

Gandy Connector (SR 600, US 92)

From the Gandy Bridge to the western
terminus of the Selmon Expressway

Project Development & Environment (PD&E) Study

Final Environmental Technical Compendium (ETC)

WPI Segment No: 255822-1

FAP No: N/A

Hillsborough County

Prepared for the

Tampa-Hillsborough County Expressway Authority (THEA)



Prepared by:

American Consulting Engineers of Florida, LLC



2818 Cypress Ridge Blvd, Suite 200 • Wesley Chapel, FL • 33544

May 2010

PREFACE

The purpose of this report is to document the potential environmental (social, cultural, natural and physical) impacts that may be expected for this proposed Gandy Connector project. This report is one of a series of interrelated reports:

- *State Environmental Impact Report (SEIR)*
- *Preliminary Engineering Analysis (PEA)*
- *Environmental Technical Compendium (ETC)*

This *ETC* has been designated as “Attachment C” of the “*SEIR* with Supporting Documents” package or compendium. This *ETC* is not meant to be a stand-alone document; for example, purpose and need for the proposed project are documented in the *SEIR* and are not discussed in this report. Existing conditions and the alternatives analysis are documented in the *PEA*. The intent is to eliminate duplication of material and help facilitate “project streamlining”. Taken together, these reports are meant to provide a comprehensive view of the work that was done for the Gandy Connector Project Development and Environment (PD&E) Study. Other separate documents that support this study include the *Traffic Technical Memorandum*, the *Cultural Resource Assessment Survey* and the *Comments and Coordination Report*.

Earlier related studies undertaken by the Florida Department of Transportation (FDOT) include a Major Investment Study (MIS) initiated in 1996 and earlier PD&E Studies; one which was suspended in 1993 following a public hearing and another which was suspended in 2002 prior to a public hearing.

This study was run through the FDOT’s Efficient Transportation Decision Making (ETDM) process (project #12216). *The Programming Screen Summary Report* can be found in **Appendix A**.

Table of Contents

Section	Page
PREFACE.....	i
1.0 SOCIAL IMPACTS.....	1
1.1 LAND USE.....	1
1.1.1 Existing Land Use.....	1
1.1.2 Future Land Use.....	3
1.2 COMMUNITY COHESION	5
1.3 RELOCATION POTENTIAL	5
1.4 COMMUNITY SERVICES.....	5
1.5 TITLE VI CONSIDERATION.....	5
1.6 CONTROVERSY POTENTIAL	5
1.7 BICYCLES AND PEDESTRIANS	6
1.8 UTILITIES AND RAILROADS	6
2.0 CULTURAL IMPACTS.....	7
2.1 Historic Sites/Districts	7
2.2 Archaeological Sites	7
3.0 NATURAL ENVIRONMENT	8
3.1 GEOLOGY/HYDROLOGY.....	8
3.2 SOILS	8
3.3 WETLANDS.....	12
3.3.1 Methodology	12
3.3.2 Wetland Classification.....	12
3.3.3 Wetland Impacts	16
3.3.4 Coordination with Permitting Agencies.....	16
3.3.5 Wetland Summary	16
3.4 WATER QUALITY.....	17
3.5 FLOODPLAINS	18
3.6 COASTAL AND MARINE RESOURCES.....	18
3.7 WILDLIFE AND HABITAT	20
3.7.1 Introduction and Methodology	20
3.7.2 Federal Listed Species	20
3.7.3 State Listed Species	23
3.7.4 Wildlife and Habitat Summary	27
4.0 PHYSICAL IMPACTS.....	29
4.1 NOISE.....	29
4.1.1 Methodology	29
4.1.2 Model Assumptions	29
4.1.3 Noise Sensitive Sites.....	31
4.1.4 Measured Noise Levels.....	35
4.1.4 Measured Noise Levels.....	35
4.1.5 Results.....	36
4.1.6 Evaluation of Abatement Alternatives.....	37
4.1.7 Summary	41
4.1.8 Noise Contours.....	42

4.2	AIR QUALITY	42
4.3	CONSTRUCTION.....	43
4.4	CONTAMINATION.....	45
4.4.1	Methodology	45
4.4.3	Project Impacts.....	51
4.4.4	Summary of Findings and Recommendations	61

Appendices

Appendix

A	ETDM Programming Screen Summary Report (Project #12216)
B	<i>Economic Analysis Study</i> - Center for Urban Transportation - University of South Florida
C	Agency Coordination
D	Location Hydraulic Report Short Form
E	Wildlife and Habitat Agency Coordination and Listed Species
F	TNM Noise Model Traffic Data
G	TNM Noise Model Receptor Locations and Results Table
H	TNM Noise Model Validation Data
I	TNM Noise Model Runs Input and Output Data – <i>Via CD</i>
J	TNM Noise Barrier Results
K	CO Screening Model Results
L	FirstSearch Contamination Database – <i>Via CD</i>
M	Contamination Field Photos
N	Citgo #372 Supporting Documents

List of Figures

Figure	Page
1-1 Existing Land Use Map	2
1-2 Adopted 2015 Future Land Use Map.....	4
3-1 USGS Quadrangle Map	9
3-2 NRCS Soils Map.....	10
3-3 Wetland Location Map	13
3-4 FEMA Floodplain Map.....	19
4-1 Generalized Receiver Location Map	34
4-2 Potential Contamination Site Map	47

List of Tables

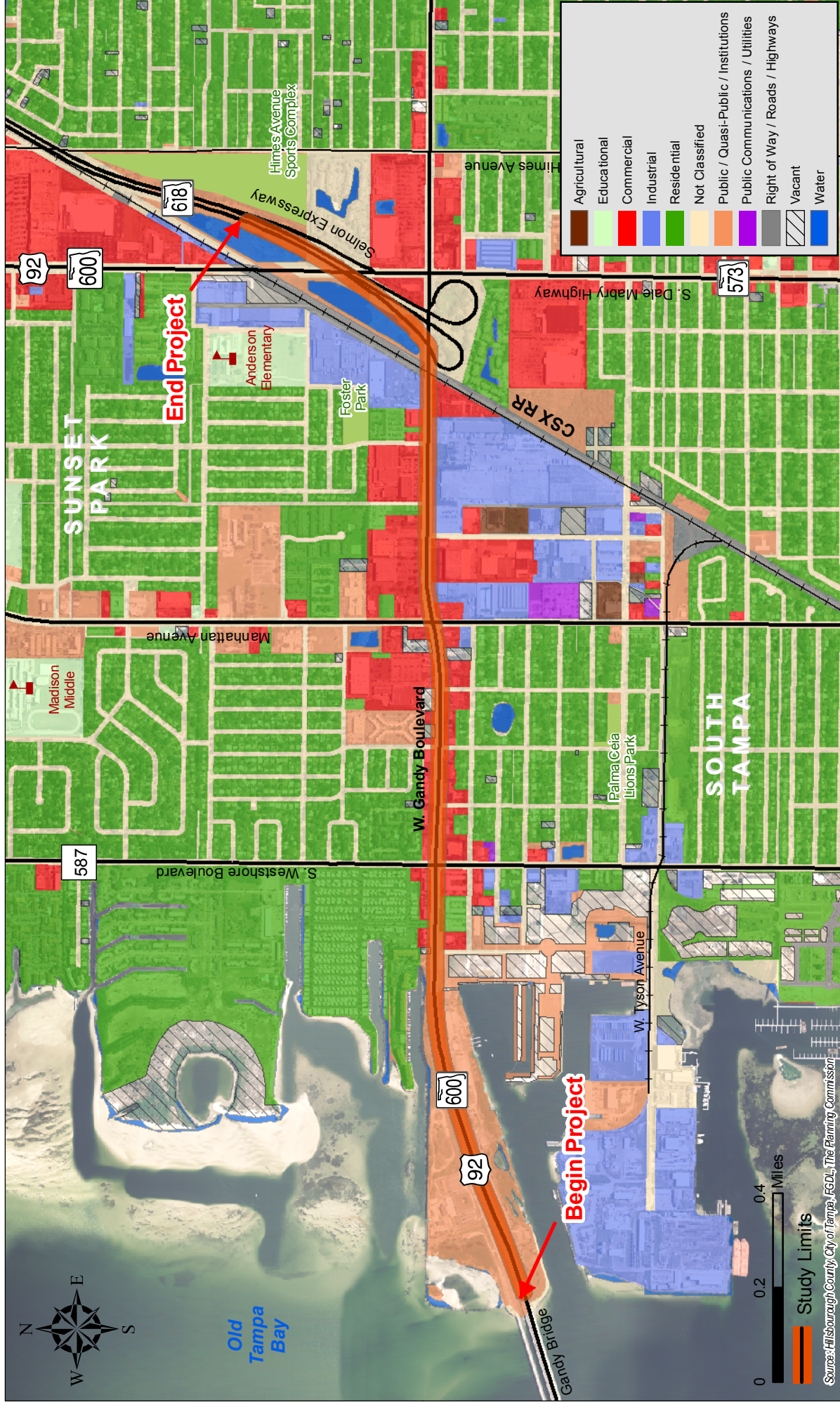
Table	Page
1-1 Existing Land Use	3
1-2 Future Land Use.....	3
3-1 Corridor Soil Acreage	11
3-2 Wetland and Surface Water Classifications.....	14
4-1 FHWA Noise Abatement Criteria.....	31
4-2 TNM Model Validation Data.....	36
4-3 Potential Contamination Sites along the Gandy Connector Corridor	46
4-4 Potential Contamination Involvement by Alternative	48

