

# LOCATION HYDRAULICS MEMORANDUM

Florida Department of Transportation  
District 2

I-95 (SR 9) PD&E Study  
From I-295 (SR 9A) to J Turner Butler Boulevard (SR 202)

Duval County, Florida

Financial Management Number: 435577-1-22-01  
ETDM Number: 14278

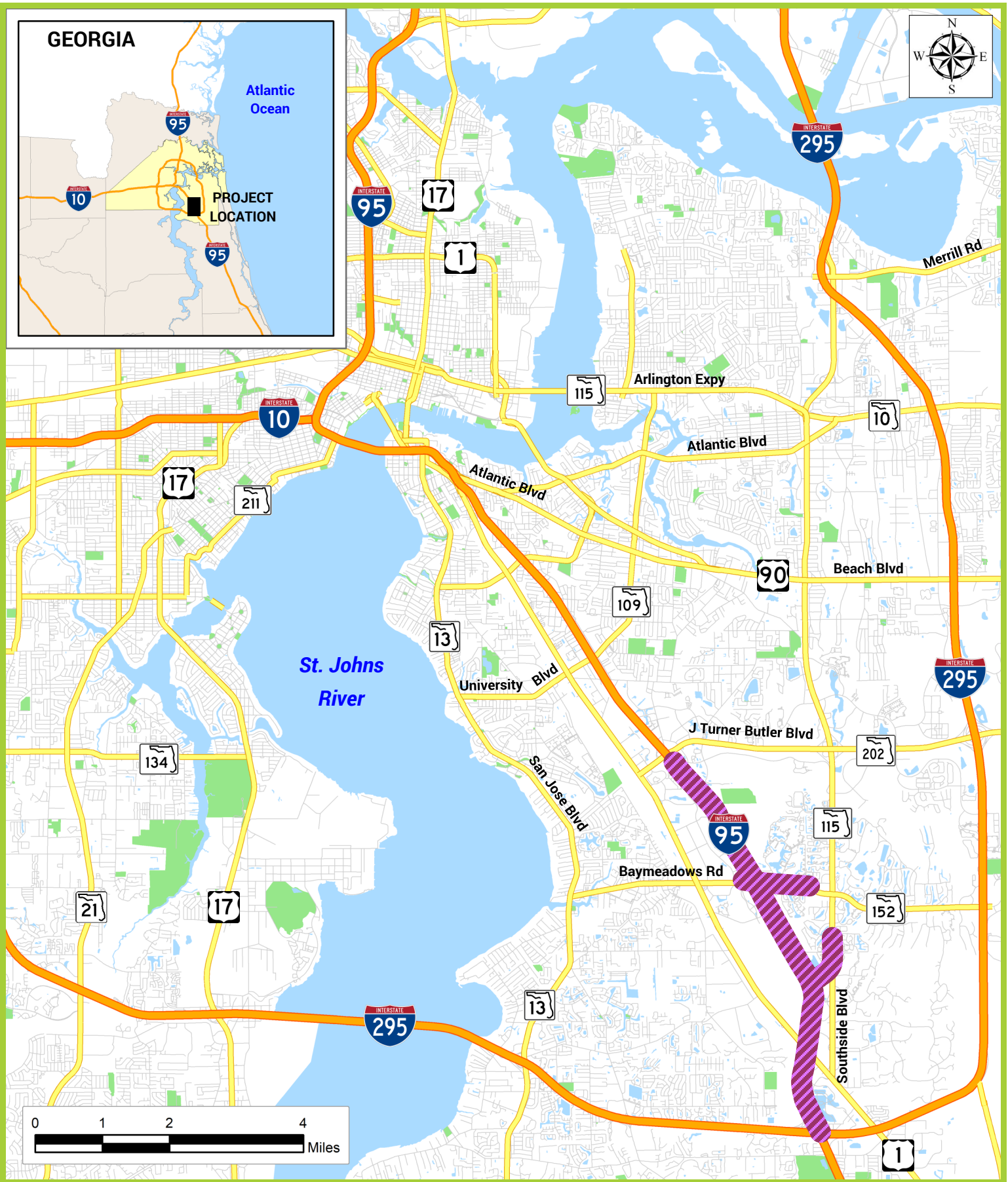
July 23, 2021

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016, and executed by FHWA and FDOT.

