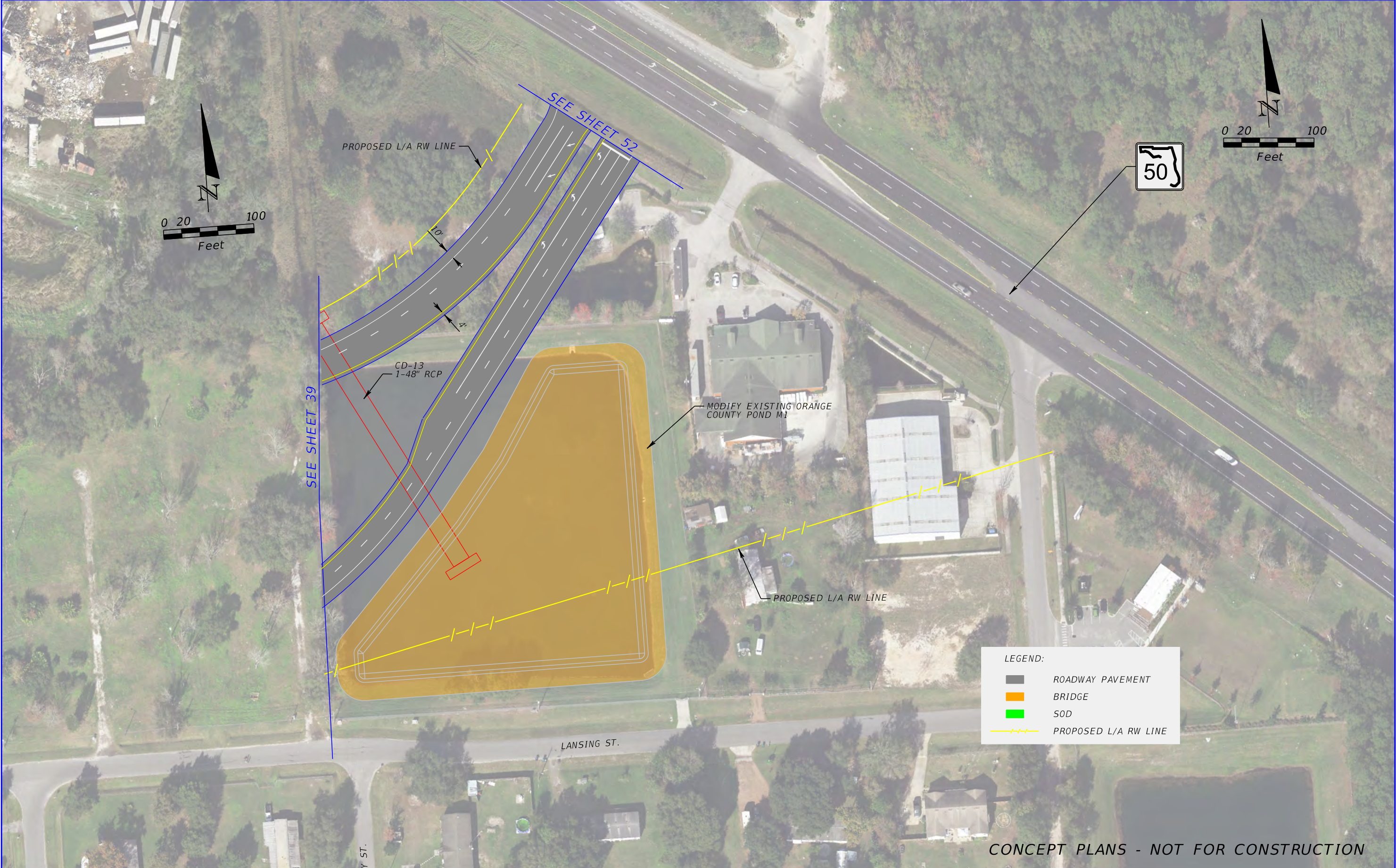
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  38
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  39
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		

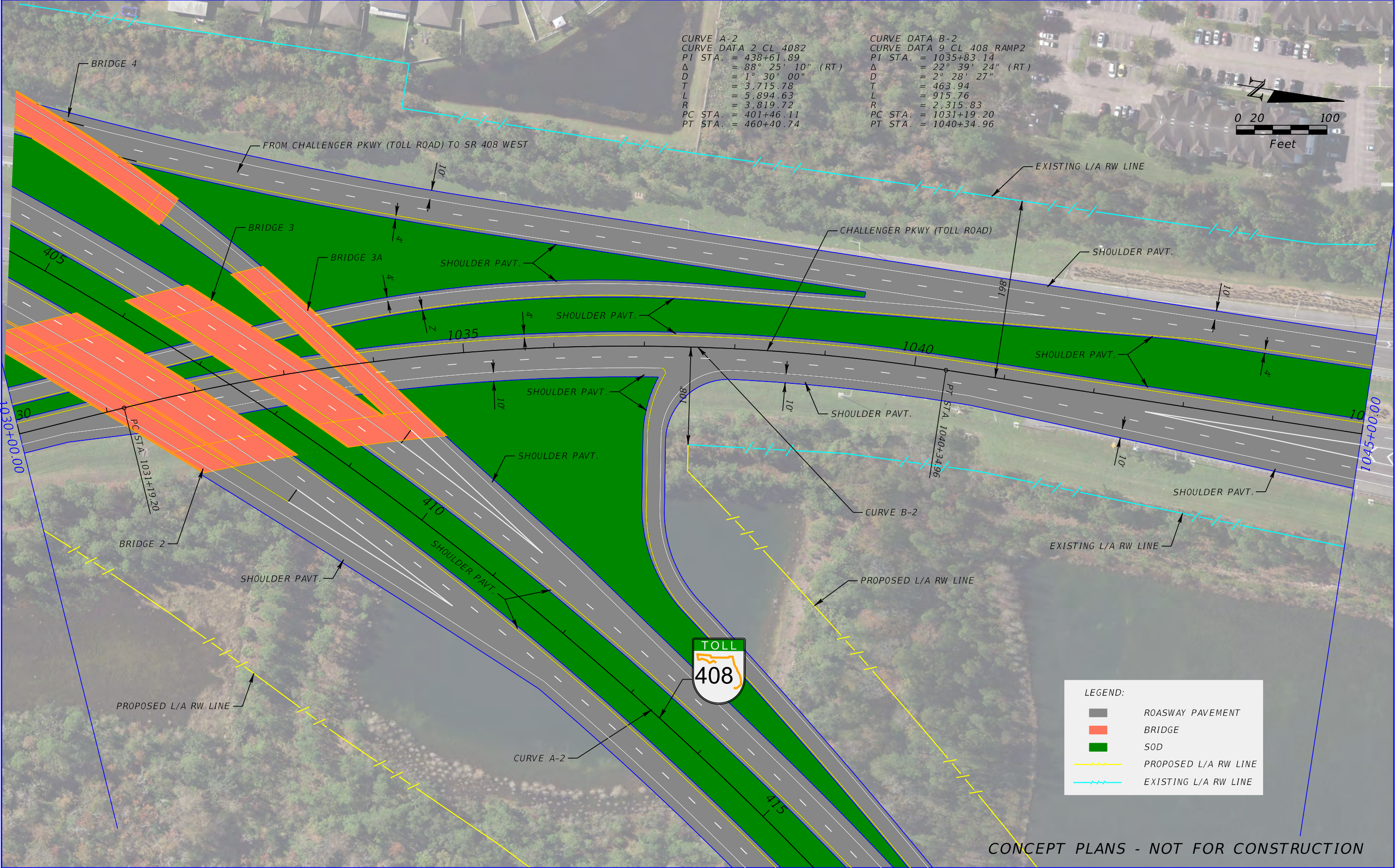




CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  40
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





CURVE A-2  
CURVE DATA 2 CL 4082  
PI STA. = 438+61.89  
 $\Delta$  = 88° 25' 10" (RT)  
D = 1° 30' 00"  
T = 3,715.78  
L = 5,894.63  
R = 3,819.72  
PC STA. = 401+46.11  
PT STA. = 460+40.74

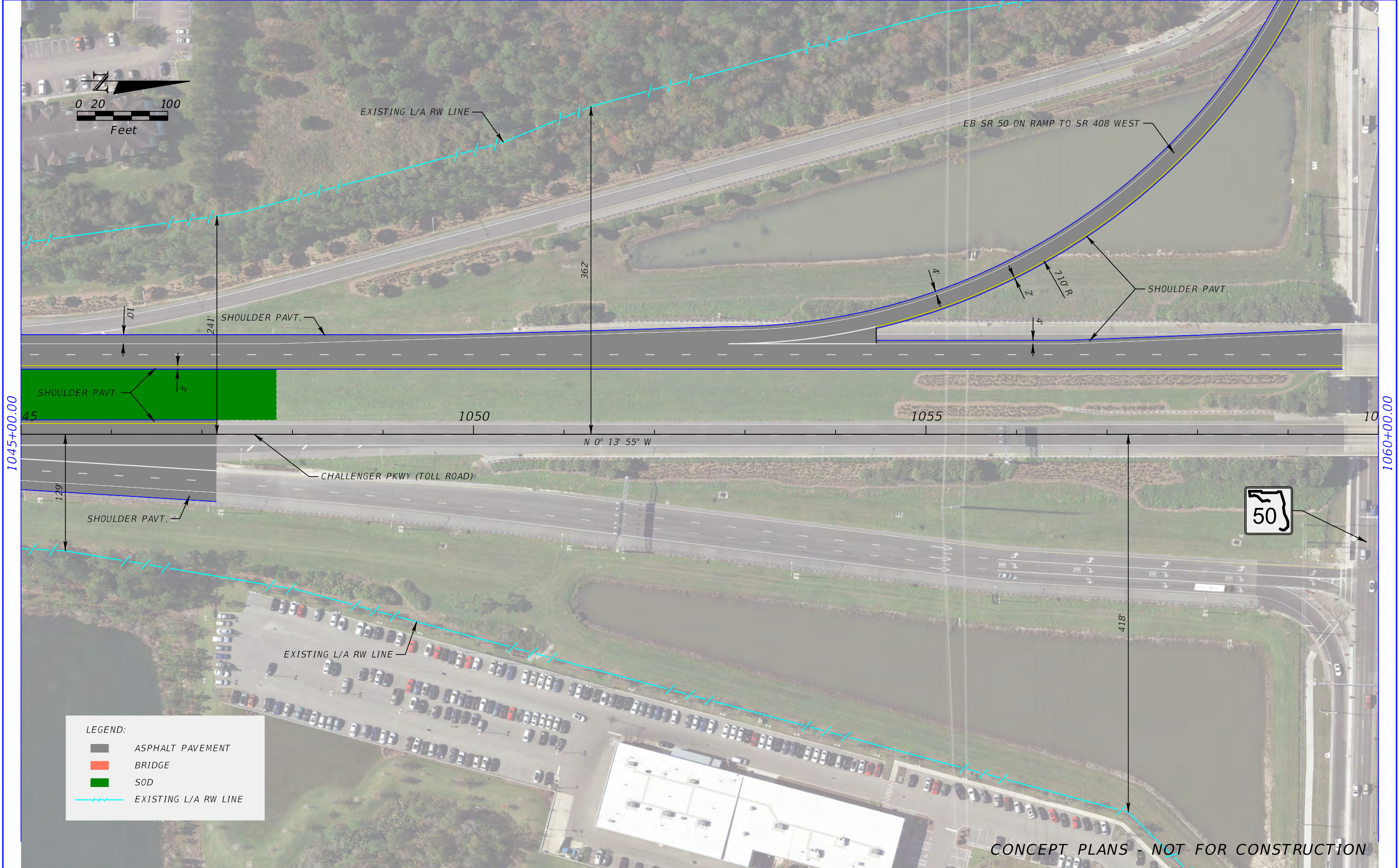
CURVE DATA B-2  
CURVE DATA 9 CL 408 RAMP2  
PI STA. = 1035+83.14  
 $\Delta$  = 22° 39' 24" (RT)  
D = 2° 28' 27"  
T = 463.94  
L = 915.76  
R = 2,315.83  
PC STA. = 1031+19.20  
PT STA. = 1040+34.96

LEGEND:

- ROADWAY PAVEMENT
- BRIDGE
- SOD
- PROPOSED L/A RW LINE
- EXISTING L/A RW LINE

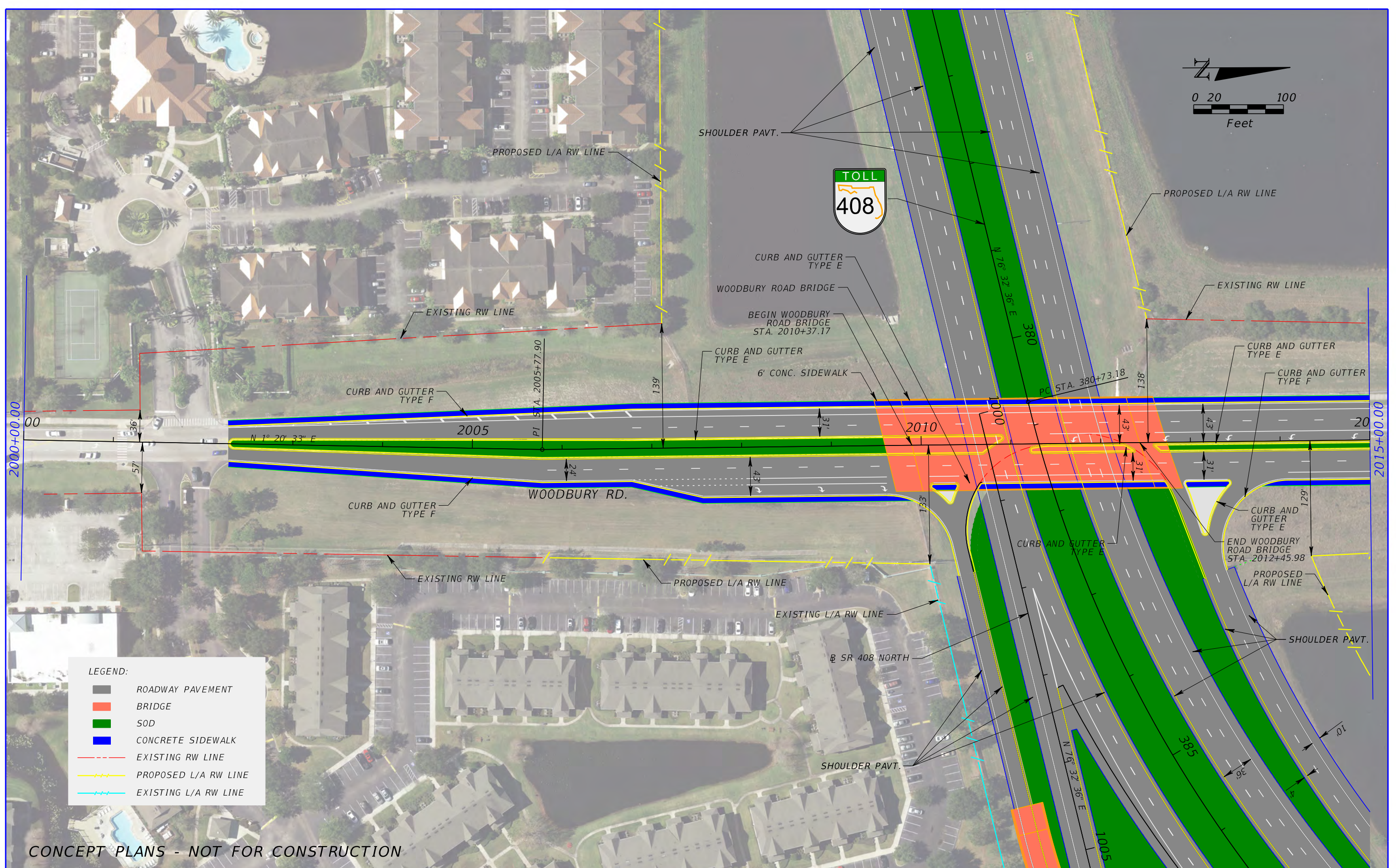
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  41
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





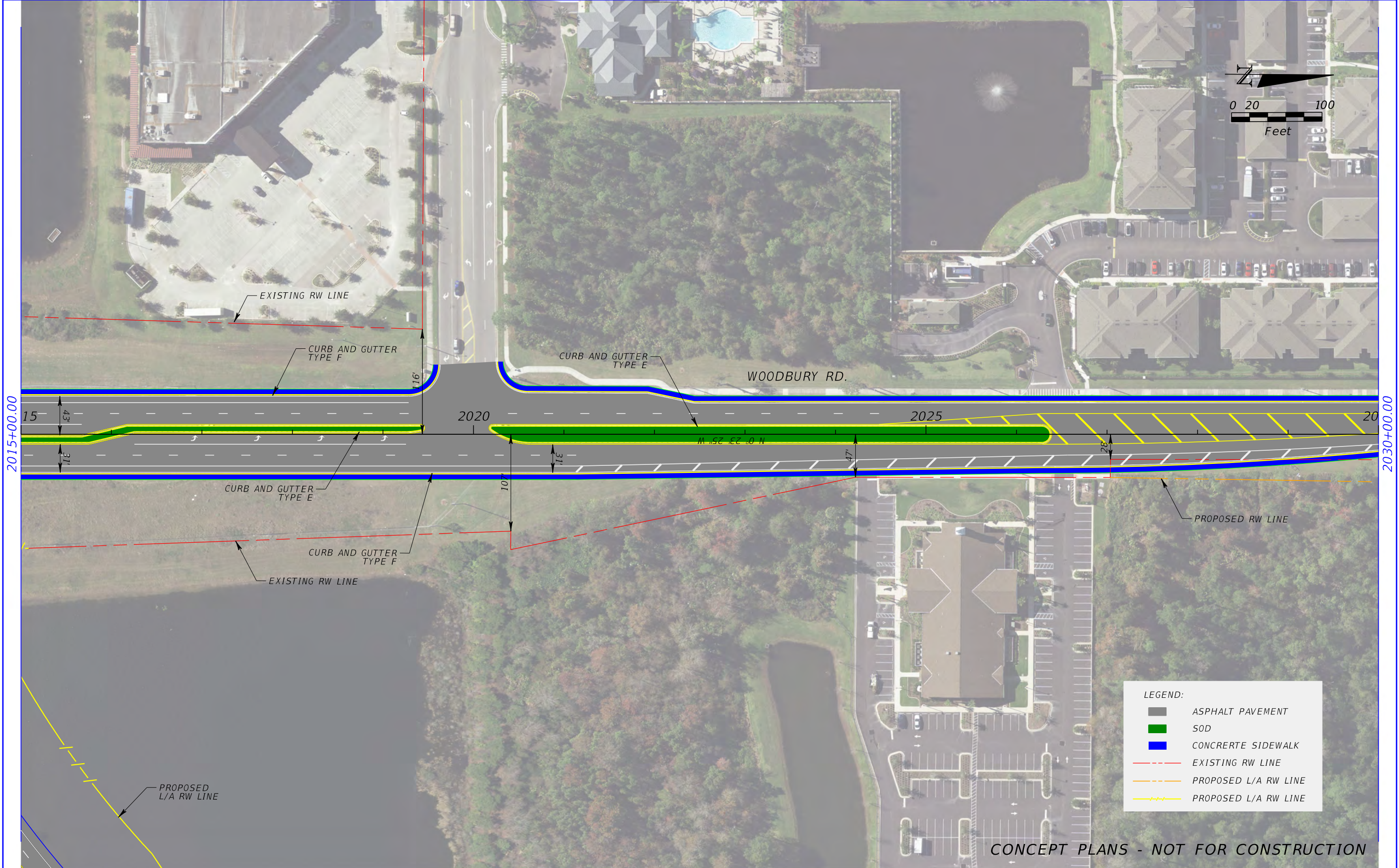
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  42
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





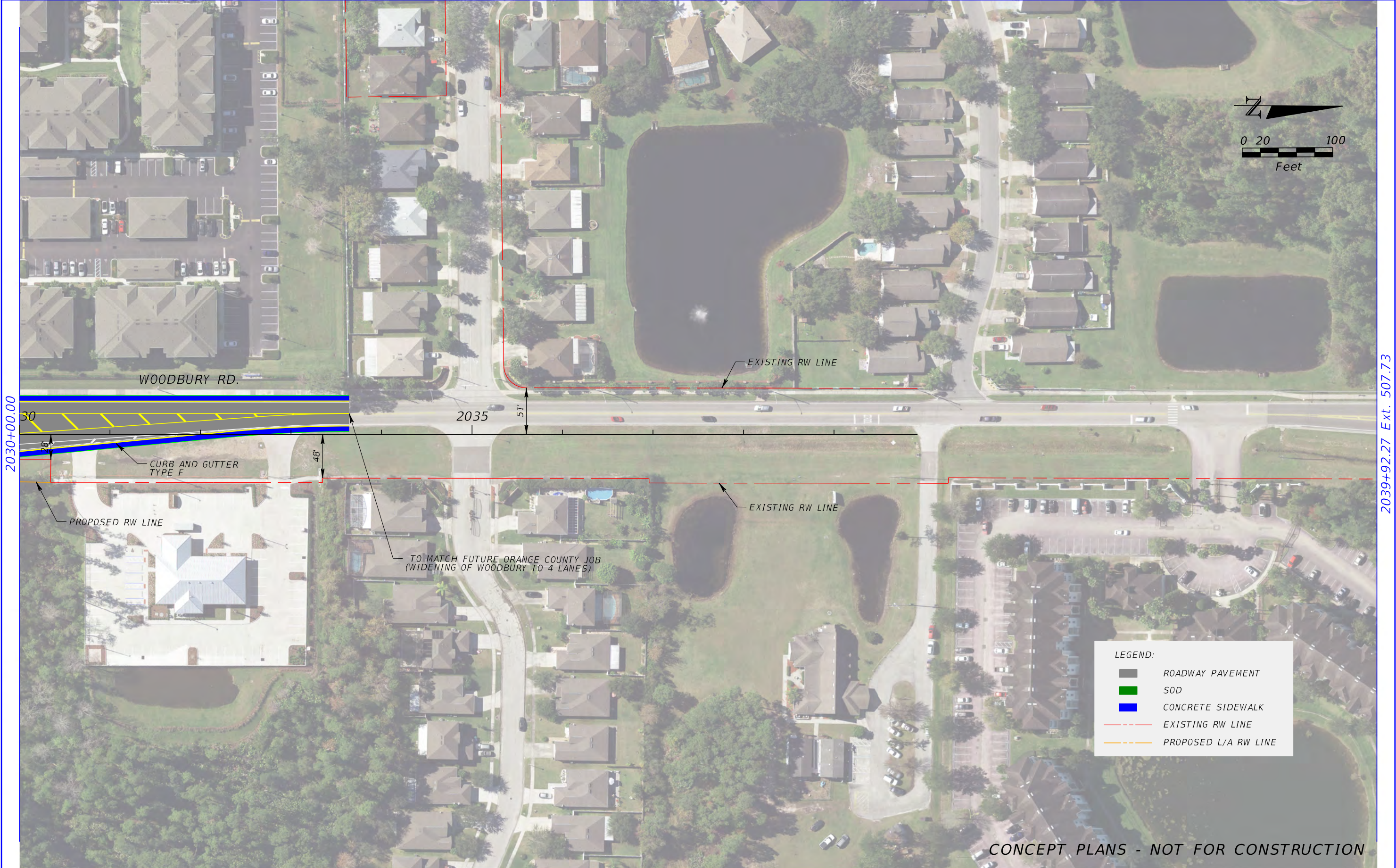
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			<i>PLAN SHEET</i>	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		43





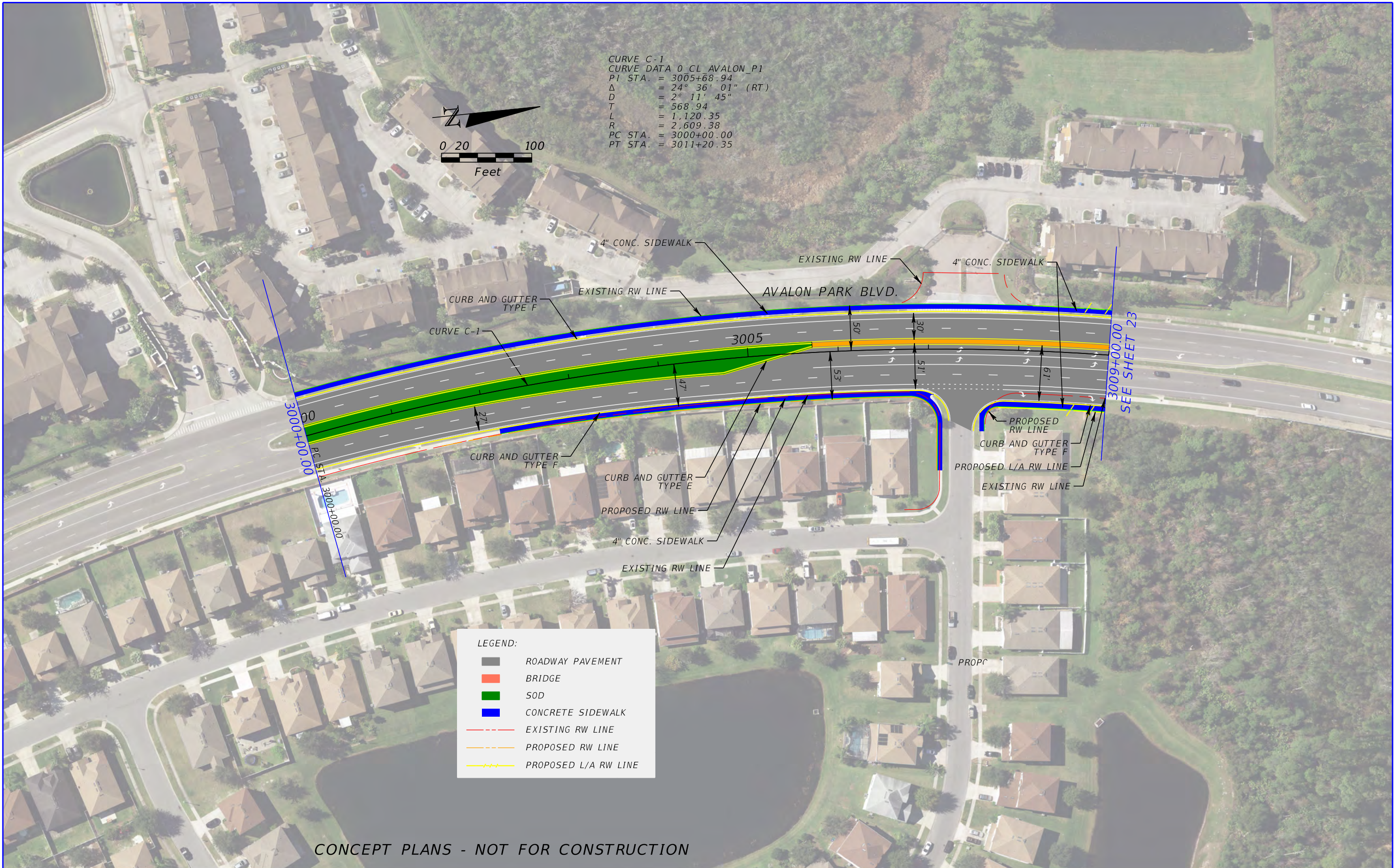
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		44





REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		45





CURVE C-1  
CURVE DATA 0 CL AVALON-P1  
PI STA. = 3005+68.94  
 $\Delta$  = 24° 36' 01" (RT)  
D = 2° 11' 45"  
T = 568.94  
L = 1,120.35  
R = 2,609.38  
PC STA. = 3000+00.00  
PT STA. = 3011+20.35



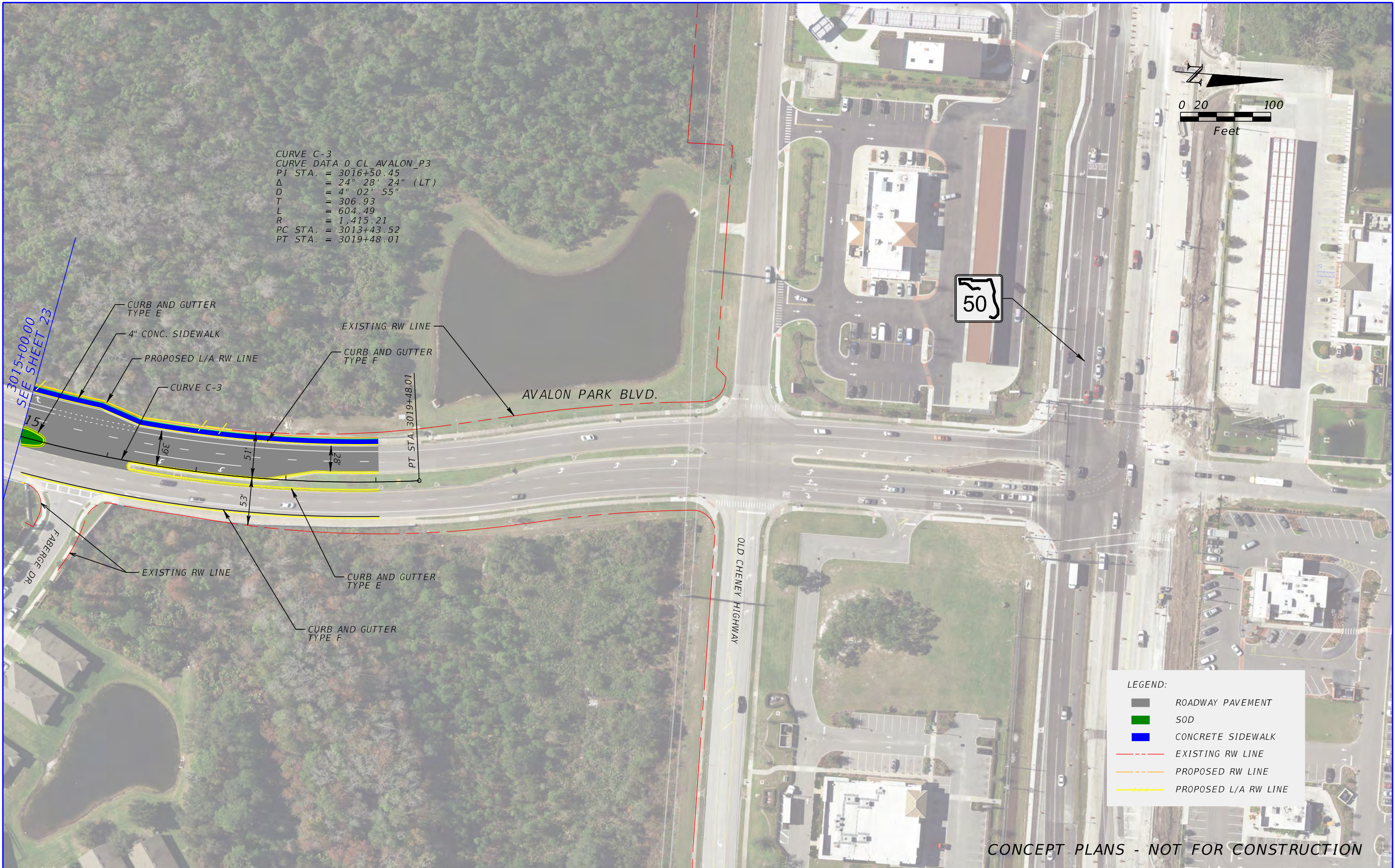
**LEGEND:**

- ROADWAY PAVEMENT
- BRIDGE
- SOD
- CONCRETE SIDEWALK
- EXISTING RW LINE
- PROPOSED RW LINE
- PROPOSED L/A RW LINE

CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  46
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		

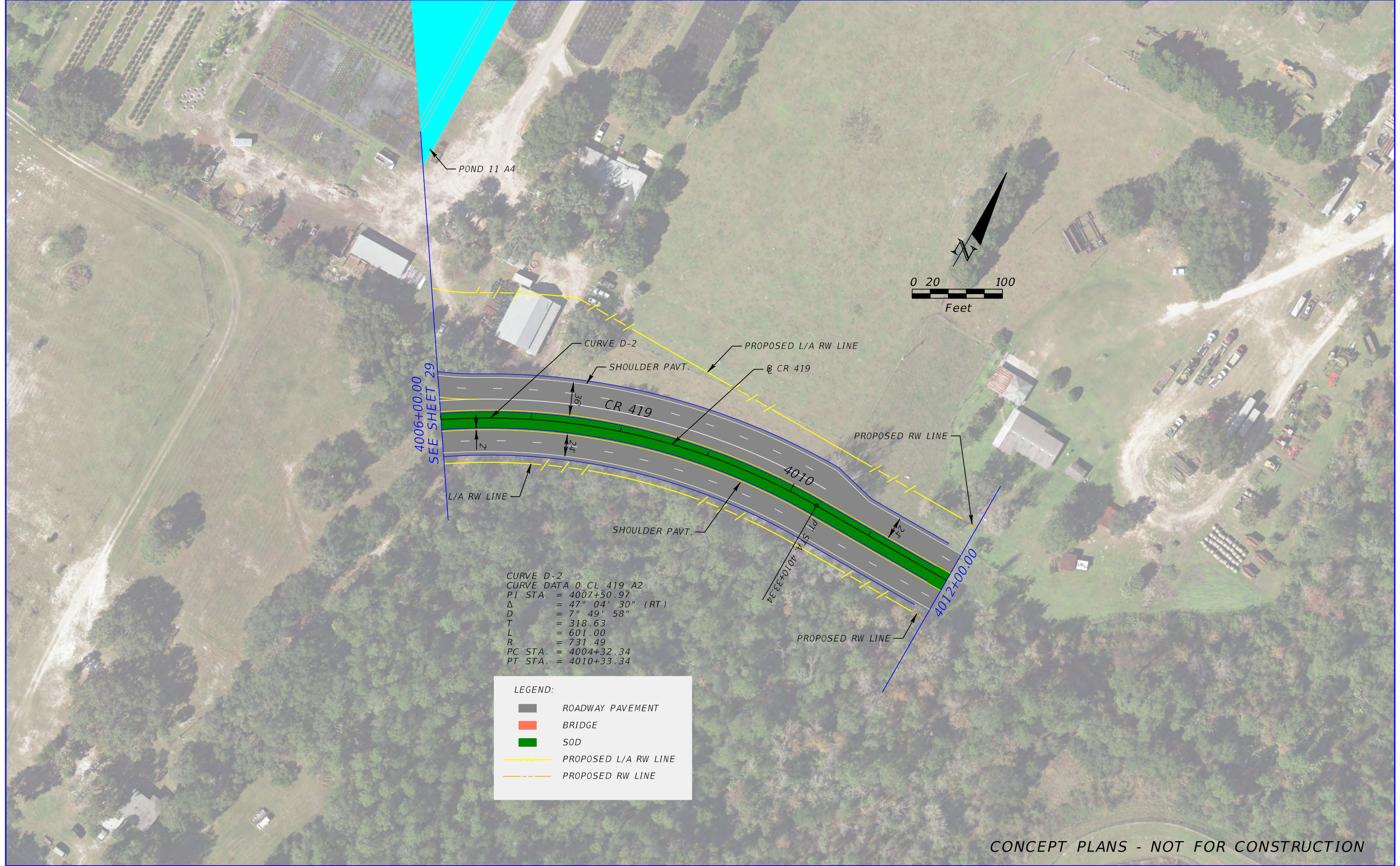




CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  47
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		





CURVE D-2  
CURVE DATA 0 CL 419 A2  
PI STA. = 4007+50.97  
Δ = 47° 04' 30" (RT)  
D = 7° 49' 58"  
T = 318.63  
L = 601.00  
R = 731.49  
PC STA. = 4004+32.34  
PT STA. = 4010+33.34

LEGEND:

ROADWAY PAVEMENT

BRIDGE

SOD

PROPOSED L/A RW LINE

PROPOSED RW LINE

CONCEPT PLANS - NOT FOR CONSTRUCTION

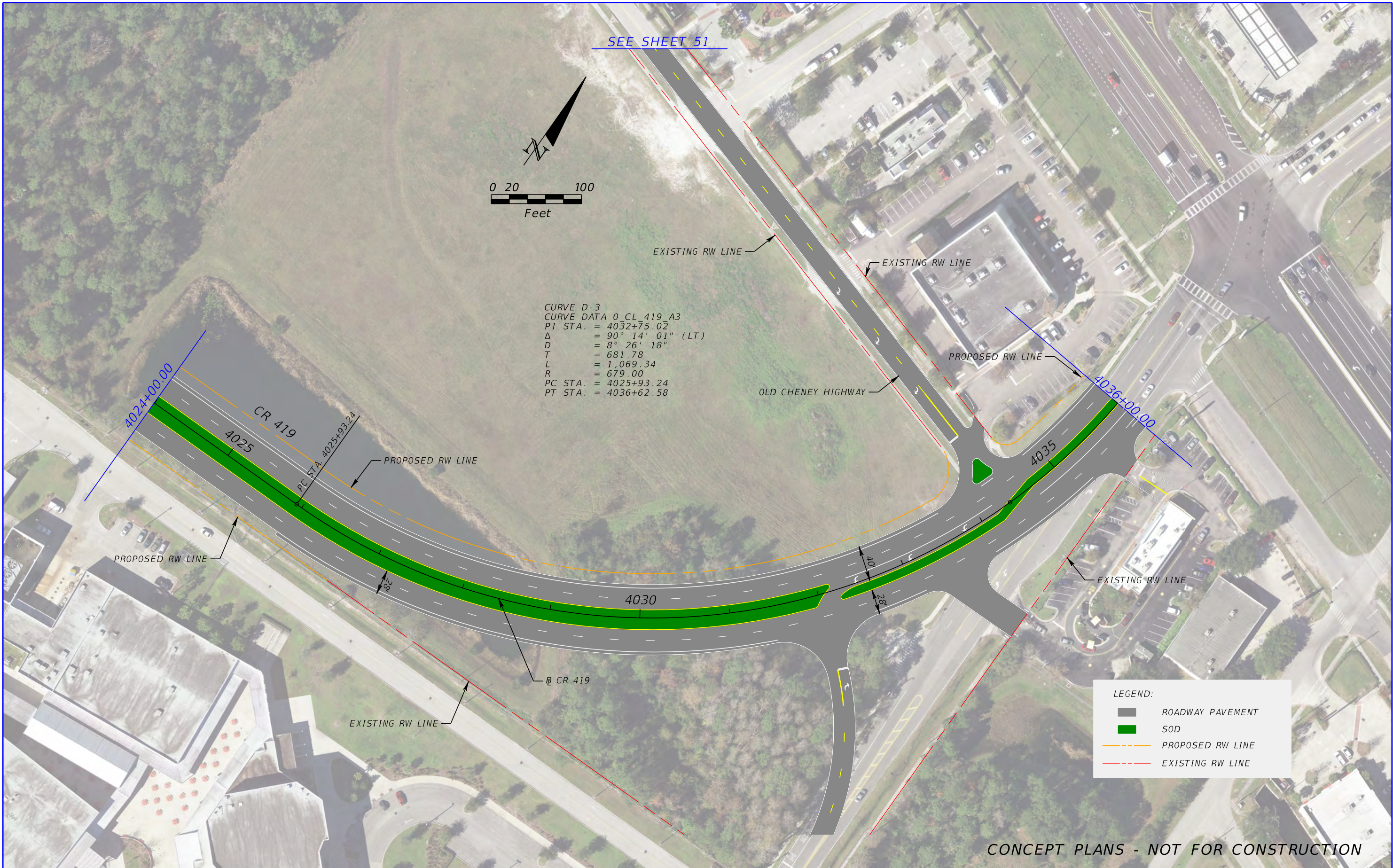
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		48





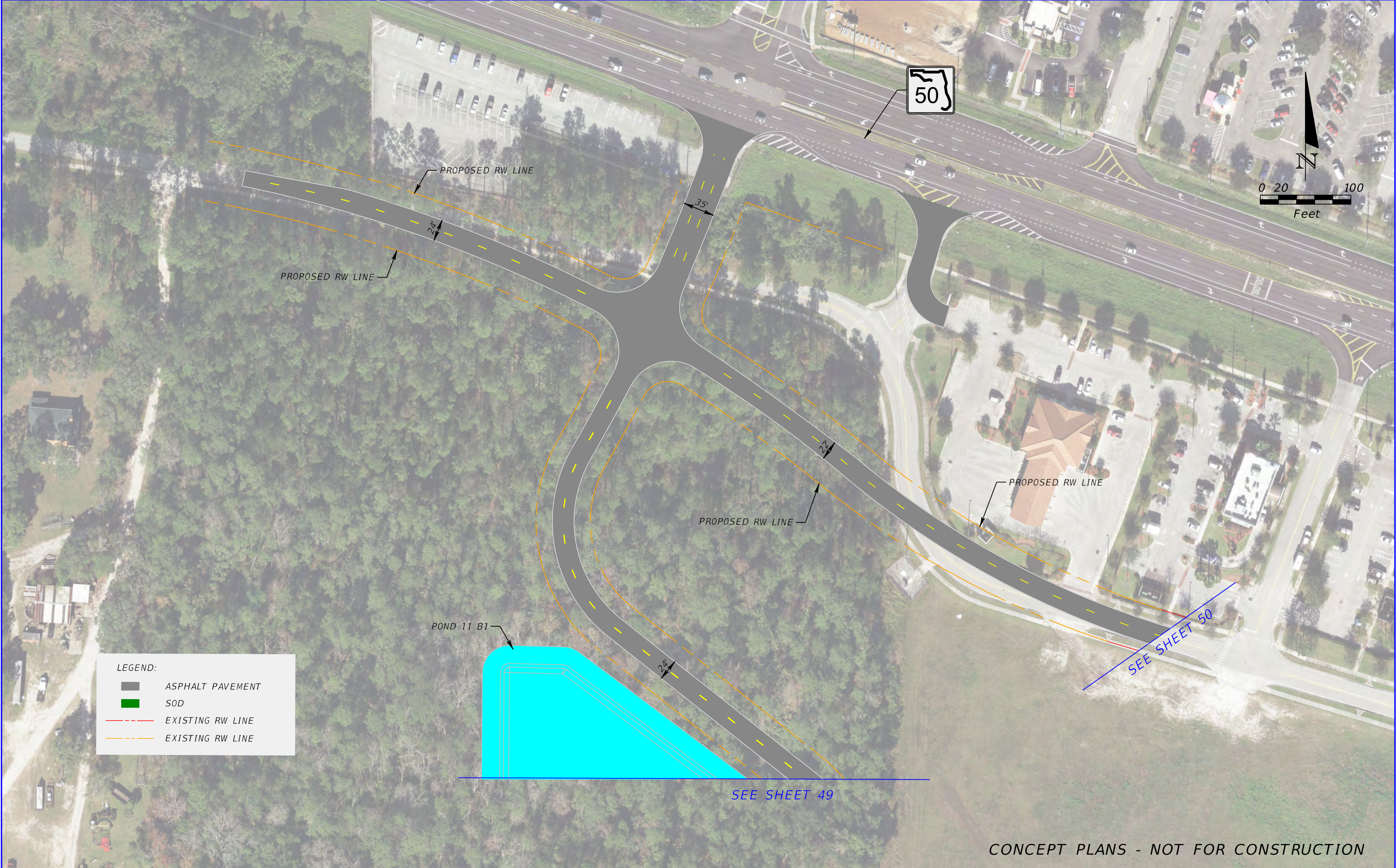
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		49





REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  50
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		



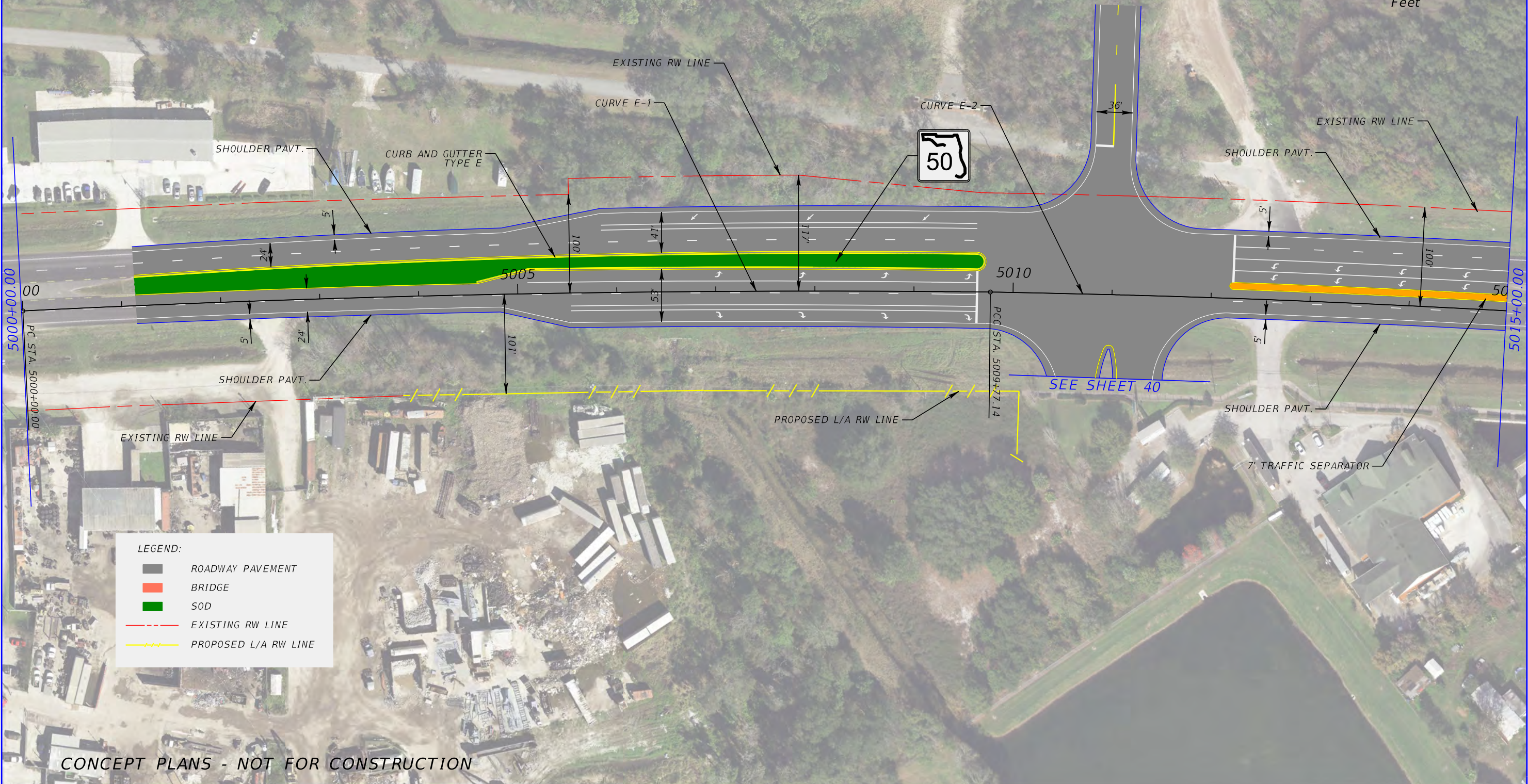
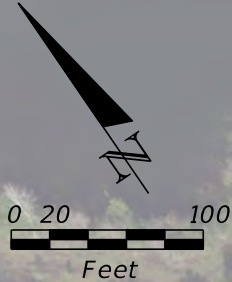


REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		51



CURVE E-1  
CURVE DATA 0 CL DIAMND\_A1  
PI STA. = 5004+88.72  
Δ = 3° 27' 44" (RT)  
D = 0° 21' 16"  
T = 488.72  
L = 977.14  
R = 16,170.96  
PC STA. = 5000+00.00  
PT STA. = 5009+77.14

CURVE E-2  
CURVE DATA 0 CL DIAMND\_A2  
PI STA. = 5014+94.98  
Δ = 4° 18' 40" (RT)  
D = 0° 24' 59"  
T = 13,758.24  
L = 5009+77.14  
PT STA. = 5020+12.33  
T = 517.84  
L = 1,035.19



LEGEND:

- ROADWAY PAVEMENT
- BRIDGE
- SOD
- EXISTING RW LINE
- PROPOSED L/A RW LINE

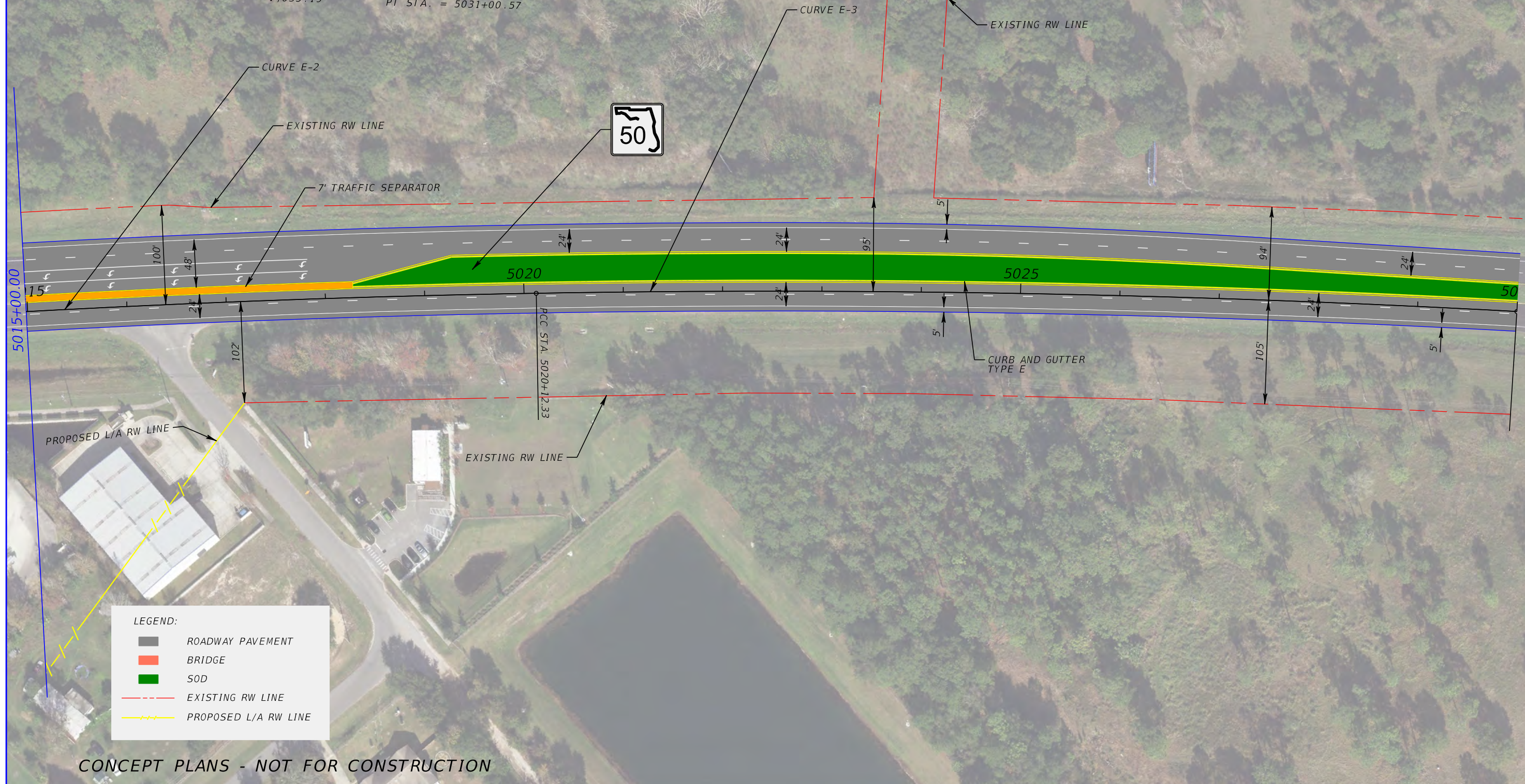
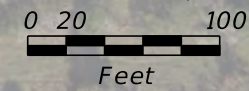
CONCEPT PLANS - NOT FOR CONSTRUCTION

REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  52
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		



CURVE E-2  
CURVE DATA 0 CL DIAMND\_A2  
PI STA. = 5014+94.98  
Δ = 4° 18' 40" (RT)  
D = 0° 24' 59"  
R = 13,758.24  
PC STA. = 5009+77.14  
PT STA. = 5020+12.33  
T = 517.84  
L = 1,035.19

CURVE E-3  
CURVE DATA 0 CL DIAMND\_A3  
PI STA. = 5025+56.74  
Δ = 4° 31' 55" (RT)  
D = 0° 24' 59"  
T = 544.40  
L = 1,088.24  
R = 13,758.24  
PC STA. = 5020+12.33  
PT STA. = 5031+00.57



LEGEND:

	ROADWAY PAVEMENT
	BRIDGE
	SOD
	EXISTING RW LINE
	PROPOSED L/A RW LINE

CONCEPT PLANS - NOT FOR CONSTRUCTION

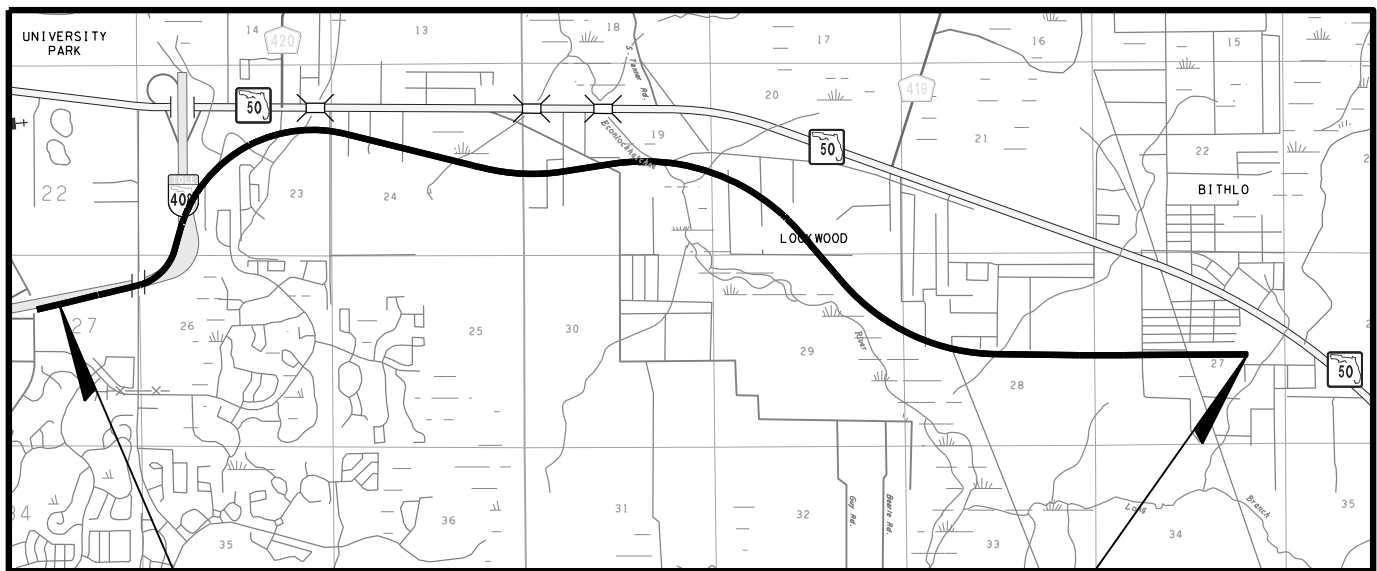
REVISIONS				C. BRIAN FULLER, P.E. P.E. NO.: 49524 METRIC ENGINEERING, INC. 615 CRESCENT EXECUTIVE CT, SUITE 524 LAKE MARY, FLORIDA 32746 TEL. (407) 644-1898 FAX. (407) 644-2376 CERTIFICATE OF AUTHORIZATION: 2294	CENTRAL FLORIDA EXPRESSWAY AUTHORITY			PLAN SHEET	SHEET NO.  53
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 408	ORANGE	408254		



## TYPICAL SECTION PACKAGE

*TYPICAL SECTION PACKAGE*

SR 408 EASTERN EXTENSION PD&E STUDY  
(FROM CURRENT EASTERN TERMINUS NEAR  
WOODBURY ROAD TO SR 50, NEAR SR 520)



END PROJECT  
STA. 731+27.29

## PROJECT LOCATION MAP



PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254 COUNTY (SECTION) 75008160

PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

PROJECT CONTROLS

FUNCTIONAL CLASSIFICATION	HIGHWAY SYSTEM
<div><div><div>(X) RURAL</div><div>( ) URBAN</div></div><div><div>(X) FREEWAY/EXPWY.</div><div>( ) MAJOR COLL.</div></div><div><div>( ) PRINCIPAL ART.</div><div>( ) MINOR COLL.</div></div><div><div>( ) MINOR ART.</div><div>( ) LOCAL</div></div></div> <div><div>Yes</div><div>No</div><div><div>( ) (X) NATIONAL HIGHWAY SYSTEM</div><div>( ) (X) STRATEGIC INTERMODAL SYSTEM</div><div>(X) ( ) STATE HIGHWAY SYSTEM</div><div>( ) (X) OFF STATE HIGHWAY SYSTEM</div></div></div>	

ACCESS CLASSIFICATION	TRAFFIC
<div><div>(X) 1 - FREEWAY</div><div>( ) 2 - RESTRICTIVE w/Service Roads</div><div>( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing</div><div>( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing</div><div>( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing</div><div>( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing</div><div>( ) 7 - BOTH MEDIAN TYPES</div></div> <div><div><div>CURRENT</div><div>OPENING</div><div>DESIGN</div></div><div><div>2017</div><div>2025</div><div>2045</div></div><div><div>N/A</div><div>8,600-20,500</div><div>3,300-35,500</div></div></div>	

CRITERIA	DISTRIBUTION
<div><div>(X) NEW CONSTRUCTION / RECONSTRUCTION</div><div>( ) RRR INTERSTATE / FREEWAY</div><div>( ) RRR NON-INTERSTATE / FREEWAY</div><div>( ) TDLC / NEW CONSTRUCTION / RECONSTRUCTION</div><div>( ) TDLC / RRR</div><div>( ) MANUAL OF UNIFORM MINIMUM STANDARDS (FLORIDA GREENBOOK) (OFF-STATE HIGHWAY SYSTEM ONLY)</div></div> <div><div>DESIGN SPEED</div><div>POSTED SPEED</div></div> <div><div>65-70</div><div>65</div></div> <div><div>K 9%</div><div>D 60%</div><div>T 24 2%</div></div>	

LIST ANY POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION ELEMENTS:

LIST MAJOR STRUCTURES LOCATION/DESCRIPTION - REQUIRING INDEPENDENT STRUCTURE DESIGN:

WOODBURY ROAD OVER SR 408	SR 408 EB/WB OVER PEL ST	SR 408 EB/WB OVER HAMILTON DR
WOODBURY RD ENTRANCE RAMP TO SR 408	SR 408 EB/WB OVER AVALON PARK BLVD	SR 408 EB/WB OVER ECONLOCKHATCHEE
SR 408 EB/WB OVER CHALLENGER PKWY RAMPS	SR 408 EB/WB OVER ECONLOCKHATCHEE RIVER AND	RIVER TRIBUTARY
SR 408 WB RAMP OVER CHALLENGER PKWY RAMPS	OLD CHENEY HIGHWAY	SR 408 EB/WB OVER SEMINOLE TRAIL
SR 408 EB/WB OVER BRIDGEWAY BLVD	SR 408 EB/WB RAMPS OVER LOCKWOOD DR	SR 408 EB/WB OVER N 5TH ST
SR 408 EB/WB OVER HANCOCK LONE PALM RD	SR 408 EB/WB OVER LOCKWOOD DR	SR 408 EB/WB OVER NORTH COUNTY RD 13
SR 408 EB/WB OVER FRICKE AVE	SR 408 EB/WB OVER CHULUOTA RD EXTENSION	

LIST MAJOR UTILITIES WITHIN PROJECT CORRIDOR:

ADVANCED CABLING SOLUTIONS INC	CHARTER COMMUNICATIONS	ORANGE COUNTY UTILITIES
AMERICAN TRAFFIC SOLUTIONS	DUKE ENERGY	ORANGE COUNTY UTILITIES-WASTEWATER
AT&T FLORIDA - DISTRIBUTION	FIBERNET DIRECT	TECO - PEOPLES GAS
CENTRAL FLORIDA EXPRESSWAY AUTHORITY	LOVELACE GAS SERVICE	
CENTURYLINK	MCI	
CITY OF ORLANDO - WASTEWATER	ORANGE COUNTY PUBLIC WORKS	
COMCAST CABLE COMMUNICATIONS	ORLANDO TELEPHONE COMPANY INC	

LIST OTHER INFORMATION PERTINENT TO DESIGN OF PROJECT:

INTERCHANGES - CHALLENGER PARKWAY, AVALON PARK, CR 419, SR 50

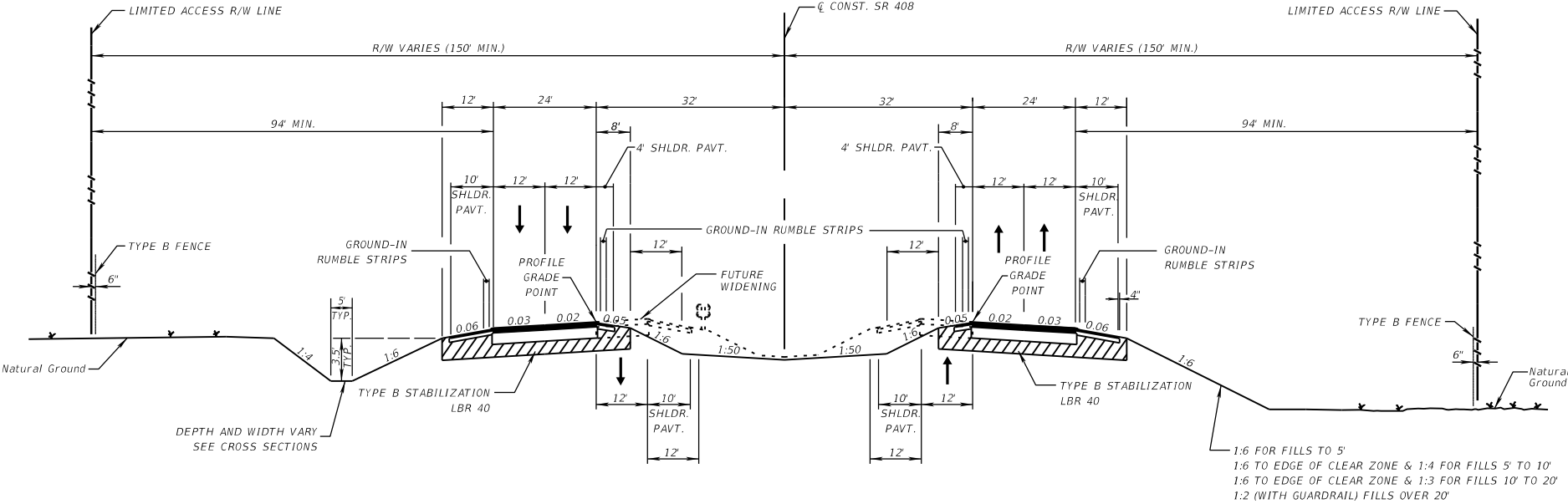
PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254 FEDERAL AID PROJECT NO. N/A COUNTY NAME ORANGE

SECTION NO. 75008160 ROAD DESIGNATION SR 408 LIMITS/MILEPOST N/A

PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

PROPOSED ROADWAY TYPICAL SECTION



BEGIN PROJECT TO EAST OF AVALON PARK  
DESIGN SPEED = 65 MPH  
EAST OF AVALON PARK TO END PROJECT  
DESIGN SPEED = 70 MPH

TYPICAL SECTION  
SR 408  
STA 358+41.08 TO STA 731+27.29

APPROVED BY: C. Brian Fuller, P.E. License No.: 49524	CFX CONCURRENCE	CFX APPROVAL
_____ Engineer Of Record Signature _____ Date	_____ Jonathan Williamson, AICP CFX Project Manager _____ Date	_____ Glenn M. Pressimone, PE CFX Director of Engineering _____ Date



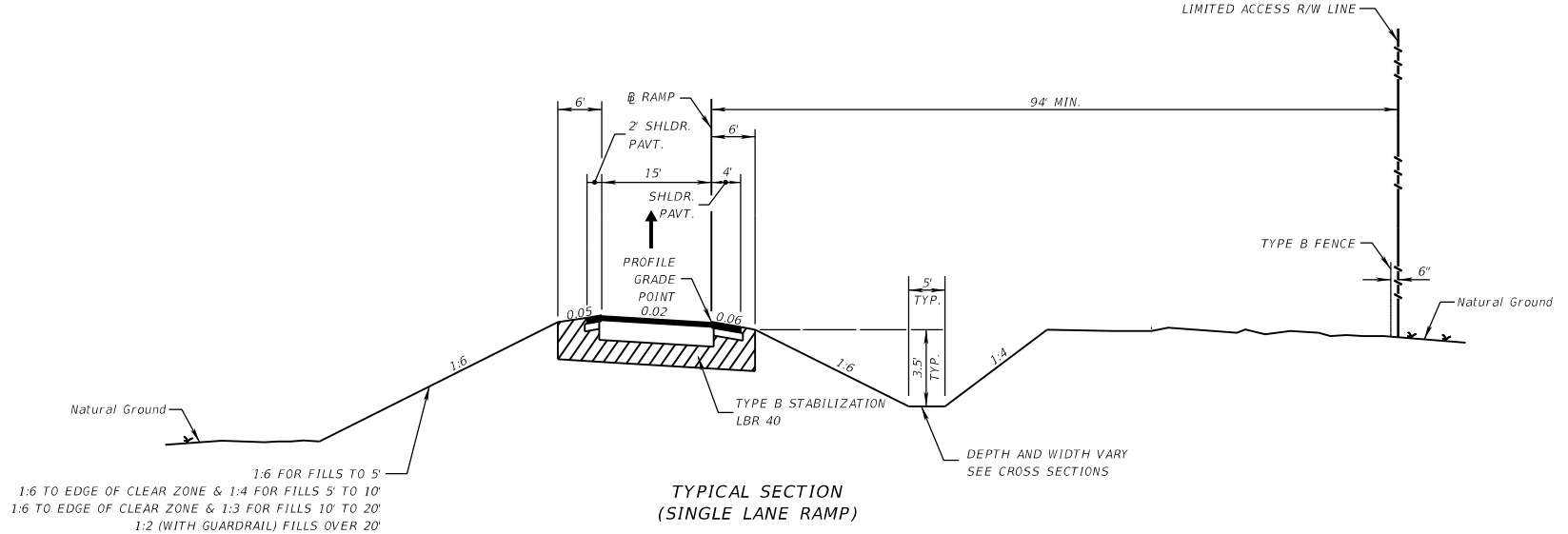
## PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254 FEDERAL AID PROJECT NO. N/A COUNTY NAME ORANGE

SECTION NO.	75008160	ROAD DESIGNATION	SR 408	LIMITS/MILEPOST	N/A
-------------	----------	------------------	--------	-----------------	-----

PROJECT DESCRIPTION	SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)
---------------------	--

## PROPOSED ROADWAY TYPICAL SECTION



DESIGN SPEED:  
DIRECTIONAL RAMP = 50 MPH  
LOOP RAMP = 30 MPH

APPROVED BY: C. Brian Fuller, P.E.  
License No.: 49524

## CFX CONCURRENCE

CFX APPROVAL

Engineer Of Record Signature

Date

*Jonathan Williamson, AICP  
CFX Project Manager*

Date \_\_\_\_\_

Glenn M. Pressimone, PE  
CFX Director of Engineering

Date \_\_\_\_\_

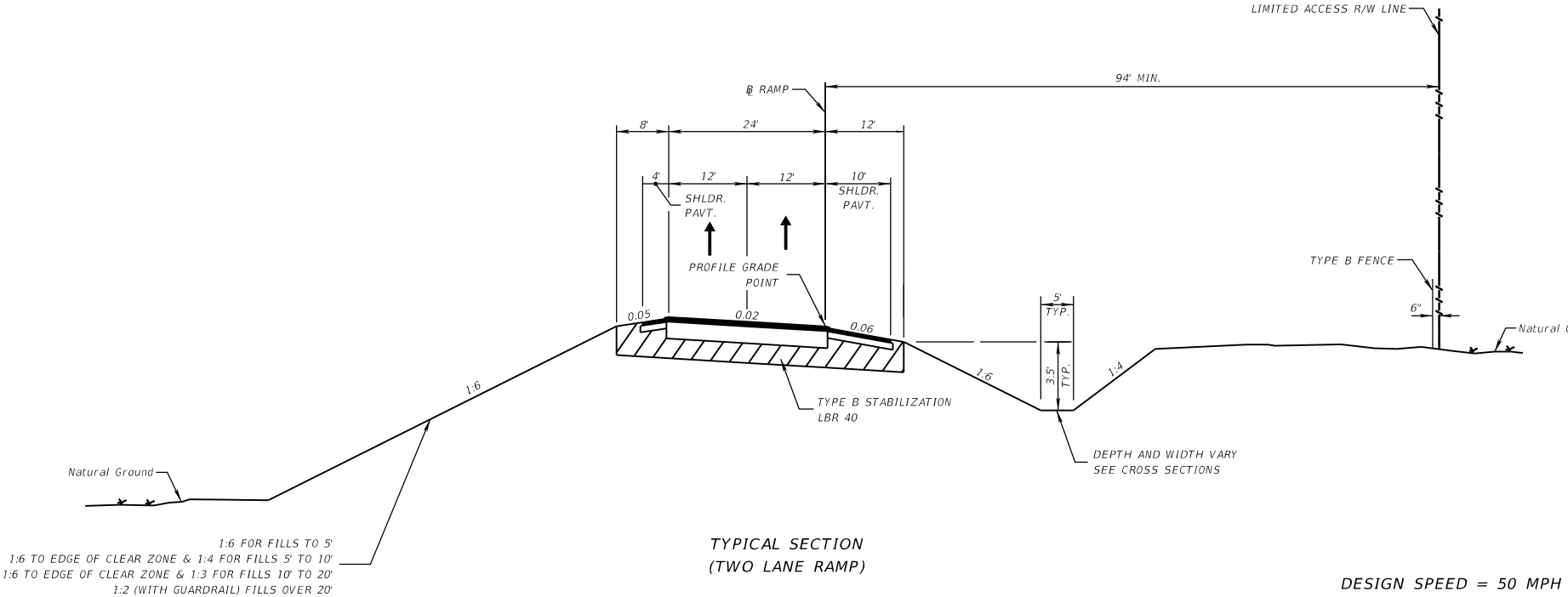
PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254 FEDERAL AID PROJECT NO. N/A COUNTY NAME ORANGE

SECTION NO. 75008160 ROAD DESIGNATION SR 408 LIMITS/MILEPOST N/A

PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

PROPOSED ROADWAY TYPICAL SECTION



APPROVED BY: C. Brian Fuller, P.E. License No.: 49524	CFX CONCURRENCE	CFX APPROVAL
_____ Engineer Of Record Signature _____ Date	_____ Jonathan Williamson, AICP CFX Project Manager _____ Date	_____ Glenn M. Pressimone, PE CFX Director of Engineering _____ Date



PROJECT IDENTIFICATION

CFX PROJECT NO.408-254

FEDERAL AID PROJECT NO.N/A

COUNTY NAMEORANGE

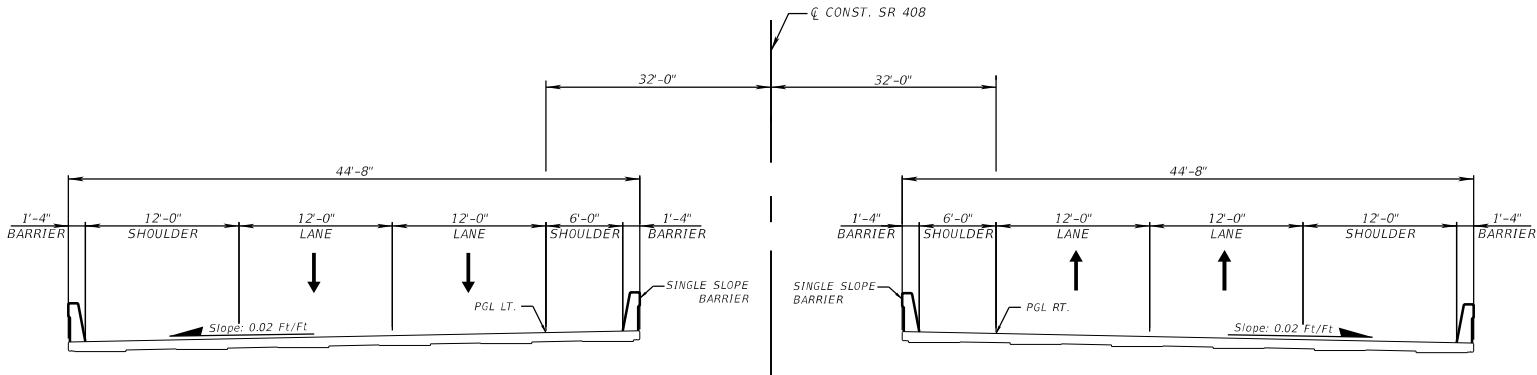
SECTION NO.75008160

ROAD DESIGNATIONSR 408

LIMITS/MILEPOSTN/A

PROJECT DESCRIPTIONSR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

PROPOSED ROADWAY TYPICAL SECTION



PROPOSED STRUCTURE TYPICAL SECTION  
SR 408 BRIDGE TYPICAL

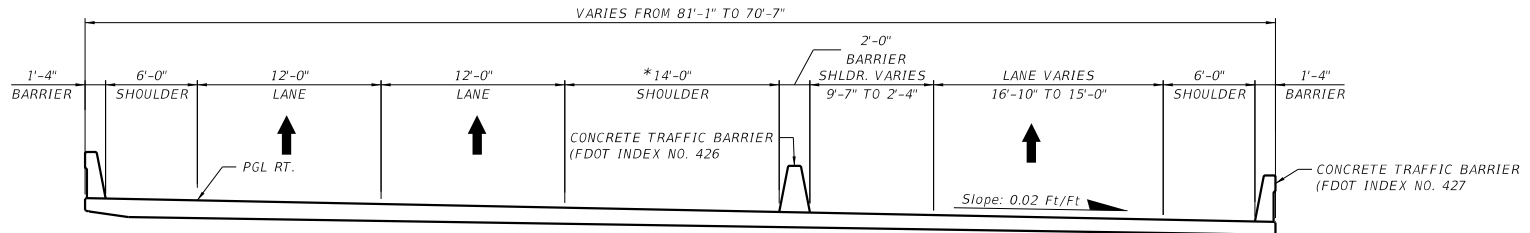
BEGIN PROJECT TO EAST OF AVALON PARK  
DESIGN SPEED = 65 MPH  
EAST OF AVALON PARK TO END PROJECT  
DESIGN SPEED = 70 MPH

APPROVED BY: C. Brian Fuller, P.E. License No.: 49524	CFX CONCURRENCE	CFX APPROVAL
_____ Engineer Of Record Signature      _____ Date	_____ Jonathan Williamson, AICP CFX Project Manager      _____ Date	_____ Glenn M. Pressimone, PE CFX Director of Engineering      _____ Date

## PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254 FEDERAL AID PROJECT NO. N/A COUNTY NAME ORANGE  
 SECTION NO. 75008160 ROAD DESIGNATION SR 408 LIMITS/MILEPOST N/A  
 PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

## PROPOSED ROADWAY TYPICAL SECTION



### TYPICAL SECTION

SR 408 EB OVER CHALLENGER PARKWAY RAMP

DESIGN SPEED = 65 MPH

\* ADDITIONAL SHOULDER WIDTH HAS BEEN ADDED TO ADDRESS SIGHT DISTANCE REQUIREMENTS

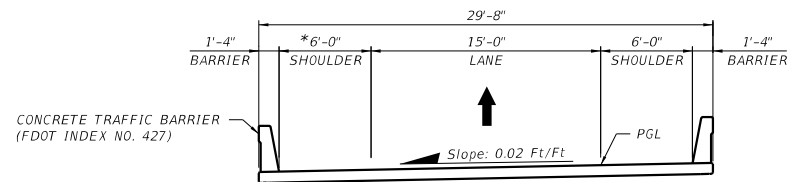
APPROVED BY: C. Brian Fuller, P.E. License No.: 49524		CFX CONCURRENCE		CFX APPROVAL	
_____ Engineer Of Record Signature	_____ Date	_____ Jonathan Williamson, AICP CFX Project Manager	_____ Date	_____ Glenn M. Pressimone, PE CFX Director of Engineering	_____ Date



## PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254 FEDERAL AID PROJECT NO. N/A COUNTY NAME ORANGE  
 SECTION NO. 75008160 ROAD DESIGNATION SR 408 LIMITS/MILEPOST N/A  
 PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

## PROPOSED ROADWAY TYPICAL SECTION



### TYPICAL SECTION

SINGLE LANE RAMP BRIDGE STRUCTURE

DESIGN SPEED = 50 MPH

\* ADDITIONAL SHOULDER WIDTH HAS BEEN ADDED TO ADDRESS SIGHT DISTANCE REQUIREMENTS AT THE FOLLOWING BRIDGES:

1. WOODBURY ON-RAMP TO EB SR 408 OVER CHALLENGER PARKWAY RAMP - 12 FT INSIDE SHOULDER
2. WB SR 408 OFF-RAMP TO WOODBURY OVER CHALLENGER PARKWAY RAMP - 12 FT INSIDE SHOULDER

APPROVED BY: C. Brian Fuller, P.E. License No.: 49524	CFX CONCURRENCE	CFX APPROVAL
<div style="display: flex; justify-content: space-between;"> <div>_____ Engineer Of Record Signature</div> <div>_____ Date</div> </div>	<div style="display: flex; justify-content: space-between;"> <div>_____ Jonathan Williamson, AICP CFX Project Manager</div> <div>_____ Date</div> </div>	<div style="display: flex; justify-content: space-between;"> <div>_____ Glenn M. Pressimone, PE CFX Director of Engineering</div> <div>_____ Date</div> </div>

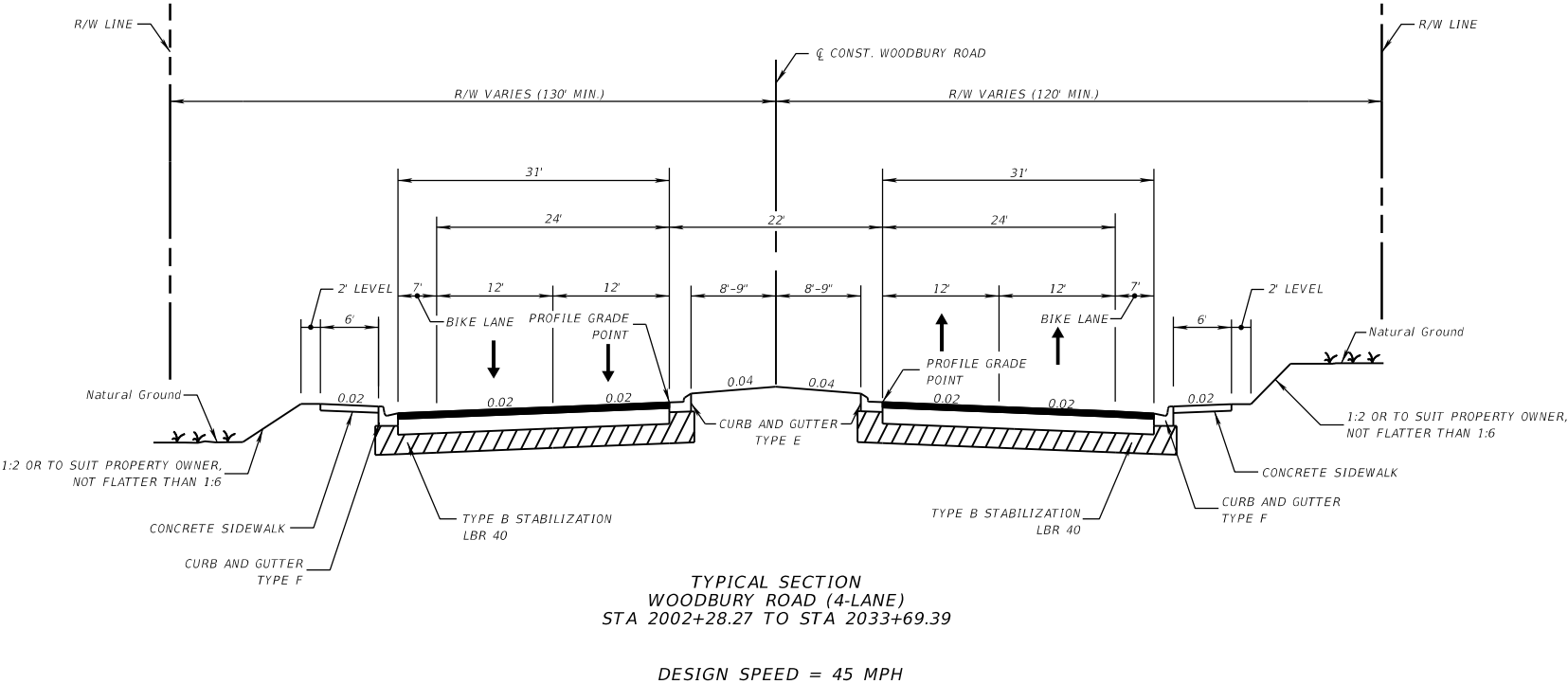
PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254 FEDERAL AID PROJECT NO. N/A COUNTY NAME ORANGE

SECTION NO. 75008160 ROAD DESIGNATION SR 408 LIMITS/MILEPOST N/A

PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

PROPOSED ROADWAY TYPICAL SECTION



APPROVED BY: C. Brian Fuller, P.E.  
License No.: 49524

CFX CONCURRENCE

CFX APPROVAL

Engineer Of Record Signature

Date

Jonathan Williamson, AICP  
CFX Project Manager

Date

Glenn M. Pressimone, PE  
CFX Director of Engineering

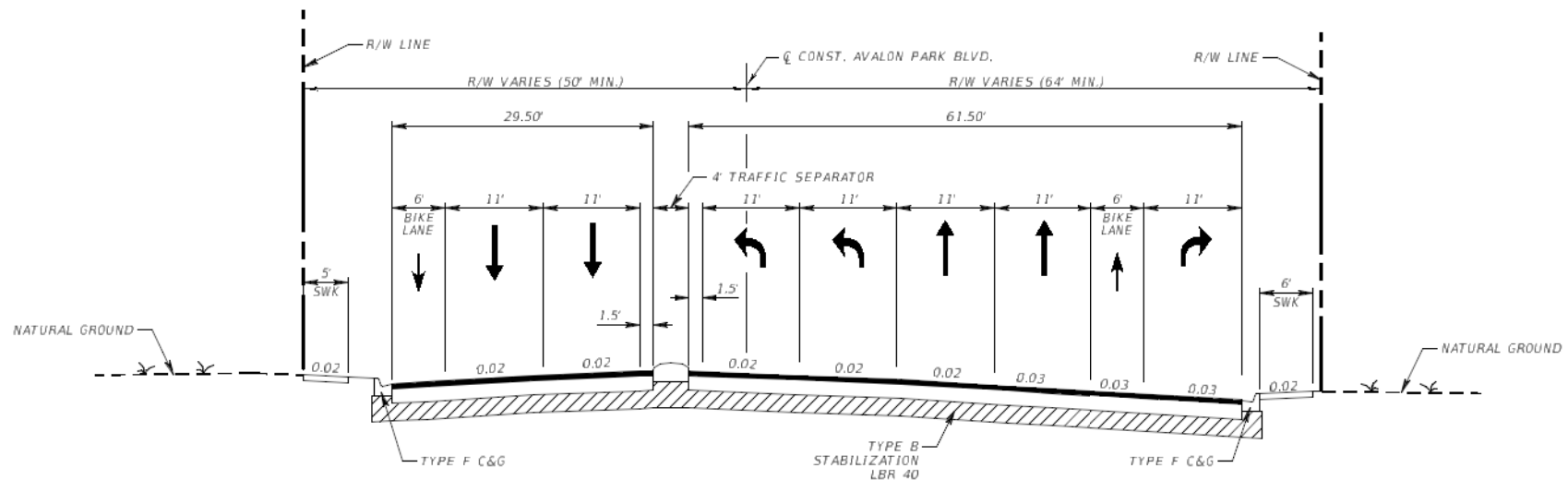
Date



## PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254 FEDERAL AID PROJECT NO. N/A COUNTY NAME ORANGE  
SECTION NO. 75008160 ROAD DESIGNATION SR 408 LIMITS/MILEPOST N/A  
PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

## PROPOSED ROADWAY TYPICAL SECTION



TYPICAL SECTION  
AVALON PARK (4-LANE)  
STA 3000+00.00 TO STA 3019+03.14

DESIGN SPEED = 45 MPH

APPROVED BY: C. Brian Fuller, P.E.  
License No.: 49524

CFX CONCURRENCE

CFX APPROVAL

Engineer Of Record Signature

Date

Jonathan Williamson, AICP  
CFX Project Manager

Date

Glenn M. Pressimone, PE  
CFX Director of Engineering

Date

PROJECT IDENTIFICATION

CFX PROJECT NO.

408-254

FEDERAL AID PROJECT NO.

N/A

COUNTY NAME

ORANGE

SECTION NO.

75008160

ROAD DESIGNATION

SR 408

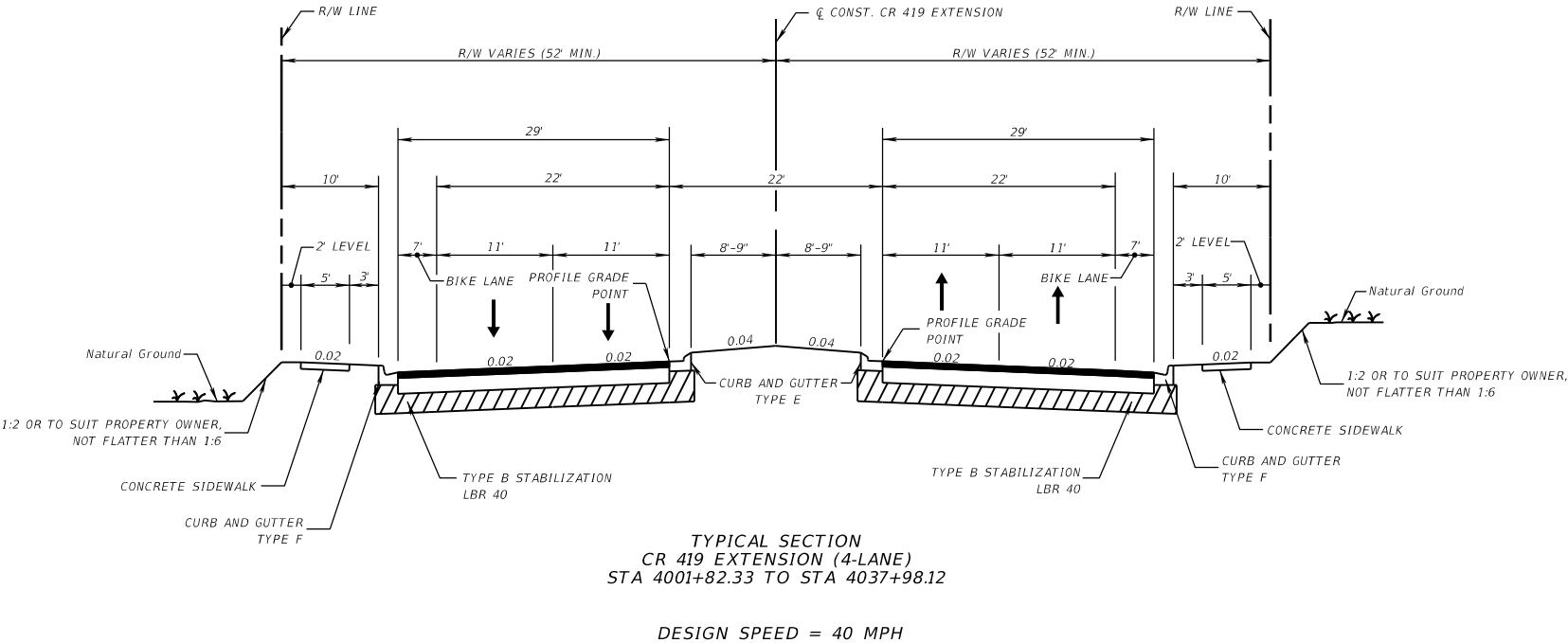
LIMITS/MILEPOST

N/A

PROJECT DESCRIPTION

SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

PROPOSED ROADWAY TYPICAL SECTION



APPROVED BY: C. Brian Fuller, P.E. License No.: 49524	CFX CONCURRENCE	CFX APPROVAL
<div>Engineer Of Record Signature</div> <div>Date</div>	<div>Jonathan Williamson, AICP</div> <div>CFX Project Manager</div> <div>Date</div>	<div>Glenn M. Pressimone, PE</div> <div>CFX Director of Engineering</div> <div>Date</div>



PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254

FEDERAL AID PROJECT NO. N/A

COUNTY NAME ORANGE

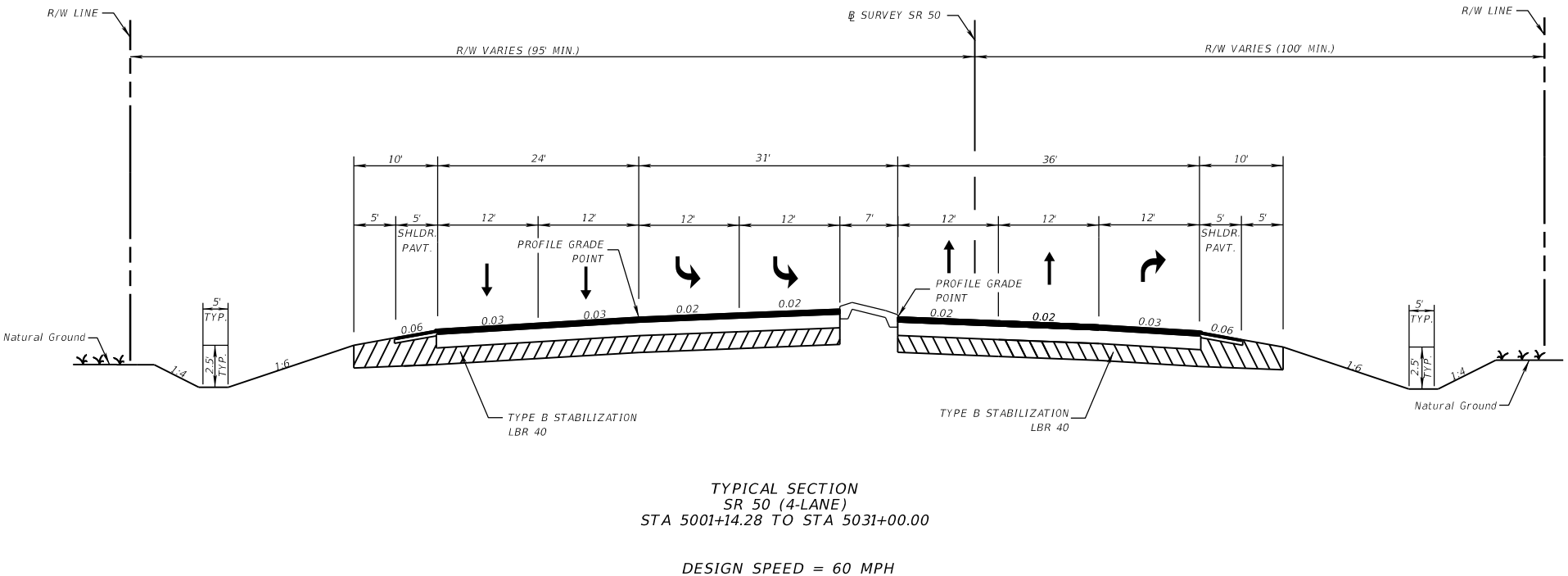
SECTION NO. 75008160

ROAD DESIGNATION SR 408

LIMITS/MILEPOST N/A

PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

PROPOSED ROADWAY TYPICAL SECTION



APPROVED BY: C. Brian Fuller, P.E. License No.: 49524	CFX CONCURRENCE	CFX APPROVAL
_____ Engineer Of Record Signature _____ Date	_____ Jonathan Williamson, AICP CFX Project Manager _____ Date	_____ Glenn M. Pressimone, PE CFX Director of Engineering _____ Date

PROJECT IDENTIFICATION

CFX PROJECT NO. 408-254

FEDERAL AID PROJECT NO. N/A

COUNTY NAME ORANGE

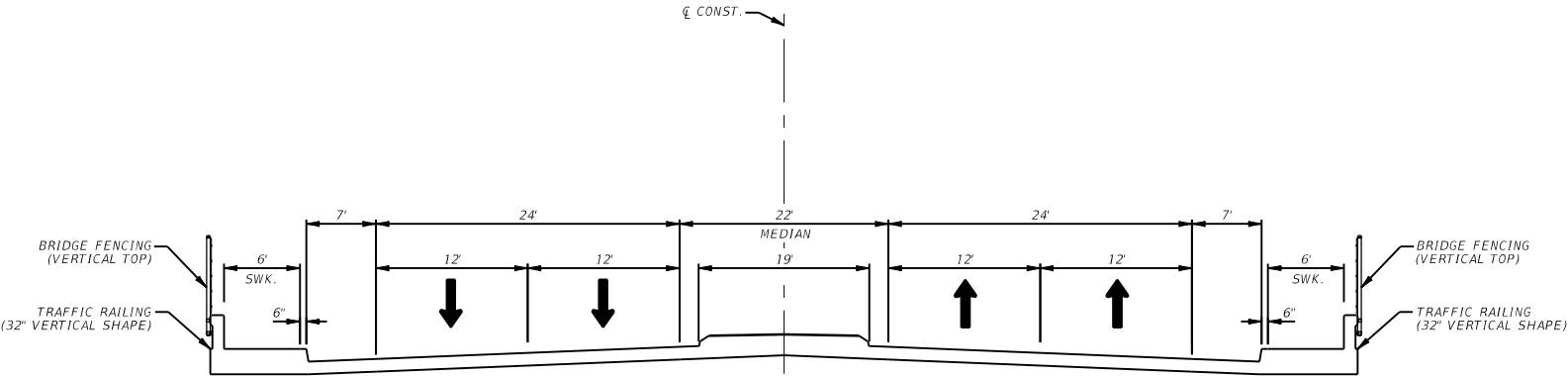
SECTION NO. 75008160

ROAD DESIGNATION SR 408

LIMITS/MILEPOST N/A

PROJECT DESCRIPTION SR 408 EASTERN EXTENSION PD&E STUDY (FROM CURRENT EASTERN TERMINUS NEAR WOODBURY ROAD TO SR 50, NEAR SR 520)

PROPOSED ROADWAY TYPICAL SECTION



PROPOSED STRUCTURE TYPICAL SECTION  
WOODBURY ROAD BRIDGE TYPICAL  
DESIGN SPEED = 45 MPH

APPROVED BY: C. Brian Fuller, P.E. License No.: 49524	CFX CONCURRENCE	CFX APPROVAL
<div>Engineer Of Record Signature</div> <div>Date</div>	<div>Jonathan Williamson, AICP</div> <div>CFX Project Manager</div> <div>Date</div>	<div>Glenn M. Pressimone, PE</div> <div>CFX Director of Engineering</div> <div>Date</div>



## APPENDIX G – COORDINATION

## FLORIDA DEPARTMENT OF TRANSPORTATION





**METRIC  
ENGINEERING**

ORLANDO OFFICE  
615 CRESCENT EXECUTIVE  
COURT, SUITE 524  
LAKE MARY, FL 32746  
PHONE: (407) 644-1898  
DESIGN & SURVEY FAX:  
(407) 644-1921  
TRAFFIC OPS & ITS FAX:  
(407) 644-2376  
WWW.METRICENG.COM

## **Meeting Minutes for Access Management Meeting for SR 50**

CFX Project No.: 408-254  
County: Orange (75008160)  
State Road: SR 408  
Location: District 5 Headquarters

The following are minutes of the meeting held on Friday, March 9, 2018 on the above referenced project.