1.0 SOCIAL IMPACTS

1.1 LAND USE

1.1.1 Existing Land Use

General land use within the project corridor can be categorized as commercial and industrial immediately adjacent to Gandy Boulevard with public/quasi-public lands located along the western end of the corridor adjacent to the beginning of the Gandy Bridge. The public lands consist of lands owned by the Florida Department of Transportation (FDOT) and include the Gandy Boat Ramp Park. Residential land uses can be found mainly outside the immediate project corridor with the adjacent commercial and industrial areas providing a buffer between Gandy Boulevard. For purposes of this analysis, the following generalizations were made: Heavy and Light Commercial were combined into Commercial; Heavy and Light Industrial were combined into Industrial and Mobile Home Park, Multi-Family, Single Family/Mobile Home and Two Family were combined into Residential. **Figure 1-1** illustrates the land uses found along the project corridor. The project corridor is a highly urbanized area with very little undeveloped land. All on-site and adjacent land use types were classified by the Hillsborough County City-County Planning Commission and were derived from property appraiser parcels and the Department of Revenue property classification codes that were last updated in August 2008. An analysis of this data was performed by utilizing a 1,000-foot buffer from the centerline of Gandy Boulevard for a total buffer width of 2,000 feet to estimate the existing land uses adjacent to the corridor. The area within the Tampa Bay waters was excluded from this analysis. This data is summarized below in **Table 1-1**.



Gandy Connector PD&E Study

from Gandy Bridge to the western termini of the Selmon Expressway
Hillsborough County, Florida

Figure 1-1: Existing Land Use Map

Table 1-1 Existing Land Use

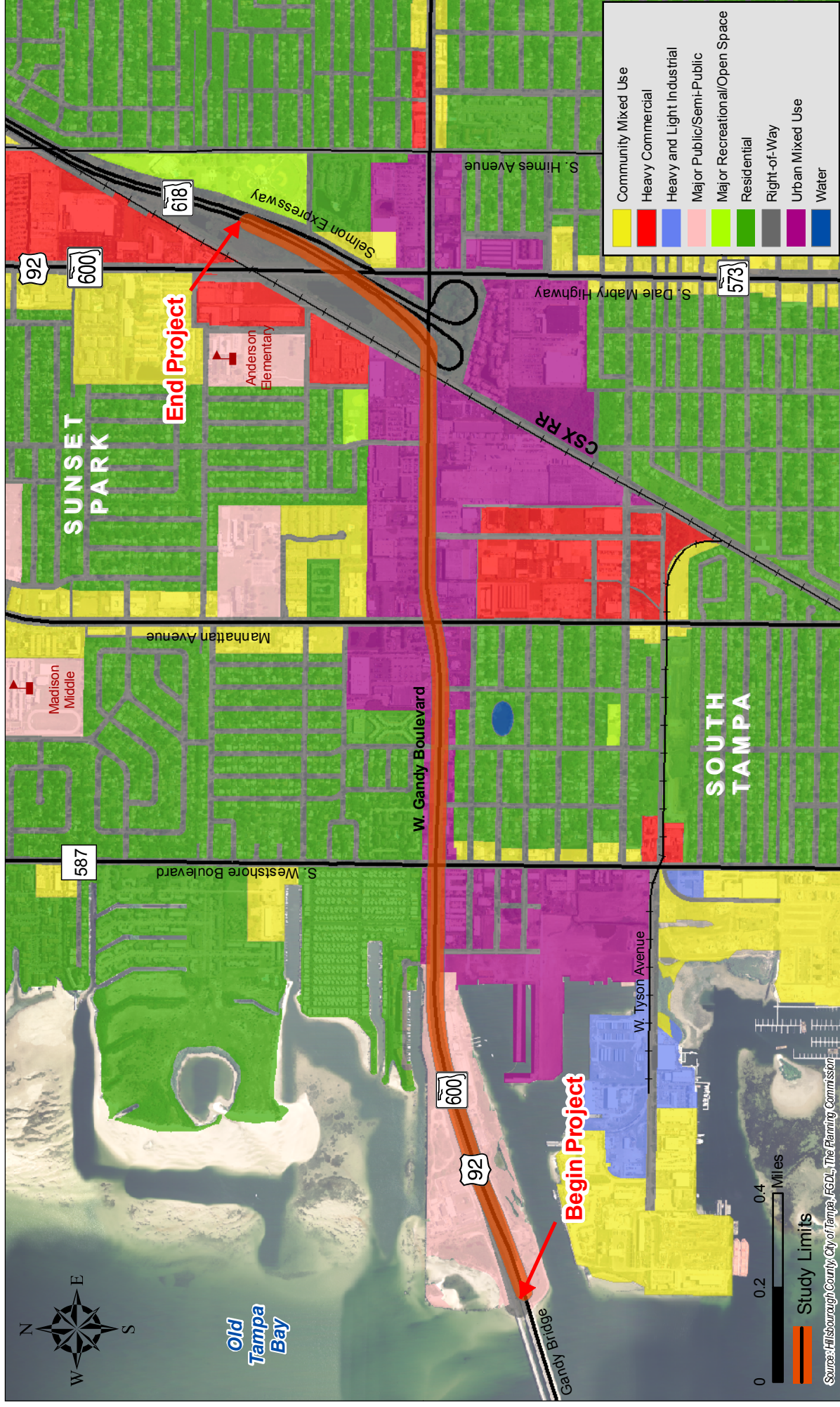
Land Use Description	Land Use Acreage within Buffer	Land Use Percentage within Buffer
Agricultural	2.73	0.49%
Educational	0.97	0.17%
Heavy and Light Commercial	100.70	17.90%
Heavy and Light Industrial	65.92	11.72%
Residential	115.38	20.51%
Not Classified	99.90	17.76%
Public / Quasi-Public / Institutions	124.27	22.09%
Public Communications / Utilities	0.44	0.08%
Right of Way / Roads / Highways	11.68	2.08%
Vacant	17.48	3.11%
Water	23.12	4.11%
Total	562.59	100.00%

1.1.2 Future Land Use

Because the project corridor is currently a highly urbanized area, no major changes are expected to occur to the future land use. The City of Tampa Adopted 2015 Future Land Use Geographical Information System (GIS) data was analyzed to determine what, if any, changes could be expected to the land uses surrounding Gandy Boulevard. Based on the available data the area immediately adjacent to Gandy Boulevard is expected to transition to more Urban Mixed Use with no other major changes anticipated. **Figure 1-2** illustrates the future land use as adopted by the City of Tampa. An analysis of this data was also performed and utilized the same 1,000-foot buffer from the Gandy Boulevard centerline that was used to analyze the existing land use. The future land use data obtained from the City of Tampa appears to be more refined and separates out more right of way land uses versus the existing land use data which could explain the large difference in acreage versus the existing land use and not an anticipated increase in right of way adjacent to the corridor. **Table 1-2** below summarizes the land use acreage found along the corridor.

Table 1-2 Future Land Use

Land Use Description	Land Use Acreage within Buffer	Land Use Percentage within Buffer
Community Mixed Use	26.26	4.67%
Heavy Commercial	35.17	6.25%
Major Public/Semi-Public	52.58	9.35%
Major Recreational/Open Space	22.19	3.94%
Residential	108.29	19.25%
Right of Way	145.92	25.94%
Urban Mixed Use	170.46	30.30%
Water	1.74	0.31%
Total	562.61	100.00%



Gandy Connector PD&E Study

from Gandy Bridge to the western termini of the Selmon Expressway Hillsborough County, Florida

Figure 1-2: Adopted 2015 Future Land Use Map

1.2 COMMUNITY COHESION

The proposed improvements to Gandy Boulevard would not cause major adverse impacts to the local neighborhood. The project proposes to construct an elevated regional connector within the median of the existing Gandy Boulevard. This will preserve the connectivity within the community. The construction of an elevated structure will remove regional traffic from the surface facility, potentially making the facility safer for vehicular, pedestrian and bicycle movements along and across Gandy Boulevard.

