

# Project Development & Environment Study

Selmon Expressway (SR 618) Downtown Viaduct Improvements  
From Florida Avenue to South 22nd Street

## Final Location Hydraulic Report

THEA Project Number: 52.20.02  
FDOT WPI Segment Number: 416361 4  
Hillsborough County

Prepared for



June 2010

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Prepared by:  
American Consulting Engineers of Florida, LLC



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Wesley Chapel, FL 33544

June 2010

# Selmon Expressway (SR 618) Downtown Viaduct Improvements From Florida Avenue to South 22<sup>nd</sup> Street

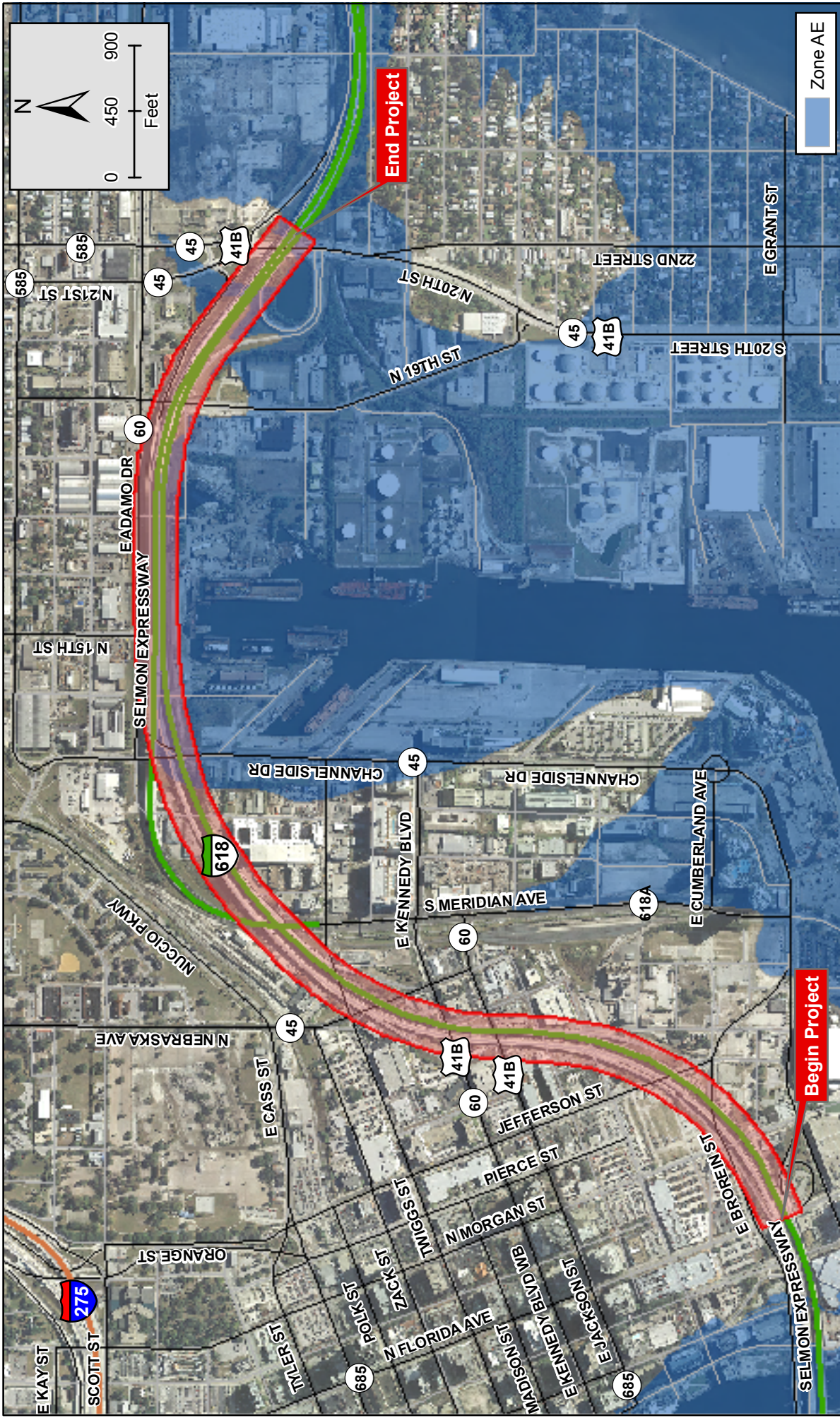
## Final Location Hydraulic Report

April 2010

*The information presented in this document is subject to change until the final Phase of the project. This Location Hydraulic Report (LHR) is preliminary and used as an engineering tool to identify potential floodplain encroachments as a result of the proposed improvements.*