### **Attendees:**

Suraj Pamulapati, FDOT  
Michael Sanders, FDOT

Brian Fuller, Metric

The meeting began with Mr. Fuller providing a brief overview of the project description utilizing the current roll plot of the project, and current project schedule. A public hearing for SR 408 is scheduled for April 2018. It was also noted that FDOT is just starting their PD&E project for SR 50 adjacent to the SR 408 PD&E.

- **Project Overview** – The SR 408 PD&E project is for the extension on SR 408 to the east from its current terminus to a proposed connection to SR 50 west of SR 520. Improvements to SR 50 were required due to the need for dual left turn lanes from WB SR 50 onto WB SR 408. The existing 20-ft median would not support dual lefts. As part of the improvements to SR 50 several existing median openings were proposed to be closed.
- **Discussion** - Mr. Pamulapati referenced the previous access management study that was prepared for SR 50 in 2016. The proposed connection point to SR 50 was in-line with the FDOT's access management study location for a full median opening. In addition, the median openings proposed to be closed as part of the improvement to SR 50 were also shown to be closed in the access management study. Based on this information there was no objection to the current concept.

***Action Item – Mr. Fuller provided a pdf and associated CADD files of the overall roll plot of the proposed SR 408 concept utilized during the meeting to Mr. Pamulapati and Mr. Sanders. Sent out on March 12, 2018.***

***Action Item - Mr. Pamulapati provided a pdf of the latest access management study on SR 50. Sent out on March 09, 2018.***

Please contact Brian Fuller at (407) 644-1898 if there are any changes or additions to the minutes.



Florida Department of  
**TRANSPORTATION**

# Draft ACCESS MANAGEMENT REPORT

## SR 50

From

Chuluota Road (CR 419)/East River Falcons Way to  
SR 520

Orange County, Florida

Financial Project ID: 239203-8-32-01

Prepared For



Florida Department of Transportation, District 5  
De Land, Florida

## March 2016



# Draft ACCESS MANAGEMENT REPORT

SR 50

From Chuluota Road (CR 419)/East River Falcons Way to SR 520  
Orange County, Florida

Financial Project ID: 239203-8-32-01

Prepared for



Florida Department of Transportation - District 5  
De Land, Florida

Prepared By

ARCADIS  
1650 Prudential Drive, Suite 400  
Jacksonville, Florida 32207  
(904) 721-2991

March 2016

**PROFESSIONAL ENGINEER CERTIFICATION**

I hereby certify that I am a registered professional engineer in the State of Florida practicing engineering for Arcadis U.S., Inc. and that I have supervised the preparation of and approve the analysis, findings, opinions, conclusions, and technical advice hereby reported for:

PROJECT: Access Management Report  
SR 50 from Chuluota Road (CR 419)/East River Falcons Way to SR 520  
Roadway ID 75060000, MP 16.538 – 19.651  
FPID # 239203-8-32-01  
Orange County, Florida

The engineering work represented by this document was performed through the following duly authorized engineering business:

Arcadis U.S., Inc.  
1650 Prudential Drive, Suite 400  
Jacksonville, Florida 32207  
Certificate of Authorization No. 7917

This report provides details on modifications to access in the study area for the proposed improvements along SR 50. Any engineering analyses, documents, conclusions, or recommendations relied upon from other professional sources or provided by others are referenced accordingly in the following report.

**FLORIDA REGISTERED PROFESSIONAL ENGINEER:**

---

Satya Murty Kolluru, P.E., P.T.O.E.  
P.E. #74459  
March 9, 2016



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## LIST OF ATTACHMENTS

- Attachment A – Project Traffic for PD&E and Design, Design Traffic/ESAL Forecasts  
Technical Memorandum
- Attachment B – Orange County 2010-2030 Comprehensive Plan Future Lane Use  
Map
- Attachment C – Straight Line Diagrams
- Attachment D – Crash Data

## **1. Introduction/Project Description**

This section of SR 50 is located in Orange County, Florida (Roadway ID 75060000). It is classified as an Urban Principal Arterial that is part of the State Highway System. The west end of the project ties into another widening project, currently under design, that begins at Avalon Park Boulevard/Pilgrim Street and ends east of the intersection with Chuluota Road (CR 419)/East River Falcons Way (Financial Project ID 239203-7-32-01). The project extends east approximately 3.10 miles to SR 520, where the roadway section transitions to match the existing four-lane divided roadway. The existing roadway is a rural four-lane divided roadway with 12-foot travel lanes and 4-foot paved outside shoulders. The existing right-of-way width is 200 feet. Figure 1 shows the project location map.

The project includes adding lanes and reconstructing SR 50 to an urban six-lane divided highway. Two typical sections were selected for this project: an Urban section from the beginning of the project limits to east of Old Cheney Highway, and a High Speed Urban section from east of Old Cheney Highway to the end of the project limits. The Urban Typical Section consists of three 11-foot travel lanes, a 7-foot bike lane, and a 5-foot sidewalk in each direction of travel, separated by a 32-foot raised median. The High Speed Urban Typical Section provides three 12-foot travel lanes, a 7-foot bike lane, and a 5-foot sidewalk in each direction, separated by a 32-foot raised median that includes a 6.5-foot inside shoulder. The Design Speed for the project mainline for horizontal and vertical geometry is 45 miles per hour (mph) between Chuluota Road (CR 419) to Old Cheney Highway and 50 mph from Old Cheney Highway to SR 520.

Arcadis U.S., Inc. was retained by Florida Department of Transportation (FDOT), District Five to complete an Access Management Report for this roadway widening project. This Access Management Report will identify the locations and designs of the median openings to be applied for this project.

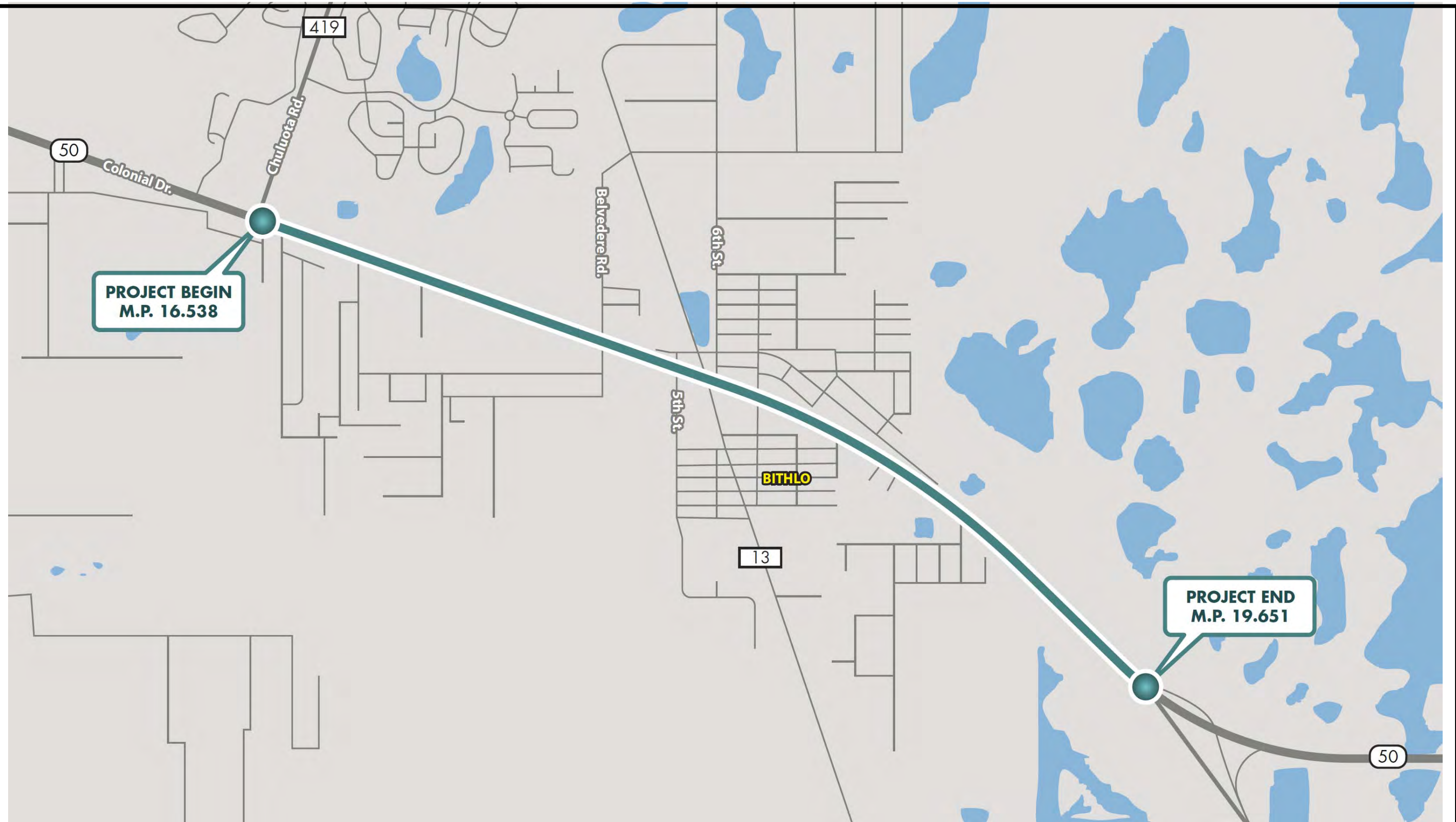
## **2. Methodology**

Administrative Rule Chapter 14-97 defined in the FDOT's Median Handbook establishes the seven classifications for state highways that contain separation standards for access features. Medians and median openings are regulated through the requirement for a restrictive median in certain classes. For those classes, spacings between median openings are regulated.

The Access Management Standards and the spacing criteria are shown in Figure 2. The access management classification for the project corridor is Class 3. Access Class 3 corresponds to roadways that are controlled access facilities where direct access to abutting land is controlled to maximize the operation of the through traffic movement. The land use adjacent to these roadways is generally not extensively developed and/or the probability of significant land use change exists. Under access management Class 3, directional median openings are allowed at  $\frac{1}{4}$  mile (1,320-ft) spacing and full median opening at  $\frac{1}{2}$  mile (2,640-ft).

A change in the current access management class is not anticipated at this time for this project, given the generally rural and high speed nature of this roadway alignment. The proposed median spacings on this project will not place a median opening in the close proximity of traffic queues from a signalized intersection as this would increase the number of conflict points and the potential for crashes.





Class	Medians	Median Openings		Signal	Connection	
		Full	Directional		More than 45 mph Posted Speed	45 mph and less Posted Speed
2	Restrictive w/Service Roads	2,640	1,320	2,640	1,320	660
3	Restrictive	2,640	1,320	2,640	660	440
4	Non-Restrictive			2,640	660	440
5	Restrictive	2,640 at greater than 45 mph Posted Speed	660	2,640 at greater than 45 mph Posted Speed	440	245
		1,320 At 45 mph or less Posted Speed		1,320 At 45 mph or less Posted Speed		
6	Non-Restrictive			1,320	440	245
7	Both Median Types	660	330	1,320	125	125

Figure 2: Access Management Standards from Rule 14-97

Chuluota Road (CR 419)/East River Falcons Way and CR 13 are the two signalized intersections along SR 50 in the project study area. Therefore, the two signalized intersections and SR 520 towards the end of the project are considered anchor points for determining appropriate spacing under current conditions. These anchor points can also be valid reference points as and when this corridor develops and transitions to a future access Class 5, where adjacent land use has been extensively developed and where the probability of major land use change is not high.

A “Project Traffic for PD&E and Design, Design Traffic/ESAL Forecasts” Technical Memorandum was prepared by the Department (Attachment A) and was provided to the Design team. This technical memorandum contained four-hour turning movement counts at seven locations along SR 50: Shepard Road, approximately 1,760’ east of Chuluota Road (CR 419); Belvedere Road/3rd Street, approximately 5,990’ east of Chuluota Road (CR 419); CR 13, approximately 7,890’ east of Chuluota Road (CR 419); Massachusetts St/7th St, approximately 930’ east of CR 13; Berkeley Street, approximately 1,580’ east of CR 13; Claredon Street, approximately 1,880’ east of CR 13; and Exeter Street, approximately 2,970’ east of CR 13.

These seven full median openings are considered candidates for modification. Turning movement counts (TMC) were conducted between the hours of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM to incorporate AM and PM peak hour traffic volumes.

A median access management plan was developed for the corridor using the information obtained from field observations, traffic count data, crash data, access management spacing requirements and the Orange County 2010 – 2030 Comprehensive Plan Future Land Use Map (Attachment B).

### 3. Existing Access Management Conditions

A total of 23 full median openings exist under the current conditions along SR 50 including the Chuluota Road (CR 419) signalized intersection. The SR 50 corridor is rural in nature, with surrounding land use that primarily consists of rural vacant lands, with residential and commercial properties. The development is more urban in nature with more dense commercial properties and residences near the Chuluota Road (CR 419)/East River Falcons Way and CR 13 signalized intersections. There is a middle

school and a high school near the beginning of the project at the west end of the SR 50 corridor on Chuluota Road (CR 419)/East River Falcons Way.

Table 1 outlines the roadway geometric information summarized from the Straight Line Diagram (SLD) (Attachment C) along the project corridor. Figure 3 provides an aerial view of the existing corridor and surrounding land use along with the relative median opening spacing.

Table 2 provides the median opening locations and types along the study corridor. SR 50 changes from Access Management Class 3 to Class 5 near MP 9.455 (7.01 miles to the west of the project limits). To the east, the study segment is Class 3 all the way to the Brevard County line. This is due to the generally rural and high speed nature of this roadway (Refer to SLD in Attachment C).

**Table 1: Roadway Geometric Information**

Route & Project Limits	SR 50 between Chuluota Road (CR 419) / East River Falcons Way and SR 520
Length	Approximately 3.10 miles
Functional Classification	Other Urban Principal Arterial
AADT	25,000 vehicles per day (2015 reported)
Number of Lanes	4 lane Bidirectional Facility
Lane Width	12-ft
Shoulder	Outside Shoulders – 4-ft paved and 6-ft vegetation
Horizontal Curves	Two: one near CR 13 and other near SR 520 towards the ending of the project limits
Median Width & Type	19-ft Curb and Vegetation
Number of Signalized Intersections	Two: Chuluota Road (CR 419)/East River Falcons Way & CR 13
Left Turn Treatment	Left turn lanes are in place for both signalized intersections; 1,100' east of Chuluota Road; the eastbound approach of the full median opening 2,420' east of Chuluota Road; the westbound approach to Cox Rd; and the westbound approach to Orlando Speed World Dragway entrance
Sidewalks	No sidewalks or bike lanes are present along the study area
Lighting	A street lighting system is not in place
Posted Speed Limit	45 mph from Chuluota Road (CR 419) to 2,160' east of CR 13, and 55 mph from 2,160' east of CR 13 to SR 520.





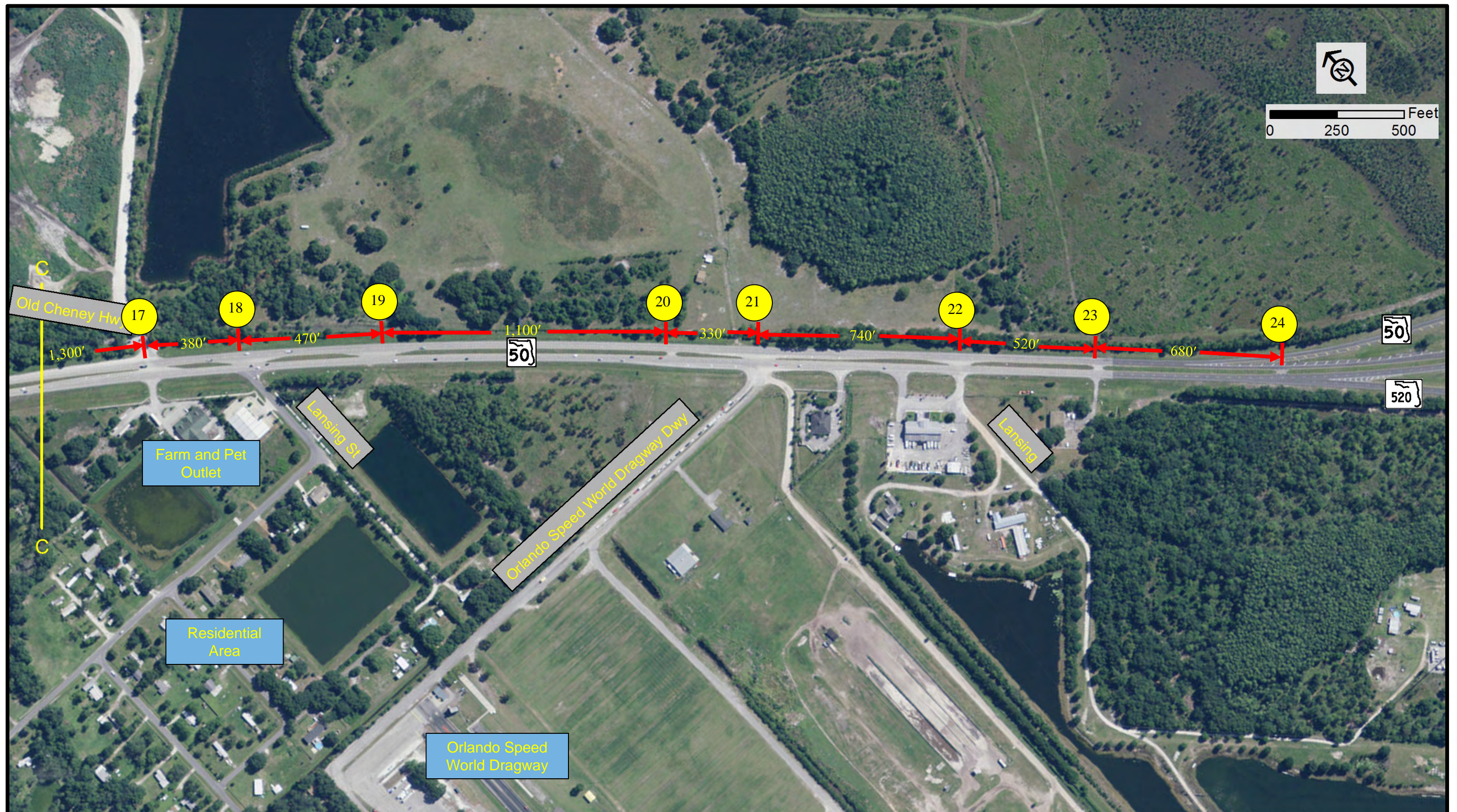














**Table 2: Existing Median Opening Locations and Type**

No.	Median Opening Location	Type	Spacing (ft)	Meets Class 3 Spacing
1	Chuluota Rd (CR 419)/East River Falcons Way	Full/Signal		
			1,100	NO
2	Old Cheney Hwy	WB Directional		
			660	NO
3	Shepard Rd	Full		
			660	NO
4	Unlimited Used Auto Parts Driveway	Full		
			410	NO
5	Cox Rd/Tammy's Cafe Driveway	Full		
			1,050	NO
6	1,050-ft east of Cox Rd	Full		
			1,070	NO
7	1,040-ft west of Belvedere Rd/ 3 <sup>rd</sup> St	Full		
			1,040	NO
8	Belvedere Rd/3 <sup>rd</sup> St	Full		
			720	NO
9	720-ft east of Belvedere Rd/3 <sup>rd</sup> St	Full		
			1,180	NO
10	CR 13	Full/Signal		
			930	NO
11	Massachusetts Ave/7 <sup>th</sup> St	Full		
			650	NO
12	Berkeley St/ABC Auto Salvage Driveway	Full		
			300	NO
13	Claredon St	Full		
			270	NO
14	270-ft east of Claredon St	Full		
			820	NO
15	Exeter St	Full		
			300	NO
16	300-ft east of Exeter St	Full		
			1,300	NO
17	Old Cheney Hwy/Farm and Pet Outlet Driveway	Full		
			380	NO
18	Lansing St	Full		
			470	NO
19	470-ft east of Lansing St	Full		
			1,100	NO
20	330-ft west of Orlando Speed World Dragway	Full		
			330	NO
21	Orlando Speed World Dragway	Full		
			740	NO
22	740-ft east of Orlando Speed World Dragway	Full		
			520	NO
23	520-ft west of SR 520	Full		
			680	NO
24	SR 520	Full		

Figure 4 shows the existing roadway connectivity within the study corridor. The roadway connectivity map shows good connectivity between Chuluota Road (CR 419)/East River Falcons Way and Old Cheney Highway along SR 50 with multiple access points to SR 50 at Shepard Street, Belvedere Road/3<sup>rd</sup> Street, CR 13, Massachusetts Street/7<sup>th</sup> Street, Berkeley Street, Claredon Street, Exeter Street and Old Cheney Highway. This indicates that access modification or consolidation would not have any negative impacts on traffic operations along SR 50 within the project study area.

#### 4. Existing Turning Movement Count Data

Recent turning movement counts (TMCs) were provided by the Department for seven existing median opening (Full or Signal/Full) intersections. A summary of all traffic count locations and count times is described in Table 3, and all referenced count information is included as Attachment A.

**Table 3: Turning Movement Count Data**

Milepost	Intersection	TMC Date	TMC Periods	Peak Hours
16.877	SR 50 at Shepard Road	08/11/2015 & 08/18/2015	7:00-9:00 AM & 4:00-6:00 PM	7:00-8:00 AM & 4:45-5:45 PM
17.677	SR 50 at Belvedere Road / 3 <sup>rd</sup> St			
18.046	SR 50 at CR 13			
18.222	SR 50 at Massachusetts St/7 <sup>th</sup> St			
18.341	SR 50 at Berkeley Street			
18.402	SR 50 at Claredon Street			
18.604	SR 50 at Exeter Street			

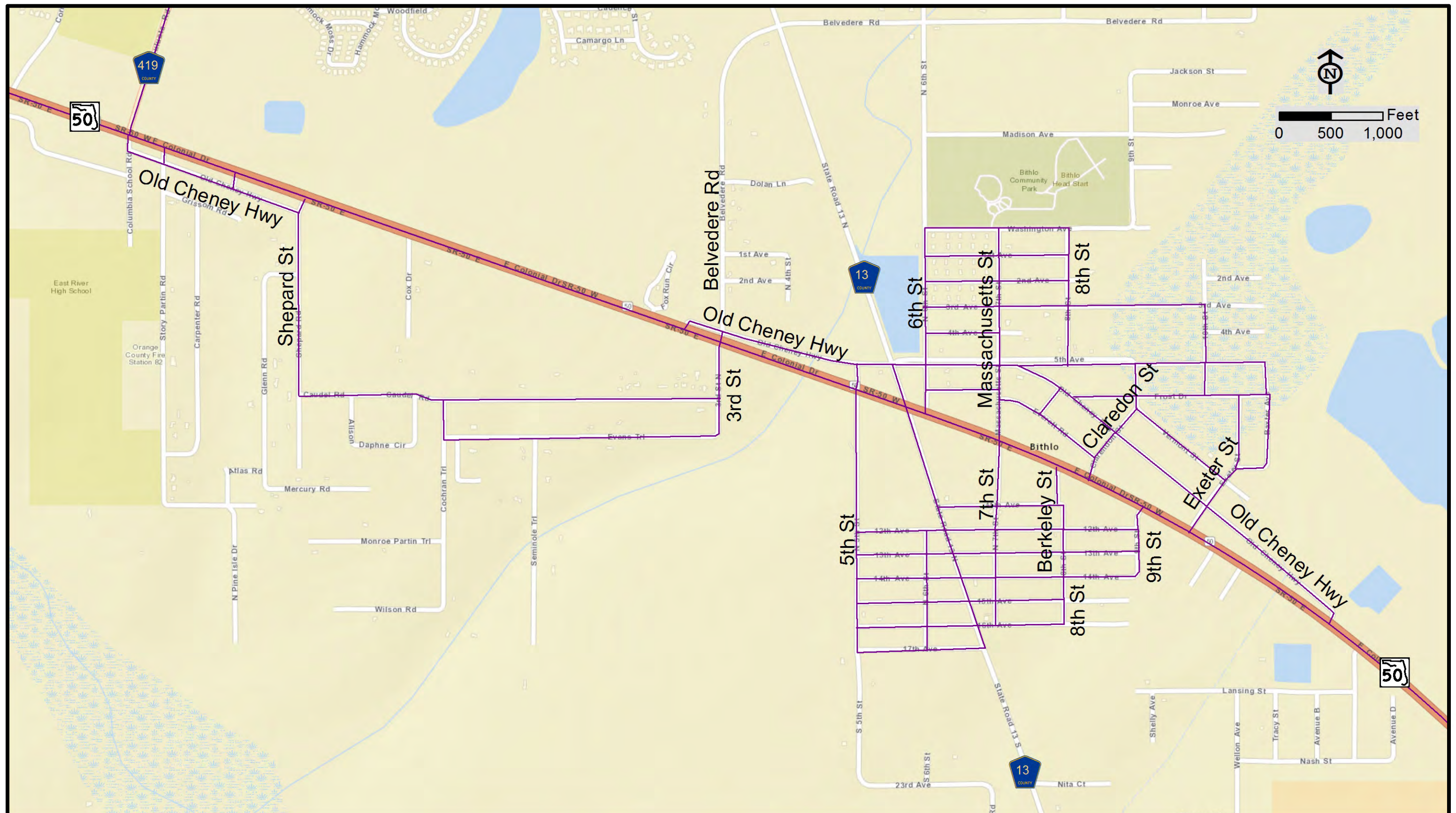
The recommended Design Traffic Factors from the Project Traffic for PD&E and Design, Design Traffic/ESAL Forecasts Technical Memorandum are summarized in Table 4.

**Table 4: Design Traffic Factors Recommended Values**

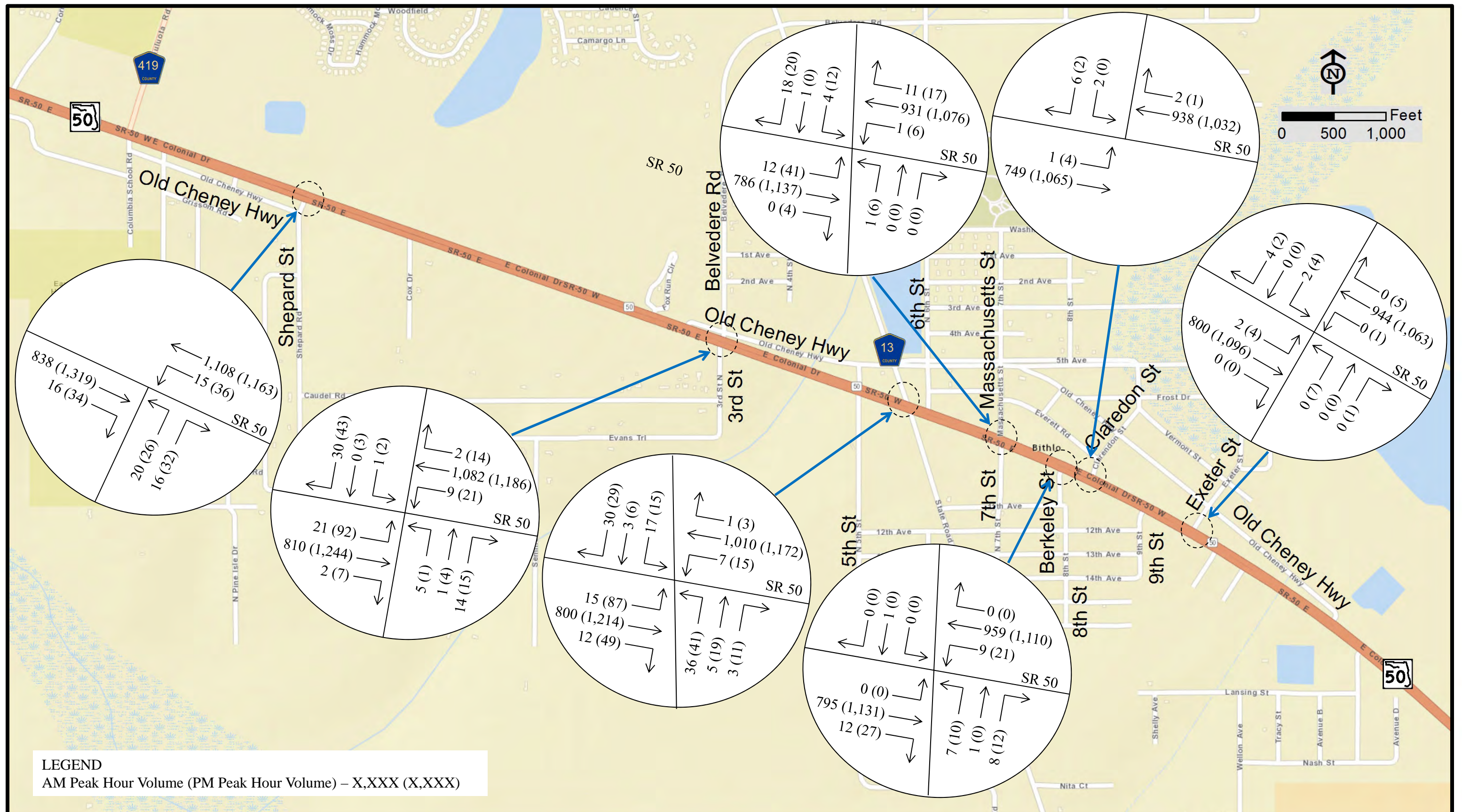
Design Traffic Factors	SR 50 (from CR 419 to SR 520)
Peak Hour Factor (K-factor)	9.5%
Directional Distribution Factor (D-factor)	52.6%
Daily Truck Percentage (T <sub>24</sub> )	5.5%
Peak Hour Truck Percentage (T <sub>f</sub> - ½ of T <sub>24</sub> )	2.8%

The existing AM and PM peak hour turning movement counts are shown in Figure 5. The existing AM and PM peak hour counts show very minimal cross street and mainline left turning volumes near six of the seven intersections counted. The signalized intersection of SR 50 and CR 13 showed considerable turning movement volume when compared to other intersections within the study area.











## 5. Existing Crash Data

Crash data was obtained from the FDOT's Safety Office for the latest five year period (2009 to 2013). This data was evaluated within the study area limits of the project along SR 50 between Chuluota Road (CR 419) / East River Falcons Way and SR 520 to quantify the frequency and severity of crashes. The locations of the crashes used for this analysis are shown in Figure 6 and Attachment D provides the crash data used for the analysis.

Over the five-year span, 227 crashes occurred in the approximately 3-mile long segment of SR 50. Of the crashes recorded in this study area, approximately 3 percent resulted in a fatality, 57 percent recorded an injury, and 40 percent only resulted in property damage as summarized in Table 5. Figure 7 shows a synopsis of the crashes by their severity.

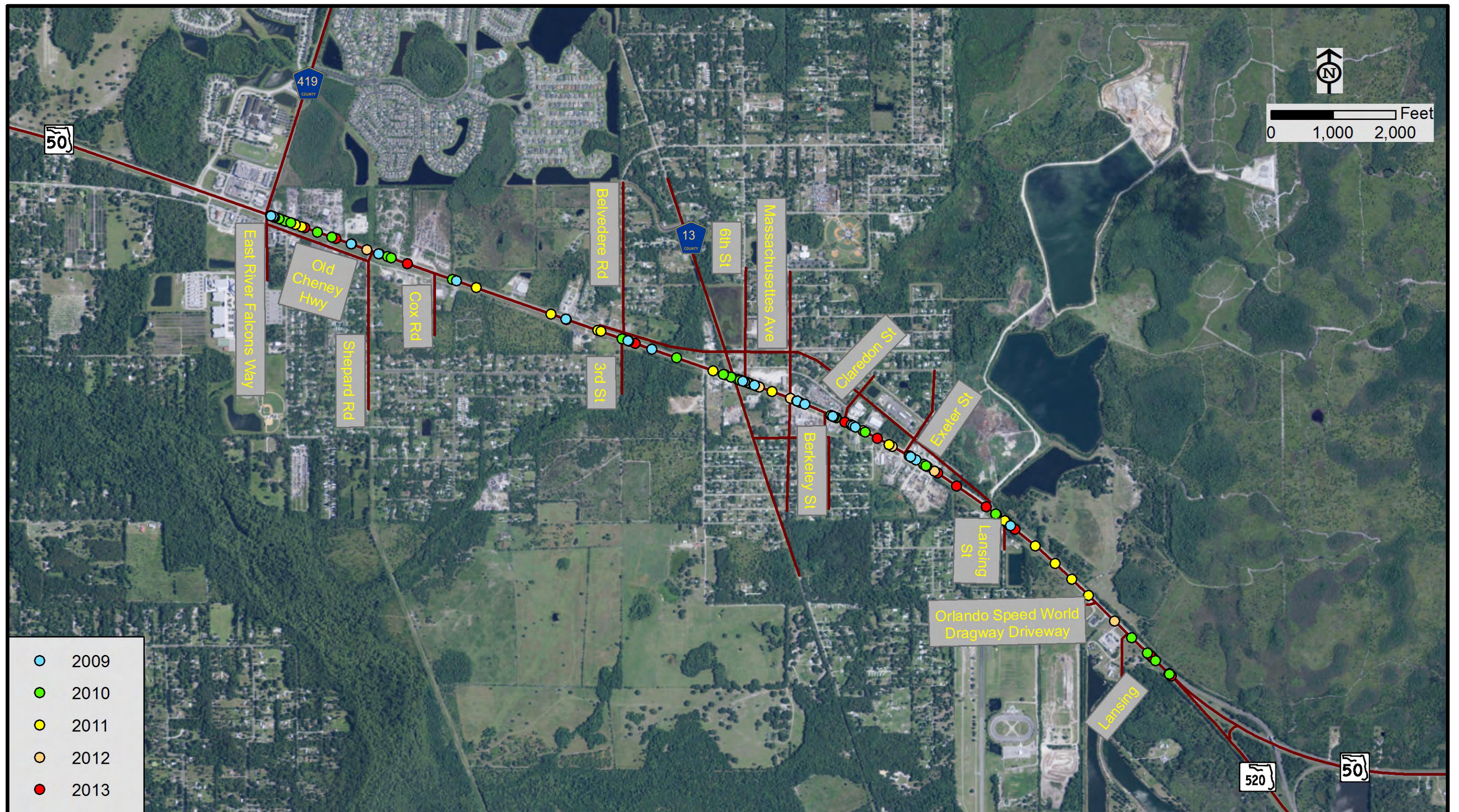
**Table 5: Study Area Crash Data Summary**

Year	PDO*	Injury	Fatality	Total
2009	16	19	0	<b>35</b>
2010	26	34	1	<b>61</b>
2011	15	32	2	<b>49</b>
2012	15	23	1	<b>39</b>
2013	20	21	2	<b>43</b>
<b>Total</b>	<b>92</b>	<b>129</b>	<b>6</b>	<b>227</b>
Note: * - Property Damage Only				

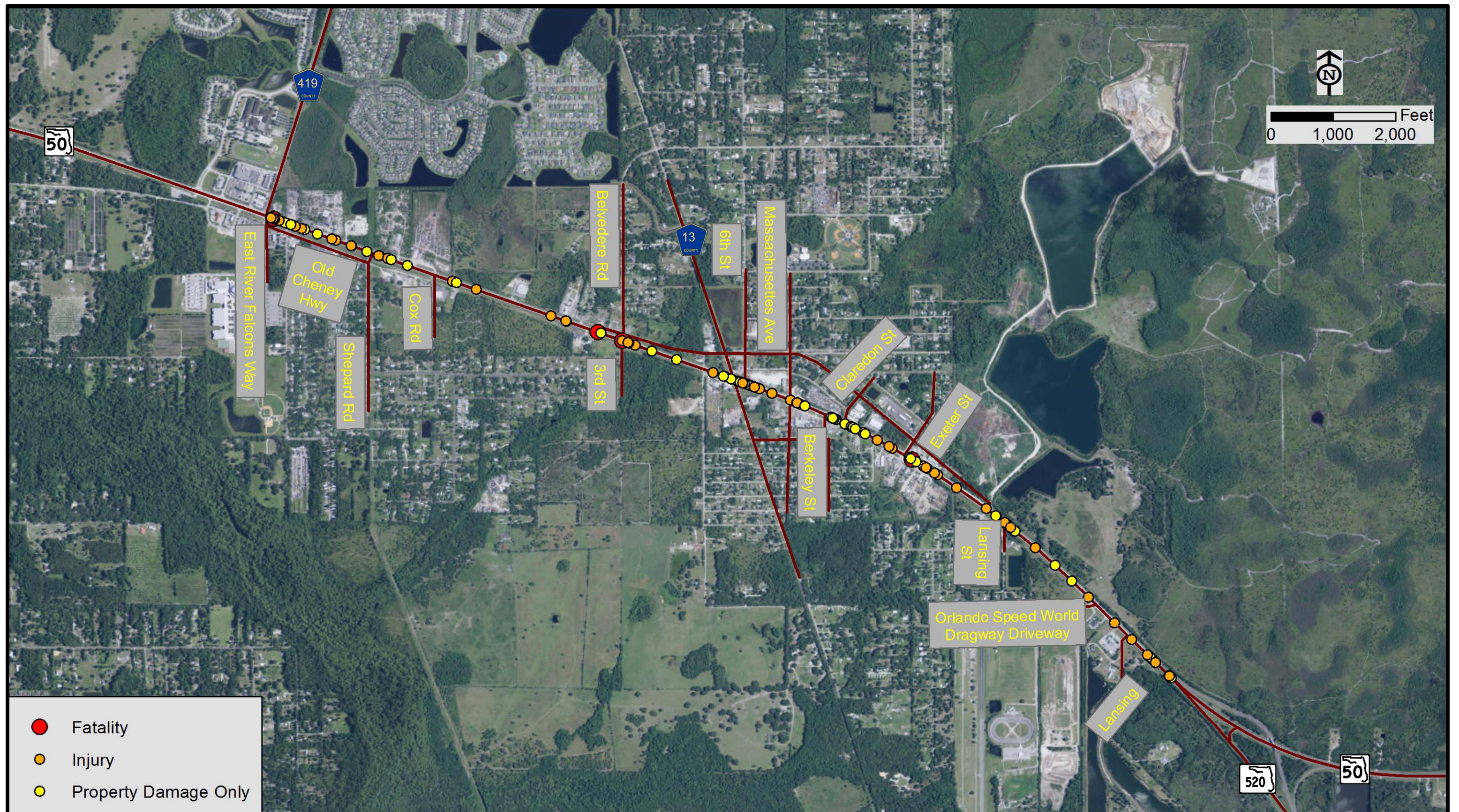
To identify time frames with high frequencies of crashes, a time of the day and day of the week analysis was performed on the crash database as shown in Figures 8 and 9. It is evident from Figure 8 that most crashes occur during the afternoon peak period (4 PM – 7 PM) and the night off peak period (7 PM – 12 AM). From Figure 9, we see that more crashes occur on Fridays and Saturdays when compared to the other days of the week. The time of day and day of week during which most of the crashes occur suggest incidents may be more prevalent during leisure times. Further investigation revealed approximately eight percent of the crashes within the study area involved alcohol or drugs. Reviewing the crash data in greater detail revealed that 68 percent of the incidents occurred during dark conditions with no street lighting. The poor visibility conditions may be attributed to the high percentage of crashes during the off peak and dark night times. Further evaluation will be required to determine if more adequate lighting is needed to improve safety along this roadway corridor.

The collision types within the study area were evaluated to understand the most predominant crash types and the causes for these particular crash types. Figures 10 and 11 illustrate the predominant crash types and the various contributing causes for these crashes. Nearly 83 percent of the incidents along SR 50 were the result of either rear end (47 percent) or angle collisions (36 percent) (refer Figure 10). This is because of the presence of many median openings along the corridor that do not meet the current access management regulations that cause stop and go conditions, where vehicles stop to make turns at these median openings. An effective access management plan that consolidates redundant access provisions will be evaluated in this study to improve safety along the project study area.











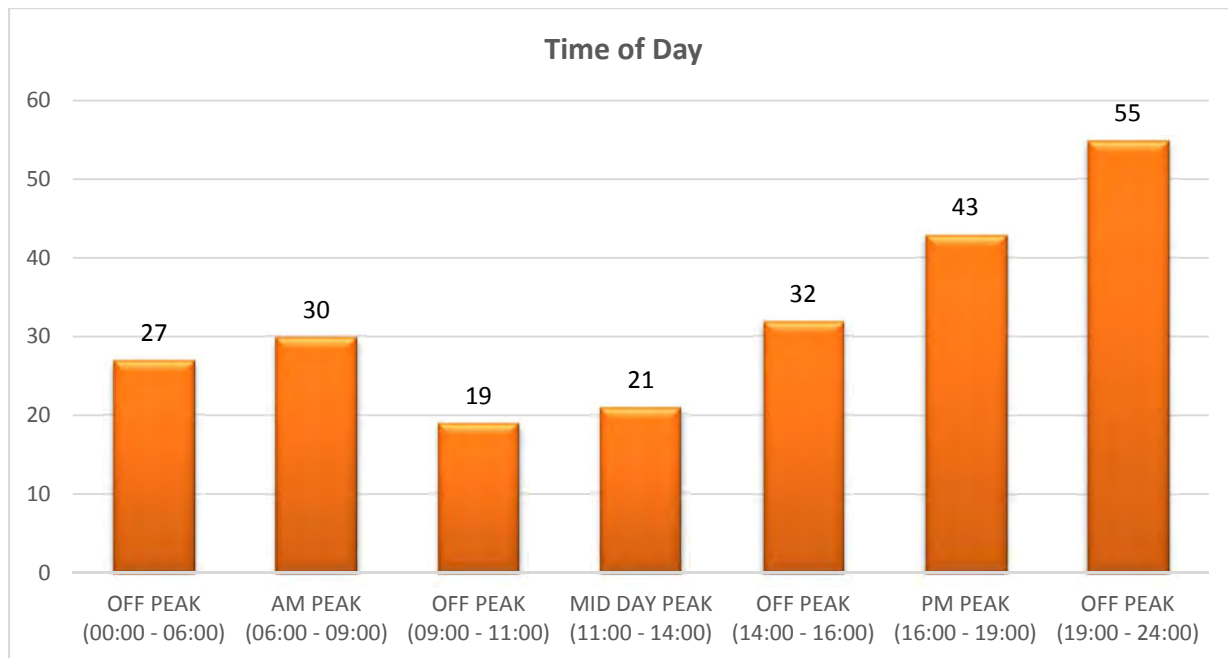


Figure 8: Crashes by Time of Day

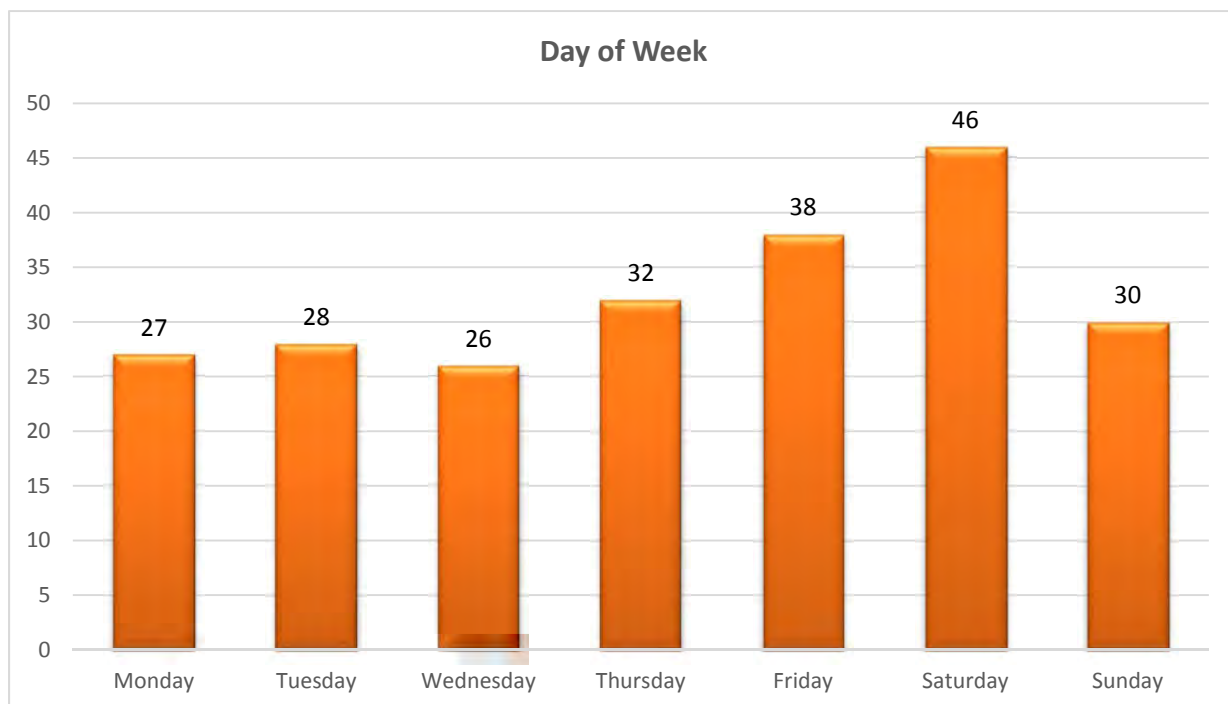


Figure 9: Crashes by Day of Week



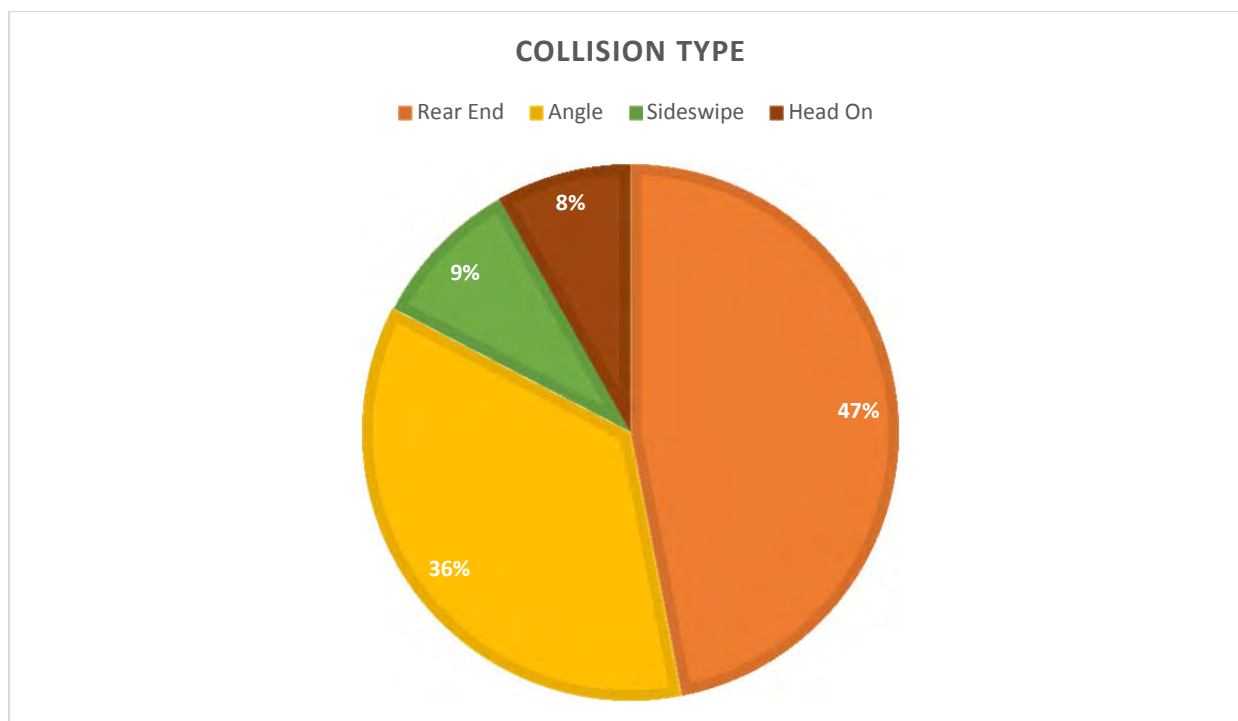


Figure 10: Type of Collision

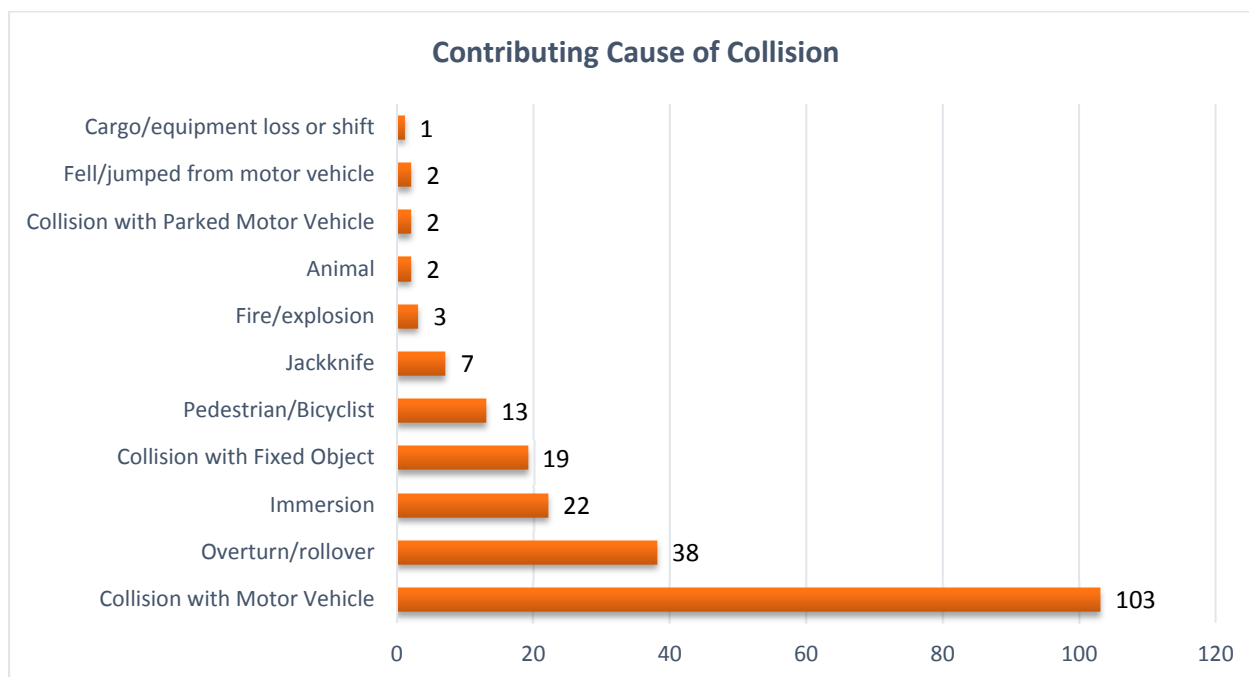


Figure 11: Contributing Cause of Collision

Although 45 percent of the crashes were caused by a collision with another motor vehicle, a surprising 17 percent were caused by the overturning of a vehicle. Crashes involving a pedestrian or a bicyclist occurred at an alarming rate of nearly three crashes per year. Of these 13 crashes, two resulted in a fatality and nine yielded an injury. The location of the crashes involving pedestrian and bicyclists along

the project study area are shown on Figure 12. The two fatalities along the corridor were recorded near the intersections of Belvedere Road/3<sup>rd</sup> Street and Exeter Street with SR 50. Pedestrian needs should be kept in mind while designing access near these intersections to improve safety.

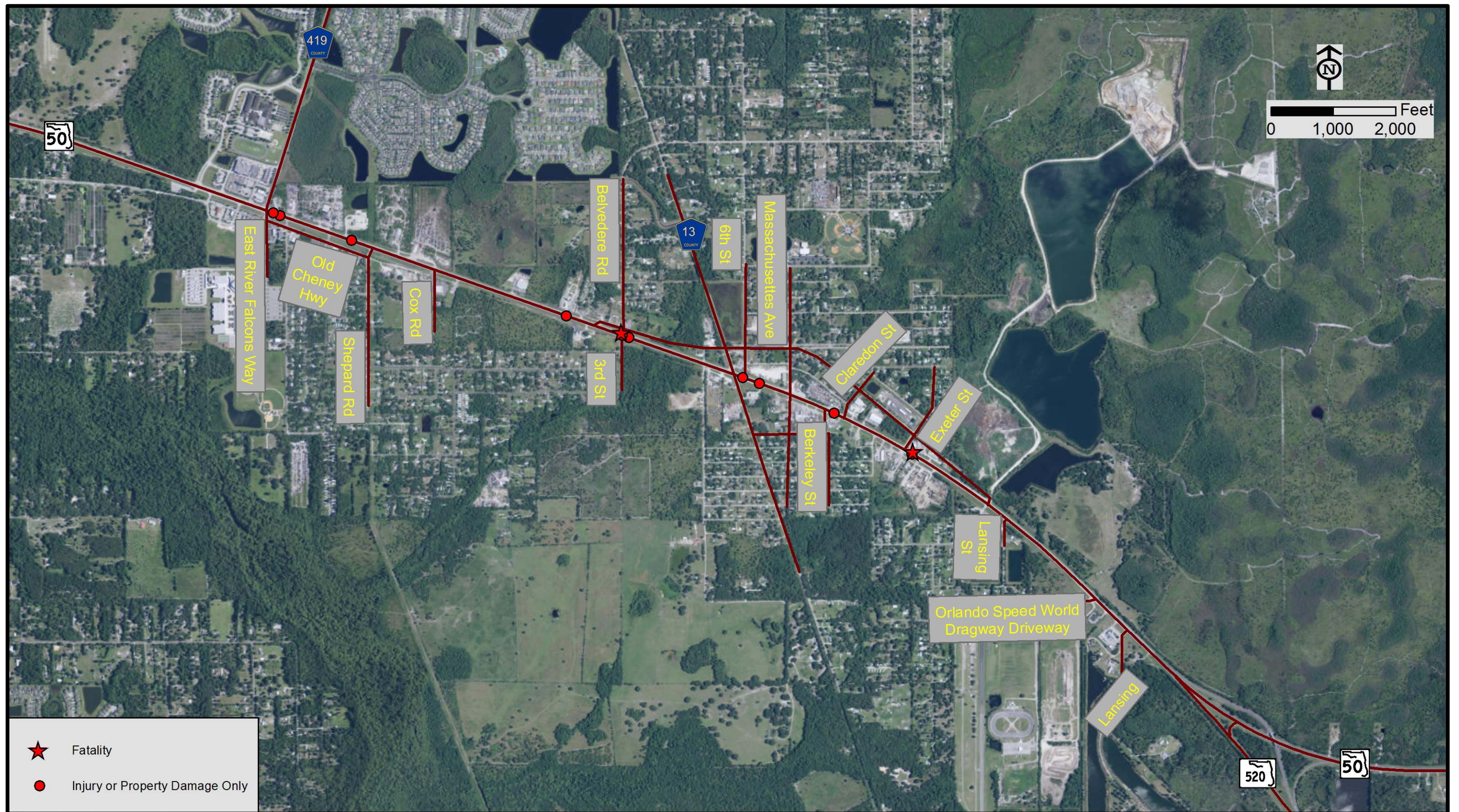
Crashes were evaluated by mile post locations to determine crash hot spot locations (1/10 mile segments with more than 2 crashes occurring per year). These locations are summarized in Figure 13. This analysis showed five hot spot locations and are described in Table 6.

**Table 6: Crash Hot Spot Locations**

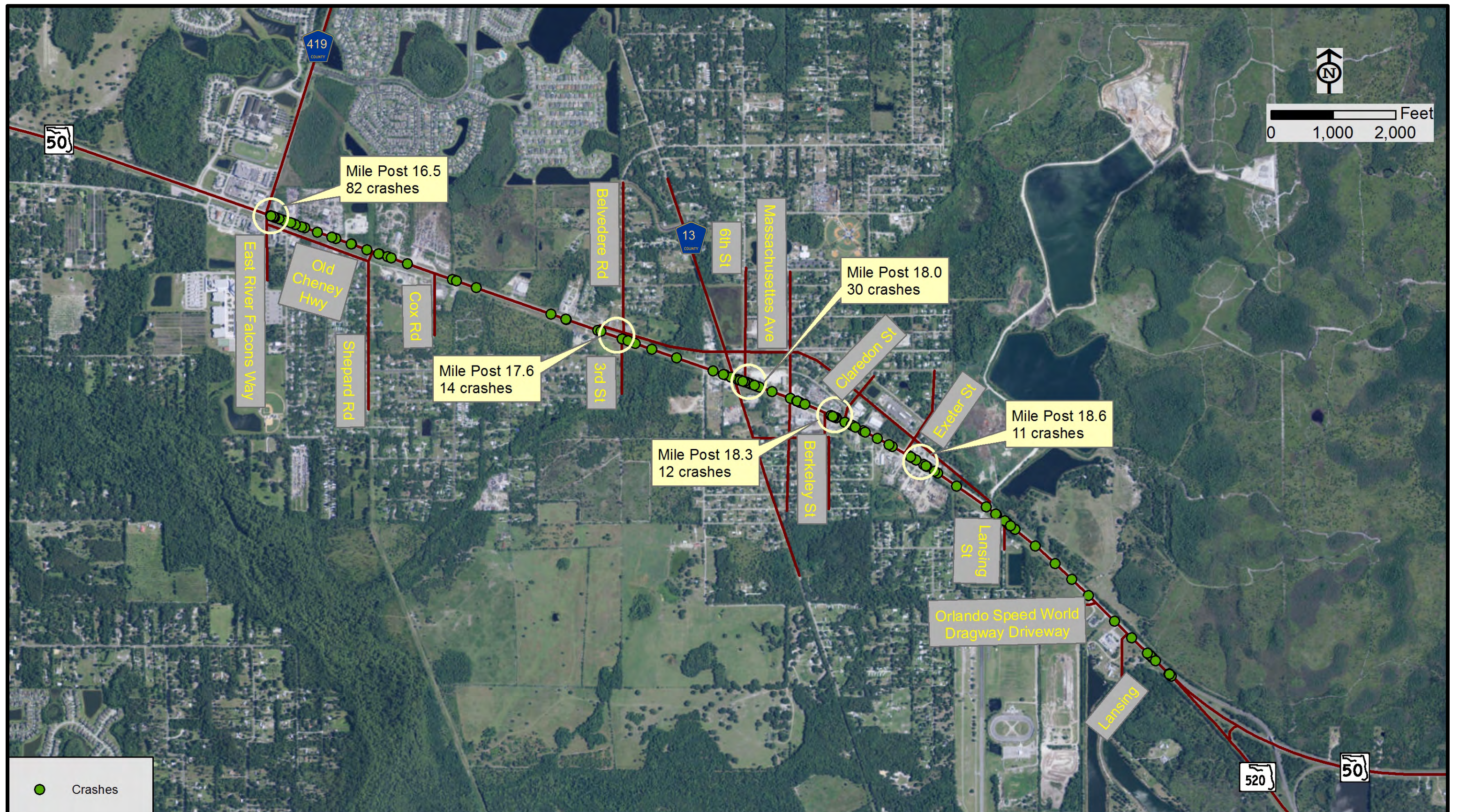
Rank No.	Mile Post	Intersection	Total Crashes	Crashes per Year	Current Median Type
1	16.5	Chuluota Road (CR 419)/ East River Falcons Way	82	16.4	Signal
2	18.0	CR 13	30	6.0	Signal
3	17.6	Belvedere Road/3 <sup>rd</sup> Street	14	2.8	Full
4	18.3	Berkeley Street	12	2.4	Full
5	18.6	Exeter Street	11	2.2	Full

The intersections of Chuluota Road (CR 419)/East River Falcons Way and CR 13 with SR 50 currently operate as signalized intersections. Intersection improvements through improved signal timings, pedestrian friendly features and efficient turn lanes should be evaluated at these intersections to improve safety. Better access management in the form of directional access along SR 50 should be implemented near the intersections of Berkeley Street and Exeter Street to improve safety and to reduce the number of conflict points. Belvedere Road/3<sup>rd</sup> Street is not efficiently connected (refer Figure 4) with Chuluota Road (CR 419)/East River Falcons Way or CR 13 and could cause driver confusion and inconvenience if converted to a directional median opening. Therefore, it is recommended to provide pedestrian and bicycle friendly features like flashing beacons, cross walks etc to improve safety at this intersection.











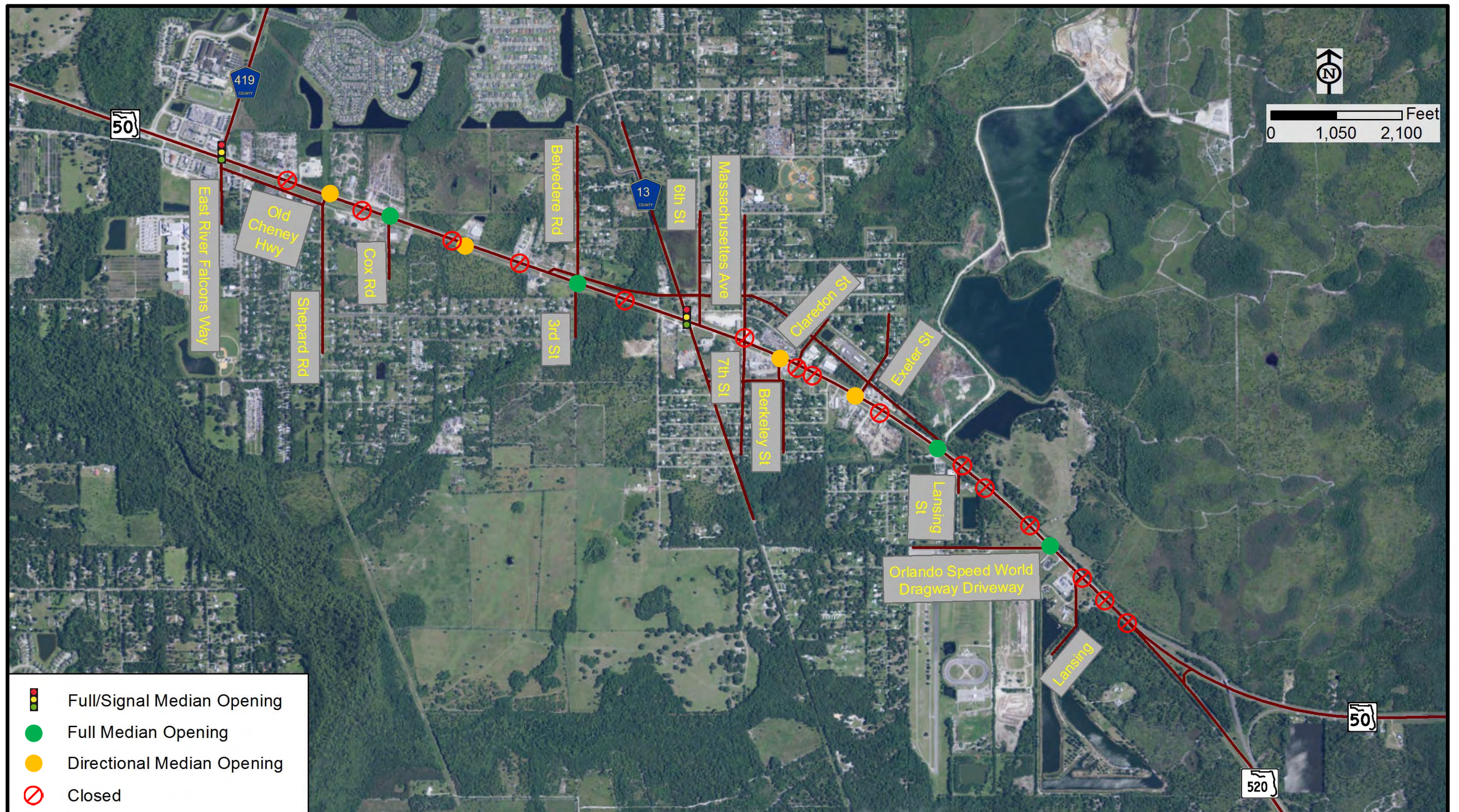
## 6. Proposed Access Management Plan


An access management plan as shown in Figure 14 is proposed for the corridor using the information obtained from field observations, traffic count data, safety analysis, access management spacing requirements and the Orange County 2010 – 2030 Comprehensive Plan Future Land Use information. Figure 15 shows the proposed access management plan and the relative distances between the proposed median openings. The location and spacing of the median openings that are proposed to remain open as part of this project are provided in Table 7. The existing median openings at location numbers 2, 4, 7, 9, 11, 13, 14, 16, 18, 19, 20, 22, and 23 are proposed to be closed as they do not meet the current access management spacing requirements. Median location number 24 is at the end of the project study limits and is left open.

**Table 7: Proposed Median Opening Information**

No.	Median Opening Location	Proposed Median Type	Directional Spacing (ft)	Full Spacing (ft)	Meets Class 3 Directional Spacing	Meets Class 3 Full Spacing
1	Chuluota Rd (CR 419)	Full/Signal				
			1,760	2,830	YES	YES
3	Shepard Rd	Directional				
			1,070		NO	
5	Cox Rd/Tammy's Café Driveway	Full				
			1,290	3,160	NO	YES
6*	Central Florida Pkwy	Directional				
			1,870		YES	
8	Belvedere Rd/3 <sup>rd</sup> St	Full				
			N/A	1,900	N/A	NO
10	CR 13	Full/Signal				
			1,580	5,170	YES	YES
12	Berkeley St	Directional				
			1,390		YES	
15	Exeter St	Directional				
			2,200		YES	
17	Old Cheney Hwy	Full				
			N/A	2,280	N/A	NO
21	Orlando Speed World Dragway	Full				
Note:						
* - For location No. 6, the median opening was moved to Central Florida Pkwy to provide better spacing.						



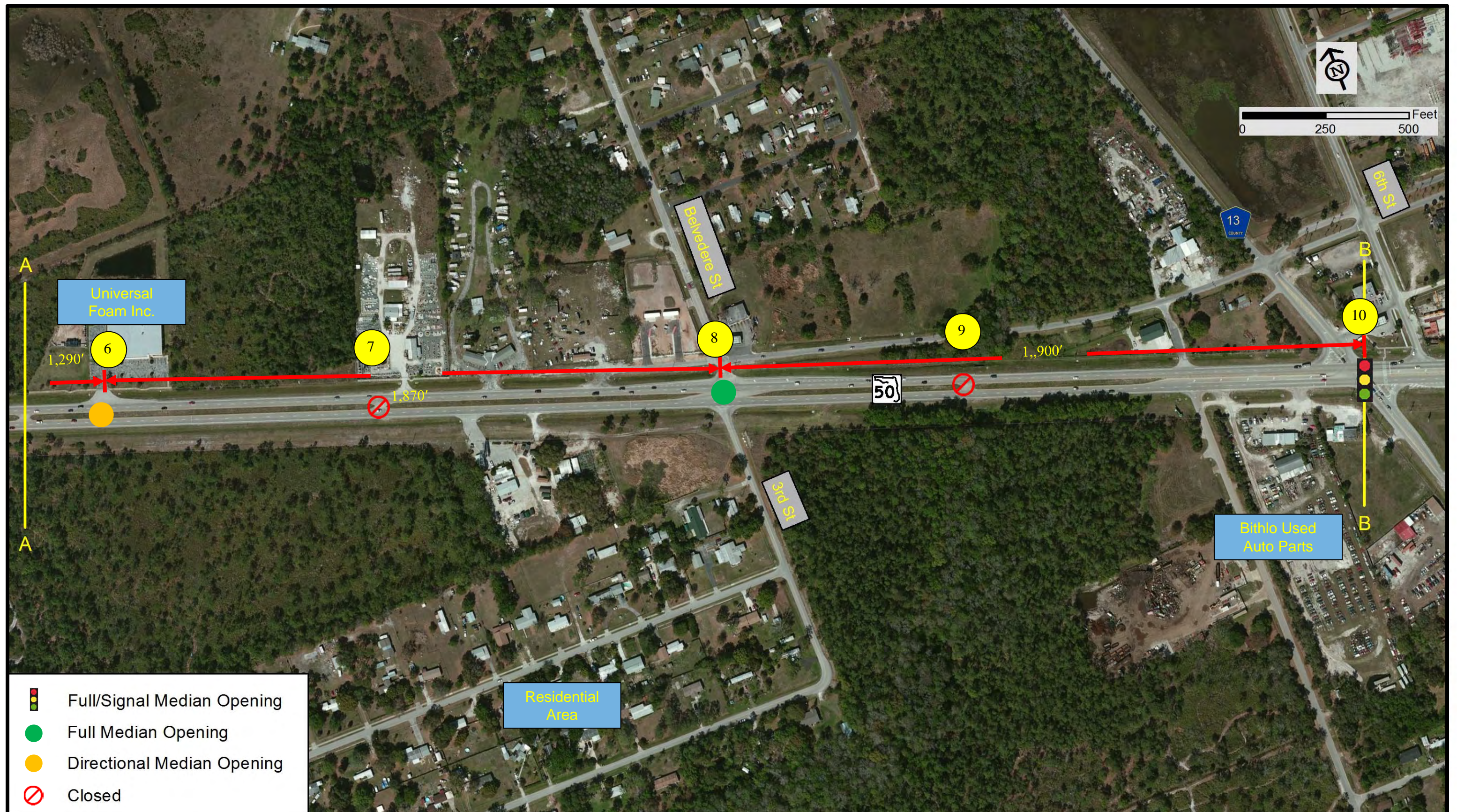


-  Full/Signal Median Opening
-  Full Median Opening
-  Directional Median Opening
-  Closed

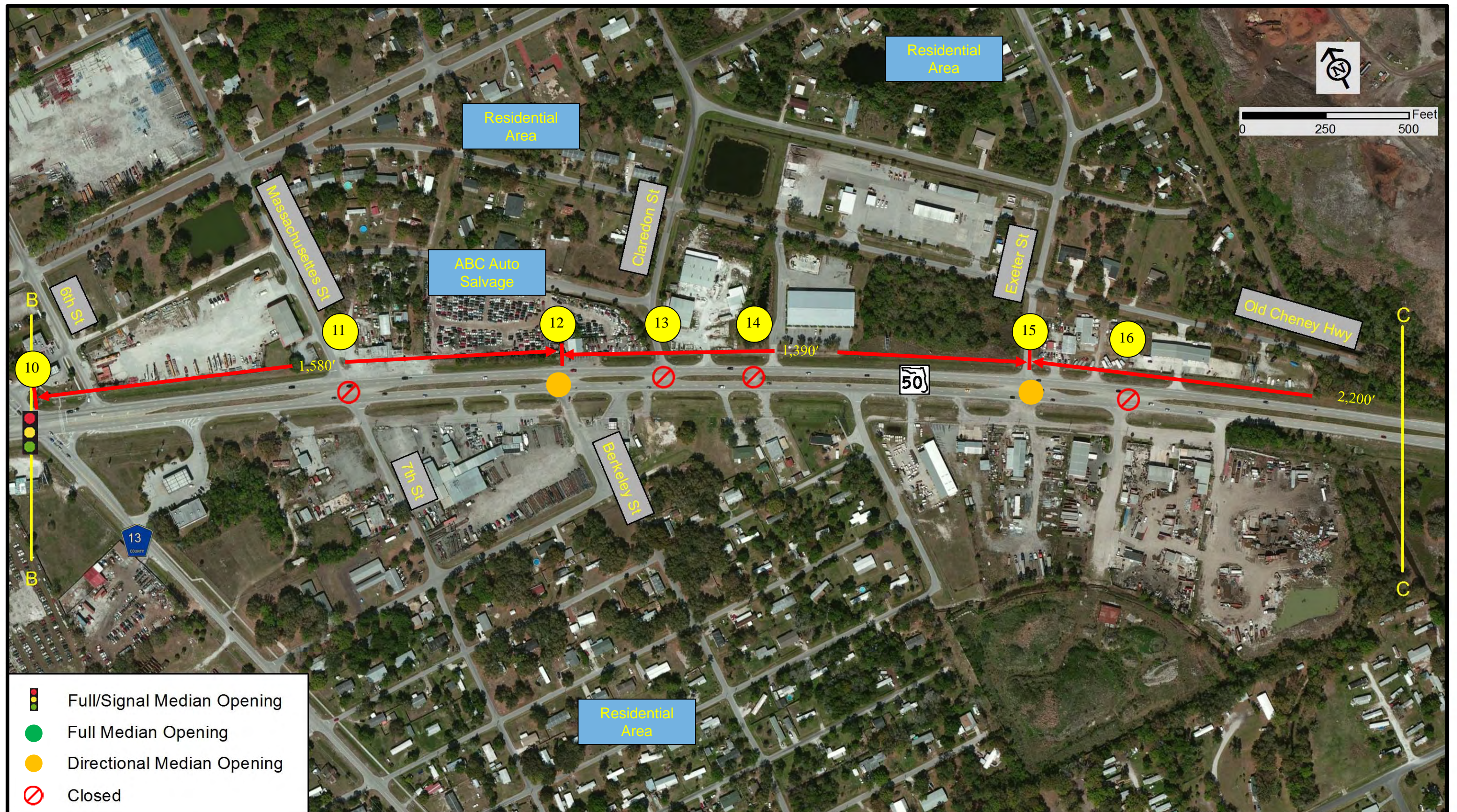




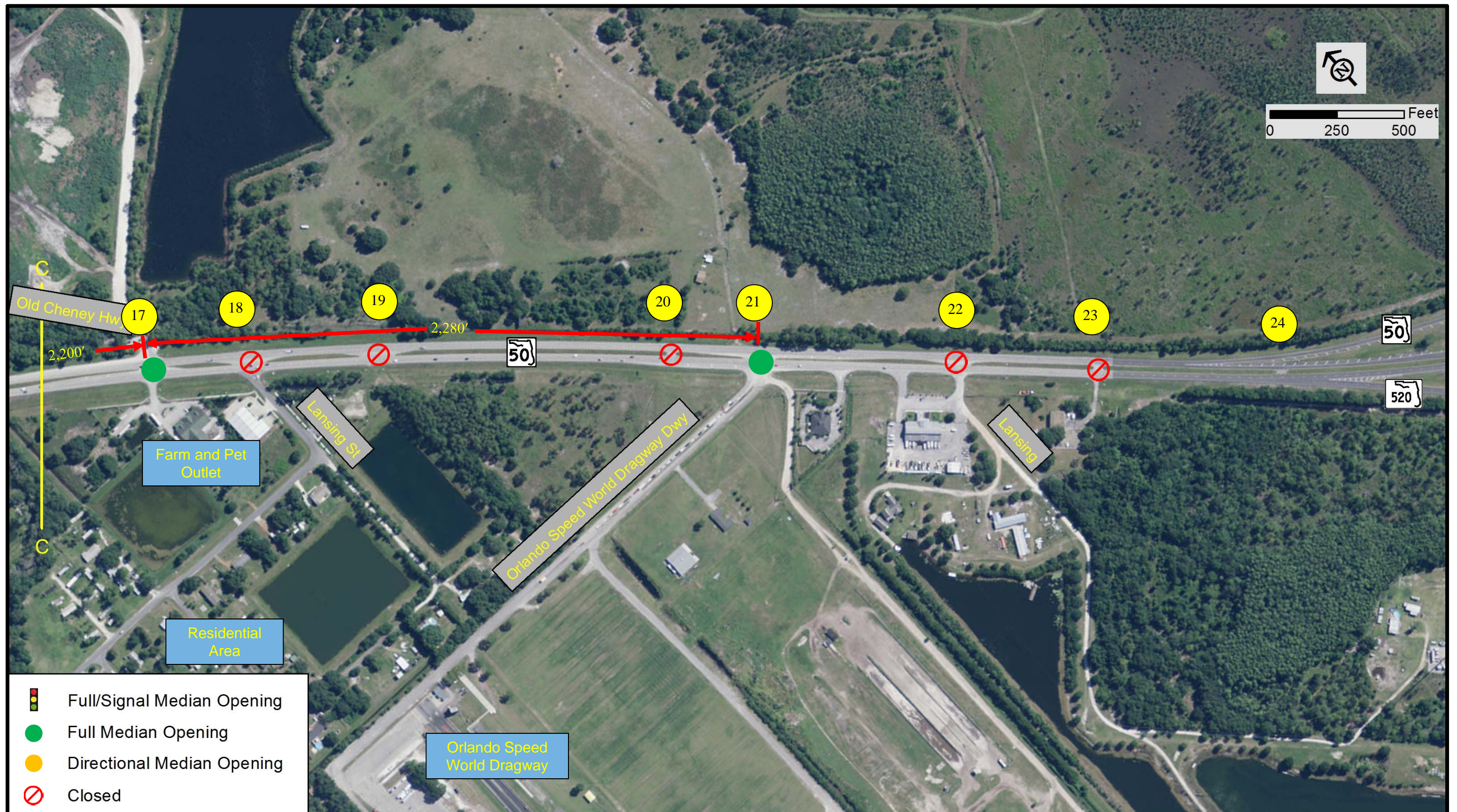














The reasons for not meeting access spacing requirements at the locations highlighted in red in Table 7 are described below:

- 1) Shepard Road is the ideal median opening between Chuluota Road (CR 419) and Cox Road and does not meet the required access spacing from Cox Road, but does fulfill spacing requirements from Chuluota Road (CR 419). Placing this access at a location that will meet the spacing requirements will put the median opening at a location without any driveways that could serve the residential communities to the south of this project location.
- 2) The spacing between Central Florida Parkway and Cox Road does not meet the access management class 3 spacing requirements by about 30-ft. Shifting the median opening 30-ft. will negate service to the businesses located to the north of the project location.
- 3) As indicated previously under the Safety Analysis section, there is no proper east-west connectivity along the side streets near the intersection of SR 50 with Belvedere Road/3rd Street. A full median opening has to be maintained at this location for proper circulation of traffic even though the adjacent signal at CR 13 is approximately 1,900-ft away.
- 4) The Orlando Speed World Dragway entrance is approximately 360-ft short of the required 2,640-ft spacing between full median openings per access management Class 3 restrictions. However, this median opening serves an important generator for the region and is proposed to be left open.

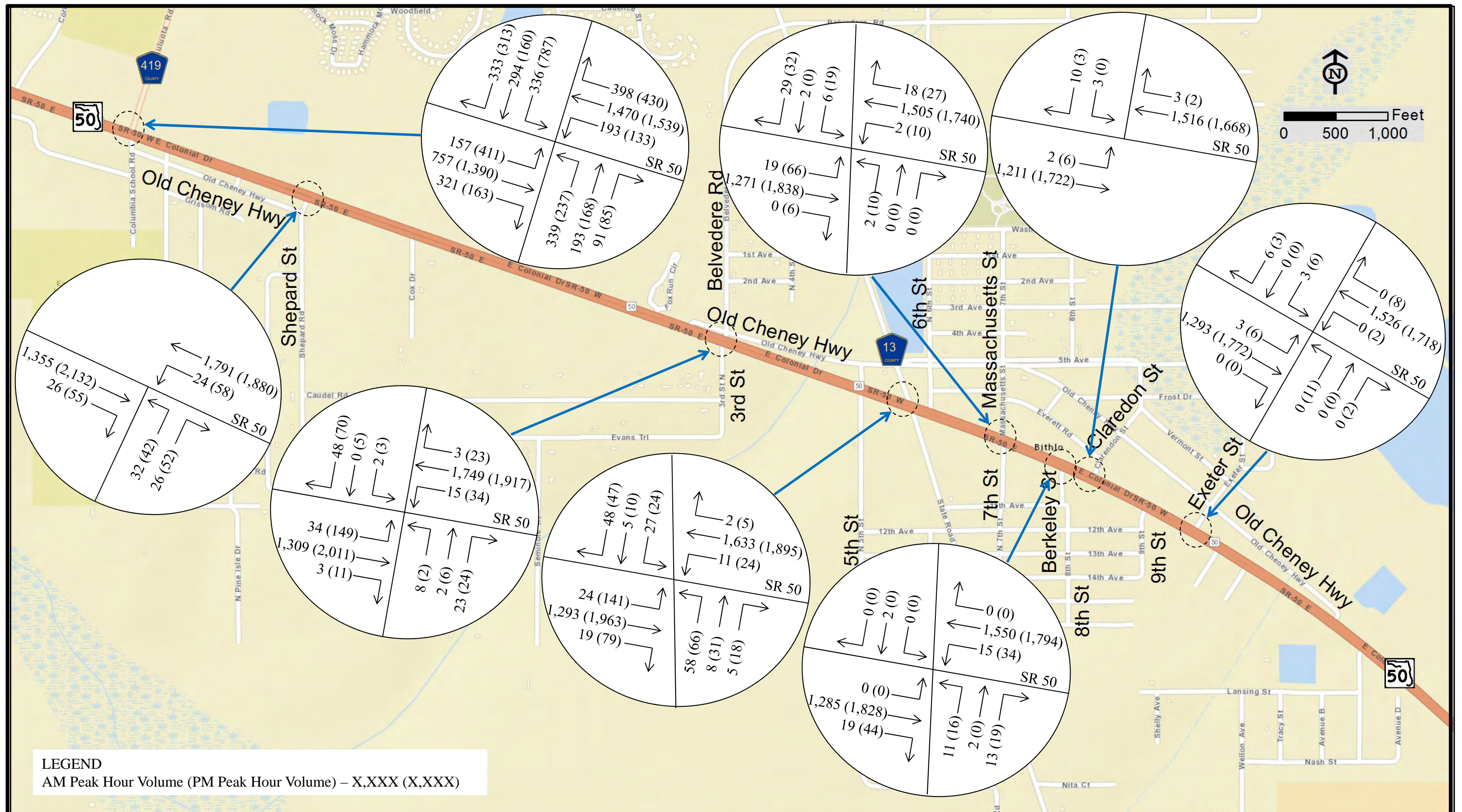
## **7. Future Turning Movement Projections**

The future turning movement projections for locations reported in Figure 5 were developed by applying the simple annual growth rate methodology. The annual growth rate was calculated as 1.94 percent per year for the project study area (Table 4 in Attachment A). This annual growth rate was applied over a 25 year time period to the recently-collected turning movement volumes to establish the Design Year 2040 volumes. The Design Year 2040 turning movement volumes are shown in Figure 16. No additional growth rate adjustments were applied to specific movements or intersections to account for future isolated or regional developments along or near the subject corridor. The Design Year 2040 volume information near the Chuluota Road (CR 419) signalized intersection was recorded from a recent traffic study completed for an adjacent project.

## **8. Design Queue Length Development Methodology**

This section defines the design queue length development methodology that will be used to determine the storage lengths along SR 50 within the project limits.

Establishing the design queue lengths for all turn lanes along SR 50 was beyond the scope of the FDOT's Access Management Report but will be performed as part of the formal design effort. However, we understand that analysis of right turn lanes is not completed on four-lane to six-lane widening projects and will be installed on a case by case basis. We will review the project right turn storage needs as the project progresses into Design and in consultation with the Department's Traffic Operations Division.





The design queue lengths for all unsignalized intersection left turn lanes will be based upon the projected peak hour left turn volumes, in combination with current FDOT methodologies for queue length development. For unsignalized left turn movements, the highest hourly turning movement volume recorded was identified and used as the basis for future left turn demand projections.

The Design Year 2040 left turn demand developed in Section 7 will be used as the basis for the queue length analyses.

The design queue length guidelines provided by the FDOT's Median Handbook that are based upon hourly left turn demands will be used as the basis for establishing the design queue lengths for unsignalized left turns along the SR 50 corridor. A minimum queue length of 100-ft will be assumed, per the Median Handbook mandate that typically requires a 100-ft queue length in urban/suburban areas. Exhibit 34 of FDOT's Median Handbook outlines the criteria to identify longer left turn queue lengths and these values are detailed in Table 8.

**Table 8: Estimated Queue Lengths for Unsignalized Median Openings**

Left turns per hour (vehicles)	Estimated Queue Length (feet)
80 to 90	125
100 to 110	150
120 to 140	175
Above 150	200
Source: FDOT's Median Handbook – 2014 Edition	

The taper length guidelines defined in FDOT Standard Index 301 will be followed during the turn storage design. The total deceleration distance that will be used for turn lane design will be 185-ft corresponding to a Design Speed of 45 miles per hour (mph) for the section of SR 50 between Chuluota Road (CR 419) and Old Cheney Highway and 240-ft corresponding to a Design Speed of 50 mph for the section of SR 50 between Old Cheney Highway and SR 520. The deceleration distances reported are from Exhibit 31 of the FDOT's Median Handbook.

There are two signalized intersections within the study area: SR 50 at Chuluota Road (CR 419) and SR 50 at CR 13. The turn storage requirements for the intersection of SR 50 at Chuluota Road (CR 419) are being evaluated as part of an adjacent project.

The development of design queue lengths at the intersection of SR 50 at CR 13 will require the estimated peak hour design year turning movement volumes for the entire intersection, the anticipated signal cycle length and the proposed intersection geometry. This intersection falls under the Design Speed category of 45 mph and will require a total deceleration distance of 185-ft for all turn lanes. During the formal design effort for this project, a preliminary Synchro model will be prepared for this intersection and analyses will be conducted to identify the 95<sup>th</sup> percentile queue lengths for the various movements.

## 9. Conclusions and Recommendations

The purpose of this Access Management Report was to define the proposed modifications to access along SR 50 from Chuluota Road (CR 419)/East River Falcons Way to SR 520 in Orange County, Florida. The results of this study will be incorporated into the current SR 50 widening and reconstruction project being conducted by FDOT. Below is a summary of the conclusions and recommendations from the report:

- The proposed access management class for the project study area is Class 3 and under access management Class 3, directional median openings are allowed at  $\frac{1}{4}$  mile (1,320-ft) spacing and full median opening at  $\frac{1}{2}$  mile (2,640-ft).
- There are a total of 23 existing full median openings including Chuluota Road (CR 419)/East River Falcons Way and CR 13 signalized intersections.
- None of the existing median openings satisfy the spacing requirements for access management class 3.
- Existing turning movement volume data was collected near seven of the unsignalized intersections within the study area in the Year 2015.
- A total of 227 crashes occurred in the recent 5-years within the study area, including 6 fatal and 129 injury crashes.
- Nearly 83 percent of the incidents along SR 50 were the result of either rear end (47 percent) or angle collisions (36 percent) because of the presence of many median openings along the corridor that do not meet the current access management regulations.
- Two pedestrian fatalities occurred along the corridor near the intersections of Belvedere Road/3<sup>rd</sup> Street and Exeter Street with SR 50. Pedestrian needs should be kept in mind while designing access near these intersections to improve safety.
- Crash hot spot analyses showed five crash hot spot locations along SR 50 and are described in Section 5.
- An effective access management plan was developed for the project. Implementation of the median configuration as shown in the proposed access management plan (Figure 14) along with the future six-lane section of SR 50 is recommended.
- Roundabouts will not be considered as part of this study due to the anticipated six-lane roadway widening. It is the Department's current practice not to implement three-lane roundabouts.
- Future Design Year 2040 turning movement volumes were developed for key intersections within the study area. These volumes will be used during the design effort to establish the turn lane lengths.
- Guidelines were prepared identifying the methodology that will be used during the design efforts for determining the turn lane lengths along the project study area.
- Analysis and/or construction of right turn lanes at unsignalized intersections will not be completed on this project based on Department's preferences for four-lane to six-lane widening projects.
- Mainline left turn lanes at all median openings will be considered where median width allows.
- Design of turn storages will ensure that guidelines set for taper, deceleration and storage requirements are met for all mainline left turn lanes.
- Queue length needs for the one signalized intersection within the study area will be based on the 95<sup>th</sup> percentile queue lengths obtained from a preliminary Synchro analysis. Queue lengths for unsignalized intersections will follow the guidelines defined under Section 8. All queue length storages obtained will be verified for compliance with FDOT's Plans Preparation Manual guidance.



## **Attachment A**

Project Traffic for PD&E and  
Design, Design Traffic/ESAL  
Forecasts Technical  
Memorandum

# FINAL TECHNICAL MEMORANDUM



## PROJECT TRAFFIC FOR PD&E AND DESIGN DESIGN TRAFFIC/ESAL FORECASTS

SR 50

*From east of Chuluota Road (MP 16.538) to west of SR 520 (MP 19.651)*

*Orange County, Florida*

*Financial Project ID: 239203-8*

*Roadway ID: 75060000*

*Prepared For:*

FLORIDA DEPARTMENT OF TRANSPORTATION

DISTRICT 5 - DeLand

*Prepared By:*

Vanasse Hangen Brustlin, Inc.

September 2015



*CERTIFICATION BY*

**FLORIDA DEPARTMENT OF TRANSPORTATION**

**DISTRICT 5**

Financial Project ID: 239203-8

Roadway ID: 75060000

“I have reviewed the Traffic Forecasting Procedure, adopted by the Florida Department of Transportation, and have arrived at the projected 18 KIP loading volumes. I have found these to be consistent with the historical data and other available information.”

Jason Learned

---

Florida Department of Transportation

Planning and Public Transportation

---

Date

CERTIFICATION BY

VANASSE HANGEN BRUSTLIN, INC.

Financial Project ID: 239203-8

Roadway ID: 75060000

I, Vinod Vishwanatha, Florida P.E. Number 77902, have prepared and reviewed the Design Traffic and 18 KIP Equivalent Single Axle Load estimates for the above referenced Florida Department of Transportation project. I have specifically followed the "Design Traffic (Traffic Forecasting and 18 KIP Equivalent Single Axle Loading) Procedure (2014)" as adopted by the Florida Department of Transportation. Based on traffic count information, general data sources, and other pertinent information, the Design Traffic and 18 KIP Equivalent Single Axle Load estimates have been prepared using current traffic engineering, transportation planning, and Florida Department of Transportation practices and procedures.

Vanasse Hangen Brustlin, Inc.

225 East Robinson Street, Suite 300,

Orlando, FL 32801



09/01/2015  
Date



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## **SECTION 1 - GENERAL PROJECT INFORMATION**

### **INTRODUCTION**

Vanasse Hangen Brustlin, Inc. (VHB) has been retained by the Florida Department of Transportation (FDOT), District Five, to undertake transportation engineering services under the continuing contract #C-9301. This Technical Memorandum for Design Traffic/18 KIP Equivalent Single Axle Load (ESAL) forecast was prepared under the terms of this contract and pursuant to the Letter of Authorization dated August 3<sup>rd</sup>, 2015 for Task Work Order (TWO) Number 75.

### **STUDY OBJECTIVE**

This project is for use by the FDOT District Five for pavement design associated with the SR 50 Add Lanes and Rehabilitate Pavement Project, State Financial Project Number 239203-8, located in Orange County, Florida. The scope and objective of this Technical Memorandum entails the development of future traffic volume forecasts, determination of characteristics, and ESAL forecasts during the design life of the project.

### **METHODOLOGY**

The methodology prepared for the development of this Technical Memorandum is consistent with the latest Project Traffic Forecasting Handbook (dated January 2014) and Project Traffic Forecasting Procedure (Topic No. 525-030-120) published by the FDOT. The methodology covers the following topics:

- Collect available traffic count information from the Department's historical traffic count records and from actual field count data, review previous studies, traffic characteristics, and other relevant data. All collected field count data shall be validated using the department's Statistical Processing Software (SPS) tool.
- Based on the data collection process, estimate future travel characteristics of the corridor. These characteristics include Standard K factor, and Directional Design Hour Volume factor (D), and Design Truck factors (T) (daily and peak).
- Develop future year traffic volume forecasts for the corridor based on trend analysis of historical traffic counts and/or officially adopted travel demand models (Florida Standard Urban Transportation Model Structure (FSUTMS) including the Central Florida Regional Planning Model (CFRPM) and Orlando Urban Area Transportation Study (OUATS)), and Bureau of Economic and Business Research (BEBR) population projections.
- Evaluate the future year traffic volume forecasts based on capacity to determine whether the corridor will operate under constrained or unconstrained capacity conditions.
- In addition to design year traffic conditions, develop opening year and mid-design year traffic volume forecasts.
- Provide a Generalized Link Level of Service (LOS) analysis for the corridor.

## SR 50 – Add Lanes & Rehabilitate Pavement

*Florida Department of Transportation, District Five*

- Use a lane equivalency factor (damage factor), lane factor (percentage of trucks in design lane) and daily directional split for ESAL forecasting.
- Estimate accumulated 18 KIP axle loading based on traffic factors developed above. Axle loading will be determined for asphalt (flexible) and concrete (rigid) pavement types.
- Provide intersection turning movement counts for the A.M. and P.M. peak hours for the existing conditions.

### **DESIGN PERIOD**

Based on the information in the scope of services, provided by FDOT District Five, the following years were used to determine ESAL forecasts and roadway LOS for the corridor:

- Existing Year                2015
- Opening Year                2019
- Mid-Design Year            2029
- Design Year                 2039



## SECTION 2 – ESAL ANALYSIS

### PROJECT LOCATION

The SR 50 project corridor is located in Orange County, Florida. This project is designated State Financial Project Number 239203-8 in the Department's Five Year Work Program. This is an add lanes and rehabilitate pavement project on the roadway segment of SR 50 from Chuluota Road (MP 16.538) to west of SR 520 (MP 19.651). **Figure 1** provides a general project location map.

According to the FDOT Straight Line Diagram (SLD), included in **Appendix A**, SR 50 is a four-lane divided urban principal arterial from the beginning of the project limit MP 16.583 to MP 18.962, and a rural principal arterial from MP 18.962 to the end of the project limit MP 19.651. Based on the FDOT's Roadway Characteristic Inventory (RCI) database included in **Appendix A**, the posted speed limit along the SR 50 corridor from the beginning of the project limit at MP 16.583 to MP 18.544 is 45 mph, and from MP 18.544 to the end of the project limit at MP 19.651 is 55 mph.

The SR 50 add lanes and rehabilitate pavement project is scheduled for the year 2019 (opening year). The design life for projects is generally twenty years making the design year as 2039 and the mid-design year as 2029.

### DATA COLLECTION

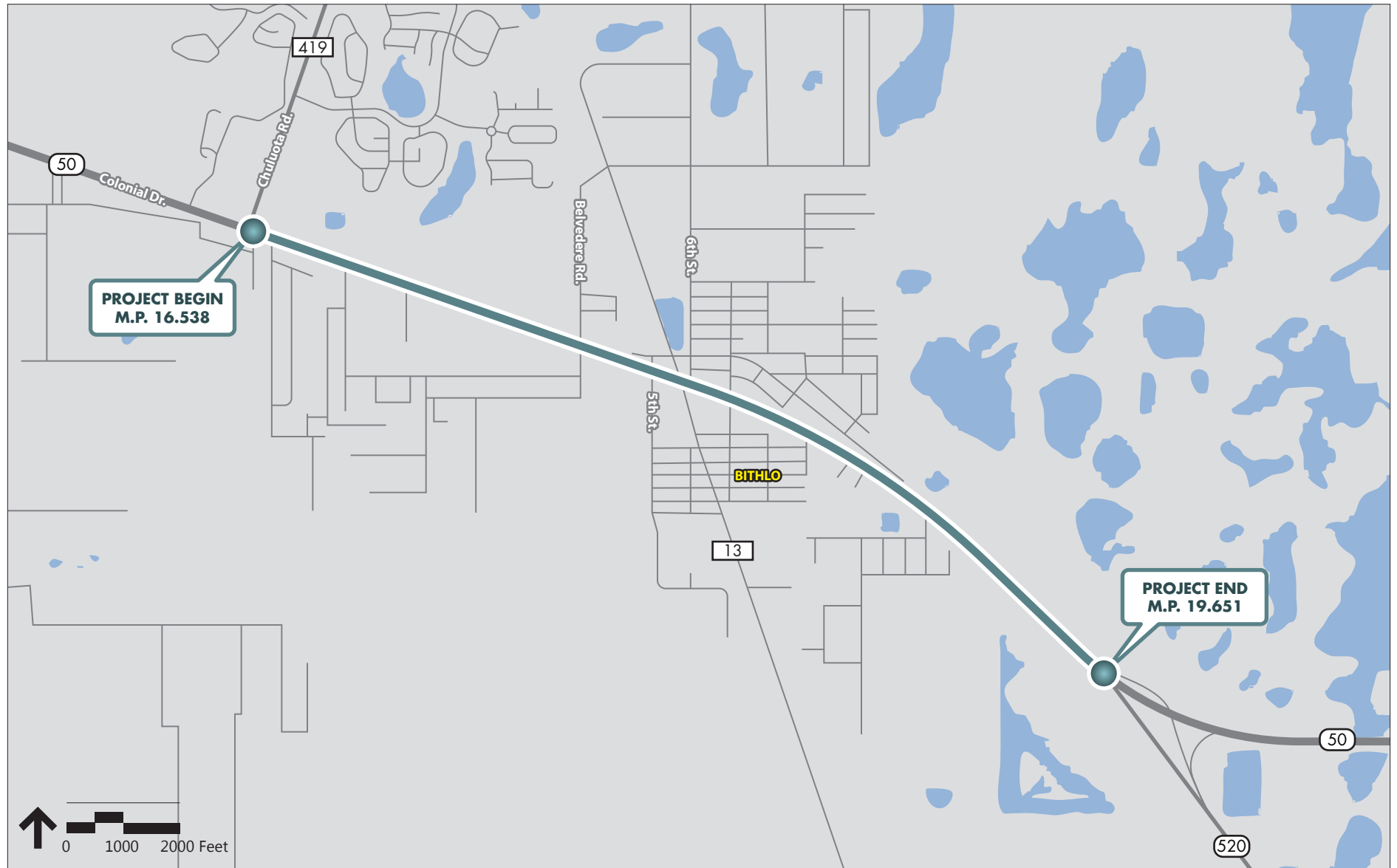
As directed by the Department, VHB conducted one (1) 48-hour vehicle classification count on SR 50, and seven (7) 4-hour turning movement counts. The classification count was conducted from Wednesday, August 12, 2015 to Thursday, August 13, 2015, and the turning movement counts were conducted on Tuesday, August 11, 2015 and Tuesday, August 18, 2015.