1.3 RELOCATION POTENTIAL

There are no anticipated residential relocations associated with the implementation of the elevated regional connector. One business relocation (Sailor Mike's Bait and Tackle) is anticipated with the reconfiguration of the Bridge Street intersection with the entrance to the Culbreath Key and Regency Coves communities.

1.4 COMMUNITY SERVICES

There would be no substantial adverse impacts to neighborhoods, services and /or community facilities as a result of project implementation. It is anticipated that with the construction of the elevated facility, traffic congestion and flow would ease along Gandy Boulevard. This would have a positive effect to emergency services by potentially reducing the response time in the community.

1.5 TITLE VI CONSIDERATION

This project has been developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968.

1.6 CONTROVERSY POTENTIAL

The Gandy Connector project has been the source of public controversy since the initial PD&E Study in the 1990's (not completed), through the Major Investment Study (MIS) completed March 2001 and the PD&E Study in the early 2000's (not completed). Those studies all considered construction of a four-lane facility either along Gandy Boulevard

which would impact scores of businesses or along a southern bypass route which would relocate over 100 residential units.

The construction of an elevated structure does involve the potential for controversy, especially among local businesses. The footprint of the proposed Elevated Express Lanes, being two lanes and situated in the median of existing Gandy Boulevard, will not directly impact any businesses along the corridor. The Center for Urban Transportation (CUTR) at the University of South Florida (USF) conducted an “Economic Analysis Study” which examined the possible indirect economic impacts of the proposed transportation improvements on the businesses located along the Gandy Boulevard corridor. The study concluded that as a result of implementing the proposed project, on average net negative change in gross sales equal to \$1 million and a loss of seven (7) jobs could reasonably be expected to occur within the study area. It should also be noted that this study predicted a \$0.8 million increase in sales and an additional five (5) jobs beyond the study area. A full copy of this report is contained in **ETC Appendix B**.

1.7 BICYCLES AND PEDESTRIANS

The construction of the proposed improvements along Gandy Boulevard has the potential to provide positive effects for pedestrians and bicyclists. The elevated regional connector would remove regional traffic, making the surface facility less congested and potentially safer for these users.

The project also provides for a signalized intersection at Bridge Street which can facilitate a signalized crossing for users of the Gandy Causeway Trails.

1.8 UTILITIES AND RAILROADS

Existing utilities and railroads are addressed in Section 1.1.12 of the PEA and potential impacts are addressed in Section 6.10 of the PEA.

2.0 CULTURAL IMPACTS

2.1 Historic Sites/Districts

A Historic Resources Assessment Survey Reevaluation was conducted in accordance with the procedures contained in 36 CFR Part 800. This survey included background research and field surveys to identify potential historic structures within the Area of Potential Effect (APE) for the proposed project. A total of 22 historic structures, including one (1) historic railroad corridor segment (8HI11519) and 21 historic buildings (8HI11493-8HI11496, 8HI11503-8HI11518 and 8HI1152), were identified during the survey. The buildings represent common forms of mid-century architecture and background research revealed no significant historical associations. The railroad corridor, as contained within the project APE, has suffered a loss of integrity and is not considered potentially eligible for listing in the National Register of Historic Places (NRHP). Evaluation of the entire historic railroad corridor was not conducted as part of this study. The proposed project and design options will have no effect on any historic resources which are listed, determined eligible, or considered potentially eligible for listing in the NRHP. This survey was completed in July 2009 and received concurrence from the State Historic Preservation Office (SHPO) on September 3, 2009. A copy of this letter is contained in **ETC Appendix C**.

2.2 Archaeological Sites

An archaeological survey was not required since this work was completed during the original PD&E study in 1992. This was noted within the Historic Resources Re-Evaluation Survey and subsequently concurred with by SHPO in their letter dated September 3, 2009 (**ETC Appendix C**).

3.0 NATURAL ENVIRONMENT

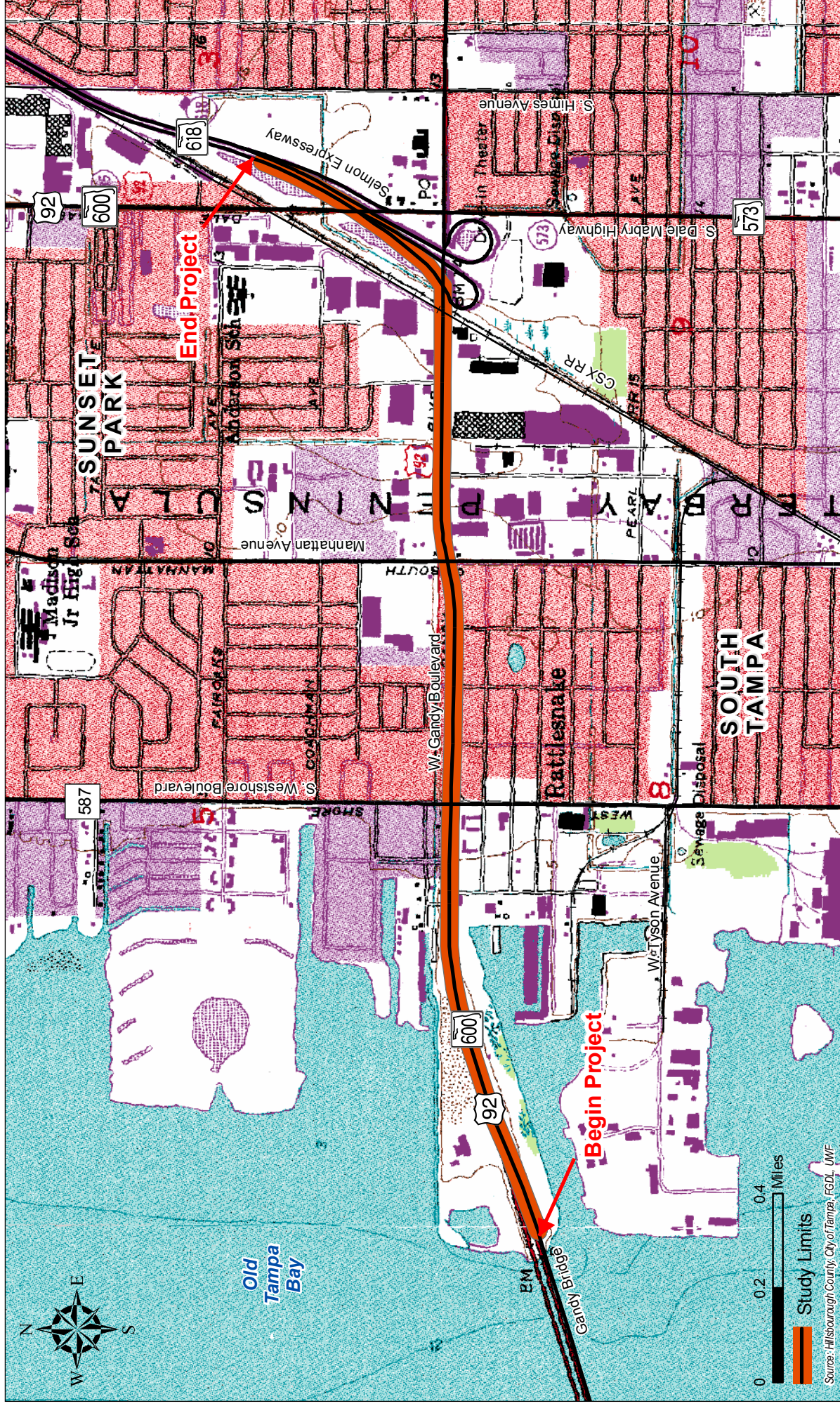
3.1 GEOLOGY/HYDROLOGY

The Natural Resources Conservation Service (NRCS) Soil Survey for Hillsborough County, Florida provides general descriptions of subsurface conditions within the county. Hillsborough County is located in the Floridian section of the Atlantic Coastal Plain with physiographic features relating back to the ancient seas, which once covered the region. Large, nearly level plains, commonly called flatwoods, are in the western, southern and northeastern parts of the county. Elevations within the county range from sea level near the coast to nearly 144 feet east of Plant City with the City of Tampa having an elevation of approximately 19 feet. Along the project corridor, elevations range from sea level at the western end of the corridor to 15 feet at the eastern end of the corridor. Surface drainage in this area of Hillsborough County is toward Tampa Bay. A USGS map of the corridor is shown in **Figure 3-1**.