## 1.0 INTRODUCTION

Interstate 95 (I-95) is a major north-south interstate highway on the east coast of the United States, running from US Route 1 (US 1) in Miami, Florida to the US-Canada border in Maine. Within Duval County, Florida, I-95 serves as the major north-south corridor connecting employment centers in downtown Jacksonville to residential communities in the southern Jacksonville metropolitan area. I-95 also serves a major evacuation route for the State of Florida allowing residents along the east coast to evacuate during hurricane or other emergencies.

The Florida Department of Transportation (FDOT) is conducting a Project Development & Environment (PD&E) Study on I-95 (SR 9) from the I-295 South interchange to J. Turner Butler Boulevard (SR 202) interchange, a distance of 5.5 miles (see **Figure 1**). This study is evaluating alternatives to improve capacity, operations and safety. Within the study limits, I-95 is currently a six-lane freeway facility (three lanes in each direction) with occasional auxiliary lanes.



**I-95 PD&E Study from  
I-295 to J. Turner Butler  
Boulevard (SR 202)**

**Legend**

- Interstates
- State Roads
- Local Roads
- Parks & Recreation Areas
- Project Limits

**Figure 1  
Project Location Map**

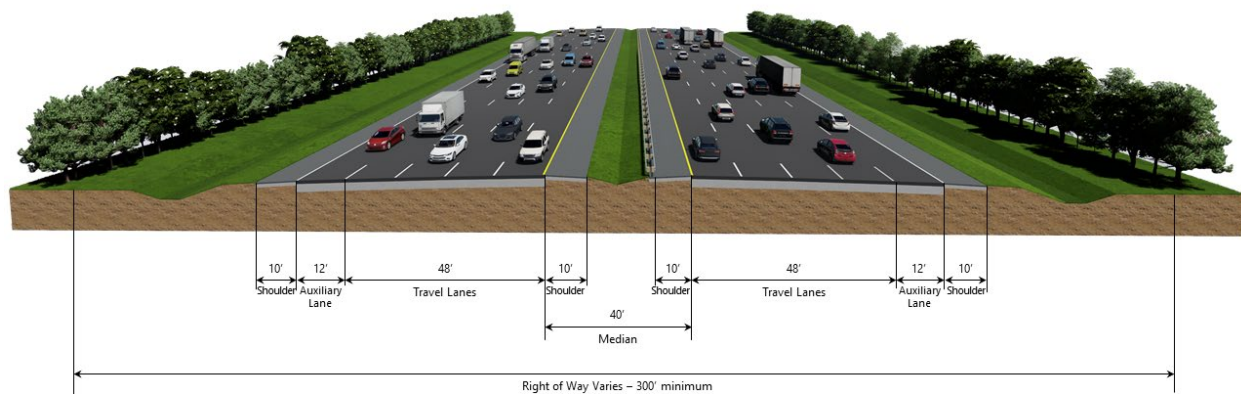
## 2.0 EXISTING and PROPOSED TYPICAL SECTIONS

### 2.1 Existing Conditions

I-95 within the study limits is a six-lane divided interstate with occasional auxiliary lanes and is described in detail below.

#### I-95 from I-295 to Philips Highway (US 1)

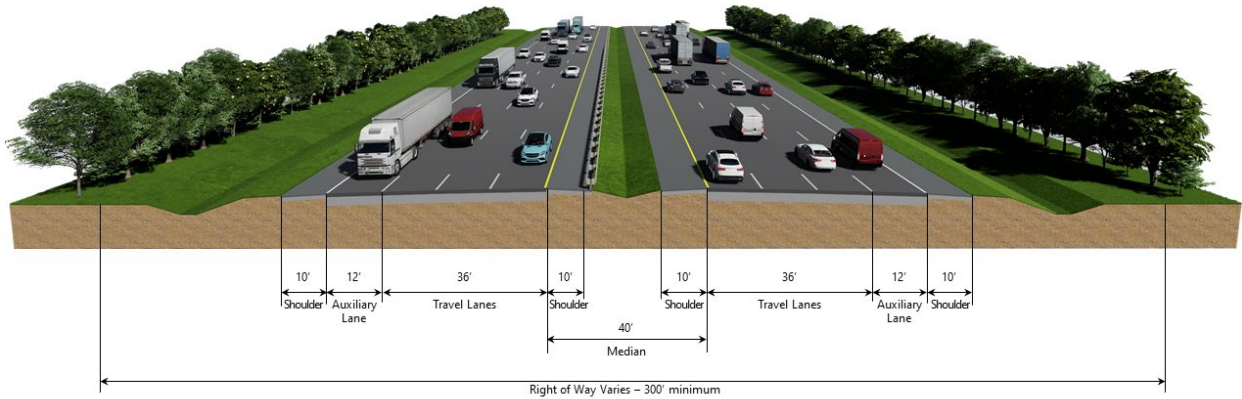
The existing typical section on I-95 from I-295 to Philips Highway (US 1) consists of four 12-foot travel lanes, one 12-foot auxiliary lane, a 10-foot inside paved shoulder, and a 10-foot outside paved shoulder in each direction (see **Figure 2**). The median width is 40 feet and includes a double-faced guardrail to separate opposing traffic.