- SR 50 – 0.190 Miles West of SR 520 (Site: 750104 MP – 19.420) (Location 1) – 48-Hour Classification Count
- SR 50 at Shepard Road (MP 16.877) – 4 Hour Turning Movement Count – (7-9 AM and 4-6 PM)
- SR 50 at Belvedere Road/3<sup>rd</sup> Street (MP 17.677) – 4 Hour Turning Movement Count – (7-9 AM and 4-6 PM)
- SR 50 at CR 13 (MP 18.046) – 4 Hour Turning Movement Count – (7-9 AM and 4-6 PM)
- SR 50 at Massachusetts Ave/7th St (MP 18.222) – 4 Hour Turning Movement Count – (7-9 AM and 4-6 PM)
- SR 50 at Berkeley Street (MP 18.341) – 4 Hour Turning Movement Count – (7-9 AM and 4-6 PM)
- SR 50 at Claredon Street (MP 18.402) – 4 Hour Turning Movement Count – (7-9 AM and 4-6 PM)
- SR 50 at Exeter Street (MP 18.604) – 4 Hour Turning Movement Count – (7-9 AM and 4-6 PM)

The vehicle classification count is grouped into three primary vehicle types:

- Passenger Vehicles – Motorcycles, Cars, Vans, and Pick-ups (Classes 1 through 3)
- Buses and Medium Trucks – Single unit trucks (Classes 4 and 5)
- Heavy and Large Trucks – Trucks with one or more trailers (Classes 6 through 13)

The vehicle classification count data is summarized in **Appendix B** of this technical memorandum.



●—● Study Corridor



**Figure 1**

Project Location Map

Financial Project ID: 239203-8

Roadway ID: 75060000



A seasonal adjustment factor of 1.00, obtained from the 2014 Florida Traffic Online (FTO) Website was applied to the vehicle classification count to normalize traffic. The Seasonal Factor used in this technical memorandum are located in Appendix C. The seasonally adjusted count is shown below in Table 1. The vehicle classification count has been validated using the Departments Statistical Processing Software (SPS) tool.

Table 1: 48-Hour Vehicle Classification Traffic Count Summary

Location	Description	Seasonal Adj. Factor	Raw Count (ADT)	Adjusted Count (AADT)
1	SR 50 – 0.19 miles W of SR 520 (Site: 750104 MP – 19.420 )	1.00	25,045	25,000

## DESIGN TRAFFIC CHARACTERISTICS

The design traffic characteristics for the project, shown in Table 2 were developed from the traffic count data collected in the field, the 2014 FTO website, and the FDOT RCI database. The D and T factors obtained from the vehicle classification count were compared with the respective factors reported in the FDOT RCI database. The recommended traffic design characteristics shown in Table 2 were developed based on the comparison of measured and published K, D and T factors.

A Standard K factor of 9.0% for urban arterial facilities is recommended for Segment 1 of the SR 50 corridor. A Standard K factor of 9.5% for rural arterial facilities is recommended for Location 1 in Segment 2 of the SR 50 corridor. The “D” value based on the classification count collected for Location 1 is 52.1%. The FDOT RCI database reported a D value of 52.6% for the same location. The “D” value of 52.6% is recommended for the SR 50 corridor based on the FDOT RCI database’s D value. The measured daily truck factors ( $T_{24}$ ) from the classification count is 5.5%. The FDOT RCI database reported a daily truck factor of 4.8% for the same location. Therefore, the truck factor ( $T_{24}$ ) of 5.5%, based on the classification count, is recommended for the study corridor within project limits.

Table 2: Design Traffic Characteristics

Roadway Characteristics	SR 50
	Location 1
Peak-to-Daily Ratio (Measured)	8.1%
D (Measured)	52.1%
Standard K Factor	9.5%
D (From FDOT RCI)	52.6%
Truck Percentages	
T <sub>24</sub> (Measured)	5.5%
T <sub>24</sub> (From FDOT RCI)	4.8%
T <sub>Peak</sub> (Measured)*	4.8%
Recommended Values	
Standard K Factor**	9.5%
D Factor	52.6%
T <sub>24</sub>	5.5%

\* T<sub>Peak</sub> is obtained from the classification count

\*\*For Location 1 and Segment 2, Segment 1 will have a K factor of 9.0%

## TRAFFIC PROJECTIONS

The traffic count information collected as part of this project was supplemented with the Department's historical traffic count data available from the 2014 FTO website. Figure 2 shows the design characteristic values and traffic volume for the count location. Figure 2 also provides the FDOT count station location for this project.

A summary of the historic trends analysis is summarized in Table 3 below. The historical count information and trends analysis are located in Appendix D.

Table 3: Trend Analysis Growth Rates

FDOT Station	Location	2014 AADT	2039 AADT	R <sup>2</sup> (%)	Annual Growth Rate (%)
750104	SR 50 – 0.19 miles W of SR 520 (Site: 750104 MP – 19.420)	25,000	26,700	2.57%	0.27%

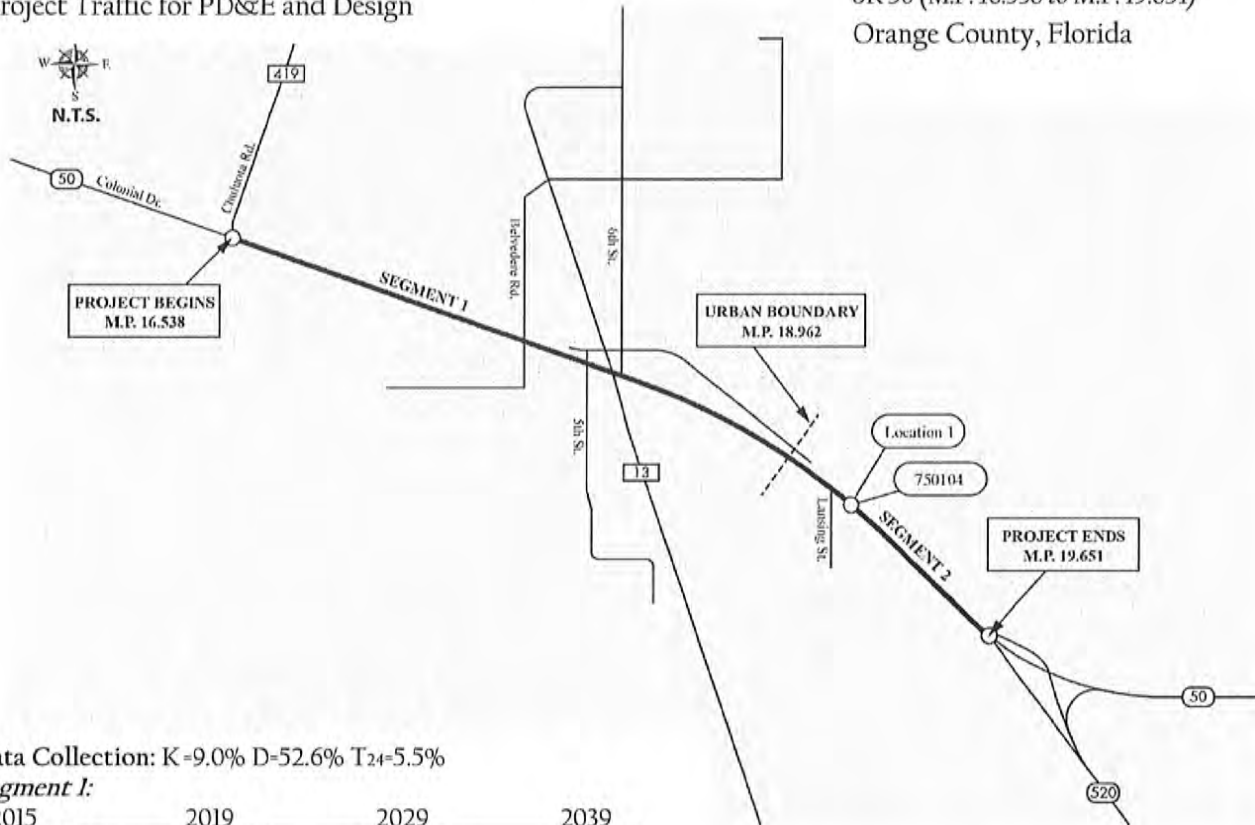
Since the calculated R<sup>2</sup> value was very low, trends analysis based results were not used in this study.



SR 50 – Add Lanes & Rehabilitate Pavement  
Florida Department of Transportation, District Five

Traffic Projections and Level of Service  
Florida Department of Transportation  
Project Traffic for PD&E and Design

Financial Project IDs: 239203-8  
Roadway ID: 75060000  
SR 50 (M.P. 16.538 to M.P. 19.651)  
Orange County, Florida



Data Collection: K=9.0% D=52.6% T<sub>24</sub>=5.5%

Segment 1:

2015	2019	2029	2039
25,000(C)	29,000(C)	38,000(C)	47,000(C)
1,200(C)	1,400(C)	1,800(C)	2,200(C)

Data Collection: K=9.5% D=52.6% T<sub>24</sub>=5.5%

Segment 2:

2015	2019	2029	2039
25,000(B)	29,000(B)	38,000(B)	47,000(C)
1,200(B)	1,400(B)	1,900(B)	2,300(C)

Legend:	
	Study Area
	FDOT Count Station
	AADT (LOS)
	DDHV (LOS)

I have followed the "Design Traffic (Traffic Forecasting and 18 kip Equivalent Single Axle Loading) Procedure", Adopted by the Florida Department of Transportation.

Prepared by: (VHP)

Florida Department of Transportation – District 5

I have reviewed the methodology used to derive the Design Traffic and kip ESAL. I concur with the results

Reviewed by: (FDOT)

(Vinod Vishwanatha) (P.E. No.) August 31, 2015  
(Date)

(Signature)

(Date)

Figure 2: Traffic Projections and Level of Service

The latest version of the OUATS was used to estimate the growth in traffic between Year 2009 and Year 2040. Table 4 provides growth rates based on the OUATS model. The specific model volumes used to determine growth rates are shown in Appendix E.

Table 4: OUATS Model Growth Rates

Location	MOCF	PSWADT		AADT		Annual Growth Rate (%)
		2009	2040	2009	2040	
SR 50 – 0.19 miles W of SR 520 (Site: 750104 MP – 19.420)	0.98	31,023	49,252	30,000	48,000	1.94%

Notes:

MOCF – Model Output Conversion Factor

PSWADT – Peak Season Weekday Average Daily Traffic

In addition, Year 2014 and Year 2040 population projections were obtained from the BEBR. Table 5 provides growth rates based on population projections for Orange County.

Table 5: BEBR (Orange County) Growth Rates

Orange County Projections	POPULATION ANALYSIS		
	2014	2040	Annual Growth Rate (%)
Medium	1,227,995	1,876,700	2.03%
High	1,227,995	2,308,200	3.38%

As shown in Table 5, the medium and high population estimates obtained from BEBR reported an annual growth rate of 2.03% and 3.38%, respectively. The BEBR population projection data for Orange County is included in Appendix D.

Based on the comparison of growth rates obtained from the OUATS Model and BEBR population estimates, interpolation between the 2015 AADT from the collected classification count and the 2040 projections from the OUATS Model were used to obtain the Opening Year 2019, Mid-Year 2029 and Design Year 2039 projections.



## **LEVEL OF SERVICE ANALYSIS**

For the purpose of projecting the future volumes, the seasonally adjusted AADT obtained from the 48-hour vehicle classification count conducted in the field were used. Operating conditions, expressed as Level of Service (LOS), were determined based on the comparison between traffic volumes and roadway capacities.

Typically roadway capacities are established from the Generalized Level of Service Volumes provided in the 2013 FDOT Quality/Level of Service Handbook. According to the FDOT LOS Policy (effective April 18, 2012), the adopted LOS standard for the State Highway System is “D” for urbanized areas and “C” outside of urbanized areas. The section of SR 50 from the beginning of the project limit MP 16.583 to MP 18.962 is classified as a four-lane divided urban principal arterial and has a FDOT adopted LOS standard of “D,” and from MP 18.962 to the end of the project limit MP 19.651 is classified as a rural principal arterial, with an FDOT adopted LOS standard of “C.” The LOS for SR 50 was estimated for existing conditions, opening, mid-design and design years. For ease of reference, copies of all relevant FDOT tables used in this study are located in **Appendix F**.

**Figure 2** and **Tables 6 & 7** show the level of service analysis for SR 50 during the daily and peak hour peak direction conditions, respectively. As shown in **Table 6 & 7**, SR 50 from Chuluota Road to Urban Boundary currently operates at LOS “C” and is projected to continue to operate at LOS “C” through the Design Year 2039 under the daily and peak hour peak direction conditions. SR 50 from Urban Boundary to SR 520 currently operates at LOS “B” and is projected to continue to operate at LOS “B” through the Mid-Design Year 2029 and at LOS “C” through the Design Year 2039 under the daily and peak hour peak direction conditions.

Table 6: Roadway LOS Analysis – Daily Conditions

Roadway Level of Service Analysis <i>Daily Conditions</i>						
Roadway ID	Roadway	LOS Std.	YR 2015 Existing Condition			LOS
			# Lanes	Capacity	AADT	
75060000	SR 50 – Chuluota Rd to Urban Boundary	D	4	41,790	25,000	C
75060000	SR 50 – Urban Boundary to MP 19.651	C	4	40,300	25,000	B
Roadway ID	Roadway	LOS Std.	YR 2019 Opening Year Condition			LOS
			# Lanes	Capacity	AADT	
75060000	SR 50 – Chuluota Rd to Urban Boundary	D	6	62,895	29,000	C
75060000	SR 50 – Urban Boundary to MP 19.651	C	6	60,400	29,000	B
Roadway ID	Roadway	LOS Std.	YR 2029 Mid-Design Year Condition			LOS
			# Lanes	Capacity	AADT	
75060000	SR 50 – Chuluota Rd to Urban Boundary	D	6	62,895	38,000	C
75060000	SR 50 – Urban Boundary to MP 19.651	C	6	60,400	38,000	B
Roadway ID	Roadway	LOS Std.	YR 2039 Design Year Condition			LOS
			# Lanes	Capacity	AADT	
75060000	SR 50 – Chuluota Rd to Urban Boundary	D	6	62,895	47,000	C
75060000	SR 50 – Urban Boundary to MP 19.651	C	6	60,400	47,000	C



Table 7: Roadway LOS Analysis - Peak Hour Directional Conditions

Roadway Level of Service Analysis <i>Peak Hour Peak Direction Conditions</i>						
Roadway ID	Roadway	LOS Std.	YR 2015 Existing Condition			LOS
			# Lanes	Capacity	DDHV	
75060000	SR 50 – Chuluota Rd to Urban Boundary	D	2	2,100	1,200	C
75060000	SR 50 – Urban Boundary to MP 19.651	C	2	2,100	1,200	B
Roadway ID	Roadway	LOS Std.	YR 2019 Opening Year Condition			LOS
			# Lanes	Capacity	DDHV	
75060000	SR 50 – Chuluota Rd to Urban Boundary	D	3	3,171	1,400	C
75060000	SR 50 – Urban Boundary to MP 19.651	C	3	3,150	1,400	B
Roadway ID	Roadway	LOS Std.	YR 2029 Mid-Design Year Condition			LOS
			# Lanes	Capacity	DDHV	
75060000	SR 50 – Chuluota Rd to Urban Boundary	D	3	3,171	1,800	C
75060000	SR 50 – Urban Boundary to MP 19.651	C	3	3,150	1,900	B
Roadway ID	Roadway	LOS Std.	YR 2039 Design Year Condition			LOS
			# Lanes	Capacity	DDHV	
75060000	SR 50 – Chuluota Rd to Urban Boundary	D	3	3,171	2,200	C
75060000	SR 50 – Urban Boundary to MP 19.651	C	3	3,150	2,300	C

## **EQUIVALENT SINGLE AXLE LOAD (ESAL) FORECAST**

Equivalent single axle load (ESAL) forecasts were performed using the current FDOT procedure. Using the traffic forecasts shown in the LOS analysis tables (Tables 6 & 7) and the recommended  $T_{24}$  factors, ESAL forecasts were developed for use in the pavement design. Table 8 & II summarize all the input information required to execute the ESAL calculations spreadsheet for SR 50. Tables 9, 10, 12 & 13 provide the annual accumulation of the 18 KIP axle loads throughout the design life of the project for flexible and rigid pavements for Segments 1 & 2. FDOT supplied spreadsheets were used to generate these tables.



Table 8 - ESAL Segment 1 - Analysis Information/Factors

**18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS**

PROJECT, TRAFFIC FOR PD&amp;E and DESIGN ANALYSIS INFO / FACTORS

FIN #: 239203-8

COUNTY: Orange

ROADWAY ID: 75060000

PROJECT DESCRIPTION: SR 50 - Add Lanes &amp; Rehabilitate Pavement

SEGMENT #: 1

LOCATION DESCRIPTION: From east of Chuluota Road (MP 16.538) to Urban Boundary (MP 18.962)

**GROWTH RATE FORMULA**

A: Interpolation

B: Enter Growth Rate

C: Enter All AADTs

D: New Facility

If "A" select an interpolation function

If "B" enter rate as decimals (1%=1.01)

If "C", or "D" continue to next section

Choose A, B, C, or D here: C

Linear Growth Rate \_\_\_\_\_ %

Compounded Growth Rate \_\_\_\_\_ %

Decaying Growth Rate \_\_\_\_\_ %

(select one)

**DESIGN INFORMATION**

		AADT
Existing Year	2015	25000
Opening Year	2019	29000
Mid-Design Year	2029	38000
Design Year	2039	47000

Note: AADT values have been rounded to the nearest 100

Daily Direction Split  
(50% or 100%) 50%

Lanes in One Direction 3

**T24 values**

Existing to Opening Year 5.50%

Opening to Mid-Year 5.50%

Mid-Year to Design-Year 5.50%

**1995 EQUIVALENCY FACTORS [u(1)]**

(selected with an X)

FLEXIBLE PAVEMENT  
SN = 5/THICKRIGID PAVEMENT  
SN = 12/THICK

RURAL FREEWAY: 1.050 \_\_\_\_\_

URBAN FREEWAY: 0.900 \_\_\_\_\_

RURAL HIGHWAY: 0.960 \_\_\_\_\_

URBAN HIGHWAY: 0.890 X \_\_\_\_\_

OTHER (Enter Factor and X): \_\_\_\_\_

1.600 \_\_\_\_\_

1.270 \_\_\_\_\_

1.350 \_\_\_\_\_

1.220 X \_\_\_\_\_

(1) Equivalency Factors are based on Updated Pavement Damage Factors Memorandum, dated July 2, 1998.

Lane Factors developed by Copes equation

I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.

Prepared by: Vanasse Hangen Brustlin, Inc.  
225 East Robinson Street, Orlando, FL - 32801

Vinod Vishwanath, P.E. # 77902  
Name

Signature

8/25/2015

Date

Reviewed by: Jason Learned

Name

Project Manager - Design Traffic FDOT - D5

Title

Org. Unit or Firm

Signature

Date

# SR 50 – Add Lanes & Rehabilitate Pavement

Florida Department of Transportation, District Five


Table 9: Flexible Pavement 18 KIP ESAL Analysis - Segment 1

<b>18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS - SEGMENT 1</b>							
PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS							
YEARS: 2015 to 2039							
SECTION #: 75060000		COUNTY: Orange		FIN #: 239203-8			
FLEXIBLE PAVEMENT URBAN HIGHWAY		0.890					
SN=5/THICK		SR 50 – Add Lanes & Rehabilitate Pavement		C			
YEAR	AADT	ESAL (1000S)	ACCUM (1000s)	D	T	LF	EF
2015	25000	149	0	0.5	5.50%	0.664	0.890
2016	26000	154	0	0.5	5.50%	0.661	0.890
2017	27000	159	0	0.5	5.50%	0.658	0.890
2018	28000	164	0	0.5	5.50%	0.655	0.890
2019	29000	169	169	0.5	5.50%	0.652	0.890
2020	29900	174	343	0.5	5.50%	0.649	0.890
2021	30800	178	521	0.5	5.50%	0.647	0.890
2022	31700	183	704	0.5	5.50%	0.645	0.890
2023	32600	188	892	0.5	5.50%	0.642	0.890
2024	33500	192	1084	0.5	5.50%	0.640	0.890
2025	34400	196	1280	0.5	5.50%	0.638	0.890
2026	35300	201	1481	0.5	5.50%	0.636	0.890
2027	36200	205	1686	0.5	5.50%	0.634	0.890
2028	37100	210	1896	0.5	5.50%	0.632	0.890
2029	38000	214	2110	0.5	5.50%	0.630	0.890
2030	38900	219	2329	0.5	5.50%	0.628	0.890
2031	39800	223	2552	0.5	5.50%	0.626	0.890
2032	40700	227	2779	0.5	5.50%	0.624	0.890
2033	41600	232	3011	0.5	5.50%	0.622	0.890
2034	42500	236	3247	0.5	5.50%	0.620	0.890
2035	43400	240	3487	0.5	5.50%	0.619	0.890
2036	44300	245	3732	0.5	5.50%	0.617	0.890
2037	45200	249	3981	0.5	5.50%	0.615	0.890
2038	46100	253	4234	0.5	5.50%	0.614	0.890
2039	47000	257	4491	0.5	5.50%	0.612	0.890
Opening to Mid-Design Year ESAL Accumulation (1000s):						1941	
Opening to Design Year ESAL Accumulation (1000s):						4322	
<p>I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.</p>							
<p>Prepared by: Vanasse Hangen Brustlin, Inc. 233 East Robinson Street, Orlando, FL 32801 Org. Unit or Firm Yinod Vishwanath, P.E. #77902 Name 8/25/2015 Date</p>				<p>Reviewed by: Jason Learned Name Project Manager - Design Traffic FDOT - D5 Title Org. Unit or Firm Signature Date</p>			



SR 50 – Add Lanes & Rehabilitate Pavement  
Florida Department of Transportation, District Five

Table 10: Rigid Pavement 18 KIP ESAL Analysis - Segment 1

<b><u>18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS - SEGMENT 1</u></b>							
PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS							
YEARS: 2015 to 2039							
SECTION #: 75060000		SEGMENT #: 1		FIN #: 239203-8			
RIGID PAVEMENT URBAN HIGHWAY		1.220					
SN=12/THICK		SR 50 – Add Lanes & Rehabilitate Pavement		C			
YEAR	AADT	ESAL (1000S)	ACCUM (1000s)	D	T	LF	EF
2015	25000	204	0	0.5	5.50%	0.664	1.220
2016	26000	211	0	0.5	5.50%	0.661	1.220
2017	27000	218	0	0.5	5.50%	0.658	1.220
2018	28000	225	0	0.5	5.50%	0.655	1.220
2019	29000	232	232	0.5	5.50%	0.652	1.220
2020	29900	238	470	0.5	5.50%	0.649	1.220
2021	30800	244	714	0.5	5.50%	0.647	1.220
2022	31700	251	965	0.5	5.50%	0.645	1.220
2023	32600	257	1222	0.5	5.50%	0.642	1.220
2024	33500	263	1485	0.5	5.50%	0.640	1.220
2025	34400	269	1754	0.5	5.50%	0.638	1.220
2026	35300	275	2029	0.5	5.50%	0.636	1.220
2027	36200	281	2310	0.5	5.50%	0.634	1.220
2028	37100	287	2597	0.5	5.50%	0.632	1.220
2029	38000	293	2890	0.5	5.50%	0.630	1.220
2030	38900	299	3189	0.5	5.50%	0.628	1.220
2031	39800	305	3494	0.5	5.50%	0.626	1.220
2032	40700	311	3805	0.5	5.50%	0.624	1.220
2033	41600	317	4122	0.5	5.50%	0.622	1.220
2034	42500	323	4445	0.5	5.50%	0.620	1.220
2035	43400	329	4774	0.5	5.50%	0.619	1.220
2036	44300	335	5109	0.5	5.50%	0.617	1.220
2037	45200	341	5450	0.5	5.50%	0.615	1.220
2038	46100	347	5797	0.5	5.50%	0.614	1.220
2039	47000	353	6150	0.5	5.50%	0.612	1.220
Opening to Mid-Design Year ESAL Accumulation (1000s):						2658	
Opening to Design Year ESAL Accumulation (1000s):						5918	
<p>I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.</p> <p>Prepared by: Vanasse Hangen Brustlin, Inc. 325 East Robinson Blvd, Orlando, FL - 32801 Org. Unit or Firm Vinod Vishwanatha, P.E. # 77902 Name No. 77902 Signature  8/25/2015 Date</p>				<p>Reviewed by: Jason Learned Name Project Manager - Design Traffic FDOT - D5 Title Org. Unit or Firm Signature Date</p>			

SR 50 – Add Lanes & Rehabilitate Pavement  
Florida Department of Transportation, District Five

**Table II - ESAL Segment 2 - Analysis Information/Factors**

**18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS**

PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS

FIN #: 239203-8  
COUNTY: Orange  
ROADWAY ID: 75060000  
PROJECT DESCRIPTION: SR 50 – Add Lanes & Rehabilitate Pavement

**LOCATION DESCRIPTION:** \_\_\_\_\_ **SEGMENT #:** 2  
From Urban Boundary (MP 18.962) to west of SR 520 (MP 19.651)

**GROWTH RATE FORMULA**

- A: Interpolation  
B: Enter Growth Rate  
C: Enter All AADTs  
D: New Facility

Choose A, B, C, or D here: C

Linear Growth Rate \_\_\_\_\_ %  
Compounded Growth Rate \_\_\_\_\_ %  
Decaying Growth Rate \_\_\_\_\_ %  
(select one)

If "A" select an interpolation function  
If "B" enter rate as decimals (1%=1.01)  
If "C", or "D" continue to next section

**DESIGN INFORMATION**

		AADT
Existing Year	2015	25000
Opening Year	2019	29000
Mid-Design Year	2029	38000
Design Year	2039	47000

Note: AADT values have been rounded to the nearest 100

Daily Direction Split (50% or 100%)	50%
Lanes in One Direction	3
<b>T24 values</b>	
Existing to Opening Year	5.50%
Opening to Mid-Year	5.50%
Mid-Year to Design-Year	5.50%

**1995 EQUIVALENCY FACTORS [u(1)]**

(selected with an X)

FLEXIBLE PAVEMENT  
SN = 5/THICK

RIGID PAVEMENT  
SN = 12/THICK

RURAL FREEWAY:	1.050	_____	1.600	_____
URBAN FREEWAY:	0.900	_____	1.270	_____
RURAL HIGHWAY:	0.960	<u>X</u>	1.350	<u>X</u>
URBAN HIGHWAY:	0.890	_____	1.220	_____
OTHER (Enter Factor and X):	_____	_____	_____	_____

(1) Equivalency Factors are based on Updated Pavement Damage Factors Memorandum, dated July 2, 1998.

Lane Factors developed by Copes equation

I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.

Prepared by: Vanasse Hangen Brustlin, Inc.  
225 East Robinson Street, Orlando, FL - 32801

Org. Unit or Firm  
Vineet Vishwanatha, P.E. # 77902

Name No. 77902

Signature [Signature] Date 8/25/2015

Reviewed by: Jason Learned

Name  
Project Manager - Design Traffic FDOT - D5  
Title \_\_\_\_\_ Org. Unit or Firm \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_





# SR 50 – Add Lanes & Rehabilitate Pavement

Florida Department of Transportation, District Five

Table 12: Flexible Pavement 18 KIP ESAL Analysis - Segment 2

<b>18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS - SEGMENT 2</b>							
PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS							
YEARS: 2015 to 2039							
SECTION #: 75060000		COUNTY: Orange		FIN #: 239203-8			
FLEXIBLE PAVEMENT RURAL HIGHWAY		0.960					
SN=5/THICK		SR 50 – Add Lanes & Rehabilitate Pavement		C			
YEAR	AADT	ESAL (1000S)	ACCUM (1000s)	D	T	LF	EF
2015	25000	160	0	0.5	5.50%	0.664	0.960
2016	26000	166	0	0.5	5.50%	0.661	0.960
2017	27000	172	0	0.5	5.50%	0.658	0.960
2018	28000	177	0	0.5	5.50%	0.655	0.960
2019	29000	183	183	0.5	5.50%	0.652	0.960
2020	29900	188	371	0.5	5.50%	0.649	0.960
2021	30800	192	563	0.5	5.50%	0.647	0.960
2022	31700	197	760	0.5	5.50%	0.645	0.960
2023	32600	202	962	0.5	5.50%	0.642	0.960
2024	33500	207	1169	0.5	5.50%	0.640	0.960
2025	34400	212	1381	0.5	5.50%	0.638	0.960
2026	35300	217	1598	0.5	5.50%	0.636	0.960
2027	36200	221	1819	0.5	5.50%	0.634	0.960
2028	37100	226	2045	0.5	5.50%	0.632	0.960
2029	38000	231	2276	0.5	5.50%	0.630	0.960
2030	38900	236	2512	0.5	5.50%	0.628	0.960
2031	39800	240	2752	0.5	5.50%	0.626	0.960
2032	40700	245	2997	0.5	5.50%	0.624	0.960
2033	41600	250	3247	0.5	5.50%	0.622	0.960
2034	42500	255	3502	0.5	5.50%	0.620	0.960
2035	43400	259	3761	0.5	5.50%	0.619	0.960
2036	44300	264	4025	0.5	5.50%	0.617	0.960
2037	45200	268	4293	0.5	5.50%	0.615	0.960
2038	46100	273	4566	0.5	5.50%	0.614	0.960
2039	47000	278	4844	0.5	5.50%	0.612	0.960
Opening to Mid-Design Year ESAL Accumulation (1000s):						2093	
Opening to Design Year ESAL Accumulation (1000s):						4661	
<p>I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.</p> <p>Prepared by: Vanasse Hangen Brustlin, Inc. 225 East Palmetto Ave., Orange, FL - 32801 Project Manager Prasad Vishwanatha, P.E. #77902 Name Signature Date 8/25/2015</p>				<p>Reviewed by: Jason Learned Name Project Manager - Design Traffic FDOT - D5 Title Org. Unit or Firm Signature Date</p>			

SR 50 – Add Lanes & Rehabilitate Pavement  
Florida Department of Transportation, District Five

Table 13: Rigid Pavement 18 KIP ESAL Analysis - Segment 2

<b>18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS - SEGMENT 2</b>							
PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS							
YEARS: 2015 to 2039							
SECTION #: 75060000		SEGMENT #: 2		FIN #: 239203-8			
RIGID PAVEMENT RURAL HIGHWAY		1.350					
SN=12/THICK		SR 50 – Add Lanes & Rehabilitate Pavement		C			
YEAR	AADT	ESAL (1000S)	ACCUM (1000s)	D	T	LF	EF
2015	25000	225	0	0.5	5.50%	0.664	1.350
2016	26000	233	0	0.5	5.50%	0.661	1.350
2017	27000	241	0	0.5	5.50%	0.658	1.350
2018	28000	249	0	0.5	5.50%	0.655	1.350
2019	29000	257	257	0.5	5.50%	0.652	1.350
2020	29900	264	521	0.5	5.50%	0.649	1.350
2021	30800	270	791	0.5	5.50%	0.647	1.350
2022	31700	277	1068	0.5	5.50%	0.645	1.350
2023	32600	284	1352	0.5	5.50%	0.642	1.350
2024	33500	291	1643	0.5	5.50%	0.640	1.350
2025	34400	298	1941	0.5	5.50%	0.638	1.350
2026	35300	305	2246	0.5	5.50%	0.636	1.350
2027	36200	311	2557	0.5	5.50%	0.634	1.350
2028	37100	318	2875	0.5	5.50%	0.632	1.350
2029	38000	325	3200	0.5	5.50%	0.630	1.350
2030	38900	331	3531	0.5	5.50%	0.628	1.350
2031	39800	338	3869	0.5	5.50%	0.626	1.350
2032	40700	345	4214	0.5	5.50%	0.624	1.350
2033	41600	351	4565	0.5	5.50%	0.622	1.350
2034	42500	358	4923	0.5	5.50%	0.620	1.350
2035	43400	364	5287	0.5	5.50%	0.619	1.350
2036	44300	371	5658	0.5	5.50%	0.617	1.350
2037	45200	377	6035	0.5	5.50%	0.615	1.350
2038	46100	384	6419	0.5	5.50%	0.614	1.350
2039	47000	390	6809	0.5	5.50%	0.612	1.350
Opening to Mid-Design Year ESAL Accumulation (1000s):						2943	
Opening to Design Year ESAL Accumulation (1000s):						6552	
<p>I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.</p> <p>Prepared by: Vanasse Hangen Brustlin, Inc. 225 East Robinson Street, Orlando, FL 32801 Org. Unit or Firm Vinod M. Shwanatha, P.E. #77902 Name No: 77902 Signature: <i>[Signature]</i> Date: 8/25/2015</p>				<p>Reviewed by: Jason Learned Name Project Manager - Design Traffic FDOT - D5 Title Org. Unit or Firm Signature Date</p>			



### **SECTION 3 - INTERSECTION DATA COLLECTION**

The SR 50 add lanes and rehabilitate pavement project consists of adding through lanes from Chuluota Road to SR 520. As directed by the Department, VHB has conducted seven 4-Hour turning movement counts along SR 50 at the intersections of Shepard Road, Belvedere Road/3<sup>rd</sup> Street, CR 13, Massachusetts Ave/7<sup>th</sup> Street, Berkeley Street/3<sup>rd</sup> Street, Claredon Street, and Exeter Street on Tuesday, August 11, 2015 and Tuesday, August 18, 2015 during the A.M. (7:00 – 9:00 A.M.) and P.M. (4:00 – 6:00 P.M.) peak hour conditions. The intersection turning movement counts are included in **Appendix B**.

## **APPENDICES**



**APPENDIX A:**  
**FDOT's Straight Line Diagram and RCI Database**





**FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY CHARACTERISTIC INVENTORY**  
**SR 50 - From east of Chuluota Road to west of SR 520 (Orange County, Florida)**

Roadway ID:	Man-Dist:	Geo-Dist:	County:	Beg. MP:	End. MP:	Net Length:	Overall Status:
75060000	5		5 ORANGE	16.538	19.651	3.113	ACTIVE WITH COMBINATION
Description: SR 50 FROM CHULUOTA ROAD TO WEST OF SR 50				VideoLog		Enterprise GIS	
Feature 121 - FUNCTIONAL CLASSIFICATION							LENGTH/NON-INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
0	18.962	FUNCTIONAL CLASSIFICATION	14 - URBAN PRIN ART OTHER	CD	C		PL934TH 09/10/2014
18.962	29.005	FUNCTIONAL CLASSIFICATION	04 - RURAL PRIN ART OTHER	CD	C		PL934TH 09/10/2014
Feature 146 - ACCESS MANAGEMENT							LENGTH/INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
9.455	29.005	ACCESS MGMT CLASSIFICATION	03 - ACCESS CLASS03	CD	C		RCICNVRT 04/23/1993
Feature 212 - THROUGH LANES							LENGTH/INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
9.542	29.005	NUMBER OF ROADWAY LANES	2	EA	L		MT593AK 07/22/2014
		PAVEMENT SURFACE WIDTH	24	FT	L		MT593AK 07/22/2014
9.542	29.005	NUMBER OF ROADWAY LANES	2	EA	R		MT593AK 07/22/2014
		PAVEMENT SURFACE WIDTH	24	FT	R		MT593AK 07/22/2014
Feature 214 - OUTSIDE SHOULDERS							LENGTH/NON-INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
12.993	29.005	HIGHWAY SHOULDER TYPE	1 - PAVED	CD	L	L	MT593AK 07/22/2014
12.993	29.005	HIGHWAY SHOULDER WIDTH	4	FT	L	L	RCICNVRT 01/16/2001
12.993	29.005	HIGHWAY SHOULDER TYPE 2	3 - LAWN	CD	L	L	RCICNVRT 01/16/2001
12.993	29.005	HIGHWAY SHOULDER WIDTH 2	6	FT	L	L	RCICNVRT 01/16/2001
12.993	29.005	HIGHWAY SHOULDER TYPE	1 - PAVED	CD	R	R	RCICNVRT 01/16/2001
12.993	29.005	HIGHWAY SHOULDER WIDTH	4	FT	R	R	RCICNVRT 01/16/2001
12.993	29.005	HIGHWAY SHOULDER TYPE 2	3 - LAWN	CD	R	R	RCICNVRT 01/16/2001
12.993	29.005	HIGHWAY SHOULDER WIDTH 2	6	FT	R	R	RCICNVRT 01/16/2001
Feature 216 - BIKE LANES/PED SIDEWALK							LENGTH/INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
16.34	16.545	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	L		KNMEIGP 02/11/2014
		SIDEWALK WIDTH AND SEP.	5	FT	L	L	KNMEIGP 02/11/2014
16.35	16.545	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	R		KNMEIGP 02/11/2014
16.495	16.545	SIDEWALK WIDTH AND SEP.	5	FT	R	R	KNMEIGP 02/11/2014
16.585	16.615	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	L		KNMEIGP 02/11/2014
		SIDEWALK WIDTH AND SEP.	5	FT	L	L	KNMEIGP 02/11/2014
16.61	16.745	SIDEWALK WIDTH AND SEP.	5	FT	R	R	KNMEIGP 02/11/2014
16.61	17.14	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	R		KNMEIGP 02/11/2014
16.745	16.875	SIDEWALK WIDTH AND SEP.	5	FT	R	R	KNMEIGP 02/11/2014
16.875	17.085	SIDEWALK WIDTH AND SEP.	5	FT	R	R	KNMEIGP 02/11/2014
17.085	17.14	SIDEWALK WIDTH AND SEP.	5	FT	R	R	KNMEIGP 02/11/2014
17.3	17.385	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	L		KNMEIGP 02/11/2014
		SIDEWALK WIDTH AND SEP.	5	FT	L	L	KNMEIGP 02/11/2014
17.49	17.54	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	L		KNMEIGP 02/11/2014
		SIDEWALK WIDTH AND SEP.	5	FT	L	L	KNMEIGP 02/11/2014
18.07	18.09	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	L		KNMEIGP 02/11/2014
		SIDEWALK WIDTH AND SEP.	5	FT	L	L	KNMEIGP 02/11/2014
18.425	18.52	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	L		KNMEIGP 02/11/2014
		SIDEWALK WIDTH AND SEP.	5	FT	L	L	KNMEIGP 02/11/2014
18.62	18.645	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	R		KNMEIGP 02/11/2014
		SIDEWALK WIDTH AND SEP.	5	FT	R	R	KNMEIGP 02/11/2014
18.855	18.97	SIDEWALK BARRIER CODE	4 - GRDRAIL/TRAF RAIL BARR/SWALE	CD	R		KNMEIGP 02/11/2014
		SIDEWALK WIDTH AND SEP.	5	FT	R	R	KNMEIGP 02/11/2014
Feature 217 - SIDEWALKS							LENGTH/NON-INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
16.884	17	SIDEWALK WIDTH	5	FT	R	R	MT593AK 07/22/2014
17	17.074	SIDEWALK WIDTH	5	FT	R	R	MT593AK 07/22/2014

Feature 251 - INTERSECTION							POINT/INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
16.538		90 DEGREES LEFT	CR 419/CHULUOTA RD	ID	C		MT510RM 04/22/2010
		90 DEGREES RIGHT	COLUMBIA SCH RD	ID	C		MT593LF 04/22/2009
16.604		90 DEGREES RIGHT	STORY PARTIN RD	ID	C		RCICNVRT 09/10/1999
16.877		90 DEGREES RIGHT	SHEPARD RD	ID	C		RCICNVRT 09/10/1999
17.677		90 DEGREES LEFT	BELVEDERE RD	ID	C		RCICNVRT 09/10/1999
		90 DEGREES RIGHT	3RD ST	ID	C		RCICNVRT 09/10/1999
17.945		135 DEGREES L. & 45 DEGREES R.	5TH ST	ID	C		MT593PR 09/15/2005
18.046		135 DEGREES L. & 45 DEGREES R.	CR 13	ID	C		RCICNVRT 03/06/1986
18.222		135 DEGREES L. & 45 DEGREES R.	7TH ST	ID	C		MT593AK 06/25/2010
18.341		90 DEGREES RIGHT	BERKELEY ST	ID	C		RCICNVRT 09/10/1999
18.402		90 DEGREES LEFT	CLAREDON ST	ID	C		RCICNVRT 09/10/1999
18.509		45 DEGREES RIGHT	9TH ST	ID	C		RCICNVRT 10/13/2003
18.604		90 DEGREES LEFT	EXETER ST	ID	C		RCICNVRT 03/06/1986
18.915		90 DEGREES LEFT	OLD CHENEY HWY	ID	C		MT593PR 07/22/2005
18.973		45 DEGREES RIGHT	LANSING ST	ID	C		RCICNVRT 12/03/1990
19.651		45 DEGREES LEFT	SR 520	ID	C		RCICNVRT 11/26/2002
Feature 311 - SPEED ZONE							LENGTH/INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
16.472	18.544	MAXIMUM SPEED LIMIT	45	MH	C		RCICNVRT 12/19/2002
18.544	20.5	MAXIMUM SPEED LIMIT	55	MH	C		RCICNVRT 12/19/2002
Feature 322 - SIGNALS							POINT/INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
16.538		TYPE OF TRAFFIC SIGNAL	02 - INTERSECTION CONTROL SIGNAL	CD	C		RCICNVRT 07/23/1998
18.046		TYPE OF TRAFFIC SIGNAL	02 - INTERSECTION CONTROL SIGNAL	CD	C		RCICNVRT 07/23/1998
		DATE SIGNAL OPERATIONAL	07/07/1998	DA	C		RCICNVRT 07/23/1998
Feature 331 - TRAFFIC FLOW BREAKS							LENGTH/INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
16.538	18.581	AADT DATE	12/31/2014	DA	C		PL934TH 03/17/2015
		AADT TYPE	1 - FINAL ESTIMATE FROM SURVEY	CD	C		PL934TH 03/17/2015
		RDWY SECTION AVG "D" FACTOR	52.6	EA	C		PL934TH 03/17/2015
		K FACTOR	9.5	EA	C		PL934TH 03/17/2015
		SECTION AVERAGE T FACTOR	4.8	EA	C		PL934TH 03/17/2015
		SECTION AVERAGE ADT	25371	EA	C		PL934TH 03/17/2015
18.581	20.042	AADT DATE	12/31/2014	DA	C		PL934TH 03/17/2015
		AADT TYPE	1 - FINAL ESTIMATE FROM SURVEY	CD	C		PL934TH 03/17/2015
		RDWY SECTION AVG "D" FACTOR	52.6	EA	C		PL934TH 03/17/2015
		K FACTOR	9.5	EA	C		PL934TH 03/17/2015
		SECTION AVERAGE T FACTOR	4.8	EA	C		PL934TH 03/17/2015
		SECTION AVERAGE ADT	25371	EA	C		PL934TH 03/17/2015
Feature 341 - LIGHTING SYSTEM							TOTAL/NON-INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
16	17	LUMINAIRES UNDER LOCAL AGRMNT	3	EA	R		MT594EN 10/22/2012
16	17	OWNER OF LOCAL LUMINARIES	ORANGE COUNTY	EA	R		MT594EN 10/22/2012
Feature 453 - CROSS WALKS							TOTAL/NON-INTERLOCKING
Beg. MP	End. MP	Characteristic	Value	Unit	Side	Offset	Char. Updated
16	17	NUMBER OF 24 FT.CROSSWALKS	3	EA	L		MT593AK 07/23/2014
16	17	NUMBER OF 24 FT.CROSSWALKS	5	EA	R		MT593AK 07/22/2014
18	19	NUMBER OF 24 FT.CROSSWALKS	2	EA	L		MT593AK 07/23/2014
18	19	NUMBER OF 24 FT.CROSSWALKS	1	EA	R		MT593AK 07/22/2014



**APPENDIX B:**  
**Traffic Count Information**

# TRAFFIC COUNT DATA

VHB PROJECT NO: 62517.75  
LOCATION CODE: 1  
COUNT LOCATION: #1 SR 50 - 0.19 miles W of SR 520 (FDOT Count Site #750104)  
EQUIPMENT ID:

TYPE OF COUNT: 48 Hour Classification Count

## TIME OF COUNT:

Start Date: 8/12/2015 Start Time: Midnight  
End Date: 8/13/2015 End Time: Midnight

## VOLUMES:

Average Daily:	25,045	Peak Hour Start Time:	4:45 PM
Daily Truck Avg:	1,373	Average Peak Hour:	2,032
		Max Hour Truck Avg:	125
		Peak Hour Truck Avg:	98

## TRAVEL CHARACTERISTICS:

### K MEASURED

K=	8.1%
T Max Hour	6.2%
T med (max)	3.1%
T heavy (max)	3.0%
T Peak Hour	4.8%
T med Peak Hour	2.3%
T heavy Peak Hour	2.5%

### D MEASURED

D=	52.1%
T daily	5.5%
T med Daily	3.0%
T heavy Daily	2.5%



## HOURLY DISTRIBUTIONS OF TRAFFIC VOLUMES

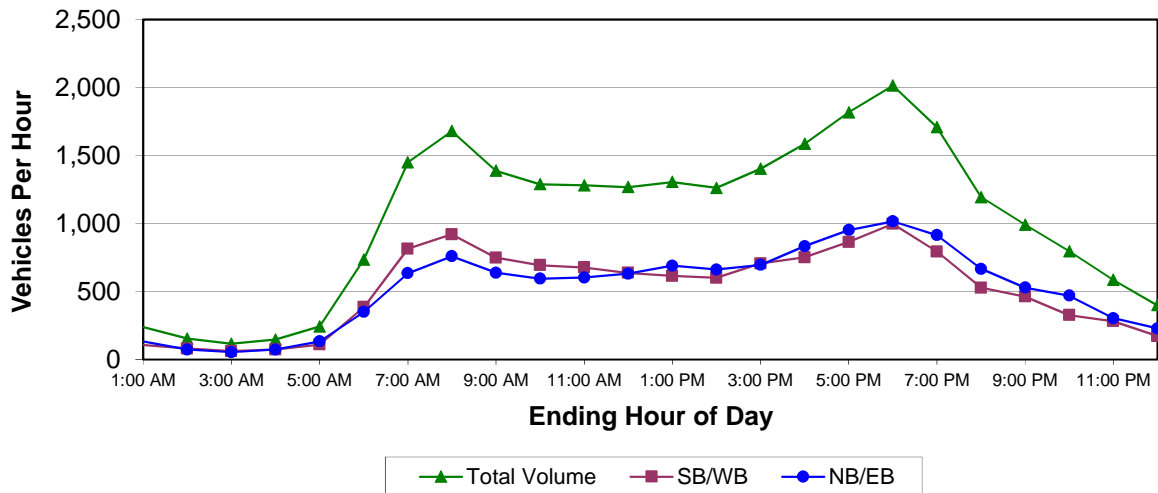
VHB PROJECT NO: 62517.75

LOCATION CODE: 1

COUNT LOCATION: #1 SR 50 - 0.19 miles W of SR 520 (FDOT Count Site #750104)

EQUIPMENT ID: \_\_\_\_\_

HOURLY ENDING AT	HOURLY VOLUME DIRECTION (NB OR EB)	HOURLY VOLUME DIRECTION (SB OR WB)	TOTAL VOLUME BOTH DIRECTIONS	DISTRIBUTION PERCENT DIRECTION (NB OR EB)	DISTRIBUTION PERCENT DIRECTION (SB OR WB)	TOTAL PERCENT BOTH DIRECTIONS
1:00 AM	132	108	239	1.04%	0.87%	0.95%
2:00 AM	74	80	154	0.58%	0.64%	0.61%
3:00 AM	54	62	116	0.43%	0.50%	0.46%
4:00 AM	74	73	147	0.59%	0.59%	0.59%
5:00 AM	134	110	244	1.06%	0.89%	0.97%
6:00 AM	350	385	735	2.77%	3.10%	2.93%
7:00 AM	635	815	1,450	5.02%	6.57%	5.79%
8:00 AM	759	921	1,680	6.01%	7.42%	6.71%
9:00 AM	639	749	1,388	5.05%	6.04%	5.54%
10:00 AM	595	694	1,289	4.71%	5.59%	5.14%
11:00 AM	604	677	1,281	4.77%	5.46%	5.11%
12:00 PM	631	637	1,268	4.99%	5.13%	5.06%
1:00 PM	691	615	1,306	5.46%	4.96%	5.21%
2:00 PM	662	600	1,262	5.24%	4.84%	5.04%
3:00 PM	696	707	1,403	5.51%	5.69%	5.60%
4:00 PM	834	751	1,585	6.60%	6.05%	6.33%
5:00 PM	953	864	1,817	7.54%	6.96%	7.25%
6:00 PM	1,016	998	2,014	8.04%	8.04%	8.04%
7:00 PM	915	793	1,708	7.24%	6.39%	6.82%
8:00 PM	666	527	1,193	5.27%	4.25%	4.76%
9:00 PM	529	463	991	4.18%	3.73%	3.96%
10:00 PM	470	327	796	3.71%	2.63%	3.18%
11:00 PM	304	282	585	2.40%	2.27%	2.34%
12:00 AM	228	172	400	1.80%	1.38%	1.60%
TOTALS	12,639	12,406	25,045	100.0%	100.0%	100.0%



## ANNUAL VEHICLE CLASSIFICATION REPORT

VHB PROJECT NO: 62517.75

LOCATION CODE: 1

COUNT LOCATION: #1 SR 50 - 0.19 miles W of SR 520 (FDOT Count Site #750104)

EQUIPMENT ID: \_\_\_\_\_

Vehicle Classification	Vehicle Type	Average Daily Statistics	
		Volume	Percentage
Class 1	Motorcycles	104	0.42%
Class 2	Cars	20,333	81.18%
Class 3	Pick-Ups & Vans	3,235	12.92%
Class 4	Buses	74	0.30%
Class 5	2 Axle, Single Unit Trucks	680	2.71%
Class 6	3 Axle, Single Unit Trucks	136	0.54%
Class 7	4 Axle, Single Unit Trucks	54	0.22%
Class 8	2 Axle Trctr with 1 or 2 Axle Trlr, 3 Axle Trctr with 1 Axle	189	0.75%
Class 9	3 Axle Tractor with 2 Axle Trailer	218	0.87%
Class 10	3 Axle Tractor with 3 Axle Trailer	13	0.05%
Class 11	5 Axle Multi Trailer	11	0.04%
Class 12	6 Axle Multi Trailer	0	0.00%
Class 13	7 or more Axles	0	0.00%
Class 14	Not Used	0	0.00%
Class 15	Other	0	0.00%
<b>TOTALS</b>		<b>25,047</b>	<b>100.00%</b>



# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Shepard Rd  
 Date August 11, 2015 All Vehicles  
 Time Period 7:00 to 9:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	6	0	1	0	0	0
7:15 - 7:30	3	0	5	0	0	0
7:30 - 7:45	6	0	8	0	0	0
7:45 - 8:00	5	0	2	0	0	0
8:00 - 8:15	6	0	0	0	0	0
8:15 - 8:30	6	0	4	0	0	0
8:30 - 8:45	7	0	2	0	0	0
8:45 - 9:00	1	0	4	0	0	0
	40	0	26	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	184	4	8	281	0
7:15 - 7:30	0	208	5	4	283	0
7:30 - 7:45	0	239	3	3	256	0
7:45 - 8:00	0	207	4	0	288	0
8:00 - 8:15	1	219	3	2	224	0
8:15 - 8:30	1	220	2	4	249	0
8:30 - 8:45	3	189	2	3	240	0
8:45 - 9:00	1	180	3	3	221	0
	6	1,646	26	27	2,042	0

North / South	0	0	0		0
SR 50					1,108
East / West					15
Shepard Rd					
Peak Hour					
7:00 - 8:00	0				
Peak Hour Factor	838				
0.98					
Total Pk Hr Voume	16			20	0
2,013					16

# Roadway Count Summary

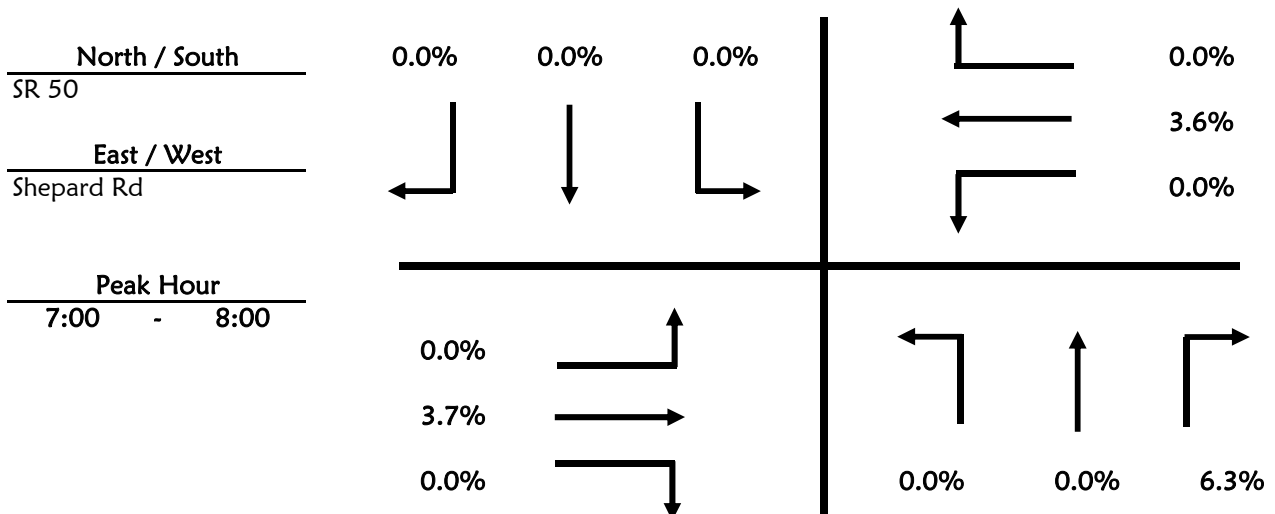
*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Shepard Rd  
 Date August 11, 2015  
 Time Period 7:00 to 9:00 Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	1	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	9	0	0	10	0
7:15 - 7:30	0	8	0	0	8	0
7:30 - 7:45	0	9	0	0	9	0
7:45 - 8:00	0	5	0	0	13	0
8:00 - 8:15	0	9	0	1	9	0
8:15 - 8:30	0	13	1	0	13	0
8:30 - 8:45	0	16	0	0	13	0
8:45 - 9:00	0	15	0	1	15	0





# Roadway Count Summary

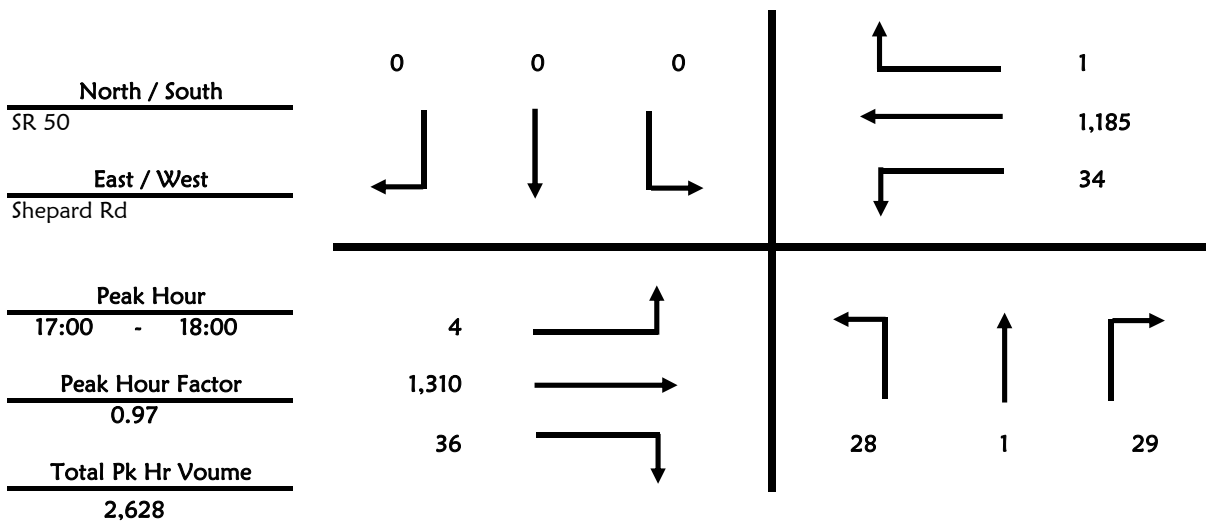
*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Shepard Rd  
 Date August 11, 2015 All Vehicles  
 Time Period 16:00 to 18:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	5	0	2	0	0	0
16:15 - 16:30	5	0	8	0	0	0
16:30 - 16:45	6	0	3	0	0	0
16:45 - 17:00	3	0	8	0	0	0
17:00 - 17:15	10	0	10	0	0	0
17:15 - 17:30	4	1	7	0	0	0
17:30 - 17:45	8	0	7	0	0	0
17:45 - 18:00	6	0	5	0	0	0
	47	1	50	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	3	265	6	8	260	0
16:15 - 16:30	4	335	8	3	244	0
16:30 - 16:45	2	317	6	10	310	0
16:45 - 17:00	0	314	10	11	269	0
17:00 - 17:15	0	332	11	13	286	0
17:15 - 17:30	1	324	4	7	308	1
17:30 - 17:45	0	348	9	5	299	0
17:45 - 18:00	3	306	12	9	292	0
	13	2,541	66	66	2,268	1



# Roadway Count Summary

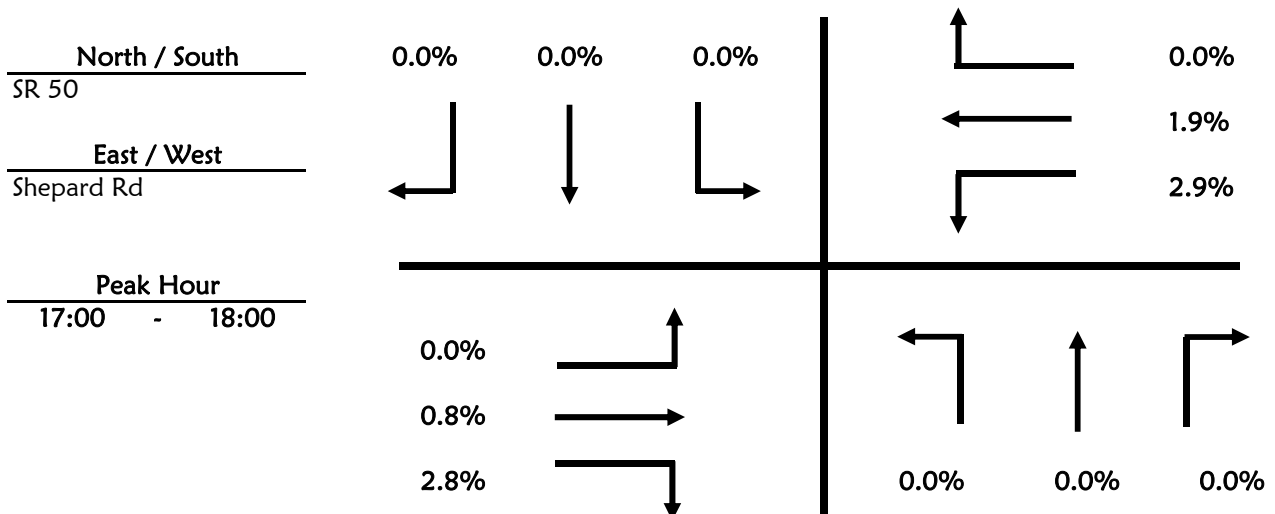
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      &    Shepard Rd  
 Date                        August 11, 2015  
 Time Period                16:00                      to                      18:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	1	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	5	0	0	5	0
16:15 - 16:30	0	3	0	0	9	0
16:30 - 16:45	0	6	0	0	7	0
16:45 - 17:00	0	9	2	0	3	0
17:00 - 17:15	0	2	0	0	8	0
17:15 - 17:30	0	6	0	1	8	0
17:30 - 17:45	0	1	0	0	2	0
17:45 - 18:00	0	2	1	0	4	0





# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Belvedere Rd  
 Date August 11, 2015 All Vehicles  
 Time Period 7:00 to 9:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	0	8	0	0	9
7:15 - 7:30	0	0	1	0	0	6
7:30 - 7:45	2	0	5	0	0	7
7:45 - 8:00	2	1	0	1	0	8
8:00 - 8:15	1	1	2	0	0	6
8:15 - 8:30	1	0	3	0	0	7
8:30 - 8:45	1	0	0	0	0	7
8:45 - 9:00	1	1	0	0	0	9
	9	3	19	1	0	59

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	4	181	0	1	278	0
7:15 - 7:30	3	198	0	2	287	1
7:30 - 7:45	5	241	1	3	249	0
7:45 - 8:00	9	190	1	3	268	1
8:00 - 8:15	8	201	0	0	192	1
8:15 - 8:30	6	212	0	5	264	0
8:30 - 8:45	6	181	1	0	227	2
8:45 - 9:00	12	169	1	1	196	1
	53	1,573	4	15	1,961	6

North / South	30	0	1		2
SR 50					1,082
East / West					9
Belvedere Rd					
Peak Hour					
7:00 - 8:00	21				
Peak Hour Factor	810				
0.96					
Total Pk Hr Voume	2			5	1
1,977					14

# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Belvedere Rd  
 Date August 11, 2015  
 Time Period 7:00 to 9:00 Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	1	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	8	0	0	11	0
7:15 - 7:30	0	8	0	0	16	0
7:30 - 7:45	0	12	0	0	12	0
7:45 - 8:00	0	8	0	0	12	0
8:00 - 8:15	0	9	0	0	12	0
8:15 - 8:30	1	13	0	0	16	0
8:30 - 8:45	0	18	0	0	13	0
8:45 - 9:00	0	17	0	0	16	0

North / South	0.0%	0.0%	0.0%		0.0%
SR 50					
East / West					4.7%
Belvedere Rd					0.0%
Peak Hour					
7:00 - 8:00	0.0%			0.0%	0.0%
	4.4%				
	0.0%				



# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Belvedere Rd  
 Date August 11, 2015 All Vehicles  
 Time Period 16:00 to 18:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	3	4	3	0	13
16:15 - 16:30	0	1	2	0	2	2
16:30 - 16:45	0	0	9	2	2	9
16:45 - 17:00	0	0	4	1	1	9
17:00 - 17:15	1	1	2	1	0	13
17:15 - 17:30	0	1	5	0	1	8
17:30 - 17:45	0	2	4	0	1	13
17:45 - 18:00	0	2	6	0	1	10
	1	10	36	7	8	77

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	20	257	3	4	254	5
16:15 - 16:30	28	301	3	4	270	3
16:30 - 16:45	25	292	0	8	271	0
16:45 - 17:00	27	282	1	4	270	6
17:00 - 17:15	22	328	1	7	314	2
17:15 - 17:30	22	325	4	5	299	2
17:30 - 17:45	21	309	1	5	303	4
17:45 - 18:00	20	272	0	7	269	2
	185	2,366	13	44	2,250	24

North / South	43	3	2	14
SR 50				1,186
East / West				21
Belvedere Rd				
Peak Hour	92			
16:45 - 17:45	1,244			
Peak Hour Factor	7			
0.95				
Total Pk Hr Voume				
2,632				

# Roadway Count Summary

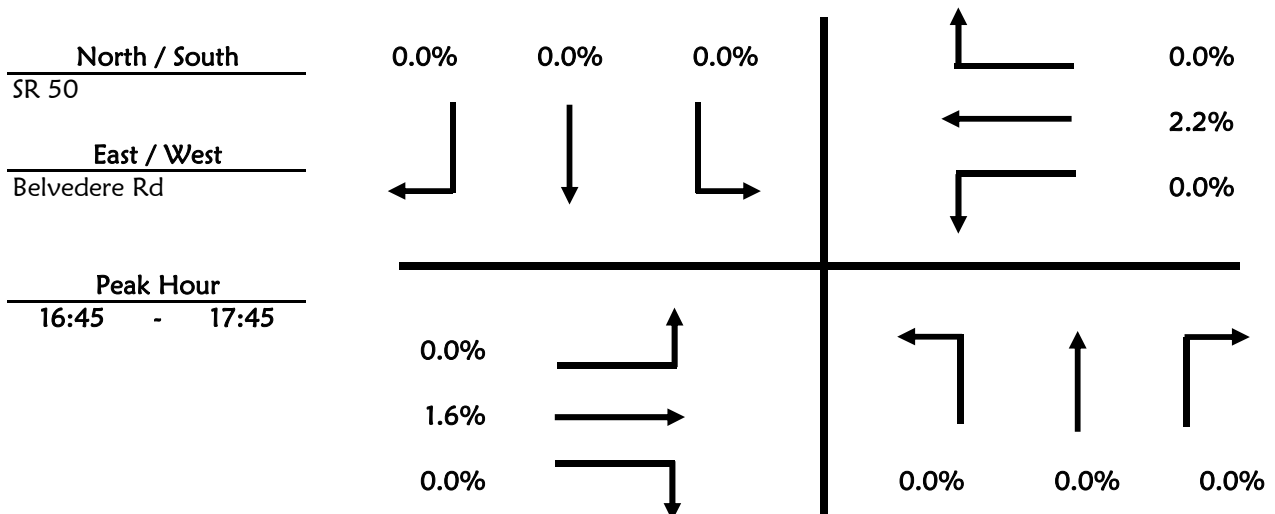
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      & Belvedere Rd  
 Date                        August 11, 2015  
 Time Period                16:00                      to                      18:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	1
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	8	0	0	5	0
16:15 - 16:30	0	9	0	0	9	0
16:30 - 16:45	0	6	0	1	7	0
16:45 - 17:00	0	10	0	0	4	0
17:00 - 17:15	0	2	0	0	8	0
17:15 - 17:30	0	7	0	0	10	0
17:30 - 17:45	0	1	0	0	4	0
17:45 - 18:00	0	0	0	0	0	0





# Roadway Count Summary

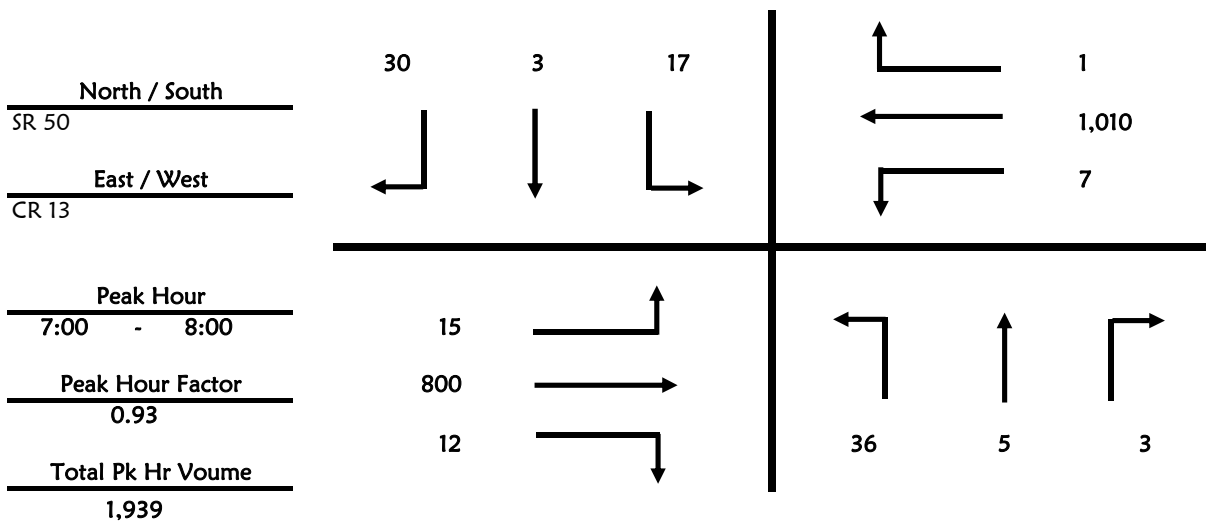
*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & CR 13  
 Date August 11, 2015 All Vehicles  
 Time Period 7:00 to 9:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	11	0	1	7	0	10
7:15 - 7:30	11	1	1	4	1	8
7:30 - 7:45	7	3	1	3	1	8
7:45 - 8:00	7	1	0	3	1	4
8:00 - 8:15	11	2	4	3	2	9
8:15 - 8:30	4	1	1	3	0	1
8:30 - 8:45	11	1	0	6	0	6
8:45 - 9:00	10	4	0	7	0	11
	72	13	8	36	5	57

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	5	163	2	1	255	1
7:15 - 7:30	1	224	2	1	267	0
7:30 - 7:45	4	223	3	0	242	0
7:45 - 8:00	5	190	5	5	246	0
8:00 - 8:15	9	197	3	0	186	1
8:15 - 8:30	4	202	5	2	247	0
8:30 - 8:45	9	182	7	0	204	1
8:45 - 9:00	7	147	7	1	182	2
	44	1,528	34	10	1,829	5



# Roadway Count Summary

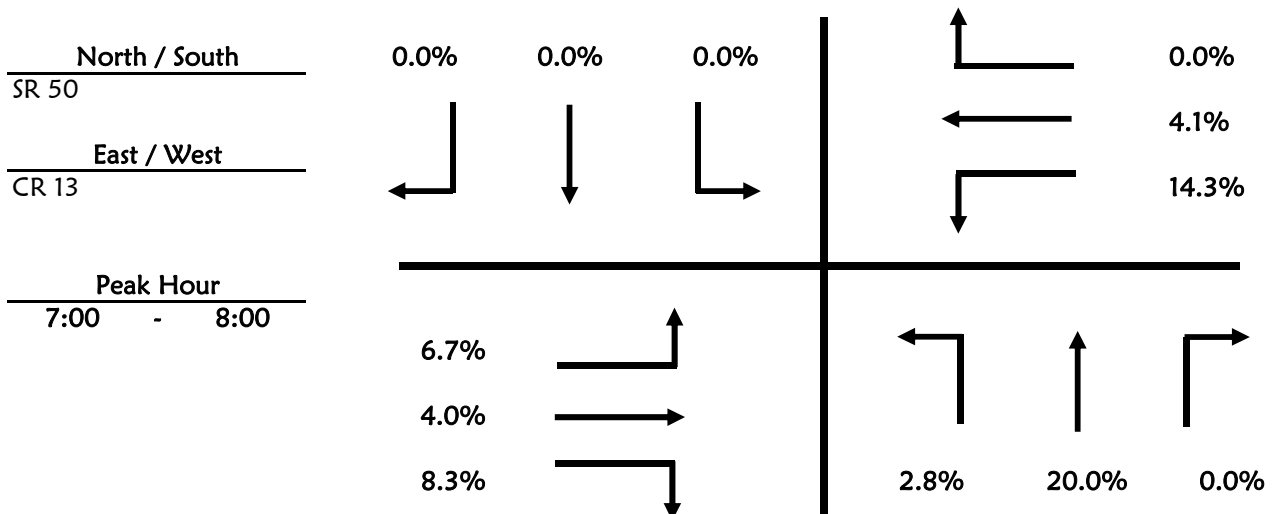
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      & CR 13  
 Date                        August 11, 2015  
 Time Period                7:00                      to                      9:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	1	0	0	0	0	0
7:30 - 7:45	0	1	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	1
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	1	0	1
8:45 - 9:00	0	0	0	1	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	6	1	0	10	0
7:15 - 7:30	0	10	0	0	11	0
7:30 - 7:45	1	9	0	0	11	0
7:45 - 8:00	0	7	0	1	9	0
8:00 - 8:15	0	11	0	0	12	1
8:15 - 8:30	1	10	1	0	15	0
8:30 - 8:45	0	19	1	0	10	0
8:45 - 9:00	0	11	1	0	15	0





# Roadway Count Summary

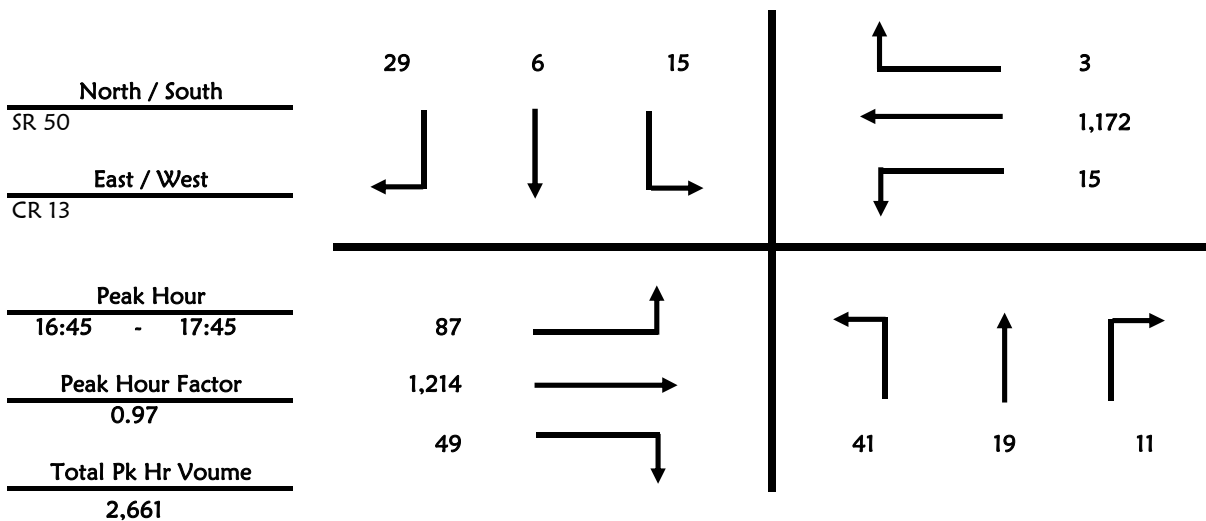
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
Intersection                SR 50                      & CR 13  
Date                          August 11, 2015                      All Vehicles  
Time Period                16:00                      to                      0:00

VHB Project #:        62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	8	3	1	9	2	2
16:15 - 16:30	8	5	0	5	4	5
16:30 - 16:45	10	2	2	7	3	14
16:45 - 17:00	12	5	5	4	2	13
17:00 - 17:15	12	7	0	5	2	9
17:15 - 17:30	7	5	4	3	1	7
17:30 - 17:45	10	2	2	3	1	0
17:45 - 0:00	11	3	3	1	1	7
	78	32	17	37	16	57

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	22	248	10	2	248	2
16:15 - 16:30	13	260	15	3	250	0
16:30 - 16:45	20	289	12	6	295	2
16:45 - 17:00	24	292	10	3	284	2
17:00 - 17:15	19	295	14	2	282	0
17:15 - 17:30	20	307	12	4	305	0
17:30 - 17:45	24	320	13	6	301	1
17:45 - 0:00	14	282	6	0	272	0
	156	2,293	92	26	2,237	7



# Roadway Count Summary

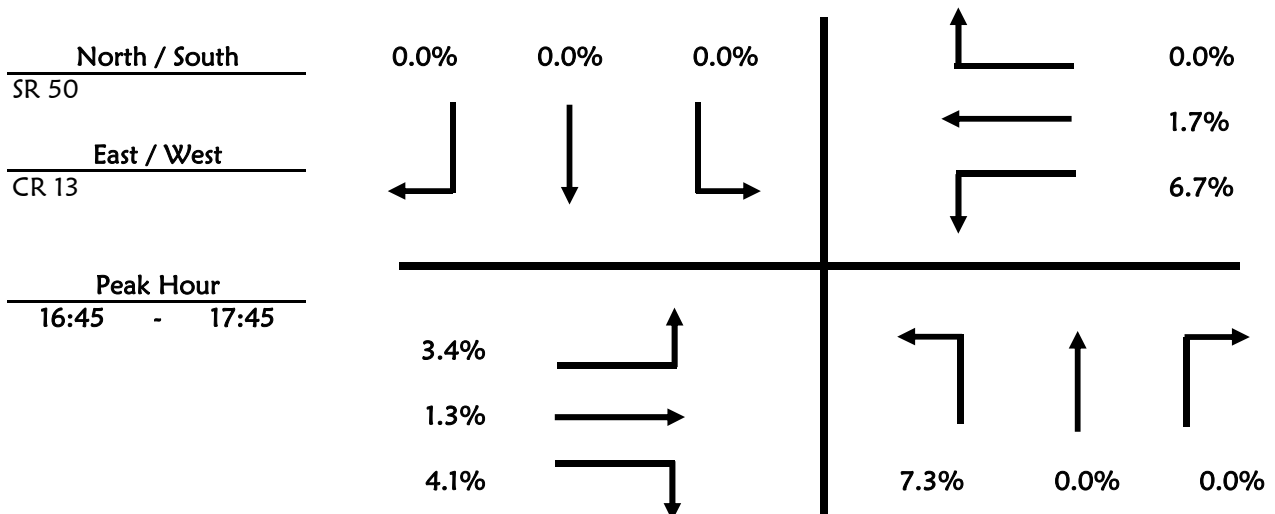
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      & CR 13  
 Date                        August 11, 2015  
 Time Period                16:00                      to                      0:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	1	0	0	0	0	0
17:00 - 17:15	1	0	0	0	0	0
17:15 - 17:30	1	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 0:00	2	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	5	1	0	8	0
16:15 - 16:30	0	5	2	0	6	0
16:30 - 16:45	0	4	0	0	8	0
16:45 - 17:00	2	7	0	1	6	0
17:00 - 17:15	0	2	1	0	6	0
17:15 - 17:30	1	6	0	0	7	0
17:30 - 17:45	0	1	1	0	1	0
17:45 - 0:00	0	0	0	0	2	0





# Roadway Count Summary

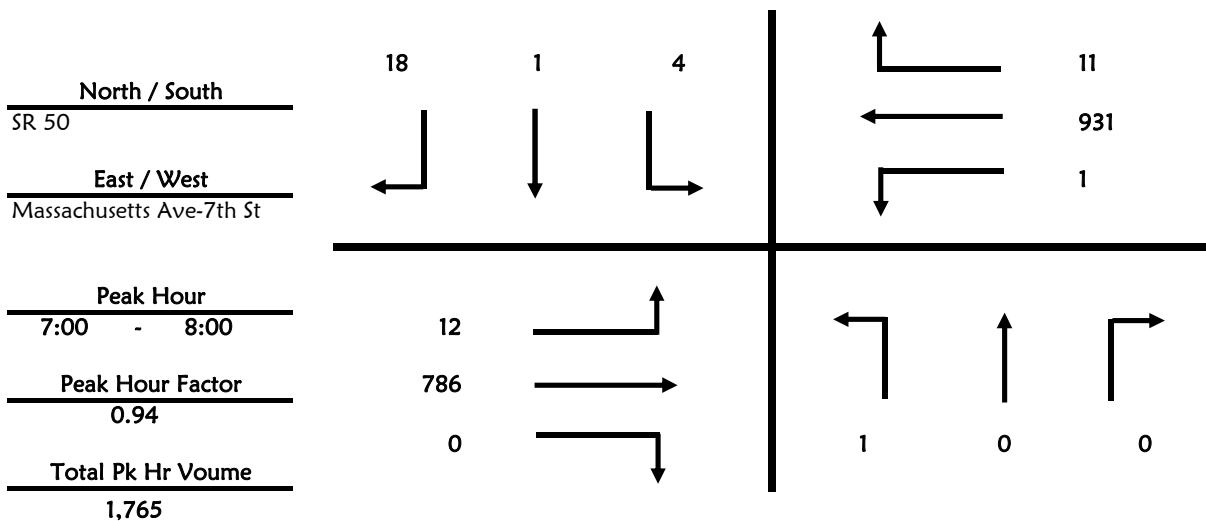
*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Massachusetts Ave-7th St  
 Date August 11, 2015 All Vehicles  
 Time Period 7:00 to 9:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	1	0	2
7:15 - 7:30	1	0	0	1	0	4
7:30 - 7:45	0	0	0	1	0	5
7:45 - 8:00	0	0	0	1	1	7
8:00 - 8:15	0	0	0	0	2	5
8:15 - 8:30	2	0	0	2	0	4
8:30 - 8:45	1	0	0	0	0	2
8:45 - 9:00	0	0	0	1	0	3
	4	0	0	7	3	32

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	169	0	1	241	0
7:15 - 7:30	2	213	0	0	247	3
7:30 - 7:45	7	221	0	0	221	3
7:45 - 8:00	2	183	0	0	222	5
8:00 - 8:15	5	191	0	1	158	2
8:15 - 8:30	5	190	0	0	225	0
8:30 - 8:45	4	192	3	1	204	2
8:45 - 9:00	4	139	0	0	169	1
	30	1,498	3	3	1,687	16



# Roadway Count Summary

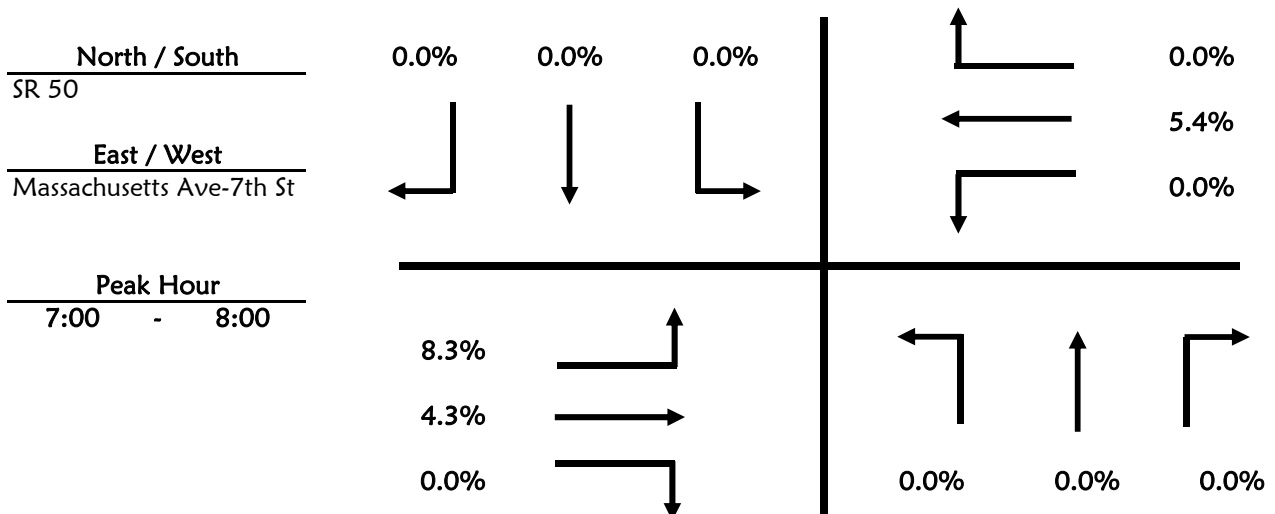
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      &   Massachusetts Ave-7th St  
 Date                        August 11, 2015  
 Time Period                7:00                      to                      9:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	8	0	0	13	0
7:15 - 7:30	0	11	0	0	14	0
7:30 - 7:45	1	7	0	0	9	0
7:45 - 8:00	0	8	0	0	14	0
8:00 - 8:15	0	11	0	0	12	0
8:15 - 8:30	0	11	0	0	15	0
8:30 - 8:45	0	22	0	0	11	0
8:45 - 9:00	0	13	0	0	15	1





# Roadway Count Summary

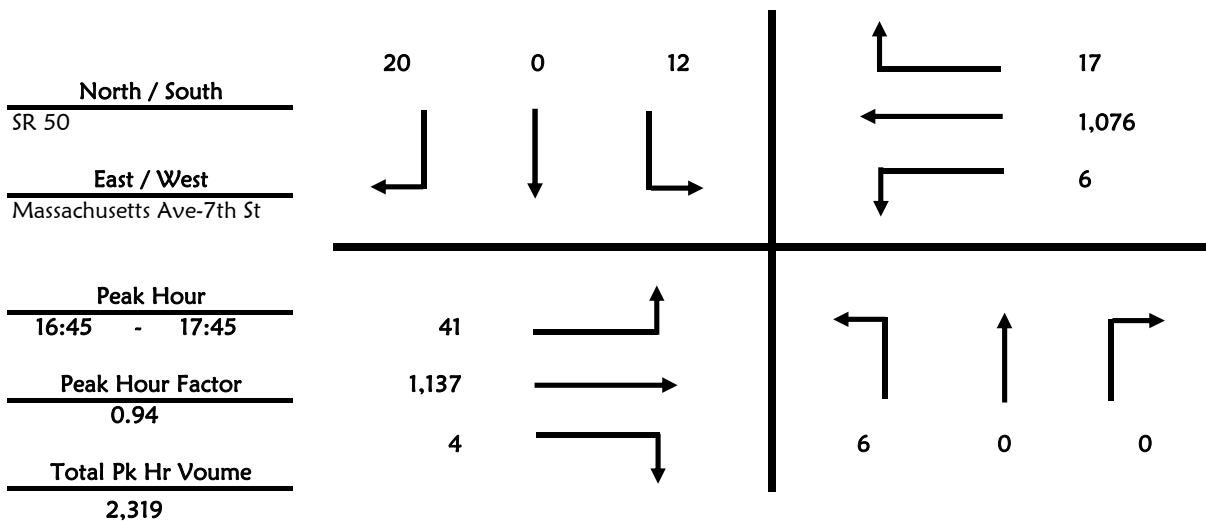
*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Massachusetts Ave-7th St  
 Date August 11, 2015 All Vehicles  
 Time Period 16:00 to 18:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	5	0	1	1	0	1
16:15 - 16:30	3	0	2	2	0	4
16:30 - 16:45	1	0	0	1	0	7
16:45 - 17:00	1	0	0	4	0	4
17:00 - 17:15	4	0	0	2	0	7
17:15 - 17:30	0	0	0	4	0	5
17:30 - 17:45	1	0	0	2	0	4
17:45 - 18:00	0	2	0	4	1	6
	15	2	3	20	1	38

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	7	243	4	0	235	2
16:15 - 16:30	12	244	5	2	240	1
16:30 - 16:45	5	260	2	0	262	4
16:45 - 17:00	8	285	1	3	248	4
17:00 - 17:15	9	278	1	1	256	3
17:15 - 17:30	14	272	1	0	282	5
17:30 - 17:45	10	302	1	2	290	5
17:45 - 18:00	13	252	2	1	255	6
	78	2,136	17	9	2,068	30



# Roadway Count Summary

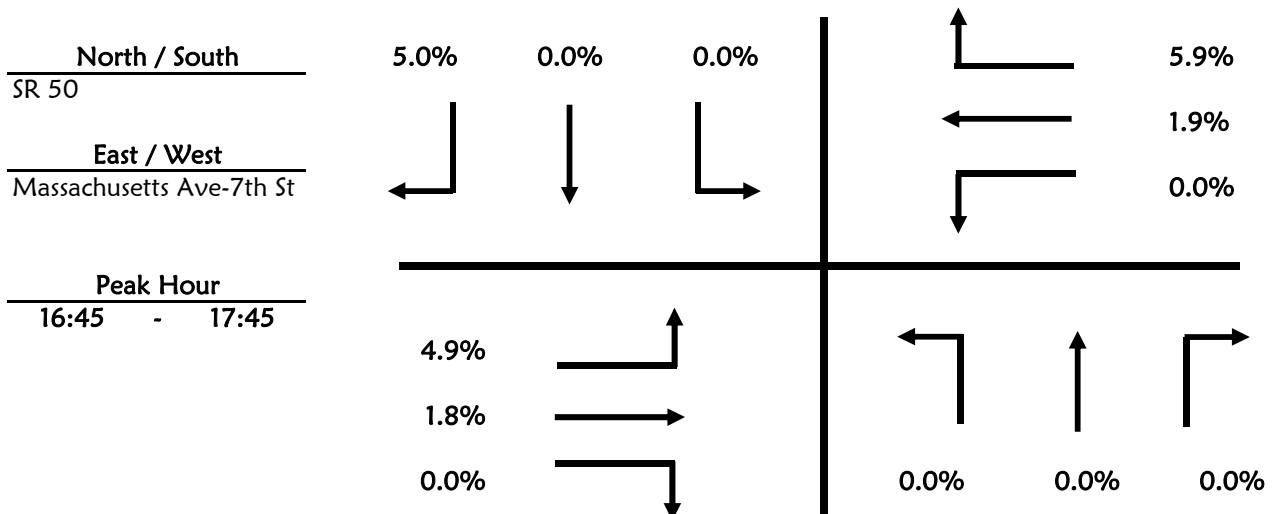
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      & Massachusetts Ave-7th St  
 Date                        August 11, 2015  
 Time Period                16:00                      to                      18:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	1
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	1
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	7	0	0	7	0
16:15 - 16:30	1	4	0	0	6	0
16:30 - 16:45	0	5	0	0	8	0
16:45 - 17:00	1	11	0	0	4	0
17:00 - 17:15	0	3	0	0	6	0
17:15 - 17:30	1	4	0	0	7	1
17:30 - 17:45	0	2	0	0	3	0
17:45 - 18:00	0	0	0	0	0	0





# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Berkeley St  
 Date August 11, 2015 All Vehicles  
 Time Period 7:00 to 9:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	0	3	0	1	0
7:15 - 7:30	3	0	4	0	0	0
7:30 - 7:45	2	1	0	0	0	0
7:45 - 8:00	1	0	1	0	0	0
8:00 - 8:15	5	0	1	0	0	0
8:15 - 8:30	2	0	1	0	0	0
8:30 - 8:45	2	0	1	0	0	0
8:45 - 9:00	0	0	2	0	0	0
	16	1	13	0	1	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	167	1	1	246	0
7:15 - 7:30	0	224	4	3	252	0
7:30 - 7:45	0	216	3	4	223	0
7:45 - 8:00	0	188	4	1	238	0
8:00 - 8:15	0	191	4	3	164	0
8:15 - 8:30	0	196	5	4	226	0
8:30 - 8:45	0	177	8	1	213	0
8:45 - 9:00	0	147	1	1	172	0
	0	1,506	30	18	1,734	0

North / South	0	1	0			
SR 50						
East / West						
Berkeley St						
Peak Hour						
7:00 - 8:00						
Peak Hour Factor						
0.91						
Total Pk Hr Voume						
1,792						

# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      & Berkeley St  
 Date                        August 11, 2015  
 Time Period                7:00                      to                      9:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	1	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	6	0	0	11	0
7:15 - 7:30	0	11	0	0	14	0
7:30 - 7:45	0	8	0	0	12	0
7:45 - 8:00	0	6	0	0	13	0
8:00 - 8:15	0	11	1	0	14	0
8:15 - 8:30	0	9	1	0	15	0
8:30 - 8:45	0	20	1	0	10	0
8:45 - 9:00	0	12	1	0	15	0

North / South	0.0%	0.0%	0.0%		0.0%
SR 50					
East / West					5.2%
Berkeley St					0.0%
Peak Hour					
7:00 - 8:00	0.0%			0.0%	0.0%
	3.9%				12.5%
	0.0%				



# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Berkeley St  
 Date August 11, 2015 All Vehicles  
 Time Period 16:00 to 18:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	2	0	3	0	0	0
16:15 - 16:30	3	0	4	0	0	0
16:30 - 16:45	6	0	8	0	0	0
16:45 - 17:00	5	0	3	0	0	0
17:00 - 17:15	3	0	2	0	0	0
17:15 - 17:30	1	0	5	0	0	0
17:30 - 17:45	1	0	2	0	0	0
17:45 - 18:00	4	0	5	0	0	0
	25	0	32	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	244	6	4	243	0
16:15 - 16:30	0	251	2	4	251	0
16:30 - 16:45	0	268	4	1	264	0
16:45 - 17:00	0	280	7	6	254	0
17:00 - 17:15	0	271	8	5	256	0
17:15 - 17:30	0	293	6	3	299	0
17:30 - 17:45	0	287	6	7	301	0
17:45 - 18:00	0	269	6	1	258	0
	1	2,163	45	31	2,126	0

North / South	0	0	0	0
SR 50				1,110
East / West				21
Berkeley St				
Peak Hour				
16:45 - 17:45	0			
Peak Hour Factor	1,131			
0.95	27			
Total Pk Hr Voume				
2,311				

# Roadway Count Summary

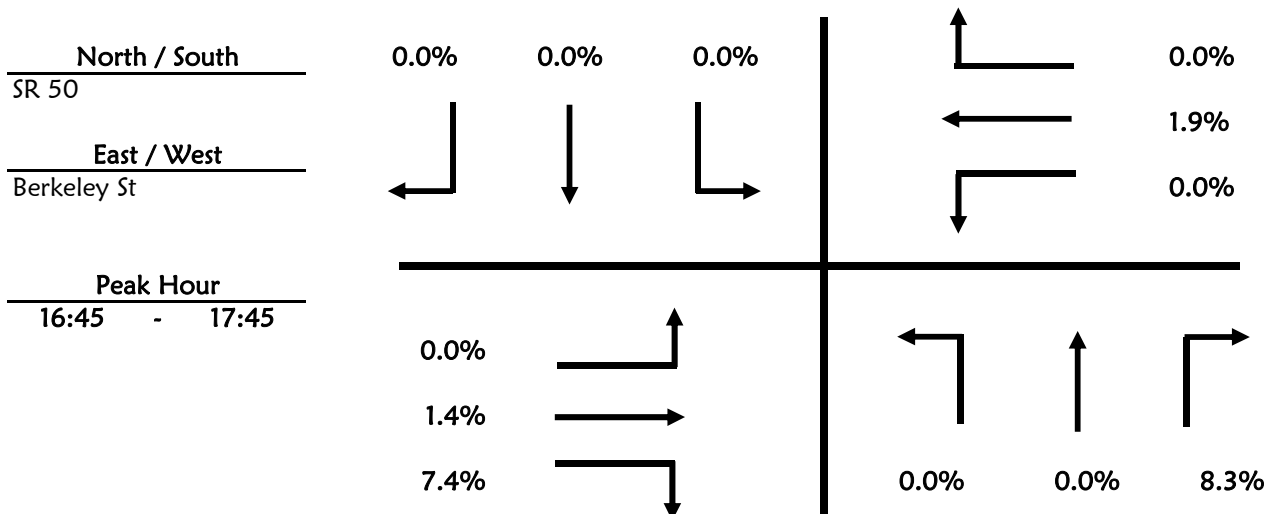
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      & Berkeley St  
 Date                        August 11, 2015  
 Time Period                16:00                      to                      18:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	1	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	5	1	0	5	0
16:15 - 16:30	0	3	0	0	6	0
16:30 - 16:45	0	5	0	0	8	0
16:45 - 17:00	0	10	0	0	4	0
17:00 - 17:15	0	3	0	0	6	0
17:15 - 17:30	0	3	1	0	8	0
17:30 - 17:45	0	0	1	0	3	0
17:45 - 18:00	0	0	0	0	0	0





# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Claredon St  
 Date August 17, 2015 All Vehicles  
 Time Period 7:00 to 9:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	2
7:15 - 7:30	0	0	0	1	0	1
7:30 - 7:45	0	0	0	1	0	1
7:45 - 8:00	0	0	0	0	0	2
8:00 - 8:15	0	0	0	0	0	4
8:15 - 8:30	0	0	0	0	0	4
8:30 - 8:45	0	0	0	1	0	3
8:45 - 9:00	0	0	0	1	0	2
	0	0	0	4	0	19

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	182	0	0	214	0
7:15 - 7:30	0	205	0	0	265	0
7:30 - 7:45	0	175	0	0	239	1
7:45 - 8:00	0	187	0	0	220	1
8:00 - 8:15	4	180	0	0	202	0
8:15 - 8:30	1	155	0	0	217	0
8:30 - 8:45	2	158	0	0	188	0
8:45 - 9:00	2	154	0	0	177	1
	10	1,396	0	0	1,722	3

North / South	6	0	2		2
SR 50					938
East / West					0
Claredon St					
Peak Hour	1				
7:00 - 8:00					
Peak Hour Factor	749				
0.90					
Total Pk Hr Voume	0				
1,698					

# Roadway Count Summary

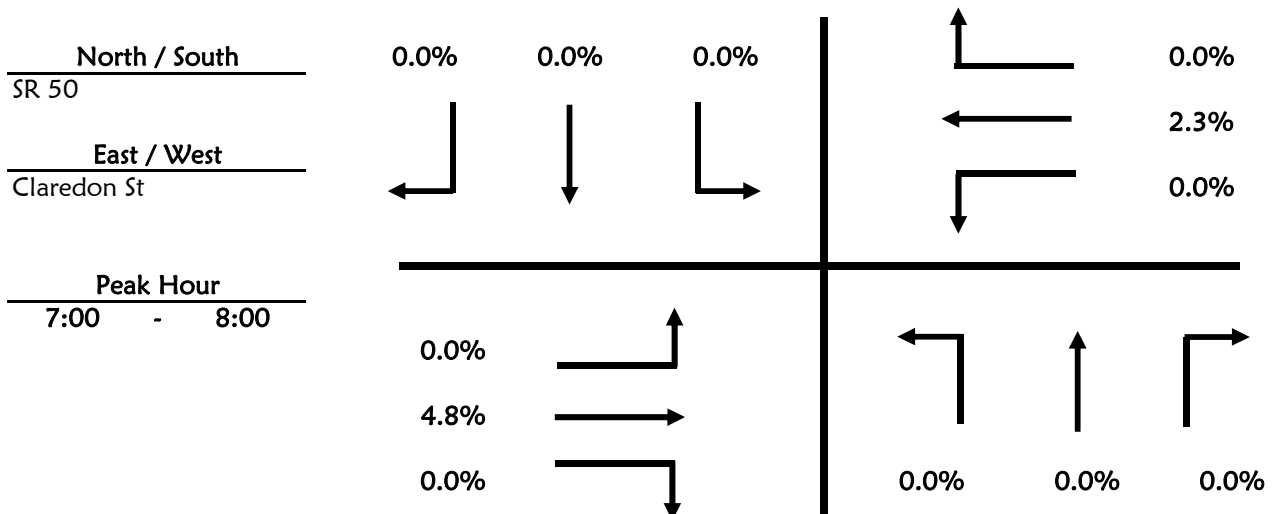
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      &    Claredon St  
 Date                        August 17, 2015  
 Time Period                7:00                      to                      9:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	9	0	0	6	0
7:15 - 7:30	0	7	0	0	7	0
7:30 - 7:45	0	7	0	0	7	0
7:45 - 8:00	0	13	0	0	2	0
8:00 - 8:15	0	6	0	0	3	0
8:15 - 8:30	0	5	0	0	13	0
8:30 - 8:45	0	5	0	0	9	0
8:45 - 9:00	0	10	0	0	7	0





# Roadway Count Summary

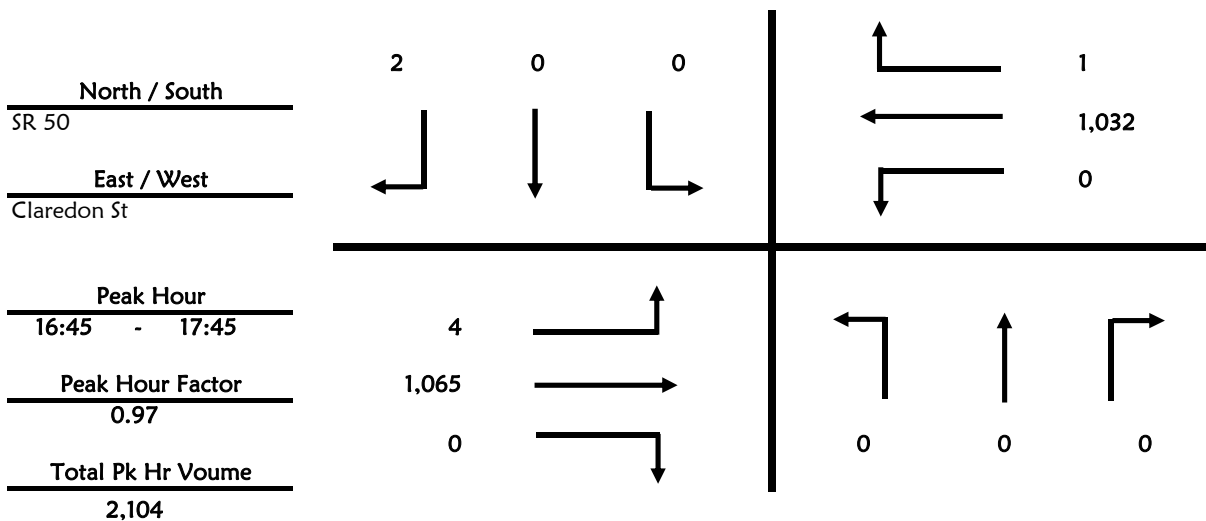
*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Claredon St  
 Date August 17, 2015 All Vehicles  
 Time Period 16:00 to 18:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	2
16:15 - 16:30	0	0	0	0	0	3
16:30 - 16:45	0	0	0	0	0	3
16:45 - 17:00	0	0	0	0	0	1
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	1
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	1	0	1
	0	0	0	1	0	11

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	234	0	1	193	0
16:15 - 16:30	0	234	0	0	208	0
16:30 - 16:45	1	246	0	0	213	1
16:45 - 17:00	1	277	0	0	262	0
17:00 - 17:15	0	294	0	0	242	0
17:15 - 17:30	1	242	0	0	248	0
17:30 - 17:45	2	252	0	0	280	1
17:45 - 18:00	5	248	0	0	219	2
	11	2,027	0	1	1,865	4



# Roadway Count Summary

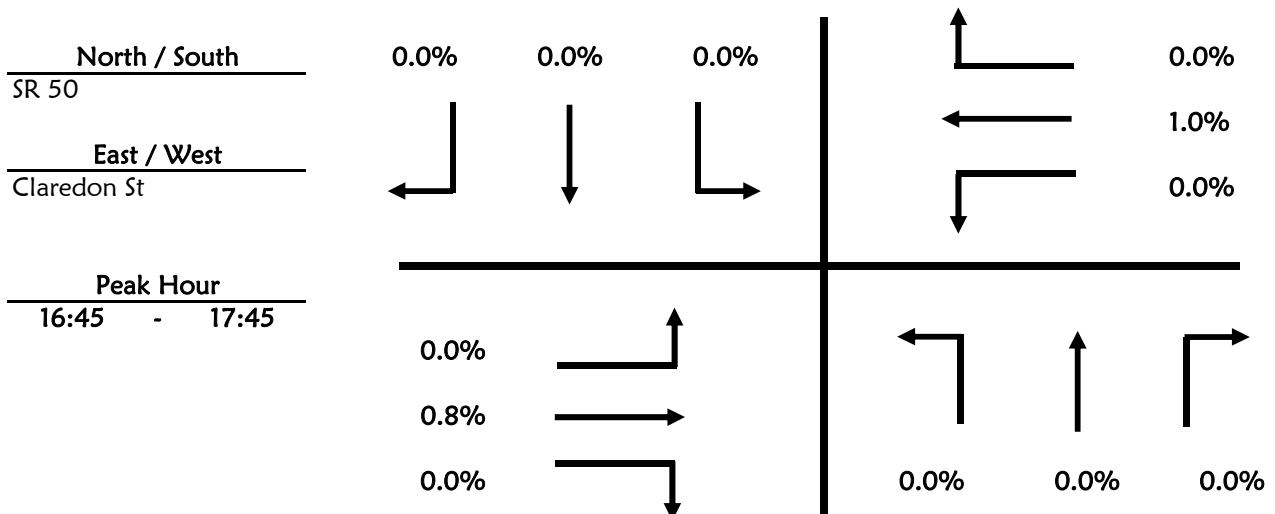
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      &    Claredon St  
 Date                        August 17, 2015  
 Time Period                16:00                      to                      18:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	3	0	0	3	0
16:15 - 16:30	0	4	0	0	7	0
16:30 - 16:45	0	0	0	0	6	0
16:45 - 17:00	0	1	0	0	2	0
17:00 - 17:15	0	5	0	0	2	0
17:15 - 17:30	0	2	0	0	3	0
17:30 - 17:45	0	0	0	0	3	0
17:45 - 18:00	0	1	0	0	3	0





# Roadway Count Summary

*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Exeter St  
 Date August 11, 2015 All Vehicles  
 Time Period 7:00 to 9:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	1	0	3
7:15 - 7:30	0	0	0	0	0	1
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	1	0	0
8:00 - 8:15	0	0	0	1	0	3
8:15 - 8:30	1	0	0	1	0	1
8:30 - 8:45	0	0	0	2	0	0
8:45 - 9:00	0	0	0	2	0	3
	1	0	0	8	0	11

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	1	185	0	0	239	0
7:15 - 7:30	0	205	0	0	241	0
7:30 - 7:45	1	221	0	0	235	0
7:45 - 8:00	0	189	0	0	229	0
8:00 - 8:15	0	191	0	0	164	2
8:15 - 8:30	0	171	1	0	230	0
8:30 - 8:45	2	187	0	0	205	1
8:45 - 9:00	1	155	0	0	167	0
	5	1,504	1	0	1,710	3

North / South	4	0	2		0
SR 50					944
East / West					0
Exeter St					
Peak Hour					
7:00 - 8:00	2				
Peak Hour Factor	800				
0.96					
Total Pk Hr Voume	0				
1,752					

# Roadway Count Summary

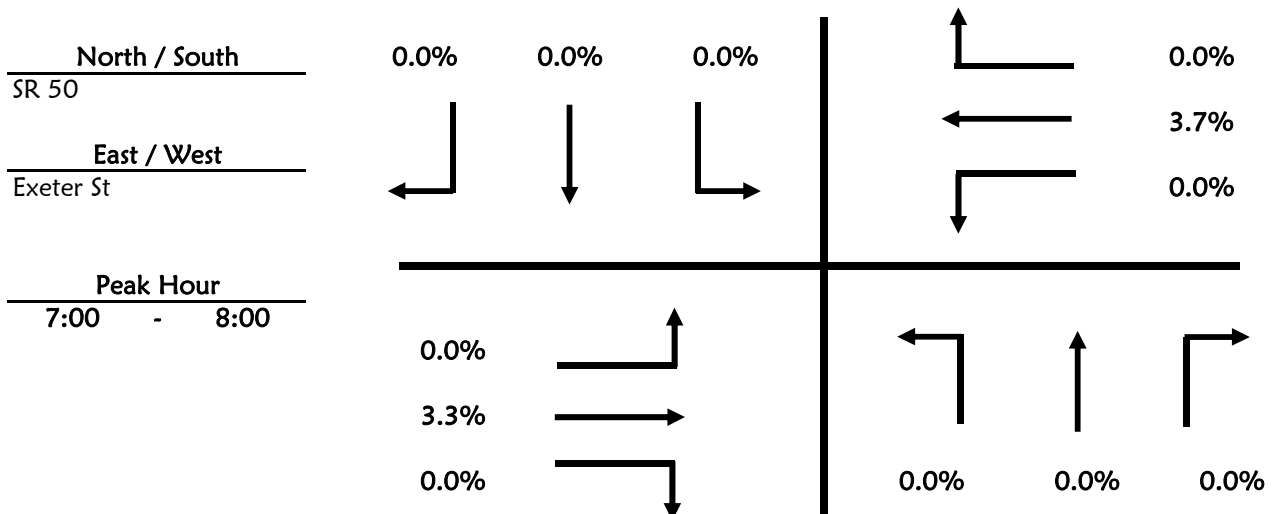
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      &    Exeter St  
 Date                        August 11, 2015  
 Time Period                7:00                      to                      9:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	1
8:15 - 8:30	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	1

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
7:00 - 7:15	0	7	0	0	8	0
7:15 - 7:30	0	8	0	0	6	0
7:30 - 7:45	0	5	0	0	8	0
7:45 - 8:00	0	6	0	0	13	0
8:00 - 8:15	0	6	0	0	5	0
8:15 - 8:30	0	11	0	0	10	0
8:30 - 8:45	0	19	0	0	9	0
8:45 - 9:00	0	13	0	0	14	0





# Roadway Count Summary

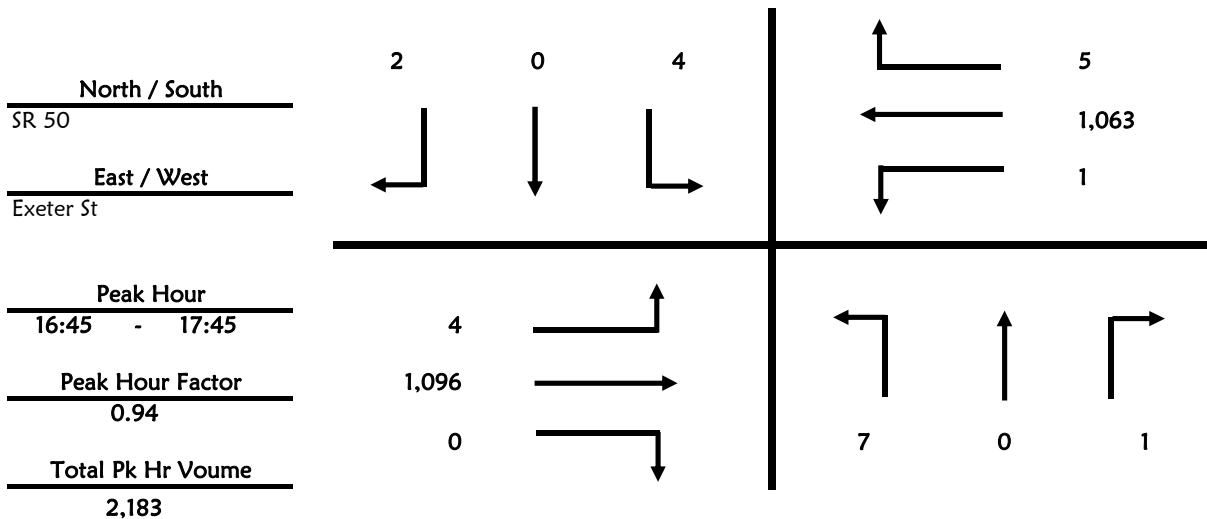
*Vanasse Hangen Brustlin, Inc.*

County Orange City 0  
 Intersection SR 50 & Exeter St  
 Date August 11, 2015 All Vehicles  
 Time Period 16:00 to 18:00

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	1	0	0	0	0	1
16:15 - 16:30	1	0	0	0	0	0
16:30 - 16:45	0	0	1	2	0	0
16:45 - 17:00	0	0	1	3	0	0
17:00 - 17:15	7	0	0	1	0	1
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	1
17:45 - 18:00	0	0	0	0	0	1
	9	0	2	6	0	4

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	3	257	1	1	217	0
16:15 - 16:30	5	191	0	1	185	1
16:30 - 16:45	7	268	1	0	260	0
16:45 - 17:00	0	277	0	0	253	2
17:00 - 17:15	2	260	0	0	238	2
17:15 - 17:30	0	277	0	0	280	1
17:30 - 17:45	2	282	0	1	292	0
17:45 - 18:00	2	246	0	0	243	3
	21	2,058	2	3	1,968	9



# Roadway Count Summary

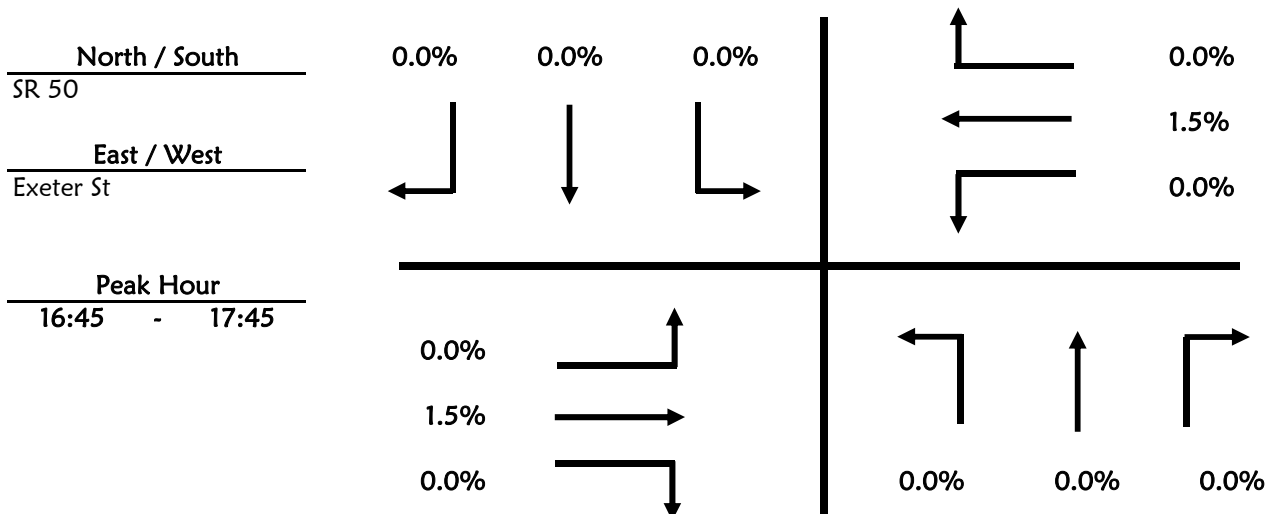
*Vanasse Hangen Brustlin, Inc.*

County                      Orange                      City                      0  
 Intersection              SR 50                      &    Exeter St  
 Date                        August 11, 2015  
 Time Period                16:00                      to                      18:00                      Trucks

VHB Project #: 62517.75

Time Period	Northbound			Southbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0

Time Period	Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right
16:00 - 16:15	0	6	0	0	5	0
16:15 - 16:30	0	3	0	0	7	0
16:30 - 16:45	0	4	0	0	6	0
16:45 - 17:00	0	10	0	0	3	0
17:00 - 17:15	0	2	0	0	6	0
17:15 - 17:30	0	3	0	0	5	0
17:30 - 17:45	0	1	0	0	2	0
17:45 - 18:00	0	0	0	0	0	0





**APPENDIX C:**  
**Peak Season Factor**

2014 Peak Season Factor Category Report - Report Type: ALL  
 Category: 7500 ORANGE COUNTYWIDE

				MOCF: 0.98
Week	Dates	SF	PSCF	
=====				
1	01/01/2014 - 01/04/2014	1.01	1.03	
2	01/05/2014 - 01/11/2014	1.03	1.05	
3	01/12/2014 - 01/18/2014	1.05	1.07	
4	01/19/2014 - 01/25/2014	1.04	1.06	
5	01/26/2014 - 02/01/2014	1.03	1.05	
6	02/02/2014 - 02/08/2014	1.01	1.03	
7	02/09/2014 - 02/15/2014	1.00	1.02	
8	02/16/2014 - 02/22/2014	0.99	1.01	
9	02/23/2014 - 03/01/2014	0.99	1.01	
*10	03/02/2014 - 03/08/2014	0.98	1.00	
*11	03/09/2014 - 03/15/2014	0.98	1.00	
*12	03/16/2014 - 03/22/2014	0.98	1.00	
*13	03/23/2014 - 03/29/2014	0.98	1.00	
*14	03/30/2014 - 04/05/2014	0.98	1.00	
*15	04/06/2014 - 04/12/2014	0.98	1.00	
*16	04/13/2014 - 04/19/2014	0.98	1.00	
*17	04/20/2014 - 04/26/2014	0.98	1.00	
*18	04/27/2014 - 05/03/2014	0.98	1.00	
*19	05/04/2014 - 05/10/2014	0.99	1.01	
*20	05/11/2014 - 05/17/2014	0.99	1.01	
*21	05/18/2014 - 05/24/2014	0.99	1.01	
*22	05/25/2014 - 05/31/2014	0.99	1.01	
23	06/01/2014 - 06/07/2014	1.00	1.02	
24	06/08/2014 - 06/14/2014	1.00	1.02	
25	06/15/2014 - 06/21/2014	1.01	1.03	
26	06/22/2014 - 06/28/2014	1.01	1.03	
27	06/29/2014 - 07/05/2014	1.01	1.03	
28	07/06/2014 - 07/12/2014	1.02	1.04	
29	07/13/2014 - 07/19/2014	1.02	1.04	
30	07/20/2014 - 07/26/2014	1.02	1.04	
31	07/27/2014 - 08/02/2014	1.01	1.03	
32	08/03/2014 - 08/09/2014	1.00	1.02	
33	08/10/2014 - 08/16/2014	1.00	1.02	
34	08/17/2014 - 08/23/2014	0.99	1.01	
35	08/24/2014 - 08/30/2014	1.00	1.02	
36	08/31/2014 - 09/06/2014	1.00	1.02	
37	09/07/2014 - 09/13/2014	1.01	1.03	
38	09/14/2014 - 09/20/2014	1.01	1.03	
39	09/21/2014 - 09/27/2014	1.01	1.03	
40	09/28/2014 - 10/04/2014	1.00	1.02	
41	10/05/2014 - 10/11/2014	0.99	1.01	
42	10/12/2014 - 10/18/2014	0.99	1.01	
43	10/19/2014 - 10/25/2014	0.99	1.01	
44	10/26/2014 - 11/01/2014	1.00	1.02	
45	11/02/2014 - 11/08/2014	1.01	1.03	
46	11/09/2014 - 11/15/2014	1.02	1.04	
47	11/16/2014 - 11/22/2014	1.02	1.04	
48	11/23/2014 - 11/29/2014	1.02	1.04	
49	11/30/2014 - 12/06/2014	1.02	1.04	
50	12/07/2014 - 12/13/2014	1.01	1.03	
51	12/14/2014 - 12/20/2014	1.01	1.03	
52	12/21/2014 - 12/27/2014	1.03	1.05	
53	12/28/2014 - 12/31/2014	1.05	1.07	

\* Peak Season



**APPENDIX D:**  
**Historical Counts, Trends Analysis & BEBR Population Projections**

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION STATISTICS OFFICE  
2014 HISTORICAL AADT REPORT

COUNTY: 75 - ORANGE

SITE: 0104 - SR-50, 0.19 MI W OF SR-520 NEAR BITHLO, ORANGE CO

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----	-----	-----	-----	-----	-----
2014	25371 C	E 12948	W 12423	9.50	52.60	4.80
2013	25276 C	E 12874	W 12402	9.50	52.70	4.90
2012	25087 C	E 12781	W 12306	9.50	52.60	5.00
2011	25231 C	E 12878	W 12353	9.50	53.00	4.30
2010	25655 C	E 13031	W 12624	9.42	53.29	4.50
2009	26181 C	E 13295	W 12886	9.38	52.82	4.80
2008	25495 C	E 12932	W 12563	9.51	52.46	5.40
2007	27180 C	E 13784	W 13396	9.03	53.22	5.70
2006	27048 C	E 13723	W 13325	9.07	51.05	6.30
2005	27077 C	E 13708	W 13369	9.20	56.40	6.00
2004	26712 C	E 13512	W 13200	9.30	53.90	5.80
2003	26195 C	E 13274	W 12921	9.20	51.90	4.60
2002	25110 C	E 12891	W 12219	9.40	53.50	4.60
2001	24956 C	E 12711	W 12245	9.50	54.80	3.70
2000	24647 C	E 12377	W 12270	10.00	55.70	3.50
1999	24021 C	E 12361	W 11660	9.80	55.00	11.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE  
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE  
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN  
\*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

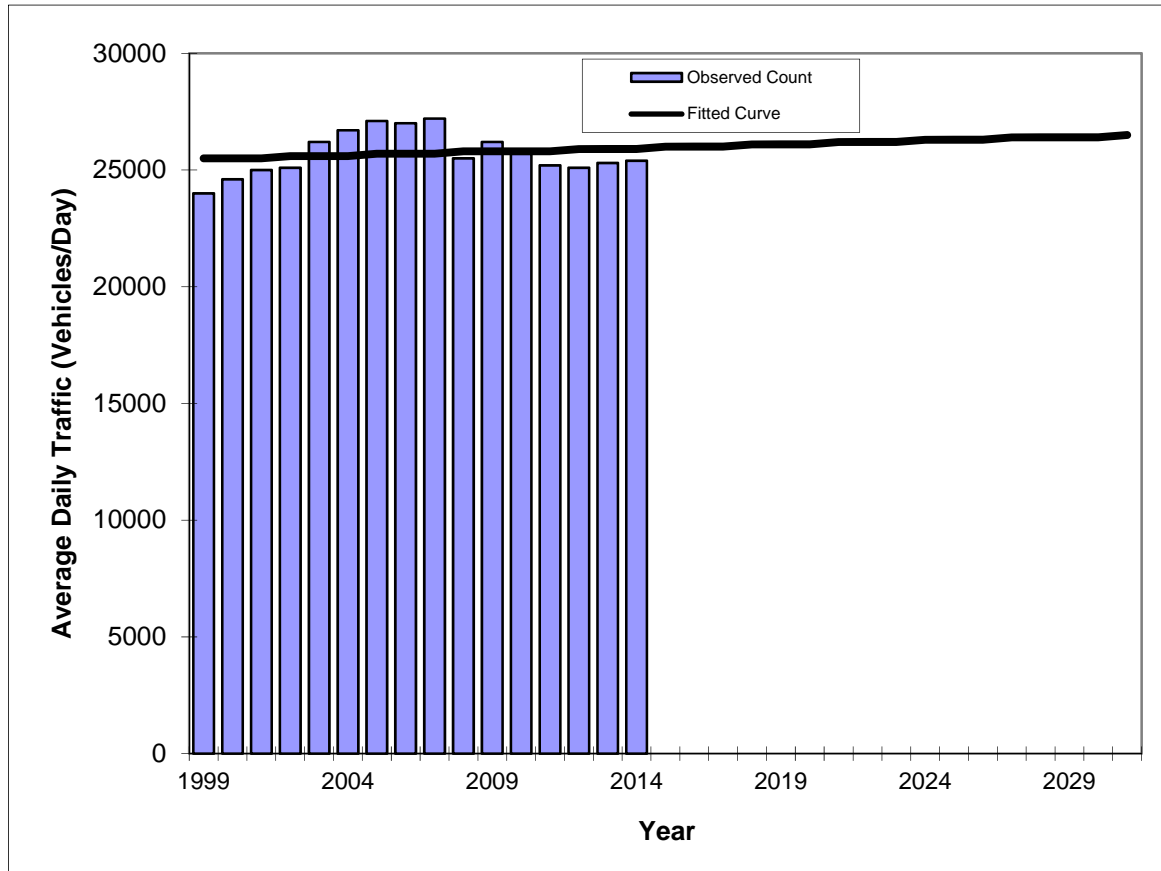


## Traffic Trends - V3.0

**SR-50, 0.19 MI W OF SR-520 NEAR BITHLO, ORANGE CO**

FIN#	2392038
Location	1

County:	Orange (75)
Station #:	0104
Highway:	SR 50



Year	Traffic (ADT/AADT)	
	Count*	Trend**
1999	24000	25500
2000	24600	25500
2001	25000	25500
2002	25100	25600
2003	26200	25600
2004	26700	25600
2005	27100	25700
2006	27000	25700
2007	27200	25700
2008	25500	25800
2009	26200	25800
2010	25700	25800
2011	25200	25800
2012	25100	25900
2013	25300	25900
2014	25400	25900
2019 Opening Year Trend		
2019	N/A	26100
2029 Mid-Year Trend		
2029	N/A	26400
2039 Design Year Trend		
2039	N/A	26700
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	32
Trend R-squared:	2.57%
<b>Trend Annual Historic Growth Rate:</b>	0.10%
Trend Growth Rate (2014 to Design Year):	0.12%
Printed:	26-Aug-15
<b>Straight Line Growth Option</b>	

\*Axle-Adjusted

# Projections of Florida Population by County, 2015–2040, with Estimates for 2014 (continued)

County and State	Estimates April 1, 2014	Projections, April 1					
		2015	2020	2025	2030	2035	2040
MIAMI-DADE	2,613,692						
Low		2,562,900	2,619,900	2,667,300	2,708,000	2,730,400	2,741,700
Medium		2,643,800	2,796,800	2,944,400	3,090,200	3,220,700	3,343,700
High		2,747,900	2,982,300	3,224,100	3,477,300	3,726,200	3,978,800
MONROE	74,044						
Low		71,900	69,900	67,900	65,900	63,900	61,900
Medium		74,100	74,400	74,700	74,900	75,200	75,500
High		77,100	79,600	82,100	84,600	87,200	89,800
NASSAU	75,321						
Low		74,400	78,900	83,000	86,700	89,500	91,500
Medium		76,800	84,400	91,900	99,100	105,700	111,600
High		79,800	89,800	100,300	111,300	122,100	132,800
OKALOOSA	190,666						
Low		186,500	188,100	188,400	187,800	186,300	184,800
Medium		192,300	200,600	207,700	214,000	219,500	225,400
High		199,900	214,100	227,800	241,100	254,200	268,200
OKEECHOBEE	39,828						
Low		38,800	38,600	38,100	37,500	36,600	35,800
Medium		40,000	41,100	42,000	42,600	43,200	43,600
High		41,600	43,900	46,100	48,100	50,000	51,900
ORANGE	1,227,995						
Low		1,218,100	1,314,700	1,379,800	1,426,400	1,453,500	1,463,700
Medium		1,257,400	1,408,100	1,545,600	1,669,700	1,779,700	1,876,700
High		1,306,000	1,496,500	1,701,800	1,907,400	2,109,400	2,308,200
OSCEOLA	295,553						
Low		296,300	336,200	368,700	394,600	414,100	429,000
Medium		306,000	361,100	414,600	463,200	507,900	550,100
High		317,600	382,700	454,800	527,700	601,000	676,500
PALM BEACH	1,360,238						
Low		1,335,100	1,371,000	1,397,800	1,415,700	1,423,300	1,423,900
Medium		1,377,300	1,463,900	1,543,200	1,615,100	1,678,700	1,736,500
High		1,431,500	1,560,600	1,689,600	1,817,900	1,942,400	2,066,300
PASCO	479,340						
Low		474,500	507,300	531,600	551,200	565,200	572,400
Medium		489,700	543,000	595,400	645,400	692,300	733,900
High		508,700	577,500	655,600	737,100	820,200	902,600
PINELLAS	933,258						
Low		912,500	891,400	869,800	847,800	825,300	802,400
Medium		941,200	948,800	956,600	964,100	971,500	978,500
High		978,400	1,014,700	1,051,500	1,088,700	1,126,300	1,164,400
POLK	623,174						
Low		614,900	648,000	678,000	704,700	724,900	738,800
Medium		634,600	693,100	750,200	805,800	856,100	901,100
High		659,300	737,700	819,600	904,900	989,200	1,072,200
PUTNAM	72,523						
Low		70,400	68,600	66,800	64,900	63,000	61,000
Medium		72,600	73,100	73,500	73,800	74,200	74,400
High		75,500	78,100	80,800	83,400	86,000	88,600
ST. JOHNS	207,443						
Low		207,900	235,900	258,700	276,900	290,600	301,100
Medium		214,800	253,400	290,900	325,000	356,500	386,100
High		222,900	268,600	319,100	370,300	421,800	474,900
ST. LUCIE	282,821						
Low		277,400	301,600	320,800	336,700	347,700	355,100
Medium		286,200	323,200	359,800	394,600	426,100	455,400
High		297,400	343,300	395,700	450,300	504,700	560,000



## APPENDIX E: Model Plots

Year 2009 OUATS - Total Traffic Volumes (PSWADT)

Legend

- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5 lanes per direction
- Centroid connector

Scale: 0 to 1000 feet

The map displays a network of roads with traffic volumes labeled on various segments. Key roads include:

- US 101 (Northbound):** 1453, 1453, 1453, 1453, 819, 854, 854, 854, 854.
- US 101 (Southbound):** 8026, 3078, 4948, 2341, 2848, 7797, 7797, 1181, 40356, 38256, 38256, 40356, 40356, 30761, 31023, 31023, 15215, 16030, 16030, 11380.
- SR 99 (Eastbound):** 6681, 1029, 2181, 634, 634, 634, 634, 634, 819, 854, 854, 854, 854.
- SR 99 (Westbound):** 4167, 583, 4728, 0.
- SR 101 (Northbound):** 1745, 291, 7527, 12102, 4812, 1389, 893, 2181, 634, 634, 634, 634, 819, 854, 854, 854, 854.
- SR 101 (Southbound):** 1745, 291, 7527, 12102, 4812, 1389, 893, 2181, 634, 634, 634, 634, 819, 854, 854, 854, 854.
- SR 101 (Eastbound):** 1745, 291, 7527, 12102, 4812, 1389, 893, 2181, 634, 634, 634, 634, 819, 854, 854, 854, 854.
- SR 101 (Westbound):** 1745, 291, 7527, 12102, 4812, 1389, 893, 2181, 634, 634, 634, 634, 819, 854, 854, 854, 854.

C:\FSUTMS\D5\OUATS.40\Base\Output\HRLDXY\_B09.NET 8/4/2015

cube



Year 2040 CF OUATS - Total Traffic Volumes (PSWADT)

Legend:

- 1 lane per direction
- 2 lanes per direction
- 3 lanes per direction
- 4 lanes per direction
- 5 lanes per direction
- Centroid connector

Scale: 0 to 1000 feet

Map showing traffic volumes (PSWADT) for various road segments in Year 2040. The map includes a legend for lane configurations and a scale bar.

Key road segments and their traffic volumes (PSWADT):

- Segment 1: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238
- Segment 2: 10036, 10814, 1977, 8838, 15599, 4321, 638, 8, 4517, 2149, 6316, 6316, 6316, 2242, 2242, 2242, 4086, 4117, 4117, 4117
- Segment 3: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238
- Segment 4: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238
- Segment 5: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238
- Segment 6: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238
- Segment 7: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238
- Segment 8: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238
- Segment 9: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238
- Segment 10: 10369, 3384, 7199, 10332, 10324, 57913, 57913, 61515, 61515, 15599, 49650, 49260, 49252, 25082, 25685, 25685, 21238

(Licensed to GMB Engineers & Planners, Inc.)

**APPENDIX F:**  
**FDOT Generalized Level of Service Volume Tables**

**Generalized Annual Average Daily Volumes for Florida's  
Urbanized Areas**

**TABLE 1**

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Core Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	16,800	17,700	**	4	47,400	64,000	77,900	84,600	
4	Divided	*	37,900	39,800	**	6	69,900	95,200	116,600	130,600	
6	Divided	*	58,400	59,900	**	8	92,500	126,400	154,300	176,600	
8	Divided	*	78,800	80,100	**	10	115,100	159,700	194,500	222,700	
						12	162,400	216,700	256,600	268,900	
Class II (35 mph or slower posted speed limit)						Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	7,300	14,800	15,600	4	45,800	61,500	74,400	79,900	
4	Divided	*	14,500	32,400	33,800	6	68,100	93,000	111,800	123,300	
6	Divided	*	23,300	50,000	50,900	8	91,500	123,500	148,700	166,800	
8	Divided	*	32,000	67,300	68,100	10	114,800	156,000	187,100	210,300	
Non-State Signalized Roadway Adjustments						Freeway Adjustments					
(Alter corresponding state volumes by the indicated percent.)						Auxiliary Lanes					
Non-State Signalized Roadways						Present in Both Directions					
						+ 20,000					
Non-State Signalized Roadways						Ramp Metering					
						+ 5%					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
2	Divided	Yes	No	+5%		2	Undivided	8,600	17,000	24,200	33,300
2	Undivided	No	No	-20%		4	Divided	36,700	51,800	65,600	72,600
Multi	Undivided	Yes	No	-5%		6	Divided	55,000	77,700	98,300	108,800
Multi	Undivided	No	No	-25%							
—	—	—	Yes	+ 5%							
One-Way Facility Adjustment						Uninterrupted Flow Highway Adjustments					
Multiply the corresponding two-directional volumes in this table by 0.6						Lanes	Median	Exclusive left lanes		Adjustment factors	
						2	Divided	Yes		+5%	
						Multi	Undivided	Yes		-5%	
						Multi	Undivided	No		-25%	
BICYCLE MODE <sup>2</sup>						<sup>1</sup> Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.  <sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.  <sup>3</sup> Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.  * Cannot be achieved using table input value defaults.  ** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Paved											
Shoulder/Bicycle											
Lane Coverage	B	C	D	E							
0-49%	*	2,900	7,600	19,700							
50-84%	2,100	6,700	19,700	>19,700							
85-100%	9,300	19,700	>19,700	**							
PEDESTRIAN MODE <sup>2</sup>						<sup>1</sup> Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.  <sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.  <sup>3</sup> Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.  * Cannot be achieved using table input value defaults.  ** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage											
B	C	D	E								
0-49%	*	*	2,800 9,500								
50-84%	*	1,600	8,700 15,800								
85-100%	3,800	10,700	17,400 >19,700								
BUS MODE (Scheduled Fixed Route) <sup>3</sup>						<sup>1</sup> Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.  <sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.  <sup>3</sup> Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.  * Cannot be achieved using table input value defaults.  ** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
(Buses in peak hour in peak direction)											
Sidewalk Coverage											
B	C	D	E								
0-84%	> 5	≥ 4	≥ 3 ≥ 2								
85-100%	> 4	≥ 3	≥ 2 ≥ 1								

Source:

Florida Department of Transportation  
Systems Planning Office  
[www.dot.state.fl.us/planning/systems/sm/los/default.shtm](http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm)

Source:  
Florida Department of Transportation  
Systems Planning Office  
[www.dot.state.fl.us/planning/systems/sm/los/default.shtm](http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm)



**Generalized Annual Average Daily Volumes for Florida's  
Rural Undeveloped Areas and  
Developed Areas Less Than 5,000 Population<sup>1</sup>**

12/18/12

INTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS					
Lanes	Median	B	C	D	E
2	Undivided	*	12,900	14,200	**
4	Divided	*	29,300	30,400	**
6	Divided	*	45,200	45,800	**
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.) Non-State Signalized Roadways - 10%					
Median & Turn Lane Adjustments					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors	
2	Divided	Yes	No	+5%	
2	Undivided	No	No	-20%	
Multi	Undivided	Yes	No	-5%	
Multi	Undivided	No	No	-25%	
—	—	—	Yes	+ 5%	
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6					

UNINTERRUPTED FLOW FACILITIES					
FREEWAYS					
Lanes		B	C	D	E
4		28,800	43,000	52,300	60,000
6		43,000	64,000	78,300	92,500
8		57,500	85,400	104,400	123,500
Freeway Adjustments Auxiliary Lanes Present in Both Directions + 20,000					

UNINTERRUPTED FLOW HIGHWAYS					
Rural Undeveloped					
Lanes	Median	B	C	D	E
2	Undivided	4,700	8,400	14,300	28,600
4	Divided	25,700	40,300	51,000	57,900
6	Divided	38,800	60,400	76,700	86,800
Developed Areas					
Lanes	Median	B	C	D	E
2	Undivided	8,700	16,400	23,100	31,500
4	Divided	25,900	40,700	52,400	59,600
6	Divided	38,800	61,000	78,400	89,500
Passing Lane Adjustments Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length					
Uninterrupted Flow Highway Adjustments					
Lanes	Median	Exclusive left lanes	Adjustment factors		
2	Divided	Yes	+5%		
Multi	Undivided	Yes	-5%		
Multi	Undivided	No	-25%		

BICYCLE MODE <sup>2</sup>				
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)				
Rural Undeveloped				
Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	1,300	2,000	3,200
50-84%	1,000	2,100	3,200	10,600
85-100%	2,600	3,900	18,500	>18,500
Developed Areas				
Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	2,300	4,900	15,600
50-84%	1,700	4,500	13,300	18,500
85-100%	5,900	18,500	>18,500	**
PEDESTRIAN MODE <sup>2</sup>				
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)				
Sidewalk Coverage	B	C	D	E
0-49%	*	*	2,700	9,200
50-84%	*	1,500	8,400	14,900
85-100%	3,600	10,200	16,700	>19,200

<sup>1</sup> Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.	
<sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.	
* Cannot be achieved using table input value defaults.	
** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.	
Source: Florida Department of Transportation Systems Planning Office <a href="http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm">www.dot.state.fl.us/planning/systems/sm/los/default.shtm</a>	

**Generalized Peak Hour Directional Volumes for Florida's  
Urbanized Areas<sup>1</sup>**

12/18/12

INTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS					
Class I (40 mph or higher posted speed limit)					
Lanes	Median	B	C	D	E
1	Undivided	*	830	880	**
2	Divided	*	1,910	2,000	**
3	Divided	*	2,940	3,020	**
4	Divided	*	3,970	4,040	**
Class II (35 mph or slower posted speed limit)					
Lanes	Median	B	C	D	E
1	Undivided	*	370	750	800
2	Divided	*	730	1,630	1,700
3	Divided	*	1,170	2,520	2,560
4	Divided	*	1,610	3,390	3,420
Non-State Signalized Roadway Adjustments					
(Alter corresponding state volumes by the indicated percent.)					
Non-State Signalized Roadways - 10%					
Median & Turn Lane Adjustments					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors	
1	Divided	Yes	No	+5%	
1	Undivided	No	No	-20%	
Multi	Undivided	Yes	No	-5%	
Multi	Undivided	No	No	-25%	
-	-	-	Yes	+ 5%	
One-Way Facility Adjustment					
Multiply the corresponding directional volumes in this table by 1.2					

UNINTERRUPTED FLOW FACILITIES					
FREEWAYS					
Lanes	B	C	D	E	
2	2,260	3,020	3,660	3,940	
3	3,360	4,580	5,500	6,080	
4	4,500	6,080	7,320	8,220	
5	5,660	7,680	9,220	10,360	
6	7,900	10,320	12,060	12,500	
Freeway Adjustments					
Auxiliary Lane + 1,000			Ramp Metering + 5%		

UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	B	C	D	E
1	Undivided	420	840	1,190	1,640
2	Divided	1,810	2,560	3,240	3,590
3	Divided	2,720	3,840	4,860	5,380
Uninterrupted Flow Highway Adjustments					
Lanes	Median	Exclusive left lanes	Adjustment factors		
1	Divided	Yes	+5%		
Multi	Undivided	Yes	-5%		
Multi	Undivided	No	-25%		

**BICYCLE MODE<sup>2</sup>**

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/Bicycle Lane Coverage	B	C	D	E
0-49%	*	150	390	1,000
50-84%	110	340	1,000	>1,000
85-100%	470	1,000	>1,000	**

**PEDESTRIAN MODE<sup>2</sup>**

(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	B	C	D	E
0-49%	*	*	140	480
50-84%	*	80	440	800
85-100%	200	540	880	>1,000

**BUS MODE (Scheduled Fixed Route)<sup>3</sup>**

(Buses in peak hour in peak direction)

Sidewalk Coverage	B	C	D	E
0-84%	> 5	≥ 4	≥ 3	≥ 2
85-100%	> 4	≥ 3	≥ 2	≥ 1

<sup>1</sup>Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.

<sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.

<sup>3</sup> Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

\* Cannot be achieved using table input value defaults.

\*\* Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:  
Florida Department of Transportation  
Systems Planning Office  
[www.dot.state.fl.us/planning/systems/sm/los/default.shtm](http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm)

Generalized **Peak Hour Directional** Volumes for Florida's  
**Rural Undeveloped Areas** and  
**Developed Areas Less Than 5,000 Population<sup>1</sup>**

12/18/12

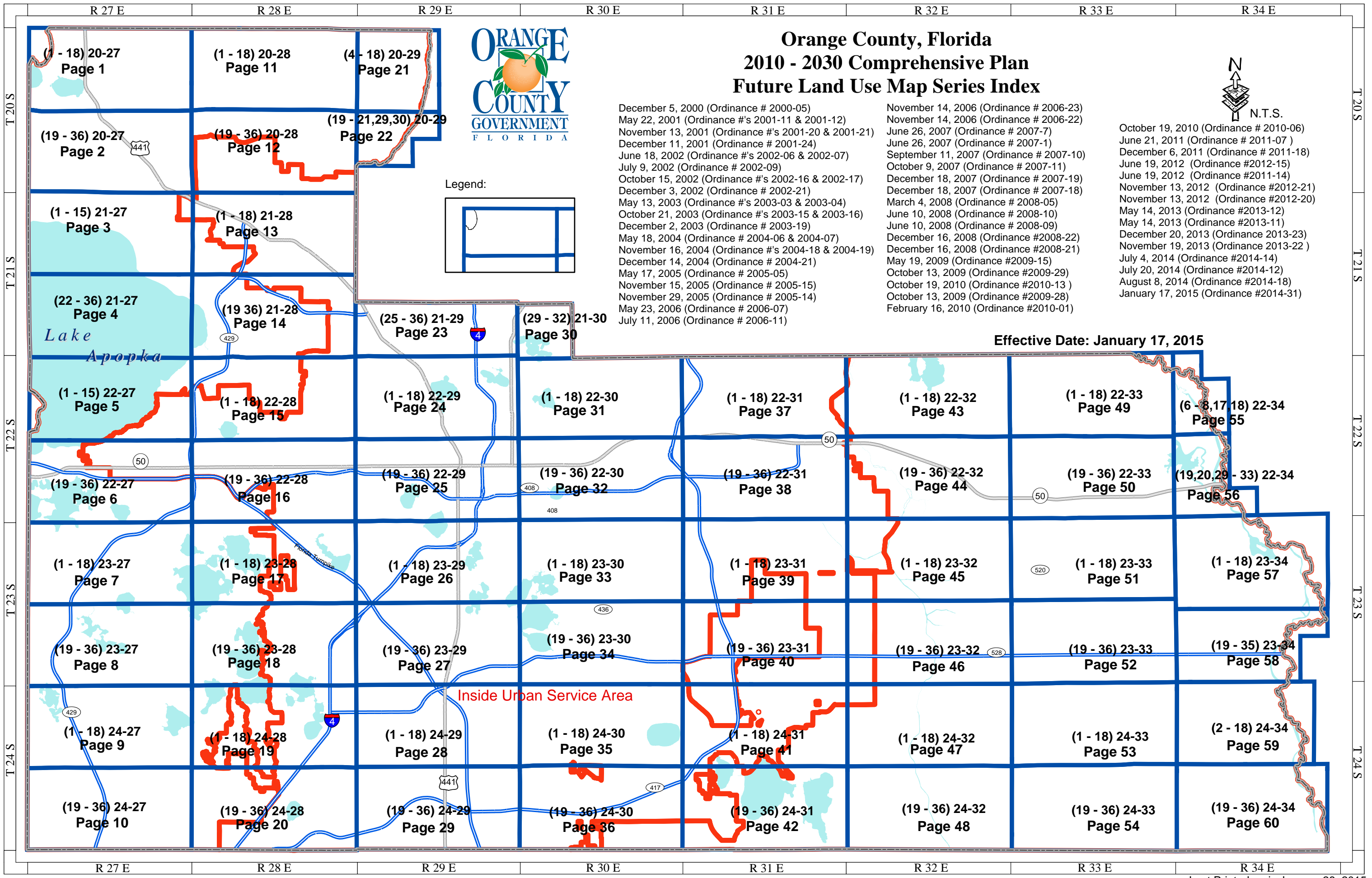
**TABLE 9**

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
<b>STATE SIGNALIZED ARTERIALS</b>						<b>FREEWAYS</b>					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
1	Undivided	*	670	740	**	2	1,680	2,500	3,040	3,500	
2	Divided	*	1,530	1,580	**	3	2,500	3,720	4,560	5,400	
3	Divided	*	2,360	2,400	**	4	3,360	4,980	6,080	7,200	
<b>Non-State Signalized Roadway Adjustments</b>						<b>Freeway Adjustments</b>					
(Alter corresponding state volumes by the indicated percent.)						Auxiliary Lanes					
Non-State Signalized Roadways - 10%						Present in Both Directions + 1,000					
<b>Median &amp; Turn Lane Adjustments</b>						<b>UNINTERRUPTED FLOW HIGHWAYS</b>					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		<b>Rural Undeveloped</b>					
1	Divided	Yes	No	+5%		Lanes	Median	B	C	D	E
1	Undivided	No	No	-20%		1	Undivided	240	430	740	1,490
Multi	Undivided	Yes	No	-5%		2	Divided	1,340	2,100	2,660	3,020
Multi	Undivided	No	No	-25%		3	Divided	2,020	3,150	4,000	4,530
-	-	-	Yes	+ 5%		<b>Developed Areas</b>					
<b>One-Way Facility Adjustment</b>						Lanes	Median	B	C	D	E
Multiply the corresponding directional volumes in this table by 1.2						1	Undivided	450	850	1,200	1,640
						2	Divided	1,350	2,120	2,730	3,110
						3	Divided	2,020	3,180	4,090	4,670
<b>BICYCLE MODE<sup>2</sup></b>						<b>Passing Lane Adjustments</b>					
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length					
<b>Rural Undeveloped</b>						<b>Uninterrupted Flow Highway Adjustments</b>					
Paved Shoulder/Bicycle	Lane Coverage	B	C	D	E	Lanes	Median	Exclusive left lanes	Adjustment factors		
	0-49%	*	70	110	170	1	Divided	Yes	+5%		
	50-84%	60	120	180	580	Multi	Undivided	Yes	-5%		
	85-100%	140	210	1,000	>1,000	Multi	Undivided	No	-25%		
<b>Developed Areas</b>						<sup>1</sup> Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.  <sup>2</sup> Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.  * Cannot be achieved using table input value defaults.  ** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.  Source:  Florida Department of Transportation Systems Planning Office <a href="http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm">www.dot.state.fl.us/planning/systems/sm/los/default.shtm</a>					
Paved Shoulder/Bicycle	Lane Coverage	B	C	D	E						
	0-49%	*	120	260	840						
	50-84%	100	240	720	1,000						
	85-100%	320	1,000	>1,000	**						
<b>PEDESTRIAN MODE<sup>2</sup></b>											
(Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage		B	C	D	E						
	0-49%	*	*	120	460						
	50-84%	*	80	430	770						
	85-100%	180	520	860	>1,000						



**Attachment B**

Orange County 2010 – 2030  
Comprehensive Plan Future  
Land Use Map



**Orange County, Florida**  
**2010 - 2030 Comprehensive Plan**  
**Future Land Use Map Series Index**

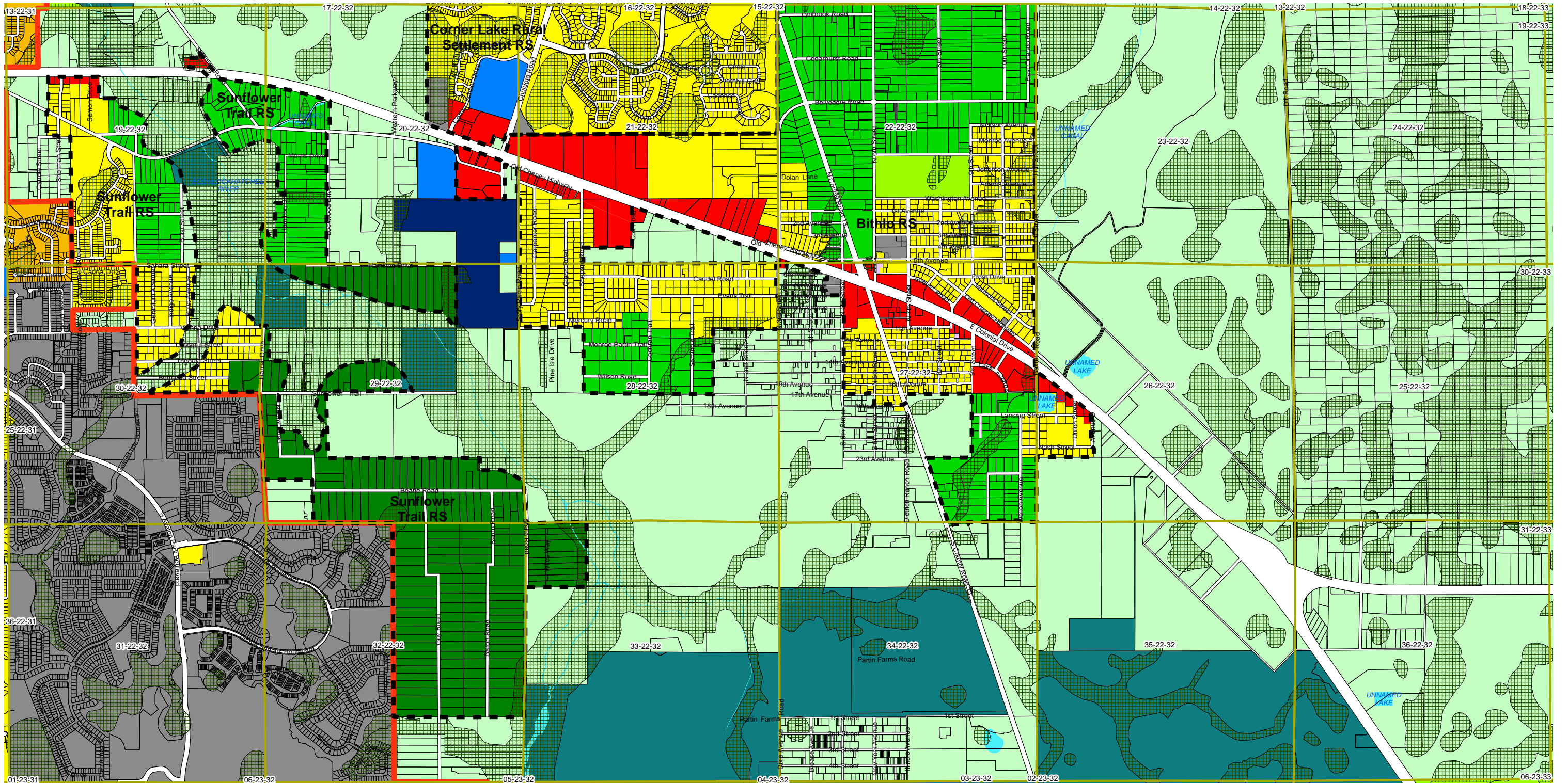
December 5, 2000 (Ordinance # 2000-05)  
May 22, 2001 (Ordinance #'s 2001-11 & 2001-12)  
November 13, 2001 (Ordinance #'s 2001-20 & 2001-21)  
December 11, 2001 (Ordinance # 2001-24)  
June 18, 2002 (Ordinance #'s 2002-06 & 2002-07)  
July 9, 2002 (Ordinance # 2002-09)  
October 15, 2002 (Ordinance #'s 2002-16 & 2002-17)  
December 3, 2002 (Ordinance # 2002-21)  
May 13, 2003 (Ordinance #'s 2003-03 & 2003-04)  
October 21, 2003 (Ordinance #'s 2003-15 & 2003-16)  
December 2, 2003 (Ordinance # 2003-19)  
May 18, 2004 (Ordinance # 2004-06 & 2004-07)  
November 16, 2004 (Ordinance #'s 2004-18 & 2004-19)  
December 14, 2004 (Ordinance # 2004-21)  
May 17, 2005 (Ordinance # 2005-05)  
November 15, 2005 (Ordinance # 2005-15)  
November 29, 2005 (Ordinance # 2005-14)  
May 23, 2006 (Ordinance # 2006-07)  
July 11, 2006 (Ordinance # 2006-11)

November 14, 2006 (Ordinance # 2006-23)  
November 14, 2006 (Ordinance # 2006-22)  
June 26, 2007 (Ordinance # 2007-7)  
June 26, 2007 (Ordinance # 2007-1)  
September 11, 2007 (Ordinance # 2007-10)  
October 9, 2007 (Ordinance # 2007-11)  
December 18, 2007 (Ordinance # 2007-19)  
December 18, 2007 (Ordinance # 2007-18)  
March 4, 2008 (Ordinance # 2008-05)  
June 10, 2008 (Ordinance # 2008-10)  
June 10, 2008 (Ordinance # 2008-09)  
December 16, 2008 (Ordinance #2008-22)  
December 16, 2008 (Ordinance #2008-21)  
May 19, 2009 (Ordinance #2009-15)  
October 13, 2009 (Ordinance #2009-29)  
October 19, 2010 (Ordinance #2010-13 )  
October 13, 2009 (Ordinance #2009-28)  
February 16, 2010 (Ordinance #2010-01)

October 19, 2010 (Ordinance # 2010-06)  
June 21, 2011 (Ordinance # 2011-07 )  
December 6, 2011 (Ordinance # 2011-18)  
June 19, 2012 (Ordinance #2012-15)  
June 19, 2012 (Ordinance #2011-14)  
November 13, 2012 (Ordinance #2012-21)  
November 13, 2012 (Ordinance #2012-20)  
May 14, 2013 (Ordinance #2013-12)  
May 14, 2013 (Ordinance #2013-11)  
December 20, 2013 (Ordinance 2013-23)  
November 19, 2013 (Ordinance 2013-22 )  
July 4, 2014 (Ordinance #2014-14)  
July 20, 2014 (Ordinance #2014-12)  
August 8, 2014 (Ordinance #2014-18)  
January 17, 2015 (Ordinance #2014-31)

**Effective Date: January 17, 2015**





0 2,400 Feet

- |  |   |   |  |
|--|---|---|--|
| <ul style="list-style-type: none"><li>Rural * (1 DU/10 Acres/Agricultural)</li><li>Rural Settlement 1/1 (1 DU/Acre)</li><li>Rural Settlement 1/2 (1 DU/2 Acres)</li><li>Rural Settlement 1/5 (1 DU/5 Acres)</li><li>Rural Settlement Low Density (2 DU/Acre)</li><li>Low Density Residential (Max. 4 DU/Acre)</li><li>Low-Medium Density (Max. 10 DU/Acre)</li><li>Medium Density Residential (Max. 20 DU/Acre)</li><li>High Density Residential (Max. 50 DU/Acre)</li><li>Traditional Neighborhood Development</li><li>Neighborhood Activity Corridor</li></ul> | <ul style="list-style-type: none"><li>Neighborhood Residential</li><li>Neighborhood Center</li><li>Activity Center Residential</li><li>Activity Center Mixed Use</li><li>Community Village Center</li><li>Village (Horizon West)</li><li>Office</li><li>Commercial</li><li>Industrial</li><li>Institutional</li><li>Educational</li></ul> | <ul style="list-style-type: none"><li>Parks/Recreation</li><li>Preservation</li><li>Planned Development **</li><li>Conservation</li><li>Water Body</li><li>Section Lines</li><li>City Limits ****</li><li>Rural Settlement</li><li>Urban Service Area</li><li>Wekiva Study Area</li><li>Horizon West Boundary ***</li></ul> | <ul style="list-style-type: none"><li>Bridgewater Village ***</li><li>Lakeside Village ***</li><li>Village H ***</li><li>Village I ***</li><li>Village F ***</li><li>Town Center ***</li><li>Growth Center</li><li>Innovation Way Overlay Area</li><li>Tosohatchee State Park</li><li>Wekiva Protection Area</li><li>Innovation Way MMTD</li></ul> |
|--|---|---|--|

\*The Rural land use designation denoted as R on the Future Land Use Map is synonymous with the Rural/Agricultural designation referenced in the Future Land Use Element - Policy FLU4.1.1.

\*\*For properties designated Planned Development (PD), specific land uses, densities, and intensities allowed can be determined by contacting the Planning Division. The associated staff report and Geographic Information Systems label field lists the allowable land uses approved by the Board of County Commissioners. All property designated PD on this map is required to be zoned PD prior to development or redevelopment. The Zoning Division should be consulted to determine actual conditions of approval through the PD zoning district and Land Use Plan.

\*\*\*For properties located in an approved Horizon West Specific Area Plan (SAP) the adopted SAP should be consulted to determine the specific land uses, densities, and intensities allowed.

\*\*\*\*City boundaries are subject to change and do not necessarily reflect annexations which have occurred.

Disclaimer:

Data is provided "as is" without warranty of 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 requester. 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 requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update.

Not to be resold: Data, maps or digital files may not be resold without prior consent of the Orange County Board of County Commissioners.

The map only depicts properties within unincorporated Orange County as of the latest amendment date, but may include properties that since have been annexed by various municipalities.

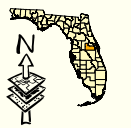
These maps are for display purposes only. The Official version of the Orange County Future Land Use Map can be viewed at the Orange County Planning Division office at 201 S. Rosalind Ave., 2nd Floor, Orlando, Florida.

Prepared By: Orange County Growth Management Department, GIS Section  
Initially Adopted: May 19, 2009  
Found Effective by the Department of Community Affairs: November 13, 2009  
Last Amended: December 16, 2014.

Source: Orange County Growth Management Department, Planning Division, Comprehensive Planning Section

1	11	21
2	12	22
3	13	
4	14	23 30
5	15	24 31 37 43 49
6	16	25 32 38 44 50 56
7	17	26 33 39 45 51 57
8	18	27 34 40 46 52 58
9	19	28 35 41 47 53 59
10	20	29 36 42 48 54 60

Orange County, Florida  
2010 - 2030  
Comprehensive Plan  
Future Land Use Map Series  
Effective Date: January 17, 2015.





## **Attachment C**

### **Straight Line Diagrams**



**Attachment D**

Crash Data



S. No.	Crash Year	Crash Number	DOT County Number	Crash Date	Crash Time	Mile Post	Sate Route	Side of Road	Crash lane	Travel Direction	Highest Injury	Crash Alcohol/Drug Code	Site Location	Lighting Condition	Weather Condition	Road Surface Condition	Crash Event Code
1	2013	832643080	75	1/10/2013	1420	18.88	SR 50	R	S	E	3	0	01	01	02	01	25
2	2013	832643600	75	3/11/2013	0825	16.54	SR 50	T	1	N	1	0	04	01	01	01	14
3	2013	832558700	75	1/18/2013	1931	19.56	SR 50	R	2	E	2	2	01	05	02	02	14
4	2013	832594810	75	1/11/2013	1445	16.74	SR 50	L	1	W	2	0	01	01	02	01	14
5	2013	832698690	75	2/13/2013	2141	18.05	SR 50	R	1	E	3	0	02	05	02	02	14
6	2013	832930770	75	3/2/2013	0842	18.38	SR 50	R	1	E	1	0	03	01	01	01	14
7	2013	832904480	75	2/26/2013	1841	18.05	SR 50	R	2		2	0	02	02	01	01	14
8	2013	832999710	75	5/16/2013	1107	18.77	SR 50	L	S	E	2	0	01	01	01	01	37
9	2013	833092300	75	4/28/2013	0718	19.40	SR 50	L	1	E	1	0	01	01	02	01	14
10	2013	833005930	75	5/29/2013	1900	16.53	SR 50	R	1	E	1	0	02	02	02	01	14
11	2013	833117470	75	5/16/2013	2121	18.05	SR 50	R	1		1	0	02	04	01	01	14
12	2013	833141870	75	5/22/2013	2133	18.61	SR 50	R	1	E	5	1	01	05	01	01	10
13	2013	833141550	75	4/30/2013	0837	18.97	SR 50	R	2	S	3	0	02	01	03	02	14
14	2013	833141720	75	5/14/2013	0636	18.70	SR 50	L	S	W	3	0	02	03	01	01	01
15	2013	833126940	75	4/13/2013	2337	17.95	SR 50	R	S	W	3	0	02	05	01	01	33
16	2013	833199670	75	5/30/2013	1152	18.05	SR 50	R	2	E	1	0	02	01	01	01	14
17	2013	833189500	75	6/18/2013	0504	16.53	SR 50	R	L		1	0	02	04	01	01	14
18	2013	833239760	75	5/21/2013	1425	18.66	SR 50	R	2	E	3	0	03	01	02	02	14
19	2013	833236440	75	5/9/2013	1435	16.54	SR 50	S	R	S	2	0	02	01	01	01	14
20	2013	833266680	75	6/25/2013	0924	18.49	SR 50	L	2	E	2	0	03	01	01	01	14
21	2013	833389140	75	6/19/2013	1140	16.53	SR 50	R	L	E	1	0	02	01	01	01	14
22	2013	831904410	75	7/27/2013	2304	18.05	SR 50	L	2	W	2	1	02	04	02	02	14
23	2013	831966770	75	7/31/2013	1054	19.55	SR 50	L	S	W	1	0	01	01	01	01	15
24	2013	833383050	75	7/8/2013	0134	16.97	SR 50	R	2	E	1	0	01	05	01	01	13
25	2013	833355470	75	7/17/2013	1052	19.64	SR 50	L	S	W	1	0	02	01	01	01	27
26	2013	836441420	75	7/14/2013	1415	19.63	SR 50	L	1	W	4	0	03	01	03	02	14
27	2013	836408320	75	7/18/2013	2101	16.64	SR 50	R	S	E	1	0	03	05	01	01	25
28	2013	836552630	75	8/19/2013	1100	18.34	SR 50	L	1	E	1	0	01	01	01	01	14
29	2013	836745030	75	9/13/2013	2155	18.04	SR 50	R	2	W	3	0	02	05	03	02	14
30	2013	836795080	75	9/6/2013	1845	17.70	SR 50	R	2	E	2	0	03	02	03	02	14
31	2013	836689140	75	9/8/2013	0614	16.54	SR 50	R	1	E	1	0	02	04	01	01	14
32	2013	836751520	75	9/7/2013	2325	18.96	SR 50	R	2		1	0	02	05	01	01	14
33	2013	836642830	75	9/14/2013	0600	18.92	SR 50	R	1	W	4	0	01	05	01	01	14
34	2013	832129330	75	10/8/2013	2025	16.54	SR 50	L	1	E	5	2	02	04	02	02	14
35	2013	836655140	75	11/27/2013	1845	19.07	SR 50	L	S	E	1	0	01	02	01	01	25
36	2013	836776850	75	10/4/2013	2015	17.68	SR 50	L	1	S	1	0	02	05	01	01	11
37	2013	836745360	75	10/7/2013	2028	18.35	SR 50	L	1	E	3	0	01	05	03	02	14
38	2013	837068650	75	11/13/2013	1657	16.54	SR 50	T	L	S	1	0	03	01	02	01	14
39	2013	836913160	75	10/17/2013	1620	16.54	SR 50	R	1	S	2	0	02	01	01	01	14
40	2013	837111080	75	11/15/2013	0236	18.99	SR 50	L	1	W	1	0	03	05	01	01	13
41	2013	837157660	75	12/4/2013	1246	18.01	SR 50	M	M	W	1	0	03	01	01	01	14
42	2013	837325010	75	12/17/2013	0651	16.54	SR 50	L	1	S	2	0	03	03	01	01	14
43	2013	837147320	75	12/12/2013	1644	17.48	SR 50	R	1	E	3	0	01	01	01	01	10
44	2012	828515850	75	1/6/2012	0710	16.54	SR 50	S	R	N	1	0	01	01	01	01	14
45	2012	828707110	75	3/24/2012	2249	16.56	SR 50	R	1	E	3	0	03	05	01	01	10
46	2012	828588840	75	1/13/2012	1522	17.68	SR 50	R	2	N	2	0	02	01	01	01	14
47	2012	828874360	75	3/10/2012	2104	16.54	SR 50	L	2	E	5	0	02	05	01	01	14
48	2012	828845560	75	2/28/2012	1930	18.23	SR 50	R	2	N	3	0	04	05	01	01	14
49	2012	828737410	75	2/11/2012	1512	16.56	SR 50	L	2	W	2	0	03	01	01	01	14
50	2012	828943610	75	3/13/2012	1725	17.68	SR 50	R	1	E	1	0	02	01	02	01	11
51	2012	828986010	75	3/16/2012	1735	16.68	SR 50	R	1	N	3	0	02	01	01	01	14
52	2012	828963710	75	3/6/2012	0613	18.97	SR 50	R	2	N	1	0	02	03	01	01	14
53	2012	829058240	75	4/4/2012	0300	18.34	SR 50	R	1	W	2	0	04	04	01	01	14
54	2012	831601510	75	6/5/2012	0835	18.06	SR 50	L	1	W	3	0	02	01	02	01	14
55	2012	831575920	75	6/20/2012	1628	18.06	SR 50	L	1	W	2	0	02	01	03	02	14
56	2012	831575880	75	6/14/2012	1555	17.68	SR 50	R	2	E	3	2	02	01	02	02	14
57	2012	831479560	75	5/26/2012	2253	16.79	SR 50	L	2	W	4	1	01	05	01	01	11
58	2012	831541330	75	6/7/2012	1948	16.88	SR 50	R	1	N	2	0	02	01	03	02	14

S. No.	Crash Year	Crash Number	DOT County Number	Crash Date	Crash Time	Mile Post	Sate Route	Side of Road	Crash lane	Travel Direction	Highest Injury	Crash Alcohol/Drug Code	Site Location	Lighting Condition	Weather Condition	Road Surface Condition	Crash Event Code
59	2012	831616080	75	6/9/2012	1715	17.68	SR 50	R	1		1	0	02	01	03	02	14
60	2012	831616000	75	6/5/2012	1555	18.07	SR 50	L	2	W	1	0	03	01	02	02	14
61	2012	831638390	75	9/18/2012	1740	16.84	SR 50	R	1	E	1	0	01	01	03	02	14
62	2012	831541450	75	7/1/2012	1725	16.55	SR 50	L	1	W	2	0	02	01	01	01	14
63	2012	831695400	75	7/7/2012	1250	19.40	SR 50	R	S	W	3	0	01	01	01	01	14
64	2012	831714420	75	8/23/2012	1931	18.09	SR 50	R	S	N	1	0	04	02	01	01	14
65	2012	831756560	75	7/21/2012	2315	18.10	SR 50	L	2	W	4	0	03	05	01	01	10
66	2012	831756000	75	9/6/2012	1227	18.22	SR 50	T	1	N	2	0	02	01	01	01	14
67	2012	831863880	75	8/23/2012	1928	18.40	SR 50	L	1	N	3	0	02	02	02	01	14
68	2012	831863520	75	7/31/2012	0802	18.69	SR 50	R	2	E	3	0	02	01	01	01	14
69	2012	831872290	75	8/16/2012	1736	16.61	SR 50	L	1	W	3	0	01	01	02	02	14
70	2012	831891940	75	11/3/2012	1522	18.05	SR 50	L	2	W	1	0	02	01	01	01	14
71	2012	831891710	75	10/6/2012	0645	18.54	SR 50	R	2	E	2	0	01	03	01	01	25
72	2012	832203400	75	10/27/2012	1923	16.54	SR 50	T	1	N	1	0	04	02	01	01	14
73	2012	832276730	75	10/28/2012	1430	16.54	SR 50	L	1	E	3	0	02	01	02	01	14
74	2012	832382330	75	11/16/2012	1542	16.54	SR 50	T	1		1	0	02	01	01	01	14
75	2012	832307330	75	10/13/2012	1552	16.58	SR 50	L	2		1	0	03	01	01	01	14
76	2012	832381960	75	10/25/2012	1354	16.63	SR 50	R	2		1	0	01	01	02	02	14
77	2012	832324340	75	10/30/2012	1914	16.53	SR 50	R	1		1	0	02	05	01	01	14
78	2012	832424160	75	12/20/2012	1619	16.54	SR 50	L	1	N	3	0	02	01	01	01	14
79	2012	832370370	75	11/9/2012	0750	16.79	SR 50	R	2	W	2	0	04	01	01	01	14
80	2012	832650450	75	12/31/2012	0042	18.05	SR 50	T	S	W	1	0	04	04	01	01	01
81	2012	832485760	75	12/10/2012	1945	18.20	SR 50	R	S	E	4	0	03	05	02	02	25
82	2012	832663560	75	12/27/2012	1001	16.54	SR 50	T	1	S	1	0	02	01	01	01	14
83	2011	808229290	75	1/26/2011	1802	17.95	SR 50	L	2	S	2	0	02	02	01	01	14
84	2011	818976680	75	2/14/2011	0000	18.66	SR 50	T	1	S	1	0	04	03	01	01	14
85	2011	819811900	75	1/16/2011	2115	19.07	SR 50	L	1	E	2	0	01	05	01	01	18
86	2011	819811890	75	1/16/2011	2107	19.07	SR 50	R	1	W	2	0	04	05	02	01	14
87	2011	819811860	75	1/14/2011	0148	18.53	SR 50	L	S	W	2	0	01	05	01	01	26
88	2011	820766490	75	3/28/2011	0853	17.68	SR 50	L	2	N	2	0	02	01	02	02	14
89	2011	820637060	75	1/17/2011	1841	16.63	SR 50	R	1	W	3	0	01	05	02	02	14
90	2011	820624830	75	2/16/2011	1849	17.99	SR 50	L	2	W	2	0	01	04	01	01	39
91	2011	820665490	75	2/16/2011	0728	16.88	SR 50	R	1	N	3	0	02	01	01	01	14
92	2011	820760560	75	2/16/2011	1540	16.54	SR 50	L	2	W	2	0	02	01	02	01	14
93	2011	820685320	75	1/26/2011	1000	17.68	SR 50	L	2	E	3	0	02	01	02	01	14
94	2011	820692940	75	3/13/2011	1843	16.55	SR 50	L	2		1	0	02	01	01	01	14
95	2011	820681160	75	3/12/2011	2342	17.58	SR 50	L	1	E	5	0	01	05	01	01	14
96	2011	820743180	75	2/18/2011	1901	19.29	SR 50	R	2	W	3	0	04	04	01	01	14
97	2011	820598970	75	2/12/2011	0230	18.60	SR 50	L	S	W	1	3	02	05	01	01	34
98	2011	820698870	75	1/30/2011	1459	16.60	SR 50	L	2	W	1	0	01	01	01	01	14
99	2011	820692680	75	2/17/2011	2000	16.56	SR 50	L	1	W	2	0	03	05	01	01	14
100	2011	819569020	75	4/14/2011	1000	18.35	SR 50	R	2	E	2	0	04	01	02	01	14
101	2011	820231020	75	6/11/2011	0002	17.19	SR 50	M	M	E	4	0	01	05	01	01	14
102	2011	822575860	75	6/22/2011	2130	16.54	SR 50	T	L	S	3	0	02	04	01	01	14
103	2011	822410990	75	5/16/2011	0223	16.60	SR 50	R	2	N	3	1	02	04	01	01	14
104	2011	822413040	75	5/11/2011	1632	17.99	SR 50	R	2	E	1	0	01	01	01	01	14
105	2011	822424650	75	5/31/2011	0655	19.22	SR 50	L	1	N	1	0	01	01	01	01	14
106	2011	822438770	75	5/15/2011	1600	16.54	SR 50	T	S	S	3	0	03	01	01	01	14
107	2011	820883620	75	7/23/2011	0100	17.59	SR 50	R	S	E	1	0	01	05	02	02	14
108	2011	822402600	75	7/8/2011	1500	17.43	SR 50	R	2	E	3	0	01	01	02	01	01
109	2011	822765260	75	9/3/2011	1446	19.15	SR 50	R	S	E	1	0	01	01	01	01	25
110	2011	822732540	75	8/29/2011	0552	18.97	SR 50	R	2	N	1	0	02	03	01	01	14
111	2011	822738880	75	7/24/2011	1755	18.05	SR 50	L	1	W	2	0	02	01	01	01	14
112	2011	822738820	75	7/22/2011	1805	16.54	SR 50	R	1	E	5	0	02	01	03	02	14
113	2011	822623570	75	7/8/2011	1430	16.61	SR 50	L	1	W	3	1	01	01	03	02	14
114	2011	822667110	75	9/23/2011	0345	18.44	SR 50	L	S	E	4	0	01	05	02	02	01
115	2011	822712220	75	9/6/2011	1700	16.58	SR 50	L	2	W	1	0	01	01	02	01	14
116	2011	822732570	75	8/30/2011	1151	16.54	SR 50	L	2	E	1	0	02	01	02	01	14

S. No.	Crash Year	Crash Number	DOT County Number	Crash Date	Crash Time	Mile Post	Sate Route	Side of Road	Crash lane	Travel Direction	Highest Injury	Crash Alcohol/Drug Code	Site Location	Lighting Condition	Weather Condition	Road Surface Condition	Crash Event Code
117	2011	822661870	75	7/8/2011	1717	18.14	SR 50	L	1	W	4	0	01	01	01	01	14
118	2011	822711510	75	7/8/2011	1556	18.06	SR 50	L	2		1	0	03	01	02	01	14
119	2011	822610970	75	8/6/2011	1217	18.95	SR 50	L	1	W	3	0	01	01	01	01	14
120	2011	828272400	75	9/16/2011	2050	17.68	SR 50	L	1	W	3	0	02	05	01	01	10
121	2011	828329310	75	10/23/2011	1640	16.88	SR 50	L	1	E	2	0	02	01	01	01	14
122	2011	828210440	75	10/7/2011	0947	18.05	SR 50	R	2	E	4	0	02	01	02	01	14
123	2011	828295780	75	12/6/2011	1410	16.88	SR 50	R	2	W	3	0	02	01	01	01	14
124	2011	828386970	75	11/15/2011	1420	18.22	SR 50	L	1	N	3	0	02	01	01	01	14
125	2011	828462070	75	11/18/2011	2113	16.54	SR 50	L	2	E	2	0	02	05	01	01	14
126	2011	828455230	75	11/23/2011	1820	17.66	SR 50	R	1	E	3	0	03	05	02	01	14
127	2011	828441430	75	12/31/2011	2320	19.07	SR 50	R	1	W	2	1	01	05	01	01	14
128	2011	828472700	75	11/29/2011	0830	16.57	SR 50	L	1	W	1	0	03	01	01	01	14
129	2011	828411150	75	11/8/2011	1812	18.05	SR 50	R	1	W	2	0	04	02	01	01	14
130	2011	828438210	75	11/5/2011	1010	18.03	SR 50	R	2	E	1	0	02	01	01	01	14
131	2011	828688510	75	12/29/2011	1300	16.53	SR 50	L	3		1	0	02	01	01	01	14
132	2010	776776770	75	7/23/2010	1840	16.54	SR 50	L	2		2	0	02	01	02	02	01
133	2010	776841420	75	9/11/2010	0023	16.54	SR 50	L	1		2	0	02	04	02	01	04
134	2010	776784990	75	7/29/2010	0930	16.54	SR 50	L	1		2	0	02	01	01	01	00
135	2010	776930540	75	2/13/2010	2110	18.34	SR 50	L	1		1	0	02	04	01	01	77
136	2010	776944240	75	4/10/2010	1025	17.68	SR 50	I	M		4	0	02	01	01	01	04
137	2010	776946090	75	3/26/2010	0743	16.91	SR 50	R	1		2	0	03	01	02	02	03
138	2010	776988590	75	5/8/2010	1331	16.54	SR 50	L	2		2	0	02	01	01	01	03
139	2010	776895160	75	1/11/2010	0956	18.04	SR 50	L	2		2	0	02	01	01	01	37
140	2010	776918510	75	1/23/2010	1936	18.05	SR 50	S	1		1	0	04	04	01	01	03
141	2010	776873130	75	4/18/2010	1805	16.55	SR 50	L	1		2	0	02	01	03	02	01
142	2010	776918280	75	2/16/2010	0646	16.54	SR 50	R	C		2	0	02	01	01	01	11
143	2010	776893490	75	3/3/2010	0709	16.54	SR 50	T	1		1	0	02	01	02	01	01
144	2010	776974050	75	4/17/2010	1922	19.47	SR 50	R	1		2	0	04	01	01	01	04
145	2010	776954310	75	4/5/2010	0935	16.79	SR 50	L	2		1	0	01	01	01	01	03
146	2010	776893370	75	2/12/2010	1427	18.34	SR 50	R	S		1	0	02	01	03	02	29
147	2010	776940150	75	3/13/2010	0232	17.12	SR 50	L	S		1	0	01	05	02	02	29
148	2010	776906220	75	2/6/2010	0200	16.53	SR 50	R	2		2	0	02	04	01	01	01
149	2010	776889420	75	1/17/2010	1857	18.01	SR 50	R	2		1	0	01	04	01	01	01
150	2010	776967880	75	6/7/2010	0353	19.57	SR 50	M	M		3	0	01	05	02	01	29
151	2010	776987720	75	6/14/2010	1133	16.53	SR 50	R	1		4	0	02	01	01	01	01
152	2010	776993500	75	6/27/2010	2302	18.65	SR 50	R	2		1	1	01	05	01	01	03
153	2010	776901130	75	1/23/2010	1052	16.54	SR 50	L	3		4	0	02	01	01	01	09
154	2010	776882340	75	1/17/2010	0044	18.05	SR 50	L	1		1	0	02	05	03	02	03
155	2010	776987710	75	6/11/2010	0016	16.54	SR 50	T	1		1	0	01	01	01	01	01
156	2010	776981860	75	5/14/2010	1944	18.66	SR 50	R	2		3	1	01	02	01	01	03
157	2010	776961850	75	4/25/2010	2211	16.55	SR 50	R	1		2	0	02	04	03	02	01
158	2010	776954200	75	3/29/2010	1021	16.54	SR 50	L	1		3	0	02	01	03	02	06
159	2010	776910880	75	5/20/2010	1340	16.54	SR 50	L	1		3	0	02	01	02	01	03
160	2010	776910820	75	5/5/2010	1530	17.98	SR 50	L	2		1	0	01	01	03	02	31
161	2010	776910470	75	3/12/2010	1444	16.58	SR 50	L	2		1	0	03	01	03	02	01
162	2010	776998910	75	6/21/2010	2106	17.66	SR 50	R	1		5	1	01	04	01	01	10
163	2010	806351290	75	8/17/2010	1938	18.04	SR 50	R	1		1	0	02	05	02	02	01
164	2010	806319620	75	8/11/2010	1500	17.68	SR 50	L	1		2	0	02	01	02	01	03
165	2010	806318550	75	6/16/2010	0240	17.66	SR 50	R	S		3	1	03	05	01	01	00
166	2010	806333370	75	9/9/2010	0926	16.55	SR 50	L	2		1	0	02	01	01	01	01
167	2010	806387710	75	10/9/2010	1235	16.53	SR 50	R	2		1	0	02	01	01	01	00
168	2010	806346220	75	8/13/2010	1410	16.68	SR 50	R	1		1	0	01	01	03	02	01
169	2010	806330610	75	10/30/2010	1805	16.56	SR 50	L	1		2	0	02	01	01	01	01
170	2010	806385870	75	10/20/2010	1608	16.55	SR 50	L	R		1	0	04	01	01	01	03
171	2010	806384190	75	10/17/2010	1731	18.92	SR 50	R	1		1	0	02	01	01	01	09
172	2010	806344630	75	8/1/2010	1041	16.54	SR 50	T	L		2	0	02	01	01	01	01
173	2010	806361700	75	9/28/2010	0928	16.60	SR 50	R	1		1	0	02	01	02	02	03
174	2010	806309590	75	6/3/2010	1641	16.92	SR 50	L	1		1	0	01	01	03	02	06



S. No.	Crash Year	Crash Number	DOT County Number	Crash Date	Crash Time	Mile Post	Sate Route	Side of Road	Crash lane	Travel Direction	Highest Injury	Crash Alcohol/Drug Code	Site Location	Lighting Condition	Weather Condition	Road Surface Condition	Crash Event Code
175	2010	806356430	75	10/22/2010	1942	16.55	SR 50	L	R		1	0	02	02	01	01	03
176	2010	806356330	75	9/25/2010	0001	16.56	SR 50	L	2		2	0	03	01	02	01	01
177	2010	806356180	75	9/5/2010	2301	19.54	SR 50	L	S		2	1	01	05	02	01	00
178	2010	806324120	75	7/4/2010	0036	16.54	SR 50	R	1		1	0	02	04	01	02	01
179	2010	806401770	75	11/5/2010	0615	18.33	SR 50	R	2		2	0	02	05	01	01	01
180	2010	806375030	75	9/6/2010	1942	16.54	SR 50	L	1		1	0	02	04	02	02	01
181	2010	806336350	75	8/21/2010	1627	16.73	SR 50	L	2		2	0	01	01	03	02	01
182	2010	806320970	75	9/20/2010	1943	17.83	SR 50	L	1		1	0	01	05	01	01	15
183	2010	818965690	75	10/16/2010	0840	18.66	SR 50	R	3		2	0	02	01	01	01	03
184	2010	819811640	75	12/22/2010	2052	16.54	SR 50	R	1		4	0	02	05	02	01	02
185	2010	819811390	75	12/3/2010	1215	19.63	SR 50	L	1		4	0	03	01	01	01	09
186	2010	819572100	75	12/11/2010	1756	18.25	SR 50	R	2		4	0	01	02	01	01	01
187	2010	819568750	75	11/18/2010	1335	18.45	SR 50	R	1		1	0	01	01	01	01	03
188	2010	819787400	75	12/5/2010	1400	18.05	SR 50	R	2		3	0	02	01	01	01	11
189	2010	819606150	75	11/8/2010	2149	17.11	SR 50	R	2		3	1	01	05	01	01	01
190	2010	819853840	75	12/17/2010	0750	16.54	SR 50	R	1		3	0	02	01	01	01	03
191	2010	819853410	75	11/21/2010	1840	18.34	SR 50	R	2		2	0	02	05	02	02	01
192	2010	819634030	75	11/19/2010	2158	18.35	SR 50	L	1		1	0	02	04	01	01	01
193	2009	774357060	75	10/15/2009	1535	16.53	SR 50	R	L		3	0	02	01	02	02	01
194	2009	774451060	75	2/7/2009	2251	18.62	SR 50	L	1		1	0	01	05	01	01	01
195	2009	774430710	75	1/22/2009	0116	18.60	SR 50	R	2		1	1	02	05	01	01	04
196	2009	774432870	75	3/12/2009	1908	16.53	SR 50	R	L		1	0	02	01	01	01	01
197	2009	774459570	75	2/26/2009	1531	16.54	SR 50	T	2		1	0	01	01	01	01	04
198	2009	774419820	75	1/29/2009	0738	18.05	SR 50	R	1		1	0	02	01	02	01	03
199	2009	774411490	75	2/6/2009	1659	16.54	SR 50	T	1		2	0	04	01	01	01	03
200	2009	774470700	75	4/14/2009	1030	16.54	SR 50	L	2		3	0	02	01	03	02	01
201	2009	774467040	75	3/1/2009	2024	16.54	SR 50	L	R		2	0	02	04	01	01	05
202	2009	774453590	75	2/20/2009	1430	18.22	SR 50	I	M		2	1	02	01	01	01	09
203	2009	774451480	75	4/27/2009	1540	18.05	SR 50	L	2		4	0	02	01	01	01	03
204	2009	774453790	75	4/2/2009	1630	18.34	SR 50	L	2		4	0	02	01	01	01	10
205	2009	774400390	75	1/9/2009	1706	18.97	SR 50	M	M		3	0	02	01	01	01	02
206	2009	776848170	75	11/2/2009	0700	16.54	SR 50	M	M		1	0	02	01	02	01	16
207	2009	776797410	75	11/23/2009	0627	18.08	SR 50	T	1		3	0	02	04	02	01	01
208	2009	776807110	75	9/7/2009	1103	17.48	SR 50	R	1		3	0	01	01	01	01	01
209	2009	776854560	75	10/18/2009	1202	18.25	SR 50	L	1		1	0	01	01	02	01	77
210	2009	776854660	75	10/31/2009	0941	18.05	SR 50	R	2		2	0	02	01	01	01	04
211	2009	776813890	75	9/7/2009	0730	18.34	SR 50	R	S		0	0	02	88	02	01	29
212	2009	776764010	75	5/16/2009	0520	17.75	SR 50	L	2		1	0	01	05	01	01	01
213	2009	776865650	75	11/21/2009	1617	17.68	SR 50	R	2		2	0	02	01	01	01	03
214	2009	776797540	75	7/5/2009	1452	18.05	SR 50	L	1		3	0	02	01	01	01	01
215	2009	776841100	75	12/12/2009	1814	16.79	SR 50	L	1		3	0	01	05	01	01	02
216	2009	776774550	75	6/7/2009	1329	16.54	SR 50	R	2		1	0	02	01	02	01	03
217	2009	776811020	75	8/7/2009	1132	16.54	SR 50	T	L		1	0	02	01	01	01	01
218	2009	776800850	75	8/20/2009	2136	18.60	SR 50	R	S		1	0	02	04	02	01	09
219	2009	776823920	75	10/18/2009	2121	16.54	SR 50	L	2		4	0	02	05	01	01	10
220	2009	776856460	75	12/19/2009	2027	16.88	SR 50	R	2		3	0	02	05	01	01	03
221	2009	776835730	75	10/27/2009	0631	18.05	SR 50	R	1		3	0	02	04	01	01	09
222	2009	776811380	75	10/5/2009	1609	16.54	SR 50	L	2		1	0	02	01	03	02	04
223	2009	776838200	75	10/25/2009	0408	18.41	SR 50	R	2		1	0	02	05	01	01	01
224	2009	776811190	75	9/5/2009	0530	17.13	SR 50	R	S		1	0	04	05	01	01	29
225	2009	776766100	75	6/1/2009	2133	16.54	SR 50	L	1		3	0	02	05	01	01	03
226	2009	776790970	75	9/9/2009	0707	16.53	SR 50	R	R		3	0	02	01	01	01	01
227	2009	802272520	75	9/6/2009	0500	18.41	SR 50	R	2		1	0	01	04	01	01	77

## ORANGE COUNTY



## **Meeting Minutes for Typical Section Coordination with Orange County**

CFX Project No.: SR 408 Eastern Extension, 408-254  
County Roads: Woodbury, Avalon and CR 419  
Location: Orange County Public Works

The following are minutes to the meeting held on Wednesday, March 21, 2018.

### **Attendees:**

Ghulam Qadir, Orange County Public Works  
Raymond Williams, Orange County Public Works  
Mark Massaro, Orange County Public Works  
Renzo Nastasi, Orange County Transportation Planning  
Brian Sanders, Orange County Transportation Planning  
Chandra Raman, Metric Engineering, Inc.  
William Sloup, Metric Engineering, Inc

The meeting began with Mr. Sloup providing a brief project overview of the project using the current roll plot of the project. The focus then went to Woodbury Rd, Avalon Blvd, and CR 419 Extension.

- **Woodbury Rd at SR 408:**

New access is proposed at Woodbury Rd as a partial diamond interchange with ramps to and from the east. This includes a new 4-lane Woodbury Bridge to overpass SR 408. The proposed typical section is an urban 4-lane curb and gutter, 22 feet raised median with sidewalks along both sides. Renzo Nastasi commented that the improvement shown as a new interchange should also include the 4-laning of Woodbury Road approximately 1 mile to the north up to SR 50. Mr. Nastasi noted that Orange County plans to begin a PD&E Study to widen Woodbury Rd from Lake Underhill to SR 50. He requests that a 4-lane Woodbury Rd between the new interchange and SR 50 be added to the SR 408 project concept plan and shown at the April 26, 2018 public hearing as part of this project. Mr. Sloup pointed out the CFX Study only addressed improvements shown on the roll plot. Mr. Nastasi understands that CFX will be asking the Board at the May 10, 2018 Board Meeting to adopt the findings of the study and asked if a request will also be made to the Board to authorize moving forward to the next phase. Mr. Sloup responded that is not known at this time because the study results are still not final. Mr. Nastasi wants to meet with CFX when this is known and prior to the Board Meeting.



- **Avalon Park Blvd:**

New access is proposed at Avalon Park Blvd as a Single Point Urban Interchange (SPUI) that provides full access in all directions. With the tight constraints of this location, the proximity to SR 50 and entrance roads to multiple subdivisions, close coordination with the County will be expected. There is concern that access to and from these subdivisions may be impacted in a negative manner. All plan reviews by the County should be addressed to Brian Sanders, Orange County Transportation Planning.

- **CR 419 Extension (Chuluota Rd):**

An extension of CR 419 is proposed south of SR 50 down along the west side of the East River High School and connects to SR 408 with a full directional interchange. The proposed typical section is an urban 4-lane curb and gutter, 22 feet raised median with sidewalks along both sides. Mr. Nastasi noted the County is planning to begin a PD&E Study to widen CR 419 (Chuluota Rd) from SR 50 to Lake Pickett Rd. Both, Mr. Massaro and Mr. Nastasi want this road to have roadway lighting and remain under the jurisdiction of CFX. Mr. Nastasi said a concern mentioned by Commissioner Bonilla was lack of proper student pedestrian features at the intersection of SR 50.

***Action Item – Arrange a meeting between the Orange County Staff and CFX sometime prior to the hearing.***

***Action Item – Send Brian Sanders a KMZ file of the proposed alternative.***

Please contact William Sloup at (407) 644-1898 if there are any changes or additions to the minutes.