3.2 SOILS

The NRCS Soil Survey for Hillsborough County, Florida indicates that there are multiple soil types that exist within the corridor. An analysis was performed to determine which soils occur within the immediate vicinity of the Gandy Boulevard corridor. A 100-foot buffer was applied to the centerline for a total buffer width of 200 feet. **Table 3-1** shows the approximate acreage of each soil type along with the approximate percentage along the corridor. The soil types and their identification numbers that are found within the buffer are as follows: Malabar fine sand (27), Myakka-Urban land complex (32), St. Augustine-Urban land complex (45), Urban land (56) and Wabasso-Urban land complex (58). Of these soil types found along the corridor, no well defined dominant soil types exist. **Figure 3-2** graphically depicts the existing soils types along the corridor with a more detailed description of each soil type shown below.

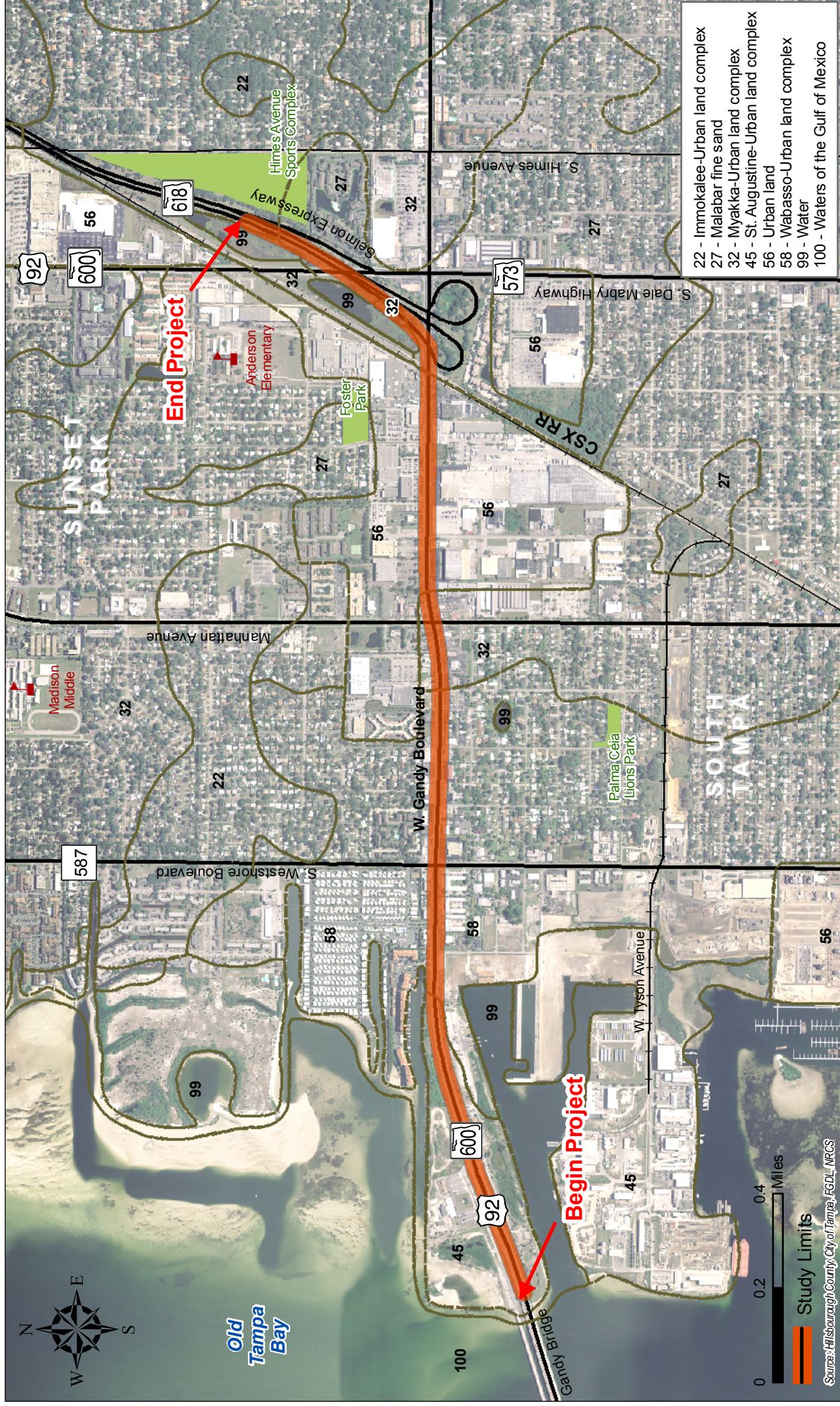
- **Malabar fine sand (27)** – Nearly level, poorly drained soil in low-lying sloughs and shallow depressions on the flatwoods. Slopes range from 0 to 2 percent. In most years the seasonal high water table fluctuates from the soil surface to a depth of about 10 inches for 2 to 6 months.



Gandy Connector PD&E Study

from Gandy Bridge to the western terminus of the Selmon Expressway
Hillsborough County, Florida

Figure 3-1: USGS Quadrangle Map



Gandy Connector PD&E Study

from Gandy Bridge to the western termini of the Selmon Expressway
Hillsborough County, Florida

Figure 3-2: NRCS Soils Map

- **Myakka-Urban land complex (32)** – Consists of Myakka soils that are nearly level and poorly drained as well as areas of urban land. Slopes range from 0 to 2 percent. Most areas of this map unit are artificially drained by ditches, sewer systems, etc. The un-drained areas have a seasonal high water table that fluctuates from the soil surface to a depth of about 10 inches for 1 to 4 months. During prolonged dry periods, the high water table recedes to a depth of 40 inches.
- **St. Augustine-Urban land complex (45)** – Consists of St. Augustine soils that are nearly level and somewhat poorly drained as well as areas of urban land. This complex lies on flats and slight ridges bordering Tampa Bay and is subject to brief flooding during the hurricane season. Slopes range from 0 to 2 percent. Most areas of this map unit are artificially drained by ditches, sewer systems, etc. The un-drained areas have a seasonal high water table at a depth of about 20 to 30 inches for 2 to 6 months. During prolonged dry periods, the high water table recedes to a depth of 50 inches.
- **Urban land (56)** – Areas covered by impervious area so that it makes identification of the underlying soil types not feasible. Slopes range from 2 to 5 percent but are dominated by slopes less than 2 percent. Most areas of this map unit are artificially drained by ditches, sewer systems, etc.
- **Wabasso-Urban land complex (58)** – Consists of Wabasso soils that are nearly level and poorly drained as well as areas of urban land. Slopes range from 0 to 2 percent. Most areas of this map unit are artificially drained by ditches, sewer systems, etc. The un-drained areas have a seasonal high water table that fluctuates from the soil surface to a depth of about 10 inches for 2 months. During prolonged dry periods, the high water table recedes to a depth of 40 inches.

Table 3-1 Corridor Soil Acreage

Soil Map Unit	Soil Unit Name	Soil Acreage within Buffer	Soil Percentage within Buffer
27	Malabar fine sand	9.15	15%
32	Myakka-Urban land complex	7.94	13%
45	St. Augustine-Urban land complex	16.18	26%
56	Urban land	11.26	18%
58	Wabasso-Urban land complex	15.88	26%
99	Water	1.07	2%
Total		61.48	100%