**Figure 2.** I-95 Typical Section from I-295 to Philips Highway (US 1)

#### I-95 from Philips Highway (US 1) to Southside Boulevard

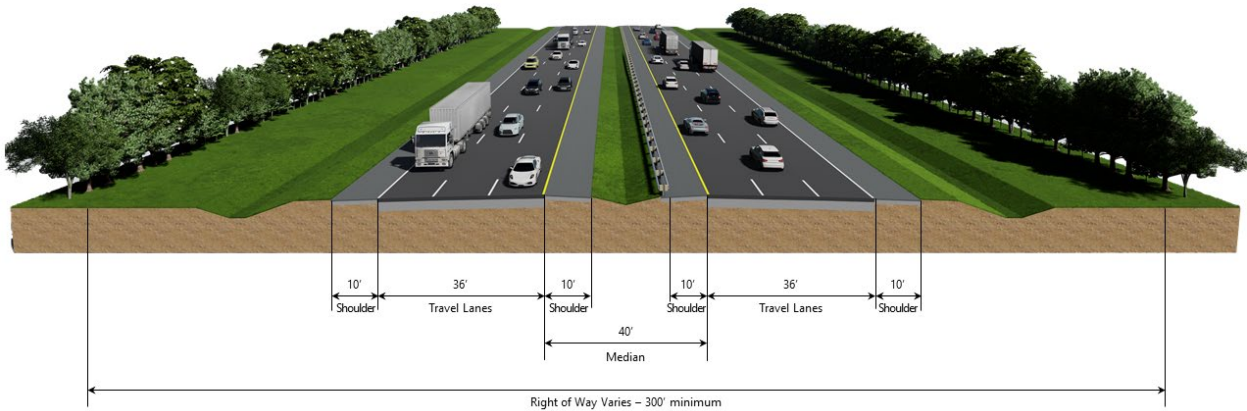
The existing typical section on I-95 from Philips Highway (US 1) to Southside Boulevard consists of three 12-foot travel lanes, one 12-foot auxiliary lane, a 10-foot inside paved shoulder, and a 10-foot outside paved shoulder in each direction (see **Figure 3**). The median width is 40 feet and includes a double-faced guardrail to separate opposing traffic.



**Figure 3.** I-95 Typical Section from Philips Highway (US 1) to Southside Boulevard

I-95 from Southside Boulevard to J. Turner Butler Boulevard (SR 202)

The existing typical section on I-95 from Southside Boulevard to J. Turner Butler Boulevard (SR 202) consists of three 12-foot travel lanes, a 10-foot inside paved shoulder, and a 10-foot outside paved shoulder in each direction (see **Figure 4**). The median width is 40 feet and includes a double-faced guardrail to separate opposing traffic.