## APPENDIX H – COST

## SUMMARY

### ESTIMATED PROBABLE PROJECT COST

# SR 408 EASTERN EXTENSION PD&E STUDY

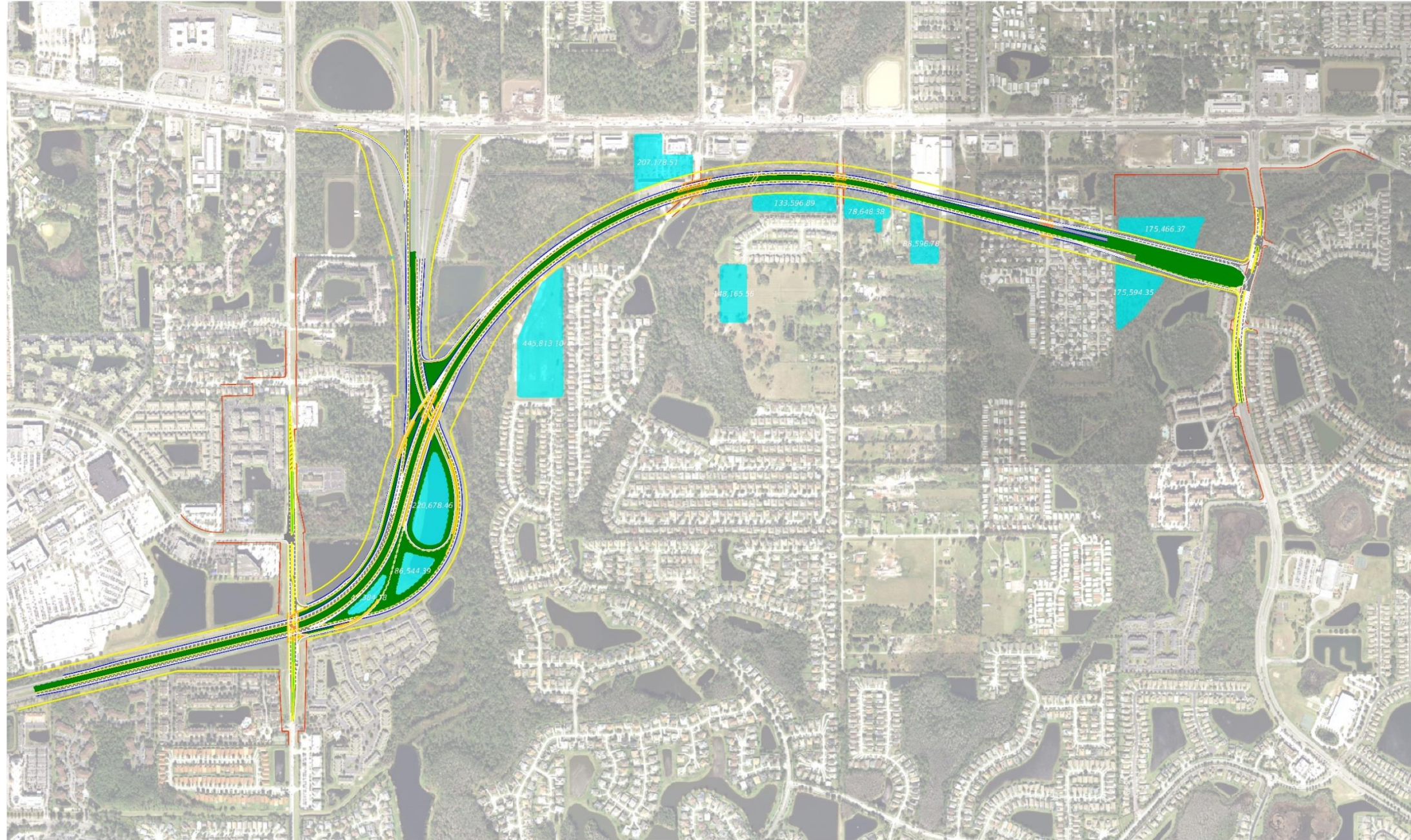
PREPARED BY *METRIC ENGINEERING*  
LAST UPDATED 2/1/2018

PROJECT CENTERLINE MILES: 2.102

NUMBER OF BRIDGES: 13

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MAINLINE ROADWAY - SEGMENT 1	\$85,331,691
SR 408/CHALLENGER PKWY/ SR 50 INTERCHANGE	\$15,162,454
SR 408 AND WOODBURY INTERCHANGE	\$23,281,435
SR 408 AND AVALON PARK BOULEVARD SEGMENT 1 INTERCH	\$6,403,597
<hr/>	
<b>TOTAL (2018 CONSTRUCTION COST)</b>	<b>\$130,179,177</b>
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ENGINEERING / ADMINISTRATION / LEGAL (24%)	\$31,243,003
<hr/>	
RIGHT - OF - WAY	86.0 ACRES \$91,300,000
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MITIGATION*	\$6,196,058
<hr/>	
*See attached Environmental Mitigation Costs and Permitting Fees for more details	
<hr/>	
TOLL COLLECTION EQUIPMENT	6 LANES @ \$ 210,000 \$1,260,000
<hr/>	
<b>GRAND TOTAL PROJECT COST</b>	<b>\$260,178,238</b>
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## SR 408 Eastern Extension - Segment 1

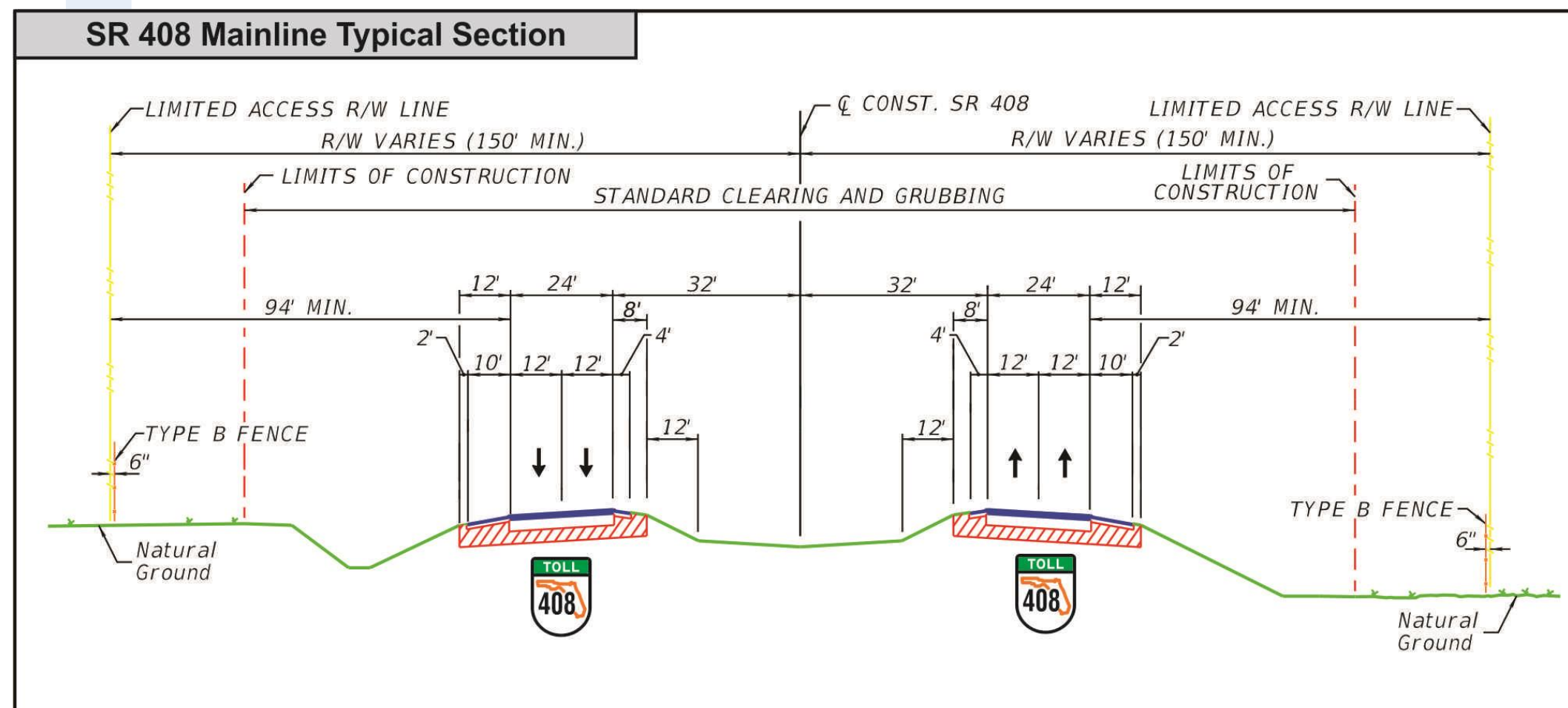
### Quick Facts

Segment 1- construction from Begin project west of Woodbury Avenue to west half of Avalon Park Boulevard



## Quick Facts

SR 408 Mainline - 300'  
Right-of-way with four 12'  
travel lanes and a 64'  
median



SR 408 Mainline Typical Section

**ESTIMATED PROBABLE CONSTRUCTION COST**  
**MAINLINE ROADWAY - SEGMENT 1**

PREPARED BY METRIC ENGINEERING

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** EXPRESSWAYS **</b>				
MAINLINE ROADWAY TYPICAL - SEGMENT 1*	1.957	MI	\$4,278,872	\$8,373,753
MAINLINE TO 6 LANES	0.795	MI	\$445,964	\$354,541
<b>** BRIDGES **</b>				
<u>BRIDGE 2</u>				
SR 408 EB over SR 408 EB On/Off Ramps (76x207)	15,732	SF	\$170	\$2,674,440
Steel Plate Girders; Pile Bents				
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)**	1.000	EA	\$1,941,310	\$1,941,310
RETAINED EARTH WALL (BEGIN BRIDGE)	3,823	SF	\$35	\$133,790
RETAINED EARTH WALL (END BRIDGE)	3,823	SF	\$35	\$133,790
<u>BRIDGE 3</u>				
SR 408 WB over SR 408 EB On/Off Ramps (50.67x211)	10,691	SF	\$170	\$1,817,470
Steel Plate Girders; Pile Bents				
RETAINED EARTH WALL (BEGIN BRIDGE)	3,034	SF	\$35	\$106,207
RETAINED EARTH WALL (END BRIDGE)	3,034	SF	\$35	\$106,207
<u>BRIDGE 6</u>				
SR 408 WB over Bridgeway Boulevard (64.17x229)	14,694	SF	\$170	\$2,497,980
Steel Plate Girders; Pile Bents				
<u>BRIDGE 7</u>				
SR 408 EB over Bridgeway Boulevard (48.17x237)	11,416	SF	\$170	\$1,940,720
Steel Plate Girders; Pile Bents				
<u>BRIDGE 8</u>				
SR 408 WB over Hancock Lone Palm Road (54.17x71)	3,846	SF	\$120	\$461,520
Prestressed Concrete Florida I Beams; Pile Bents				
<u>BRIDGE 9</u>				
SR 408 EB over Hancock Lone Palm Road (48.17x72)	3,468	SF	\$120	\$416,160
Prestressed Concrete Florida I Beams; Pile Bents				
<u>BRIDGE 10</u>				
SR 408 WB over Frickle Avenue (51.08x42)	2,146	SF	\$135	\$289,710
Transversely PT-P/S Concrete Slab Units; Pile Bents				
<u>BRIDGE 11</u>				
SR 408 EB over Frickle Avenue (44.67x42)	1,876	SF	\$135	\$253,260
Transversely PT-P/S Concrete Slab Units; Pile Bents				
<u>BRIDGE 12</u>				
SR 408 WB over Pel Street (69.92x73)	5,104	SF	\$120	\$612,480
Prestressed Concrete Florida I Beams; Pile Bents			\$35	
<u>BRIDGE 13</u>				
SR 408 EB over Pel Street (44.67x73)	3,261	SF	\$120	\$391,320
Prestressed Concrete Florida I Beams; Pile Bents				
<b>** ADDITIONAL ITEMS **</b>				
OVERHEAD TRUSS SIGNS	1	EA	\$250,000	\$250,000
OVERHEAD CANTILEVER SIGNS	6	EA	\$80,000	\$480,000
MULTIPOST SIGNS	2	EA	\$5,500	\$11,000
FIBER OPTIC NETWORK (FON) (CONDUIT, 72 WIRE, PULL BOXES, SPLICE, ETC.)	2.102	MI	\$350,000	\$735,700
DYNAMIC MESSAGE SIGNS	1	EA	\$250,000	\$250,000
RETENTION PONDS	47.06	AC	\$162,165	\$7,631,473
CD-1 3-11'x5'x485' CBC	1.00	EA	\$2,532,000	\$2,532,000
CD-2 4-10'x5'x302' CBC	1.00	EA	\$1,980,000	\$1,980,000
CD-3 3-11'x7'x400' CBC	1.00	EA	\$2,117,000	\$2,117,000
CD-3A 1-30" RCP	300.00	LF	\$100	\$30,000
MAINLINE TOLL GANTRY (2 LANE, 2 TRUSSES AND EQUIP. BLDG)	1	EA	\$1,750,000	\$1,750,000
EMBANKMENT	1,647,427	CY	\$8	\$13,179,416



NOISE WALLS (AVERAGE 20 FT HEIGHT)	12,400	LF	\$520	\$6,448,000
ADDITIONAL RETAINED EARTH WALL (NEAR BRIDGEWAY NEIGHBORHOOD) (15')	12,580	SF	\$35	\$440,300
SUB-TOTAL				\$60,339,546
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)				\$301,698
MAINTENANCE OF TRAFFIC (1%)				\$603,395
MOBILIZATION (9.5%)				\$5,732,257
SUB-TOTAL ROADWAY				\$46,571,533
ROADWAY CONTINGENCY (20%)				\$9,314,307
SUB-TOTAL BRIDGES				\$20,405,363
BRIDGE CONTINGENCY (10%)				\$2,040,536
SUB-TOTAL				\$78,331,739
AESTHETICS CONTINGENCY (3%)				\$2,349,952
RELOCATE UTILITIES				\$4,100,000
ALLOWANCE FOR DISPUTES REVIEW BOARD				\$50,000
WORK ORDER ALLOWANCE				\$500,000
<b>TOTAL (2018 CONSTRUCTION COST)</b>				<b>\$85,331,691</b>

\* Note: For embankment costs see Additional Items

\*\* Note: Includes all areas needed guardrail + shoulder gutter along mainline

**ESTIMATED PROBABLE CONSTRUCTION COST**  
**SR 408/CHALLENGER PKWY/ SR 50 INTERCHANGE**

PREPARED BY METRIC ENGINEERING

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** RAMPS **</b>				
ONE LANE RAMPS (OPEN DRAINAGE)*	1.396	MI	\$1,275,368	\$1,780,414
TWO LANE RAMPS (OPEN DRAINAGE)*	1.136	MI	\$1,742,399	\$1,979,365
THREE LANE RAMPS	0.190	MI	\$2,319,091	\$440,627
TYPICAL 1 LANE ON-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$225,841	\$225,841
TYPICAL 1 LANE OFF-RAMP TAPER W/GORE - MAINLINE UNCHANGED	2	EA	\$133,040	\$266,081
TYPICAL 2 LANE OFF-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$437,159	\$437,159
TYPICAL 2 LANE ON-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$406,191	\$406,191
<b>** ADDITIONAL ITEMS **</b>				
OVERHEAD LIGHTING (INCLUDES WIRING) (1 SIDE, 200' SPACING)	2.722	MI	\$280,500	\$763,521
OVERHEAD LIGHTING (INCLUDES WIRING) (2 SIDES, 200' SPACING)	0.379	MI	\$561,000	\$212,619
EMBANKMENT	414,208.000	CY	\$8	\$3,313,664
MULTIPOST SIGNS	8	EA	\$5,500	\$44,000
ITS EQUIPMENT / DEVICES PER INTERCHANGE (CCTV, TMS, ETC.)	2	INT	\$330,000	\$660,000
SUB-TOTAL				\$10,529,482
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)				\$52,647
MAINTENANCE OF TRAFFIC (10%)				\$1,052,948
MOBILIZATION (9.5%)				\$1,000,301
SUB-TOTAL ROADWAY				\$12,635,379
ROADWAY CONTINGENCY (20%)				\$2,527,076
<b>TOTAL (2018 CONSTRUCTION COST)</b>				<b>\$15,162,454</b>

\* Note: For embankment costs see Additional Items

**ESTIMATED PROBABLE CONSTRUCTION COST**  
**SR 408 AND WOODBURY INTERCHANGE**

PREPARED BY METRIC ENGINEERING

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** RAMPS **</b>				
ONE LANE RAMPS (OPEN DRAINAGE)*	0.946	MI	\$1,275,368	\$1,206,498
TWO LANE RAMPS (OPEN DRAINAGE)*	0.114	MI	\$1,742,399	\$198,633
TYPICAL 1 LANE OFF-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$133,040	\$133,040
<b>** BRIDGES **</b>				
<u>BRIDGE 1A</u>				
Woodbury Road over SR 408 (209x102.5)	21,423	SF	\$125	\$2,677,813
Demolish Existing bridge	8,400	SF	\$60	\$504,000
Prestressed Concrete Florida I Beams; Straddle and Pile Bents				
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)	1.000	EA	\$351,519	\$351,519
RETAINED EARTH WALL (BEGIN BRIDGE)	3,130	SF	\$35	\$109,550
RETAINED EARTH WALL (END BRIDGE)	3,130	SF	\$35	\$109,550
<u>BRIDGE 1</u>				
SR 408 EB on Ramp over SR 408 EB Off Ramp (35.67x470)	16,763	SF	\$180	\$3,017,340
Curved Steel Plate Girders; Multicolumn and Pile Bents				
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)	1.000	EA	\$311,019	\$311,019
RETAINED EARTH WALL (BEGIN BRIDGE)	2,243	SF	\$35	\$78,496
<u>BRIDGE 4</u>				
SR 408 WB Off Ramp over SR 408 EB On/Off Ramps (29.67x197)	5,845	SF	\$170	\$993,650
Steel Plate Girders; Pile Bents				
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)	1.000	EA	\$311,019	\$311,019
RETAINED EARTH WALL (BEGIN BRIDGE)	2,288	SF	\$35	\$80,072
RETAINED EARTH WALL (END BRIDGE)	2,288	SF	\$35	\$80,072
<u>BRIDGE 5</u>				
SR 408 WB Off Ramp over SR 408 WB On/Off Ramps (38.67x347)	13,417	SF	\$125	\$1,677,125
Prestressed Concrete Florida I Beams; Straddle and Pile Bents				
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)	1.000	EA	\$311,019	\$311,019
RETAINED EARTH WALL (BEGIN BRIDGE)	2,754	SF	\$35	\$96,406
RETAINED EARTH WALL (END BRIDGE)	2,754	SF	\$35	\$96,406
<b>** ARTERIAL ROADS **</b>				
WOODBURY TYPICAL SECTION	0.515	MI	\$5,247,381	\$2,702,401
MEDIAN CROSSOVER - NEW CONSTRUCTION	2	EA	\$8,444	\$16,887
DEMOLISH EXISTING ARTERIAL ROAD	0.515	MI	\$209,733	\$108,012
<b>** INTERSECTION SIGNALIZATION **</b>				
SIGNALIZATION PER INTERCHANGE	2	EA	\$132,150	\$264,300
<b>** ADDITIONAL ITEMS **</b>				
OVERHEAD LIGHTING (INCLUDES WIRING) (1 SIDE, 200' SPACING)	1.060	MI	\$280,500	\$297,330
OVERHEAD LIGHTING (INCLUDES WIRING) (2 SIDES, 200' SPACING)	0.606	MI	\$561,000	\$339,966
EMBANKMENT	63,111.000	CY	\$8	\$504,888
MULTIPOST SIGNS	2	EA	\$5,500	\$11,000
ITS EQUIPMENT / DEVICES PER INTERCHANGE (CCTV, TMS, ETC.)	1	INT	\$330,000	\$330,000

SUB-TOTAL	\$16,918,014
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)	\$84,590
MAINTENANCE OF TRAFFIC (10%)	\$1,691,801
MOBILIZATION (9.5%)	\$1,607,211

SUB-TOTAL ROADWAY	\$9,496,560
ROADWAY CONTINGENCY (20%)	\$1,899,312

SUB-TOTAL BRIDGES	\$10,805,057
BRIDGE CONTINGENCY (10%)	\$1,080,506

<b>TOTAL (2018 CONSTRUCTION COST)</b>	<b>\$23,281,435</b>
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\* Note: For embankment costs see Additional Items

**ESTIMATED PROBABLE CONSTRUCTION COST**  
**SR 408 AND AVALON PARK BOULEVARD SEGMENT 1 INTERCHANGE**

PREPARED BY METRIC ENGINEERING

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** RAMPS **</b>				
ONE LANE RAMPS (OPEN DRAINAGE)*	0.510	MI	\$1,275,368	\$650,438
TWO LANE RAMPS (OPEN DRAINAGE)*	0.380	MI	\$1,742,399	\$662,112
TYPICAL 1 LANE ON-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$225,841	\$225,841
TYPICAL 1 LANE OFF-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$133,040	\$133,040
<b>** ARTERIAL ROADS **</b>				
AVALON PARK BOULEVARD TYPICAL SECTION	0.234	MI	\$4,372,318	\$1,023,122
MEDIAN CROSSOVER - NEW CONSTRUCTION	2	EA	\$8,444	\$16,887
ADDITIONAL LANE (NEW CONSTRUCTION) - CLOSED DRAINAGE, 2' EXCAVATION	0.335	MI	\$402,827	\$134,947
DEMOLISH EXISTING ARTERIAL ROAD	0.234	MI	\$341,092	\$79,816
<b>** INTERSECTION SIGNALIZATION **</b>				
SIGNALIZATION PER INTERCHANGE	2	EA	\$132,150	\$264,300
<b>** ADDITIONAL ITEMS **</b>				
EMBANKMENT	47,796.000	CY	\$8	\$382,368
OVERHEAD LIGHTING (INCLUDES WIRING) (1 SIDE, 200' SPACING)	0.610	MI	\$280,500	\$171,105
OVERHEAD LIGHTING (INCLUDES WIRING) (2 SIDES, 200' SPACING)	0.606	MI	\$561,000	\$339,966
MULTIPOST SIGNS	6	EA	\$5,500	\$33,000
ITS EQUIPMENT / DEVICES PER INTERCHANGE (CCTV, TMS, ETC.)	1	INT	\$330,000	\$330,000
SUB-TOTAL				\$4,446,942
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)				\$22,235
MAINTENANCE OF TRAFFIC (10%)				\$444,694
MOBILIZATION (9.5%)				\$422,460
SUB-TOTAL				\$5,336,331
ROADWAY CONTINGENCY (20%)				\$1,067,266
<b>TOTAL (2018 CONSTRUCTION COST)</b>				<b>\$6,403,597</b>

\* Note: For embankment costs see Additional Items

## SUMMARY

### ESTIMATED PROBABLE PROJECT COST

# SR 408 EASTERN EXTENSION PD&E STUDY

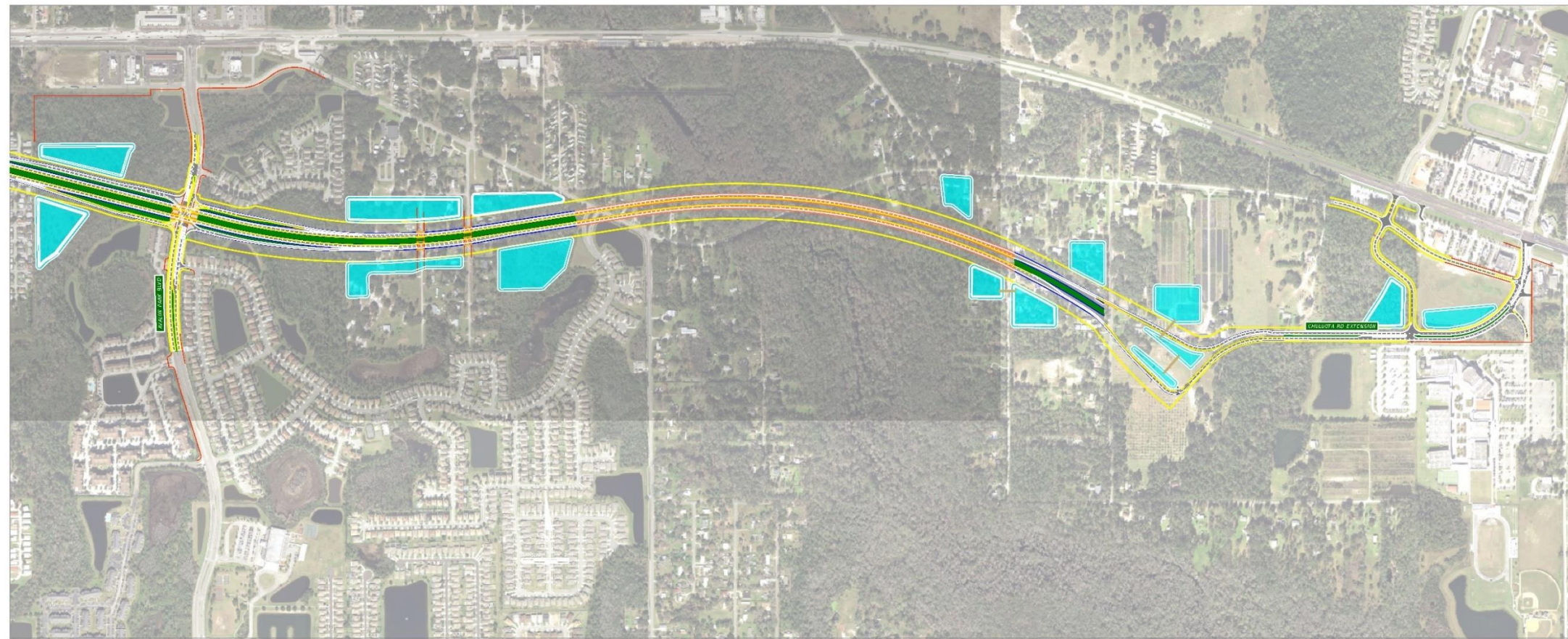
PREPARED BY *METRIC ENGINEERING*  
LAST UPDATED 2/1/2018

PROJECT CENTERLINE MILES: 2.120

NUMBER OF BRIDGES: 8

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MAINLINE ROADWAY - SEGMENT 2		\$135,065,822
AVALON PARK BOULEVARD EAST EXTENSION SEGMENT 2 I		\$2,653,987
CHULUOTA ROAD EXTENSION SEGMENT 2 INTERCHANGE		\$11,692,326
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<b>TOTAL (2018 CONSTRUCTION COST)</b>		<b>\$149,412,134</b>
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ENGINEERING / ADMINISTRATION / LEGAL (24%)		\$35,858,912
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RIGHT - OF - WAY	118.0 ACRES	\$64,300,000
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MITIGATION*		\$3,872,931
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*See attached Environmental Mitigation Costs and Permitting Fees for more details		
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TOLL COLLECTION EQUIPMENT	6 LANES @ \$ 210,000	\$1,260,000
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<b>GRAND TOTAL PROJECT COST</b>		<b>\$254,703,978</b>
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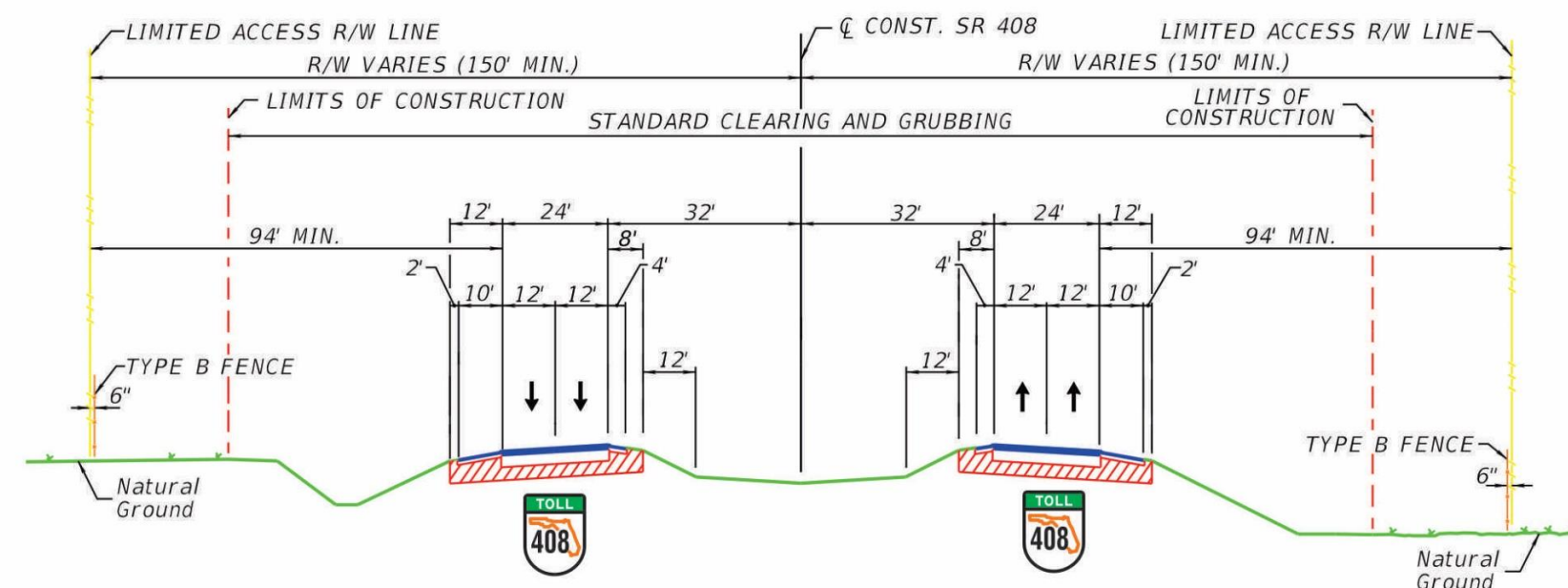
## SR 408 Eastern Extension - Segment 2

### Quick Facts

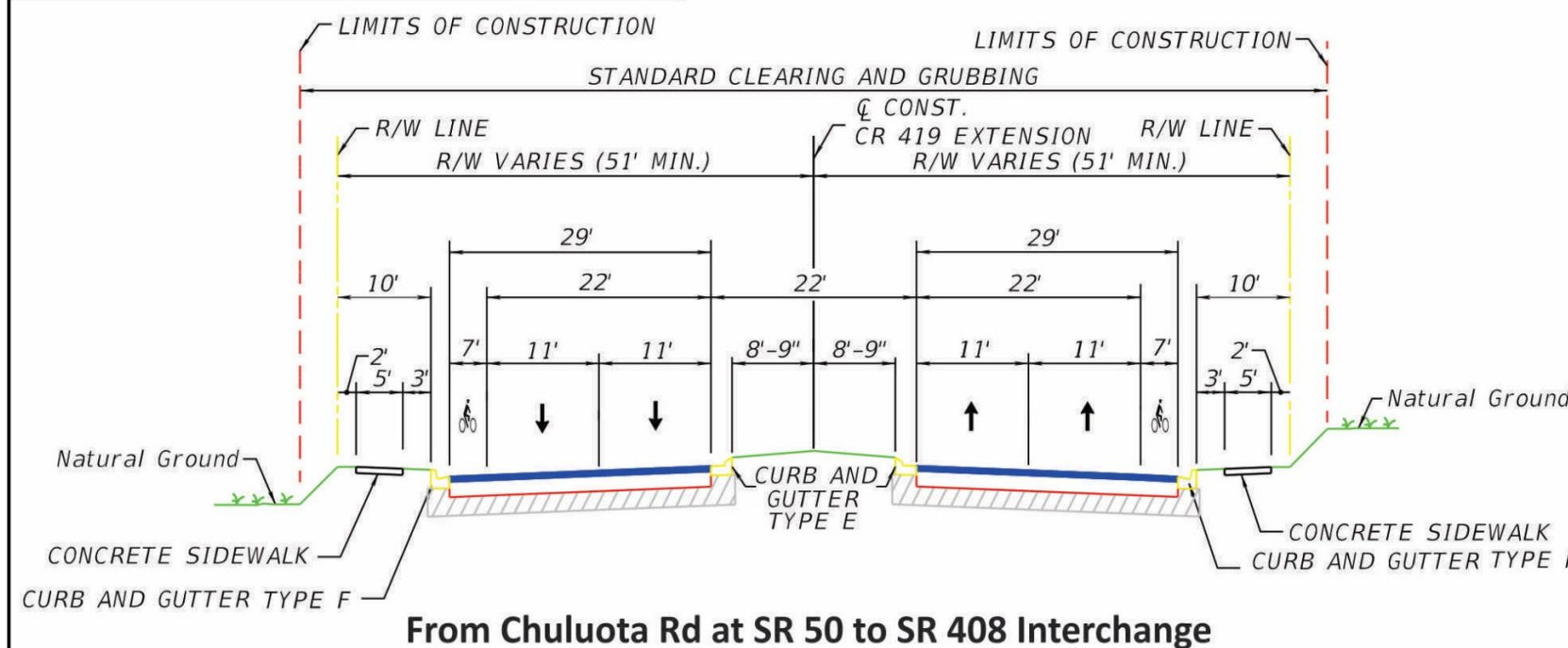
Segment 2 - construction of eastern half of Avalon Park Boulevard to western half of Chuluota Road Extension



### SR 408 Mainline Typical Section



### Chuluota Road Extension Typical Section



### Quick Facts

SR 408 Mainline - 300' Right-of-way with four 12' travel lanes and a 64' median

Chuluota Road Extension - 102' Right-of-way with 11' travel lanes and a 22' median

SR 408 Mainline and Chuluota Road Extension Typical Sections





**ESTIMATED PROBABLE CONSTRUCTION COST**  
**MAINLINE ROADWAY - SEGMENT 2**

PREPARED BY *METRIC ENGINEERING*

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** EXPRESSWAYS **</b>				
MAINLINE ROADWAY TYPICAL - SEGMENT 2 *	1.104	MI	\$4,278,872	\$4,723,875
<b>** BRIDGES **</b>				
<b>BRIDGE 14</b>				
SR 408 WB Over Avalon Park Blvd (50.67x230)	11,653	SF	\$170	\$1,981,010
Steel Plate Girders; Pile Bents				
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)**	1.000	EA	\$910,950	\$910,950
RETAINED EARTH WALL (BEGIN BRIDGE)	2,111	SF	\$35	\$73,876
RETAINED EARTH WALL (END BRIDGE)	2,111	SF	\$35	\$73,876
<b>BRIDGE 15</b>				
SR 408 EB Over Avalon Park Blvd (50.67x230)	11,653	SF	\$170	\$1,981,010
Steel Plate Girders; Pile Bents				
RETAINED EARTH WALL (BEGIN BRIDGE)	2,111	SF	\$35	\$73,876
RETAINED EARTH WALL (END BRIDGE)	2,111	SF	\$35	\$73,876
<b>BRIDGE 16</b>				
SR 408 WB Over Econlockhatchee River (51.55x3808)	196,302	SF	\$180	\$35,334,360
Steel Plate Girders & Prestressed Concrete I Beams; Hammerhead, Pile Bents				
<b>BRIDGE 17</b>				
SR 408 EB Over Econlockhatchee River (45.74x3835)	175,412	SF	\$180	\$31,574,160
Steel Plate Girders & Prestressed Concrete I Beams; Hammerhead, Pile Bents				
<b>** ADDITIONAL ITEMS **</b>				
OVERHEAD TRUSS SIGNS	1	EA	\$250,000	\$250,000
OVERHEAD CANTILEVER SIGNS		EA	\$80,000	\$0
MULTIPOST SIGNS	2	EA	\$5,500	\$11,000
FIBER OPTIC NETWORK (FON) (CONDUIT, 72 WIRE, PULL BOXES, SPLICE, ETC.)	2.120	MI	\$350,000	\$742,000
DYNAMIC MESSAGE SIGNS	2	EA	\$250,000	\$500,000
RETENTION PONDS	38.18	AC	\$162,165	\$6,191,450
CD-4 2-8'X4'X456' CBC	1	EA	\$1,165,000	\$1,165,000
CD-5 2-72"X374' RCP	374.00	LF	\$350	\$130,900
CD-6 2-72"X427' RCP	427.00	LF	\$350	\$149,450
MAINLINE TOLL GANTRY (2 LANE, 2 TRUSSES AND EQUIP. BLDG)	1	EA	\$1,750,000	\$1,750,000
EMBANKMENT	1,172,555	CY	\$8	\$9,380,440
NOISE WALLS (AVERAGE 20 FT HEIGHT)	12,450	LF	\$520	\$6,474,000
TYPICAL 30' RAD. CUL-DE-SAC (Caudle St & Colonial Drive)	2	EA	\$23,470	\$46,941

SUB-TOTAL	\$103,545,109
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)	\$517,726
MAINTENANCE OF TRAFFIC (1%)	\$1,035,451
MOBILIZATION (9.5%)	\$9,836,785

SUB-TOTAL ROADWAY	\$41,693,077
ROADWAY CONTINGENCY (20%)	\$8,338,615

SUB-TOTAL BRIDGES	\$73,241,994
BRIDGE CONTINGENCY (10%)	\$7,324,199

SUB-TOTAL	\$130,597,885
AESTHETICS CONTINGENCY (3%)	\$3,917,937

RELOCATE UTILITIES	\$0
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ALLOWANCE FOR DISPUTES REVIEW BOARD	\$50,000
WORK ORDER ALLOWANCE	\$500,000

<b>TOTAL (2018 CONSTRUCTION COST)</b>	<b>\$135,065,822</b>
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\*Note: For embankment costs see Additional Items

\*\* Note: Includes all areas needed guardrail + shoulder gutter along mainline

**ESTIMATED PROBABLE CONSTRUCTION COST**  
**AVALON PARK BOULEVARD EAST EXTENSION SEGMENT 2 INTERCHANGE**

PREPARED BY *METRIC ENGINEERING*

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** RAMPS **</b>				
ONE LANE RAMPS (OPEN DRAINAGE)*	0.510	MI	\$6,000	\$3,060
TWO LANE RAMPS (OPEN DRAINAGE)*	0.224	MI	\$1,743,250	\$390,488
TYPICAL 1 LANE ON-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$225,841	\$225,841
TYPICAL 1 LANE OFF-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$133,040	\$133,040
<b>** ARTERIAL ROADS **</b>				
EMBANKMENT	38333.000	CY	\$8	\$306,664
RETAINED EARTH WALL	8200.000	SF	\$35	\$287,000
<b>** INTERSECTION SIGNALIZATION **</b>				
SIGNALIZATION PER INTERCHANGE	1.000	EA	\$248,860	\$248,860
<b>** ADDITIONAL ITEMS **</b>				
OVERHEAD LIGHTING (INCLUDES WIRING) (1 SIDE, 200' SPACING)	0.734	MI	\$280,500	\$205,887
OVERHEAD LIGHTING (INCLUDES WIRING) (2 SIDES, 200' SPACING)	0.322	MI	\$561,000	\$180,642
MULTIPOST SIGNS	2	EA	\$5,500	\$11,000
SUB-TOTAL				\$1,992,482
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)				\$9,962
MAINTENANCE OF TRAFFIC (1%)				\$19,925
MOBILIZATION (9.5%)				\$189,286
SUB-TOTAL				\$2,211,656
ROADWAY CONTINGENCY (20%)				\$442,331
<b>TOTAL (2018 CONSTRUCTION COST)</b>				<b>\$2,653,987</b>

Note: For embankment costs see Additional Items



**ESTIMATED PROBABLE CONSTRUCTION COST**  
**CHULUOTA ROAD EXTENSION SEGMENT 2 INTERCHANGE**

PREPARED BY METRIC ENGINEERING

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** RAMPS **</b>				
ONE LANE RAMPS (OPEN DRAINAGE)*	0.380	MI	\$1,275,368	\$484,640
TWO LANE RAMPS (OPEN DRAINAGE)*	0.370	MI	\$1,743,250	\$645,002
TYPICAL 1 LANE ON-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$225,841	\$225,841
TYPICAL 1 LANE OFF-RAMP TAPER W/GORE - MAINLINE UNCHANGED	1	EA	\$133,040	\$133,040
<b>** BRIDGES **</b>				
<u>BRIDGE 18</u>				
SR 408 WB On ramp over Lockwood Dr (29.67x91)	2,700	SF	\$120	\$324,000
Prestressed Concrete Florida I Beams; Pile Bents				
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)	1.000	EA	\$378,879	\$378,879
RETAINED EARTH WALL (BEGIN BRIDGE)	2,111	SF	\$35	\$73,876
RETAINED EARTH WALL (END BRIDGE)	2,111	SF	\$35	\$73,876
<u>BRIDGE 21</u>				
SR 408 EB Off Ramp Over Lockwood Dr (29.67x169)	5,014	SF	\$120	\$601,680
Prestressed Concrete Florida I Beams; Pile Bents				
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)	1.000	EA	\$378,879	\$378,879
RETAINED EARTH WALL (BEGIN BRIDGE)	2,111	SF	\$35	\$73,876
RETAINED EARTH WALL (END BRIDGE)	2,111	SF	\$35	\$73,876
<b>** ARTERIAL ROADS **</b>				
CHULUOTA RD EXTENSION TYPICAL SECTION	0.700	MI	\$4,372,318	\$3,060,623
ACCESS STREETS TYPICAL SECTION	0.495	MI	\$1,616,363	\$800,100
DEMOLISH EXISTING ARTERIAL ROAD	0.234	MI	\$209,733	\$49,078
EMBANKMENT	127667.000	CY	\$8	\$1,021,336
CD-7 2-48"X129' RCP	129.00	LF	\$200	\$25,800
<b>** INTERSECTION SIGNALIZATION **</b>				
SIGNALIZATION PER INTERCHANGE	1	EA	\$132,150	\$132,150
<b>** ADDITIONAL ITEMS **</b>				
OVERHEAD LIGHTING (INCLUDES WIRING) (1 SIDE, 200' SPACING)	0.750	MI	\$280,500	\$210,375
OVERHEAD LIGHTING (INCLUDES WIRING) (2 SIDES, 200' SPACING)	0.265	MI	\$561,000	\$148,665
MULTIPOST SIGNS	2	EA	\$5,500	\$11,000
SUB-TOTAL				\$8,926,592
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)				\$44,633
MAINTENANCE OF TRAFFIC (1%)				\$89,266
MOBILIZATION (9.5%)				\$848,026
SUB-TOTAL BRIDGES				\$1,978,942
BRIDGE CONTINGENCY (10%)				\$197,894
SUB-TOTAL				\$7,929,575
ROADWAY CONTINGENCY (20%)				\$1,585,915
<b>TOTAL (2018 CONSTRUCTION COST)</b>				<b>\$11,692,326</b>

\*Note: For embankment costs see Additional Items

## SUMMARY

### ESTIMATED PROBABLE PROJECT COST

# SR 408 EASTERN EXTENSION PD&E STUDY

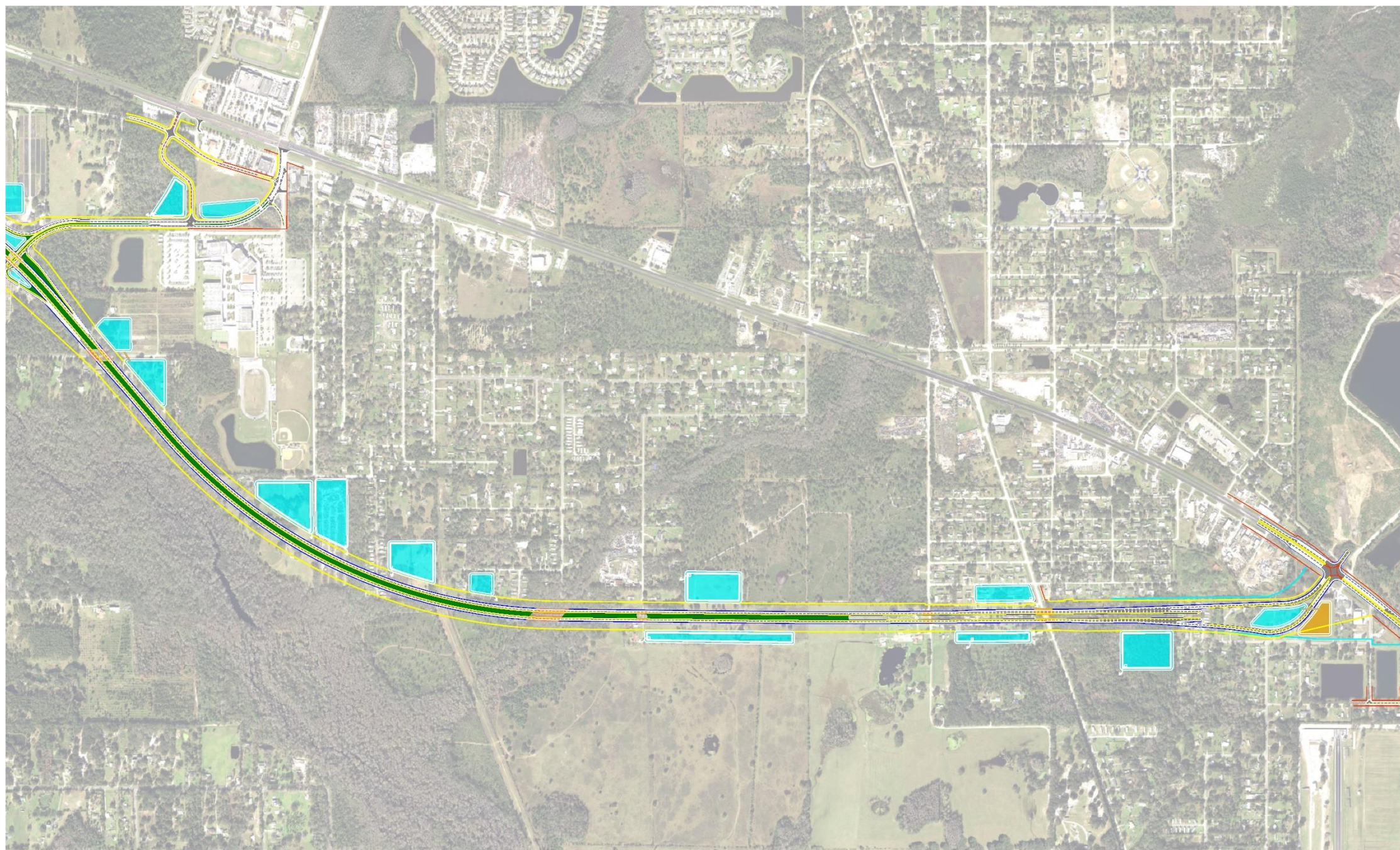
PREPARED BY *METRIC ENGINEERING*  
LAST UPDATED 2/1/2018

PROJECT CENTERLINE MILES: 3.030

NUMBER OF BRIDGES: 12

MAINLINE ROADWAY - SEGMENT 3	\$75,214,737
CHULUOTA ROAD EXTENSION SEGMENT 3 INTERCHANGE	\$6,836,834
SR 408 AND SR 50 INTERCHANGE	\$8,656,660
<b>TOTAL (2018 CONSTRUCTION COST)</b>	<b>\$90,708,231</b>
ENGINEERING / ADMINISTRATION / LEGAL (24%)	\$21,769,975
RIGHT - OF - WAY	155.0 ACRES \$44,400,000
MITIGATION*	\$5,227,912
*See attached Environmental Mitigation Costs and Permitting Fees for more details	
TOLL COLLECTION EQUIPMENT	6 LANES @ \$ 210,000 \$1,260,000
<b>GRAND TOTAL PROJECT COST</b>	<b>\$163,366,119</b>





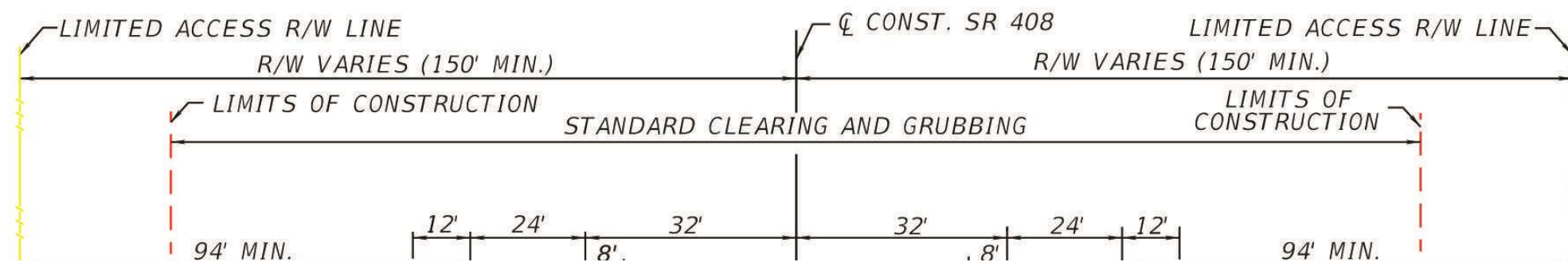
## Quick Facts

Segment 3-  
from the east  
Chuluota Ro  
to End of Pro  
SR 50.



# SR 408 Eastern Extension - Segment 3

SR 408 Mainline Typical Section



## Quick Facts

SR 408 Main  
Right-of-way  
travel lanes

**ESTIMATED PROBABLE CONSTRUCTION COST**  
**MAINLINE ROADWAY - SEGMENT 3**

PREPARED BY *METRIC ENGINEERING*

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** EXPRESSWAYS **</b>				
MAINLINE ROADWAY TYPICAL - SEGMENT 3*	2.646	MI	\$4,278,872	\$11,321,896
<b>** BRIDGES **</b>				
<u>BRIDGE 19</u> SR 408 WB Over Lockwood Dr (44.67x98) Prestressed Concrete Florida I Beams; Pile Bents	4,288	SF	\$120	\$514,560
RETAINED EARTH WALL (BEGIN BRIDGE)	2,441	SF	\$35	\$85,426
RETAINED EARTH WALL (END BRIDGE)	2,441	SF	\$35	\$85,426
<u>BRIDGE 20</u> SR 408 EB Over Lockwood Dr (44.67x98) Prestressed Concrete Florida I Beams; Pile Bents	4,377	SF	\$120	\$525,240
RETAINED EARTH WALL (BEGIN BRIDGE)	2,441	SF	\$35	\$85,426
RETAINED EARTH WALL (END BRIDGE)	2,441	SF	\$35	\$85,426
<u>BRIDGE 24</u> SR 408 WB over Hamilton Dr (44.687x106) Prestressed Concrete Florida I Beam; Pile Bents	4,735	SF	\$120	\$568,200
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)**	1.000	EA	\$3,607,968	\$3,607,968
RETAINED EARTH WALL (BEGIN BRIDGE)	2,441	SF	\$35	\$85,426
RETAINED EARTH WALL (END BRIDGE)	2,441	SF	\$35	\$85,426
<u>BRIDGE 25</u> SR 408 EB over Hamilton Dr (56.33x106) Prestressed Concrete Florida I Beam; Pile Bents	5,971	SF	\$120	\$716,520
RETAINED EARTH WALL (BEGIN BRIDGE)	2,441	SF	\$35	\$85,426
RETAINED EARTH WALL (END BRIDGE)	2,441	SF	\$35	\$85,426
<u>BRIDGE 26</u> SR 408 WB over Econlockhatchee River Tributary (51.67x305) Prestressed Concrete Florida I Beam; Pile Bents	15,758	SF	\$120	\$1,890,960
<u>BRIDGE 27</u> SR 408 EB over Econlockhatchee River Tributary (51.67x300) Prestressed Concrete Florida I Beam; Pile Bents	15,500	SF	\$120	\$1,860,000
<u>BRIDGE 28</u> SR 408 WB over Seminole Trail (44.67x81) Prestressed Concrete Florida I Beam; Pile Bents	3,618	SF	\$120	\$434,160
<u>BRIDGE 29</u> SR 408 EB over Seminole Trail (44.67x81) Prestressed Concrete Florida I Beam; Pile Bents	3,618	SF	\$120	\$434,160
<u>BRIDGE 30</u> SR 408 WB over N 5th Street (44.67x70) Prestressed Concrete Florida I Beam; Pile Bents	3,127	SF	\$120	\$375,240
<u>BRIDGE 31</u> SR 408 EB over N 5th Street (44.67x70) Prestressed Concrete Florida I Beam; Pile Bents	3,127	SF	\$120	\$375,240
<u>BRIDGE 32</u> SR 408 WB over North County Rd 13 (59.50x128) Prestressed Concrete Florida I Beam; Pile Bents	7,616	SF	\$120	\$913,920
<u>BRIDGE 33</u> SR 408 EB over North County Rd 13 (45.50x128) Prestressed Concrete Florida I Beam; Pile Bents	5,824	SF	\$120	\$698,880
<b>** ADDITIONAL ITEMS **</b>				
OVERHEAD TRUSS SIGNS	1	EA	\$250,000	\$250,000

OVERHEAD CANTILEVER SIGNS	6	EA	\$80,000	\$480,000
MULTIPOST SIGNS	3	EA	\$5,500	\$16,500
FIBER OPTIC NETWORK (FON) (CONDUIT, 72 WIRE, PULL BOXES, SPLICE, ETC.)	3.030	MI	\$350,000	\$1,060,500
DYNAMIC MESSAGE SIGNS	1	EA	\$250,000	\$250,000
RETENTION PONDS	28.82	AC	\$162,165	\$4,673,588
CD-8 1-10'x5'x447' CBC	1.00	EA	\$668,300	\$668,300
CD-9 1-72'X300' RCP	300.00	LF	\$350	\$105,000
CD-10 2-6'X4'X310' CBC	1.00	EA	\$618,450	\$618,450
CD-11 2-24'X395' RCP	395.00	LF	\$80	\$31,600
CD-12 2-8'X4'X522' CBC	1.00	EA	\$1,300,000	\$1,300,000
CD-13 1-48'X325' RCP	325.00	LF	\$200	\$65,000
MAINLINE TOLL GANTRY (2 LANE, 2 TRUSSES AND EQUIP. BLDG)	1	EA	\$1,750,000	\$1,750,000
EMBANKMENT	1,612,909	CY	\$8	\$12,903,272
TYPICAL 30' RAD. CUL-DE-SAC (Pine Isle Dr)	1	EA	\$23,470	\$23,470
NOISE WALLS (AVERAGE 20 FT HEIGHT)	4,400	LF	\$520	\$2,288,000
SUB-TOTAL				\$51,404,031
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)				\$257,020
MAINTENANCE OF TRAFFIC (1%)				\$514,040
MOBILIZATION (9.5%)				\$4,883,383
SUB-TOTAL ROADWAY				\$42,254,773
ROADWAY CONTINGENCY (20%)				\$8,450,955
SUB-TOTAL BRIDGES				\$16,185,205
BRIDGE CONTINGENCY (10%)				\$1,618,521
SUB-TOTAL				\$68,509,453
AESTHETICS CONTINGENCY (3%)				\$2,055,284
RELOCATE UTILITIES				\$4,100,000
ALLOWANCE FOR DISPUTES REVIEW BOARD				\$50,000
WORK ORDER ALLOWANCE				\$500,000
<b>TOTAL (2018 CONSTRUCTION COST)</b>				<b>\$75,214,737</b>

\*Note: For embankment costs see Additional Items

\*\* Note: Includes all areas needed guardrail + shoulder gutter along mainline



**ESTIMATED PROBABLE CONSTRUCTION COST**  
**CHULUOTA ROAD EXTENSION SEGMENT 3 INTERCHANGE**

PREPARED BY METRIC ENGINEERING

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** RAMPS **</b>				
ONE LANE RAMPS (OPEN DRAINAGE)*	0.951	MI	\$1,743,250	\$1,657,830
<b>** BRIDGES **</b>				
<u>BRIDGE 22</u> SR 408 WB over SR 408 On/Off Ramps Chuluota Rd (CR 419) (44.67x121) Prestressed Concrete Florida I Beam; Pile Bents	5,405	SF	\$120	\$648,600
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)	1.000	EA	\$375,519	\$375,519
RETAINED EARTH WALL (BEGIN BRIDGE)	2,441	SF	\$35	\$85,426
RETAINED EARTH WALL (END BRIDGE)	2,441	SF	\$35	\$85,426
<u>BRIDGE 23</u> SR 408 EB over SR 408 On/Off Ramps Chuluota Rd (CR 419) (44.67x122) Prestressed Concrete Florida I Beam; Pile Bents	5,449	SF	\$120	\$653,880
EXTRA MATERIAL - ELEVATED ROADWAY (BEGIN BRIDGE)	1.000	EA	\$375,519	\$375,519
RETAINED EARTH WALL (BEGIN BRIDGE)	2,441	SF	\$35	\$85,426
RETAINED EARTH WALL (END BRIDGE)	2,441	SF	\$35	\$85,426
<b>** INTERSECTION SIGNALIZATION **</b>				
SIGNALIZATION PER INTERCHANGE	1	EA	\$248,860	\$248,860
<b>** ADDITIONAL ITEMS **</b>				
EMBANKMENT	35,778.000	CY	\$8	\$286,224
OVERHEAD LIGHTING (INCLUDES WIRING) (1 SIDE, 200' SPACING)	0.951	MI	\$280,500	\$266,756
OVERHEAD LIGHTING (INCLUDES WIRING) (2 SIDES, 200' SPACING)	0.208	MI	\$561,000	\$116,688
MULTIPOST SIGNS	2	EA	\$5,500	\$11,000
ITS EQUIPMENT / DEVICES PER INTERCHANGE (CCTV, TMS, ETC.)	1	INT	\$330,000	\$330,000
SUB-TOTAL				\$5,312,580
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)				\$26,563
MAINTENANCE OF TRAFFIC (1%)				\$53,126
MOBILIZATION (9.5%)				\$504,695
SUB-TOTAL BRIDGES				\$2,395,222
BRIDGE CONTINGENCY (10%)				\$239,522
SUB-TOTAL				\$3,501,742
ROADWAY CONTINGENCY (20%)				\$700,348
<b>TOTAL (2018 CONSTRUCTION COST)</b>				<b>\$6,836,834</b>

\*Note: For embankment costs see Additional Items

**ESTIMATED PROBABLE CONSTRUCTION COST**  
**SR 408 AND SR 50 INTERCHANGE**

PREPARED BY METRIC ENGINEERING

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
<b>** RAMPS **</b>				
TWO LANE RAMPS (OPEN DRAINAGE)*	1.064	MI	\$1,742,399	\$1,853,913
THREE LANE RAMPS	0.190	MI	\$2,319,091	\$440,627
<b>** ARTERIAL ROADS **</b>				
SR 50 TYPICAL SECTION	0.534	MI	\$1,616,363	\$863,138
DEMOLISH EXISTING ARTERIAL ROAD	0.534	MI	\$209,733	\$111,997
<b>** INTERSECTION SIGNALIZATION **</b>				
SIGNALIZATION PER INTERCHANGE	1	EA	\$193,150	\$193,150
<b>** ADDITIONAL ITEMS **</b>				
OVERHEAD LIGHTING (INCLUDES WIRING) (1 SIDE, 200' SPACING)	1.064	MI	\$280,500	\$298,452
OVERHEAD LIGHTING (INCLUDES WIRING) (2 SIDES, 200' SPACING)	0.436	MI	\$561,000	\$244,596
EMBANKMENT	217,333.000	CY	\$8	\$1,738,664
OVERHEAD LIGHTING (INCLUDES WIRING) (2 SIDES, 200' SPACING)	0.737	MI	\$561,000	\$413,457
MULTIPOST SIGNS	2	EA	\$5,500	\$11,000
ITS EQUIPMENT / DEVICES PER INTERCHANGE (CCTV, TMS, ETC.)	1	INT	\$330,000	\$330,000
SUB-TOTAL				\$6,498,994
EROSION CONTROL / TEMPORARY DRAINAGE (0.5%)				\$32,495
MAINTENANCE OF TRAFFIC (1%)				\$64,990
MOBILIZATION (9.5%)				\$617,404
SUB-TOTAL				\$7,213,883
ROADWAY CONTINGENCY (20%)				\$1,442,777
<b>TOTAL (2018 CONSTRUCTION COST)</b>				<b>\$8,656,660</b>

\*Note: For embankment costs see Additional Items

## ENVIRONMENTAL MITIGATION COSTS AND PERMITTING FEES

### Gopher Tortoise Mitigation/Permitting

Estimate up to 80 GT (all in Segment 3)

Permit Fee to FWC (Segment 3)- **\$23,381**

Recipient site fee and costs- \$1,300 per GT- 80 X \$1,300= **\$104,000** (Segment 3)

Total GT Mitigation Cost= \$23,381 + \$104,000 = **\$127,381** (Segment 3)

### Wetland Mitigation for Recommended Alternative

Total wetland impacts from the Recommended Alternative = 61.1 acres (using rounded figures for each wetland assessment area). For wetland mitigation cost calculations 62 acres of wetland impacts was assumed.

#### Wetland Impacts and Mitigation Costs for Recommended Alternative

Segment	Rounded Wetland Impacts for Recommended Alternative (acres)	Wetland Mitigation Credit Cost
1	28	\$3,024,000
2	19	\$2,052,000
3	15	\$1,620,000
TOTAL	62	\$6,696,000

Cost per wetland credit for SJRWMD (includes Orange County and Federal WRAP credits)- \$120,000

0.9 total delta= 0.7 (to account for mainline) + 0.2 (secondary impacts)

Segment 1- 28 acres X 0.9= 25.2 X \$120,000= **\$3,024,000**

Segment 2- 19 acres X 0.9= 17.1 X \$120,000= **\$2,052,000**

Segment 3- 15 acres X 0.9= 13.5 X \$120,000= **\$1,620,000**

**TOTAL=\$6,696,000**



## **Wetland Mitigation For Recommended Ponds**

Total pond wetland impacts = 11.4 acres

### **Wetland Impacts and Mitigation Costs for Recommended Ponds**

<b>Segment</b>	<b>Rounded Wetland Impacts for Recommended Ponds (acres)</b>	<b>Wetland Mitigation Credit Cost</b>
1	3.3	\$356,400
2	1.9	\$205,200
3	6.2	\$669,600
TOTAL	11.4	\$1,231,200

Cost per wetland credit for SJRWMD (includes Orange County and Federal WRAP credits)- \$120,000

0.9 total delta= 0.7 (to account for mainline) + 0.2 (secondary impacts)

Segment 1- 3.3 acres X 0.9= 2.97 credits necessary X \$120,000= \$356,400

Segment 2- 1.9 acres X 0.9= 1.71 credits necessary X \$120,000= \$205,200

Segment 3- 6.2 acres X 0.9= 5.58 credits necessary X \$120,000= \$669,600

**TOTAL=\$1,231,200**

### Recommended Pond Wetland Impacts by FLUCCS Code

Segment	Pond Name	6210: CYPRESS	6300: WETLAND FORESTED MIXED	6440: EMERGENT AQUATIC VEGETATION	6170: MIXED WETLAND HARDWOODS	6410: FRESHWATER MARSHES
		Impacts by acre				
1	Pond 1A					0.1
	Pond 1B					3
	Pond 1C					0.1
	Pond 2B					
	Pond 3A					
	Pond 4A					
	Pond 5B**					
	Pond 6B					0.1
2	Pond 9B*				0.7	
	Pond 10B					
	Pond 11A1					
	Pond 11A2					
	Pond 11A3					
	Pond 11A4			0.2		
	Pond 11B1		1			
3	Pond 11C					
	Pond 11C3*	4				
	Pond 11C4					
	Pond 12A					
	Pond 13B***	0.1				0.1
	Pond 14A					
	Pond 15A					
	M-1 (Existing, Modified)					2
<b>TOTAL</b>		<b>4.1</b>	<b>1</b>	<b>0.2</b>	<b>0.7</b>	<b>5.4</b>

\* Impacts RHPZ, \*\* Impacts SJRWMD Regulatory Easement, \*\*\* Impacts SJRWMD Conservation Easement

## **RHPZ Mitigation for Recommended Alternative**

18 total acres of RHPZ impacts (17 acres wetlands + 1 acre vegetated uplands)

Cost per RHPZ credit for SJRWMD- \$120,000

Segment 1- Zero RHPZ impacts

Segment 2- 14 acres X 0.9 = 12.6 X \$120,000 = **\$1,512,000**

Segment 3- 4 acres X 0.9 = 3.6 X \$120,000 = **\$432,000**

**TOTAL= \$1,944,000**

## **RHPZ Mitigation for Recommended Ponds**

Two recommended ponds (9B and 11C3) would impact a total of 4.7 acres of the SJRWMD RHPZ:

Pond 9B (segment 2)- 0.7 acres of impacts to Mixed Wetland Hardwoods (FLUCCS 6170)

Pond 11C3 (segment 3)- 4 acres of impacts to Cypress (FLUCCS 6210)

Cost per RHPZ credit for SJRWMD- \$120,000

Segment 1- Zero RHPZ impacts

Segment 2- 0.7 acres X \$120,000= \$84,000

Segment 3- 4 acres X \$120,000= \$480,000

**TOTAL= \$564,000**

## **Permitting Fees**

If the project is phased, separate permits (and associated permit fees) may be needed to cover each phase. Also, permitting through FDEP can probably be considered for Segment 2 since the project crosses the Econlockhatchee River.

Orange County permit fee- **\$4,458**

SJRWMD permit fee- **\$14,000** (this is likely a worst-case scenario cost)

## **EASEMENT IMPACT FEES**

The table below lists impacts to SJRWMD easements and Orange County GREEN Places from the Recommended Alternative. The recommended alternative would impact SJRWMD regulatory easements (but not any SJRWMD conservation easements) and two Orange County GREEN Places.

Recommended ponds would impact SJRWMD regulatory and conservation easements, but no Orange County GREEN Places.



### Recommended Alternative Impacts to SJRWMD Easements and Orange County GREEN Places

Easement Type	Parcel Number	Approximate Acres of Impact (Rec. Alt)
Segment 1		
SJRWMD Conservation Easement	-	-
SJRWMD Regulatory Easement	31-22-23-9462-00-006 31-22-23-0891-00-006 31-22-24-0000-00-049 31-22-24-8971-00-002 31-22-24-9064-02-007 31-22-24-9064-18-005 31-22-24-9064-02-006 31-22-24-9064-02-006 31-22-24-9064-02-007 31-22-24-9064-02-006 31-22-24-9064-02-006 31-22-24-9064-03-009 31-22-24-9064-02-006	21.9
Orange County Green PLACES	-	-
Segment 2		
SJRWMD Conservation Easement	-	-
SJRWMD Regulatory Easement	-	-
Orange County Green PLACES	19-22-32-7876-05-170 (Nunnally Evans)	2.61
Segment 3		
SJRWMD Conservation Easement	-	-
SJRWMD Regulatory Easement	32-22-28-0000-00-008 32-22-28-0000-00-008	12.4
Orange County Green PLACES	29-22-32-7882-00-280 (Sunflower)	0.07

### Orange County Conservation Easement Impact Fees

Segment 1- None

Segment 2- Evans Property Processing Fee - 2.61 acres = **\$1,273**

Segment 3- Sunflower Property Processing Fee - 0.07 acres = **\$1,273**

## **SJRWMD Easement Impacts from Recommended Alternative**

Approximately 34.3 acres of direct impacts to existing SJRWMD regulatory easements are anticipated:

$$34.3 \times 0.9 = 30.87 \text{ credits} \times \$120,000 = \$3,704,400 \text{ Total}$$

$$\text{Segment 1- } 21.9 \text{ acres} \times 0.9 = 19.71 \times \$120,000 = \textbf{\$2,365,200}$$

Segment 2- Zero

$$\text{Segment 3- } 12.4 \text{ acres} \times 0.9 = 11.16 \times \$120,000 = \textbf{\$1,339,200}$$

Note- No direct impacts to SJRWMD Conservation easements are anticipated under the recommended alternative

## **SJRWMD Easement Impacts from Recommended Ponds**

Two recommended ponds, 5B (segment 1) and 13B (segment 3), would impact SJRWMD easements for a total cost of \$972,000.

Segment 1- Pond 5B: 4 acres Regulatory Easement impacts

$$4 \text{ acres} \times 0.9 = 3.6 \text{ credits} \times \$120,000 = \$432,000$$

Segment 2- Zero

Segment 3- Pond 13B: 5 acres Conservation Easement impacts

$$5 \text{ acres} \times 0.9 = 4.5 \text{ credits} \times \$120,000 = \$540,000$$

**TOTAL= \$972,000**

Please note, as requested, acreages of impacts from the recommended alternative and ponds were rounded and are approximations that will be further refined during the design phase. Also, RHPZ is described by the SJRWMD in text but no GIS or mapping data is provided for calculating impact. Impacts to the RHPZ are estimated based on the location of the Econlockhatchee River provided by the USGS. Final total impacts to RHPZ will require delineation of the river/tributary channel edge and associated wetland limits.

## APPENDIX I – PUBLIC INVOLVEMENT



## ENVIRONMENTAL ADVISORY GROUP 4

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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### Environmental Advisory Group (EAG) Meeting #4 CFX Administration Building Ibis Conference Room 4974 ORL Tower Road, Orlando, Florida 32807 Tuesday, January 10, 2017 – 9:30 AM

Follow up required: Charles Lee from the Audubon Society could not attend today's meeting but has requested the meeting materials be forwarded to him for written comment. Gabriela Garcia, P.E. sent the information on Friday, January 13, 2017. Catherine Owen will forward information regarding the ACE process to Will Sloup, P.E. and Gabriela Garcia, P.E. with Metric Engineering. Mr. Myers to check whether or not there are any easements purchased with Florida Forever funds and provide his finding to Mr. Linares.

The fourth Environmental Advisory Group (EAG) meeting was held to provide an opportunity for stakeholder, agency and public participation, which is a key element of the Project Development and Environment Study phase.

A total of 15 persons attended including team members. Full list of attendees is noted on Sign in Sheet attached. Glenn Pressimone, CFX Director of Engineering attended as well as Brian Hutchings, CFX Senior Communications Specialist. CFX Public Information Representative Eileen LeSeur (OCA) and Nicole Gough (Dewberry) were present as well. Metric Senior Project Engineer Robert Linares, P.E. and Project Manager Will Sloup, P.E., attended and were supported by staff members Gabriela Garcia, P.E. and Robert Myers, as well as Public Information Officer, Valerie Tutor with Media Relations Group. Terry Zable with Atkins facilitated the meeting on behalf of CFX.

#### 1. Introductions/Welcome

Mr. Terry Zable welcomed the meeting's returning and new participants. The participants were thanked for their time and willingness to serve once again. Mr. Zable asked that CFX staff introduce themselves, followed by the study team and then the meeting participants themselves.

#### 2. Staff Presentation and Status Update

- Will Sloup, P.E. with Metric Engineering, gave a Power Point presentation to the EAG regarding the history, overview of the status of the alternatives discussed in July 2016, an introduction to the expanded PD&E study and the area it will cover as well as the 5 corridor alternatives currently identified.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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### 3. Discussion and Comments – Members Offered the Following Comments and Questions

- Brian Barnett with the Florida Fish & Wildlife, stated that Corridors 1 and 2 are very indirect and he is concerned about the floodplain impacts associated with these corridors as they follow a tributary of the Econ River ("the Econ"). He also stated that Corridor 5 has a lot of impacts to floodplains and conservation easements in segment 3.
- Marge Holt with Sierra Club, wanted to know why this extended study was being undertaken. She said that Orange County Mayor Theresa Jacobs indicated that FDOT Turnpike was going to be developing this road now. Will Sloup, P.E. answered that it was not conclusive yet as to what the Turnpike is doing, if they are addressing the same purpose and need as our study, what funding is available, etc. Turnpike is advertising for a PD&E Study and Design for a roadway they are calling Colonial Parkway. The Request for Proposal was advertised on January 9, 2017. There is no funding at this time for construction. Mr. Sloup stated that since it is unclear as to what FDOT Turnpike will accomplish, CFX has decided to extend this study so we will have it done just in case we need to move forward.
- Ms. Holt asked if Corridor 4 crosses the Econ. New crossings of the river are what concerns her as well moving to the north in proximity of Lake Pickett Road. Robert Linares, P.E. with Metric Engineering, added that all the corridors will cross the Econ at some point.
- Mr. Linares told the group that CFX agrees if FDOT Turnpike goes forward with an alignment that meets the purpose and need and funds it through construction, then CFX would not build this. However, if the Turnpike's financial models show it is not feasible and we have to step back in, we will have this study already done as an alternative. Mr. Linares additionally stated that the study team had been coordinating regularly with FDOT District 5's design program managers working on the SR 50 projects that were in design. However, the study team has been told that FDOT has stopped those projects.
- Catherine Owen with FDOT D5 Environmental, concurred that it is too early to tell what the direction will be in regards to projects being done among agencies.
- Mr. Barnett noted that all of the corridors (1-5) have environmental impacts. Corridors 1 and 2 seem to have floodplain impacts that are troubling.
- Terry Zable with Atkins, asked if anyone had comments about the intersections/interchanges locations.
- Dennis Weatherford with Orange County Environmental, asked if Corridors 4 and 5 would tie into a future CR 419 Chuluota Road extension or another corridor alignment. Mr. Sloup remarked that they could if Orange County does extend that road. Mr. Weatherford further commented that any of these corridors will be a hard sell with the public and agencies due to the environmental issues – such as crossings, the waterway, wetlands and wildlife impacts.



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Ms. Owen asked if the team has looked into the socio-economic part of the study as it pertains to these 5 corridors. Mr. Sloup responded that they have started that part of the study and agreed that some of the corridors are better than others in that respect.
- Mr. Linares asked if there were any other environmental concerns other than crossing the Econ.
- Mr. Barnett commented that to avoid most residential impacts you would impact areas of natural habitat instead. Rob Myers with Metric Engineering, agreed there are many conservation easements that the study team is trying to “weave through” where we can. He further stated that the two issues he has heard so far today are the Econ crossing and floodplain concerns.
- Mr. Barnett asked if there were any scrub habitat. Mr. Myers responded that there were none that had been identified at this time.
- Ms. Holt brought up the potential of the crested caracara to be in the area east of Chuluota. Mr. Myers agreed that they could be found in the study locations since they can nest in any open area.
- Mr. Barnett commented that Corridor 5 looks like it goes through a floodplain. Mr. Linares acknowledged that Corridor 5 has several challenges.
- Mr. Barnett wanted to know how close we would be able to get to SR 50 with Corridor 4 or any of the others. Mr. Sloup responded that if we came too close we would have traffic operations challenges at Avalon, for example, and other SR 50 intersections. Mr. Myers stated that we would have to be approximately 500-600 feet away from SR 50 at a minimum.
- Mr. Barnett further commented that all the corridors look like they go through established neighborhoods. Mr. Myers acknowledged that there are some large socio-economic impacts to consider. Mr. Linares said that some sections would no doubt be elevated in order to avoid dividing neighborhoods.
- Mr. Weatherford noted that if FDOT Turnpike goes forward with their plans, then none of these would likely be considered. He asked whether or not there would be a chance FDOT would allow CFX to use the right-of-way if they do not go forward as planned.
- Mr. Glenn Pressimone, CFX Director of Engineering, answered that if the Colonial Parkway builds anything less than an expressway, CFX may move forward with this project in order to meet the vision of providing an expressway east to I-95. However, if the Turnpike does go forward with their project as an expressway, then CFX would not move forward with any project. CFX wants to continue this study in order to be prepared regardless of the outcome of the Turnpike project.
- Mr. Barnett asked if an environmental screening tool has been used for this study and if it brought up any red flags. Mr. Myers responded that a tool has been used and at this time nothing has stood out other than the items discussed already such as the Econ crossing, floodplain, small conservation

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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easements and some gopher tortoise areas. Mr. Myers further noted that there is a pathway to abandon the easements, if necessary, that would require a vote from the SJRWMD governing board.

- Ms. Owen noted that the study so far seems to have narrowed it down in regards to species such as scrub jay, tortoises and caracara. It looks like it is not a problem.
- Ms. Owen offered some insight from the Southport Connector PD&E Study that used the Alternative Corridor Evaluation Process (ACE). It involved multiple agencies (FHWA, FDOT Central Office and District Five, etc.). She commented that what this study team is doing seems very much like an ACE. Amy Sirmans with FDOT District Five, was the project manager for the other study and Ms. Owen offered to follow up with her to forward some information to the study team for their perusal.
- Mr. Sloup asked the group if anyone felt there were any positives for going north of SR 50 or south of SR 50.
- Ms. Holt felt that the north corridors do not seem to impact the Econ as much but there are other impacts. She noted that many of the groups fighting the crossing of the Econ live in the vicinity of Corridors 1 and 2. They will find it hard to support these new crossings.
- Mr. Linares commented that the corridors are being evaluated as 400 feet wide, however the alternatives would be closer to approximately 200 feet wide when the team starts to narrow it down. He also noted that any of these corridors would require crossing the Econ, but what it will look like and how it will be treated will be determined later as the team gets closer to an alternative.
- Ms. Owen asked how the study team envisioned crossing the Econ from a structures standpoint. Mr. Linares replied that there were many options for what type of structure and it would depend on a variety of factors that will become clearer as we advance through the study.
- Mr. Barnett said that if he had to pick one of the corridors now, he would choose Corridor 4. It seems to have the least issues although it still has quite a few problems with it.
- Mr. Myers pointed out that there is an existing crossing at Lake Pickett Road and Corridors 1 or 2 could conceivably "hug" that. He added that Corridor 4 could be viable if you can come near the crossing or go out and use the old abandoned crossing.
- Mr. Barnett asked if the canopy was still open at the old crossing. Mr. Myers answered that it was and that you can still see the crossing clearly as it has not been completely naturalized. Mr. Sloup noted that there is a dirt road that leads to this crossing on the east side and people frequent the area.
- Ms. Holt said that residents in the area of corridor 1 and 2 will not be happy with these corridors. She stated that it would be preferable to stay as near an existing river crossing as possible.
- Ms. Holt stated that she is concerned about the southern corridors and a future connection to the planned Deseret Ranch Development. She is concerned these corridors could result in an increase

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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in development especially in environmentally protected areas. She stated that for the Wekiva Parkway specific access restrictions were put in place in order to discourage future development. She requested that access restriction be considered for this project.

- Mr. Barnett observed that if he were driving SR 408 he would not want to go as far out of his way as would be required with Corridor 1. Mr. Linares agreed that the study data shows that corridors attract less traffic the further you go away from SR 50.
- Mr. Pressimone noted that Corridor 5 is actually the original proposed SR 408 route when it was first envisioned in its entirety by CFX. However, in the ensuing years development occurred in that vicinity so it was not pursued further.
- Mr. Sloup confirmed that the travel demand for this extension is now up to SR 520. In the future, the next step would be to take it out to I-95.
- Mr. Linares wondered if there are any easements that were purchased with Florida Forever funds. Mr. Myers stated that none came up in his search but he will double check.
- Mr. Barnett asked what Mitigation Banks cover the study area, such as East Florida Mitigation Bank and several others. Mr. Myers stated that the team was looking into those at this time.
- Ms. Holt reminded the team that the Econ is a "nested basin" so the protection zone for the main river is 1100' and tributaries are 550'.
- Ms. Holt further asked how soon would CFX or the study team know what the FDOT Turnpike plans to do. Mr. Pressimone responded that the Turnpike would have a consultant under contract in September of 2017 to begin their study and we will be finishing up ours by then. Mr. Linares estimated it would be 2 to 2 1/2 years before FDOT Turnpike would have the study completed and the final recommendation determined. Mr. Pressimone told the group that CFX plans on keeping in close touch with FDOT Turnpike on this issue.
- Ms. Holt asked when this current study would be done. Mr. Sloup responded that it is scheduled to be completed by October 2017. He stressed that it would just be the PD&E Study that would be completed. Not design, right-of-way acquisition or construction.
- Mr. Pressimone informed the team that the CFX Work Plan did have funding for 15% design assuming we would have one solution. However, when the study is done we may go on hold – or take it to 15% "Line and Grade" – it will depend on what the CFX Board wants to do at the time of the completion of the study.
- Mr. Sloup stated that, when this study is done, the team will have identified an alternative within the SR 50 corridor and an alternative outside of SR 50 for the Board to review.



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Mr. Myers explained to the group that the team can move the corridors around a bit and make changes or different combinations. Mr. Sloup suggested that Old Cheney Highway could be the control point.
- James Hollingshead with St. Johns River Water Management District, remarked that if the old crossing had been blocked off it would have a canopy by now. As a Hydrologist, he is interested in storm water harvesting. He stated that there could be an opportunity for that in this project. He noted several successful recent projects that included storm water harvesting. One of the projects involved both Altamonte and Apopka and eliminated the need for them to be in the Wekiva River as well as eliminated the need to build a large retention pond.
- Mr. Myers asked if there were any available projects like that in the vicinity of the study area. Mr. Hollingshead answered that the easterly wastewater treatment plant at Innovation Way was probably the closest. He noted there was a gated community off of Chuluota that he did not know what they were using for irrigation but they may be an opportunity. He also noted that Corridor 1 looks like it may have significant storage potential and Corridor 4 looks to have the least impact all around. Mr. Hollingshead will take this information back to others at St. Johns Water Management District for their comments as they were not able to attend today.
- Mr. Hollingshead further stated that there seems to be a bigger local opportunity to decrease the volume of storm water going into the Econ. You may solve Total Maximum Daily Load (TMDL) issues using storm water and provide irrigation for communities.
- Ms. Owen asked what sub-consultant was doing the cultural resources study. Mr. Myers answered that it was a company called SEARCH. Ms. Owen was familiar with that company.

#### 4. Next Steps

Ms. Tutor reviewed the key points made by the EAG members today. She also informed the EAG members of the upcoming Public Meeting to be held on February 16, 2017 from 5 PM to 7 PM at the Eastpoint Fellowship Church.

Mr. Zable closed the meeting by thanking the members for their participation and comments and urged the members to attend a Public Hearing if held.

Meeting adjourned at 11:05 AM.

See Additional Comments on the next page, provided by Dennis Weatherford, Orange County Environmental, as an addendum to this document.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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Orange County Environmental Division Comments for EAG:

Hand delivered letter dated Feb.16, 2017.

Subject: Comments on the SR 408 PD & E Study- Corridor Alternatives Orange County Environmental Protection Division.

Dear Ms. Tutor: The Orange County Environmental Protection Division (EPD) is in receipt of the documents showing the proposed SR 408 PD&E STUDY- Eastern Extension Corridor Alternatives. I have been attending the PD&E meetings that are being held by the Central Florida Expressway Authority to gather input on the proposals from various stakeholders. EPD is offering the following comments regarding the corridor alternatives:

1. The environmental and socio-economic impacts of all of the proposed alternatives are significant. If the Turnpike Authority proceeds with the Colonial Parkway project along the SR 50 alignment, then the need for the 408 eastern extension may not be justified. If the Turnpike does not use the SR 50 alignment for their project, we suggest that alternative be considered as it seems to be the least disruptive to the environment and communities.
2. The Corridor Evaluation Summary and the map depicting the 5 alternatives do not address the impacts to Orange County owned preservation areas. The areas that could be potentially impacted by one or more of the alternatives are: Ken Bosserman Econlockhatchee River Preserve, Nunnally and Evans Parcels, Sunflower Trail Parcel, Long Branch (both state and County owned portions) and Pine Lily Preserve. Orange County has invested significant resources in order to acquire and maintain these environmentally sensitive lands. Mitigation will be required for any impact to wetlands on the above listed properties associated with any of the proposed corridors. If you need further information on the location or status of these properties, please contact Beth Jackson at 407-836-1481.
3. Required stormwater treatment areas should not be located on any of the above listed properties and any regulatory easements that could be potentially impacted.
4. Stormwater systems should be designed to provide treatment of runoff which exceeds St. Johns River Water Management (SJRWMD) standards.
5. Incorporate low impact development stormwater treatment designs that provide habitat for wildlife such as constructed wetland systems.
6. This project is located on the Econlockhatchee River Basin which is a nested basin. Any wetland and cumulative impacts will need to be mitigated for within the basin.
7. The Econlockhatchee River is an Outstanding Florida Waterway and any proposed construction cannot degrade the water quality of that waterbody.
8. No surface waters or wetlands should be utilized for the treatment of stormwater runoff.

# MEETING NOTES

## Project Development and Environment Study

### SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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9. Wetland impacts associated with roadway construction should be avoided and or minimized to the greatest extent possible.

10. Mitigation for wetland/surface water impacts that occur within Orange County should be located in Orange County, in the same hydrologic basin as the impacts. Please coordinate with the Orange County EPD for potential mitigation options.

11. Demonstrate that the ongoing and future planned land management activities on any of the preserved environmentally sensitive areas will not be impeded by any of the proposed alignments.

12. Lighting and noise impacts to the wetlands or surface waters adjacent to the proposed Corridor Alternative should incorporate dark sky lighting and noise abatement measures to reduce adverse impacts to wildlife.

13. The design shall include provisions for wildlife connectivity across or under roadways that traverse wetland systems and associated buffers. Fragmentation of any wildlife corridors should be minimized and designed to allow for unimpeded passage of wildlife and maintain hydrology. Additionally, field fencing to prohibit the movement of wildlife across the roadway should be installed.

14. Bridge ecological design considerations: Any crossings of the Econlockhatchee River or it named or unnamed tributaries should be bridged. Minimize or eliminate pilings in the river with the longest spans possible. Earthen embankments should not be built in the 100 year flood plain, however, if necessary then compliance with all flood compensating storage regulations will be required. These design measures should serve to maintain existing habitat connectivity, hydrologic flow considerations and function to minimize harm to the resources of the basin. The roadway agreement will need to define construction, operational and maintenance costs and shall also include expenses of ecological considerations of this unique location. For example, some bridge roadway agreement concerns would likely include long term erosion of bridge support pilings, river embankment erosion, channelization, high water conditions (storms and hurricanes) and river channel movement. This path would likely be deemed a coastal evacuation route so design needs to consider severe storm conditions.

If you have any questions or comments please contact me at 407-836-1404  
([dennis.weatherford@ocfl.net](mailto:dennis.weatherford@ocfl.net)).

Sincerely, Dennis Weatherford, P.E., LEED AP



## PROJECT ADVISORY GROUP 4

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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### **Project Advisory Group (PAG) Meeting #4 CFX Administration Building Ibis Conference Room 4974 ORL Tower Road, Orlando, Florida 32807 Tuesday, January 10, 2017 – 1:30 PM – 3:30 PM**

**Follow up required: Renzo Nastasi, with Orange County Transportation Planning, has asked for a copy of the EAG meeting notes.**

The fourth Project Advisory Group (PAG) meeting was held to provide an opportunity for stakeholder, agency and public participation, which is a key element of the Project Development and Environment (PD&E) Study phase.

A total of 21 persons attended including team members. Full list of attendees are noted on the Sign in Sheet attached. CFX's Director of Engineering, Glenn Pressimone and Eileen LeSuer, CFX's Public Information Representative (QCA) were in attendance, as well as QCA Senior Associate Kelda Senior and Dewberry Associate Vice President, Keith Jackson. Metric Engineering's Senior Project Engineer Robert Linares and Project Manager William Sloup attended and were supported by Metric staff member Gabriela Garcia and Media Relations Group's Public Involvement Consultant Valerie Tutor, who facilitated the meeting.

#### **1. Introductions/Welcome**

Ms. Tutor welcomed the meeting's returning and new participants. The participants were thanked for their time and willingness to serve once again. Ms. Tutor asked that the study team introduce themselves, followed by CFX staff and then the meeting participants themselves.

#### **2. Staff Presentation and Status Update**

- Mr. Sloup gave a Power Point presentation to the PAG regarding the history, overview of the status of the alternatives discussed in July 2016, an introduction to the expanded PD&E study and the area it will cover as well as the 5 corridor alternatives currently identified.

#### **3. Discussion and Comments – Members Offered the Following Comments and Questions**

- Tim McKinney, with United Global Outreach, asked why we were not looking at the corridors we originally started with when conducting the study. Ms. Garcia, stated that 2 of these corridors are very similar; Mr. Sloup, explained that the team didn't analyze them as their main purpose was to stay closer to SR 50 and the original corridors were more far-reaching.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Dwight Saathoff with Project Finance and Development, LLC, stated that his understanding of why this study is being extended is to prepare in case Florida's Turnpike Enterprise (FTE) doesn't move forward with their plan. Mr. Sloup concurred and added that another consideration would be to ensure that it meets the project purpose and need as defined by CFX.
- Mr. Saathoff asked what happens if the FTE decides it is not financially feasible for them to move forward. Mr. Sloup explained that that is the reason why we [the Team] are evaluating alternate corridors a half mile on either side of SR 50, generally speaking.
- Frank Consoli with Seminole County Public Works, asked if there were any consideration for transit. Mr. Sloup replied that it is a consideration and a part of our purpose and need statement to provide opportunities for "rapid transit."
- Tiffany Homler, representing Lynx, mentioned that CFX is developing a transit policy and wondered if this team had seen a draft yet. Mr. Pressimone said that the report has just been finished for this and a presentation to the CFX Board is scheduled for February.
- Ron Toporek with OUC, asked if the study team had considered the All Aboard Florida impacts, if any. He further asked if the team had done any in-depth evaluations of the 5 corridors presented. Mr. Linares responded that the study team provided the group with tables summarizing the analysis of the 12 corridors. The tables show only the magnitude of impacts and does not yet rank the corridors. This will be done after the advisory and public meetings.
- It was asked if the east end of Corridors 4 and 5 would continue east of where they are shown ending. Mr. Linares responded that at this time the study area terminates at SR 520.
- Mr. McKinney asked how the team determined Corridor 2. Mr. Sloup explained that Corridor 2 follows a Progress Energy transmission line.
- R. J. Mueller with FixMyRoad.com, said that Corridor 5 looks like it will be going through a lot of wetlands. Corridor 4 looks like the least destructive and involves the least floodplain. Mr. Linares remarked that the map shows a 400' corridor now and that will be narrowed down to a 300' alignment.
- Mr. Mueller also asked about the consideration that is being placed on crossing the Econ River. He thought there was a restriction on the number of times it can be crossed. Renzo Nastasi with Orange County Transportation Planning, replied that there are no restrictions being placed like that but that there are a lot of criteria any crossing would have to meet.
- Maria Teimouri from the University of Central Florida (UCF), remarked that the crossing by Corridor 4 seemed to be the least impactful.
- Mr. Saathoff asked how the team defined all the study criteria such as environmental/socio-economic/engineering and how they are quantified. Ms. Garcia explained the quantitative process



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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and pointed to the handout in the packet given to the PAG members. Mr. Linares further explained that the corridors are broken into segments so that the team can take parts of each if necessary to determine the best alternative.

- Mr. Saathoff asked what the next step will be for the study team regarding the evaluation. Mr. Linares explained that the various corridors and segments are weighted and scored on various criteria and then a more detailed evaluation would take place to select the appropriate corridor. He added that once a corridor is selected, then the team begins to investigate what alignments are possible and what that would look like, etc. Corridor 4 has been commented on frequently as seeming to have more possibilities, but it has its own challenges as well.
- Marcos Bastian with Orange County Transportation Planning, pointed to Corridor 1 which seems to skirt existing housing and is closer to UCF. He commented that it seems to be a “non-starter” due to the public sentiment in that area. He further commented that while some criteria are easy to weigh and evaluate, public sentiment can throw it all off.
- Ms. Garcia and Mr. Linares both replied that Corridors 1 & 2 have lots of wetlands and a tributary of the Econ River is located in that vicinity which would require more crossings.
- Mr. Toporek asked if the PAG members were to assume that the study team had done their best to find the least impactful area in choosing these 5 corridors to study. Ms. Garcia answered that yes, these were the corridors identified that had the least impacts and would potentially meet the purpose and need.
- Mr. Saathoff asked if right of way costs are taken into account when analyzing the corridors. Mr. Linares replied that they were taken into account, as well as environmental mitigation and other costs.
- Mr. Mueller remarked that Corridors 1 and 2 will no doubt have strong opposition from the public.
- Mr. Saathoff commented that it seemed there would be operational issues the closer you get to SR 50 and some of the corridors seem to create isolated strips of land that would not be desirable.
- Mr. McKinney said that Corridor 1 was not workable. He thought that a few of the options in Corridor 4 and the end of Corridor 2 might work since they could impact some property that is currently blighted.
- Mr. Saathoff asked if we were reasonably sure these corridors would all meet the purpose of relieving traffic off of SR 50.
- Mr. Toporek asked how do the 5 corridors compare with what we came up with before which was the co-location with SR 50. That seems the best option. Mr. Linares said yes, the SR 50 alternative that was developed in this study was superior to these corridors for many reasons but it was also expensive. It is also off the table at this time due to FDOT right of way issues.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Hugh Harling with East Central Florida Regional Planning Council, commented that the majority of traffic along CR 419 is coming from the north and Seminole County and traffic on Avalon is coming from the south and the communities. If you pick up those two areas of traffic, then you could get a tremendous amount of ridership. Mr. Linares said there is an option for the extension of CR 419/Chuluota Road to extend south to the new SR 408.
- Ms. Homler asked if the previous information from the study is on the CFX website. Mr. Sloup confirmed that this information was available on the website.
- Mr. Harling asked what the status was of Florida Department of Transportation (FDOT) projects on SR 50. Mr. Linares said that the widening of SR 50 to Avalon was currently finishing as well as the bridge replacement project over the Econlockhatchee. He added that there were two other widening projects in design but they have been stopped.
- Mr. Harling also asked about the split regarding traffic coming from the east and whether or not it comes from SR 50 or SR 520. Mr. Linares said that data showed the traffic is mainly coming from SR 520.
- Mr. McKinney said that there were plans to develop the existing park and ride lot west of CR 419 to a bus depot for the school buses. And added that it would be an improvement to the current situation.
- Mr. Mueller asked if there could be a corridor that integrates Corridor 3 and 4. The corridor could take part of Corridor 4 and then cross SR 50 and combine with Corridor 3 at that point. He asked if the study team had thought of that and he believed it could pick up a lot of traffic and ridership.
- Mr. McKinney said it might make sense to look at that and it would be about as far north as the public might be willing to go.
- Mr. Linares agreed that was a possibility that the study team would take a look at in their analysis.
- Mr. Saathoff asked if it was determined that CFX could not legally use the right-of-way along SR 50. Mr. Pressimone answered that FDOT has taken a legal position, but CFX has not determined the legality at this point.
- Mr. McKinney asked if the study team could add the Corridor 4/3 option just discussed prior to the public meeting in February. Mr. Sloup advised that the study team would do that.
- Mr. Nastasi commented that placement of an interchange easternmost on Corridor 3 poses a challenge. He feels that the 4/3 option has major challenges to it and that any interchange north of SR 50 would be a problem. He added that if it facilitates traffic coming south from Seminole County and Orange County, then Orange County would have to make improvements to CR 419/Chuluota Road north of SR 50 and on other roads due to the increased demand. This would make it controversial.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Laura Carter with the Space Coast TPO, remarked that it seemed that the extension of SR 408 would have regional impacts that need to be addressed. Mr. Sloup responded by saying that the extension itself supports regional traffic trips.
- Ms. Carter commented that the issue for the Space Coast TPO has been the traffic from SR 520 going up to UCF.
- Ms. Homler added that the Lynx study follows SR 50 to Alafaya.
- Mr. Consoli asked if there would be something going NB up to Challenger and UCF in this scenario. Mr. Linares answered that there would be an interchange developed to address that.
- Keith Caskey with MetroPlan Orlando, said that the 2040 Transportation Plan contains this corridor.
- Ms. Carter asked if the study addressed the number of lanes on SR 50. Mr. Sloup says that the study assumes SR 50 as 6 lanes out to SR 520.
- Mr. Saathoff asked what the objective of this roadway was (SR 408 Eastern Extension) from a public standpoint. He feels high priorities are:
  - People coming from east to west
  - People going to and from UCF
  - Avalon coming up to SR 50 and then west to work
  - Traffic relief around UCF & McCulloch
- Mr. Mueller stated that Seminole County would probably like Corridor 1.
- Mr. Consoli with Seminole County said that might not necessarily be the one the County would prefer. It invites more development that they may or may not want.
- In addition, Mr. Mueller pointed out the issue of connectivity and capacity west of the Econ River.
- Mr. Saathoff asked the team to comment on the possible merits of Corridor 5. He added that it is not obvious that it serves any purpose except the Avalon area. Mr. Toporek further added that the EAG and PAG have given the study team their feedback and he would like the team to tell the PAG what they think are the best features of the various routes.
- Mr. Linares responded in detail. He mentioned that the first exercise for the team in the study is to determine if and where they can weave it through for the least impacts. He explained that this is just a “first look.” He added that:
  - It would be hard to imagine at least the initial portion of Corridor 5 moving forward.
  - Corridor 4 seems to have the least impacts from a “first look” view, i.e. conservation and not as many neighborhoods, etc.
  - We have received good feedback especially regarding Corridor 4 Segment 2 in Bithlo.
  - Corridor 3 is a pretty straight alignment and has tremendous impacts



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Corridor 2 went north to minimize impacts but it has environmental impacts that are a challenge.
  - Option 1 has less impacts to CR 419 and it does a pretty good job of addressing movement of traffic
  - None of the Options (1 through 5) are perfect and all have impacts
  - Connectivity at Challenger and Alfaya are critical
- Mr. Nastasi asked if the team was assuming six lanes in their model, regarding the widening of SR 50 to CR 419 or SR 520. Mr. Linares answered the team was assuming the 6-laning out to SR 520. **Action:** Mr. Nastasi requested a copy of the EAG minutes/notes when we have them approved.
  - Mr. Nastasi further commented that the widening of SR 50 might relieve traffic somewhat for now. Mr. Linares answered that the team was running models for 2025, 2035 and 2045.
  - Mr. Toporek asked if there were any plans to widen SR 50 to more than 6 lanes. Mr. Nastasi said that 6 lanes is as wide as it is going to be. There are no plans to widen it any further.
  - Mr. Bastian said that in looking at the corridors all the way to Avalon the assumption may be the road would be elevated in that area. Mr. Linares replied that the corridors will go through the same analysis as we did in the past. The team will look at all options including elevated or at grade. Whatever we do, we will look for a wall or embankment sections where we can.
  - Mr. Harling concluded with the comment that sea level rise needs to be considered. Further, anything south of SR 50 such as Corridor 4 or 5 should also include a consideration for adjacent corridors that will serve Brevard and Osceola Counties.

Mr. Bobby Beagles from the Orange County Farm Bureau, asked for a meeting with Metric Engineering prior to the PAG to discuss these corridors since he was unable to attend today. He met with Mr. Sloup and provided feedback and comments, one of which included the fact that some versions of Corridor 4 seemed to have the least impacts at this time.

#### 4. Next Steps

The study team will proceed with the analysis incorporating the feedback and input from the EAG and the PAG members. A Public Alternative Corridor Workshop will be held on February 16, 2017 from 5:00 p.m. to 7:00 p.m. at Eastpointe Fellowship Church. All PAG team members are encouraged to attend.

Meeting adjourned at 3:15 p.m.