The Tampa Hillsborough County Expressway Authority (THEA) conducted a Project Development and Environment (PD&E) Study to identify and analyze various alternative design concepts to meet the future traffic needs on the Selmon Expressway (SR 618) from Florida Avenue to South 22<sup>nd</sup> Street in Hillsborough County (**Figure 1-1**). The total project length is approximately 1.7 miles and is located within the Tampa city limits. Proposed improvements include the widening of the existing structures to the inside to provide a divided 6-lane roadway. The build alternative and any related stormwater improvements will be situated within the existing right-of-way. The design year for this project is 2035. A separate project within the limits of this study is the proposed re-decking of an approximately one mile segment of the existing viaduct structures, to be constructed by the Florida Department of Transportation (FDOT). The proposed re-decking will extend from Florida Avenue to North 12<sup>th</sup> Street.

This PD&E Study was conducted by THEA in cooperation with the FDOT District Seven. The objective of this study was to reach a decision on the type, location and conceptual design for the necessary improvements for the Selmon Expressway to safely and efficiently accommodate future travel demand. This Study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvements including elements such as proposed typical sections and preliminary horizontal alignments. The social, physical, and natural environmental effects and costs of these improvements have been identified. The alternatives were evaluated and compared based on a variety of parameters utilizing a matrix format. This process



**Figure 1-1: FEMA Floodplain Map**

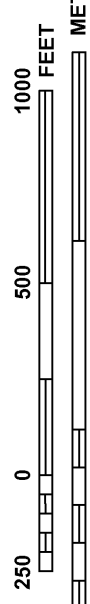
**Selmon Expressway  
 Downtown Viaduct  
 Improvements PD&E Study**  
 from Florida Avenue to South 22nd Street  
 Hillsborough County

Source: FGDL, FEMA





MAP SCALE 1" = 500'



ZONE X  
1315000 FT  
JOINS PANEL 0354

**NFIP**  
**NATIONAL FLOOD INSURANCE PROGRAM**

PANEL 0358H

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**HILLSBOROUGH COUNTY,**  
**FLORIDA**  
**AND INCORPORATED AREAS**

**PANEL 358 OF 801**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:  
COMMUNITY: HILLSBOROUGH COUNTY  
TAMPA, CITY OF  
NUMBER: 120112  
120114  
PANEL: 0358  
0358  
SUFFIX: H  
H

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



**MAP NUMBER**  
**12057C0358H**  
**EFFECTIVE DATE**  
**AUGUST 28, 2008**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

identified the alternative that will best balance the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs). In addition, full consideration was given to a “No-Build” alternative.

This PD&E Study was prepared and funded by THEA in cooperation with the FDOT District Seven and is in the FDOT Work Program as Work Program Item (WPI) Segment No.: 416361-4.

Based on comments received during the preliminary planning for this project through FDOT’s Efficient Transportation Decision Making (ETDM) Process (Programming Screen #11840), a *State Environment Impact Report (SEIR)* is the level of environmental documentation established.

Protection of floodplains and floodways is required by Executive Order 11988, “Floodplain Management”, USDOT Order 5650.2, “Floodplain Management and Protection”, and Federal-Aid Policy Guide 23 CFR 650A. This *Location Hydraulic Report* has been prepared to determine if any floodplains will be significantly affected due to the proposed improvements in accordance with Federal-Aid Policy Guide 23 CFR 650A, Section 650.111. The hydraulic design will follow FDOT, Water Management District, and local (FEMA) design standards. The following ten items have been addressed to document that the floodplain encroachments are not significant.

**1. History of Flooding:** The 100-year (base) floodplain within the limits of the project is directly connected to Tampa Bay via Hillsborough Bay. The tidally influenced discharge points for the project area are generally to the Hillsborough River, Garrison Channel, or Ybor Channel. The topography along the Selmon Expressway viaduct and around the bay is a low-lying urban coastal zone and has elevations ranging from sea level to approximately 20 feet NGVD. The existing Selmon Expressway within the majority of the project limits is an elevated limited access viaduct. Portions of the ground level areas below the existing viaduct are located within the 100-year (base) floodplain in Hillsborough County as described below. Per the City of Tampa’s Stormwater

Department, some minor flooding problems are prevalent within 14<sup>th</sup> Street Basin, more specifically upstream at the Seaport Channelside Apartment complex, and may be as a result of restriction from downsizing pipe sizes from 36” to 30” to 24.” Also reported by the City of Tampa Stormwater Department, there are a couple of drainage issues that have been recorded within the 15<sup>th</sup> Street Basin, which starts at N. Nebraska Avenue, and E. Bay Street, and flows in a southeast direction and discharges into the Ybor Channel.