3.3 WETLANDS

3.3.1 Methodology

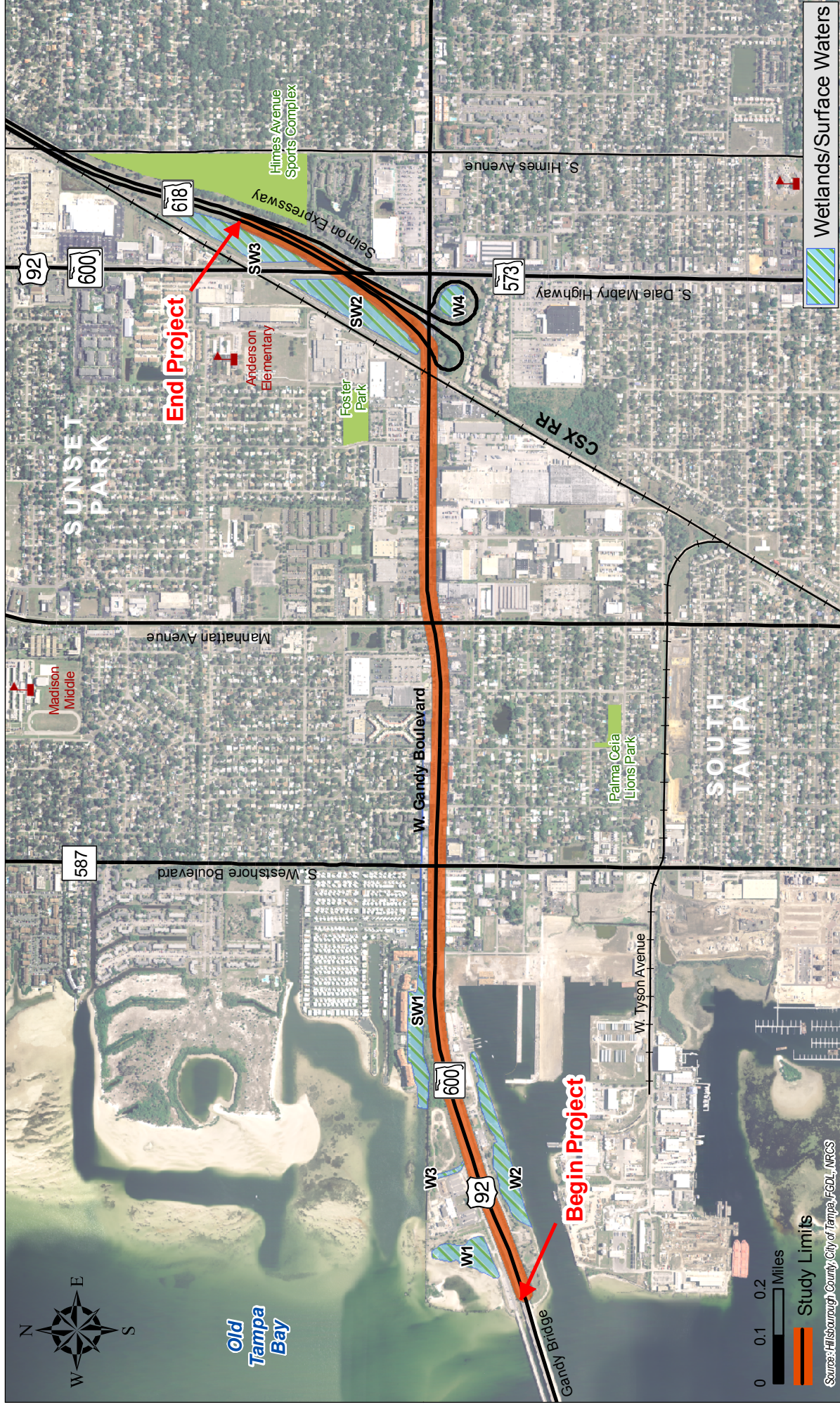
In accordance with Executive Order 11990, “Protection of Wetlands” (May 1977), the proposed project has been evaluated for potential impacts to wetlands. Preliminary wetland evaluations were based on information from the U.S. Geological Survey (USGS) topographic maps; *NRCS Soil Survey of Hillsborough County*; 2006 National Wetlands Inventory (NWI) GIS data; and aerial photography. **Figure 3-3** graphically illustrates the location of wetlands and surface waters along the project corridor.

Project scientists conducted on site evaluations of the corridor on April 20, 2009. During these evaluations, information obtained during in-house reviews was verified along with the identification of additional wetlands not previously identified. Wetlands were mapped using the *Atlantic & Gulf Coastal Plain Interim Regional Supplement to the 1987 Wetland Delineation Manual* and the Florida Department of Environmental Protection’s (FDEP) *The Florida Wetland Delineation Manual*, 1995 (Chapter 62-340, F.A.C.).

Wetlands are classified using the United States Fish and Wildlife Service’s (USFWS) *Classification of Wetlands and Deepwater Habitats* (Cowardin et. al. 1979) methodology and the *Florida Land Use, Cover and Forms Classification System* (FLUCCS). A breakdown of the wetland and other surface water classifications is shown in **Table 3-2**.

3.3.2 Wetland Classification

There are four (4) wetlands and three (3) surface waters located within or adjacent to the project corridor. The wetlands and surface waters were numbered from west to east. **Table 3-2** provides the USFWS classification and FLUCCS codes from Southwest Florida Water Management District (SWFWMD) for wetlands and surface waters identified along the study corridor.



Gandy Connector PD&E Study

from Gandy Bridge to the western terminus of the Selmon Expressway
Hillsborough County, Florida

Figure 3-3: Wetland Location Map

Table 3-2 Wetland and Surface Water Classifications

Wetland	USFWS Classification	FLUCCS Classification
W1	E2SS3U	612/619
W2	E2SS3U	612/619
W3	PEM1C/PSS1C	641/618/619
W4	PSS3C/PEM1C	631/641
SW1	E1UBL	540/510
SW2	PUBHx	530/641
SW3	PUBHx	530/641

Wetlands that have the potential to be impacted by the proposed roadway improvements have been grouped by the USFWS *Wetlands and Deepwater Habitats Classification of the United States*. General descriptions for each of these classifications are provided below:

Palustrine Emergent (PEM1C)

There are portions of two (2) wetlands (W3 & W4) that are located within or near the project corridor which are classified as seasonally flooded palustrine emergent wetlands. Typical vegetation found within these wetlands includes pickerelweed (*Pontederia cordata*), rushes (*Juncus spp.*), Carolina willow (*Salix caroliniana*), and sedges (*Carex spp.*). Wading birds, amphibians and other wildlife species would be expected to utilize these wetlands. The emergent portions of wetlands 3 & 4 are surrounded by scrub shrub and/or some forested wetland areas.

Palustrine Scrub-Shrub (PSS1C/PSS3C)

There are portions of two (2) wetlands (W3 & W4) located within or near the project corridor which are classified as seasonally flooded palustrine scrub-shrub wetlands with broad-leaved deciduous and evergreen vegetation. Typical vegetation found within these wetlands consists of Carolina willow, ludwigia (*Ludwigia spp.*), Brazilian pepper (*Schinus terebinthifolius*), saltbush (*Baccharis halimifolia*) and cabbage palms (*Sabal palmetto*). These sites have been altered by the surrounding development and are located along the roadway, allowing less-desirable plant species to invade. Wetland 4 is located

within the existing expressway on-ramp from Gandy Boulevard, and wetland 3 is located next to the U.S. Marine Corp property on the east side.

Estuarine Intertidal Scrub Shrub (E2SS3)

There are two (2) wetlands (W1 & W2) classified as estuarine intertidal broad-leaved evergreen scrub-shrub wetlands that are located within or near the project corridor. Typical vegetation found within these wetlands consists of red (*Rhizophora mangle*), black (*Avicennia germinans*) and white (*Laguncularia racemosa*) mangroves, buttonwood (*Conocarpus erectus*), Brazilian pepper and other shoreline vegetation. Wetland 2 consists of mainly mangroves (red, black and white) with some Brazilian pepper and buttonwood found sparsely throughout and near the outer fringes. It is abutting an excavated canal that connects directly to the Bay. Wetland 1 consists of similar vegetation and has direct connection to the Bay. Both of these systems are tidally influenced.

Estuarine Sub-tidal Unconsolidated Bottom (E1UBL)

There is one surface water (SW1) that is listed as estuarine sub-tidal unconsolidated bottom. This is an excavated canal that runs parallel to Gandy Boulevard and Culbreath Key. This system is directly connected to the Bay. East of the bay near the Culbreath Key entrance, the surface water is a ditch that runs parallel to Gandy Boulevard approximately 150 feet north of the road. This ditch system, which is approximately 8-10' wide and has vertical concrete sidewalls east of Culbreath Key, continues east past S. Trask Street. This ditch is used for stormwater conveyance and discharges to the Bay. This is the outfall of the "Gandy flume" noted in the drainage section.

Palustrine Unconsolidated Bottom (PUBHx) – Stormwater Facilities

Surface waters 2 & 3 (SW2 & SW3) are stormwater management facilities that were constructed for the surrounding development. These systems are open water bodies with large planted littoral zones consisting of wetland vegetation. The vegetation consists of pickerelweed, fire flag (*Thalia geniculata*), giant bulrush (*Scirus spp.*), cypress trees (*Taxodium spp.*) and many other wetland-dependent species. These facilities may provide habitat for wading birds, amphibians and other small animals, but would not

considered quality habitat since they are being utilized for stormwater treatment. These ponds are adjacent to the Selmon Expressway and outfall to the “Gandy flume”.

3.3.3 Wetland Impacts

Implementation of the Preferred Alternative would result in unavoidable impacts to surface waters within the project corridor. These impacts would occur from the new ramps that would be constructed near the intersection of Gandy Boulevard and Dale Mabry Highway, as well as the reconfiguration of the entrance at Culbreath Key/Bridge Street. It is anticipated that there will be no impacts to wetlands, with approximately 0.5 acre of surface waters impacted by the proposed roadway improvements. The impacts would occur to a ditch (SW1) that extends to Tampa Bay at the Culbreath Key entrance as well as impacts to existing stormwater facilities (SW2 & SW3) located north of Gandy Boulevard on both the east and west side of Dale Mabry Highway. Proper culverts will remain or be placed at the Culbreath Key/Regency Coves entrance north of Bridge Street to maintain existing flow through the ditch. Mitigation, if necessary, will be provided for impacts to these surface waters. Mitigation plans will be created during the design phase of the project as needed based on final impact evaluation.