## ENVIRONMENTAL ADVISORY GROUP 5

# CENTRAL FLORIDA EXPRESSWAY AUTHORITY

## **ENVIRONMENTAL ADVISORY GROUP MEETING NO. 5**

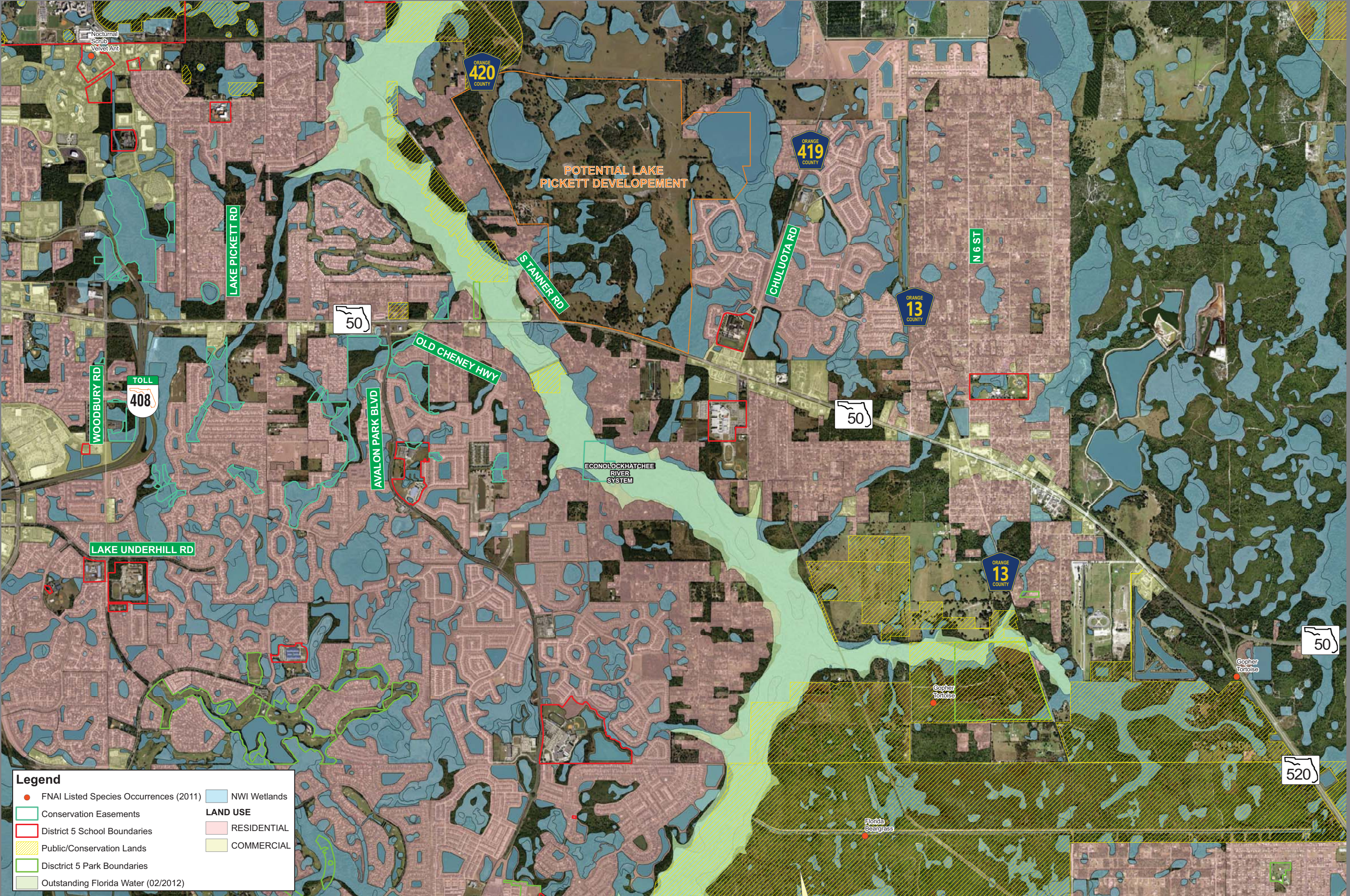
June 1, 2017, 9:30 a.m.  
CFX Administration Building, Pelican Conference Room

### **AGENDA**

1. Introductions
  - a. Central Florida Expressway Authority Study Team
  - b. EAG Member Introductions
2. Discussion of Action Items from previous EAG
3. Presentation
  - a. Status Update
  - b. Recommended Corridor
  - c. Alternative under development
  - d. Next Steps
    - i. Evaluation of alternative
    - ii. Preparation of Reports
    - iii. Refinement of alternative
4. General Discussion/ Comments



SR 408 PD&E STUDY - CORRIDOR CONSTRAINT MAPPING



FNAI Listed Species Occurrences (2011)

Conservation Easements

District 5 School Boundaries

Public/Conservation Lands

District 5 Park Boundaries

Outstanding Florida Water (02/2012)

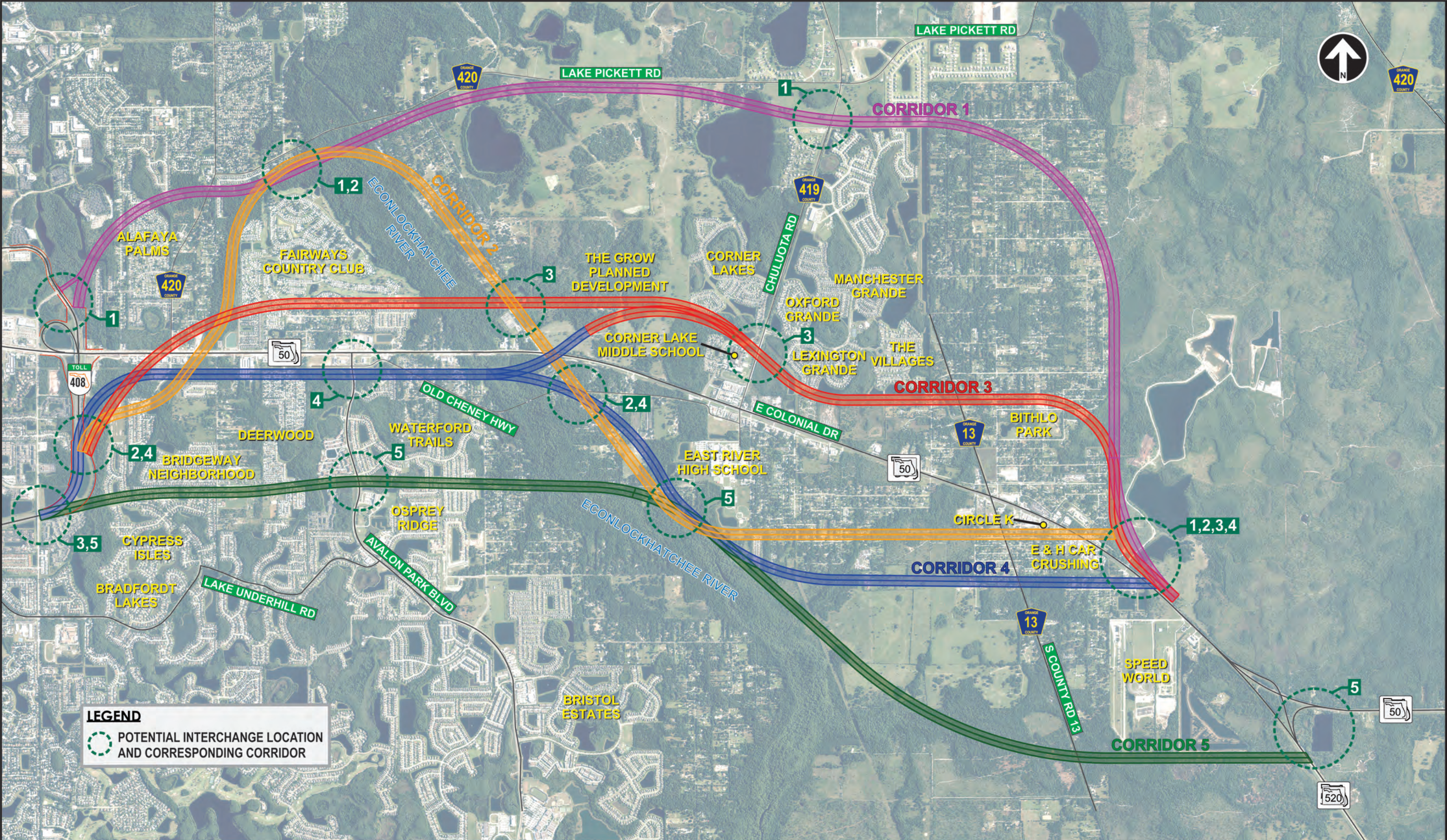
NWI Wetlands

LAND USE

RESIDENTIAL

COMMERCIAL





Preliminary Corridor Alternatives

Figure 3-4



LEGEND																
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE															1.0
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE															0.8
O	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE															0.6
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE															0.4
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE															0.2

TABLE 4-7																							
PRE-FINAL ALTERNATIVE CORRIDOR EVALUATION																							
CORRIDORS	IMPACTS	ENGINEERING			33	ENVIRONMENTAL				26	SOCIO-ECONOMIC		23	COST		18	TOTAL SCORE						
		TRAFFIC CONGESTION/SAFETY	TRAFFIC ACCOMMODATED	CONNECTIVITY	SJRWMD REGULATORY EASEMENTS	WETLAND IMPACTS	WILDLIFE AND HABITAT	OUTSTANDING FLORIDA WATERWAY IMPACTS	COMMUNITY COHESION	CONTROVERSY POTENTIAL	CONSTRUCTION	R/W AND MITIGATION											
		12	11	10	8	6	6	6	13	10	8	10											
1	Not an effective corridor in terms of reducing congestion along SR 50 and diminishing congestion safety concerns	O	Low traffic volumes accommodated along the corridor	O	Not as effective in terms of network and systems connectivity as the other corridors due to its lack of directness	--	Generally moderate impacts to SJRWMD Regulatory Easements when compared to the other corridors with 21 acres of impacts	O	Generally high wetland impacts with 130 acres	--	Generally moderate impacts to wildlife and habitat with an average wildlife index ranking of 9.86	O	Generally high impacts to Outstanding Florida Waterways with 35 acres of impacts	-	Lowest impacts to community cohesion when compared to the other corridors with 6 communities split	O	Significant local opposition to this corridor alternative has been previously expressed	-	Highest potential cost of all corridor options (approximately \$325M to \$335M)	--	Generally moderate potential right-of-way impact costs when compared to the other alternative corridors with 200 parcel impacts and generally moderate mitigation impact costs	O	47.2
4	Generally effective corridor in terms of reducing congestion and diminishing safety concerns along SR 50	+	Generally attracted higher volumes than Corridor 1	+	Supports connections to the local and regional roadway network and its proximity to SR 50 is an advantage	++	Generally higher impacts when compared to Corridor 1 with 34 acres of impacts to the SJRWMD Regulatory Easements	-	Generally moderate wetland impacts when compared to the other corridors with 90 acres	O	High impacts to wildlife and habitats with an Average Wildlife Index Ranking of 11.2	--	Moderate impacts to Outstanding Florida Waterways with 25 acres of impacts	O	Similar to Corridor 1 but slightly higher number of communities split (6 communities)	O	Moderate controversy potential due to some impacts within the first two project segments	O	Generally lower potential cost (approximately \$191M to \$201M)	O	Generally similar costs to previous corridor with 204 parcel impacts but with higher mitigation impact costs	-	62.6
4-2	Generally similar to Corridor 4 within segment 1 but less effective within segments 2 and 3 and diminishing congestion safety concerns along SR 50	O	Overall generally similar to Corridor 1 but with higher traffic volumes attracted within Segment 1 and lower within segments 2 and 3	O	Generally similar to Corridor 4 but slightly less direct	+	Lowest impacts to SJRWMD Regulatory easements with impacts of 17 acres	O	Lowest impacts to wetlands with 75 acres	+	Generally high impacts with an Average Wildlife Index Ranking of 10.57	-	Moderate impacts to Outstanding Florida Waterways with 15 acres	O	Slightly higher number of communities impacted (7) than previous two alternatives	-	Generally similar to previous corridor alternative	O	Least potential cost of all corridor options (approximately \$160M to \$170M)	+	Generally higher right-of-way impact costs with 313 parcel impacts but lower mitigation impact costs than previous alternatives	-	59.0
4-3	Generally similar to Corridor 4	+	Similar to Corridor 4	+	Generally similar to the previous two corridors but less direct	O	Generally similar impacts to Corridor 4 with 36 acres of impacts to the SJRWMD Regulatory Easements	-	Generally similar wetland impacts to Corridor 1 with 135 acres	--	Generally similar impacts to Corridor 1 with an Average Wildlife Index Ranking of 9.7	O	Low impacts to Outstanding Florida Waterways with 10 acres of impacts	+	Similar to Corridor 4-2 with 7 community split	-	Generally similar to previous corridor alternative	O	Generally high potential cost (approximately \$288M to \$298M)	-	Generally similar to corridor 1 with lower right-of-way costs (186 parcels) but higher mitigation impact costs	-	55.6
5	Generally similar to previous corridor	+	Higher traffic attraction than all previous alternatives	++	Generally similar to the previous corridor but only slightly less direct	O	Highest impacts to SJRWMD Regulatory easements with impacts of 48 acres	--	Similar to Corridor 4-3 with impacts of 135 acres	--	High impacts to wildlife and habitat with an Average Wildlife Index Ranking of 14.68	--	Highest impacts to Outstanding Florida Waterways with 55 acres of impacts	--	Similar to previous two alternatives with 7 community splits	-	Significant controversy potential due to major impacts within the first two project segments	-	Generally similar to previous corridor with approximate costs of \$264M to \$274M	-	Generally similar to Corridor 4-2 with higher right-of-way impact costs of 316 parcel impacts and even higher mitigation impact costs	--	46.2
5-4	Generally the most effective of all corridors in terms of reducing congestion along SR 50 and diminishing congestion safety concerns along SR 50	++	Generally similar to previous corridor	++	Generally similar to previous corrdor with minor difference in terms of directness	O	Generally similar to corridor 1 with impacts of 24 acres	O	Generally similar to Corridor 4-2 with wetland impacts of 80 acres	+	Generally similar to the highest impacts corridor with an Average Wildlife Index Ranking of 12.11	--	Generally high impacts to Outstanding Florida Waterways with 30 acres of impacts	-	Generally the most impacts to community cohesion with 9 communities split	--	Generally similar to previous corridor alternative	-	Generally similar to Corridor 4-2 with slightly higher corridor costs (approximately \$168M to \$178M)	+	Generally highest right-of-way impact costs with 343 parcel impacts with only moderate mitigation impact costs	--	57.2



# MEETING NOTES

Project Development and Environment Study  
SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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**DRAFT!!**

**Environmental Advisory Group (EAG) Meeting #5  
CFX Administration Building  
Pelican Conference Room  
4974 ORL Tower Road, Orlando, Florida 32807  
Thursday, June 1, 2017 – 9:30 AM to 11:30 AM**

Follow up required: #1- Rob Myers, Metric Engineering, will compile a list/map of all important conservation easements & confirm them with SJRWMD, Orange County & other agencies. He will contact SJRWMD Land Acquisition Department. Mark Von Canal, of SJRWMD, will assist Rob with this. #2 - Metric will get the EAG team members a draft of the Natural Resource Evaluation Report (NRE) for review prior to the next EAG meeting. #3 – EAG Members who did not receive or respond to the Advance Notification were to let Will Sloup or Rob Myers know. They will email another copy of the AN to the member so they can respond. Responses must be emailed to Will Sloup, Metric Engineering so it can be included in the NRE.

The fifth Environmental Advisory Group (EAG) meeting was held to provide an opportunity for stakeholder, agency and public participation, which is a key element of the Project Development and Environment Study phase.

A total of 18 persons attended including team members. Additionally, three members of the public were present as observers. A full list of attendees is noted on the attached Sign in Sheet. Glenn Pressimone, CFX Director of Engineering, attended as did Brian Hutchings, CFX Senior Communications Specialist. Jonathan Williamson, Project Manager (Dewberry) was present as well. Metric Project Manager Will Sloup, P.E., attended and was supported by staff members Gabriela Garcia, P.E. and Robert Myers, as well as Public Information Officer Valerie Tutor with Media Relations Group. Nicole Gough with Dewberry facilitated the meeting on behalf of CFX.

## **1. Introductions/Welcome**

Ms. Nicole Gough, Dewberry, has assumed co-facilitator duties and welcomed the meeting's returning and new participants. The participants were thanked for their time and willingness to serve once again. Ms. Gough asked that CFX staff introduce themselves, followed by the study team and then the meeting participants themselves.

## **2. Staff Presentation and Status Update**

- Will Sloup, P.E. with Metric Engineering, gave a Power Point presentation to the EAG that summarized the history of the study, reviewed the 5 corridor alternatives, the evaluation done thus far and introduced the preferred corridor (Corridor 4) and the alignment within that corridor that is being developed and further studied by the team.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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### 3. Discussion and Comments – Members Offered the Following Comments and Questions

- David Eunice of St. John's River Water Management District (SJRWMD) commented that he assumed the study team was addressing the impacts to wetlands and the Econlockhatchee River ("the Econ") as well as secondary impacts. He mentioned that encroachment onto conservation easements throughout the study area, such as the Dietrich ranch as well as other public lands, need to be addressed. He reminded the team that the Econ is a Florida Outstanding Water.
- Mark Von Canal, of SJRWMD, introduced himself as new to the group and asked if storm water harvesting had been discussed. Rob Myers, Metric Engineering, said that it had early on but he was not aware of opportunities in proximity to the current alignment. He stated he would certainly be willing to investigate that if Mr. Von Canal or any other EAG member knew of any that might work.
- James Hollingshead, SJRWMD, replied that if there were plans to landscape the extension at interchanges and provide irrigation for that landscaping, there is an opportunity to use storm water instead of ground water. Mr. Myers and Gabriela Garcia, Metric Engineering, acknowledged that and stated they would add it to the study document.
- Dennis Weatherford, Orange County Environmental, asked if this alignment being shown would use the old crossing of the Econ that is on Old Cheney. Mr. Myers said yes and indicated where it was on the map on display.
- Marge Holt, Sierra Club, noted that they are concerned with all the alternatives that have been discussed recently. The Sierra Club is not in favor of any of these. The impacts to conservation easements and wildlife corridors are big issues. She stated that Mayor Jacobs recently seemed to prefer the Turnpike's efforts along SR 50. She asked for CFX and the Turnpike to work together on this.
- Mr. Myers responded that he is open to a discussion about specific issues such a wildlife corridors. These items are of concern. He explained that to minimize the impacts, the alignment proposes to bridge the entire floodplain of the Econ and thus will serve as a wildlife corridor. He discussed that currently, the biggest barrier for wildlife in the area is exiting SR 50 and there are very few wildlife crossing locations. Part of the evaluation is where to include bridge crossings to maintain continuity for wetlands as well as wildlife corridors.
- Brian Barnett, Fish and Wildlife Commission, asked if the alignment shown was included in the matrix. Ms. Garcia answered that Corridor 4 is a 400' wide corridor and the alignment that is shown was developed within that corridor focusing on minimizing impacts within the corridor. She further stated that the study team is moving forward with creating environmental documents for the alignment as well as the traffic analysis. The team has adjusted the alignment in several places and will continue to do so after the results of the analysis is complete.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Mr. Barnett asked if the team has done a mitigation proposal yet. Mr. Myers answered they have not but they have started developing a mitigation strategy & are working with a drainage engineer as well as addressing hydrological connectivity.
- Mr. Barnett asked if the easements would be mitigated on a one to one ratio. Mr. Myers replied that there are 2 types of easements that have slightly different processes for releasing them. He commented there had been a recent rule change that references a board vote.
- Mr. Von Canal agreed and said the process evaluates things like purpose, amount, ecological value, etc. Mr. Myers stated that the property owner must be the one to petition the board. Nicole Gough, Dewberry, explained it is a permitting process.
- Mr. Eunice commented that the Econ is a nested basin and there is only one bank that serves the area for SJRWMD. Mr. Myers said they would explore possible mitigation options during the study.
- Mr. Barnett inquired if this alignment would be going through public lands. Ms. Garcia said that it would be going through some county-owned lands.
- Mr. Barnett then asked if the mitigation and easement process might work to also fulfill some of the “wish list” for conservation management. Mr. Myers answered that the study team will explore all options conceptually during this study and coordinate with land managers as necessary. Mr. Barnett mentioned that sometimes it assists in public land management and not just protecting land in perpetuity.
- Ms. Holt asked if there is a display or list of conservation and public lands that might be impacted. Mr. Myers stated that they are included in the handout that was provided. He asked the group if they notice the team is missing an easement for conservation to let them know. Mr. Von Canal agreed that there are rare instances where things are not mapped correctly and one can be left off. Ms. Holt asked if the team could provide a list of names of impacted easements. Mr. Myers mentioned that the handout included the names of the Orange County green places however, they did not have the names of all the lands. Ms. Garcia pointed out the ones that are likely to be impacted by the project including a SJRWMD easement near Avalon. Mr. Eunice said those easements are dedicated to SJRWMD but are owned by the developer.
- SJRWMD and Mr. Myers noted that the Econ is in a Riparian Habitat Protection Zone, requiring additional mitigation for impacts.
- **ACTION:** Rob Myers, Metric Engineering, will compile a list/map of all important conservation easements and confirm with SJRWMD, Orange County and others. He will contact SJRWMD Land Acquisition Department. Mr. Von Canal offered to assist in this.
- Mr. Barnett asked about the Turnpike study possibly competing with the CFX study. Mr. Sloup replied that the results of the Turnpike study will show conflicts by proposing redundant roadway systems. Their study has not started yet. He further clarified that the SR 408 Eastern Extension is



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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a regional connector road with future expansion to I-95 and there is a clear purpose and need for this project

- Mr. Barnett said he thought this study was looking at a 4-lane toll road and thought FDOT was focusing on two lanes. Mr. Sloup replied that the improvements that were in design for SR 50 by FDOT have been stopped. It is not known what the Turnpike will recommend after their study.
- Mr. Barnett asked if the study team would be using all the potential pond locations shown. Ms. Garcia said they would not be using them all and would narrow them down further. Mr. Barnett encouraged the team to use disturbed areas first which Mr. Myers replied that several existing ponds are being evaluated. There is a concern regarding staging and construction impacts since there are little to no existing disturbed areas near this new alignment.
- Stefanie Jansson, Brevard County Natural Resources, wanted to know when CFX planned on extending SR 408 to Brevard County.
- Glenn Pressimone, CFX Director of Engineering, explained that this study continues the work done by the East Central Florida Regional Task Force and is the first phase. If the CFX Board chooses to advance this project, CFX will determine when the next phase can be funded. However, there is no current funding in place. That is well into the future and depends in large part on the Deseret Ranch.
- Mr. Weatherford wanted to know where the interchanges are being proposed on this alignment. Ms. Garcia pointed out that there are four (4) interchanges: The interchange at SR 50 where SR 408 currently terminates; Avalon Blvd.; West of East River High School to line up with CR 419; and an interchange at SR 50 just north of the SR 520 intersection where SR 408 would end.
- Ms. Holt asked about residential and social impacts and if they have been considered. Ms. Garcia replied that it is a big part of the study and something the team is evaluating closely and trying to avoid or minimize impacts as much as possible. Ms. Garcia discussed the areas where there are some impacts and noted that one of the goals was to not divide communities and disrupt neighborhoods.
- Mr. Myers further stated that the study team has found a series of trade-offs between residential impacts and wetland or other impacts and continues to evaluate them. The team is considering ways to minimize impacts using culverts, access bridges, etc.
- Ms. Holt asked about wildlife and what plans the team had to minimize impacts on them. Mr. Myers noted that the bridge spanning the Econ allows plenty of room for wildlife travel/crossing beneath it and the bridges will be high enough for large mammals to use this corridor as well. Mr. Sloup added that the team will be studying this aspect further now that a specific alignment has been identified.
- Mr. Barnett asked if the PD&E study will compare this alternative to the No Build. Ms. Garcia confirmed the "No Build" is always an option.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Mr. Barnett asked what type of report would discuss wetland and wildlife impacts. Mr. Myers replied it is called a "Natural Resources Evaluation Report". Mr. Barnett said that the EAG members would like to have an opportunity to review and comment on the NRE.
- **ACTION:** Mr. Myers said that he would get the EAG members a draft that they can comment on prior to the next EAG meeting. Mr. Barnett further stated he would be happy to review anything else the team might want to send.
- Michael Jones, Orange Audubon Society, commented that the Florida native plants guidelines will be important.
- Ms. Holt cautioned about nitrification and the related impacts to the environment when landscaping. She asked that landscaping and products used (fertilizer, weed killer, etc) be environmentally friendly or to plant native species that require low maintenance.
- Mr. Barnett asked about Breeding Birds Survey Blocks. Mr. Myers has not reviewed the survey block data.

#### 4. Next Steps

Ms. Tutor reviewed the key points made by the EAG members today. She also informed the EAG members of the upcoming Public Alternative Workshop to be held on June 8, 2017 from 5 PM to 7 PM at the Corner Lake Middle School.

Ms. Gough and Ms. Tutor closed the meeting by thanking the members for their participation and comments and urged the members to attend the Public Meeting if they are available.

Meeting adjourned at 11:05 AM and a member of the public was present and asked to speak.

Ms. Sue Dietrich, Mr. Fred Dietrich (brother), and Ms. Nancy Prine were present to observe the meeting. Ms. Dietrich filled out a speaker card and requested to speak. She spoke to the EAG about her family's property and ranch which will be directly impacted by Corridor 4. Their land is in a conservation easement and home to several endangered species. She and Mr. Dietrich asked the study team to consider realigning the route and avoid their property. They were told when they put the land into the conservation easement the property would be protected from development and things like this project.

Mr. Myers met with the Dietrichs after the meeting and will coordinate with them to visit the property to evaluate it and the species found there.

## PROJECT ADVISORY GROUP 5



**PROJECT ADVISORY GROUP  
MEETING NO. 5**

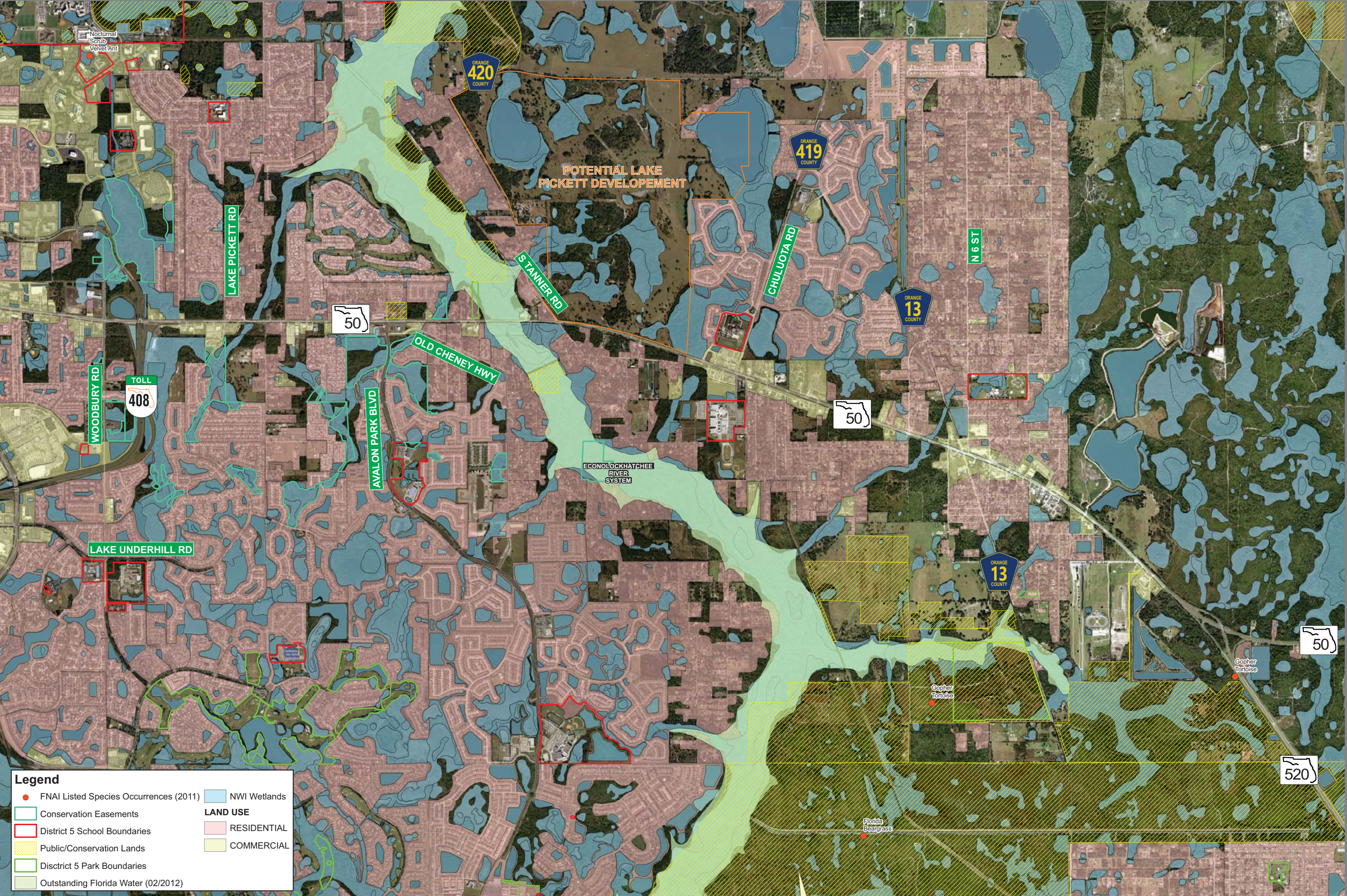
June 1, 2017, 1:30 p.m.  
CFX Administration Building, Pelican Conference Room

**AGENDA**

1. Introductions
  - a. Central Florida Expressway Authority Study Team
  - b. PAG Member Introductions
2. Discussion of Action Items from previous PAG
3. Presentation
  - a. Status Update
  - b. Recommended Corridor
  - c. Alternative under development
  - d. Next Steps
    - i. Evaluation of alternative
    - ii. Preparation of Reports
    - iii. Refinement of alternative
4. General Discussion/ Comments



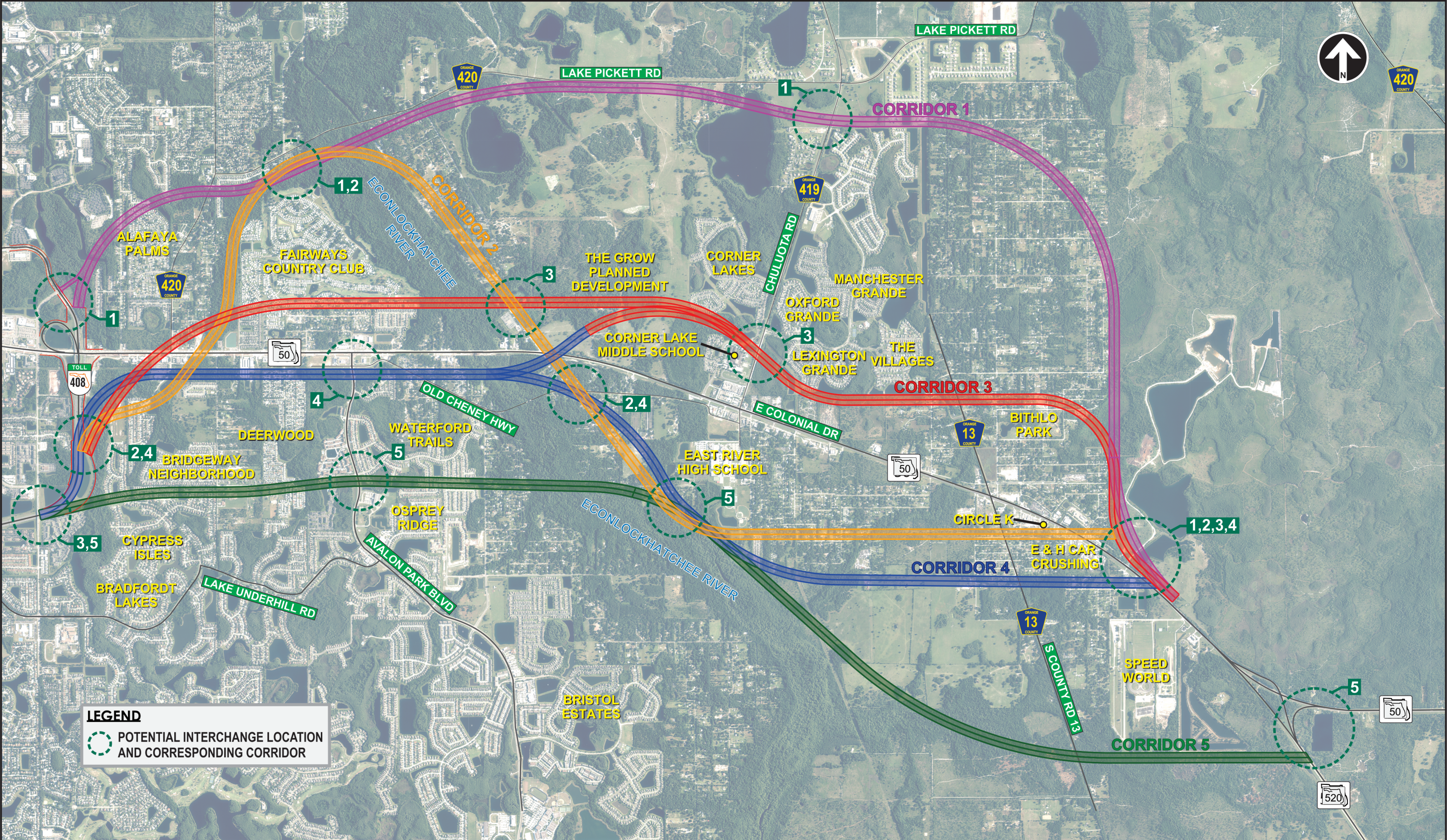
SR 408 PD&E STUDY - CORRIDOR CONSTRAINT MAPPING



**Legend**

● FNAI Listed Species Occurrences (2011)	■ NWI Wetlands
■ Conservation Easements	<b>LAND USE</b>
■ District 5 School Boundaries	■ RESIDENTIAL
■ Public/Conservation Lands	■ COMMERCIAL
■ District 5 Park Boundaries	
■ Outstanding Florida Water (02/2012)	





**LEGEND**

POTENTIAL INTERCHANGE LOCATION AND CORRESPONDING CORRIDOR

Preliminary Corridor Alternatives Figure 3-4



LEGEND																
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE															1.0
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE															0.8
O	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE															0.6
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE															0.4
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE															0.2

TABLE 4-7																							
PRE-FINAL ALTERNATIVE CORRIDOR EVALUATION																							
CORRIDORS	IMPACTS	ENGINEERING			33	ENVIRONMENTAL				26	SOCIO-ECONOMIC		23	COST		18	TOTAL SCORE						
		TRAFFIC CONGESTION/SAFETY	TRAFFIC ACCOMMODATED	CONNECTIVITY	SJRWMD REGULATORY EASEMENTS	WETLAND IMPACTS	WILDLIFE AND HABITAT	OUTSTANDING FLORIDA WATERWAY IMPACTS	COMMUNITY COHESION	CONTROVERSY POTENTIAL	CONSTRUCTION	R/W AND MITIGATION											
		12	11	10	8	6	6	6	13	10	8	10											
1	Not an effective corridor in terms of reducing congestion along SR 50 and diminishing congestion safety concerns	O	Low traffic volumes accommodated along the corridor	O	Not as effective in terms of network and systems connectivity as the other corridors due to its lack of directness	--	Generally moderate impacts to SJRWMD Regulatory Easements when compared to the other corridors with 21 acres of impacts	O	Generally high wetland impacts with 130 acres	--	Generally moderate impacts to wildlife and habitat with an average wildlife index ranking of 9.86	O	Generally high impacts to Outstanding Florida Waterways with 35 acres of impacts	-	Lowest impacts to community cohesion when compared to the other corridors with 6 communities split	O	Significant local opposition to this corridor alternative has been previously expressed	-	Highest potential cost of all corridor options (approximately \$325M to \$335M)	--	Generally moderate potential right-of-way impact costs when compared to the other alternative corridors with 200 parcel impacts and generally moderate mitigation impact costs	O	47.2
4	Generally effective corridor in terms of reducing congestion and diminishing safety concerns along SR 50	+	Generally attracted higher volumes than Corridor 1	+	Supports connections to the local and regional roadway network and its proximity to SR 50 is an advantage	++	Generally higher impacts when compared to Corridor 1 with 34 acres of impacts to the SJRWMD Regulatory Easements	-	Generally moderate wetland impacts when compared to the other corridors with 90 acres	O	High impacts to wildlife and habitats with an Average Wildlife Index Ranking of 11.2	--	Moderate impacts to Outstanding Florida Waterways with 25 acres of impacts	O	Similar to Corridor 1 but slightly higher number of communities split (6 communities)	O	Moderate controversy potential due to some impacts within the first two project segments	O	Generally lower potential cost (approximately \$191M to \$201M)	O	Generally similar costs to previous corridor with 204 parcel impacts but with higher mitigation impact costs	-	62.6
4-2	Generally similar to Corridor 4 within segment 1 but less effective within segments 2 and 3 and diminishing congestion safety concerns along SR 50	O	Overall generally similar to Corridor 1 but with higher traffic volumes attracted within Segment 1 and lower within segments 2 and 3	O	Generally similar to Corridor 4 but slightly less direct	+	Lowest impacts to SJRWMD Regulatory easements with impacts of 17 acres	O	Lowest impacts to wetlands with 75 acres	+	Generally high impacts with an Average Wildlife Index Ranking of 10.57	-	Moderate impacts to Outstanding Florida Waterways with 15 acres	O	Slightly higher number of communities impacted (7) than previous two alternatives	-	Generally similar to previous corridor alternative	O	Least potential cost of all corridor options (approximately \$160M to \$170M)	+	Generally higher right-of-way impact costs with 313 parcel impacts but lower mitigation impact costs than previous alternatives	-	59.0
4-3	Generally similar to Corridor 4	+	Similar to Corridor 4	+	Generally similar to the previous two corridors but less direct	O	Generally similar impacts to Corridor 4 with 36 acres of impacts to the SJRWMD Regulatory Easements	-	Generally similar wetland impacts to Corridor 1 with 135 acres	--	Generally similar impacts to Corridor 1 with an Average Wildlife Index Ranking of 9.7	O	Low impacts to Outstanding Florida Waterways with 10 acres of impacts	+	Similar to Corridor 4-2 with 7 community split	-	Generally similar to previous corridor alternative	O	Generally high potential cost (approximately \$288M to \$298M)	-	Generally similar to corridor 1 with lower right-of-way costs (186 parcels) but higher mitigation impact costs	-	55.6
5	Generally similar to previous corridor	+	Higher traffic attraction than all previous alternatives	++	Generally similar to the previous corridor but only slightly less direct	O	Highest impacts to SJRWMD Regulatory easements with impacts of 48 acres	--	Similar to Corridor 4-3 with impacts of 135 acres	--	High impacts to wildlife and habitat with an Average Wildlife Index Ranking of 14.68	--	Highest impacts to Outstanding Florida Waterways with 55 acres of impacts	--	Similar to previous two alternatives with 7 community splits	-	Significant controversy potential due to major impacts within the first two project segments	-	Generally similar to previous corridor with approximate costs of \$264M to \$274M	-	Generally similar to Corridor 4-2 with higher right-of-way impact costs of 316 parcel impacts and even higher mitigation impact costs	--	46.2
5-4	Generally the most effective of all corridors in terms of reducing congestion along SR 50 and diminishing congestion safety concerns along SR 50	++	Generally similar to previous corridor	++	Generally similar to previous corrdor with minor difference in terms of directness	O	Generally similar to corridor 1 with impacts of 24 acres	O	Generally similar to Corridor 4-2 with wetland impacts of 80 acres	+	Generally similar to the highest impacts corridor with an Average Wildlife Index Ranking of 12.11	--	Generally high impacts to Outstanding Florida Waterways with 30 acres of impacts	-	Generally the most impacts to community cohesion with 9 communities split	--	Generally similar to previous corridor alternative	-	Generally similar to Corridor 4-2 with slightly higher corridor costs (approximately \$168M to \$178M)	+	Generally highest right-of-way impact costs with 343 parcel impacts with only moderate mitigation impact costs	--	57.2

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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### **Project Advisory Group (PAG) Meeting #5 CFX Administration Building Pelican Conference Room 4974 ORL Tower Road, Orlando, Florida 32807 Thursday, June 1, 2017 – 1:30 PM – 3:30 PM**

**Action: #1 - Renzo Nastasi, with Orange County Transportation Planning, has asked for a copy of the EAG meeting notes from today. #2 - Mr. Caskey will contact Mr. Sloup in the next few months to coordinate and schedule a future presentation to MetroPlan Orlando.**

The fifth Project Advisory Group (PAG) meeting was held to provide an opportunity for stakeholder, agency and public participation, which is a key element of the Project Development and Environment (PD&E) Study phase.

A total of 19 persons attended including team members. Full list of attendees are noted on the Sign in Sheet attached. CFX's Director of Engineering, Glenn Pressimone and Jonathan Williamson, Project Manager (Dewberry) were in attendance. Metric Engineering's Project Manager William Sloup attended and were supported by Metric staff member Gabriela Garcia and Media Relations Group's Public Involvement Consultant Valerie Tutor, who facilitated the meeting.

#### **1. Introductions/Welcome**

Ms. Tutor welcomed the meeting's returning and new participants. The participants were thanked for their time and willingness to serve once again. Ms. Tutor asked that the study team introduce themselves, followed by CFX staff and then the meeting participants themselves. There was one observer present representing Commissioner Emily Bonilla.

#### **2. Staff Presentation and Status Update**

- Will Sloup, P.E. with Metric Engineering, gave a Power Point presentation to the PAG that touched on the history of the study, reviewing the 13 corridor alternatives that were evaluated, the evaluation done thus far and introduced the preferred corridor which is Corridor 4 and the alignment within that corridor that is being developed and further studied by the team.

#### **3. Discussion and Comments – Members Offered the Following Comments and Questions**

- Bobby Beagles, Florida Farm Bureau and Town of Christmas, asked if this Corridor would be using the Old Cheney crossing that is still there. Will Sloup, Metric Engineering, replied that this corridor will use that crossing which received positive remarks from the EAG.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Mr. Beagles then asked if there was any way this alignment could miss the Dietrich Ranch, especially Mr. Dietrich's house. Mr. Sloup and Gabriela Garcia, Metric Engineering, noted that Mr. Dietrich had been an observer at the EAG meeting and this issue was discussed. The study team will work to determine what options exist. A portion of Mr. Dietrich's ranch is under a conservation easement.
- Mr. Beagles additionally pointed out that Corridor 4 still does not solve the problem of the SR 50/SR 520 intersection. This has been brought forward as an issue in the 2008 Concept Study and in the 2001 Task Force recommendations and it is still not solved. FDOT needs to rebuild this intersection. Mr. Beagles stated he agrees with Corridor 4 but it doesn't solve the Brevard – Orange County evacuation problems.
- Tim McKinney, United Global Outreach, informed the study team that Commissioner Bonilla has been working with Habitat for Humanity to begin building 8 homes that will be impacted by the alignment shown. They are breaking ground very soon. He also stated there is a medical clinic at Lansing near the end of the project that would be impacted as well. The clinic is currently in a trailer; however, they are receiving grants to construct a large clinic. Ms. Garcia noted this information and thanked Mr. McKinney for bringing this to the attention of the study team.
- It was asked why Corridor 5 was not selected, at least parts of it. Mr. Sloup and Ms. Garcia replied that this corridor had several environmental issues including conservation lands, wetlands and the Long Branch tributary to the Econlockhatchee River.
- Dwight Saathoff, Project Finance and Development LLC, expressed his opinion that the study team had done a good job in determining the most efficient corridor.
- R.J. Mueller, of FixMyRoad.com, noted that connectivity was rated a 10 with this corridor and he wondered how it rated a 10. Ms. Garcia explained how the ranking occurred and taking into account its proximity to SR 50. Mr. Mueller agreed with Mr. Beagles that the "bottleneck" at SR 50 and SR 520 needs to be considered.
- Georganne Gillette with Space Coast TPO remarked that this alignment makes sense and is close enough to SR 50.
- Mr. Mueller asked if traffic going to UCF headed westbound where SR 408 ends at Challenger will be able to easily access Challenger to head to UCF. Ms. Garcia replied that the interchange being considered would allow that movement so drivers can get to the UCF campus.
- Renzo Nastasi, Orange County Transportation Planning, remarked that Corridor 4 appears to be the most efficient. He noted that Woodbury is scheduled for widening from SR 50 to Lake Underhill and the study team should take that into account. He further asked to be sent copies of the EAG notes when approved.
- Frank Consoli, Seminole County Public Works, commented that this seems to be a good alignment to provide connectivity to CR 419.



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Mr. Beagles inquired as to the feedback and reaction from the EAG team members earlier that morning. Ms. Garcia stated that the Audubon Society and Sierra Club had taken a position not in favor of any of the corridors and supported co-location with SR 50. Other comments were generally positive and informative for moving forward.
- Mr. McKinney asked if CFX would wait for the Turnpike study to be completed. Mr. Pressimone replied that this study would be complete in September-October when the Turnpike's study will just be beginning. It is our obligation to take the findings from this study to the CFX Board and they will give the staff direction. CFX does not know what the outcome will be. Comments by FDOT District Five seem to indicate they may require that the Turnpike alignment be an elevated section for the entire project limits including through Bithlo. If so, that would make that alignment very costly and not financially feasible.
- Mr. McKinney commented that if the SR 50 option eventually returned to CFX that they would not want to recommend an alignment that splits Bithlo. Mr. Pressimone stated that the impacts to Bithlo were the reason many of the other options being studied were eliminated.
- Ron Toporek of OUC said that Corridor 4 was a good option but asked if the team had considered presenting both 4 and 4.2 to the public. He suggested that the public may not be receptive to seeing that there is one choice only & they have no other options for input. Even though 4.2 may not be the best option, he feels it is important to give the public a choice. He thinks if they were to see the data as the team has, they would also agree the corridor 4 is best. Mr. McKinney also said he agreed with this point.
- Ms. Garcia stated that she agreed with that statement. The public will be presented and shown all the previous corridors at this meeting as well. The community has had an opportunity to comment on several options prior to this meeting. Corridor 4 is the recommended corridor moving forward. However, what is being presented is not the recommended alternative and is by no means set in stone yet.
- Mr. Saathoff wondered if the general public were aware of what mitigation can entail and that often it is a positive with more land being protected than prior to the project. For that reason he also thinks that this is better than doing an expressway along SR 50. He asked if there is something we could do to educate the public better.
- Hugh Harling with East Central Florida Regional Planning Council asked how long the bridge crossing is projected to be. Ms. Garcia said it would be approximately 0.25 miles and will serve as a wildlife corridor.
- Mr. Toporek clarified his concerns regarding giving the public a choice. He said he thought giving them a choice would encourage interaction.
- Mr. McKinney remarked that the crossing at Old Cheney is currently used as a party spot for many locals. He hoped that the future bridge design would help discourage such use.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Maria Teimouri from the University of Central Florida (UCF), remarked that the alignment being studied supports those coming and going to UCF.
- Keith Caskey, MetroPlan, requested that the study team be available to present to MetroPlan in the future. It would probably be January – February 2018. Mr. Sloup pointed out that the study would be completed by then and CFX would have a recommended alternative at that time. **Action:** Mr. Caskey will contact Mr. Sloup in the last few months to coordinate and schedule this.
- Sean Ells, representing Columnar Development, asked why the public and others think it is a good idea to add a limited access tolled expressway along SR 50. He speculated that it would “break” SR 50 by making it a nightmare for the community and traveling public during construction and creating this huge roadway afterwards that diminishes community cohesion. He stated that he feels corridor 4 is a better option to using SR 50. Mr. Sloup replied that it was a consideration that the study team felt seemed to make Corridor 4 an even better option than co-location with SR 50.

#### 4. Next Steps

The study team will proceed with the analysis incorporating the comments and discussion points from the EAG and PAG members. An Alternative Public Workshop will be held on June 8, 2017 from 5:00 p.m. to 7:00 p.m. at Corner Lake Middle School. All PAG team members are encouraged to attend.

The next PAG is proposed for the latter part of August. A specific date will be forthcoming.

Meeting adjourned at 3:10 p.m.

## ENVIRONMENTAL ADVISORY GROUP 6



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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### Environmental Advisory Group (EAG) Meeting #6 CFX Administration Building Pelican Conference Room 4974 ORL Tower Road, Orlando, Florida 32807 Tuesday, October 10, 2017 – 9:30 AM to 11:30 AM

<b>Follow up required: EAG members will be notified when the study documents are ready for review and comment.</b>
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The sixth Environmental Advisory Group (EAG) meeting was held to provide an opportunity for stakeholder, agency and public participation, which is a key element of the Project Development and Environment Study phase.

A total of 15 persons attended including team members. A full list of attendees is noted on the Sign-In Sheet attached. Jonathan Williamson, Project Manager (Dewberry) attended for CFX. Metric Senior Project Engineer Robert Linares, P.E. and Project Manager Will Sloup, P.E., attended and were supported by staff members Gabriela Garcia, P.E. and Robert Myers, Environmental Specialist, as well as Public Information Officer, Valerie Tutor with Media Relations Group. Nicole Gough with Dewberry opened the meeting on behalf of CFX.

#### 1. Introductions/Welcome

Ms. Nicole Gough, Dewberry, welcomed the meeting's returning and new participants. The participants were thanked for their time and willingness to serve once again. Ms. Gough asked that staff introduce themselves, followed by the study team and then the meeting participants themselves.

#### 2. Staff Presentation and Status Update

- Will Sloup, P.E. with Metric Engineering, gave a Power Point presentation to the EAG reviewing the purpose & need, the 5 corridor alternatives considered, followed by selection of Corridor 4 as the preferred corridor and the preliminary alignment within that corridor. He updated the group on the latest information and refinements to the alignment and presented on the recommended alternative. He outlined current and next steps for the study team.

#### 3. Discussion and Comments – Members Offered the Following Comments and Questions

- Charles Lee, of the Florida Audubon Society, asked if the Purpose and Need of this study would be affected by the Turnpike's Colonial Parkway project if it were to be built along SR 50 as anticipated. Robert Linares, Metric Engineering, replied that it would be difficult to assess since the PD&E study for that project is just beginning and we have no idea what the scope is for that project and what their study outcome will be. Mr. Lee then asked if Metric Engineering would be adding a note in our study

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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documents regarding the Colonial Parkway project and the possibility that their results may alter our conclusions. Will Sloup, Metric Engineering, reminded the group that the CFX study is the first step in the future I-95 connection. Mr. Linares stated the study document would include a notation about the Colonial Parkway and other potential projects.

- Mr. Lee speculated that CFX would have to purchase the Deerwood Mobile Home Park in its entirety even though the current alignment impacts only a portion of it. The argument could be made by the property owner that it should be 100% take. Mr. Linares said that there is an option for a bridge to span Deerwood to ensure connectivity.
- Mr. Lee asked who was the owner of the conservation easement near Deerwood impacted by the new interchange at Avalon Park Blvd. Rob Myers, Metric Engineering, said that it was a SJRWMD easement & the HOA is the owner. Ms. Gough explained it was part of the mitigation of the housing development. Mr. Lee commented that there would be mitigation credits, of course, for the footprint impacts but there may be more needed for secondary impacts related to cutting the easement in half.
- David Eunice, SJRWMD, replied that CFX would probably be required to mitigate twice for the wetlands as the lands were originally purchased for mitigation purposes. Mr. Lee agreed that there may be a double impact in places since some of these were previously set aside.
- Mr. Lee referred to the brownfield near the eastern end of the project and said that even if the alignment misses it, it doesn't mean it would be out of the influence of the site. Any dewatering during construction will likely cause impacts. Mr. Myers agreed and noted that the study team is flagging this area for further study in later phases and has given it the highest risk rating.
- Mr. Eunice asked if the 59 acres of wetland impacts shown was just direct impacts. Mr. Myers said it is just direct impacts based on the project footprint, and noted that it does not distinguish areas where wetlands would be bridged but not necessarily dredged or filled. He also noted that the 59 acres does not include secondary impacts. Mr. Eunice asked if the 14 acres were uplands and wetlands. Mr. Myers replied it is just uplands. Mr. Myers also explained that the RHPZ is not mapped by the SJRWMD but is instead described in text and is based on the extent of the river channel and adjacent wetlands.
- Cammie Dewey, SJRWMD, suggested the team note that this part of the Econlockhatchee is designated as Sovereign Submerged Land.
- Mr. Lee said he thought that the Dietrich land was not a regulatory exchange easement but a purchased easement through one of the SJRWMD programs, possibly Preservation 2000. If that is the case and there is a compensation option, then you would need to obtain 2/3 vote of the governing board.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Dave Herbster, Department of Environmental Protection, asked if the costs shown are in today's dollars or future dollars. Mr. Sloup confirmed it is in today's dollars as well as impacts to properties assumes existing land uses.
- Mr. Lee referred to the proposed bridge alignment over the Econlockhatchee River. He stated that the current alignment shown may be able to be adjusted to have less impacts to environmental lands. Mr. Lee stated that an ideal crossing would not necessarily be at the exact location of the old crossing, but instead where the river's floodplain has the narrowest floodplain. He suggested curving it a little more north a few hundred feet to minimize the impacts. He also suggested that the interchange at CR 419 might be better if it were further east moving it as much as possible away from the Econlockhatchee. He also stated that restoring the old crossing area as part of mitigation would be a net benefit to the project. Mr. Linares said the study team can consider these suggestions, but will need to see how that works with the design speed of the alignment as well as minimizing impacts to East River High School. This will be looked at in more detail.
- Dennis Weatherford, Orange County Environmental, said that they have done several studies in the brownfield property and haven't found a lot of contaminants such as solvents, petroleum, etc. Orange County has found contaminants from around the residences in the area that seems to be coming from the septic systems that have not been properly maintained. The brownfield used to be A-Z Recycling and there was a lot of vegetative waste, construction debris, wires, fences, etc. Groundwater testing does not indicate high contamination levels. Mr. Myers stated that this area is given the high-risk rating so that the next phase of the project will do further study.
- Mr. Weatherford also noted that the alignment seems to be cutting into an Orange County conservation easement (Sunflower). Mr. Myers confirmed that the proposed alignment clips the corner of the property with the required border width (300-foot R/W).
- Brian Barnett, Fish and Wildlife Commission, said his comment is that he hopes the Turnpike project is successful and will eliminate the need for this one. He prefers the collocated corridor concept. Mr. Lee agreed.
- Mr. Eunice asked about wildlife crossings around the tributaries. Mr. Myers inquired what SJRWMD would be looking for regarding the crossings. There are possibilities such as a dry shelf within a large culvert. The team is open to suggestions and agree the bigger and more open they are, the better. Catherine Owens, FDOT EMO D5, stated that FDOT has guidelines that they must use for these. Mr. Myers indicated the proposed project provides a great wildlife crossing in the new proposed bridge over the Econlockhatchee River. Additionally, other tributaries will either be bridged, or a culvert will be installed where required for further wildlife crossing opportunities. SR 50 to the north serves as an existing wildlife barrier.
- Marge Holt, Sierra Club, echoed the sentiment that the Turnpike's SR 50 route is the best. She doesn't see anything overwhelming in the Purpose and Need that the Turnpike project couldn't meet. Mr. Linares said that the costs and financial feasibility of the Colonial Parkway will be a big part of what they are able to construct.



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Mr. Herbster commented that the land costs in the future may be way too high to make either project feasible.
- Ms. Dewey asked if there would be the ability to consider storm water harvesting and include that potential in the study documents. Mr. Myers replied that this is being discussed and that the study team has a meeting planned with SJRWMD to explore this further.
- Mr. Herbster asked that the team think about multi-modal options such as accommodating for bicycles. He recommended CFX consider a shared use path and/or hanging paths on the side or under bridges.
- Ms. Tutor concluded the meeting by thanking the EAG members, on behalf of the study team and CFX, for their participation and their time taken to serve on this advisory group.

#### **4. Next Steps**

Completed portions of the study documents are being reviewed between Metric and Dewberry, the CFX General Engineering Consultant. When the documents are ready for comment by the EAG members, Valerie Tutor will send an email to them with details as to how to obtain them.

This is the last EAG meeting for this study. The Public Hearing has been pushed back to Spring of 2018, possibly April. The EAG members will be notified of the hearing date and location when it has been finalized and the notifications prepared.

Meeting adjourned at 11:15 A.M.

## PROJECT ADVISORY GROUP 6

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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### **Project Advisory Group (PAG) Meeting #6 CFX Administration Building Pelican Conference Room 4974 ORL Tower Road, Orlando, Florida 32807 Tuesday, October 10, 2017 – 1:30 PM – 3:30 PM**

**Action: #1 - Mr. Caskey will email the PAG team the PowerPoint presentation that Commissioner Bonilla will be showing at the next MetroPlan Board Meeting. #2- Valerie Tutor, MRG, will notify the PAG members with the date of the Public Hearing as soon as it becomes known.**

The sixth Project Advisory Group (PAG) meeting was held to provide an opportunity for stakeholder, agency and public participation, which is a key element of the Project Development and Environment (PD&E) Study phase.

A total of 23 persons attended including team members. Full list of attendees is noted on the Sign in Sheet attached. CFX's Director of Engineering, Glenn Pressimone and Jonathan Williamson, Project Manager (Dewberry) were in attendance. Additionally, Emily Brown, CFX's Community Affairs Manager was also present. Metric Senior Project Engineer Robert Linares, P.E. and Project Manager Will Sloup, P.E., attended and were supported by staff members Gabriela Garcia, P.E., Robert Myers, Environmental Specialist and Media Relations Group's Public Involvement Consultant Valerie Tutor, who facilitated the meeting.

#### **1. Introductions/Welcome**

Ms. Tutor welcomed the meeting's returning and new participants. The participants were thanked for their time and willingness to serve once again. Ms. Tutor asked that the study team introduce themselves, followed by CFX staff and then the meeting participants themselves.

#### **2. Staff Presentation and Status Update**

- Will Sloup, P.E. with Metric Engineering, gave a Power Point presentation to the PAG reviewing the purpose & need, the 5 corridor alternatives considered, followed by selection of Corridor 4 as the preferred corridor and the preliminary alignment within that corridor. He updated the group on the latest information and refinements to the alignment and presented on the recommended alternative. He outlined current and next steps for the study team.



# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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### 3. Discussion and Comments – Members Offered the Following Comments and Questions

- Bobby Beagles, Florida Farm Bureau and Town of Christmas, asked what the Orange County School Board said about the planned bus depot (around CR 419 area). Mr. Sloup replied that the team had met with them about it and incorporated their planned improvements into our study. They have indicated they have put their plans on hold for now due to the Florida's Turnpike Colonial Parkway study.
- Mr. Beagles asked if the alignment missed the Dietrich's property. Rob Myers, Metric Engineering, said that the alignment will miss his house, but it will impact a portion of the land.
- Keith Caskey of MetroPlan Orlando indicated that Commissioner Bonilla will be speaking in opposition to this project at the next MetroPlan Board meeting. **Action:** Keith will send Commissioner Bonilla's PowerPoint Presentation to the PAG and the study team.
- Amy Sirmans, representing FDOT District Five, asked if CFX has funded a design phase for this project. Glenn Pressimone, CFX Engineering, replied that it is only funded for 15% line and grade in the work plan. The full design is not funded at this time, but the work plan is updated annually so that could change.
- Renzo Nastasi with Orange County, suggested that the study show Woodbury Road widened all the way to SR 50 and beyond as that is what is planned. Widening Woodbury Road has been added to the Orange County CIP.
- Tim McKinney, United Global Outreach, asked when the study results will be presented to the CFX Board. Mr. Sloup replied that the team would be bringing it to the CFX Board about one month prior to the Public Hearing which is planned for the Spring of 2018 now. The CFX Board will give further direction to staff as to what happens next with the project. The Board could instruct CFX to move forward with the project or stand by as the Colonial Parkway project progresses or drop it from further consideration.
- Mr. McKinney says there is concern in the community as lawyers are sending out letters saying their property is going to be taken any day now. He suggested CFX and the team find a way to let the public know the correct information. He also asked if it was still planned to be done in (3) sections. Mr. Pressimone said the CFX Board would decide that. The CFX Board will also consider the goal of regional connectivity as outlined by the Governor's Task Force in their decision-making process.
- Mr. McKinney asked when this project would be constructed so that he can let the community know. Mr. Pressimone responded that in a perfect world, if everything fell into place, the project could be constructed in 5-6 years.
- Mr. McKinney asked about the medical clinic which is the only one that serves the community there. Mr. Sloup stated that the team is aware of the clinic and has developed alternatives to avoid it, as shown on the roll plot at the meeting.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Mr. Nastasi said that Orange County has received several comments regarding adding a pedestrian overpass crossing SR 50 near CR 419/ Chuluota Road.
- Don Whyte, Deseret Citrus and Cattle Company, said he is concerned about the eastern terminus of the expressway. There are a lot of major roads that feed into an at-grade intersection to get onto the SR 408 extension and he hopes that this will be fixed at some point. Mr. Robert Linares, Metric Engineering, explained that the project currently is evaluating for traffic in the year 2045 and that horizon year is all that is called for in the study. However, CFX's plan is for a SR 408 extension further east. At a future time, it is possible that direct connections may be required.
- Hugh Harling, East Central Florida Regional Planning Council, commented that this seems to be a good layout. He hopes it will take into consideration the groundwater table. The hurricane has put a lot of water along the corridor and it is not draining well now. Mr. Linares acknowledged that this was a good point and said the base would need to be 2-3 feet above high water, so the amount of fill could be substantial. The study team is taking this into account.
- Dwight Saathoff, Project Finance and Development LLC, asked what phase of the project is property identified for purchase and that process started. Mr. Pressimone and Mr. Linares both commented on this and stated that right of way acquisition usually starts at about 60% design with willing sellers. Mr. Sloup mentioned that once the drainage is designed, which is around 60%, you can usually have a good idea of what properties will need to be purchased. Mr. Pressimone explained that it is possible that right of way agents for CFX could start conversations with willing sellers earlier in the design phase. The fastest scenario could see the design phase beginning around the end of 2018 and CFX able to do preliminary acquisition around the fall of 2019.
- Maria Teimouri, with University of Central Florida, asked what do we do to give back to the community we are impacting. Are there any beautification plans we can add, etc? Mr. Linares replied that the study alignment will provide opportunities for landscaping and aesthetic features to bridge structures.
- Mr. McKinney commented that on an FDOT project they are making retention ponds more "park-like." Mr. Pressimone said that the character of a limited access toll road is different, and ponds usually are a part of CFX right of way and not a public place. These types of things will need to be discussed during the design phase. CFX can and does invest in landscaping their projects especially around the interchange and pond areas. They take pride in this and it is usually about 1-2% of the construction costs.
- Ms. Sirmans commented that FDOT has a new policy to not make big ugly rectangular retention ponds.
- Mr. Beagles pointed out that the recent hurricane evacuation proved the need to build this road to help move and evacuate people.
- Mr. Saathoff said that he thought CFX roadways were more functional and aesthetically pleasing than others.

# MEETING NOTES

## Project Development and Environment Study SR 408 East Extension from SR 50 to SR 50/SR 520 Intersection

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- Laura Carter, Space Coast TPO, mentioned that this adds another east-west roadway other than SR 50 and SR 528 and gives people moving between Brevard and Orange counties another option.
- Ron Toporek, representing OUC, said he would hate to see the PAG back here in 10 years still talking about this roadway. His opinion is that the justification for the roadway is clear, but the concern is that with two agencies involved, FDOT and CFX, who will decide which projects gets built. Mr. Pressimone again stated that this would be up to the CFX Board if they want to move forward or wait for the Colonial Parkway study to be finished. This becomes a political discussion at some point. Mr. Linares mentioned that cost will be a crucial factor in this, both from CFX and FDOT standpoints.
- Mr. Beagles asked when the study team might determine the date for the Public Hearing. Mr. Linares said that the study team is finalizing documents for review and we should be closer to a date in a few months. Valerie Tutor, Media Relations Group, said she would notify the team in a Save the Date email as soon as the date is scheduled.
- Sean Ells, representing Columnar Development, said based on the cost in the presentation, that seemed to come to \$35M a mile. Is that normal? Mr. Linares commented that there are a lot of bridge crossings in this alignment which adds to the costs. The original alignment that was co-located with SR 50 would have cost \$100M a mile or more.
- Frank Consoli, Seminole County Public Works, commented that this seems to be a good alignment and he mentioned when he was with the City of Orlando, they did sidewalk widening underneath the expressways where possible to tie into trails.
- Mr. McKinney stated that if the team sends him a project flyer or fact sheet he can post it on the community Facebook page.
- Ms. Tutor concluded the meeting by thanking the PAG members, on behalf of the study team and CFX, for their participation and their time taken to serve on this advisory group.

#### 4. Next Steps

The study documents are being finalized for review by Dewberry, the CFX consultant. Review of some portions of the documents is already in process.

This is the last PAG meeting for this study. The Public Hearing has been pushed back to Spring of 2018, possibly April. The PAG members will be notified of the hearing date and location when it has been finalized and the notifications prepared.

Meeting adjourned at 3:20 p.m.



## CORRIDOR MEETING



# SR 408 PD&E STUDY

## EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

[www.CFXway.com/408study](http://www.CFXway.com/408study)

Newsletter 3, January 2017

## PD&E STUDY OVERVIEW

In May 2015, the **Central Florida Expressway Authority (CFX)** began a Project Development and Environment (PD&E) Study for the proposed SR 408 (Spessard L. Holland East-West Expressway) Eastern Extension from the SR 50 interchange to the SR 50/SR 520 Intersection in East Orange County.

The objective of this study is to help CFX reach a decision on the type, design and location of the potential eastern extension of SR 408. All factors related to the design and location of the proposed expressway must be considered. These include transportation needs, social impacts, economic factors, environmental impacts, engineering analysis and right-of-way requirements.

## PUBLIC CORRIDOR MEETING

CFX invites you to an Alternative Corridor Public Workshop regarding the potential eastern extension of SR 408 from the State Road 50 interchange to the SR 50/State Road 520 intersection in east Orange County. The purpose of this Public Workshop is to provide the public with an opportunity to review and comment on the corridor alternatives developed for the project. Representatives from the PD&E Study team will be present to answer your questions concerning the presentation, display boards and the alternatives evaluation process and results.

The meeting will be held on **Thursday, February 16, 2017, at the Eastpoint Fellowship Church, located at 15060 Old Cheney Highway, Orlando, Florida 32828**. We will provide an overview of the project, the status of the study and the opportunity for you to ask questions and provide input. The meeting will be held in an open house format from **5:00 p.m. to 7:00 p.m.** Participants will be able to review project information and discuss the project with project staff during the meeting. Your attendance is encouraged and appreciated.

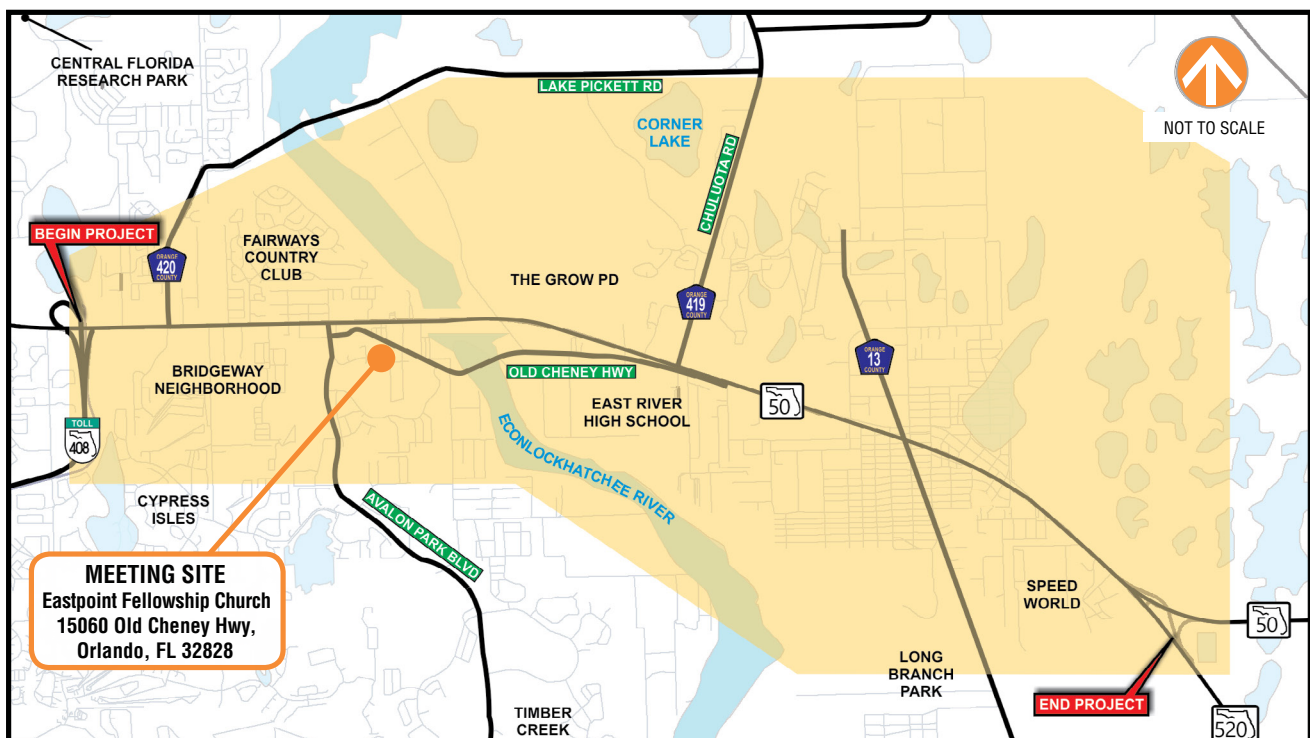
## PROJECT UPDATE

The results of the PD&E Study indicated that the optimal location for the eastern extension of the SR 408 is along the existing SR 50 corridor. From the existing SR 50/SR 408 interchange to Avalon Park Boulevard, the results of the study recommended SR 408 be elevated with the SR 408 eastbound traffic located south of SR 50 and the westbound SR 408 located north of SR 50. East of Avalon Park Boulevard, SR 408 would be located in the median of SR 50, with SR 50 functioning as a local frontage road. This alternative will also feature new interchanges at Avalon Park Boulevard and at Chuluota Road. However, in May 2016 the Florida Department of Transportation (FDOT) notified CFX that there are issues with CFX utilizing the FDOT right-of-way for the SR 408 extension. Thus CFX has expanded the PD&E study area in order to develop a new transportation corridor that will address the transportation needs while minimizing impacts to the natural, physical and cultural environments. We invite you to assist CFX in the evaluation of these corridors by providing comments to our engineering team.

## PUBLIC INVOLVEMENT

One of the most important aspects of a PD&E Study is public involvement. Your input is important to the success of the project. Information received as a result of this public meeting, along with detailed analyses of the corridors, will form the basis for the range of alternatives to be further refined, evaluated and documented in the PD&E Study.

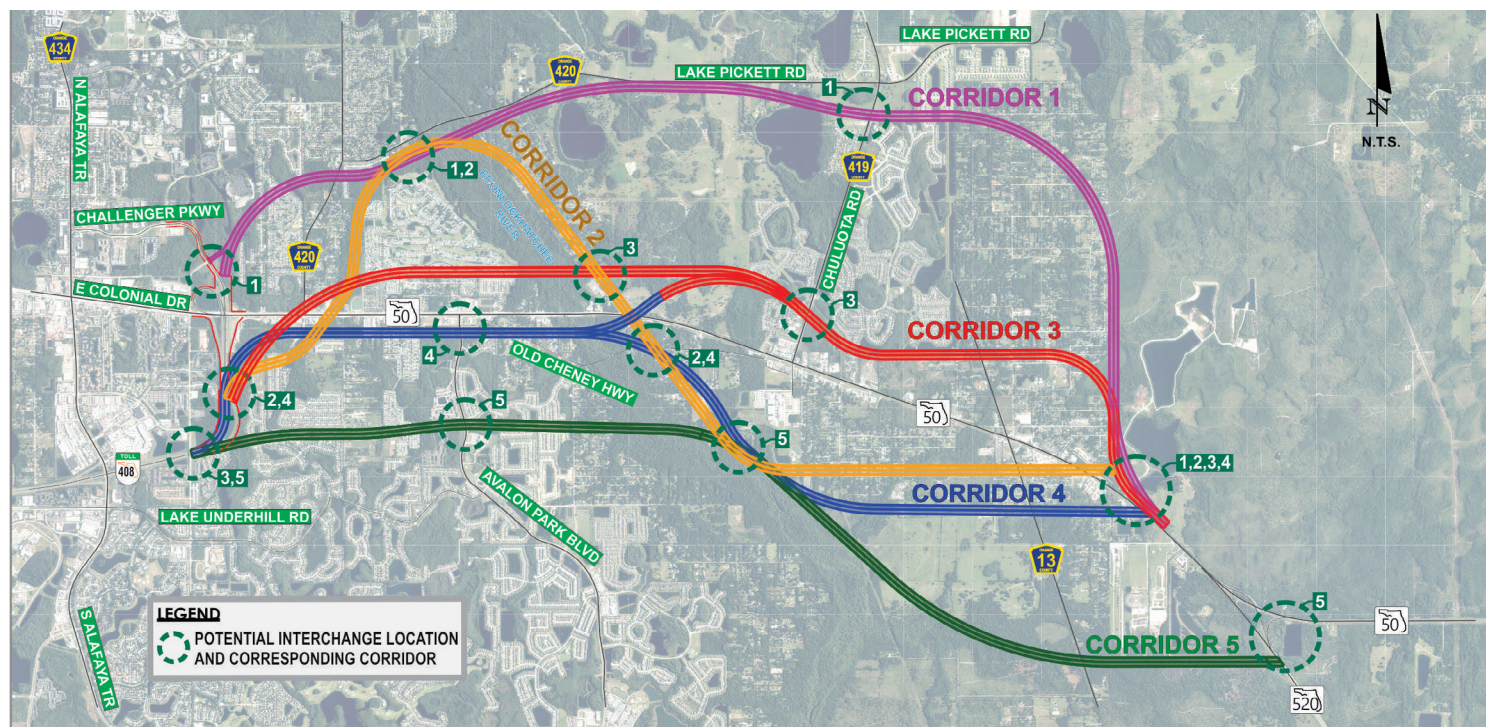
Opportunities for you to provide your input will be available throughout the study public meetings, small group meetings, and the project website [www.CFXway.com/408study](http://www.CFXway.com/408study).





## ALTERNATIVE CORRIDORS

A multi-phase corridor development, evaluation and selection process will be used to properly assess all alternative corridors for the proposed eastern extension of SR 408. The corridors are being evaluated in terms of compliance with the Purpose and Need, environmental impacts, socio-economic impacts, engineering considerations. An important component of the evaluation are the public comments received at this meeting and throughout the study period. Currently, five main corridors and 7 additional combinations are being evaluated and are shown below.



## PROJECT SCHEDULE

	2016				2017											
	S	O	N	D	J	F	M	A	M	J	J	A	S	O		
MONTH																
BEGIN STUDY	🎯															
CORRIDOR PUBLIC MEETING					★											
ALTERNATIVES PUBLIC WORKSHOP									★							
PUBLIC HEARING													★			
CORRIDOR EVALUATION																
ALTERNATIVES ANALYSIS																
ENVIRONMENTAL ANALYSIS																
PUBLIC INVOLVEMENT																
STUDY COMPLETION																🎯

## PROJECT CONTACT

For project information, to provide comments regarding the study or to request a meeting with your group, please contact:

**Valerie Tutor, Public Information Officer**

Phone: 941-504-9440, Email: 408study@CFXway.com

*Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability or family status.*

**Para más información en español acerca del proyecto, por favor comuníquese con Alicia Gonzalez al 786-280-6645 o por correo electrónico agonzalez@mrgmiami.com.**





**Alternative Corridor Public Workshop**  
**Thursday, February 16, 2017 | 5 p.m to 7 p.m.**  
 Eastpoint Fellowship Church  
 15060 Old Cheney Highway  
 Orlando, Florida 32833

## ELECTED OFFICIALS & STAFF SIGN-IN

[illegible]



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

Alternative Corridor Public Workshop  
Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church  
15060 Old Cheney Highway  
Orlando, Florida 32833

## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
GERALD CARR		18079 1ST AVE	407-568-0163	
Mabel J. J. J.		18580 E Colonial Dr.	407-359-9189	
Joan John DePietro		2852 Talladega Dr.	407-384-9809	
John Marsh		821 Bridgeway Blvd	407-369-6666	
Tom Suozzo		815 Bridgeway Blvd	407-758-3902	ozzo@408.com
Gloria A. L.		17193 Edison Tr	321-804-7164	
Wm. Lucas		17920 Calence St.	407-568-0589	
Sam Ellis		LAKE PICKETT RD.	321-960-2343	
Jerome McFarland		1818 Frank St.	407-232-5065	
Alex Ferrer		14203 THAMHALL WAY	407-709-0802	
JAMES L. PEYTON		1835 Hwy 318, PITA, FL 32113	352-595-4908	





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Orlando, Florida 32833

## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Tom Callan			407-241-9141	
Megan Olivera	QCA	2431 Aloma Ave 231 Winter Park	407-709-9840	megan.olivera@QCAusa.com
Ed Priest	BIG ECON	1423 Tanner	321-293-4504	Epriest367@Aol.com
William White		19827 Meredith PK	407 334 5581	white57@live.com
Mike Snyder	CH2M	225 E. ROBINSON ST. ORLANDO	407-423-2030	
ROBERT FLOWERS		17223 WILSON Rd.		
DAVID BOTTOMLEY	SIERRA	305 WOODBURY AVE		MICHA MICHA 151100
Dario Bivally		15614 Lakeside St	407-257-9339	David@S1020304.com
Dannie Stufflebeam	Home owner	18927 5th Ave	407-804-7279	
Susan Devor	Home owners	1888 Knight Ave	407-342-6370	Susan1213.home@gmail.com
Daniel E. Devor III		1888 Knight Ave		





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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Dana Paul		17641 E. Colonial	407-462-1484	dana.paul@gmail.com
Bocho H. Lopez	HOA	1907 Colonial Woods Blvd.	407-985-2488	lopez15@att.net
Kevin and Carmen Clarke		917 N County Rd 13	407 921 1362	KCSJ81@AOL.com
Jennifer McFarland		1818 Frank St. Orlando	407-501-2669	JennMcFar@gmail.com
M. Achille-Anguez		171 54 Long Boat Lane	505 328-2372	MariaAchille-utguy@yahoo.com
Pablo Aguayo		743 Bridgeway Ave		pablo_1@hotmail.com
TOM SEILER		200 STORF PARTIN ORLANDO 32833	407 568 3581	jseiler712@yahoo.com
Robert Cooper		3009 Amalfi Dr. Orlando 32820	407-948-4221	BettieGold@hotmail.com
Breck Johnson		4074 N. Hwy 18-A 32757 Mt. Dora, FL		Johnsonbreck@yahoo.com
Elizabeth Hernandez		14826 Faberge Dr 32828	407-736-9738	LizHernandez1022@gmail.com
Debona Dunbar		127 8th St	321 804 4530	debona.jd@metzerg.com



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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Michael Fitzgerald		14539 E. Colonial Dr	407-277-2986	
Jens Wood				
Stephen Bohan		14513 San Lorenzo Dr	407-489-7233	
Rocky Wynn		14107 Colonial Sam Ln	407-538-0404	
ZACH V.		14505 LK UNDERHILL	352 476 2624	ZULCEK1800@gmail.com
Glenn Rubinstein		16608 Cedar Run Dr	954-816-5791	
Jackie Rubinstein		16608 Cedar Run Dr		
M Larkner		17154 Longboat Ln	<del>407-757-455</del>	
Preston Stickland		1290 Caudle St		preston31@myway.com
JARITA MUKHAR		14525 SAN LORENZO DR.		
Bettie Cooper		3009 Amalfi Drive		BettieGold@hotmail.com





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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Ronald Rabaut		12633 Parkburg Dr	321-271-1169	rrabaut@cfl.rr.com
Tan Nguyen		2300 Maitland Center Pkwy	407-965-4211	tan.nguyen@wolkert.com
Ramon Pol		570 Cox Dr Orlando	407-758-4522	Rg.Police@aol.com
KAY WEST		1705 10TH ST	407 568 4174	KLWEST568@OUTLOOK.COM
TERRY WEST		1705 10TH ST	407 568 4174	" "
LEONARD HOWARD		356 ALISON DAPPLE CIR	407 453 8744	BHILL6-Road@mso.com
LORI STEVENS		554 WELDON AVE	407-468-3802	DLJOURNEY@BELLSouth.NET
HELEN P. UNSER		2835 Ballard Ave	407 568 9659	pUNSER@cfl.rr.com
Hernan Duarte		17883 E. Colonial Dr		
Marylou Tobin		18630 13 <sup>TH</sup> AV.		
Carol Barr		2553 Traymore Dr.	407 491.1874	Barrw 32825@yahoo





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Lisette Mazzeo		Orlando 32828 827 Bridgeway Blvd.	(561) 714-3272	
Nick & Carol Green		3332 Lukas Cove	321 377 5057	
Tim HERBER		19523 Lk. PICKETT RD.	407-936-5635	
Ballentine		332 Lukas Cove	407-461-4643	marcia2525@gmail.com
Jim Natsay		2300 161st St. Charlotte NC	907-402-2082	
German L. Sadr		14666 Congress st	407-230-4597	ptrico13@yahoo.com
Charles W. Johnson		20335 Mman Pkwy Orlando	407-702-3522	
Bill Grinn		18515 16th Ave	407 221 6734	WFBGrinn@hotmail.com
Greg Priewe		4523 Bradley Ave	407-583-7107	
Elizabeth Conner		2711 S. Tanner Rd.	407-982-6354	LizConner@gmail.com
Jerry Rogers		2204 Dallas Blvd.	407-468-3447	



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

Alternative Corridor Public Workshop  
Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church  
15060 Old Cheney Highway  
Orlando, Florida 32833

## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Jason Povlick	Aldi Inc	14819 E. Colonial Dr. Orlando, FL 32826	(407) 754-5308	Jason.Povlick@aldi.us
Louis Garcia	uy.F	14214 Thonhall way Orl FL 32828	407-491-2807	louistzarate@gmail.com
William & Carol Jacobus		1509 Cristall Ct. Orlando, FL 32828	407-620-6288	caroljacobus@bellsouth.net
Keith Stubbs	Self	3006 SAN LEO DR Orlando, FL 32820	407-462-6918	stubbs32@bellsouth.net
Gary A McFarland	Self	549 SCR # 13 Orl FL 32833	407-468-1549	—
Horbert Licht	Self	151 Vantage Dr Altamonte Sp- FL 32714	407-860-407	horbertlicht@att.net
MIKE <sup>MARI</sup> BILLINGS		555 CRB. 13 ORL 32837	407 568 8532	—
Lynden Johnson		14513 Daring AVE ORL 32826	321 297 1141	midflagent@cfl.rr.com
Bonita Johnson	Self	14103 Bent Tree Pl. 32826	407-595-3080	BJOHNSONJ6@AOL.com
Ken Hammond	Self	1961 CORNER SENIOR DR Orl 32820	407-437-7392	khamjam@hotmail.com
Lorraine Schneider	Self	1788 Kingshill	407-382-1031	





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Jose Ferrer		955 Hancock Lane Palm Rl		Jferrer36@cfl.rr.com
Darrell Heltow		104 Tollgate		TresTrimmer6974@aol.com
EDDY GONZALEZ		301 EPINE ST		<del>EDDY</del> EY GONZALEZ@MANASSA.NR.COM
ELVAN NORMAN		1649 Sherman St		
Larry Simmons		2728 S. TANNER		Larry46@cfl.rr.com
MARJORIE FAIRES		5555 COUNTY RD 13		
Vincent Barnes		15624 Sarcle Ct.		
Jacqueline Hawkins		1816 16th Ave		Sackie.hawkins1@gmail.com
Nora BRENDEN		14733 FIRESTONE ST.		NoraBrenden@GMAIL.COM
Joseph Johnston		1382 KAROL ST		aj14006@yahoo.com
Donna Dale		1745 Inverary		rgddld@bellsouth.net





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Joanne Gomes		14766 Congress St		joanne.gomes1@yahoo.com
Teri Alligood		3086 Steel Rd Christmas		Teri@Maguire-ED.com
GEORGE NETTLES		18738 SEAFORD AVE	407 568 5264	
EARL Rogers		Bellmore	407-443-3410	ERogers30@cfl.rr.com
RALPH SINGLETON		529 VEKSAILLES MAITLAND FL	407-644-9811	cmc529x@gmail.com
Paul & Val Wendeln		2415 10th St. Orlando		
Kathie Bearman		19217 Lansdowne St. Orl 32833	407-765-2547	cellardoor138@yahoo.com
Carl Speake		18832 JACKSON AV 32820	407 770 4478	FASTrack75@aol.com
Diana Kemp		13808 Priest Ct 32826	407-273-1460	tid177@yahoo.com
Pebe Parenti		927 Indostone Cir 32828	407 736 8030	pm-parenti@yahoo.com
Jose Lopez R.		14200 Thonikall way	407 207 1484	co



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Kevin E Jones		777 Lockwood Dr	407-608-0084	Kevin.Jones222@BellSouth.net
Nicole Baird		5453 Chiswick Cir	407 375 3934	nbaird217@gmail.com
Kevin Elston		17523 Cawdel Rd	407 715 3077	KevinElston29@gmail.com
Cassandra Johnson		1440 ridge wood ave	319 693 9090	CassiJohnson@hotmail.com
Jordan Coats		16157 Morris Dr	407-421-6682	Cjordancoats@aol.com
Alicia Aporte		14715 Congress St	787-361-0138	aliaport@hotmail.com
FRANK ORTIZ		" "	407 558-7707	ORTIZFRANK111@gmail.com
Rob Carlisi		1914 Corner Crest Ct	321-277-6808	carlisi@slrr.com
Kristine Melanson		821 Bristol Forest Way	407-739-2218	kazas2@outlook.com
Gwyn Fitzwilliam	QCA		407-637-7461	
Dorann Tomlinson		1382 barokstreet	407-202-8895	





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Kevin S. Hebert	MEI Civil, LLC	914 Lake Baldwin Ln #200 Orlando, FL 32810	407-893-6894	khebert@meicivil.com
Vivian Katz	FRI	917 East Colonial Drive Orlando, FL 32803	407 690 4557	FlaRealInvest@gmail.com
Barbara Hawkins			321-276-6212	glyn.strom@yahoo.com
Kevin Williams		2119 Colonial Woods Blvd Orlando 32826	407-382-3687	
Helmut Wyzisk	Nigel Works	49 Drennen Road, Orlando 32806	305 409 7521	hwyzisk@gmail.com
Don Priest	Riverside Title		407 865-4684	
Gracy Pueringer		Orlando 920 Dolores Ave FL 32806	407-841-0014	
BILL SCHIFFER		15626 LARKSPUR ST Orlando 32828	321 408 4842	
SANTOS MARTINEZ	—	1350 Sherman St Orlando, FL 32828	407-437-0190	—
Lisandra Oliva	R.O. Towing	18801 E. Colonial Dr Orlando 32828	407-568-6999	
CHIEN NGUYEN		2332 S. TANNER RD Orlando, FL 32820	321-217-6383	CVN+HOMEDETECTIVE@GMAIL.COM





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Mitzy Roberts		17554 Caudel Rd	321 339 7759	Mitzy.Roberts@yahoo.com
Cyril BROWN		17535 Caudel Rd	407 568 2063	Cy.brown18@yahoo.com
MONIE BUCHANAN		2736 STANNER RD	407-574-9583	keepersplace@live.com
PHILIP UNZER		2835 BALLANT AVE	407 694 4644	UNZER@EARTHLINK.NET
Jeffrey Fisher		2127 Colonial Woods Blvd	407-620-3967	Jfisher@amerentals.com
JANAK PATEL		12501 E Colonial Dr.	407-282-9910	X97.3XP@gmail.com
Harold Eb-		106 Gloucester St	407 953 9421	
William Pons		18501 15 <sup>th</sup> Ave, Bithlo	407-568-6112	badbill10@ATT.net
BONNIE LANGSDORF		1105 BUIST ST 32826	321-804-4549	
Robert Gowdek		1474 CAUDLE ST 32828	407-568-3410	
Mr Lopez		2319 10th st.	N/A	



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Harold Watvall		16443 Tudor Grove Drive	407-310-9112	trans.Immov@gmail.com
Rob Dubrey		15625 Seaward St Orlando FL 32811	407 406 6037	N/A
John Fauth		20706 Nettleton St. Orlando		
SANDY MATTHEWS		2736 S. Tanner Rd. Orlando	407-408-7718	SANDYmatthews2736@hotmail.com
LeeAnn Snipes		17353 Candel Road Orlando, 32833	407-568-6000	LSnipes4@cfl.rr.com
Janet Long		425 Carpenter Rd	407-568-4105	
Theresa Hackerberry		16816 Beale Rd	321-299-3107	Theresa.Hackerberry@gmail.com
Steve Hackerberry		16816 Beale Rd	321-299-2781	" "
Jim Sisk		16220 Sunflower St	407 761 1601	JSISK001@cfl.rr.com
Robin Green		1326 Richmond Grand Ave	315-243-0901	urgreen94@gmail.com
Cloud Miller		17160 Long Boat Lane	321-230-2501	cloudmiller4@gmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Danny Courtney	R. #160 used Act	18252 E Colonial dr.	407 568 2181	—
WILLIAM WHITE		1055 ORBIT CREEK COVE 32828	407-384-8874	ERUDITES@comcast.NET
Jeff Shipley		2648 Babbitt Ave. 32833	407-492-0485	gmshipley@cfl.rr.com
Joseph Brennan		13507 Lakers Ct 32827	407 259 8604	joe.brennan@yahoo.com
Curtis Sinclair	Church	15450 Montesino dr	407 924 2773	—
Cheryl Vanatti		16829 Bearle Road 32828	954-296-9684	Cheryl-tasses@yahoo.com
William Vanatti		16829 Bearle Road 32828	954-830-7008	—
Khoi Do		1805 Colonial Woods Blvd 32828	407-730-0893	khoidoFL@gmail.com
Jim Williams		2768 - S. TANNER RD	407 325 1978	Jim A COASTAL CONSTRUCTION MANAGEMENT
RJ MUBLER		14366 STANFORD CIR 32806	407-913-5563	*NOT RJ@RJMUBLER.NET
R. Donovan		18525 Spetford Ave 32820		Rdon280186@aol.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Thomas Connor	home owner	2744 S. Tawnee Rd	407-466-8182	TreskConnor@AOL.com
Bud & Nancy Ingberman	home owners	16224 Sandflower Trl	251 680 3493	brnIngberman@gmail.com
Nilsa Ruy	home <sup>Resident</sup> <del>owner</del>	14719 Congress St	205-939-7980	—
Nancy Bailes	Home Owner	20821 Fort Christmas Rd	407 485 8349	Jezebel1907@aol.net
LYNNE WHITE	HOME OWNER	1055 DRIFT CREEK COVE ORLANDO	407-384-8874	
Esther Restrepo	Home Owner	1527 Cristalli Ct Orlando FL 32828	561 703 8178	popspup81@yahoo.com
Elaine Hinsdale	home owner	274 Fairway Plk Cir 32828	407-384-0129	elainehinsdale@gmail.com
Richard Steinko	home owner	2333 Archer Blvd 32833	407 568 3946	richterry.steinko@netscape.net
ANNE WIGHTMAN	HOME OWNER	3344 LUKAS CV 32820	407-568-3057	BEACHIEONE@AOL.COM
Rich WIGHTMAN	Home Owner	3344 LUKAS CV 32820	407-568-3057	Richwsr@AOL.com
MARK HOFFMAN	HOME OWNER	18615 5TH AVE 32820	321-438-0872	mjhoffman3@gmail.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
JENNIFER PILOTO		18580 FIRST ST ORLANDO, FL 32833	321-303-0878	PILOTOE@ bellSOUTH.NET
Patricia Waring		1203 Lake Downey Dr Orlando FL 32825	407 256 3098	pnt197@msn.com
Beatrice & Ge Nettles		18738 SEAFORD AVE ORLANDO FL 32820	407-568-5264	
LORI ENLIN		1444 SCR 13 Orlando FL 32833	407-242-3923	lorienwin2f2@ gmail.com
CAROLYN BOURKE		14300 ABINGTON HEIGHTS DR. ORLANDO, FL. 32828	678-378-2495	carolyn.bourke@att.net
Paul Brownell		14609 Pebble Beach Blvd Orlando FL 32826	954-868-6882	pbrownell@unaff.com
Ritchie Parker		1466 Hancock Lane Palm Orlando FL 32828	407-273-6879	
William Cagle		13406 Kitty Hawk RD ORLANDO, FL. 32828	407-770-7137	deb.cagle.de@gmail
Toni Withey		1208 S Ridgewood Ave Edgewater FL 32132	386 423-5299	
Peggy A. Tassin		1334 SHERMAN ST ORL - FL 32828	407-568-4142	N/A
Michael Callahan		3940 N. Tunner rd Orlando FL 32828	407 625 5201	N/A





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Edward Williams		920 S. Delaney Ave	407-376-4792	edw5654@bellSouth.net
Gabriela Rinz			407-687-1087	
Raymer Krogan			407 228-9522	
Patty Flowers		17223 Wilson Rd		
Naomi Straney		2148 Rouse Rd.	407 434 9522	n Straney@yahoo.com
Roger Stufflebeam		18927 5th Ave	407 804 7279	None
Kenneth Fish		772 Lockwood Dr.	407 376 2070	orlandofish@aol.com
Lois Moller		4608 Ottwood Dr.		Orlando
Gary Ensmenger		18069 1st Ave	407 568-3567	GARYE4@GMAIL.COM
R.W. Justus		18580 E Colonial	407 359 9189	
B JUSTUS		18580 E Colonial	407 359 9189	





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Sally Johnson		1443 Sheena St	321-282-8830	redbirdsaj@yahoo.com
GARY DONNA GONZALEZ		904 LINDA CT - OVIEDO, FL	407-365-7107	
Nancy Donovan		18525 Seabro Ave Orl	407-617-9337	Haxemon3@aol.com
JOE ROBERTS		622 PINE DR 32825	407-222 9122	
GARY CAPUANO		14533 90th AVE <sup>SEMINOLE</sup> FL	407-474-8222	
Kelly Candi		17522 Bell Nova Dr	321-202-4650	
PATRICK GREEN		1326 Richmond Grand AVE	315 263 2901	Pgreen94@gmail.com
Scott Melanson		821 Bristol Forest Way	407 484-0125	scottmelanson@esmail.com
J.C. WILSON		437 N. Magnolia Ave Orl	407-843-4321	clsmith@wilsonassociatesfl.com
Darcy Granados		1006 Belvedere Rd.	407 592 2568	darygranados@yahoo.com
CLAYTON WIEB		18553 Everett Rd	407-222-0912	



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Kathy Glover		827 Lockwood Dr. 32833		kglover6@aol.com
Brian Sanders	ORANGE County		407 836 8022	BRIAN.SANDERS@OCFL.NET
Julie Salvo	OCPS	6504 Magic Way Orlando 32809	407-317-3700 <sup>x2022139</sup>	julie.salvo@ocps.net
Don Watson		18428 17th AVE	407-340-2722	
Marcy Frederico		14237 Lake Underhill Rd <sup>Orl 32828</sup>	407 923-7947	jerseygirl07067@yahoo.com
Cindy Haynes		2301 10th St	407-235-6615	CH2524@YAHOO
Michael Passtroma	Happy Paws Pet Resort	12693 E. Colonial Dr. Orlando	407-282-5656	michael@happypawsoflorida.com
Leonardo Zapico		3030 San Leo Dr	321-332-5513	lzapico@att.net
David Mitchell	Cypress Lakes HOA	1984 Cascades Cove Dr. 32820	312-203-9356	davemitchellraj@gmail.com
Kath Jackson	Dewberry	Orl FL	3216635663	kjackson@dewberry.com
Eduardo Melendez	me	15907 Trigonla ST	4075683186	