**2. Longitudinal or Transverse Encroachments:** The (base) floodplain associated with this project is based on tidally influenced storm surge and does not involve any regulatory floodways; therefore, this project’s floodplain involvement does not warrant the need for identification of longitudinal or transverse encroachments. The negligible encroachment into the floodplain will not cause an increase in flood heights.

**3. Avoidance Alternatives:** Due to the tidally influenced floodplain and existing built out condition that surrounds the Selmon Expressway corridor, there will be no other horizontal alignment alternatives for these proposed roadway improvements, therefore, there are no avoidance alternatives.

**4. Emergency Services and Evacuations:** There will be no significant change in flood risk and there will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. The proposed drainage system will perform hydraulically in a manner equal to or greater than the existing drainage system and applicable backwater surface elevations are not expected to increase.

**5. Base Flood Impacts:** Portions of the improvements will encroach upon the 100 year base floodplain. This encroachment is located at ground level generally east of Channelside Drive. According to the SWFWMD, floodplain compensating storage will not be required for encroachment into this tidally influenced floodplain located at the northern end of the Ybor Channel. Based on review of the existing plans cross-sections, it



has been determined that no floodplain impacts are anticipated for the area north of the expressway on the east end.

**6. Regulatory Floodway:** According to the current FEMA FIRM maps, there are no regulatory floodways within the study limits.

**7. Natural and Beneficial Floodplain Values:** The proposed roadway will follow the same alignment as the existing roadway. Where base floodplains impacts occur, as noted above, values will be significantly affected.

**8. Floodplain Consistency and Development:** It has been determined, through consultation with local, state, and federal water resources and floodplain management agencies that there is no regulatory floodway involvement on the proposed project and that the project will not support base floodplain development that is incompatible with existing floodplain management programs. The proposed improvements will not directly or indirectly support floodplain development in a manner inconsistent with the National Flood Insurance Program, which prohibits development within the base floodplain. The Selmon Expressway corridor and surrounding area are already developed within the base floodplain. The conceptual improvements are also in accordance with the Hillsborough County comprehensive plan. Future development will be in accordance with designated land uses according to the adopted comprehensive plans and their land development regulations.

**9. Floodplain/FIRM:** A list of the Community Panel numbers for the Flood Insurance Rate Maps (FIRM) that cover the project area is shown in **Table 1-1**. A GIS drawing of the FIRM's illustrating the boundary of the base floodplain in the area of the project limits is shown in **Figure 1-1**. **Figures 1-2 & 1-3** show the FIRM Panels 12057C0354H and 12057C0358H illustrating the boundary of the base floodplain in the area of the project limit. The Federal Emergency Management Agency (FEMA) has conducted the current Flood Insurance Study for Hillsborough County, which was completed in August 2008. As noted above, the FIRM's indicate that the portion of the project generally east of Channelside Drive is in the 100-year base floodplain that is designated Zone AE with a

Base Flood Elevation of 10 feet NAVD 1988. The remainder of the project area is either in Zone X, which corresponds to the 500-year floodplain or outside (above) the 500-year floodplain.

**Table 1-1: FEMA FIRM Community Panel Numbers**

<b>Hillsborough County</b>	
<b>Community Panel No.</b>	<b>Effective Date</b>
12057C0354H	August 28, 2008
12057C0358H	August 28, 2008

**10. Risk Assessment:** This project involves construction within the base floodplain and is described as a “PROJECT ON EXISTING ALIGNMENT INVOLVING REPLACEMENT OF EXISTING DRAINAGE STRUCTURES WITH NO RECORD OF DRAINAGE PROBLEMS”. Since this project only includes impacts to a tidally influenced floodplain, no compensation is required. *The proposed structures will perform hydraulically in a manner equal to or greater than the existing structures, and backwater surface elevations are not expected to increase. As a result, there will be no significant adverse impacts on natural and beneficial floodplain values. There will be no significant change in flood risk, and there will not be a significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.*