3.3.4 Coordination with Permitting Agencies

Coordination with SWFWMD has been conducted to determine potential permitting requirements for the proposed project. A pre-application meeting was held on February 17, 2009, at the Tampa Service Office. It is anticipated that the project will require an Individual Environmental Resource Permit (ERP). Stormwater treatment would be required for the entire project, but attenuation would only be required for the portions that do not discharge into Tampa Bay. Further coordination will be conducted with SWFWMD during the design phase of the project. Permits may also be required from the U.S. Army Corps of Engineers (USACE), Environmental Protection Commission of Hillsborough County (EPCHC) and the Tampa Port Authority (TPA). Meeting minutes from the SWFWMD pre-application meeting are located in **ETC Appendix C**.

3.3.5 Wetland Summary

The proposed project was evaluated for potential wetland and surface water impacts by conducting office and on-site field reviews. There are four (4) wetlands and three (3)

surface waters located within or adjacent to the project corridor. A description of the wetlands and surface waters is provided above. It is anticipated that there will be no impacts to wetlands, but there will be approximately 0.5 acre of surface water impacts. The surface waters impacts consist of a ditch (SW1) located near the entrance of Culbreath Key/Regency Coves near Bridge Street that extends to Tampa Bay and two stormwater ponds (SW2 & SW3) located north of the Gandy Boulevard and Dale Mabry Highway intersection. An ERP permit will be required by SWFWMD, mainly for the additional impervious area that will be added. Final wetland and surface water impacts will be evaluated during the design phase and coordinated with SWFWMD, as well as EPCHC, USACE and the TPA (if Sovereign Submerged Lands are impacted), as necessary. Mitigation for impact to wetlands and surface waters will be conducted as necessary to meet the permitting agencies' requirements.

3.4 WATER QUALITY

The project is located close to Old Tampa Bay, which is subdivided into Upper and Lower Tampa Bay. The Gandy Bridge over Old Tampa Bay is the boundary line that separates Upper and Lower Tampa Bay. According to SWFWMD, Upper Tampa Bay has water quality restrictions for mercury, and Lower Tampa Bay has water quality restrictions for fecal coliforms. The project will be designed to not increase the level of these water quality constituents within Tampa Bay.

Water quality impacts will be addressed during design and construction of the proposed roadway project. The project will be designed to treat all stormwater runoff generated from the additional impervious area. Stormwater attenuation will be provided for sections along the project that do not discharge directly to Tampa Bay. This would consist of the eastern portion of the project located near Dale Mabry Highway. A pre-application meeting was held with SWFWMD on February 17, 2009, to discuss potential stormwater treatment options. SWFWMD stated that effluent filtration treatment is not an acceptable method for treatment, and treatment trains may be necessary to reach the required removal efficiency.

Proper Best Management Practices (BMPs) will be utilized during construction of the project to reduce or eliminate turbidity, erosion, and sedimentation into adjacent wetlands

and surface waters found along the project corridor. These BMPs include (but are not limited to): silt fence, turbidity barriers, synthetic hay bales, seeding, sodding, and drain inlet covers. BMPs will be inspected and maintained throughout the construction phase of the project until all loose sediment and debris are permanently stabilized.

3.5 FLOODPLAINS

A Draft Location Hydraulic Report (LHR) Short Form has been prepared for this project and can be found in **ETC Appendix D**. The LHR indicates that the floodplain area along the project corridor is based on tidally influenced storm surge with no regulatory floodplain involvement and thus does not warrant the need for the identification of longitudinal or transverse encroachments. There will be no significant adverse impacts on natural and beneficial floodplain values, changes in flood risk, or significant changes in the potential for interruption or termination of emergency service or emergency evacuation routes. A floodplain map along the project corridor is shown in **Figure 3-4**.

3.6 COASTAL AND MARINE RESOURCES

Coastal and marine wetlands around Tampa Bay provide nesting and breeding habitats as well as foraging areas for many types of wildlife including fish, wading birds, and many other species. It is anticipated that the proposed project will have no impact to coastal and marine wetlands; therefore, there should be minimal to no impact to wildlife that utilize these habitats. Any stormwater discharges will be treated prior to entering Tampa Bay. Permitting will be conducted through SWFWMD to obtain approval on a stormwater management system that will not produce any adverse effects to Tampa Bay. As mentioned above, proper BMPs will be utilized during construction to prevent any turbidity, erosion, and sedimentation into Tampa Bay.

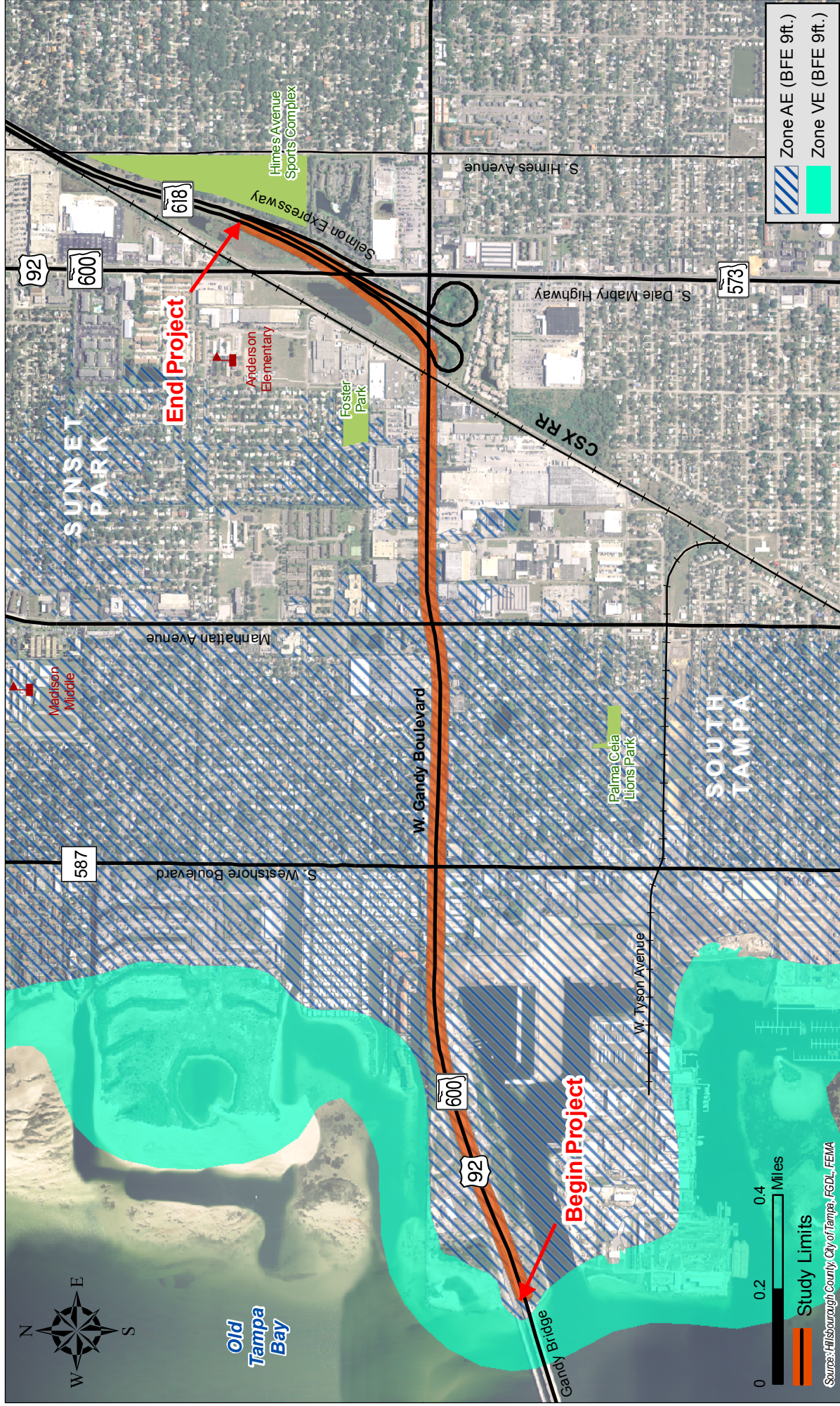


Figure 3-4: FEMA Floodplain Map

Gandy Connector PD&E Study

from Gandy Bridge to the western termini of the Selmon Expressway Hillsborough County, Florida

3.7 WILDLIFE AND HABITAT

3.7.1 Introduction and Methodology

Suitable habitat for federal and state-listed species was investigated for presence or absence during field reviews in accordance with 50 CFR Part 402 of the Endangered Species Act of 1973, as amended, and Part 2, Chapter 27 of the FDOT *PD&E Manual: Wildlife and Habitat Impacts*. A literature review and agency database search was conducted to determine the presence and/or absence of federal and state-listed species and their critical habitat. Field surveys were then conducted on April 20, 2009 to identify any protected species and/or critical or potential habitat within the project corridor.