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Donna Howell		15200 E. Colonial Dr.	407-365-7102	dmgdhowell1@yahoo.com
JOHN K. LINA		3651 ORISKANY DRIVE	407-832-4882	JKLINA2@gmail.com
Steve Hackenberry		16816 Bearle Rd	407-548-2470	
Stacy Hronec		1313 Birch Creek Dr	407-758-1053	sphronec@gmail.com
CRAIG CHESKO		17522 BELLA NOVA DR	321-360-4273	craig.chesko@yahoo.com
Glue George		1008 Belvedere Rd	321-446-7804	gluegeorge3@gmail.com
Renato Dosti		1817 Colonial Wood Bev	407-373-5144	Kominati35@gmail.com
Lenny Henriquez		17408 Bell's Nova Dr	554-401-7488	
Abel Henriquez		17408 Bell's Nova Dr	954-303-7079	
Renato Dosti		11108 Rouse Run Circle	407-373-5144	Kominati35@gmail.com
DAN MORRISON		824 Rivers Ct	505 301 7929	dan.edmorrison.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Myra Watson		18428 17th Ave		
Rebecca Hogan		1223 Buist Street		rhogan57@yahoo.com
Anthony Marcelli		15905 Vienna Dr	407 929-1285	
Stephen Nordlinger		16324 Hamilton Dr.	(321) 363-7298	
Stephen Cullum		327 Rawles Ave	407 568 1937	SCullum24@gmail.com
Betty Cullum		327 Rawles Ave	407 568 1937	
Jeanne & Jimmy McKnight		2518 S. Tanner Rd.	<del>407</del>	jpmcknight@gmail.com
Judy Minervini		18236 Bellmore Ave	407-579 2022	Leannminervini@gmail.com
Edward Ubel		1037 Draft Creek Cove	407-282-7924	edubels@wycliffe.org
Robert Goldman		931 Buist Ave	407 766 2845	BJGOLDMAN99@gmail.com
Jonathon Williamson	Dewberry			


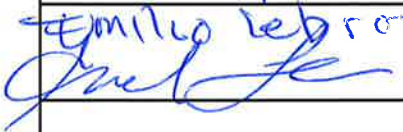


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Kathy Miller		17160 Longboatlane orl 32820	407-5750635	kathymiller09@gmail.com
Ty Russell WFTV	WFTV	WFTV	407 256 4032	Ty.Russell@wftv.com
Rick Haxner		2301 10 <sup>th</sup> St Orlando	407-235-6615	rh2524@yahoo.com
Randy Boyd		2751 Lake Pickett Pl <sup>Orlando</sup>	407-808-9147	
		14845 Kennedy Dr orl	407 8840728	
Paul R Linder		738 Rugby St Orlando Fla	407-425-2518	
Shawn Hudgins		14327 Viburnum Ln, 32828	407-217-5718	shawn.hudgins@crn.org
Emilio Lebron 		1043 DRIFT CREEK CO		
Clifford Reesman		318 Gut RD orl FL 32828	407-719-2040	
James Duke		2333 Osprey Woods Cir <sup>ORLANDO FL</sup> 32820	850 240 9523	firstdukefamily@yahoo.com
Carrie Kalish		17449 Bella Nova Dr <sup>Orlando</sup> 32820	407 923 6649	ouyunkj@aol.net





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DAN DUDLEY		ORLANDO FL 3024 SAN LEO DR	704 246 5659	DANKDUDLEY@HOTMAIL.COM
Bob WELTONS		8317 Cherington A	407-277-8317	BW GEMINI+MSS.COM
Wayne & Marion Panek		915 Buist Ave Orlando	727-856-6312	WMPANEK@yahoo.com
Mary Ann Piger		13721 Bluewater Cir 32828	321-239-3604	mapigera@gmail.com
Laura Daniels		1409 Bella Corda Dr. 32828	407-761-0716	lauradaniels@CFL.net
GARRETT MCCREERY		1006 Bridgeport Blvd 32828	321-230-2997	garrett.mccreery@gmail.com
GREG GOLGOWSKI	ORANGE Co.	201 S ROSALIND AVE.		gregory.golgowski@ocfl.net
CAROL DEERHAM		808 CORKWOOD AVE	407-489-4119	CAROLDEERHAM1054@gmail.com
Jose Gutierrez		1658 Candela CT, 32828	407-3688455	gutierrez117@aol.com
JASON RUSSO	ORANGE COUNTY - DISTRICT 4 OFFICE	201 S. ROSALIND AVE. - 5TH FL ORL, FL 32802	407-836-5881	JASON.RUSSO@OCFL.NET
Kathleen Charter		15088 LP Rd, Orlando, FL 32828	407-568-3788	





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Edna Lantz	None	18801 TACOMA ST.	321-805-0629	MLantz71@aol.com
Donald Dick	Self	4208 Clearing Way	407-380-4448	<u>donald.dick@gmail.com</u>
Janet Jessel	Self	16426 Hamilton Dr	407 56 8620/	
Shawn Fisher	Self	19024 NASH ST	407 923-0408	
Ben Stanley	Self	15120 Old Cheney Hwy	407 427-0650	B.stanley550@yahoo.com
Paschal Aquino	self	1114 Lendale Ct.	407 234-6089	paschal111@yahoo.com
Hugh Harling	ECFRPC		409 252-1575	hharling@ecfrpc.org
Brenda Rogers	Self	2445 4th st. 32820		lopevsty@Realix.net
KATHERINE HERNANDEZ	—	2135 Colonial Woods Blvd Orlando 32826	407-606-0773	
Charles Altman	Self	16250 Hamilton Dr.	407 247 7711	Orlmlton@Gmail.com
Gerardo Garcia	Self	1825 Colonial Woods Blvd	407-443-6066	garcia.bgjo@gmail.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

Alternative Corridor Public Workshop  
Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church  
15060 Old Cheney Highway  
Orlando, Florida 32833

## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Jerry Runyan	Premium Properties			duro104@hotmail
David Stevens	owner	554 wellon AVE	407-448-0450	daves@500thentire.net
Al & Jan Johnson	owner	15227 Lk Pineda Rd	407 247 9842	jhnson4@aol.com
CJ/Lit Gas		521 8th Street		
LeErik Cooper	owner	17534 Bella Nova Dr.	407-234-6885	eccop1222@hotmail.com
Pablo Vega	owner	14757 Finestre st	-	-
Robert Spiteri	Owner	13731 Sunshowers CR	407-446-4826	orlandarob01@yahoo.com
MARGARET Poli	owner	516 COX DR DR.		
Julie McClung	Owner	16167 Santflower Trl.	407-694-6480	j1mcclung8@gmail.com
Linda McClung	Owner	15553 Triguera St	407-616-3960	
GREG SMITH	SELF	Orlando		smithgtp@worldnet.att.net





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Dianna Bush		17419 Bella Nova Dr	706-506-3293	Dianna @e-heartthside.com
Kathy Logan		16140 Old Cheney Hwy	321-277-1179	kattlogan@gmail.com
Ron Logan		11	407 408 0772	RonLogan63@gmail.com
Sherri Carrigan		2636 Albion Ave	407-353-3456	Sherlock@att.com
Maria Del C Sanchez		17551 Bella Nova Dr.	915-309-6418	CSANchez-Reather SBC Global Net
Richard Wright		863 Hamilton Dr	407-342 8378	yawright53@juno.com
Kathrine Vickers		125 Story Partin Rd	407-353-0139	Fosterthe7th@yahoo
REG ULLMAN				REG.TAMADOGA@gmail.com
Guy Kemp		13344 Lake Turnberry Circle, Orlando, FL		guygk@bellsouth.net
Ricard Diaz		1737 Caligua Ln. Orlando 32828		
David Harrison		1642 S tanner rd	407 952 6366	Liquid1868@gmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Demetrios Warren		2554 Lyndhurst	321-289-7788	LoewB96@gmail.com
Cindy Hudgins		Orlando 14327 Viburnum Ln. 32828	407-405-0633	Cindy.Hudgins@eru.org
Jeff Champlin		01 1043 Drift Creek Cove 32828	407-961-3987	champlj.wtj@gmail.com
Sid Mair		Orlando 9111 Chulock Rd #132820	407-595-0346	sidmair@yahoo.com
Colric Maffei			407-484-0708	colric@yahoo.com
Dante Payne		3114 San Leo dr Orlando 32820		
Maria Martinez		17546 Bella Nova DR 32820	301-653-3551	<del>1111</del> Bibi2342000@yahoo.com
Jim Harrison				
Shawn Newberry		32820 14519 San Lorenzo Drive	407-446-2838	Senberry@yahoo.com
Don Delph	operating Engineers Local 673	630 Lochwood Dr.	407-484-7871	DonDelph673@aol.com
Stacy Ewing		16157 Morris Dr.	407-921-6616	STACEY100@yahoo.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
DONNA TICEHURST		17813 Golden Leaf Ln, Orl 32820	407-234-2591	dstice1271@yahoo.com
CHUCK TICEHURST		ORLANDO 17813 GOLDEN LEAF LN. 32820	407 760 0256	ca_ticehurst@yahoo.com
MAKSOOR KHUWASA	HANSON/FDOT	700 N. Maitland Ave Maitland, FL 32751	407 925 5995	mkhuwasa@hanson-inc.com
LINDA DEANGELO		780 LOCKWOOD DR 32833	321 662 4125	orlandbdeangelo@gmail.com linda.deangelo@comcast.net
Pamela Sible		Orlando, FL 32833 16011 Old Cheney Hwy	407.432.1645	Siblejoli@aol.com
STEPHEN HOPGOOD		14152 SPARDEL CT ORLANDO, FL 32826	401 640 3745	SHOPGOOD702@gmail.com
SARA HURTADO		2154 Colonial Woods Blvd Orlando, FL 32826	(407) 249-1349	SARAHURTADO50@hotmail.com
Tina Authier		16302 HAMILTON DR ORLANDO, FL 32833	407-777-8262	SIBTRACKEAGAIN@gmail.com
Robert Restrepo		1527 Crystalline Ct Orlando, FL 32828	760 889 0405	robert_restrepo@yahoo.com
Kurt Garber				Kgarber-fokhachlaw.com
DAVE KINNAMAN		1418 Blackstone Blvd Or		





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Frank Alfonso		1373 Old Dock Rd	407-222-7521	
Christopher Neun	Alton Clark Realty	241 S Westmonte #1040 Altamonte Springs	407-970-4912	
Bob Carrigan	Carrigan Realty Inc	18716 E Colonial Dr Orlando 32820		
Charles Weber		16336 OLD CHENEY	407-091-0522	
Phuoc Nguyen		15215 E. Colonial Dr.	407-371-5002	
Wilson Knott		16815 Bearley Rd	407-924-2807	Wilson.Knott@FLRR.com
Jim Ryker		13227 Old Dock Rd	306-9162 407-766	
Sonia Ryker		12002 Cherry Valley Way	407-766-0154	
Johnny Stanley		83152 North Tanager Rd	407-247-3047	Johnny.Stanley15@yahoo.com
Shirley McCoy		720 Ft Christmas	407 948.8849	
John Reber	WCE HHA	15018 Moultrie Pointe Rd	407.803.3312	john.reber2@yahoo.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Ron BM		18600 5 <sup>TH</sup> Ave	407-947-122	Dumbmass@yahoo.com
WARREN SPENCER		14636 Lady Victoria Pl		20E KAT3920@AOL.com
Alan Ashlock		2727 Lake Pickett Pl	407-808-9413	aashlock@maximcrane.com
Lee Hanson		Chuluota, FL 32766 1951 310 W 8 <sup>TH</sup> St	407-365-3037	skileeg@aol.com
Deb Deen		3151 9 <sup>TH</sup> St 32820	407-848-7046	blondharmofun@aol.com
Brian Stinchcomb		14324 Lk Pickett	407-717-56	
Anna Vreuls		3141 Amalfi Dr. Orlando, FL 32820	407-761-6711	abatt83@bellsouth.net
Rose Thompson		14137 Sunflower trail	407-538-8419	Flavie68@gmail.com
Crystal Thompson		" "		
Sandra Bitikofer		2303 S. Tanner Rd.	407-646-237	sbitikofer@rollins.edu
SCOTT HUDSON	RINAEDIS AC	15264 E. COLONIAL PL	407-275-0705	scott@rinaedis.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Mark Spontelli		13219 SW Cole Ct Orlando FL 32828		mspontelli@gmail.com
Brenda Hoyer		13507 Ivy Brooke Ln Orlando 32828		edwin_hoyer@yahoo.com
HOP FAMILY TRUST		2010 Hawks Lodge Dr. Orlando 32820		KAINU I <sup>32820</sup> @HOTMAIL.COM
Joe Shelton		1412 Blackwater Pond		tomfunke@gmail.com
Brian Metzler		932 NCR 13 32820		
CAROLE HETZEL		19567 LAUSDOWNE ST. ORLANDO 32833		
Meagan Nazareth	EAST SIDE CYCLING CLUB	611 Tuten Trail Ordo FL 32828		meagan.L.NAZARETH@gmail.com
JOHN MEYERS		14512 SAN LORENZO DR. ORLANDO, FL 32820		3-meyers@comcast.net
Elizabeth Rodgers		1720 cherry valley way		RPrudenLLC@yahoo.com
Jon Spitale		15483 Oregon Ave Orl. 32828		jonspitale@yahoo.com
ISAAC MARTINEZ		3132 SAN LEO DR orl 32820		PCALCHI@ATTN.COM





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Daniel Woodell / Connie Cook	Homeowner	16268 Colonial Dr Lot 40	321-804-4328	daniel.woodell@gmail.com
Judy Chubb	Homeowner	606 Lockwood Dr. Q1. <sup>32833</sup>	407-568-3732	morthladyvc@gmail.com
Margie Holt	Sierra Club Cent. FL Group	8502 Alverton Ave. <sup>Orlando 32817</sup>	407-679-6759	margieholt@earthlink.net
Louis A. Dables	Home Owner	1391 Candle St. <sup>32829</sup> Deland FL	407-963-0360	louis@louisdables.com
Clara Brugnani	Home Owner	14224 Colonial Lakes Drive	(407) 923-0518	pinkpanther2109@gmail.com
Frankie Elliott	Home owner	802 Buixst Ave		efcallen@bellsouth.net
Alan Altshuler	<sup>owner</sup> FORMER RE CORP <sup>AN</sup>	PO 1 547386 ORL 32834	321 217 8343	
Leslie Waller	Home owner	10303 Hamilton Dr. Ori 32833	407-568-4434	Wtr Bone@aol.com
GRACE V. SANCHEZ	homeowner	14508 San Lorenzo Dr.	407-923-1528	grace@1059Sunnyfm.com
Ivaxi J Sanchez	Homeowner	14518 San Lorenzo	407-923-1529	Ivaxi.J.Sanchez@gmail.com
JOE KUNKER	Home Owner	876 Cranes Ct, Maitland	407-481-8898	JCKRPF@aol.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
RALPH BOVE	VOLKERT	2300 MATLAND CENTER PKWY MATLAND FL 32751	321-214-4777	RALPH.BOVE@VOLKERT.COM
Darrel Cross	Home Owner	1250 ALAPAHALN Orlando FL 32828		Darrel.Cross@hotmail.com
Anthony Smith	DRMP			asmith@drmp.com
Katherine Guise	Home Owner	14660 Congress St		Rguise@aol.com
Jeff Sterling	Muddy Hat	3246 San Lee Dr. Orlando 32820	407-394-5127	Jeff.MandayHat@gmail.com
Larry Underwood	Home Owner	1820 Colonial Woods Blvd.	407-230-5084	
CHIP DENMARK	HOME OWNER	3105 AMALFI DR	(321) 228-8445	CHARLES DENMARK@BELL SOUTH.NET
Charles Kelly				
Andrew Kousa	Homeowner	P.O. Box 9828, FT2, FL 33310		
Greta Olson	Home owner	2051 Osprey Woods Circle, Orlando 32820		greta.olson10@gmail.com
Carl Weisinger	Home owner	19442 E. Colonial Drive <sup>Orl</sup> 32825	407-257-1669	Cedward@aol.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
MARK Viggis		716 North St. Orlando	407-467-5654	
Henry Corden		440 Dean Creek Ln Orlando	407-536-8114	
Julio Soto	Home Owner	14537 San Lorenzo Dr	407-625-6972	wcareaglepride@gmail.com
NATHAN Silva	Concerned	301 E Pine Street Orlando	321-229-8512	
Jerome Kalish	Home owner	17449 Bella Nova Dr 32820	321-804-7147	WY5NK55@yahoo.com
Jennifer Sherman	Home owner	17528 Bella Nova Dr 32820	321-278-4736	
Shana Stettner	Homeowner	3008 Amalfi Dr. 32820	407-515-2112	sstettner@cfl.rr.com
Denise Aldridge	Homeowner	1249 Sunflower Tr 32828	407-466-4431	denisea2@cfl.rr.com
Doug Ruter	Homeowner	3240 San Leo Dr 32820	803-818-0903	dougruter@gmail.com
Mindy Heath	citizen	3674 Seagrave WPFL 32792		mheath3@cfl.rr.com
JOSH Rust		16141 Michul Rd		rustytek@gmail.com





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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
BIBI SATTAR		2012 Colonial Woods Blvd	407-207-0679	N/A
CT Conte		1418 Blackwater Pond Dr.	407-697-1539	
R. Reyes	CDA			
Heather Cox		716 N 6th St Orlando FL 32820	407-267-2567	
PHIL HOFFMAN		17420 Bella Nova Dr	330-285-2468	philhoffman@hotmail.com
Katie Dagenais	Homeowner	3454 Curving Oaks Way 32820	407 803 2499	katie@jalucommunications.com
YAMINA AZIZI	Homeowner	19128 Nock St orl 32837		unamusmin@pol.com
Scott Tyre	Homeowner	13592 Old Oak Rd	407-381-2883	SSTYRE@AOL.COM
Natalia Kapsalis	Waterford Trails HOA Board	1532 Algonkin Loop	407 429 9258	natalia.kapsalis@gmail
Jim Penny	East side cycling club	1909 Crown Hill Blvd	407-271-5405	James.Penny@carpsyn.com
Robert Renier	Homeowner	3159 Amalfi Dr	407-408-6859	renier57@gmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
STEPHEN DONEGAN		1532 CANNON WAY RD #102	407 242 4423	SDONEGAN@DRMP.com
Patrick Larmond		14908 Perdido Dr	407-616 0846	pg/larmond558@yahoo.com
Evelyn Horv's		848 Lockwood Dr.	407-267-2304	evelyn2875@aol.com
WAYNE Horv's		848 Lockwood DR	407-568-0123	wayne.horv's@aol.com
RON & LIZ VENTURA-MOORE		17509 BELLA NOVA DR.	7142346354	ronald.g.moore@leidos.com
Adam + Nici Ayala		14536 San Lorenzo Dr.	386-682-9388	nliraudais@hotmail.com
Terry & Keisha Reynolds		17443 Bella Nova Dr 32820	407-466-4147	LOSMOWER@GMAIL.COM
Jimmy Hester		18055 Lake Pickett Rd		
Bill Lutz		2618 S. Travel Rd		WLutz23@CFR.RG-
Tom Narut		14620 Josar Dr. 32826	407 249-8859	tomnarut@posdata.com
Michael Infinger		1154 Cherry Valley Way, 32828	954-292-1470	fsm_infinger@yahoo.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Emily Stetther		3008 Amalfi Dr. Orlando, FL 32820	561-385-0872	Gerberemmy@aol.com
Loyce OBrien		18860 Hewlett Rd Orlando, FL 32820		
James OBrien		18856 Hewlett Rd Orlando, FL 32820		
JOSIAH BANET		1170 STELLAR DRIVE OVIEDO, FL 32765	407-739-8365	jpbanet2@gmail.com
AL HASTINGS Don Hastings	HIDDEN RIVER RV PARK	15295 E. COLONIAL	407 568 5346	HiddenRiverPark@aol.com
Thomas & Joy Brinduse		3770 E Thompson Rd Indianapolis IN 46237	317-783-5507	
Patli Haasir		17705 Candel Rd Orl.	407-568-4804	
Chris Chalk		3128 Amalfi Drive Orlando FL 32820	678-315-4119	christopherrchalk@gmail.com
RICHARD BAXTER		6715 WHISPERING PINES RD ORLANDO FL 32824	407-547-6748	RB32714@yahoo.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Maribel G Cordero	Dist 4	440 Dean Creek Ln Orlando, FL. 32825	(407) 381-3337	maribelcordero@district4@gmail.com
Pedro Villanueva	Home owner	3001 SAN Leo Dr.	(28) 522-1443	N/A
T.W. Squires	Land owner	327 Tanglewood St Apopka FL 32712	407 886-3080	—
HEATHER FITZPATRICK	LAND OWNER	16137 OLD CHENEY HWY	407-5958443	BLABBERMOUTH@GMAIL.COM
CHARLIE FISH	LAND OWNER	13525 TOPAZ LAKE CT	321-303-5711	charlie.fish@cfatrackseries.com
John Franklin	Land owner	17900 Golden Leaf Ln, Orlando FL 32820	407-443-3533	jfranklin75@yahoo.com
Andrew Diaz	Home owner	2237 DASHING CIRCLE ORLANDO FL 32820	407-600-3774	Sot_josephd94@yahoo.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Walter Aughenbaugh		13509 Madison Park Rd		
Paul & Kelly Kuehne		744 Buist Ave		
* Pierre Navarre	resident	13201 White Cedar Dr	Add to mailing list	
Adolfo Rivera	Homeowner	3228 SAN LEO DR	813-407-0626	
Bernard Lee	Homeowner	915 Geranium Avenue	321-330-7172	Bernard Lee 430@gmail.com
Sonia Echeandia	homeowner	2054 Gloria Oak Ct Orlando		
Kimberly Pierce	homeowner	2381 Corbett Rd Orl.		kcinorlando@yahoo.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
JOAN FAGAN-HOFFMAN	Home Owner	17420 BELLA NOVA DR 32820	330-285-2467	JFAGANHOFFMAN@HOTMAIL.COM
Dawn Gray	Homeowner	13117 Odyssey Lakeway 32826	407-249-1498	Sgray63439@AOL.COM
Chris & Nicole Corbin	Homeowner	16217 Morris Dr 32833	407-568-1292	nmcorbin@aol.com
Kevin Brigman	Home owner	17417 Candel Rd 32833	407-947-2308	NYKevin68@gmail.com
Charlotte Grabowski	Home Owner	2084 PEBBLE Beach Bv 32826	315-254-8571	Apple194@gmail.com
Heather Rufer	Home Owner	3240 San Leo 32820	803-818-0944	hrruter@gmail.com
Carmen Johnson	Home Owner	18637 Bellmore Ave 32820	407-416-3088	CJOHNSON.ITIL@GMAIL.COM
FRANK HANLON	HOME OWNER	20821 YAM SF. 32833	407-568-2388	fxhanlin@hotmail.com
Josefette Teuyaw	Home Owner	776 Hamilton An 32833	407-450-6910	Teuyaw@hotmail.com
Joselyn Rivera	resident	3228 San Leo Dr 32820	<del>407-450-6910</del>	





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Jane Kalarney		12755 Laurel Rd	407-5682818	
Doris Ortega Rivera	Resident	3228 San Leo Dr	813-220-0952	dorisriv@yahoo.com
Kelly Semrad	resident	3111 Amalfi Dr.	407-2335375	Kelly.Semrad@ucf.edu
Rebecca Sergio	resident	14318 chicon crossing	407-808-6929	Rebecca.Sergio@ucf.edu
Barbara Sidley	resident	922 Bridgeway Blvd	407-748-7384	BarbaraSidley
Wayne Sidley	"	" "	"	SidleyW@gmail.com





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## ELECTED OFFICIALS & STAFF SIGN-IN

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Hugh Miller	CDM Smith		407-660-6440	millerhw@cdmsmith.com
Shasta Shaffer	Congressman Darren Soto's Office	Official	407-401-0467	Shasta.Shaffer@gmail.com
Cathy Owen	FDOT DS	Reland FL	386-943-5383	cathowen@dot.fl.gov
Glenn Pressmore	CFX	'	407-690-5321	
Mary Brooks	QCA		407-691-5504	Mary E Brooks
Will Hawthorne	CFX		407 690-5337	
✓✓	DEWBERRY	17321 JONATHAN LUKAS CT	407 453 9161	
Dennis Weatherford	OC Environmental Protection	3195 McCrory Place Orlando	407 836 1404	DennisWeatherford@OCFL.net
<del>Emily Bonitta</del>	<del>County Commissioner District 5</del>			
<del>Larry Underwood</del>	<del>Colonial Woods</del>	<del>1820 Colonial Woods Blvd</del>	<del>407</del>	



STAFF



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
BRENT GILLETTE	METRIC	ORLANDO	407 644 1898	bgillette@metriceng.com
Maria Fernandez Perrat	MRG/PIO	Miami	305-3456946	mf-perrat@mrqmiami.com
Pilar Shirazi	MRG/PIO	Miami	305-254-8598	pshirazi@mrqmiami.com
Eunice Sanders	MRG/PIO	Miami	305-254-8598	esanders@mrqmiami.com
Paul Carballo	metric	Miami	305 235 5098	paul.carballo@metriceng.com
CAITLIN HILL	METRIC	MIAMI	305 235 5098	Caitlin.Hill@metriceng.com
Will Sloop	Metric	Lake Mary	386 848 5185	william.sloop@metriceng.com
Gabriela Barera	metric	Miami	805-288-5098	GBarera@metriceng.com
Carlos Rodriguez	Metric	Miami	11	crodriguez@metriceng.com
Valerie Tutor	MRG-PIO	Miami	239-834-8141	vtutor@mrqmiami.com
Sam Althys	CFR			





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Susan Devor

Address: 1888 Knight Ave Orlando FL 32826

Phone Number: 407-342-6370

Email: SUSAN1213.home@gmail.com

Comment:

NO to #3 \*early #4  
We live in an older neighborhood & have worked harder to have our dream home in retirement. We are retired on a limited income with a great love of the rustic lifestyle. #3 will wipe out homes of a lot of ~~retirees~~ retirees w/limited income.

Out of all the corridors shown #5 or a combo of #5 into #4 makes the most sense & seems to be the most direct routes  
People were hunting down & WHERE WERE ALL THE BLANK Comment forms?

No to #1 goes way out of way & opens the northern area to development that has been blocked recently.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: JOSE E. CAMACHO

Address: 14521 E. COLONIAL AVE. 32826

Phone Number: 407-384-9995

Email: MEGATECHART0011@BELL.SOUTH.NET

Comment: I THINK CORRIDOR 1 MAKES THE MORE  
SENCE SINCE THERE IS MORE OPEN LAND THAN HOMES  
OR BUSINESSES TO AFFECT THEM INCLUDING  
MYSELF.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
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615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Kathleen Miller	
Address: 17160 Long Boat Lane Ori 32820	
Phone Number: 407-575-0635	Email: Kathy.miller09@gmail.com
Comment: I reside at 17160 Long Boat Lane. I would like the 408 extension to come down <sup>highway</sup> 50 or <sup>corridor</sup> #5. I am strongly against Corridor 1 as <del>the</del> my family home will be severely impacted.	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Address:

Phone Number:

Email:

Comment:

6-LANE HWY 50 FROM TANNER RD

TO 520

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
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**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Andrew J Diaz

Address:

2237 Darlin Circle Orlando FL 32820

Phone Number:

407-600-3772

Email:

sot-josephd91@yahoo.com

Comment:

I reside at the address above I would like  
408 extension to come down Highway 50  
I'm strongly against corridors 1&2 as  
any family's home will be severely  
impacted.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: MEHMOOD SADIQ	
Address: 14507 San Lorenzo DR. ORLANDO, FL 32820	
Phone Number: 407-797-7860	Email: MKHSADIQ@aol.com
Comment: I Reside at 14507 San Lorenzo DR, ORLANDO, FL 32820. I would like 408 EXTENSION TO COME DOWN Hwy 50. I'm Strongly against Corridors 1 & 2 as my family home will be Severely Impacted.	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Damela O'Dell

Address:

3045 Amalfi Drive Orlando FL, 32820

Phone Number:

407-913-0534

Email:

pdorn2@msn.com

Comment:

I reside at 3045 Amalfi Drive Orlando, FL 32820. I would like the 408 extension to come down Hwy 50. I am STRONGLY AGAINST CORRIDORS 1 & 3 as my family home will be severely impacted.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
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482 South Keller Road  
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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Sean O'Dell	
Address: 3045 Amalfi Drive Orlando, FL 32820	
Phone Number: 321-439-3350	Email: Sean@mansmoosemedia.com
Comment: I reside at 3045 Amalfi Drive Orlando, FL 32820. I would like the 408 extension to come down Hwy 50. I am strongly AGAINST CORRIDORS 1 & 3 as my family home will be severely impacted.	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Chris Chalk	
Address: 3128 Amalfi Drive Orlando FL	
Phone Number: 678-315-4119	Email: christopherrchalk@gmail.com
Comment:	
I reside at the address above. I would like to see Corridor 4 or 5 built.	
I am strongly against Corridor 1 + 3 as my family home will be severely impacted.	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:	Libsette Mazzeo	
Address:	827 Bridgeway Blvd.	
Phone Number:	(561) 714-3272	Email: pmazzeo11@hotmail.com

Comment:	I live in the Bridgewater community and Plan 5 goes right over our neighborhood and right over Avelon Park neighborhoods. This would displace many families and therefore I feel is not the best Plan nor solution. Now that SR50 has been widened I feel the traffic is much less and not a problem.
----------	---

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FLORIDA  
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**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Amanda Chalk	
Address: 3128 Amalfi Drive Orlando FL 32820	
Phone Number: 770-356-2014	Email: christopher.r.chalk@gmail.com
Comment:	
I reside at the address above. I am	
strongly opposed to Corridor 1 + 3	
as my family home will be severely	
impacted.	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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**Lance Decuir, PE, AICP**  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Donna Dale

Address:

1745 Inverary Dr (Fairways Country Club)

Phone Number:

407-384-9736

Email:

rgdald@belkouth.net

Comment:

1200 homes are in Fairways Country Club - all retirees - on very limited incomes. Please stay away from our community.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Jordan Coats

Address:

16157 Morris Dr Orlando FL

Phone Number:

407-421-6604

Email:

Cjordan Coats

Comment:

Should stay with original plan

go ~~South~~ South of 50 the newer Houses

where the traffic is coming from.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
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**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

NORA BRENDEL

Address:

14733 FIRESTONE ST - ORLANDO.

Phone Number:

407-860-9146.

Email:

NORABRENDEL@gmail.com.

Comment:

WE DO NOT NEED ANY DISTURBANCE THRU THE

FAIRWAYS C. CLUB - THIS IS A 55+ COMMUNITY THESE

PEOPLE ARE IN THERE 80's + 90's ALL ON 3. SECURITY

AND CAN'T AFFORD TO LIVE ANY OTHER PLACE.

CORRIDOR # 3 IS CUTTING STRAIGHT THRU + LOOKS

LIKE CORRIDOR #2. THERE ARE 1200 MOBILE HOMES

IN FAIRWAYS. THESE PEOPLE DO NOT NEED THIS

CORRIDOR # 1 LOOKS GOOD TO US.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <u>Carrie Kalish</u>	
Address: <u>17449 Bella Nova Dr</u>	
Phone Number: <u>407 923 6649</u>	Email: <u>ouyinki@att.net</u>

Comment: <u>I live at 17449 Bella Nova Dr Orlando FL 32820.</u>
<u>I would like the 408 extension to come down Hwy 50</u>
<u>I am strongly opposed to Corridor 1 + 3 as my family</u>
<u>home will be negatively effected. My home value will</u>
<u>go down + I will no longer have the peace + quiet <del>and</del></u>
<u>I moved out here for!</u>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Ben Stanley	
Address: 15120 Old Cheney Hwy	
Phone Number: 407 427-0650	Email: Bstanley550@yahoo.com
Comment: Bad Bad idea to many family's to put out. Not going to pay this, #4	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**  
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Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <i>Jesica Crespo</i>	
Address: <i>SAN LEO DRIVE</i>	
Phone Number: <i>(203) 220-8617</i>	Email:

Comment:
<i>I am against the 408 Extension</i>
<i>My family resides in this area</i>
<i>and will be severely impacted</i>
<i>I oppose Corridor 1 &amp; 3.</i>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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AUTHORITY**

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Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: VIJAY NAIR	
Address: 3033 Amalfi Dr. Orlando FL 3280	
Phone Number: 917 709 1547	Email: VNEVNAIR.ORG

Comment: Because of the extension we will have
our property value will go down and this
will look bad for our Community since
it is going to be right next to our homes.
<u>Thanks</u>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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**Lance Decuir, PE, AICP**  
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482 South Keller Road  
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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Louis Garcia	
Address: 14214 Tharrahall way orlando FL	
Phone Number: 407-491-2807	Email: louis.karate@gmail.com
Comment: I prefer the Corridor (4) than Corridor 5 will be devastating for the community of Brevard water lakes	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Manager  
482 South Keller Road  
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lance.decuir@atkinsglobal.com

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: José López Jr.	
Address: 14228 Thankhall Way	
Phone Number: 407-421-7921	Email:

Comment: Preferred Corridor # 4

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:	Peelro Villanueva		
Address:	San Leo Dr		
Phone Number:	407-491-9389	Email:	

Comment:
I Reside at 3001 San Leo Dr.
I would like 408 extension to
Come down Hwy 50. I am Strongly
against Corridors 1 & 3 as my
family home will be Severely impacted

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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lance.decuir@atkinsglobal.com

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william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Anna Vreuls

Address: 3141 Amalfi Dr. Orlando, FL 32820

Phone Number: 407-761-6711

Email: abatt83@bellsouth.net

Comment: I reside at 3141 Amalfi Dr. I would like the 408 extension to come down Hwy 50. I am strongly against Corridors 1 & 2 as my family home will be severely impacted.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decur@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: ELVAN NORMAN

Address: 1649 Sherman St Orlando FL 32828

Phone Number: (407) 218-9476

Email:

Comment: I live in the path of one of your planned routes.

I see that all routes have homes in the way. I think and say take the blue path. Lets face it, the blue path has less homes in the way. It is also in the middle of all who will use the extension. Blue path does have power lines, but it is easy to move them, not tones of residents.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Dante Payne

Address:

3114 San Leo dr

Phone Number:

407-722-2714

Email:

bigcatool2@icloud.com

Comment:

I reside at 3114 San Leo dr Orlando, FL 32820

I would like the 408 extension to come down Hwy  
50. I am strongly against corridors 1 & 2 as my family  
home will be severely impacted.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: *Dianna Bash*

Address: *17419 Bella Nova Dr. Orlando*

Phone Number: *706-506-3293*

Email: *dianna@e-heart4side.com*

Comment: *I Reside at the above address. I would like the 408 extension to go down Hwy 50. I am strongly against Corridors 1 & 2 as my family home will be severely impacted! Please consider the Hwy option!*

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Stephen Bohan

Address:

14513 San Lorenzo Dr Orlando FL 32820

Phone Number:

407-489-7233

Email:

ps-bohan@yahoo.com

Comment:

I strongly disagree with the proposed corridor 1 and corridor 2

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <u>Tom Narut</u>	
Address: <u>14620 Josier Drive 32826</u>	
Phone Number: <u>407 249-8854</u>	Email:

Comment:	① Project should be owned and managed by FDOT
	② Project should <u>end</u> at Avalon Blvd
	③ Project should not have curves. Winter Park I-4 history curves gives all the reasons why. I-4 ultimate project and millions of dollars is now correcting that <sup>wrong</sup>

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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Josette Tevyaw	
Address: 776 Hamilton Dr.	
Phone Number: 407-450-6910	Email: Tevyaw@hotmail.com
Comment: Need to keep to original zoning. This is not sustainable & will harm our drinking water	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Natalia Kapsalis

Address:

1532 Algonkin Loop

Phone Number:

Email:

natalia.kapsalis@gmail

Comment:

Why are all these plans being looked at when they have so much impact to so many families & businesses? FDOT + CFX should be able to come to an agreement to split the costs and split the profits: everyone wins. ~~THE~~ Corporate greed of these two entities will negatively impact too many. All traffic ends @ Avalon Park Blvd. Why all the way to 520 ??

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Marcia Ballentine

Address:

3320 Lukas Cove

Phone Number:

407-461-4643

Email:

marcia2525@gmail.com

Comment:

We prefer option (combination) 4-5).

Corridor 1 takes drivers ~~off the route~~  
~~off the route~~ on a longer route  
than necessary.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Richard Diaz

Address: 1767 Laligne Lane, Orl. FL 32828

Phone Number: 407 403 5980

Email: richdiaz1@yahoo.com

Comment: I believe that none of these plans. What needs to be done is FDOT & CFX need to get past their differences and come to an agreement to build over so, share is the cost, profit & maintenance. The intent of this project is to serve the public. Drop the ego and stop chasing money and do the right & smart thing.

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: CRAIG CHESKO

Address: 17522 BELLA NOVA DR. 32820

Phone Number:  
(321) 300-4273

Email:  
craig\_chesko@yahoo.com

Comment:

I RESIDE AT 17522 BELLA NOVA DRIVE. I WOULD LIKE THE  
408 EXTENSION TO COME DOWN HIGHWAY 50. I AM STRONGLY  
OPPOSED TO CORRIDORS 1, 2 & 3 AS MY FAMILY HOME WILL  
BE SEVERELY IMPACTED.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Name: <u>HEATHER RITTENHOUSE</u>	
Address: <u>16137 OLD CHENEY HWY</u>	
Phone Number: <u>407-595-8443</u>	Email: <u>BLABBERMOUTH4G@MSN.COM</u>
Comment: <u>IF THIS HAS TO TAKE PLACE THE LEAST</u> <u>AMOUNT OF IMPACT TO HOMES + BUSINESS.</u> <u>REALLY FAR BACK TOWARDS 528 WAS</u> <u>ORIGINAL PLAN + THAT WAS A BETTER</u> <u>PLAN. WE ALREADY HAVE ENOUGH</u> <u>DEVELOPMENT IN THE AREA</u>	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Paige Bohan

Address:

14513 San Lorenzo Dr Orlando FL 32820

Phone Number:

407.489-7233

Email:

Paige-bohan@yahoo.com

Comment:

I strongly disagree with the proposed route corridor 1 and corridor 2

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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AUTHORITY**

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:	Tanika Mukherjee		
Address:	14525 Sanderson Dr 32826		
Phone Number:	Email: fmukherjee@gmail		

Comment:	There should be a sound barrier as to where even they decide to build this freeway. Its cost should be included in the budget.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Ronald Rabaut

Address:

12633 Parkburg Dr Orlando FL

Phone Number:

321 271 1169

Email:

rrabaut@cfl.rr.com

Comment:

My concern is the cross over traffic where 408 ends near 520. People coming off of 520 would have to cross SR 50 traffic to get on 408. I prefer 408 lanes to be North of the SR 50 lanes to help reduce this problem.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Elizabeth Hernandez

Address: 14826 Faberge Dr 32828

Phone Number: 407-736-9138

Email: LizHernandez1022@gmail

### Comment:

Pro of project: It will hopefully take traffic from 50.

Concern: Unsightly, noisy highway near my home.

We really need to alleviate traffic congestion on E 50. The new expansion has hardly finished, and the area still feels congested. Can you image when

"The Grow" opens? But, how can you provide a quiet, beautiful ramp at Avalon and 50?

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Peter M Parenti

Address:

927 JADESTONE CIR

Phone Number:

407 736 8030

Email:

pm-parenti@yahoo.com

Comment:

THE NOISE 408 GENERATE NOW  
IS OUT OF BOUNDS. I WOULD APPRECIATE  
A TOTAL SOUND PROOFING, BUT I WILL  
NOT BE ABLE TO GO OUTSIDE WITH THE  
INCREASE NOISE POLLUTION!  
SO FAR THE CFXWAY.COM IS A  
'ROTTEN NEIGHBOR!'

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Name:

Robert K. Cooper

Address:

3009 Amalfi Drive Orlando Florida 32820

Phone Number:

407-948-4221

Email:

BettieGold@hotmail.com

Comment:

I would like to strongly oppose Corridore 1 and Corridore 2 and would like you to use the optimal location alongside SR50. Please other means and alternatives in acquiring land from FDOT.

Thank You

Robert K. Cooper  
Robert Kevin Cooper

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Name: Bettie Cooper

Address: 3009 Amalfi Dr. Orlando, FL 32820

Phone Number: 407-625-5549

Email: BettieGold@hotmail.com

Comment: I would like the 408 extension to come down Hwy 50. I am EXTREMELY opposed to Corridor 1 and strongly against Corridor 2 as my family home will be severely impacted (my brand new home!). Corridor 4 seems like the best option if this expansion must happen!

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Name:

KEVIN AND CARMEN CLARK

Address:

917 N County Road 13 Orlamb FL 32820

Phone Number:

cell 407-921-1362

Email:

KCSTJ81@AOL.COM

Comment:

cell 407-758-6305

WE MOVED OUT THIS FAR TO BE RURAL AND LEFT ALONE.

WE VALUE OUR PEACE AND QUIET. WHAT ABOUT ALL THE LITTLE

people? IF the choice was mine /ours CORRIDOR 1 or 5

Since the lake Pickett development was approved. What

about the median of 50. Leave people alone that

have been here for years. Market value if you uproot

people.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Rodrick Keith Stubbs

Address:

3006 Sun Leo Dr. 32820

Phone Number:

407-462-6918

Email:

stubbs32@bellsouth.net

Comment:

I reside at 3006 Sun Leo Dr. Orlando, FL 32820.

I would like the 408 extension to come down Hwy 50.

I am strongly against Corridors 1 & 2 as my family

home will be severely impacted.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Name: LaErik Cooper

Address: 17534 Bella Nova Dr. Orlando, FL 32820

Phone Number: 407-234-6885

Email: Ecoop1221@hotmail.com

Comment:

I would like to start by saying I'm in complete opposition to corridor 1 & corridor 2. It will unnecessarily effect many homes & families and their property values. The routes of corridor 1 & 2 go far out and around the fastest route which is corridor 3. This route <sup>is best for the</sup> ~~makes best~~ extension. While I understand this may cause two different entities to <sup>have to</sup> co-operate, but it's the best option given the choices.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Luany Henriquez	
Address: 17408 Bella Nova Dr	
Phone Number: 954-401-7488	Email: Luany@amrealtyinc.com
Comment: I reside at 17408 Bella Nova Dr I would like the 408 extension to come down Hwy 50. I am strongly against corridors 1 & 2 as my family home will be severely impacted.	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: *Lynden Johnson*

Address: *14513 Daving Ave Orlando FL 32826*

Phone Number:

Email: *mlflagent@cfl.ru.com*

Comment:

*sections 1/2: Corridor #5 IMPACTS Displaces MANY Residents.*

*Section 1/2 Corridor #4 is very close to RT 50, but Acceptable*

*I reject corridors 1, 2 & 3 completely.*

*Section 3: #4 appears to impact less environment. than 4,*

*but the interchange w/520 is better south of 50.*

*Overall: I prefer section 1/2 to use Corridor #4 and*

*Section 3 to use Corridor #5.*

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Kelly Carroll

Address:

17522 Bella Nova Dr, Orlando 32820

Phone Number:

321-202-4650

Email:

Comment:

I reside at 17522 Bella Nova Dr. I would like the 408 extension to come down Hwy 50. I am strongly against Corridors 1 and 2 as my family home will be severely impacted.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <u>Joselyn Rivera</u>	
Address: <u>3228 San Leo Dr</u>	
Phone Number: <u>813-263-8141</u>	Email: <u>jrivera0308@yahoo.com</u>
Comment: <u>I reside at 3228 San Leo Dr. I would</u> <u>like the 408 extension to come down Hwy 50.</u> <u>I am strongly against I + <del>2</del><sup>2</sup> as my family</u> <u>will be severely impacted.</u>	
<u>JR</u>	

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Emily Stettner (Gerber)

Address:

3008 Amalfi Dr. Orlando, FL 32820

Phone Number:

561-385-0872

Email:

Gerberemmy@aol.com

Comment:

I own & reside at 3008 Amalfi Dr. I would like the 408 extension to come down Hwy 50.

I am strongly against corridors 1 & 2

as my family property will be negatively and severely impacted.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Doris Ortega-Rivera	
Address: 3228 San Leo Dr Orlando, FL 32820	
Phone Number: 813-220-0952	Email: dorisriv@yahoo.com
Comment: I reside at 3228 San Leo Dr Orlando I would like the 408 extension to come down Hwy 50. I am strongly against corridors 1 + 2 as my family home will be severely impacted. Doris D. Rivera	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <i>Adolfo Rivera</i>	
Address: <i>3228 San Leo Dr Orlando, FL. 32820</i>	
Phone Number: <i>813-407-0626</i>	Email: <i>Adriver23@gmail.com</i>
Comment: <i>I live at 3228 San Leo Dr</i>	
<i>I would like for the 408 extension</i>	
<i>to go thru Highway 50</i>	
<i>I am strongly against it.</i>	
<i>as my home will be severely</i>	
<i>impacted.</i>	
<i>AK</i>	

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Orlando, Florida 32810  
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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

KATHERINE HERNANDEZ

Address:

2135 COLONIAL WOODS BLVD, ORLANDO FL 32826

Phone Number:

407-646-0773

Email:

krcina3@hotmail.com

Comment:

CORRIDOR 3 HAS THE MOST SIGNIFICANT IMPACT ON MY HOME & AFFECTS THE MOST OCCUPIED PARCELS. THIS STUDY IS DECADES BEHIND THE CAPACITY NEEDS FOR THE AREA & FURTHER DELAY BY THE STATE (FL TURNPIKE) CONDUCTING THEIR OWN STUDY NOW WILL ONLY FURTHER DELAY A SOLUTION TO THE TRAFFIC PROBLEM THAT PLAGUES THE EAST ORLANDO COMMUNITY. WHILE CORRIDOR 5 HAS THE MOST ENVIRONMENTAL IMPACT, IT HAS THE LEAST SOCIO-ECONOMIC IMPACT. CFX & FL DOT MUST WORK TOGETHER TO EXPEDITE A DECISION AND A SOLUTION TO THE EVER-GROWING TRAFFIC WOES ENCUMBERING E. ORANGE COUNTY.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Lance Decuir, PE, AICP  
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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: SANDY MATTHEWS

Address: 2736 S. Tanner Rd.

Phone Number: 408-408-7718

Email: SANDY.MATTHEWS2736@hotmail.com

Comment: a straight line above 50 seems to be the most economical route. 50 goes to 530 + 95 - straight out. why do <sup>you</sup> need laps all over the rural properties. The impact of the growth ~~and~~ <sup>by</sup> belt property will be enough. I don't think we should be worrying about U.R.F. Traffic. Corridor 4 & Corridor 5 are the best RTS. They will pick up the Deserett Projects that are coming.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Manager  
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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <u>Shawn Stettner</u>	
Address: <u>3008 Amalfi Drive, Orlando FL 32820</u>	
Phone Number: <u>407-595-2112</u>	Email: <u>sstettner@cfl.er.com</u>
Comment: <u>I reside at 3008 Amalfi Drive, Orlando FL 32820.</u>	
<u>I would like the 408 extension to come down Hwy 50.</u>	
<u>I am strongly against Corridors 1 and 2 as my family</u>	
<u>home will be severely impacted.</u>	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: William Pons

Address: 18501 15<sup>th</sup> Ave. 32833 S, Bithlo (next to CR13)

Phone Number: 407-568-6112

Email: badbill10

Comment: The alternate corridors as presented tonite are ~~disaster~~ worthless! All 5 corridors wipe out peoples homes! Corridors 2+4 go thru south Bithlo and eliminate many residents homes! These are low income people, retired on social security and will have no place to go! They will probably become homeless because they can't afford to buy a new home @ the Grow development or other developments I also unfortunately live right at the edge of corridor #2! If this is picked I will become homeless too, since I live on S.S. and a few investments and no pension!!

What Orange County needs to do is expand SR #50 to six lanes! This will impact no residents or business since a right of way for 6 lanes is already provided! 408 PD&E people should be ashamed to try and destroy peoples lives for a Toll road expansion to collect more money!! Expand SR 50!!!

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: RICHARD D BAXTER

Address: 6715 WHISPERING PINES RD ORLANDO FL 32824

Phone Number: 407-547-6748

Email: RB32714@7cbr.com

Comment: THE Extension should NOT BE  
BUILT unless it is elevated over SR 50 -  
WHAT we really need is a program of  
SYNCHRONIZED TRAFFIC LIGHTS ON 50  
I just drove on 50 from ORANGE AVE to AVALON  
PARK Blvd - The congestion was causing  
stopping at almost every Traffic Light

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Orlando, Florida 32810  
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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Cheryl Priest

Address:

1681 Semon Dr, Orl FL 32828

Phone Number:

407 947 7699

Email:

aubincher@yahoo.com

Comment:

Corridor # 4 which runs by  
50 seems the best route.  
Cause the least impact Chief  
to Big Commerce.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: DAN DUDLEY

Address: 3024 SAN LEO DR ORLANDO FL 32820

Phone Number: 704 246 5659

Email: DANRDUDLEY@HOTMAIL.COM

Comment: I RESIDE AT 3024 SAN LEO DR, ORLANDO FL

IN MAN'DALAY. I WOULD LIKE THE 408 EXTENSION

TO COME DOWN HWY 50. I AM STRONGLY AGAINST

CORRIDORS 1 & 2 AS MY FAMILY HOME WILL BE

SEVERELY IMPACTED

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Vivian Katz, Florida Realty Investments

Address: 617 East Colonial Drive Oak 32803

Phone Number: 407 690 4557

Email: FlaRealInvest@gmail.com

Comment: Corridor 5 is crucial (line up to 520)

but portion to take existing homes appears  
too expensive to acquire, even with elevation  
raised to mitigate impact.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: MARIA DEL CARMEN Sanchez and Gilberto Sanchez	
Address: 17551 Bella Nova DR Orlando FL, 32820	
Phone Number: 408-309-6418	Email: CSanchezRealtor@SpcGlobal.NET
Comment: I Reside at 17551 Bella Nova DR. Orlando, FL 32820, I would like the 408 Extension to come down Hwy 50. I am strongly against Corridors 1+2 as my family home will be severely impacted. Thank-you Maria del Carmen Sanchez + 2/16/2017 Gilberto Sanchez 5:32 PM	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Name:

Lee-Ann Snipes

Address:

17353 Candel Road, Orlando 32833

Phone Number:

407-568-6000

Email:

lsnipes1@cfl.RR.com

Comment:

This meeting should have had an announcement that they were not having an open forum. Many people were sitting waiting for a speaker. This could have been handled at check-in. I am opposed to any more interruption with our wild life and wetlands. It's a disgrace what Orange County has done with the Lake Pickett Development and crossing the Econ River.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Name: John E. Fauth

Address: 20706 Nettleton Street, Orlando, FL 32833

Phone Number: 407-247-4403

Email: flzoologist@gmail.com.

Comment: CFX and FDOT should coordinate to route the 408 eastern extension along the existing SR 50 corridor. Alternative corridors 1, <sup>2</sup>3, 4 and 5 all negatively impact the Big Econ River, existing conservation lands, and the Big Econ/ St. Johns Mosaic, which is an important wildlife corridor. Coupling the western portion of Alternative 4 with the western portion of Alternative 3 might be viable, provided that the expressway is routed N of SR 50 east of Chuluota Rd.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Name:

EDWARD Priest

Address:

1423 TANNER LANE WINTER SPRINGS FL 32708

Phone Number:

321-239-4504

Email:

Epriest367@AOL.com

Comment:

Very Confusing - AFTER ARTICLE IN  
Orlando Sentinel.

But it is refreshing to see CFX is looking  
at having ~~the~~ AN ACTUAL TRANSPORTATION  
CORRIDOR for the next 30 or 40 years.

CORRIDOR #4 staying South of SR 50

would make the most sense. Does not impact

large parcels of land or commercial along SR 50

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:	Michael Infinger		
Address:	1154 Cherry Valley Way, Orlando, FL 32828		
Phone Number:	954-292-1470	Email:	fou-infinger@yahoo.com

Comment:	My home @ 1154 Cherry Valley Way would be seriously impacted by THREE (BLUE, RED, ORANGE) with one passing directly over my address and two practically through my backyard. These are my obvious concerns. ① I would also like to know what the plans are for the transition from the 408 to SR 50 (the elevated) option over SR 50 and how close that transition (exit) come to my property. I am in the far NW corner of Bridgewater. ② What is the timeline for the study and the timeline for the possible approval of the project.
----------	--

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Jim SILVANO

Address:

1940 ORK GROVE CHASE

Phone Number:

Email:

Comment:

I RESIDE AT 1940 ORK GROVE CHASE.

I would like 408 extension to come  
DOWN Hwy 50. I AM STRONGLY AGAINST  
CORRIDOR 1+2+3 as my family  
home will be severely impacted

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: LORRAINE DUDLEY	
Address: 3024 SAN LEO DR, ORLANDO FL 32820	
Phone Number: 719-660-7949	Email: LORRAINE DUDLEY@HOTMAIL.COM
Comment: I LORRAINE DUDLEY RESIDE AT 3024 SAN LEO DR, ORLANDO, FL 32820. I WOULD LIKE THE 408 EXTENSION TO COME DOWN HWY 50. I AM STRONGLY AGAINST CORRIDORS 1 & 2 AS MY FAMILY HOME WILL BE SEVERELY IMPACTED. THANK YOU! 2/16/17 Lorraine Dudley	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Shawn Newberry

Address:

14519 San Lorenzo Drive, Orlando, FL 32820

Phone Number:

407-446-2838

Email:

Scnberry@yahoo.com

Comment:

I reside at 14519 San Lorenzo Drive Orlando  
FL 32820. I would like to the 408 extension to  
come down Hwy 50. I am strongly against  
Corridor 1+2 as my family home will be severely  
impacted.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: *Abel Henriquez*

Address: *17408 Bella Nova Dr, Orlando, FL 32820*

Phone Number: *954-303-7079*

Email: *abel@gmres/tyinc.com*

Comment: *I reside at 17408 Bella Nova Dr, Orlando, FL 32820. I would like the 408 extension to come down Hwy 50. I am strongly against Corridors 1 and 2 as my family home will be severely impacted.*

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Esther Restrepo

Address: 1621 Cristalli Court, Orlando FL 32828.

Phone Number: 659 303 8178

Email: popspup81@yahoo.com.

Comment:

From a non objective standpoint expanding on the 408 and reducing traffic ~~to~~<sup>of</sup> high traffic areas would best benefit the east orlando area if the a combination of cost, safety and space would be taken into consideration. As visible the SR50 is very heavy in traffic so much so an expansion was created to alliviate the flow. Not utilizing the SR50 and creating another solution makes complete sense however building an alternative so close to the existing congestion does not seem wise. Change is difficult but once implemented I do believe the benefits will outweigh the negatives from the community. I look forward to working on

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Julie McClung

Address: Faith Free Will Baptist Church/Old Cheney Hwy.

Phone Number: 407-6946480

Email: jlmccclung8@gmail.com

Comment: What happened to the option of going over

Hwy 50. My Grandparents purchased the land along Old Cheney and Sherman St. for our church in 1959 and built in 1960. Now can there even be an option to take this away. What ever happened to Saint Johns Water Management. These areas are all protected by it.

My address is 16167 Sunflower Tr. and this would affect me also.

Put this New Road on Hwy 50 to lessen the impact!!!

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Elizabeth Connor (Connor Family, 6 people)	
Address: 2744 S. Tanner Rd. <del>32822</del> Orlando, FL 32820	
Phone Number: 407-482-6354	Email: Liz12Connor@gmail.com

Comment: Building <del>corridor</del> directly where corridor 2 would go would devastate my <sup>entire family</sup> <del>entire family</del> and way of living. Corridor 2 <del>does</del> NOT make any sense from a logical <sup>standpoint</sup> <del>point</del> . Use of 50 would be the best option for all parties involved. My father <sup>built</sup> <del>built</del> our house from the ground up, and the work and value of our home/land <sup>is</sup> <del>is</del> irreplaceable. Corridor 2 would also significantly impact the environment near the river and countless species of endangered animals. This decision would negatively affect too many individuals with no where to go.
---

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FLORIDA  
EXPRESSWAY  
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Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

Save East  
Orlando!

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <i>Jeannette McKnight</i>	
Address: <i>2518 S. Tanner Road</i>	
Phone Number: <i>407-319-3951</i>	Email: <i>jeannette.mcknight@gmail.com</i>
Comment: <i>No extension of the 408 is needed beyond Avalon Blvd. In the event, it does come East, The only acceptable route beyond Avalon Blvd is within Hwy. 50.</i>	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: DAN MORRISON	
Address: 824 RIVERS CT ORLANDO FL 32828	
Phone Number: 505 301 7929	Email: dan@dmorriso.com

Comment: Route #5 through Waterford would destroy quality of life for residents whose houses are not directly impacted. We bought where we bought specifically due to relative location of the 408, airports, and dump. I have lived next to an interstate before and the constant noise is horrible. Moving wouldn't be realistic once the plan is released and property values are impacted. I recommend route 12, 4
--

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <u>Maria Martinez</u>	
Address: <u>17546 Bella Nova DR Orlando FL 32820</u>	
Phone Number: <u>301-653-3551</u>	Email: <u>Bi Bi 2342000@yahoo.com</u>
Comment: <u>I reside at 17546 Bella Nova DR, Orlando, FL 32820. I would like the 408 extension to come down Hwy 50. I am strongly against Corridors 1+2 as my family home will be severely impacted.</u>	
<u>Maria Martinez</u>	
<u>Feb 16, 2017</u>	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decur@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
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william.sloup@metriceng.com



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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Lois Moller

Address:

4608 Atwood Dr., Orlando, FL 32828

Phone Number:

407-230-6364

Email:

LHM LHM@aol.com

Comment:

#4 Corridor seems the most feasible.

It has the least impact on the environment.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
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**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Leonardo Zapico

Address: 3030 San Leo Dr

Phone Number: 321-332-5513

Email: lzapico@att.net

Comment:

I reside at 3030 San Leo Dr I would like the 408 extension to come down ~~SR~~ Hwy 50. I am strongly against corridors land 2 as my family home will be severely impacted

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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615 Crescent Executive Ct, Suite 524  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: WARREN REGNIER	
Address: 14636 LADY VICTORIA BLVD	
Phone Number:	Email: ZOERAT3920@AOL.COM
Comment: VERY POOR PRESENTATION (LACK OF) CANNOT INPUT IF NOTHING IS EXPLAINED IN A VERY CROWDED ROOM	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Joseph Brennan	
Address: 13507 Lakers Court	
Phone Number:	Email:

Comment: This meeting is premature - data inconsistencies and a lack of presentation as to the priorities of weighting the data mean that there is little understanding of how the corridors will be evaluated.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
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(407) 644-1898  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: JAMES MCKNIGHT

Address: 2518 S. TANNER RD.

Phone Number: 407 319-3250

Email: jmonroeMC@gmail.com

Comment: DO NOT CROSS THE ECU.

STOP AT AVALON PARK BLVD

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EXPRESSWAY  
AUTHORITY

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Project Manager  
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Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: RICHARD WIGHTMAN

Address: 3344 LUKAS CV ORLANDO FL 32820

Phone Number: 407-568-3057

Email: RICHWSR@AOL.COM

Comment:

I am very much opposed to the corridor 1 route. It appears corridor 4 is the best choice thus one should go back to the state to renegotiate. This route keeps the traffic localized to a main corridor. The other either impact the major properties or impact rural areas.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
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**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Becky Bolan	
Address: 13015 Bellerive Ln, Orlando, FL 32828	
Phone Number: 321-734-7226	Email: RKBOLAN@COMCAST.NET

Comment: ① Please add me to the mailing list for all notices. This is my 3rd request. RKBOLAN@COMCAST.NET
② The new road is needed, but not through neighborhoods and dividing communities. SR 50 corridor is a better option

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

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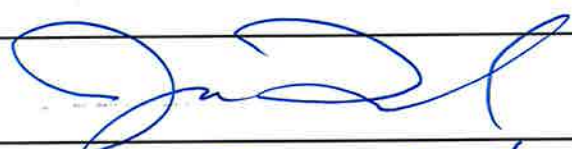


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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: James Duke	
Address: 2333 Osprey Woods Cir Orlando FL 32820	
Phone Number: 850-240 9523	Email: firstdukefamily@yahoo.com
Comment:  I RESIDE at 2333 Osprey Woods Cir in ORLANDO FL 32820. I would like the 408 Extension to come down Hwy 50. I Am strongly against corridors 132 as my family home will be severely impacted.	
	
James Duke	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
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## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <i>David Mitchell</i>	
Address: <i>1984 Cascades Cove Drive</i>	
Phone Number: <i>312-203-9356</i>	Email: <i>davemitchellrej@gmail.com</i>

Comment: <i>The best path is to use SR 50 ROW.</i>
<i>The only other alternative even remotely palatable is</i>
<i>Corridor 4, as the others <del>are</del> create irreparable</i>
<i>damage to established neighborhoods. As a boardmember</i>
<i>for Cypress Lakes HOA, I can promise we will exhaust every</i>
<i>option to fight Corridor 1 and 3, which run into our</i>
<i>land.</i>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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Lance Decuir, PE, AICP  
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Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
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## Comment Sheet

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Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Naomi Straney

Address: 2148 Rouse Rd.

Phone Number: 407-434-9522

Email: nstraney@gmail-com

Comment:

1- Great opportunity to see & discuss

2- It seems a highway is necessary unless

Rte 50 could be revamped completely -

traffic light bypasses etc. I would guess

population will grow around any road

access, especially w/ growth in Orlando & Brevard Cty.

I suspect Rte 50 & Expressway development

will both be needed. Traffic west of Woodbury  
need alleviation via a Hwy & local road expansion.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

Ramon G. Poli

Address:

510 COR DR

Phone Number:

407-758-4522

Email:

Rg.Poli@aol.com

Comment:

All of these projected Route,  
will destroy alot of neighborhoods.  
My thought is to double deck it over  
Hwy 50 - we aren't in ~~Essex~~ Earthquake  
county - it is done in many places  
why not here? (It wouldn't Flood)

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.

Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: <u>Deborah S. Dunbar</u>	
Address: <u>527 8th St.</u>	
Phone Number: <u>321-804-4530</u>	Email: <u>deborahjd@nutzero.com</u>

Comment: <u>my worry is the wildlife in Bithlo, cranes,</u> <u>turkeys, and our little farms. The south side of 50</u> <u>looks best to me corridor 2, 4, &amp; 5. Most cars</u> <u>leave 50 <u>before</u> the chuluota Rd. The most</u> <u>leave @ 520. The connection 50/520 can be</u> <u>very dangerous, and busy 50 to Titusville</u> <u>is dead. What we really need is a TRAIN.</u> <u>not more Roads! TY Deborah</u>
---

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Lance Decuir, PE, AICP  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name: Jose Lopez Arango	
Address: 14200 Thasmball way	
Phone Number: 407-207-1484	Email:
Comment: #4 to me look the Better way. to go with 408.	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternative Corridor Public Workshop | Thursday, February 16, 2017 | 5 p.m to 7 p.m.  
Eastpoint Fellowship Church | 15060 Old Cheney Highway, Orlando, Florida 32833

Name:

John Stanley

Address:

3152 North Turner Rd.

Phone Number:

407-247-3047

Email:

JohnnyStanley15@yahoo.com

Comment:

Poor Planning, And To much  
Impact On Residents Lives, all for  
The Profit of over development creating  
uncontrolled growth and constant grid lock  
Raised crime Rates  
Bad Idea.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Lance Decuir, PE, AICP**  
Project Manager  
482 South Keller Road  
Orlando, Florida 32810  
(407) 690-5000  
lance.decuir@atkinsglobal.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



**ENVIRONMENTAL PROTECTION DIVISION**  
**Lori Cunniff, CEP, CHMM, Deputy Director**  
**Community, Environmental and Development Services Department**  
3165 McCrory Place, Suite 200  
Orlando, Florida 32803-3727  
407-836-1400 • Fax 407-836-1499  
www.ocfl.net

February 16, 2017

Hand Delivered

Ms. Valerie Tutor  
Public Information Officer  
Media Relations Group

**Subject: Comments on the SR 408 PD&E Study – Corridor Alternatives**  
**Orange County Environmental Protection Division**

Dear Ms. Tutor:

The Orange County Environmental Protection Division (EPD) is in receipt of the documents showing the proposed SR 408 PD&E STUDY – Eastern Extension Corridor Alternatives. I have been attending the PD&E meetings that are being held by the Central Florida Expressway Authority to gather input on the proposals from various stakeholders.

EPD is offering the following comments regarding the corridor alternatives:

1. The environmental and socio-economic impacts of all of the proposed alternatives are significant. If the Turnpike Authority proceeds with the Colonial Parkway project along the SR 50 alignment then the need for the 408 eastern extension may not be justified. If the Turnpike does not use the SR 50 alignment for their project we would suggest that alternative be considered as it seems to be the least disruptive to the environment and communities.
2. The Corridor Evaluation Summary and the map depicting the 5 alternatives do not address the impacts to Orange County owned preservation areas. The areas that could be potentially impacted by one or more of the alternatives are: Ken Bosserman Econlockhatchee River Preserve, Nunnally and Evans Parcels, Sunflower Trail Parcel, Long Branch (both State and County owned portions) and Pine Lily Preserve. Orange County has invested significant resources in order to acquire and maintain these environmentally sensitive lands. Mitigation will be required for any impact to wetlands on the above listed properties associated with any of the proposed corridors. If you need further information on the location or status of these properties please contact Beth Jackson at 407-836-1481.
3. Required stormwater treatment areas should not be located on any of the above listed properties and any regulatory easements that could be potentially impacted.
4. Stormwater systems should be designed to provide treatment of runoff which exceeds St. Johns River Water Management District (SJRWMD) standards.
5. Incorporate low impact development stormwater treatment designs that provide habitat for wildlife such as constructed wetland systems.

February 16, 2017

Comments on the SR 408 PD&E Study – Corridor Alternatives, Orange County  
Environmental Protection Division

Page 2

6. This project is located in the Econlockhatchee River Basin which is a nested basin. Any wetland and cumulative impacts will need to be mitigated for within the basin.
7. The Econlockhatchee River is an Outstanding Florida Waterway and any proposed construction cannot degrade the water quality of that waterbody.
8. No surface waters or wetlands should be utilized for the treatment of stormwater runoff.
9. Wetland impacts associated with roadway construction should be avoided and or minimized to the greatest extent possible.
10. Mitigation for wetland/surface water impacts that occur within Orange County should be located in Orange County, in the same hydrologic basin as the impacts. Please coordinate with the Orange County Environmental Protection Division for potential mitigation options.
11. Demonstrate that the ongoing and future planned land management activities on any of the preserved environmentally sensitive areas will not be impeded by any of the proposed alignments.
12. Lighting and noise impacts to the wetlands or surface waters adjacent to the proposed Corridor Alternative should incorporate dark sky lighting and noise abatement measures to reduce adverse impacts to wildlife.
13. The design shall include provisions for wildlife connectivity across or under roadways that traverse wetland systems and associated buffers. Fragmentation of any wildlife corridors should be minimized and designed to allow for unimpeded passage of wildlife and maintain hydrology. Additionally, field fencing to prohibit the movement of wildlife across the roadway should be installed.
14. Bridge ecological design considerations: Any crossings of the Econlockhatchee River or it named or unnamed tributaries should be bridged. Minimize or eliminate pilings in the river with the longest spans possible. Earthen embankments should not be built in the 100 year flood plain, however, if necessary then compliance with all flood compensating storage regulations will be required. These design measures should serve to maintain existing habitat connectivity, hydrologic flow considerations and function to minimize harm to the resources of the basin. The roadway agreement will need to define construction, operational and maintenance costs and shall also include expenses of ecological considerations of this unique location. For example, some bridge roadway agreement concerns would likely include long term erosion of bridge support pilings, river embankment erosion, channelization, high water conditions (storms and hurricanes) and river channel



February 16, 2017

Comments on the SR 408 PD&E Study – Corridor Alternatives, Orange County  
Environmental Protection Division

Page 3

movement. This path would likely be deemed a coastal evacuation route so design needs to consider severe storm conditions.

If you have any questions or comments please contact me at 407-836-1404 ([dennis.weatherford@ocfl.net](mailto:dennis.weatherford@ocfl.net)).

Sincerely,

A handwritten signature in blue ink, appearing to read "D Weatherford", with a stylized, cursive script.

Dennis Weatherford, P.E., LEED AP  
Assistant Manager

DW: mg

TINA AUTHIER  
16302 HAMILTON DR.  
ORLANDO, FL 32833

I OPPOSE ALL ALTERNATIVE ROUTES FOR THE  
EXTENSION OF THE 408/EAST-WEST EXPRESSWAY  
OTHER THAN ALONG EACH SIDE OF COLONIAL DR.

PROPOSED ROUTES 2, 4, AND 5 WILL RUN DIRECTLY  
OVER MY PROPERTY. I DO NOT FEEL THAT  
TRAFFIC ON HWY 50 IS SO BAD THAT THIS  
EXTENSION OF THE 408 IS NECESSARY.

EAST ORLAND IS PERFECT THE WAY IT IS.  
WE DO NOT NEED MORE HOUSING DEVELOPE-  
MENTS, OR EXPANSION OF THE 408!

WHAT ABOUT ALL THE WILDLIFE? STOP TAKING  
AWAY, AND BUILDING ON, ENVIRONMENTALLY  
PROTECTED AREAS! FIND AN ALTERNATIVE WAY  
TO MAKE MONEY FOR THE COUNTY, WITHOUT  
TAKING AWAY MORE LAND OUR WILD LIFE SO DESPERATELY  
NEEDS!

SO SAD...  
Tina M. Authier  
407-312-0159

Expanding 408 is Needed

however the green line is  
not possible and the Blue line  
is way to close to Avalon Park.

The Red line will go right  
through "The Grow" where i plan  
ON moving too!!

The purple line is the best  
option.



To whom it may concern,  
I reside at -

2051 Osprey Woods Circle  
Orlando, FL 32820

I would like the 408 extension  
to come down SR Hwy. 50.  
I am STRONGLY AGAINST

corridors 1 and 3 as my

family home will be  
severely impacted!

Thank you for your  
time.

Sincerely,

Greta Olson

gretaolson10@gmail.com  
651-247-4744

This makes me sick. The small fraction of what remains in nature in Orange County will be lost.

When this sprawl end!

It ~~appears~~ looks like we are heading for urban sprawl from county border to county border.

I draw. Have the history center take pictures of cattle, an orange tree, and a pasture to document what a lovely place Orange County used to be!

Guy Kemp

13344 Lake Turnberry Circle

Orlando, Florida 32828

Jonathan Meyers  
14512 San Lorenzo Dr.  
Orlando, FL 32820

I reside at the above address & I would like the 408 extension to come down HWY 50.

I am strongly against Corridors 1 & 2 as my family home will be severely impacted.



Please put politics aside + work with  
FDOT + use Hwy 50 corridor + not  
disrupt + destroy peoples lands + homes,  
Road goes to 520 already. Work  
together Please!

Patricia Waring  
1203 Ch Downey Dr  
Orl FL 32825

Carolyn Bowke  
14300 Abington Heights Dr  
Orl FL 32828

Keisha Reynolds

- I reside at 17443 Bella Nova Dr. 32820  
in Mandalay Enclave.

- I would like the 408 extension to  
come down Hwy 50.

\* I am "Strongly Against" corridors  
1 & 3 as those two options severely  
impact my family home.

## Comment Sheet

Just wanted to say we oppose  
to ~~B~~ using Corridors 1 & 2 & 3.

FIEMAN & ANDREA HOP  
KAINUT81@HOTMAIL.COM



Robert Spiteri  
13731 Sunshowers CR  
Orlando FL 32828

Orlandorob01@yahoo.com  
407-446-4826

I feel we should pressure  
FDOT to allow the expressway  
to use their right-of-way.

IF that is not an option then  
they should expand SO with  
express lanes versus impacting  
neighborhoods. with <sup>the</sup> expressway.

I RESIDE AT 17509 BELLA NOVA DR.  
I WOULD LIKE THE 408 EXTENSION TO  
COME DOWN HWY 50. I AM STRONGLY  
AGAINST CORRIDOR 143 AS MY  
FAMILY HOME WILL BE SEVERELY IMPACTED.

My suggestion  
could be



Terry Reynolds

I reside at 17443 Bella Nova Dr 32820.

I would like the 408 extension to come down Hwy 50. I am strongly

Against Corridors 1 & 3 as my family home will be severely impacted



Deep Rater

3240 San Leo Dr 32820

803-818-0903 · deeproter@gmail.com

I reside in Mandalay (3240 San Leo) and would like to see the 408 extension come down Hwy 50.

I am strongly against corridors 1+2 as my family home will be severely impacted as well as the atmosphere and location I chose to live.

(formal)  
A planned audio visual presentation with  
announced times would be much better than  
the ~~town hall format~~ "open house" format  
that you selected for this meeting. Too loud,  
not enough access to maps.



Robert Restrepo

1527 Cristalli Court, Orlando FL 32828

760-889-0405 Robert\_Restrepo@yahoo.com

Comment:

I reside at 1527 Cristalli Court and strongly disagree with corridor 4 and recommend utilization of the SR50.

DONALD + MYRA WATSON  
18428 17<sup>TH</sup> AVE.

WE BELIEVE HIGHWAY 50  
SHOULD BE 6 LANED FROM  
408 TO 520. WILL BE PAID  
FOR THRU STATE MONEY. THIS  
IS A PRIVATE FIRM MAKING PROFIT  
BUT TURNING LIVES AND FAMILIES  
UPSIDE DOWN. WITH 6 LANING  
HWY. 50 THERE IS NO IMPACT  
TO COMMUNITYS. WE WILL FIGHT  
THIS PROCESS TO THE END.

Wilson Knob of  
16815 Bearle Rd  
Orlando FL 32828

I don't ~~stop~~ <sup>stop</sup> you  
destroying all the  
country area Don't want 2+4+5  
areas any where near us. Leave  
our Quit neighborhoods alone.  
Everything you touch you destroy  
the beauty out here.

STOP



# Comments

## Corridor 5

Corridor five (5) is a no brainer  
4 is ok Too

it's straight benefits the development  
it goes thru (access to road) and  
miss my house

Corridor 3 goes next to my house

Corridor 2 a big loop?

Corridor 1 Too long and out of the way  
for most people in the area.

Ronald G. Ventura Moore

I live at 17509 Bella Nova Drive  
in Orlando. Please put the  
408 extension south of SO.

This will impact the fewest  
homes and home values.

I am against 1 and 3!

Ronald G. Ventura Moore

# Comments

James Ryker - 407-306-9162  
13224 Old Dock Rd - Bridgewater  
1202 Cherry Valley Way Bridgewater

I own 2 homes in Bridgewater and I am 100% Against this. Both of my houses will lose a lot of value, especially 1202 Cherry Valley which is in the extreme Northwest of Bridgewater. Even if the Road doesn't go through there it will still create a lot of noise. I won't be able to sell my house. Nobody wants to live alongside an expressway. Remember by the people of the people for the people

We the People do not want this!



## COMMENT CARD

I reside at 3454 Cuckering Cabbage Wy,  
Orlando, FL 32820. I would like the  
408 extension to come down Hwy 50  
I am strongly against Corridas 1 & 2  
as my family home will be severely  
impacted.



Katharine Dagenais

407-803-2499

dagenaisfamily@gmail.com

## COMMENT CARD

I reside at 3027 Amalfi Dr.

I would like the 408 extension to  
come down Hwy. 50. I am  
strongly against Corridors 1 & 3  
as my family home will be  
severely impacted.

Gill Seeley  
Gill Seeley



## Comment card

I RESIDE AT 14536 SAN LORENZO DRIVE  
IN ORLANDO. I WOULD LIKE THE 408 EXTENSION  
TO COME DOWN HWY 50. I AM STRONGLY  
~~AGAINST~~ CORRIDORS 1+~~2~~ AS ~~BY~~ MY  
HOME WILL BE SEVERELY IMPACTED!

THANKS -

*Adam Ayala*

ADAM AYALA  
407-758-7050



I BELIEVE NOT MUCH THOUGHT  
WAS DONE WHEN CORRIDOR 3  
AND CORRIDOR 5 WAS DEVELOPED.  
TO MANY DWELLINGS AND HOMES  
WILL BE LOST WHEN LESS  
EVASIVE ROUTES ARE AVAILABLE.

CORRIDOR 4 IN MY OPINION  
WOULD BE THE BEST OPTION  
EFFECTING THE LEAST AMOUNT  
OF DISTRESS TO THE PEOPLE  
LIVING IN THE AREA.

I UNDERSTAND THE REQUIREMENTS  
AND THE NECESSITY FOR ROAD  
IMPROVEMENT, (BUT WITH THE LEAST  
EFFECT ON THE PEOPLE.)

STEPHEN HOPGOOD  
14152 SPETDEL COURT  
ORLANDO, FL. 32826

## Comment Card

I reside at 14536 San Lorenzo Dr. in Orlando. I would like the 408 extension to come down ~~500~~ Hwy 80. I am strongly against Corridors 1 + 3 as my family home will be severely impacted!

Sincerely,

Nicole Ayala

Nicole Ayala  
306-682-9888



# COMMENTS

2/16/17-

Hi, My name is Judy Chubb and my husband's name is Karl Chubb, ~~owner~~ owner of Karl's Nursery of Orlando, Inc. Our home and business are both located @ 606 Lockwood Dr., Orlando, FL 32803, south of Hwy 50.

We have already been through the 408 taking our property on I-405 Rd. 28 years ago.

Please, Please, Please!! We don't <sup>want</sup> to lose our property and house AGAIN! I think it <sup>might</sup> be Corridor 5 that our house is impacted by.

This extension would not only impact our business, but our everyday quality of life and well being.   
 & Do we really need this extension?



Do Not Go East of the Econ  
or you will have a fight from  
the entire community.

We will Allow you to Go on the  
South side of 50 behind The Volkswagen  
Wim Dixie & Commercial Businesses  
And next to Old Cherry & END  
AT AVAION PARK BLVD!

No NEED for East-West to  
Go ANY Further East!

Poor Planning is All I SEE

ISAAC MARTINEZ  
3132 SAN LEO DR  
ORLANDO, FL 32820

I AM A RESIDENT OF MANDALAY  
AND I AM FIRMLY AGAINST CORRIDOR  
#1.

THANKS

A stylized handwritten signature in blue ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Kelly Semrad  
3111 Amalfi Dr.  
Orlando 32820

407 233 5375

I am strongly opposed to the alternative  
408 route. The 408 extension should come  
down Hwy 50.

I am strongly opposed to  
Alternative routes / corridors  
1 or 2. My home is negatively  
impacted by corridors 1 or 2.



Heather Rufen

3240 San Leo Dr

803-818-0944

hrrufen@gmail.com

I own & live in Mandalay at 3240 San Leo. I'm strongly against the building of the corridor option 1 & 3 Option 2 as it will be a negative impact to my family as well as to the community.



2-16-17

There is not a good reason to extend the 408  
to 520 on I-95?

6 lane SR50 to 520 + I-95 when needed.

The 408 is such a cash cow for the Xpressway

Authority? \$3,000.00 is what you pay for palm trees?

I believe the authority just looks for reasons to  
spend money? Reduce the tolls or apply the  
excess to property taxes instead to reduce them?

Stop looking how to spend all your excess money!

Richard Wright  
863 Hamilton Dr  
Orlando, FL 32833  
407-342-8378  
yawlwright53@juno.com



TO WHOM IT MAY CONCERN

2/16/17

RINALDI'S AIR CONDITIONING SERVICE.

15264 EAST COLONIAL DRIVE

ORLANDO, FL 32806

407-275-0705

SCOTT@RINALDIS.COM

WWW.RINALDIS.COM

ROBERT RINALDI

SCOTT HUDSON

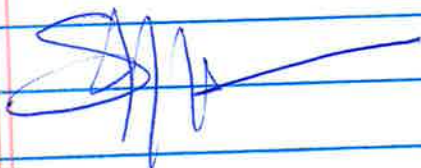
RINALDI'S AIR CONDITIONING SERVICE PBA ACC  
IS HIGHLY AGAINST THE EAST HIGHWAY 50 ALTERNATIVE  
PROJECT IMPACTING THE BUSINESSES, JOB RELOCATIONS,  
JOB LOSS, AND OTHER DISRUPTIONS TO NOT ONLY THE  
OWNERS BUT THE EMPLOYEES, EMPLOYEES FAMILIES, PATRONS,  
SUPPLIERS AND MORE.

RINALDI'S AC IS VERY SENSITIVE TO THE ENVIRONMENTAL  
QUALITY AND IT IS OBVIOUS THAT THESE ALTERNATIVES  
HAVE SEVERE ADVERSE ENVIRONMENTAL IMPACTS

RESPECTFULLY

RINALDI'S AC

15264 E COLONIAL DRIVE





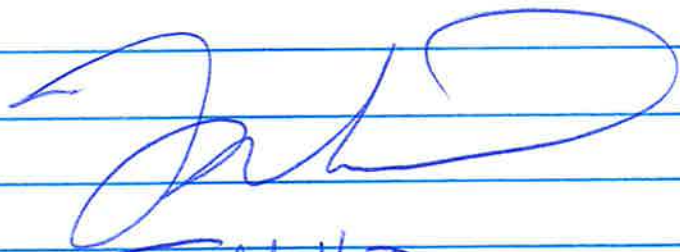
LaNita Meyers  
14512 San Lorenzo Dr.  
Orlando, FL 32820

I reside at the above address & I  
would like the 408 extension to come  
down HWY 50.

I am strongly against Corridors 1 & 2 as  
my family home will be severely impacted.

## COMMENT CARD

I reside at 3454 Cuckering oaks way,  
Orlando, Fl 32820. I would like the  
408 extension to come down Hwy 50.  
I am strongly against Corridors 1 & 3  
as my family home will be  
severely impacted.



Todd H. Dagenais  
407-803-2499  
dagenaisfamily@gmail.com

I, Jerome Kelish, own the home at  
17449 Bella Nova Dr in the Mandalay Enclave  
Subdivision. As such, I am opposed to the  
possibility of Corridor 3 of the proposed 408 extension.  
I know the logical choice of using the SR50  
corridor needs the approval of FL DOT, which  
should happen.





I reside at 3159 Arnulf Drive,  
Orlando FL 32820

I believe using Highway 50 is the best option.  
I am opposed to options 1 and 2 as they  
will negatively effect my family.

ROBERT KEINER

Robert K.

2/16/17 408 Expansion

My name is Jennifer Sherman and I  
live at 17528 Beella Nova Dr 32820  
and I strongly oppose the building of  
Corridor I for the 408 extension. My  
property value will fall + I didn't move  
east of the Econ to have a view of  
the expressway!

Jennifer Sherman

- George Reynolds

I reside at 17443 Bella Nova Dr 32820.  
I would like the 408 extension to come  
down Hwy 50. I am strongly Against  
Corridors 1 & 3 as my family home  
will be severely impacted.

George Reynolds



# Comments

I RESIDE AT 3105 AMALFI DRIVE.  
I WOULD LIKE THE 408 EXTENSION  
TO COME DOWN HWY 50. I AM  
STRONGLY AGAINST CORRIDORS 1 AND 2  
AS MY FAMILY HOME WILL BE SEVERELY  
IMPACTED.

We would prefer either the purple or Blue Roads. It Look like it would not impact The Majority of Homes intersecting them

# Comment Sheet

---

CORRIDOR (1) IS LONGER BUT SEEMS TO BE THE LESS COSTLY AS FAR AS LIVING/OCCUPIED PROPERTY.

CORRIDOR (5) SEEMS TO BE THE SHORTEST BUT THE MOST COSTLY AS FAR AS PROPERTY IS CONCERNED — IT ALSO AVOIDS THE "S" TURN USED IN OPTION/CORRIDOR (4)

BILL WHITE  
ERUDITE5@COMCAST.NET



I reside at 2051 Osprey Woods Circle, in the Cypress Lakes Community. I would like the 408 extension to come down the middle of SR 50. I am STRONGLY AGAINST Corridors 1 & 3 as my family's home would be severely impacted.

Thank you for your time & consideration!

- T. Olson

JOHN MEYERS

2/16/17

14512 SAN LORENZO DR.

ORLANDO FL 32820

3-meyers@comcast.net

I reside at the above address & I would like the 408 extension to come down Hwy 50. I am strongly against Corridors 1 & 2 as my family home will be severely impacted.

I live in Fairways Country Club and I am adamantly opposed to Option 3 as it would impact our development.

As a 55+ community many of our residents have been in the community for 15-20+ years and their rent is locked in at a low rate under FL 723. Even if they received fairmarket value for their property they would not be able to relocate to a similar situation.

I am also concerned that this option would cut us off from Rte 50 and Emergency Services.

If option 1 or especially 2 are considered I would like to know what the noise impacts would be.

Charlotte Grabowski  
2084 Pebble Beach Dr. 32826  
315-254-8571  
Apple194@gmail.com.



2/16/17

To Whom It May Concern,

Thank you for the information provided at the meeting tonight. I am here representing the Waterford Lakes subdivision of Jade Forest, which ~~is~~ would be adversely affected by corridor #5. My address is 14237 Lake Underhill Rd. I have been a Waterford Lakes resident since 2002. I feel that corridor #5 would have the greatest impact on the most amount of homes. I feel that this would be the worst option of all of the proposed corridors. This would adversely affect a lot of young families as the corridor goes over ~143 higher priced homes.

It is my hope that the option to widen SD comes to fruition, rather than impacting so many people. However, should this not happen, I am strongly against the corridor 5 option.

Sincerely,

14237  
Lake Underhill  
Rd.

Marcy Frederico / Jade  
409-923-7947 Forest

Vincent Barnes

2-16-2017

15624 Sarcee Court

1820

Orlando, FL 32828 (407) 663-2740

v507@bellsouth.net

1. From the time when the study completion is done, how long would it be when any groundbreaking would begin

2. If your property already borders ~~is~~ a conservation area, how would that be addressed, because it didn't show clearly on your poster board maps

Nancy Bailes

Home 20821 Fort Christmas Rd Christmas 32708

- 1) 18320 16th Ave Orlando 32833
- 2) 18306 16th Ave " "
- 3) 18290 17th Ave " "
- 4) 18303 17th Ave " "
- 5) 18507 Belvedere Rd Orlando 32820
- 6) 351 Exeter Rd Orlando 32820

I have never once received  
a notification of any of these  
~~met~~ meetings

Nancy Bailes

Jezebel1907@qfl.net  
C 407 485-8349



FRANK ANTONIO (BRIDGEWATER)

13728 Old Rock Rd

Orlando, FL 32828

407-222-7521

Consider 3+4 would be best  
choice.

2/10/2017

Sierra Club Central FL Group

Marjorie Holt

8502 ALVERNON AVE

ORLANDO, FL 32817

marjorieholt@earthlink.net

407-679-6759

The proposed alignments  
impact the social-economic  
and environmental fabric  
of east Orange Co.

CFX should shelve or stop  
this project. We supported  
CFX alignment within SR 50  
ROW, but find these new  
alternatives unacceptable.

The Sierra Club supports  
FDOT/Turnpike Enterprise  
project - 4 toll lanes in the  
center of SR 50.


The Extension Should  
Go only To Allow  
Blvd ~~4~~ E 50

NO Need Beyond That.

IF EVER DONE LATER  
CORRIDOR 4 + 5 ARE THE  
ONLY POSSIBLE ROUTE  
Nothing North of E. 50

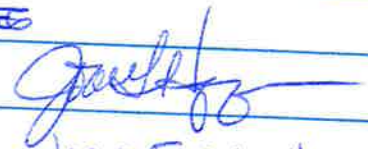
William Lutz  
2618 S. TAMMERS Rd  
WLUTZ3@CFLRR.com




PHIL HOFFMAN 17420 BELLA NOVA DR.  
I AM OPPOSED TO CORRIDOR #3. IT WILL  
HARM MY FAMILY HOME.  
2/18/17 

JOAN FAGAN-HOFFMAN 2-16-17  
17420 BELLA NOVA DR ORLANDO FL  
32820

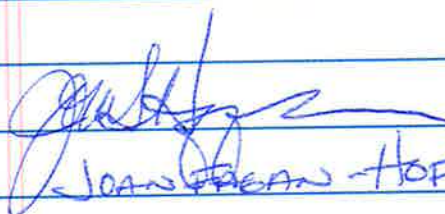
OPPOSED TO OPTION #3 ~~ALONG~~

  
JOAN FAGAN-HOFFMAN

PHIL HOFFMAN 17420 BELLA NOVA DRIVE  
I LIVE AT 17420 BELLA NOVA DRIVE, I  
AM OPPOSED TO CORRIDOR #4, 2/16/17  


JOAN FAGAN-HOFFMAN  
17420 BELLA NOVA DR ORLANDO 2-16-17  
FL 32820

OPPOSE TO #5

  
JOAN FAGAN-HOFFMAN

## **Forthcoming Development Impacts You, Your Home, and Your Community**

**A group of East Orlando citizens have filed a lawsuit against Orange County regarding a text amendment that was passed allowing high density development (6 homes per 1 acre in the Lake Pickett Area). The hope is that the citizens will be able to overturn the County's approval of this text amendment.**

**The citizens are not against development!** The citizens are against the County putting high density development in an area that cannot accommodate the increase in population (**Imagine a minimum of 40,000 additional cars on our local roads** (e.g. Colonial, Alafaya, Tanner, etc.)

The text amendment requires new roads, Hwy extensions, schools, police, fire, public transportation, water & sewer, and other community services. **All of this results in increased expense (taxes) for citizens.**

Due to the need for new roads **some citizens may lose their homes and/or businesses to eminent domain or have their properties devalued** because of their home's proximity to new high volume roads/Hwy.

**Please donate \$10, \$20, \$30...to help fund this community fight! All donations are used towards the legal fees.**

<https://www.gofundme.com/save-natural-florida>.



A yellow excavator bucket is positioned in the foreground, partially filled with dirt and debris. The background shows a cleared area with a line of green trees under a bright sky. The overall scene suggests a construction or land-clearing project.

# **HAVING CHOICES IS A KEY PART OF QUALITY OF LIFE**

**WE DON'T HAVE TO TOLERATE THOSE WHO ONLY  
GIVE US BAD CHOICES LIKE OUT-OF-CONTROL  
DEVELOPMENT, URBAN SPRAWL, ENVIRONMENTAL  
DESTRUCTION AND TRAFFIC GRIDLOCK.  
VOICE YOUR CHOICE!**

**DONATE TO SAVE ORANGE COUNTY NOW. Go To:**



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**Live It • Love It • Save It**



Are you interested in learning  
more about forming our own  
Town to preserve  
East Orange County?  
Find us on FaceBook or visit  
our web site.

**SIGN THE PETITION**

SaveOrangeCounty.org

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## ALTERNATIVES PUBLIC WORKSHOP



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

Alternatives Public Workshop  
Thursday, June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School  
1700 Chuluota Road  
Orlando, Florida 32820

## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
DINON SUN	Self	8640 Dean Road	321-3013310	Ddinsonsun@gmail.com
PAT MCGIFFE	SELF	10272 TUDOR GROVE DR ORLANDO, FL 32828	321-302-1260	cpatmgnff@gmail.com
LARRY BATSCHE	SELF	18143 SAYONAY LANE	407-670-9669	LARRY.BATSCHE@GMAIL.COM
Chris Mazza	SELF	13612 LAKES WAY	787-706-0094	CMazza63@comcast.net
Maria Acevedo	SELF	17706 EVANS TR	321-297-7701	0621acevedo@gmail.com
IVAN J. SANCHEZ	SELF	14518 SAN LORENZO	407-923-1529	ivan.j.sanchez@GMAIL.COM
Chiff Rinkwater	SELF	16552 OLD CHERRY AVE	—	—
Grace V. Sanchez	Self	14518 San Lorenzo	407-923-1528	grace.v.sanchez@gmail.com
Marilyn Roman	Self	16954 Cornerwood Dr	407-860-3544	roman-marilyn@yahoo.com





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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Thomas BORDONARO	Self	Orlando FL		
Jose Ferrer	"	Orlando, FL		
Heather Cere		Orlando FL	407-267-2567	Heather-GE78 @ Yahoo
Vicky Sheng		Orlando, FL		
Mark Spontelli	self	13219 St Cte Ct, Orlando FL 32828		
Bud JOACHIM	Self	21242 KENNEDY RD CHRISTMAS		1002 FOUR @ BELL SOUTH.NET
David Lockhart	"	4081 Chuluota Rd Orlando	407 325 7791	david @ 642 @ bellsouth.NET
SHARON + Rob Romick		Orlando		



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Shane Larson		3923 FENWICK TER DEL.	407 926 8547	CSPLNT@YAHOO.COM
Patt Hoffman		863 JADE FOREST AVE	407-282-1005	pattycake622@gmail.com
Deane Belk		573 Lakehaven Circle	407- <del>734</del> -5285	dbelk548@gmail.com
Kim Stewart		16019 Corner Lake Dr	407-230-8895	kshstewart@me.com
Ellen Griswold		2202 Pebble Beach Blvd	407-383-1322	ellensm6@aol.com
Marjorie Gaines		5555 County Road 13	407-568-8532	—
Tommy Denton		16625 Bearle Rd	407-455-3054	tdenton@cf.rr.com
Lynne Tipton		713 Hollybrook Ct.		tipton5fla@gmail.com
Kathleen Tucker		2431 4th St	407-568-7392	
Cyndi Tuttle		16323 Sunflower Trl.	407-568-6975	Chopper2mann@yahoo.com
Dale Lowers		160 Becora Ave.	321-213-4684	—





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Morris Loveland		848 Jadestone Cir	321-945-7212	mloveland59@gmail.com
LAWRENCE GEDMAN		13549 LAKERS CT	407-306-7933	LGEDMAN@AOL.COM
RUI MANAKA		13902 MAGNOLIA GLEN	321 417 6866	RUI.MANAKA@GMAIL.COM
PAUL METZGER		723 CAVE HOLLOW LANE	407 929 3925	metzgerpaul2@AOL.COM
Thorston Squines		327 Tanglewilde St	407 886 3000	
Ian Kennedy		906 Windmill Grove Cir. 32828	407 384-7214	jonann2@earthlink.net
Nancy Bud Ingerman		16224 Sunflower Trl	251-680-3443	
Javier Irizarry		1755 5th St.	407-574-5560	jirizarryap@hotmail.com
Cathy Baust		14300 Pine Valley Rd, Orlando	407-384-0616	cabaust@gmail.com
Michael Hobbs		13512 LAKERS CT 32820	407-284-7234	mhobbs73@gmail.com
CAROLE HETZEL		19567 LANDOWNE ST 32833	407-568-6408	MILLER1910@BELLSouth.NET





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
JEFF & Linda DeAngelo		780 Lockwood DR ORLANDO FL 32833	321-662-4125	orlandodeangelo@gmail.com
Joe Kunkel	O.C.P.W	4200 S. John Young Pkwy Orlando FL	407-832-7972	joe.kunkel@ocfl.net
Mary Sphar	—	825 Cliftons Cove Ct Cocoa, FL 32926	321-636-0701	canoe2ndigital.net
Genoveva Fret	AECOM/Turnpike	577 Eastbridge Dr Oviedo FL 32765		geno.fret@gmail.com
Johnny Stanley	Resident	3152 North Turner Rd. Orl. FL 32824	407-247-3047	JohnnyStanley15@yahoo.com
Nancy Munteagre		927 Sunflower Trl	407-766-9639	—
Jerusha Johnson		2246 10 <sup>th</sup> Street		jerushaorlan@aol.com
Lillian Santiago		19003 Lansing st.		lilliansantiagolopez@yahoo.com
norma Lopez		19003 Lansing st		
Richard Lancel		1208 CHERVALEN	727-726-4674	NUCRECRUITER@gmail.com
Janet Reed		1046 Landview Ct	407-496-9541	onlyplayjazz@yahoo.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Jeff Champlin		143 Drift Creek Cir orl FL 32828	407-9673987	Champl.J55@gmail.com
Jim Ryker		Also 1200 Cherry Valley 13224 Old Dock Rd	407-306-9162	
JOYCE TREVELYAN		18139 HOLLISTER RD		TREVELYANJ@BELLSOUTH.NET
Howard Newman		14303 Lathan Grange Ct	407 832 2500	
Eric Robinson		2053 Hawks Landing Dr	—	eric.robinson@outlook
Panda Rathbone		921 Bradshaw Terrace		
* CAROL NEEDHAM		808 Lockwood Drive 32833	407-489-4119	CAROL NEEDHAM 1034@gmail.com
Beslie Waller		116303 Hamilton Dr.	407-568-4434	Wtr8one@aol.com
Pat Brizel		13432 Kitty Fork Rd Orlando	407 277 2070	pbrizel@gmail.com
Steven Waterton		2155 Martingale Pl. orlando	407-389-2878	SDWATER@ymail.com
Mark Curry		18051 15 <sup>TH</sup> ORLANDO 32820	407 242-2416	MSC56842@Yahoo.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
J. Daly		3016 S TAULKE RD		JDALY108@CFL.RR.COM
James Ruthelford		13672 Cygnus Dr. 32828		sfdoc75@gmail.com
Earl + Judy Regen		Bellmore Ave. 32820		EROGERS30@CFL.RR.COM
Jon Seiler		200 STONE PARTIN RD ORLANDO FL 32833		jseiler712@yahoo.com
Nicole Reyes		900 Russins Rd Tallahassee, FL 32303		nvr@gmail.com
Chris & Nicole Corbin		16217 Morris Dr. Orl 32833		nmcorbin@aol.com
Hector Aponte		1833 Colonial Woods Blvd		APONTE563@GMAIL.COM
Mary Ann Pige		13721 Bivewater Cir 32828		mapigora@gmail.com
Claire Woods		14427 LAKE UNDERHILL 32828		CWOODS84@CFL.RR.COM
Wm. Lucas		17920 Codence St. 32830		MARBL1371@Bellsouth.net
Jamy Hest		15055 Lake Forest		





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Jennifer Kibler		1220 Ocklawaha Dr Orlando, FL 32828	407 257 6700	jlawskibler@gmail.com
Lamen Edye		1220 clay dally way	407-381 0296	
BRYAN RINTON		609 BROOKLYN SV	407 277 8812	
DOUG SPINAR	sierra club Tuttle Coast Group	825 CLIFTONS COURT COCOA, FL 32926	321-636-0701	canoe2@digital.net
Robert Rabin		3203 curvy oaks way Orlando FL 32820	407-951-2120	rrabin@gmail.com
Algie Hoosier		17705 CAVALIER RD Orlando, FL 32833		
Louis Garcia		14214 Thimble Hall way Orlando	407-491-2807	louis.karate@gmail.com
Tyler Swavey				tyler.swavey@gmail.com
Cesar Gonzalez		2019 Darrin Circle	407-810-2866	Cego68@yahoo.com
Julie Wagner		2036 S. Tanner Rd. Orlando FL 32820	407-325-0764	JWDolls@aol.com
KATHY GLOVER		824 Lockwood Dr, 32833	407-945-4514	Kglover6@aol.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Jackie Hawkins		18616 16 <sup>th</sup> Ave	407 923 1189	jackiehawkins1@gmail.com
Stephen Odom		14936 Oldham Dr	321 231 6785	StephenFLARE@aol.com
Patti Harris		14822 Lake Pickett Road	407-568-2834	
RS MUGLER		14366 STAMFORD CIR	407-913-5563	RS@RSmugler.net
Jonathan Lamsel		826 Havenwood Dr	407-971-4724	glwelding@gmail.com
Evelyn Ramirez		15324 Chantah Ct. 32828	407 341-1252	evesan668@aol.com
Russ A. Ramirez		15324 CHANTAH CT	407 341 7276	1810418@GMAIL.COM
Valerie Wendeln		2415 10 <sup>th</sup> St. 32820	321-437-6965	valerie.wendeln@yahoo.com
Karen Holston Lewis		13545 Old Dock Rd		klu827@att.net
JANE KULASIVAN		17757 CRAFT A	407-568-2814	
Louis D. Dobbles		1391 Caudle St. ORL FL 32828	407-963-0360	louis@louisdobbles.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Angel Carrasquillo		1543 LaLigue lane Orlando	407-680-4006	amctrucker@yahoo.com
AL + DON HASTINGS	HIDDEN RIVER	15275 E COLONIAL ORLANDO	407-588-5346	
Tim Peck		21638 Sled Rd Chrystman	407-782-2925	
WILFORD POMEROY		2199 HAMMOKK MOSS DR. ORLANDO orlando	321-804- <sup>4136</sup> <del>4136</del>	WILPOMEROY@GMAIL.COM
Libsette Mazzeo		827 Bridgeway Blvd. 32828	(561) 714-3272	pmazzeo11@hotmail.com
Stella mazzio				
Gio Rivere	office of Rep Smith → HD 49	9869 Bennington chase dr. orlando	407 233 6728	giovanna.Lopez @myfloridahouse.gov
Nancy Swift		14429 Lake Underhill Rd	407 275 9908	Nancyswift@ CFLSR.COM
Alan Ashlock	Prop owner	Chuluota 32766 2727 Lake Rickett Place	407-808-9413	alan@ashlockderivative.com
WAYNE HOVIS	Prop. owner	848 LOCKWOOD DR. 32833	407-568-0123	wayne.hovis@aol.
Evelyn Hovis	Prop. owner	848 LOCKWOOD DR. 32833	407-267-2304	evelyn2875@aol.