**Figure 4.** I-95 Typical Section from Southside Boulevard to J. Turner Butler Boulevard (SR 202)

### 2.1.1 Existing Cross Drains

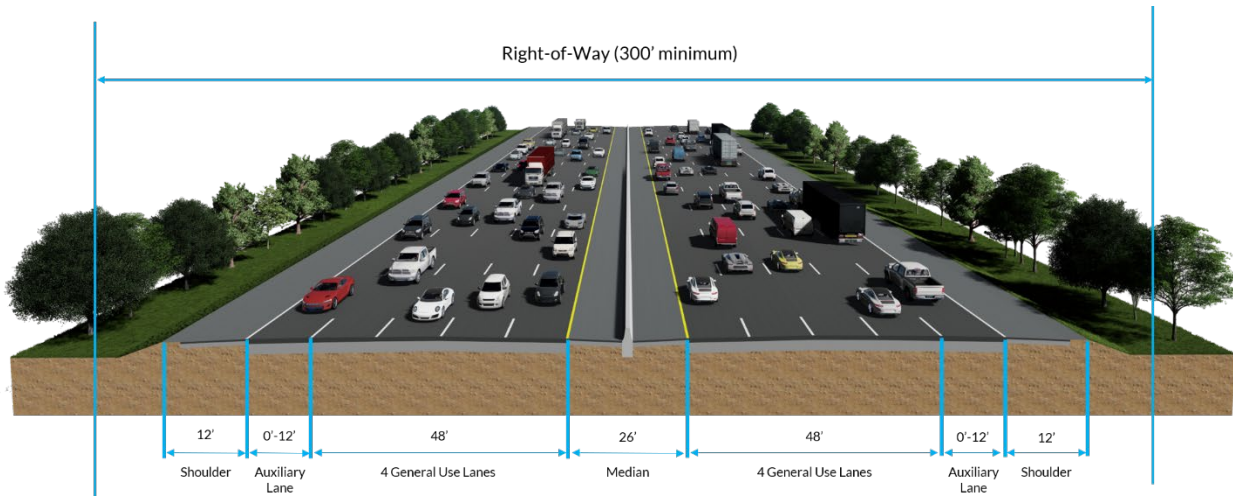
A review of construction plans for I-95 and the I-95 Pond Siting Reports indicates nine cross drains and are listed below in **Table 1**.

Table 1. Existing Cross Drains		
Cross Drain Number	Station	Type
1	778+00	10' x 3' Box Culvert
2	795+00	4' x 3' Box Culvert
3	832+00	Triple 8' x 4' Box Culvert
4	857+50	Double 10' x 4' Box Culvert
5	867+00	Triple 30" Pipe Culvert
6	913+20	8' x 4' Box Culvert
7	928+80	Double 30" Pipe Culvert
8	973+30	9' x 4' Box Culvert
9	764+50 <sup>1</sup>	6' x 4' Box Culvert

<sup>1</sup> Change in stationing due to the following station equation: STA 1016+77.13, 0.91' RT BK = 739+14.45 AH

### 2.2 Preferred Alternative

The preferred alternative will widen I-95 to four general use lanes and one occasional auxiliary lane in each direction, as shown in **Figure 5**. The preferred alternative will provide a 12-foot paved outside shoulder in each direction and a 26-foot median.