Coordination with the Florida Fish and Wildlife Conservation Commission (FFWCC) and the USFWS was initiated early in the PD&E Study process to obtain comments and potential occurrence records on listed species within the project corridor. Correspondence with these agencies can be found in **ETC Appendix E**.

3.7.2 Federal Listed Species

No federally threatened or endangered floral species were observed within the project corridor during field reviews. No faunal species were observed during the field reviews; however, a few species which have been identified in the vicinity of the corridor or have the potential to occur are the wood stork, West Indian manatee, American alligator and the bald eagle. Minimal habitat is present within the project corridor to support these species, although the ditches and surface waters located along the corridor potentially provide foraging habitat for the wood stork and other wading birds at times throughout the year. A detailed description of these species and habitat requirements is provided below.

Wood Stork (*Mycteria americana*)

The wood stork is listed as endangered both federally and in the state of Florida. Wood storks usually nest in inundated forested wetlands, such as cypress domes, hardwood swamps, and even mangrove fringes and forage in the shallow waters of marshes, swamps, ponds, tidal creeks, wet pastures and ditches, mainly searching for fish. The distribution of the wood stork is throughout Florida, but they are much less frequent in

the panhandle and the Florida Keys. This species has a Core Foraging Area (CFA) of 15 miles in central Florida, which includes Hillsborough County. The project corridor has some suitable foraging habitat for the wood stork, most of which is located outside the project limits or within the stormwater facilities located near the intersection with Dale Mabry. The project corridor falls within the CFA of three known wood stork colonies (East Lake/Bellows Lake, Sheldon Road and Colony #615333). The entire project area is located within the CFA of these rookeries. Colony # 615333 is the nearest wood stork colony to the project, located approximately 6.5 miles to the southeast of project corridor.

Since the project is located within the CFA of three wood stork rookeries, all impacts to non-forested wetlands are anticipated to be mitigated for within the CFA of these rookeries or a nearby wood stork rookery. Because wood storks forage over such an extensive area, no colony would be solely dependent on any of the foraging areas within the project corridor. No nesting areas will be impacted by this proposed project. It is anticipated that the project is not likely to adversely affect the wood stork.

West Indian Manatee (*Trichechus manatus latirostris*)

The West Indian manatee is a large gray aquatic mammal that is listed as endangered both federally and by the state of Florida. Manatees are found throughout most of the state and inhabit coastal waters, rivers, bays and even sometimes lakes. Manatees are usually found in warm water; therefore, in the colder months they travel into rivers, creeks, canals or springs. The surrounding bay and canals provide habitat for manatees and are potential areas for manatees to go in colder months. Manatee grades may be considered if there are any culverts that exceed eight (8) inches in diameter and are not greater than eight (8) feet in diameter.

It is not anticipated that the project will extend into any waters that would be utilized by manatees; therefore, it is anticipated that construction of this project is not likely to adversely affect the manatee.

Bald Eagle (*Haliaeetus leucocephalus*)

Although the bald eagle is no longer afforded protection by the Endangered Species Act, protection for the species is afforded through the Migratory Birds Program per the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). The USFWS will still regulate activities if an active eagle's nest is within 660 feet of a proposed activity.

The bald eagle prefers habitats near coastal areas, including bays, rivers, lakes, and other open water bodies. These habitats provide food sources such as fish, waterfowl, and wading birds. Eagles usually nest in tall trees, but have been known to nest in lower-lying trees and even on the ground. The bald eagle is located throughout the state, especially near coastal areas. There were no bald eagles or eagle nests observed within or near the project corridor. According to the FFWCC eagle nest locator, the closest active eagle nest (HL026) is located approximately 2.25 miles northeast of the study corridor and was shown as last active in 1999.

The project is not expected to impact any existing foraging areas or any potential nesting trees in or adjacent to the corridor. The project will require construction near Tampa Bay; however construction is not anticipated to impact any portion of the bay and would be contained to the existing right of way. Further, if bald eagles are discovered during the design phase, the standard construction precautions from the FFWCC will be followed if the nest location(s) are within the limits of construction with the distances identified in the provisions. Therefore, it is anticipated that the project will not affect the bald eagle.

American Alligator (*Alligator mississippiensis*)

The American alligator is federally listed as threatened based upon "similarity of appearance" to the endangered American crocodile (*Crocodylus acutus*) and is state listed as a species of special concern (SSC). They are found in most permanent bodies of fresh water, such as lakes, rivers, marshes and swamps. Adult alligators range from 6-15 feet in length. Alligators can be differentiated by crocodiles by their broad, rounded snout, and by the fact that alligators usually do not have visible lower teeth when the jaws are closed. Alligators are usually active in the warmer months during spring, summer and early fall. These reptiles nest in the spring and hatch their eggs in the summer.

Alligators can be found throughout the state, but are rare in the Florida Keys due to the lack of abundant freshwater habitat.

No individuals of this species were observed during the field surveys; however, habitats utilized by the American alligator such as ponds and ditches are found within and adjacent to the corridor. Since the available habitat within and adjacent to the corridor is minimal, the probability of occurrence for this species is considered low. Since wetland impacts will be mitigated for pursuant to Part IV, Chapter 373, F.S. and U.S.C. 1344, it is anticipated that the project is not likely to adversely affect the American alligator.

3.7.3 State Listed Species

Literature and data reviews, along with field observations, were conducted along the project corridor. No state threatened or endangered floral species were observed within the project corridor during field reviews. No listed faunal species were observed during the field reviews as well; however, a few species which have been identified in the vicinity of the corridor or have the potential to occur are the snowy egret, Florida sandhill crane, white ibis, roseate spoonbill, brown pelican, limpkin, little blue heron, reddish egret, tricolored heron, and least tern. Minimal critical habitat is present within the project corridor to support these species, with the exception of the ditches and surface waters located along the corridor potentially providing foraging habitat for wading birds at times throughout the year. A detailed description of these species and habitat requirements is provided below.

Snowy Egret (*Egretta thula*)

The snowy egret is a wading bird, listed as a SSC, which nests in shallow waters of both inland and coastal wetlands, usually in shrubs such as willows or mangroves. This species feeds in flooded wetlands, lakes, streams, manmade ditches and impoundments, and swamps. No snowy egrets were observed during field inspections, but suitable habitat is located near the project area.

Mitigation for impacts to wetlands will be assessed during the design phase of this project. Mitigation will be conducted to offset all impacts to wetlands; therefore, it is anticipated that the project will not adversely affect the snowy egret.

Florida Sandhill Crane (*Grus Canadensis pratensis*)

The Florida sandhill crane is a large, long-necked bird that is likely to be found in or near prairies, pasture lands, and freshwater marshes. This species prefers wetlands that consist mainly of pickerelweed (*Pontederia cordata*) and maidencane (*Panicum hemitomon*). They can also be found on golf courses, crop fields, and other open areas. Sandhill cranes are listed as a threatened species in Florida. Nesting season for the Florida sandhill crane ranges from January to June.

No sandhill cranes or their nests were observed during field surveys. Foraging habitat exists near the project corridor, in areas such as ditches, stormwater facilities, and existing wetlands. Mitigation for impacts to wetlands will be assessed during the design phase of this project. Mitigation will be conducted to offset all impacts to wetlands; therefore, it is anticipated that the project will not adversely affect the Florida sandhill crane.

White Ibis (*Eudocimus albus*)

The white ibis is a SSC in Florida that inhabits many types of wetland habitats, such as forested wetlands, wet prairies, freshwater and saltwater marshes, swales, ditches, salt flats and inundated fields. Foraging for this species usually occurs in freshwater habitats, since a high-salt diet can affect the growth rate of offspring. White ibis can be found throughout the state, especially in summer months.

No white ibis were observed along the project corridor during field visits. Mitigation for impacts to wetlands will be assessed during the design phase of this project. Mitigation will be conducted to offset all impacts to wetlands; therefore, it is anticipated that the project will not adversely affect the white ibis.

Roseate Spoonbill (*Ajaia ajaja*)

The roseate spoonbill is a medium-sized wading bird of the southern coasts that is listed as a SSC in the State of Florida. This species primarily nests in mixed-species colonies on coastal mangrove islands or in Brazilian pepper on man-made dredge spoil islands near suitable foraging habitat. Foraging for this species usually occurs in shallow water of variable salinity, including marine tidal flats and ponds, coastal marshes, mangrove-dominated inlets and pools, and freshwater sloughs and marshes. Hillsborough County is considered a portion of the breeding range in Florida for this species.