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
BARBARA SOLTRY	HOME OWNER	12020 BUNKER CT ORLANDO	407-282-2620	BSOLTRY@YAHOO.COM
BILL WHITE	HOME OWNER			ERWHITE5@COMCAST.NET
Kim Wolfe	Home owner	13525 Lakers CT	407-923-1772	KimWolfe44@gmail.com
CARLOS RIVERA	Home owner	12401 Wilcox Ct	407-742-0726	
Janet Brewer	Home owner	4701 Lazy H Ln Christmas	407-568-2710	Janetmc1900@aol.com
Shirley Sands	Home owner	18126 Stratford Grand St.	407-568-5020	asianchina1@aol.com
Tom Glover	Home owner	832 Lockwood Dr	407 832 3185	TOM@SARCAWORLDUSA.COM
Robyn McNeil	Home Owner	18410 17th Ave		
William Lutz	State Orange County	2618 S. TRAMER RD		WLUTZ@CEL.RR.COM
Carmen Johnson	Home Owner	18637 Bellmore Ave	407 416 3088	CJOHNSON.ITIL@GMAIL.COM
Patty Gordon	Home Owner	5916 Waplescape Way	407-3827348	gordonw@bellsouth.net



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Mark C Smith		16318 Hamilton Dr		
MARSEE PERKINS		13644 SUNFLOWERS CIR, ORLANDO 32828		marsee.perkins@bellsouth.net
Kim Venta		13813 Magnolia Glen circle		kimventa@gmail.com
Cena Fildes		4119 Pebblebrook Ct.		fatmardi@att.net
Buddy Barber		18566 Belvedere Rd.		<sup>4139</sup> Sarah Dietrich@gmail
Sarah Dietrich		526 South State RD B		
Leo Brown		18610 16 <sup>th</sup> AVE		
SEAN STEFFENHAGEN		2227 Lk Pickett Rd		Shawn.Steffenhagen@aol.net
ALEIDA VALERON		2811 N 6 <sup>TH</sup> ST		
Priscilla Herrick		FAIRWAYS 14205 E. COLONIAL DR		pherrick@hometownamerica.com
Charlotte Gabe		1108 Rock Harbor Ave-		





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Kevin & Carmen Clark		917 N. County Road 13	407-758-6305 407-921-1362	KCSJ81@AOL.COM
Steve King		15562 Hamlin Blossom Ave.	407-947-4660	sking@realvest.com
Jason & Judy Lavoie		1119 Sunflower Trail	407-683-7053 407-375-6551	JLavoie1973@gmail.com
DONNA PATRICK		243 STORY PARTIN RD	407-590-2736	
Joe Walter		1317 Bonneau Blvd. Christmas		jwalter@ufh.edu
David Sigel		928 Burns Vets Ave	407-701-1915	cfenprol@hamilton.com
TINA M. AOTHIER		16302 HAMILTON DR ORLANDO	407-777-8262	
Richard J. Andriele		1808 CORNERVIEW LN	407-968-1989	
Chris Chan		20335 MACAW PKWY ORLANDO, FL 32833	407-702-3822	
Michael Perkins		13644 Sunshower <sup>ORL</sup> Cir 32828	407-282-6746	mperkins1865@gmail.com
Brooke Rashed		526 South county Rd 13 <sup>32833</sup>	407-984-9016	Brooke.babe02@gmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Dawn Gray	Homeowner	13117 Odyssey Lake way	407-249-1498	Sgray63439@aol.com
JOSE AGUILO	Home owner	1043 Landview CT	321-297-9446	MISTER. ELIOT@HOTMAIL.COM
Deen Goular	Home owner	665 Lakeham Cir	407-325-7804	Deena@deanandcompany.com
Alan Penman	Homeowner	1324 Lochbreeze Way 32828	407-473-5066	thepenmanator@gmail.com
Ralph Keith	Home Owner	14655 Lehigh ST ORL. FL 32826	321-460-6747	REGINA BFM@aol.com
Helmut Klyusk		102 Crom Oaks way	303-405-7521	Wayrsk@gmail.com
Loraine Schneider	Home owner	1788 Kingsmill	407-382-1031	Lschneider7@att.net
Sarah Leodum	Homeowner	12412 Wilcox Ct		
Zee Anderson				
Julie Trott	Homeowner			
Dale Mudgett	Home owner	16508 Hamilton Dr	321-438-1879	Dvmudgett@gmail.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Mark & Lisa Hall		856 Lockwood Dr	407-765-6436	fourwheelin14@yahoo.com
TOM O'NEIL		1144 TAYLOR CREEK RD	407 230 4729	TOM.O'NEIL@YAHOO.COM
Mohammed Sabhan		11618 Rouse Run circle	407 982 1535	maSabhan@gmail.com
LOUIS CAPUTO		732 Waterland Ct.	407-384-6999	lucy.Caputo732@comcast.net
BRENDA HOYER		13507 Ivy Brooke Ln	407-208-0165	edwin_hoyer@yahoo.com
Maria Borelli		750 Forestgreen Ct.	407 730 9271	mcb1968@hotmail.com
Janet Tressle		16426 Hamilton Dr	407 568 6201	—
D. Kinnaman		14118 Black Lake Pond Dr		
Hal & Cheryl Coats		865 Lockwood dr	321-285-3116	
SANDY MATTHEWS		2736 S. Tanner Pl. orl.	407-408-7718	sandymatthews2736@hotmail.com
Ramon Poli		510 Cor Dr	407-788-4522	Rg.Poli@aol.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
KATHLEEN WARD		13975 MAGNOLIA GLEN CIR 32828	(407) 883-5001	KWARD49@CFL.RR.COM
Danny Wall		7151 Lake Drive Dr	407 878-9147	
Steven Perham		14875 Faberse Drive 32828	386-986-8644	sperhamucf@gmail.com
Jeff LaPecore		18456 16 <sup>TH</sup> AV	321-804-7154	
Lynden Johnson		14513 Daring Ave	321 297 1141	—
Frank & Audrey DeSanto		12928 Maribou Cir		afdesanto@yahoo.com
Nick Guerra		3332 LUKAS Cove orlando FL	321-377-5057	nguerre4444@qmail.com
Steve Roesch	Jani-King	1801 Sandy Creek Lane, 32826	407-275-2313	
Shannon Jones	Jani-King	1801, Sandy Creek Lane, 32826	407-275-2313	
Matt Wilson		800 Highland Ave #200 Orlando 32803	407-297-1600	
Penny Beckie		Xmas FL		





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

Alternatives Public Workshop  
Thursday, June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School  
1700 Chuluota Road  
Orlando, Florida 32820

## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Mary Keim	—	4726 S Ferncreek, 32806	407-851-5416	r55mhk@gmail.com
Debra Dean		3157 9th St 32820	407-848-7046	blondharmofun@aol.com
Sharon Rubash		18312 16th Ave orlando 32832	407-486-8505	whyilr@yahoo.com
Dennis Horvath		726 DIVINE CIRCLE ORLANDO 32828	407-443-7909	DEKUS@ BELLSOUTH.NET
Tracy Fagan		13675 Sunshower Circle Orlando, 32828	321-297-2282	tracyfagan2@yahoo.com
Brian Nowell		81C Jade Forest Ave Orlando, FL 32828	407-923-3895	brian@bawn.com
Pat Brize		13432 Kitty Fork Rd orland	407-277-2070	
Sandra Driscoll		2327 Ardor Ave, Orlando	321-804-4150	sdriscoll3913@gmail.com
Mike Dilling		555 CR-13	407-568-8532	
Pat Aguiar		14430 Spycress	407-325-2004	DHAKALIA@yahoo.com
Deborah Denton		16625 Beale Rd	407-760-1688	ddenton@cfl.rr.com



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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Fenna Owens		1302 Sherman St	407-797-6083	FENNA.BOWENS@GMAIL.COM
Dale Tucker		2431 4th st	407 568 7392	
Jan Groves		Sunflower Trail	568 6426	JanGroves@aol.com
Russell Lowers		1100 Belora ave MI	321 759 6022	russelllowers@gmail.com
Harold Engold	Waterford Lakes Bd. of Directors	700 Cedarwood Ct	407-491-5233	LTHEJHPN@AOL.COM
Edric De Armas		1133 LANDALE CT	407-281-7477	EDRIC.DEARMAS@GMAIL.COM
Chris Wilson	Marathon Graders, Inc.	976 Laka Baldon Lake Suite 101	407 658 8566	cwilson@engfin.com
Joseph Brennan		13507 Lakers CT	407 259 8604	joe.brennan@yahoo.com
Daisy Morales	Elected official-	2832 MacMurray Dr	321 438 6315	Supervisor Daisy Morales @ gmail.com
Joe Goodman	Bethel Citizens Advisory Council	on file	on file	on file
John Tropes		P.O. Box 606 Christmas FL 32709	407 443 3123	Johntropes@yahoo.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
JUDY MICHALSKI	Fairway Club Country	14335 Pebble Beach Blvd 32826	412 853 1459	jmitchy184@aol.com
Ed Priest	Big Elm	1681 Spruce Dr	321-239-4504	Epriest367@aol.com
Paul + Carolyn SKOK	Waterford Lakes	620 Forestgreen CT	770-893-1065	Carolynf12@aol.com
José + Jose Carrillo	Hickory Cove	2531 Hickory Oak Blvd	(407) 362-5430	mesgonzalezjr@msn.com
Becky + Herm Nagel	Christmas Estates	2425 Hobby Horse Ln	407 568-8980	BHNagel@earthlink.net
RICHARD VAN DYKE	WATERFORD LAKES	614 WHITE RIVER DR	407 497 7208	RVANDYKE12@gmail.com
ROBERT BELK	WATERFORD LAKES	543 LAKEHAVEN CIR	407 734 5385	SUNUKLST3@GMAIL.COM
Jim Coffey	Rural Settlement Alliance	208 Welton Ave. 32833	407 921-2535	JGCOFFEY@BellSouth.net
Kenneth Fish		772 Lockwood Dr.	407 376 2020	orlandoFish@aol.com
Kenneth Pinson		14501 Josair Dr. ORL. 32826	407 286-2636	CONDICE@AOL.COM
Robert Weir	Fairway S.C.	14606 Spyglass St		





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Ben Watkins		23 Seminde Trail	407 568-4485	
Margaret Watkins		25 Cochran Trail Orlando	407 953-3915	
GREG STOUTON		818 JADESTONE CIRCLE, ORLANDO	407.963.0161	GREG.STOUTON@ERH.ORG
RUSS SKINNER		606 HAMILTON DR ORL.	407-568-2924	
Patty Flowers		17223 Wilson Rd	407 807 9588	
Jorge GIRATA		13543 LAKERS COURT	407-394-8871	
Katrin Breault		902 Jade Forest Ave	407 408 0723 407 382 1323	Katrin Breault
Tammie Loveland		848 Jadestone Circle		
Katherine Cary		14511 Lake Underhill Rd	321-271-7670	Katherine.a.cary@gmail.com
Russell Beckett		13902 Magnolia Glen Cir	407 747 6273	russell.beckett@gmail.com
MARGARET Metzger		723 Ave Adlow Ln	407-282-4565	margaretmetzger@gmail.com



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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Al & Maria Hritz		16216 Old Cheney Hwy	321-285-3220	Mhritz28221@aol.com
Teri Alligood				Teri166@Bellsouth.net
William Brinson		15436 Galbi Dr	321-388-3388	tjbrinson@yahoo.com
Larry Filson		2950 Cuning Oaks Way		
John O'Wick		12703 Raftermen Ct	321-236-2088	jo.kestchick@aol
George P. Dietrich		400 Dietrich RD		400 Dietrich RD
R. Keith Stubbs		3006 San Leo Dr.	407-4626918	Stubbs08@bellsouth.net
Stephen Nordlinger		16334 Hamilton Dr.	(321) 263-7288	FloridaRiverKeeper@gmail.com
Rick Laverie		223 Tracy St	407-484-9750	Laverie@bellsouth.net
Steven Thompson	Rep Rene "Coach P" Plasencia Office	400 South Street #1C Titusville, FL 32780	(321) 383-5151	Steven.Thompson@myfloridahouse.gov
Mary Rose Myler		932 O. County Rd B Orlando		





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
William G Garrison		13804, Belles Ln	407-275-9524	
DAVID BOTTOMER	SIERRA CF	305 WOODBURY PINE	407-719-9788	MICHAELMOCHA180@YAHOO.COM
Ritchie Punker		1466 Punker Lane Palmdale	407-273-6879	PUNKERFARM10@YAHOO.COM
RANDY SNYDER	ORANGE AUDUBON	4726 S. FERN CREEK		RSNYDER11@GMAIL.COM
RALPH SINGLETON	C.M.C.	529 VERSAILLES MAITLAND FL	407-644-9811	C.M.C. 529@GMAIL.COM
LINDA KUCHARSKI	FAIRWAYS	1907 AUGUSTA RD. ORLANDO	618-303-0261	l.kucharski@yahoo.
Joe Shelton	—	1712 Blythe Way POND	860-593-0240 407-482-2227	turntumsh@gmail.com
Jim Williams		2768-S. TAUNTON RD	407-325-1978	Jim A BUNTON HOMES.COM
James Benbow		1544 Barkwood Ln	407-558-6839	JAMESBENBOW18@gmail.com
Isabel Lugo		13519 Lakers Ct.	321-251-6735	isabellugaro@yahoo.com
Risoberto Cintrom		11	11	risoberto.cintrom@gmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Judy Nicewonger		12419 Wilcox Ct 32828	407-960-9150	
Judy Walker		19305 Lake Pickett Rd	407-588-2129	
Gene Walker		"	"	
Jessica White		19305 Lake Pickett Rd	↗	
Steven Hornik		13627 Sunshower Cir	407-758-4656	
JOSE MERANDA		13835 SUNSHOWER CIRCLE	321-408-4986	
Terry Sible		16011 Old Cheney Hwy 32833	407 247 0586	
Vicki Weaver		514 Hamilton Dr.	407 462 7928	
Nikki Baird		525 S. Conway Rd.		
Fran Archibald		14606 Spyglass St.	407 381 5835	
Matthew Gratale		13813 Magnolia Glen Circle	551 486 7462	



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
TERRY WILLIAMS		508 SHEPARD RD	407 568 2020	
LINDA WILLIAMS		" " "	"	
Linda Staughton		818 Jadestone Cir. 32828	407 963 8422	linda.staughton@gmail.com
Charlene Bradford		1624 N 6 <sup>th</sup> St 32820	407-255-0118	
Nancy Masor		439 Wellon Ave.	407-568-0082	nannyjag@yahoo.com
William Gorlitz		16329 Sunflower Trl	321-438-6406	wgorlitzbiz@gmail.com
Gina Gorlitz		"	"	"
Lynn HANAUER		903 Jade Forest Ave <sup>32828</sup>	407-306-830	smelly42@aol.com
Dave Skore		12612 Huckleberry Finn Dr, Osl, FL	407-282-2054	
Barry Bode		13853 Sunshowers Cir. <sup>ORL FL</sup>	321-662-4823	blbode1@yahoo.com
Dan Radjeski		13853 Sunshowers Cir <sup>32828</sup>	321-662-4830	d.radjeski@gmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
James O'Brien Loyce O'Brien		18860 Hewlett Rd	407-722-1389	LoyceOBrien@yahoo.com
Robert Huck		15944 Old Chewey Hwy	407-431-1330	huck.robert@yahoo.com
Patricia Fischer		18550 Belvedere Rd	407-963-8059	patricia.fischer@hotmail.com
Amber Fischer		"	"	"
Janet Vander Weide		1049 Drift Creek Cove	(407) 800 9797	janetannvanderweide@gmail.com
Carol Savchuk		4556 Saddleworth Circle	(407) 312-1023	Carol@CarolSavchuk.com
frances & mark Schroeckenthaler		1126 Carrington dr.	608 3583063	Schroeck2@me.com
Laura Kelly	OCPS	6801 Maple Way	407-317-3700	Laura.Kelly2@ocps.net
Allen Brown		18610 16th Avenue E	407 879-3807	AllenBrown488@gmail.com
Daniel Steele		16394 Hamilton Dr.	407-493-8301	danielsteele1991@gmail.com
Charity Travis		16254 Cornerlake Dr.	606 4253314	Charity.m.travis@charitytravis@gmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
KAY WEST		1705 10TH ST 32820	407 568-4174	KLWEST568@OUTLOOK.COM
VICTOR CALCAÑO		1161 CHERRY VALLEY WAY	407-4593796	viccalcano@yahoo.com
Sis V. CALCAÑO		1161 CHERRY VALLEY WAY	407-4637464	LOPEZMATOS729@yahoo.com
Brian May Jr		932 NORIS Orlando	407-880 2888	
Marcy Frederico		14237 Lake underhill rd	407-923-7947	jerseygm07067@yahoo.com
Ronald Hernandez		16062 E. Colonial Dr		
Jimmy McKnight		2518 S. TANNER RD. ORL. 32820	407-319-3750	jjeppmcknight@gmail.com
Mark Kathy Nosal		2123 Osprey Woods Cir		Kathynosal@gmail.com
Donald Hastings	HIDDEN RIVER RV PARK	15295 E. COLONIAL DR	407 568 5346	HIDDEN RIVER PARK@AOL.COM
CARL GIBLIN		13807 MAGNOLIA GLEN CIR	407 489 0954	carlgib@att.net
TOM BRUCE		570 Hamilton Dr	407-568-4787	



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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Donna Overton	Homeowner	13806 Sunshowers Circle	407-538-5239	doverton@cfl.rr.com
Gerard Bileau	Homeowner	1700 Cedar Ridge Dr.	407-737-7202	agb.bileau@aol.com
Ronald E. Lepper	Homeowner	14837 Spyglass St.	407-249-0875	Toyo221E@aol.com
Frank Cohen	Renter	15425 Gulf St	407-802-2303	UCPman@Juno.com
Suzanne Oesterling	Homeowner	1491 S. Tanner Rd	407-977-7550	joesterling@cfl.rr.com
John H. Oesterling Jr	Homeowner	1491 S. Tanner Rd	407 977-7550	joesterling@cfl.rr.com
MIKE VIERA	" "	13632 Sunshowers Cir	407-383-6824	30061emm@cf2.rr.com
RP McDerm	"	16529 Brook rd		
Norman Lapoint	"	13638 Sunshowers Cir.	407-737-8815	nlapoint@cfl.rr.com
Cathy Lapoint	"	" "	407-737-8815	"
Mario Helena Ivanis	Fairways Mobile	14231 Spyglass St.	407 237 0096	





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Roger Stufflebeam	-	18927 5TH Ave Orlando	321 804 4461	
Jeanie Stufflebeam		" " "	"	
Jackie Hill		307 Wellon Ave	—	<del>JD</del> jwag4321@gmail.com
Roddy McDowell		PO Box 878 Christmas Fl		shariray@netzero.com
Donna Leckman		12412 Wiley Ct. 32828	407 497 3108	dmleckman@bellsouth.net
KATHLEEN STIRN		14260 Forest Oak Dr	407-704-5512	KSTIRN@CFL.RR.COM
Shirley + Tom Rodowsky		527 Rockwood Ln. Orlando	407-859-7487	TRodowsky@cfl.rr.com
Benny Crawford		3903 Lk Drandy		bcrawdad@bellsouth.net
BOB HURLEY		13525 Ivy Brooke Ln	407-203-5300	HANNIHSBOB@GMAIL.COM
Don Delph	TEGOLO	630 Lockwood Dr	407 484 7871	
Richard Barrington		110 Hancock Lone Palm Road		





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Zach Kasky	Resident	733 Waterland Ct. Orlando, FL 32828	518-858-9890	zkasky@gmail.com
Jon H Bowman	RESIDENT	2722 10TH ST ORLANDO FL 32820	407-963-5352	CORVETTE8257@yahoo.com
ARTURO J. RELEZ	Traffic & Mobility Consultants	3101 Magnolia Blvd, Suite 265 Orlando, FL 32803	407-531-5332	AR@TRAFFICMOBILITY.COM
Amy Abbatiello	resident	4906 Blackburn Ct Orlando 32826	407-243-9156	
Donnie Johnson	Farway Resident	ORLANDO 32826 14103 Post Tree Ct	407-595-3080	
John C. ...	Bridgewater HOA	860 Cherry Valley Way	407-415-4802	Mac933@yahoo.com
Rodger B. Dorn	Resident	18390 17th AL. OR FL 32833	407-716-5551	kgihelp@att.net
Phil Matgamy	"	732 Forest Green Cr	407 808 2163	
Virginia Johnson	Resident	14413 Spyglass St		
Clelia Wodicka	Resident	1232 Chesney Valley		
Cameron Gordon	Mosquito Control enterprises	707 Adirondack Ave Orlando FL 32809	407 445 8181	CameronGordon@gmail.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Bill Sutton		2837 10 <sup>TH</sup> Street	407 443-1162	Billstrailerrepair@gmail.com
Barbara Sutton		2837 10 <sup>TH</sup> Street	407 579 7729	
Roy + SANDIE TOLLE		14618 SPYGLASS ST	330-818-5787	0110STATE@CFL-RR.COM
WM. Acevedo		764 Lockwood Dr.	407-907-0956	wmace258@yahoo.com
Jayne Nelson + Doug Nelson		13744 Sunshower CR.	407 275 2975	Nelson.Ragnar@HotMail
Dan W. Buehly		15674 LAKESHORE ST	407-257-5838	
Ubbi Connor		14433 Hagelton Ct	814 528 7177	VictoriaConnor@roadrunner.com
Yolanda Trizarry		<del>51600</del> 15600 KALINA Ct	540-520-5151	yirizarryfriends@gmail.com
Tsmael Trizarry		"	"	izzarray@gmail.com
Robert Gondak		1474 Canale ST	407-568-5410	
Jeannette Sieland		15425 Galbi Dr.	407-802-2303	mrsct721@gmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
KEN ZOOK	WATERFORD LAKES	453 MARK TWAIN BLVD.	407-380-3803	Ken.Zook@mywaterfordlakes.org
Edward Ingerman	14539 E. Colonial			
BRYAN YOUNG		1531 LALIQUE LN.	407-674-8087	BYLGATOR@gmail.com
PATRICIA LEWIS	CHRISTMAS ESTATES	21603 JINGLE RD	321-303-6158	lewis5088@bellsouth.net
LARRY LEWIS				Pat @ GoPADRICK.com
PAT PADRICK	REMAX	SR 50	321-431-0004	<del>Pat @ Pat Padrick.com</del>
Brenda Bayel	REMAX	SR 50	321-863-3408	brendabayel@gmail.com
Annelma Reynolds		Cunning Oaks Way	407-568-1585	
DARREN SMITH		1126 LANDALE CT	407-928-6255	darren.s@mindspring.com
Kyle Peterson	—	OVIEDO, FL	321-229-3801	Kdpalp@yahoo.com
Dave Olson		18422 16TH AVE.	321-278-8263	





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Larry Mohrman		14678 Longview St	407-730-2581	
Mana Bellmire	JADE Forest	831 Jadestone Cir	321 946 5615	
Rodney Billings	JADE Forest	831 JADESTONE CIR.	321 945 5615	RB.Billings@gmail.com
Nancy Kamm	Waterford Place	28 Battler St.	(407) 381-8038	
John Kamm	Waterford Place	28 Battler St.	(407) 381-8038	
Linda M. Hopgood		14150 Speidel Court, Orlando FL 32826	401-640-9527	
ELVAN NORMAN		1649 Sherman St	(407) 218-9476	
Nadeya Hance	WATER TRIALS	Algonquin Loop	321-274-5209	
TARA HANCE	WATER Trails	Bella Coda Drive	407-346-3859	
Paschal Aquino	Waterford	1114 Landale Ct.	407-234-6089	paschal111@yahoo.com
Sharon Hertz		923 Gung Rd	407 5686997	



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
ANNIE TORRES	HOME OWNER	13509 MADISON DOCK RD <sup>32828</sup>		
JAMES LONG		13751 Sunshowers		
Jim Long		13751 Sunshowers		
PAT Liney	Home Owner	719 ForestGreen Ct		
ED LINEY	"	719 FORESTGREEN CT		
JAMES Glover	Home Owner	15852 OLD cheyney		
RO ~ Logan	"	16140 Old cheyney		
JERI O'BARR	"	1705 FRICKE Ave		
Danny Courtney Jr		18252 E. Colonial dr		
Owen & Suzanne Lewis		15532 Gelbi Drive, Orl. FL 32828		
Tom Michele Guimond		13719 Sunshowers Cir		





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Charlotte MARR		2987 10th St Rd 7/32820		
Judy Craig		18751 Northrop St 32833	407 568-6055	
Bob Craig		18751 Northrop St 32833	407-568-6055	
Jose Gutierrez		1658 Candela Ct	407-368 8455	
Jordan Coats		16157 Morris Dr		
Stacy Ewing		16157 Morris Dr	407-421-6616	
Steve Darlington		436 Wellon Ave	407-289-6699	
Judy Chubb		606 Lockwood Dr	407-528-3732	math lady vc@gmail.com
Mary B. B. B.		730 Hamlet's Dr	407 568-4787	
Cathy + Elsie White		14326 Hard Time Ct	407-953-9166	
Lissette Cosme		14102 Waterford Creek	407-953-3676	lissette.cosme@gmail.com





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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Hugh Fred Dietrich	Dietrich Brothers Inc	10 Seminole Trail	407-470-4638	
<del>Sue Dietrich</del>	<del>Dietrich Brothers</del>	<del>258 S. ST Rd #13</del>	<del>407-421-3358</del>	
Jean Berry		842 Mammee St.	407-985-2544	
Michael Grasso		842 Mammee St.	407-283-8608	
Dianna Coats		1505 S. Tanner Rd	321-804-4056	
Jeff Coats		"	"	
Michelle Barnett		15100 Old Cheney Hwy	407-683-3855	
Chissy Albarrado		10155 Parkview Lake Ave Orlando, FL 32817		
Martha Diaz		11972 Lady Victoria Blvd	407-737-8534	
William Pons	Save Bithlo	18501 15th Ave Bithlo	407-568-6112	
LUIS DIAZ		320 FAULING LEAF WAY	321-277-6162	



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

Alternatives Public Workshop  
Thursday, June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School  
1700 Chuluota Road  
Orlando, Florida 32820

## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Ted Johnson		100 S 5th Street	321-217-4400	tedsAuctionbarn@yahoo.com
William Cagle		13408 KittyFork Road 32828	407-770-7137	deb.cagle.de@gmail
BARBARA HIGGINS		13567 LAKERS CT 32828	407-286-7934	barbhiggins1207@gmail.com
Kathy Calamis		13639 Sunshowers Circle 32828	407-601-5316	Kathy.Calamis@gmail.com
Wendy Nowell		816 Jade Forest Ave 32820	407-520-0073	wendy@bnwn.com
Art Freiburger		531 Lakehaven Cr.	407-207-6245	artofmn@aol.com
Beverly Russell		4517 LAZY H. LANE 32709	407-721-6477	berdruss@aol.com
Gene Thrasher		17146 CYPRESS PRESERVE PKY 32820		JMTHRASH@aol.com
Marie Delaney		14578 Spyglass St	321-230-3975	mrapasso@yahoo.com
Betsy Gamson		844 Golden Pond Ct		betsygamson@bellsouth.net
Robert Fine		17223 WILSON RD		





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
J. Grunfelder		2142 Mallard Spruce Tr		mikegr@yaho.com
W. Gordon		596 Waterscape Way Orl.		gordonw@bellsouth.net
Bob & Sherri Carrigan		2636 Albion Ave 32833		CarriganR@aol.com
marisa west		16438 Hamilton Drive		marisa1079@hotmail.com
QUN HUO		13507 Lakers Court,		treenhue@yahoo.com
Kyle Young		18536 Beleuder		Kyle.young4@icloud.com
Canachyn Lamb		18136 Cadence St. 32820		AlohaLamb@hotmail.com
John Marsh		821 Bridgely Blvd 32824		jmarsh1225@comcast.net
Julio Lizarey		1628 ALCONKIN Loop		J.LIZAREY@pttdo.com
Rich WIGHTMAN		3344 LUKASEV 32820		RichWSR@aol.com
CARLOS RIVERO		1625 S. CHICKASAW TR 32825		carlos@ccdoortodo.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Randi Catol		16394 Hamilton dr	321 663 1126	randiCatol@yahoo.com
Georgi Lavoie		223 TRACY St		
Ernesta Palmer		2710 N. 6TH st	407-600-6292	
KENNETH HAMMUS		1961 CORNER SEVEN DE	407 437-7342	khamjam@hotmail.com
Tamara Voorhees		21242 Reindeer Rd.	407-568-3911	tlv007@bellsouth.net
Sonia Reyker		13224 Old Dock Rd	407-306-9162	slprylker@gmail.com
Thomas J. Gubli		1108 ROCK HARBOR RD	321 904 5663	
Rosario Oliva		18801 E. colonial dr.	407-518-6000	
Rachel Banko		13829 Sunshower Circle	405-812-1024	rachel.banko@att.net
Karen Wallen		16050 Old Cheney Hwy	407-283-4433	kwallen@yahoo
Kellie Ann Wallen			↓	



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
CHRISTOPHER C	N/A	321 GREEN REED Rd	(386) 668-1026	xp15321@yahoo.com
BARBARA HAWKINS		DEBARY FL 32713 2703 Glyn St ORL 32801	321.276.6212	glynstmem@yahoo.com
BRIAN GIESSUEBEL	CHC	140 S. Main St Winter Garden 34787	407 468-9504	b.gieessuebel@chcfl.org
Frasine Stockwell		14306 LK Underhill Rd	407-468-3629	
Andrew Stockwell		Orlando 32828	407-982 0689	
LeRoy Connor		Orlando 32826	407-282-6434	
Ron Priest				
Lois Mueller Priest				
APRIL So McATEE		15520 OLD CHENEY HWY. 32828	—	—
Stephen Cullen	N/A	327 RANKS AVE.	407 375 3094	cullenstephen@yahoo.com
EDWARD WARD		13975 MAGNOLIA GLEN CIR 32828	407 666 7179	EDWARDWARD@YAHOO.COM





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Danny E. Courtney	Pittsford	19637 Lake Pickett Rd	407-568-4168	
Joe William Wilson	WATERFORD LKS	12526 BOGGESS WAY	407 719 2447	
JAMES CARY	WFOR LAKES (JADE FOREST)	14571 LK UNDERHILL RD	561 339 1265	
JENNIFER TULENKO	Home Owner	18636 16 <sup>th</sup> AVE ORL FL 32833	407-719-7690	JTULENKO2010@GMAIL.COM
Lauren Harju	Home owner	13500 Ivy Brooke Ln ORL 32828	407 492 0729	lauren.harju@gmail.com
Bob & Judy Craig	"	18751 - NORTON RD, ORL 32833	407 538-3262	
LORRAINE DUDLEY	"	3024 SAN LEO DR, 32820	719-660-7949	LORRAINEDUDLEY@HOTMAIL.COM
CJ Clontz		1418 Blackwater Pond Dr. 32828	407-697-1539	CJLifeguard@hotmail.com
Jim Callahan		204 E South St #3052 32801	407 - 234-3744	Jim.Callahan.Orlando@gmail.com
JEANNIE & ARMANDO PEREZ	HOME OWNER	922 GUY ROAD ORLANDO, FL 32828	321-228-2874	SPEREZ2011@AOL.COM
Jim WITMER	WATERFORD LKS	749 CAVE HOLLOW	321 287 5541	





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
DON WATSON		18428 17 <sup>th</sup> AVE ORL	407-340-2722	gaelybell@gmail
GALE WATSON		" "	407-340-9234	" "
Breck Johnson		Hwy 50	352-406-2735	Johnsonbreck@yahoo
SUSAN GREEN		Box 780675 ORL, FL 32878	-	-
ROGER GREEN		Box 780675 ORL FL 32878	-	
Bob Sanders		2816 S. Shire Ave. Orlando, FL 32806	407-459-5617	NA
Michael Ingerman		14539 E. Colonial Dr		
JOAN YOUNG		1531 LALIQUE LANE 32828	407-674-8087	
BOB COOTZ		21344 Reindeer Rd	407-568-2321	COFFEE 4175 @ BELL SOUTH.NET
BEAWAY BOADJ		3131 Heartleaf Rd	407-949-4283	brandylr123@yahoo.com
Jacquelyn Perham		14875 Faberge Drive 32828	305-799-0715	jacquelynperham@gmail.com



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
G.L. Secla		14666 Congress, st <sup>Orlando FL</sup> 32826		Ptricol13@yahoo.com
Donna Dale		1745 Inverary		rgddld@bellsouth.net
STEPHEN HOPGOOD		14152 SPEIDEL CT.		SHOPGOOD702@GMAIL.COM
Wayne Morrell		13561 Lakes Court Orlando	32828	frank/mcc@gmail.com
ZACH VLCEK		14505 LAKE UNDERHILL RD ORLANDO 32828		ZVLCEK1800@gmail.com
Walter Aughenbaugh		13509 Madison Dash Rd Orlando, FL		
Mariella Barrington		1410 Hancock Lone Palm Orlando, FL 32828		barrington.richard@gmail.com
Eric Cress		21117 Ft. Christmas Rd, 32709		
Kathleen Logan		16140 Old Cheney Hwy, 32833		
Georgette Gillen		18783 Lansing ST 32833	407 247 0384	cavegirl21@gmail.com
Rick & Cindy Itaxner		2301 10 <sup>th</sup>		rh2524@yahoo.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
HARRY Thomsen		1830 Augusta Rd. <sup>32826</sup> Orlando	321-276-2150	
Royce Walker		2981 10th Street <sup>Orlando</sup> 32826	407 568 6900	
Mindy Heath		3674 Seagrove Dr <sup>WP</sup> FL 32792		mheath3@efl.or.com
Alice Loges		13020 Odyssey Lake Way	—	—
Tom Suozzo		815 Bridgeway Blvd	407 958 3902	
Marcus Thomson		14734 Lady Victoria Blvd		
DON LINDSAY		14424 Windigo Lane	321-	
David Washington	Meyers and Washington	1105 East Concord <sup>32803</sup>		dew@meyersandwashington.com
Jane Manry		17623 Woodfield Hill Ct		moermain@hotmed.com
JOANNA Ramos		13603 Sunshower Cir.		jboCCA74@AOL.com
Diane Dolan		14413 Spyglass St.	—	msdd49@hotmail.com





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Monie Buchanan		2736 S TANNER RD		keepersplace@live.com
Robert Spiteri		13731 Sunshowers cr <sup>ORL</sup> FL 32828	407-446-4826	orlandorob01@yahoo.com
Jim & Joan Wilson		770 Sun-House Tric 32828	407-579-2484	
Antoinette & Charles Caudle		1267 Secretariat Pl. 32166	407-592-9089	owlandcat@hotmail.com
Francis Guilfoyle		1618 Sherman St. 32828	407-568-5483	sirfrancisir@hotmail.com
Richard Wright		863 Hamilton Dr 32833		
Kathrin C. Vicker		847 Hamilton Dr. 32833		
William Rabig		3107 Corvus Oaks way	407-565-1834	
Ben Stanley		15120 Old Cheney Hwy	407 427-0650	Bstanley550@yahoo.com
Alaina Marshall		9849 Lancelwood St 32817	4079629919	
Dorothy Springs		16524 HAMILTON 32833	407 4977951	



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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Suzanne Sue		1115 NW Christmas Rd		david.sale@bellsouth.net
David Sale		1115 NW Christmas Rd		david.sale@bellsouth.net
Vickie Prewett		18425 22nd Ave	407-376-4697	vprewett@bellsouth.net
Laura Migliacci		1390 Carle St Orlando FL 32828	407-625-5059	Laura.mig@2@yahoo.com
Freda Lutz		16658 Hamilton Dr		
Robney Thomas		32820 1943 CASCADES COVE DR		CGRTHOMAS@GMAIL.COM
Colna Pa'Damas		708 Belvedere Rd	407-568-5535	—
Wilson				
Maria Bolton-Touber		524 Meridale Ave Orlando, FL 32803	407 325 4495	Paesan123@aol.com
Henry Tamura		1408 Lonecreek Dr. Orlando FL 32828	407 227 5394	henrytamura@hotmail.com
Nicole Jeremiah		16707 Corner Lake Dr. Orl, FL 32820	407-761-2223	nicolebutler1010@gmail.com





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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Ronald + Eddie		12950. E. Colonial Drive	321-438-6188	triplegem88@gmail.com
K Charles		15088 LK Pickett RD	407-5683788	
Maryluz Ag-delo		1543 Laliqre Ln orlando	(407)437-0777	kettychris@yahoo.com
Chela		1043 Duff Creek Cir.	407-421-5653	
J. Westrich		2042 Bristol GrandeWay		
Helen Wyr		18914 NASH ST		
Debra Piskin		13807 Magnolia Glen		
Rick Baird		5420 Tribuna Dr. circle Orl. Fl 32812	407-8277-3357	rbaird4@att.net
Dave Freal		15855 Old Cheney Hwy	321-947-1222	dfreal@cflls.com
Karen Freal		15855 Old Cheney Hwy	407-259-8184	KFreal71@gmail.com





**Alternatives Public Workshop**  
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Corner Lake Middle School  
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# GENERAL PUBLIC SIGN-IN SHEET

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**Alternatives Public Workshop**  
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 Orlando, Florida 32820

# GENERAL PUBLIC SIGN-IN SHEET

[illegible]



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[illegible]





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NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
James Erb	ETHCAR CRUSHING	106 Gloucester STR	407-963-3978	ERBJAMES32@gmail.com
MARK Higgs		716 N 6th St,	407 465-609	
CAROLYN Bourke		14300 ABINGTON HEIGHTS DR <sup>ORL</sup> 32828	678-3782495	carolyn.bourke@att.net
Sarah Kelly		15912 Old Cheney Hwy		
Mohamad			407-421-2269	att
Bernard Lee		915 Geranium Avenue		



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## GENERAL PUBLIC SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
JOHN LOGGIE		1380 CAWLE ST 32828	407-568-5804	JOHNLOGGIE@AOL.COM
YALEXIA RODRIGUEZ		13631 Brigham Young Dr	321 424 4893	Yalexia.ramirez284@gmail
JUSTIN JUNOD		1915 Corner Cross Ct, 32820	407 940 0755	jjunod@yahoo.com
GARY EMMENGER		18063 1 <sup>ST</sup> Ave	407 568-3567	GARYE4@GMAIL.COM
Robbie R Carlisle		18919 Vermont Street	407-568-2938	
Lynn S Carlisle		18919 Vermont Street	407-568-2938	
RICHARD BAXTER		6715 Whispering Pines Rd	407-539-7638	RB32714@ycw.com
CRAIG DONLAP		16680 Lk. Pickett Rd	407 493-9393	jcd1942@hotmail.com
Pam Dyer		404 Baxter Rd	423 -381-5252	pamdyer52@yahoo.com



**Alternatives Public Workshop**  
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 Orlando, Florida 32820

## MEDIA/ELECTED OFFICIALS SIGN-IN SHEET

NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
Zoe Colon	Commissioner Bonilla	201 S Rosalind Ave. Orlando	407-836-7350	Zoe.Colon@ocfl.net
Cheryl Moore	U.S. Congress	17012 OAK GROVE Hill Ct	407-694-6614	Cheryl.Moore@mail.house.gov
Ja Thompson	Orange County	201 S Rosalind	—	—
Ashton Holland *	Orange County	201 S Rosalind	407-836-7350	ashton.holland@ocfl.net
Darren Vierday	US Rep Darren Soto	804 Brynn St. Kissimmee FL 34741	( <del>407</del> ) (202) 600-0843	darren.vierday@mail.house.gov
Ali Kurnaz	State Senator Linda Stenut	1726 S Bumby Ave Orlando, FL 32806	407-893-2422	kurnaz.ali@flsenate.gov





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## STAFF/CONSULTANTS SIGN-IN SHEET

INITIALS	NAME	ORGANIZATION	ADDRESS	PHONE NUMBER	EMAIL
	Mary Gairnor	MRCG	1800 Old Cutler Rd Suite 459 Palmetto Bay 33157	305 254-8548	mgairnor@mrgmiami.com
	Valerie Tuta	MRCG	" "	"	vtutor@mrgmiami.com
	Eunice Sanders	MRCG	" "	"	esanders@mrgmiami.com
	Lakela Louis	OC Government	201 S. Rosalind Ave	(407) 836-7300	LakelaLouis@occompt.com
	Carlos Rodriguez	Metric	13940 SW 136 ST	305-235-5898	cdro@metriceng.com
	Stefan Escanes	Metric	" "	" "	stefan.escanes@metriceng.com
	Jonathan Williamson	Dewberry	600 N Magnolia Ave Ste 1000 Orlando FL 32803		jwilliamson@dewberry.com
	Hugh Miller	CDM Smith	101 Southall Lane Maitland FL 32751	407 660-6440	millerrhw@cdsmith.com
	B.B. Beagles	Christos & Co.	21302 71 Chester Rd	407 568 4628	
	Sam Whithers	C F X			
	Keith Jackson	Dewberry		321 663 5663	kjackson@dewberry.com



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# STAFF/CONSULTANTS SIGN-IN SHEET

[illegible]





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <u>LINDA KUCHARSKI</u>	
Address: <u>1907 AUGUSTA RD</u>	
Phone Number: <u>618-303-0261</u>	Email: <u>L.Kucharski@yahoo.com</u>
Comment: <u>I believe #4 would be the best choice, It will affect the least amount of people. As a retired citizen hoping to enjoy peace in my golden years this would be the best for my neighborhood.</u>	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





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## Comment Sheet

2

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <i>Mariela Romik</i>	
Address:	
Phone Number:	Email:
Comment: <i>Why do we need 408 =</i>	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
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## Comment Sheet

3

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Barry Bode

Address:

13853 Sunshowers Cir Orlando FL

Phone Number:

321-662-4823

Email:

blbode1@~~the~~ yahoo.com

Comment:

I would be directly affected if corridor 5 is selected. I had my home custom built in 1999 and have spent many years to improve my home. After seeing your likely choice of corridor 4 it appears to be the least destructive to communities and wildlife. Please try to keep as many homes from being lost as possible.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



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## Comment Sheet

4

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Carolyn Skok

Address:

620 Forrest Green CT

Phone Number:

770-883-1605

Email:

CarolynFla@CFXway.com

Comment:

NO INTERCHANGE AT WOODBURY +  
WATERLOO LAKES PARKWAY! THIS WOULD  
INCREASE AN ALREADY CONGESTED AREA.  
WE DO NOT NEED ANY MORE TRAFFIC!

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Canadeeth Lamb

Address:

18136 Cadence St. Orlando 32820

Phone Number:

321 413 7122

Email:

AlohaLamb@hotmai.com

Comment:

Oppose the Chuluota extension entrance/exist  
at intersection that is also access to the Highschool  
Consider moving West (or east) to West side of Walgreens  
shopping plaza. Near the Park N Ride parking lot.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Allen Bran N

Address:

18610 16th Avenue

Phone Number:

407-879-3807

Email:

Allen.BranN488@gmail.com

Comment:

STOP hole thing u take my land my mother  
father work hole life for R Deq D Nav  
all they want is to be past down generation  
to generation Also you take my friends land  
Dietrichs. where thier Great Grand mother  
very other Family members out thier you also  
take From all kids come out the Anims is learn  
u H Plus also you take From Dietrich How they survive

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

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Name:

Janet Vander Weide

Address:

1049 Drift Creek Cove

Phone Number:

407-800-9797

Email:

Janetannvanderweide@gmail.com

Comment:

I am concerned about the noise pollution that this will cause for the Bridgewater residents. Also, it seems #4 will remove my grocery store and dentist.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: *Bill White*

Address:

Phone Number:

Email: *ERODITBS@COMCAST.NET*

Comment:

*I THOUGHT THAT CORRIDOR 1 WAS CONSIDERED FIRST SO IT COULD  
PULL ALL THE EXISTING & FUTURE PROTECTED NEW LAKE PICKETT TRAFFIC AWAY FROM  
RT 50 AREA.*

*CURRENTLY TRAFFIC HEADING TO THE LK PICKETT DEVELOPMENT AREA  
TRAVEL ON RT 50, LEFT ONTO LK PICKETT RD (A 2-LANE STREET) OR LEFT ONTO  
CHULUOTA RD (A 2-LANE STREET). BOTH THESE ROADS WILL NEED TO BE WIDEN  
SOONER RATHER THAN LATER IF CORRIDOR 4 IS CHOSEN.*

*CORRIDOR 4 ONLY SEEMS TO BE THE CHEAPEST & SHORTEST ROUT FROM  
POINTS "A" TO "B". IT KEEPS TRAFFIC & HIGHWAY SYSTEMS FOCUSED IN  
ONE AREA & DOESN'T ADDRESS KNOWN FUTURE TRAFFIC NEEDS*

*CORRIDOR 1 INTRODUCES THE NORTHERN AREA WITH A MAJOR HIGHWAY  
SYSTEM - A NEW HIGHWAY SYSTEM INTO AN AREA THAT IS GROWING &  
IN POPULATION AND INCREASES ACCESS FROM BOTH THE SOUTH & WEST  
AS WELL AS THE SR 50 & RT 50 EAST SIDE.*

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Jordan Coats

Address:

16157 - Morris Dr Orlando FL

Phone Number:

Email:

Cjordancoats@aol.com

Comment:

The road should run further South and there  
(less)  
should be an exit deeper in Avalon. There's nothing  
North of 50. Less built up.

NO! Why put a road next to a road?

SO already goes to 95 i there

are other routes to get to 528/417

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FLORIDA  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

10

Name:

Javier Irizarry

Address:

175 S. 5th st. Orlando FL 32833

Phone Number:

407-574-5560

Email:

jirizarryapr@hotmail.com

Comment:

The community doesn't need this expressway.  
We live in peace with no traffic, country living,  
my suggestion is move the project few miles  
south, in this way the community of Bitho won't  
be affected. We need and want to keep our peace  
with no voices. Thank you.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Lillian Santiago	
Address: 19003 Lansing St 32833	
Phone Number:	Email: lilliansantiagolopez@yahoo.com
Comment: I don't owe my property and it's a quiet, rural area that I chose to live in. I don't want to have to sell it and move to the city or a bad area. I like where I live and I'm happy there.	

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## Comment Sheet

12

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

DAISY Morales

Address:

2832 Mac Murray Drive

Phone Number:

Email:

Comment:

Why is this meeting misleading  
cause I was under the impression  
that the people would speak and  
hear comments, I feel mis  
Lead.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Identification Number: 408-254

## Comment Sheet

13

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Robbie & Lynn Carlisle

Address:

18919 Vermont St Orl. 32820

Phone Number:

407 568-2938

Email:

GRUMPYS\_wife@yahoo.com  
underscore

Comment:

Want to continue to be updated on

plans

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EXPRESSWAY  
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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Alaina Marshall

Address: 9849 Lanewood St Orl. 32817

Phone Number: 407 962 9979

Email: alaina.sh.marshall@gmail.com

Comment: Although it may be necessary someday I think a full extension of the 408 is not right now. It could be connected to 50 (as it may already be) and 50 could be widened.

The current <sup>chosen (4)</sup> path is most favorable in my view but it will make it even harder for wildlife to cross from the green areas that are fragmented. Please consider wildlife corridors or wildlife bridges to help offset the growing problem of a fragmented landscape for our animals. Thank You.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

15

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

CLARK WOODS

Address:

14427 Lake Underhill Rd

Phone Number:

Email:

Cwoods84@  
~~Clark~~ CFL.rr.com

Comment:

① No to 211

② work with other agencies to  
expand 50

③ Woodbury Road cant handle current  
traffic. B2D idea putting in on/off  
there

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EXPRESSWAY  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

16

Name: Nancy Swift	
Address: 14427 Lake Underhill Rd	
Phone Number: 407 275 9908	Email: nancy.swift@cfl.ra.com

Comment:
① prefer you <del>stay</del> stay with 50 option and work with other agencies to make it work
② Corridor 4 -> However, Woodbury Rd cant handle current traffic. Need 2 lanes minimum <sup>(each way)</sup> before putting in on/off ramps

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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jwilliamson@dewberry.com

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## Comment Sheet

17

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Brad Rashed

Address:

526 Soth Conty Road

Phone Number:

407 575 7310

Email:

Comment:

Do Not take my Land it's all wath  
~~at~~ I have Besids my family and I  
See that they will take up Land  
fo my animals and my centry will  
B-~~gon~~ B-cus of the car Bin from  
the mishin in the air Pleas Do Not.  
ps: you make yor self Look Like ~~a~~ a grety Liltool  
meny and Dont Look Like a fool

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

18

Name: <u>Judy Chubb</u>	
Address: <u>606 Lockwood Dr. Or. 32823</u>	
Phone Number: <u>407-568-3732</u>	Email: <u>mathladyvc@gmail.com</u>
Comment: <u>#1 I don't think this extension is even needed.</u>	
<u>#2 My husband and I have already been through, 29 yrs. ago, our property being taken for the 408 on Dean Rd. - Karl's Nursery of Or., Inc. Twice in a lifetime would be <u>awful</u>.</u>	
<u>#3 The corridor 4 is a change from the last meeting and does not take our</u>	

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house, but who knows if this corridor would be the final one. I feel sick for some of my neighbors, especially those that have had their land in their family since the 1800's.

#4 When we got wiped out 29 yrs. ago by the 408 my husband + I thought we were moving to a nice quiet street and country environment. Lockwood Dr. where we live has been that type of setting and why would we want our quality of life to change? We are ~~both~~ retirement ~~age~~ age, but still working. At the end of the day we like coming home to our quiet 4 acres + a beautiful relaxing home. Do people's lives really matter?





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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

19

Name: William Pons

Address: 18501 15<sup>th</sup> Ave Bithlo

Phone Number: 407-568-6112

Email: badbill10@ATT.net

Comment: This whole project is a disgrace !! If there is a traffic problem it should be addressed by expanding Rt.50 from Avalon to 520 to 6 lanes ! This alternate presently has the right of way with no impact to people's residences, land, lives, wildlife, etc.

I know there is a turf fight between FDOT & CFX but this is effecting many peoples lives and should not be a political event :

Also if this project is approved (hope never) the alternate corridor 4-5 which will run below the town of Bithlo is a ~~much~~ much better route than corridor #4 which runs thru Bithlo

Any problem with land rights should be resolved before destroying peoples lives and the quality of life of the people of East Orange Cty !!!

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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20

Name: William Pons

Address: 18501 15<sup>th</sup> Ave Bithlo

Phone Number: 407-568-6112

Email: badbill10@ATT.net

Comment: This whole project is a ~~disgrace~~ disgrace !!

Corridor 4 runs 2 short Bithlo blocks from my residence of 27 years. I don't know if the right of way will eliminate my house, but if ~~not~~ not, I will have a 4 or 6 lane hwy with 18 wheelers running by at 4 o'clock in the morning! Now I can ride ~~my~~ my bike down CR 13 <sup>at</sup> night and see deer, wild turkeys, owls, the moon, etc. With this new development I can now see and hear 10,000 cars, trucks + buses! What a wonderful new world for East Orange Cty. And all of this is so CFX can destroy our lifestyle, our ~~lives~~ lives and or our residences, so Rick Scott and Orange Cty can encourage more people from Mich, NJ + NY to move to FL.

Also Corridor 4-5 can at least eliminate the impact to the Bithlo village and would be a better alternate to Bithlo residents! I know there are some state and county park land that has to be addressed, but I ~~recommend~~ recommend that you resolve that! Corridor 4-5

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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21

Name: Cameron Gordon

Address: 202 Ashland Ave Orlando FL 32807

Phone Number: 407 495 5181

Email:

Comment: Please consider what additional toll  
road access will do to rural lands near  
exits. The majority of Florida residents  
want protection of wild and rural areas  
CFX is a large voice use it for  
a good cause for the love of God.

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <i>JUDY MICHALSKI</i>	
Address: <i>14335 PEBBLE BEACH BLVD, 32826</i>	
Phone Number: <i>412-853-1459</i>	Email: <i>JMITCH4184@AOL.COM</i>

Comment: <i>I would like to suggest that Corridor 4 would not impact <del>the</del> numerous residents. It seems like the best for everyone. I would appreciate the vote for Corridor 4. Thank You</i>
--

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

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Name:

Ellen Griswold

Address:

2202 Pebble Beach Blvd. (Fairways) Orlando FL

Phone Number:

407-383-1322

Email:

ellensemb@aol.com

Comment:

I Think going Through a senior  
Community (Fairways) } will Disrupt The retirement  
years people chose to live out Their Lives

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Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

24

Name:

Betsy Garrison

Address:

844 Golden Pond Court

Phone Number:

Email:

betsygarrison@bellsouth.net

Comment:

- Concerned about possible <sup>on/off</sup> ramps at Woodbury.
- Concerned about road noise near Jade Forest.
- Glad it is not taking out homes in Waterford Lakes.
- lots of helpful people to explain details.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

25

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <i>Par Aguiar</i>	
Address: <i>14430 Spyglass St.</i>	
Phone Number: <i>407-325-2004</i>	Email: <i>DAAKALIA@yahoo.com</i>

Comment: <i>My suggestion and comment for the least amount of people affected would be option 4. Keep it south of 50. Traffic as it is now is horrendous.</i>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

26

Name: PATRICIA LEWIS

Address: 21603 JINGLE RD, CHRISTMAS

Phone Number: 321-303-6158

Email: lewis5088@bellsouth.net

Comment: Corridor 4 seems to be the best choice. It affects the least homes while still reaching enough residents/drivers to support the roadway.

Thank you

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

27

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <u>SANDY MATTHEWS</u>	
Address: <u>2736 S. TAMER RD</u>	
Phone Number:	Email: <u>sandy.matthews2736@hotmail.com</u>

Comment:
<u>oppose the project. Please add me to</u>
<u>the record. oppose the 408 ext.</u>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

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615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

28

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <i>Ronald E. Ungerer</i>	
Address: <i>14837 Spyglass St. Orlando FL 32826</i>	
Phone Number: <i>407-249-0825</i>	Email: <i>JOYOLLIE@aol.com</i>

Comment: <i>Preferred choice of route is best option that allows for consideration of wetlands, loss of home properties to people, accessibility to current and future Transportation Slow and respects wildlife habitats!!</i>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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800 N. Magnolia Ave. Ste 1000  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

29

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Leo Brown

Address:

18610 16<sup>th</sup> AVE Orlando, FL 32833

Phone Number:

Email:

Comment:

I think you need to leave everyone hard alone. You really shouldn't even have the right to just step in and just pay what ever you want for someone land. People pay for there land. Land even money. Some have been hand down for generations

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

30

Name: MARSEE PERKINS

Address: 13644 SUNSHOWERS CR, ORLANDO 32828

Phone Number:

Email: marseeperkins@bellsouth.net

Comment:

Thank you for moving away from corridor  
S which would eliminate several long standing  
communities. Even better would be looking at whether  
this expansion is necessary at all or whether we are  
encouraging growth that the area cannot sustain in  
the long term (schools, water, etc.) If it is deemed necessary,  
then doublestacking above Highway 50 should be considered  
to displace as few people as possible.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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jwilliamson@dewberry.com

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

31

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Ian Kennedy

Address:

906 ~~W~~ Windmill Grove Circle

Phone Number:

(407) 384-7214

Email:

jonann2@earthlink.net

Comment:

I notice that your route goes through  
Overwood - the lowest income neighborhood  
in the area. Also a neighborhood with  
a large minority population. We do  
not need an extension of the 408, area  
is too developed. Hurts too many people.  
We have the 528. Expand that if you  
want to. I am opposed to any extension.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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jwilliamson@dewberry.com

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Eric Robinson	
Address: 2053 Hawks Landing Dr 32820	
Phone Number:	Email: eric.robinson@outlook.com

Comment:
The proposed round about near woodbury road is a poor design and should be revisited. Commuters to UCF and Research Park would be effected as the current expressway into that area would be bottle necked at the round about exit.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

33

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Norma López

Address: 19003 Lansing St. (32833)

Phone Number: 407-255-0832

Email: irislopeznorma@yahoo.com

Comment: I'm happy in my home. I don't want to go. I'm a Senior citizen. I don't work. I don't owe my home. At my age I don't want to get into any debts. I don't want to live in the city. I love it where I am. And I'm not going to give it up. It's very peaceful, very quiet, no one bothers me. I am very happy there.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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jwilliamson@dewberry.com

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

34

Name:

Christine Santoretti

Address:

10158 Eastern Lake Ave. #103 Orlando, FL 32817

Phone Number:

(407) 414-3578

Email:

Comment:

I do not think ruining or having  
SR 408 PD go through ~~the~~ Gopher Tortoise  
habitat. Please do not take more of our  
natural wildlife away. Instead, I ask  
to please build around the ~~native~~ wildlife  
habitat.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

35

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

VICTOR CALCAÑO

Address:

1161 CHERRY VALEY WAY

Phone Number:

407-459-3796

Email:

VICCALCANO@yahoo.com

Comment:

THIS WAS NOT A PUBLIC MEETING, RATHER AN INFORMATIVE MEETING. I suggest that Highway 50 be expanded. Add MORE LANES than build a 408 extension.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

36

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Janet Reed

Address:

1048 LANDVIEW CT

Phone Number:

407-496-9541

Email:

onlyplayjazz@yahoo.com

Comment:

This is definitely the best option presented.  
Less impact to homes & communities  
considering the amount of traffic it  
will remove from highway 50.  
Get started! Don't wait for Hwy 50  
study. It will change with this ext  
anyway. Thank you! Janet Reed

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

37

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

George P Dietrich

Address:

400 Dietrich Ranch RD

Phone Number:

Email: 11

Comment:

No down 50

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

38

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Lynne Tipton

Address:

713 Hollybrook Court

Phone Number:

407 347 (work) 4025

Email:

tipster5fla@gmail.com

Comment:

My compliments w/ Corridor 4 for being less disruptive to commercial & residential areas. My concern, as a Waterford Lakes homeowner, is the Woodbury Rd. "optional" <sup>access point</sup> ~~intersection~~ <sup>it</sup> would have a BIG impact on the already busy Lake Underhill Rd. + Woodbury Corridor. I'd prefer no interchange at Woodbury. Avalon Park's access is sufficient for that access population.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: DAISY Morales	
Address: 2832 Mac MURRAY Dr	
Phone Number: 3214386315	Email: SupervisorDaisyMorales@gmail.com

Comment: option to cut off 408
and just connect to 30
and work on SR 50 improving
lights and roads
improve wildlife corridors

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Richard Wright

Address:

863 Hamilton Dr

Phone Number:

Email:

Comment:

Stop with the Smoke & Mirrors? @ Finish 6  
laning SR 50 To 520 or To I 95?  
Put an overpass over Avalon Blvd & 419 @ SR 50  
Stop destroying our neighborhoods with your  
unneeded projects.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

LARRY F. ISON

Address:

2950 CURVING OAKS WAY

Phone Number:

407-403-4715

Email:

Comment:

ALL ROUTES LOOK GOOD, BUT #4 IS  
THE BEST IN MY OPINION.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

42

Name: Phil Montgomery

Address: 732 Forest Green Ct

Phone Number: 407 808-2163

Email: AlwaysWandering@CFXway.com

Comment: Wandering around a gym with diagrams on the walls isn't a Public meeting in my book.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Seth Whitaker

Address:

1320 cupid Ave Christmas FL 32709

Phone Number:

407 982 6071

Email:

Switchgrassw@aol.com

Comment:

I strongly feel that you need to run  
the E W Expressway down st rd 50

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Bob Sanders

Address:

2816 S. Shine Ave., Orl., FL 32806

Phone Number:

407-459-5617

Email:

NA

Comment:

This is madness! Don't build this road.

Central FL is becoming an ugly, overcrowded place. Development = traffic = highways = more development = more traffic = more highways & on & on. What is beautiful & unique here will be lost forever. That would be shameful.

Also: water - simply not enough to sustain all this ongoing development.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: ELVAN NORMAN

Address: 1649 Sherman St Orlando FL 32828

Phone Number: (407) 218-9476

Email:

Comment: I myself, and many, many others believe that you should stick to the original plan of straight down the side of sr.50. The state already owns the property next to it where the power lines are. Why run it through the middle of Deerwood, when you can go across the front of it and effect less people. It only makes sence to stick to the original path. It would impact less people. →

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

46

Name:

B. J. WHITE

Address:

Phone Number:

Email:

BRU01TB5@COMCAST.NET

Comment:

CORRIDOR I INTRODUCES THE NORTHERN AREA WITH  
A MAJOR HIGHWAY SYSTEM. THIS AREA IS GROWING IN POPULATION  
AND HAS NO MAJOR HIGHWAY SYSTEM TO MOVE THIS TRAFFIC.  
CORRIDOR I PROVIDES BOTH EAST & WEST ACCESS TO THIS  
NEWLY DEVELOPING AREA & KEEP UNNEEDED TRAFFIC  
OFF THE RT 50 HIGHWAY.  
CORRIDOR 4 SEEMS TO BE KEEPING (ALL) HIGH TRAFFIC  
FOCUSED ALONG THE EXISTING RT 50 AREA ~

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

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william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

47

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Nancy Kamm

Address:

28 Batten St., Orlando FL 32828

Phone Number:

(407) 381-8038

Email:

Comment:

I see no need to extend the 408 Expressway  
any further east. Corridor 1 & 4 would be the best  
if the project is done.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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800 N. Magnolia Ave. Ste 1000  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Michelle Guimond

Address:

13719 Sunshowers Cir 32828

Phone Number:

Email:

ontheCourt@cf1rr.com

Comment:

I am in favor of option 4 as presented. I am not in favor of an interchange at Woodbury Rd

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
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800 N. Magnolia Ave. Ste 1000  
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(407) 843-5120  
jwilliamson@dewberry.com

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

49

Name: THOMAS GUIMOND

Address: 13719 SUNSHOWERS CIRCLE. 32828

Phone Number:

Email: tguimond@cfl.rr.com

Comment: We are in favor of option 4. However, we do not believe an exchange at Woodbury is necessary. The exits at Alafaya and Avalon Park Blvd. would present the best traffic pattern.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

50

Name:

Evelyn Ramirez

Address:

15324 Chantah Ct.

Phone Number:

Email:

evesan668@aol.com.

Comment:

This project and all it's alternative will have a huge impact on many residents in all surrounding areas. Many families will be uprooted and with home cost rising many families will not be able to purchase new homes many have lived in the affected areas for decades. Noise pollution and air quality is also a factor being that it is a heavily populated area at this point!

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

51

Name:

Rick Baird

Address:

5426 Tribune Dr, Orlando, FL 32812

Phone Number:

407-277-3357

Email:

rbaird4@att.net

Comment:

I prefer Alternative #4 which avoids the County environmentally sensitive lands of Pine Lily Preserve and Long Branch. It is important to keep publicly owned lands intact for the animals and the emotional health of the public

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

TINA AUTHELL

Address:

16302 HAMILTON DR ORLANDO

Phone Number:

407-777-8262

Email:

SIDETRACKED AGAIN @  
GMAIL.COM

Comment:

I AM TOTALLY AGAINST THIS SEGMENT. IT WILL AFFECT  
WILDLIFE - THE ENVIRONMENT, AND IS NOT EVEN NEEDED  
HWY 50 IS SUFFICIENT enough. I MOVED OUT HERE  
17 YEARS AGO TO GET AWAY FROM THE CITY, AND SLOWLY  
ALL THE RURAL AREAS ARE BECOMING SUBDIVISIONS.  
NOW, YOU WANT TO ADD INTERSTATE NOISE?  
NOT NEEDED, NOT WELCOMED, AND NOT RIGHT!

*Tina Authell*

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EXPRESSWAY  
AUTHORITY

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
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615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
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william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

53

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:	
Address:	
Phone Number:	Email:
Comment: Alafaya Palms needs to be informed with some courtesy about the future of their quality of life your support in making an effort to address this to this community is an obligation to humane rights.	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

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Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
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Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

54

Name:	
Address:	
Phone Number:	Email:

Comment:

Boneville residents are not informed of the new expansion / changes taking place that will negatively affect them. Proper information needs to be provided to residents about said / proposed changes.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

55

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Tyler Swavely

Address:

Phone Number:

Email:

tyler.swavely@gmail.com

Comment:

Why is Corridor 4 already seem like it is chosen?  
I was under <sup>the</sup> impression that alternatives were still being discussed.  
Why not do the elevated over top of SR method? That  
seems like it would be the least negative on peoples homes,  
property & neighborhoods.  
This is a disappointing situation for people living in this area.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Louis A. Dobles

Address: 1391 Caudle St. Orlando FL 32828

Phone Number: 407-963-0360

Email: louis@louisdobles.com

Comment: Looks like Corridor 4 was chosen. Why was there no meeting scheduled for this selection. Wanted to know why chosen? I just built a new concrete home there. I am retired and rely on a fix home cost due to my fixed income. Will this hiway be elevated? Are noise barriers going to be considered?

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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jwilliamson@dewberry.com

William Sloup, PE  
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Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

57

Name:

KEVIN & CARMEN CLARK

Address:

917 N County Road 13

Phone Number:

407-758-6305  
407-921-1362

Email:

KCSJ81@AOL.com

Comment:

Relief that you are looking out for the least amount of impact to people, wildlife and the environment. I cherish the quiet. watching the owls, cardinals and deer. Thank you. My front porch is my happy place.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EXPRESSWAY  
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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
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William Sloup, PE  
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615 Crescent Executive Ct, Suite 524  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

58

Name:

EAST ORLANDO

Address:

Phone Number:

Email:

Comment:

STAY out of east ORLANDO  
or we will fight you  
All the way

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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615 Crescent Executive Ct, Suite 524  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <i>Hugh Fred Dietrich</i>	
Address: <i>10 Seminole Orlando FL 32833</i>	
Phone Number: <i>407-470-4638</i>	Email:

Comment: <i>Stay on SR 50</i>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

<b>CENTRAL FLORIDA EXPRESSWAY AUTHORITY</b>	<b>Jonathan Williamson, AICP</b> CFX Project Manager - Dewberry 800 N. Magnolia Ave. Ste 1000 Orlando Florida 32803 (407) 843-5120 jwilliamson@dewberry.com	<b>William Sloup, PE</b> Consultant Project Manager - Metric Engineering 615 Crescent Executive Ct, Suite 524 Lake Mary, FL 32746 (407) 644-1898 william.sloup@metriceng.com
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Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

60

Name:

Brian Metzler

Address:

932 N CR 13 Orlando

Phone Number:

407-880-2888

Email:

bmetzler1@cfl.mv.com

Comment:

Looks great! good job & plan!

Start digging ASAP. Smart & least destruction

But you missed my house

Too bad for Deerwood, but the homes are on

wheels right?

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
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The World is not To DeStroy  
 if you Wnto Do That Do this  
 Don't TREAD On Me! Tals  
 Yur Butt BKAs War you can run

I Kule you

7734 you



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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

62

Name: <i>Lawen Harjin</i>	
Address: <i>13500 Ivy Brooke Ln 32828</i>	
Phone Number: <i>407 492 0729</i>	Email: <i>Lawen.harjin@gmail.com</i>
Comment: <i>Corridor 4 is the most reasonable and best route with the least negative impact to homes and neighborhoods.</i>	
<i>L Harjin</i>	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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800 N. Magnolia Ave. Ste 1000  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

63

Name: Brooke Rashed	
Address: 526 South county Rd B 32833 <sup>Orlando</sup>	
Phone Number: 407-984-9616	Email: Brooke.babe01@gmail.com

Comment: I am an heir to the Dietrich flying D ranch and that is my family's Legacy we do not need a highway that will cause more pollution than an agricultural ranch my uncle is cory goodman maybe you know him as the one of many chairman on the orange county team I will not be laying down for this, this is a family. Bithld is a
--

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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800 N. Magnolia Ave. Ste 1000  
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comittee but were all close and people including myself Dont need our houses and childrens Homes taken for a highway interpass that is highly unlikely that we want our Homes taken. How about

You imagin your Homes being taken away and legacys to and for your children a Highway interpass is NOT the futer our children and our childrens, children Do not need their Legads taken anymore than you wouldn't want yours their are Disabled People and takes their Homes and their are families barely making By and their are multiple Disibilized People and agricultured areas, that are highly needed. your Destroying wildlife refuges and endangered Species homes. By law you can not take land that belongs to endangered Species. its inhuman to Destroy Peoples Future



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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

64

Name:

BRENDA HOYER

Address:

13507 Ivy Brooke Ln

Phone Number:

407-208-0165

Email:

edwin\_hoyer@yahoo.com

Comment:

Thank you for choosing the best corridor.  
The study has proven to be a positive  
and successful one. Thank you again

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

65

Name: *EDRIZ DE ARMAS*

Address: *1133 LANDALE CT*

Phone Number: *407-281-7477*

Email: *EDRIZ.DEARMAS@GMAIL.COM*

Comment:

*I Am AGREEMENT OF USING CORRIDOR 4.  
I FEEL ROUND INTERSET OF 408 to UCF need to  
BE LOOK INTO BETTER OPTION.*

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
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66

Name: James Rutherford	
Address: 13672 Cygnus Dr. 32828	
Phone Number: 352-239-1245	Email: sfdoc73@gmail.com

Comment: I am against this extension but if it must go through it should follow St. Rd 50 as much as possible. Even Turn 50 into it

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Kim + Bob Stewart

Address:

16019 Corner Lake Dr. Orlando 32820

Phone Number:

Email:

kdstewart@me.com

Comment:

Thank you for having the foresight to start plan on expanding roads in E. Orlando. It has been very needed and despite loud minority that want no growth, we really appreciate responsible growth. Having Chuluota extension will be very beneficial for my drive, and home appreciation. Please consider ways to slow traffic to that intersection <sup>at 419/Chuluota Rd</sup> because we have severe accidents with fatalities frequently. Thank you. Also I'm a 5th generation resident from Orlando.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

68

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: *Patty Flowers*

Address: *17223 Wilson Rd.*

Phone Number: *407-802-9588*

Email: *p.bvtx1800@yahoo.com.*

Comment: *HACK THE QUALITY OF LIFE, NOISE, LAND VIEW*

*SEEING 408 @ 1000ft. From Front Door. YOU WANT IT TO COME*

*thru BUY US OUT !! ALSO HAVING A RETENSION POND*

*1/4 ACRA A WAY IS NO GOOD. WE ARE ALREADY WETLAND.*

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
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Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

69

Name:

Jerusha Johnson

Address:

2246 10th Street

Phone Number:

Email:

jerushaorlan@aol.com

Comment:

did you not want us to  
see the routes, you could have made  
a bigger map!!!

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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800 N. Magnolia Ave. Ste 1000  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

70

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <i>Bonnie Johnson</i>	
Address: <i>14103 Best Tree Ct Orlando, FL 32826</i>	
Phone Number: <i>407-595-3080</i>	Email: <i>BJOHNSONSL6@AOL.COM</i>

Comment: <i>I would like to see the extension go on the south side of 50 through Weewood.</i>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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800 N. Magnolia Ave. Ste 1000  
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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Sharen Horton

Address:

923 Gwy Rd

Phone Number:

407.568.6997

Email:

Comment:

As usual, poor quality of leadership through the years! The continuation of passing rezoning, allowing the developers to come on & build communities without <sup>thorough</sup> grids. OC has failed to coordinate the infrastructure, roads, schools and now scrambling to create the needed extension east.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
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Stop the Lake Pickett development  
Stop all rezoning east of the  
Big Econ.

The impact to the environment  
pollution to the Econ, loss of  
protected wildlife.

Think Big Picture

~~Bring~~ back cattle, horse farms,  
Agri-Communities. in the  
east corridor.

People are escaping the downside of  
living behind a shopping plaza.

Do you study the degeneration of  
a community due to stripping the land  
and plastering strip malls.



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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

72

Name: *Richard WITTMAN*

Address: *3344 LYNAS CV ORLANDO FL 32820*

Phone Number: *407-568-3057*

Email: *Richw52@AOL.com*

Comment: *I support ALTERNATIVE 4. GOOD  
Choice.*

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

73

Name: Mohammed Sobhan	
Address: 11618 Rouse Run circle, Orlando, FL 32817	
Phone Number: 407 982 1535	Email: masobhan@gmail.com

Comment: Development works should continue.
FLORIDA Population surpassed New York
Population. we are growing in numbers and
our all activities should be increased to
match the demand of Population but
proper study should be done before
implementations. We must meet the challenge of
to present day world with communication.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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EXPRESSWAY  
AUTHORITY

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800 N. Magnolia Ave. Ste 1000  
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## Comment Sheet

74

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Jacquelyn Perham

Address:

14875 Faberge Drive Orlando, FL 32828

Phone Number:

305-799-0715

Email:

jacquelyn.perham@gmail.com

Comment:

I am happy to see that the new route no longer cuts through Waterford Trails. I would like to note that if the project is funded and constructed, a noise wall will be needed on both sides of the highway around the two parts of this community. I would also like to know if the new map will be online soon.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

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800 N. Magnolia Ave. Ste 1000  
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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

15

Name:

Brian GIESSUEBEL

Address:

140 S. Main STREET Winter Garden 34787

Phone Number:

407-466-9504

Email:

b.giessuebel@CHCFL.org

Comment:

I Represent Community Health Centers

And we have A Medical Center at 19108

E Colonial Dr. Orlando And your

Current Map of Proposed Roadway

Shows The New Road going right through  
The Center of our property. If you could move

the Road 200 yds to the South our Medical

Center would not be impacted. We are the

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:	Cena Fildes - parent of East River High students		
Address:	4119 Pebblebrook Ct.		
Phone Number:		Email:	fatmardi@aatt.net

Comment:	If you go with the Chuluota extension that will come <del>to</del> to the light at 50 where East River High is, PLEASE do something with that light so more traffic can get through. Right now traffic blocks 50 trying to get in + out of the high school. Adding traffic at this existing bottle neck will be horific. The traffic on Chuluota backs up almost a mile trying to get through the light at 50 to get to the school.
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800 N. Magnolia Ave. Ste 1000  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

77

Name:

Row Logan

Address:

16140 Old Cheney Hwy Orlando FL 32833

Phone Number:

407 408 0772

Email:

RowLogan63@gmail.com

Comment:

Corridor 4 is just to the south of my property. The impact of the noise and retention pond and interchange traffic from the lockwood interchange will decrease the value of my property. It will also disrupt the country setting I currently have. The land is zoned A2 and a 4 lane Toll Road is not consistent with the land use.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

78

Name:

Address:

Phone Number:

Email:

Comment:

Go Down Right  
Way 50

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

29

Name: DARREN SMITH

Address: 1126 LANDALE COURT

Phone Number: 4079286255

Email: darren.s@mindspring.com

Comment: Overall, the current path seems to be the best option. Minimal loss of homes and efficient use of existing conservation areas. The alternate Woodbury interchange appears to be more reasonable with entry/exit points. However, the roundabout option north of the Woodbury interchange is confusing. Any other options would not be cost-effective. (note #4)

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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Orlando Florida 32803  
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jwilliamson@dewberry.com

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

80

Name:

Address:

Phone Number:

Email:

Comment:

Mobile Home residents @ Alafaya  
Pdlms are at risk of loosing their  
homes if Corridor 9 alternative is  
Passed. Residents arent informed of  
proposed changes.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
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615 Crescent Executive Ct, Suite 524  
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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <u>Yalexia Rodriguez</u>	
Address: <u>13631 Brigham Young Dr. A1 32826</u>	
Phone Number: <u>321 424 4893</u>	Email:

Comment: <u>Alafaya Palms residents</u>
<u>need to be informed of any/all potential</u>
<u>Changes to be taken place that will affect</u>
<u>their quality of life, as a owner I feel</u>
<u>discriminated and left out, this is</u>
<u>inhumane and violation of my rights.</u>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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(407) 843-5120  
jwilliamson@dewberry.com

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Kathleen Logan

Address:

16140 Old Cheney Highway, Orlando FL 32833

Phone Number:

Email:

Kattlogan@gmail.com

~~Kathleen.Logan@~~

Comment:

Totally object to Corridor 4. I will have SR 50 in my front and this extension in my back yard- Complete noise pollution from both sides. Not why I moved out into the country. Take this extension over pasture lands and away from established neighborhoods or buy my whole property at a decent price.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

83

Name: HENRY TAMURA

Address: 14018 LONGCREEK AV. ORLANDO FL 32828

Phone Number: 407 227 5394

Email: henrytamura@hotmail.com

### Comment:

The SR408 PD&E Study Corridor alternative 4 is located close to my subdivision "Waterford Creek.". My concern is about the noise from the road. to my neighborhood. There Are there some sound proof treatment in special on the bridge over Hancock Lane Palm Rd?

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
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jwilliamson@dewberry.com

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Jason Staples	
Address: 400 Diea rich road 32833 Orlando FL	
Phone Number: _____	Email: _____

Comment: Dont take our homes away.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

85

Name:

Jhon Doe

Address:

Phone Number:

Email:

Comment:

Please Don't take our homes  
these places are where we have  
many endangered species.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA**  
EXPRESSWAY  
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## Comment Sheet

86

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Jane Doe

Address:

unknown

Phone Number:

\_\_\_\_\_

Email:

\_\_\_\_\_

Comment:

this Land is ours Don't take  
our homes there are Disabled  
Homes who have multiple Disabled  
People in them.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <i>Maria Acevedo</i>	
Address: <i>17706 Evans Tr</i>	
Phone Number: <i>321-297-7701</i>	Email: <i>0621acevedo@gmail.com</i>

Comment: <i>I moved out here to be away from the hustle and the bustle. I so very much enjoy the tranquility that living in Bithlo offers my family.</i>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

<b>CENTRAL FLORIDA EXPRESSWAY AUTHORITY</b>	<b>Jonathan Williamson, AICP</b> CFX Project Manager - Dewberry 800 N. Magnolia Ave. Ste 1000 Orlando Florida 32803 (407) 843-5120 jwilliamson@dewberry.com	<b>William Sloup, PE</b> Consultant Project Manager - Metric Engineering 615 Crescent Executive Ct, Suite 524 Lake Mary, FL 32746 (407) 644-1898 william.sloup@metriceng.com
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# SR 408 PD&E STUDY

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

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Name: Robert Spiteri

Address: 13731 Sunshowers cr orlando 32828

Phone Number: 407-446-4826

Email: OrlandoRob1@yahoo.com

Comment: I Like the proposed path

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
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EXPRESSWAY  
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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Sarah Dietrich

Address:

526 South county Road 13

Phone Number:

407 575 736

Email:

Sarah4139Dietrich@gmail.com

Comment:

If the 408 comes Down

Corridor 4. It will take homes  
of Disabled people (A 77 years old,  
93 years — 73 years old — and  
multi handicapped) a Blind  
27 year old man who is part of my  
family. This will Destroy homes  
of Endangered species that live on

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com

Are family's land. Like the  
Florida Cager and many more  
animals like eagles



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: <i>KC Goodman</i>	
Address: <i>258 SCR B</i>	
Phone Number: <i>N/A</i>	Email: <i>on file</i>

Comment: <i>'Don't Tread on me' is more</i>
<i>than a pretty phrase. Don't let your</i>
<i>Pride deceive you into thinking you are omnipotent</i>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

97

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Diane Dolan

Address:

14413 Spinglass Street (FAIRWAY)

Phone Number:

407-435-8741

Email:

msdd49@hotmail.com

Comment:

We just bought in the Fairway Country Club and were very concerned to learn of the possibility of the extension cutting right through where our home is located. Selfish as it sounds, I hope and pray that the option for #3 isn't chosen. By looking @ the map it appears that #4 impacts the least # of residential areas.

Thank You

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
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615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

92

Name: Brint, Lee Rashid	
Address: 256 SCR 13	
Phone Number: N/A	Email: N/A
Comment: DONT Tread on me!	
Way Will you Bel D great	
on my hoëys. all Thes poor	
peaple Dixe	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
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615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Heather Cox	
Address: 716 N 16th St	
Phone Number: 407-267-2567	Email: Heather_Cox78@yahoo.com
Comment: Like the location of the proposed Route it looks like the least route that would impact residents.	
Thank you Heather	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
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# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

DAN WATTS

Address:

714 WATERLAND CT.

Phone Number:

321 297 3073

Email:

DAN.WATTS@GMAIL

Comment:

CORRIDOR 4 & 5 ARE YOU NUTS

COM

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

95

Name:

Sarah Dietrich

Address:

526 South County Rd 13

Phone Number:

407-575-736

Email:

Comment:

Go Down Hwy 50

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

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CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
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# SR 408 PD&E STUDY

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

96

Name:

RICHARD BAXTER

Address:

6715 Whispering Pines Rd Orlando 32824

Phone Number:

407-539-1638

Email:

RB32714@7.com.gm

Comment:

- ① The newly widened SR 50 is fine - I came here from downtown on the 408 to 50 at Bush Ave - There was no traffic on 50 - A new Expressway is not needed
- ② If it is to be built, you should work with the DOT to elevate it over 50 instead of destroying more land, trees, houses & buildings

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
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615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
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Project Identification Number: 408-254

## Comment Sheet

97

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

Allen Brown

Address:

18410 16th Ave ORL, FL.

Phone Number:

407-879-3807

Email:

Comment:

GO Down Highway 50.

You not take no Land AND  
not destroy wild life. Animals  
that All They have

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION  
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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: GARY ENSMINGER	
Address: 18063 1ST Ave	
Phone Number: 407 568-3567	Email: GARYE4@GMAIL.com

Comment: Nicely Thought out. Great Job. Looks Like Proposal is The PATH of least Resistance. I Approve of this well designed plan Thank You

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
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william.sloup@metriceng.com





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Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

99

Name: <u>Wilson Knott</u>	
Address: <u>16815 Bearle Rd, Orlando FL 32822</u>	
Phone Number: <u>407.568-1661</u>	Email: <u>W.Knott2@.RR.COM</u>

Comment: <u>I personally don't want a Highway coming through here it's also been peaceful lots of wild life. Stop tearing up the woods &amp; Killing of the wild life Have a heart use our money in a more conservative way like get on a boat and don't come back leave our part of town alone</u>
---

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800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

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Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





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EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Eric Cress

Page ①

Address: 21117 Ft. Christmas Rd. Christmas 32709

Phone Number:

Email:

Comment:

We the residents of east Orange County do not want an expansion of the 408 toll road any further east of it's current location. Even the lowest impact option is very likely to disrupt businesses and homes along SR. 50. Installing new highways and allowing more traffic to this area will certainly decrease the quality of the region. Doing this will encourage more development and population increase in this area, which is an environmentally sensitive area near

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
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**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

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Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

E. C.

Page

2

Address:

21117 FCR

Phone Number:

Email:

Comment:

and east of the Econlockhatchee river, to  
as well as beyond the St. Johns river. We the  
residents in this area do not want more development,  
population expansion in low density rural areas, and  
assured destruction to natural resources, wildlife, and  
quality of rural life. We know that the C.F.L.  
Expressway Authority is under funded and does not have  
the funds to implement this plan. I personally do

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



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## Comment Sheet

100

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name:

E. C.

Page

(3)

Address:

21117 F.C.R.

Phone Number:

Email:

Comment:

not want to pay more in taxes or tolls  
for a "service" I do not want or need. I am  
certain that there are many other residents in this  
area who feel the same as I. We live here for  
how this area is, and we stand opposed to the  
negative effects that expanding the 408  
will create.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

103

Name:

Margaret Watkins

Address:

25 Cochran Trail Orlando FL 32833

Phone Number:

407-953-3915

Email:

Comment:

This project will be a major Disruption  
for my severely Disabled son, and am  
not for it, please consider what it will  
do to our family, the wet lands and  
the disruption for my son who only knows  
the house he was born in, with his Autism  
Change is his worse enemy

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com



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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

10/10

Name:

Alice Watkins

Address:

23 Seminole Trl.

Phone Number:

407-568-4785

Email:

Comment:

My husband and I are both 88 years old  
Where are we supposed to go and it's  
too late to start over. Just so you can  
have a road for other people.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
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## Comment Sheet

103

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

Name: Russell Lowers

Address: 160 Becora ave Merritt Island FL 32953

Phone Number: 321-759-6022

Email: russelllowers@gmail.com

### Comment:

I find the choice you have made to be a very costly way to route a bunch of traffic that SR 528 already provides for. I would think that Oviedo would, and more general public would benefit by putting in your option #1 or northernmost choice. I know everyone has a vested interest in the road you are putting in but my interest is more biology based. I am a wildlife biologist and am concerned that this will fragment many animals from being able to travel north and south along your roadway. It will not only be a danger to the animals but will more than likely hurt and/or kill humans. With my degree and background I believe if you would either incorporate your road with Hwy 50 that is already there or move it to the north where it can be useful to more people! Thank you for listening hope you make the right choice

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
Consultant Project Manager - Metric Engineering  
615 Crescent Executive Ct, Suite 524  
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## Comment Sheet

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Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

109

Name:

CARL GIBLIN

Address:

13807 MAGNOLIA GLEN CIRCLE  
ORLANDO FL 32828

Phone Number:

407 489 0954

Email:

carlgib@att.net

Comment:

DO NOT SELECT GREEN OPTION

THAT DESTROYS WATERFORD LAKES. THE GROWTH

IN TRAFFIC IS FROM CHULOTA/BITHLO X-RT

AND DOESN'T MAKE SENSE TO ROUTE TRAFFIC

BACK TOWARDS WOODBURY. TOO MANY HOMES

DESTROYED IN WHAT IS A QUIET NEIGHBORHOOD

Carl Giblin

Public participation is encouraged. Should you have any questions or need additional information, please contact:

CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY

Jonathan Williamson, AICP  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

William Sloup, PE  
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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

106

Name: <u>Nancy Mason</u>	
Address: <u>439 Wellon Ave.</u>	
Phone Number: <u>407-568-0082</u>	Email: <u>nannyjag@yahoo.com</u>

Comment: <u>No walk ways over</u>
<u>Express way for foot traffic</u>

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
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CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

107

Name:

Mary Keim

Address:

4726 S Fern Creek, Orlando, 32806

Phone Number:

407-851-5416

Email:

rssmhk@gmail.com

Comment:

Avoid conservation lands. They were purchased for conservation for the long term. Elevate over river, make wildlife underpasses. Minimize damage to wildlife & habitat.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

107

Name: Lynden Johnson

Address: 10513 Daring Ave

Phone Number: 321 247 1141

Email:

Comment: wish 1: Do NOT build it.

The woodbury interchange option is a plus.

The traffic circle near woodbury is tedious.

Request a signal sensor @ the RAMP east bound  
to Rt. 50 eastbound.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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FLORIDA  
EXPRESSWAY  
AUTHORITY

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

108

Name: Bill Lutz	
Address: 2618 S. Tanager Rd	
Phone Number:	Email: wlutz3@csfl.RR.com

Comment: ELW Extension - only needed TO AVALON Blvd.
Long term planning Beyond that OK
Ideally let the FDOT Route 30 Primary Plan

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
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615 Crescent Executive Ct, Suite 524  
Lake Mary, FL 32746  
(407) 644-1898  
william.sloup@metriceng.com





# SR 408 PD&E STUDY

EASTERN EXTENSION FROM SR 50 TO THE SR 50/SR 520 INTERSECTION

Project Identification Number: 408-254

## Comment Sheet

Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.  
Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

109  
110

Name:	Sue Dietrich	Effects our property 10 years Orange Co tax pay 5
Address:	258 S. St Rd. #13	
Phone Number:	(407) 421-3358	
Email:		
Comment:	"They paved paradise and put up a parking lot.... They took all the trees and put them in a tree museum and they charged the people a dollar and a half to see them. Florida has more endangered species than state on the Atlantic—Most are on your pathway for the express way—Did you notice the sand hill cranes as you enter 419 about to get killed."	

Public participation is encouraged. Should you have any questions or need additional information, please contact:

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

**Jonathan Williamson, AICP**  
CFX Project Manager - Dewberry  
800 N. Magnolia Ave. Ste 1000  
Orlando Florida 32803  
(407) 843-5120  
jwilliamson@dewberry.com

**William Sloup, PE**  
Consultant Project Manager - Metric Engineering  
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Name: Alan Ashlock	
Address: 2727 Lake Pickett Plck Chuluota FL 32766	
Phone Number: 407-808-9413	Email: alan.ashlock@decatur.com

Comment: Glad to see extension first!
Next I prefer the combination of
# 4 + 5.

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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112

Name:

Ramon A Poli

Address:

510 Cox DR Orlando, FL 32837

Phone Number:

407-758-4522

Email:

RgPoli@aol.com

Comment:

The State doesn't want to put it  
over Hwy 50 but that is just where  
it should go.

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Name: Rodger B. Dorn

Address: 18390 17<sup>th</sup> Av Orlando FL 32833

Phone Number: 407-716-5551

Email: Doris Dorn A Dorn  
K9help@att.net  
A Dorn Q com.net

Comment: I am totally disabled and Built my Monolithic  
Dome house 10 years ago at a cost of \$ 450,000 so  
I would have a safe handicapped home for the rest  
of my life. If my home is taken it will affect  
my living conditions and end my tortoise breeding,  
the only form of income that I can have beyond  
Social Security.

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119

Name: Vickie Prewett	
Address: 18425 22nd Ave	
Phone Number: 407-376-6697	Email: rprewett@bellsouth.net

Comment: Looks like many poor families will be affected by this route - Will there be "help" (adequate) in relocating these families?

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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119

Name: LARRY BATSCH

Address: 18143 SAXONY LANE ORLANDO 32820

Phone Number: 407-670-9609

Email:

LARRY.BATSCH@GMAIL.COM

Comment:

I AGREE WITH CORRIDOR 4 ALT

11

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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115

Name: <u>BRYAN Young</u>	
Address: <u>1531 LALIQUE LN</u>	
Phone Number: <u>407-674-8087</u>	Email: <u>BY1GATOR@gmail.com</u>

Comment:
<u>I THINK CORRIDOR 1 WOULD BE BEST.</u>
<u>IF THEY BUILD THE HOUSES BETWEEN LAKE</u>
<u>PICKETT AND CHULUOTA. IT WOULD MAKE</u>
<u>TRAFFIC BETTER ON LAKE PICKETT.</u>

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## Comment Sheet

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Alternatives Public Workshop | June 8, 2017 | 5 p.m to 7 p.m.

Corner Lake Middle School | 1700 Chuluota Road, Orlando, Florida 32820

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Name: CAROL NEENAHAM

Address: 808 LOCKWOOD DRIVE, ORLANDO, FL 32833

Phone Number: 407-488-4119

Email: CAROL NEENAHAM 1034@gmail.com

Comment: See accompanying page 2

Public participation is encouraged. Should you have any questions or need additional information, please contact:

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(407) 644-1898  
william.sloup@metriceng.com

Carol M. Needham  
Francis D. Davis  
808 Lockwood Drive  
Orlando, Florida 32833  
Carolneedham1034@gmail.com

June 8, 2017

TO WHOM IT MAY CONCERN:

We write to share our comments regarding the proposed 408 extension in and through East Orange County.

We are the homeowners of 808 Lockwood Drive. We strongly OPPOSE the extension to be constructed at all as we believe it will open up East Orange County and beyond to more development and construction.

Most disheartening is that two routes directly impact our property. We are completely devastated over this.

We request that you look at routing the proposed extension over/along SR 50/East Colonial as opposed to the alternate routes requiring the taking of homes and properties. Proceeding along SR50 appears to be much more cost effective, will be much less damaging to the sensitive wildlife in the area, and will save the homes and quality of life we enjoy so much here in East Orange County. We moved here specifically for the privacy, the quiet and the wildlife. Should either of these two routes proposed to run through our property go forward we, and our neighbors, would lose the most important aspects of our lives.

If the 408 extension must go forward through East Orange County, please, consider running the extension over and/or along SR 50.

Sincerely,



Carol M. Needham



Francis D. Davis