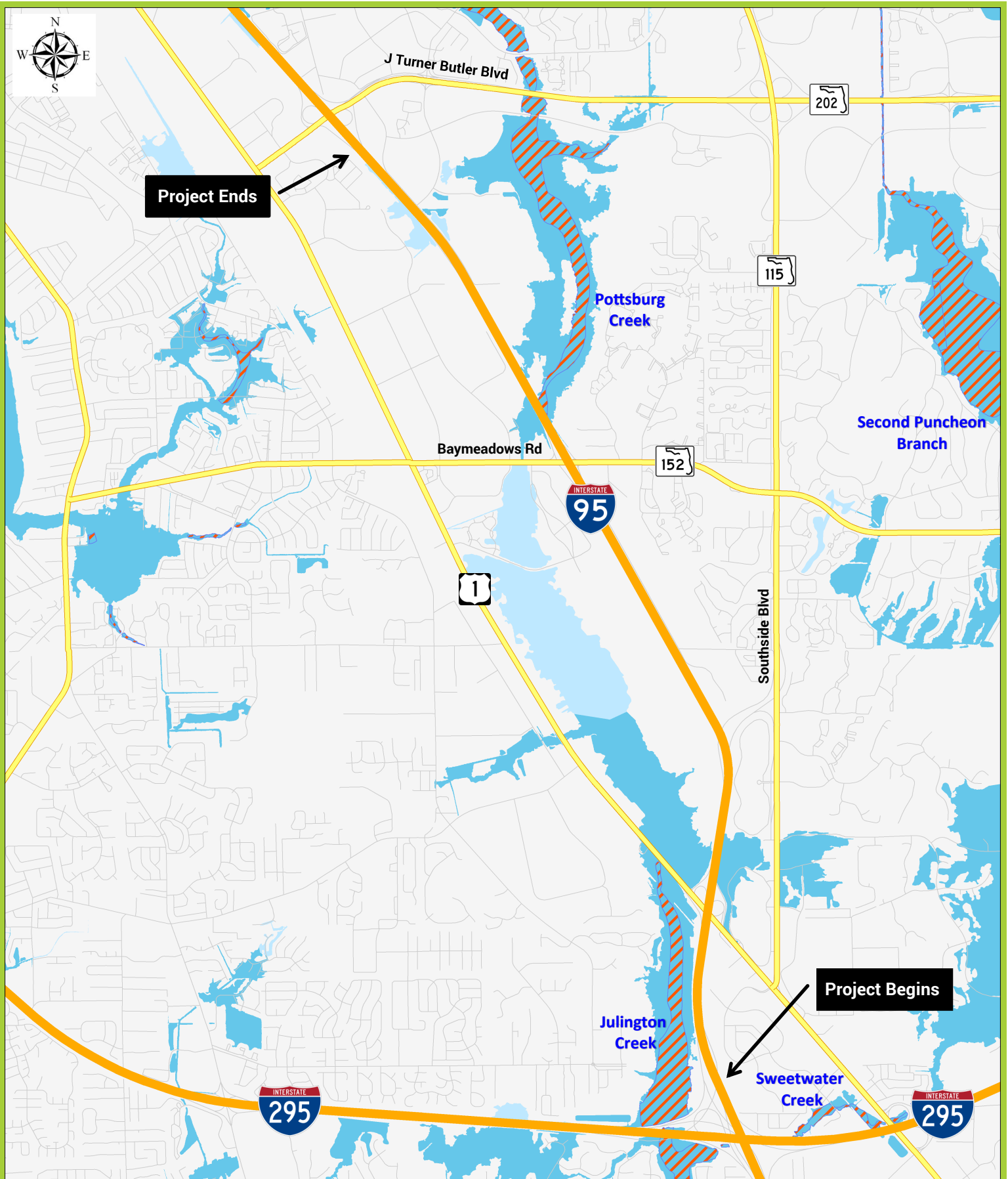


**Figure 5.** I-95 Typical Section from I-295 to J. Turner Butler Boulevard (SR 202)

### 3.0 FLOODPLAIN ENCROACHMENT & RISK ANALYSIS

Floodplain areas were identified using the Federal Emergency Management Agency (FEMA) Geographic Information System (GIS) database. FEMA has approved floodplain limits for Duval County, as shown in **Figure 6**. The proposed project is located mainly within Zone X (areas outside the 100-year floodplain). Still, portions of the project are adjacent to Zone AE (area subject to inundation by 1% annual chance flood) and two regulated floodways: Julington Creek and Pottsburg Creek. The proposed project will have no impact on the regulated floodways, and it is anticipated that FEMA No-Rise Certification will not be required. The proposed project does encroach into Zone AE at four locations, and floodplain compensation will be provided for these impacts (see **Figure 7**).

There is no longitudinal encroachment of regulated floodways. However, there is longitudinal encroachment of flood zones from the proposed roadway improvements as the flood zone is within the existing right-of-way and parallel to the existing alignment. No alternative analysis for longitudinal encroachment was considered because the proposed project is widening I-95 and follows the same alignment. Additionally, there are existing homes and businesses located adjacent to I-95, and an alternative alignment analysis does not meet the project's purpose and need, nor is it economically feasible. Modifications to existing drainage structures included in this project will result in an insignificant change in their capacity to carry floodwater. This change will cause minimal increases in flood heights and flood limits. These minimal increases will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant change in flood risks or damage. There will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes as a result of modifications to existing drainage structures.



**I-95 PD&E Study from  
I-295 to J. Turner Butler  
Boulevard (SR 202)**

**Legend**



Interstates



State Roads



Local Roads



Zone X



Zone A



Zone AE







Regulated Floodway

**Figure 6  
FEMA Floodplain Map**









**I-95 from I-295 to  
J. Turner Butler Boulevard  
Location Hydraulic Report**

	FLOODPLAIN ZONE AE		PROPOSED ROADWAY CONCEPT
	FLOODWAY		EXISTING RIGHT OF WAY

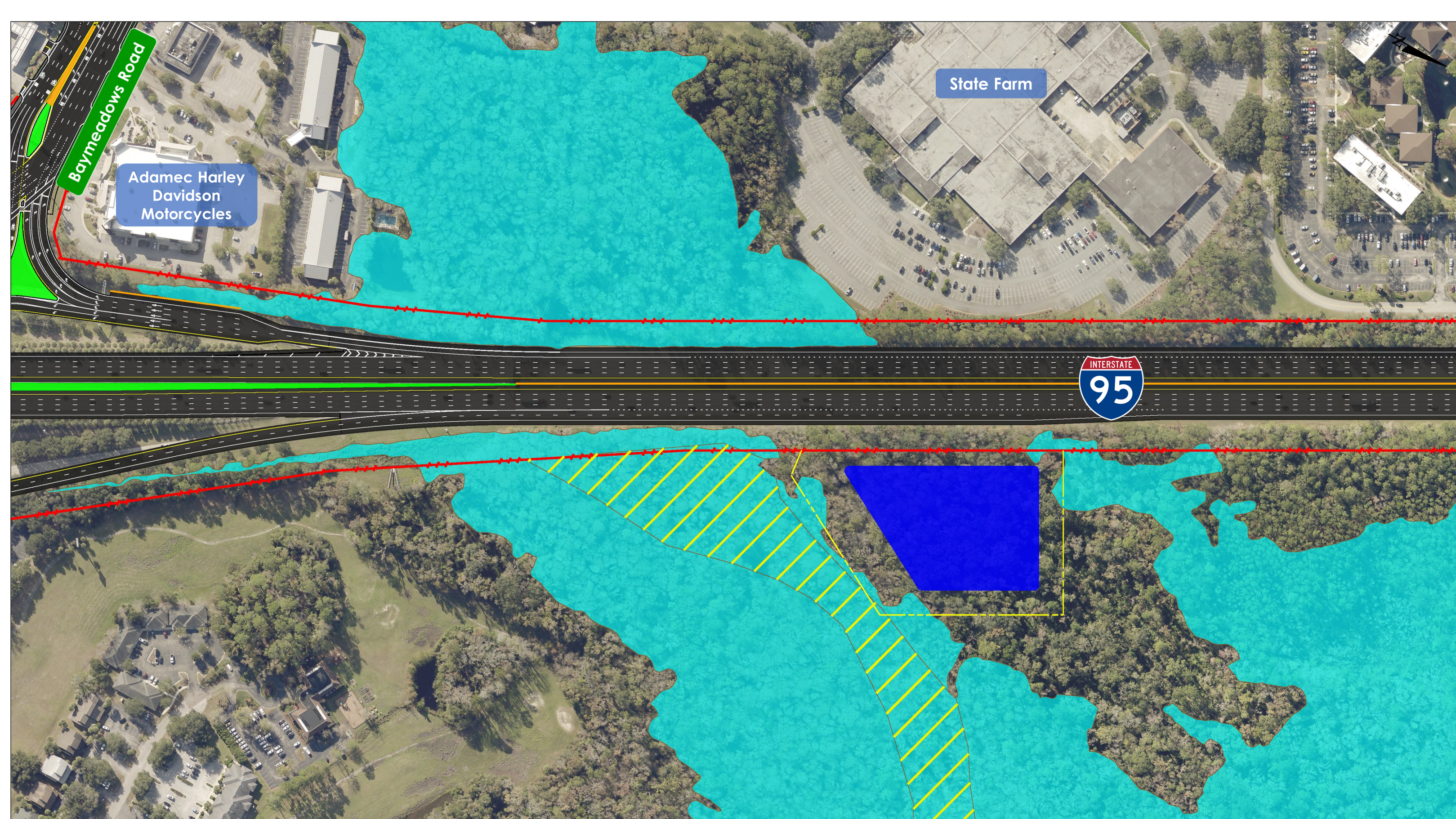
**Figure 7**







**I-95 from I-295 to  
J. Turner Butler Boulevard  
Location Hydraulic Report**

	FLOODPLAIN ZONE AE		PROPOSED ROADWAY CONCEPT
	FLOODWAY		EXISTING RIGHT OF WAY

**Figure 7**



**I-95 from I-295 to  
J. Turner Butler Boulevard  
Location Hydraulic Report**

	<b>FLOODPLAIN ZONE AE</b>		<b>PROPOSED ROADWAY CONCEPT</b>
	<b>FLOODWAY</b>		<b>EXISTING RIGHT OF WAY</b>

**Figure 7**