No roseate spoonbills were observed along the project corridor during site visits. Mitigation for impacts to wetlands will be assessed during the design phase of this project. The project will require construction near Tampa Bay; however construction is not anticipated to impact any portion of the bay and would be contained to the existing right of way. No nesting and/or foraging habitats would be impacted during the construction of this project. The project will not adversely affect the roseate spoonbill.

Brown Pelican (*Pelecanus occidentalis*)

The brown pelican is a large, heavy water bird that is listed as a SSC in the State of Florida. This species makes extensive use of sand pits, sand bars and islets for nocturnal roosting and daily loafing. Nesting is principally on small islands in bays and estuaries, in small bushes or trees, or on the ground, with mangrove islands used frequently in central and southern Florida. Foraging is mainly conducted along the coast with feeding occurring in shallow estuarine waters.

No brown pelicans were observed in or near the project corridor during site visits. The project will require construction near Tampa Bay; however, construction is not anticipated to impact any portion of the bay or coastal wetlands and would be contained to the existing right of way on the western end of the corridor. The project will not adversely affect the brown pelican.

Limpkin (*Aramus guarauna*)

The limpkin is a large wading bird that is listed as a SSC. It is brown in color with white spotting and streaking and has a large bill and long legs for wading in swamps and marshes. The limpkin can be found in mangroves, freshwater marshes, pond and river margins, swamps, and springs. Besides these habitats, limpkins are known to forage along banks of irrigation canals and in sugarcane fields. The limpkins are widespread throughout central and south Florida and are scattered in north Florida and the Panhandle.

There were no limpkins observed along the project corridor during site visits. Mitigation for impacts to wetlands will be assessed during the design phase of this project and any impacts will be mitigated to offset all impacts to wetlands. Therefore, it is anticipated that the proposed project will not adversely affect the limpkin.

Little Blue Heron (*Egretta caerulea*)

The little blue heron is a medium-sized wading bird that has its largest nesting colonies within coastal wetland habitats, but prefers to forage in freshwater wetlands, such as lakes, marshes and streams. In freshwater habitats, this species nests in cypress, red maple, willow and cabbage palms. The little blue heron can be found throughout Florida and is listed as a SSC. No little blue herons were observed during field visits, but potential habitat does exist along the corridor.

No impacts are anticipated to coastal wetlands or wetlands that would serve as nesting areas for the little blue heron. Mitigation for impacts to wetlands will be assessed during the design phase of this project. Mitigation will be conducted to offset all impacts to wetlands; therefore, it is anticipated that the project will not adversely affect the little blue heron.

Reddish Egret (*Egretta rufescens*)

The reddish egret is wading bird with a gray body and shaggy reddish/orange plumes on its head, neck, and chest. Hillsborough County is listed as being within the breeding range for this species. In breeding areas, the reddish egret is usually resident and does not migrate. During breeding season, the bill is bicolored having flesh color at the base

and black at the end, and the legs are usually turquoise blue. The reddish egret is listed as a SSC in Florida. The habitat for this species is almost exclusively along the coast, including mangrove or Brazilian pepper islands and manmade dredge spoil islands. The reddish egret typically forages in water six (6) inches or less of variable salinity.

No reddish egrets were observed along the project corridor during field visits. No impacts to coastal wetlands are anticipated by the proposed project. Mitigation for impacts to wetlands will be assessed during the design phase of this project, and any impacts will be mitigated to offset all impacts to wetlands. Therefore, it is anticipated that the proposed project will not adversely affect the reddish egret.

Tricolored Heron (*Egretta tricolor*)

The tricolored heron is a medium-sized heron that prefers nesting on mangrove islands or in willow-dominated freshwater habitats. Nesting for the tricolored heron usually occurs within areas over standing water or on islands. The tricolored heron forages in flooded wetlands, mangrove and tidal wetlands, and along the edges of lakes and ponds. This species is found throughout Florida and is listed as a SSC. There are a few willow-dominated wetlands found along the corridor, but these are small isolated systems that provide minimal habitat. It is not anticipated that these systems will be impacted by the proposed roadway improvements.

There were no tricolored heron observed along the project corridor during site visits. Mitigation for impacts to wetlands will be assessed during the design phase of this project and any impacts will be mitigated to offset all impacts to wetlands. Therefore, it is anticipated that the proposed project will not adversely affect the tricolored heron.

3.7.4 Wildlife and Habitat Summary

Suitable habitat for federal and state-listed was investigated for presence or absence within the project corridor. No listed species were observed along the project corridor during the field visit conducted on April 20, 2009. Multiple listed species (shown above) have the potential to occur within the project corridor. After field reviews, habitat assessment, and impact evaluation, it has been determined that the proposed project will

not adversely affect any federal or state-listed species. No wetlands are anticipated to be impacted by the proposed project. The only impacts expected along the project corridor consist of impacts to a stormwater ditch that discharges to Tampa Bay near the entrance of Culbreath Key and stormwater ponds located to the north of the intersection of Dale Mabry Highway and Gandy Boulevard. Since these are stormwater facilities, they provide minimal quality habitat for listed species. Mitigation for these impacts will be conducted as necessary to offset any potential foraging, breeding, or nesting habitat utilized by the above-listed species.

4.0 PHYSICAL IMPACTS

4.1 NOISE

4.1.1 Methodology

The Gandy Connector noise analysis was performed following FDOT procedures (*Project Development and Environment Manual*: Part II, Chapter 17: April 14, 2007). The FDOT procedures comply with Title 23 Code of Federal Regulations (CFR) Part 772 (*Procedures for Abatement of Highway Traffic Noise and Construction Noise*).

The prediction of future traffic noise levels with the roadway improvements was performed using the Federal Highway Administration's (FHWA) computer model for highway traffic noise prediction and analysis – the Traffic Noise Model (TNM – Version 2.5). The TNM propagates sound energy, in one-third octave bands, between highways and nearby receivers taking into account the intervening ground's acoustical characteristics and topography, and right of ways of buildings.

The noise levels presented in this report are expressed in decibels (dB) on the A-weighted scale (dBA). This scale most closely approximates the response characteristics of the human ear to low level sound. All noise levels are reported as equivalent level (LA_{eq1h}), values which theoretically contain the same amount of acoustic energy as an actual time-varying A-weighted sound level over a period of one (1) hour.

The existing (2006), future no-build (2035) and forecast future year build (2035) traffic data used in the TNM for the Gandy Connector project are presented in **ETC Appendix F**. All traffic data was provided by HNTB Corporation.

4.1.2 Model Assumptions

The following are details and assumptions used to develop the noise model for the Gandy Connector PD&E Study:

- Speed limits in the model were assumed at the posted speed limits as identified during field reviews and are as follows:

- Selmon Expressway – 55 MPH
 - Selmon Expressway Loop Ramps – 20 MPH
 - Selmon Expressway Slip Ramps – 45 MPH
 - Gandy Boulevard east of the Gandy Boat Ramp – 45 MPH
 - Gandy Boulevard west of the Gandy Boat Ramp – 55 MPH
 - Dale Mabry Highway – 45 MPH
 - Westshore Boulevard north of Gandy Boulevard – 35 MPH
 - Westshore Boulevard south of Gandy Boulevard – 45 MPH
 - Manhattan Avenue north of Gandy Boulevard – 40 MPH
 - Manhattan Avenue south of Gandy Boulevard – 35 MPH
 - Elevated Express Lanes – 50 MPH
- The Freedom Village II (Goodwill Facility) and the LaQuinta Inn Hotel were modeled as Activity Category “E” with the abatement criterion set at 51 dBA. A conservative approach of a 20 dBA reduction (based on a light frame building type with closed windows) of the exterior noise levels was used in the analysis.
 - All receptor heights were set at five (5) feet for all single family residential units and the first floor of all multi-family units. All subsequent floors for multi-family units were set at 10 foot increments, i.e. 2nd floor units at 15 feet, 3rd floor units at 25 feet, etc.
 - Three and one-half (3.5) foot parapet walls were assumed along the outside and inside for the Build conditions along the proposed regional express lanes.
 - For existing multi-story apartment buildings, barriers and/or building right of ways were added and assumed at a 12 foot height for each level to account for noise insertion losses provided by the existing building for those residences not directly facing the project corridor.
 - A ground zone was added at the west end of the project for the waters of Tampa Bay.
 - The existing ground elevation was assumed at zero (0) feet with all roadway elevations entered based on the relative elevation differences and not actual elevations.

4.1.3 Noise Sensitive Sites

Noise-sensitive sites are defined as properties where frequent human use occurs and where a lowered noise level would be of benefit. To evaluate traffic noise, the FHWA established Noise Abatement Criteria (NAC). As shown in **Table 4-1**, the criteria vary according to a property's activity category.

Table 4-1 FHWA Noise Abatement Criteria

Activity Category	Abatement Level (in L_{Aeq})	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, RV parks, day care centers, hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A and B above.
D		Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, auditoriums.

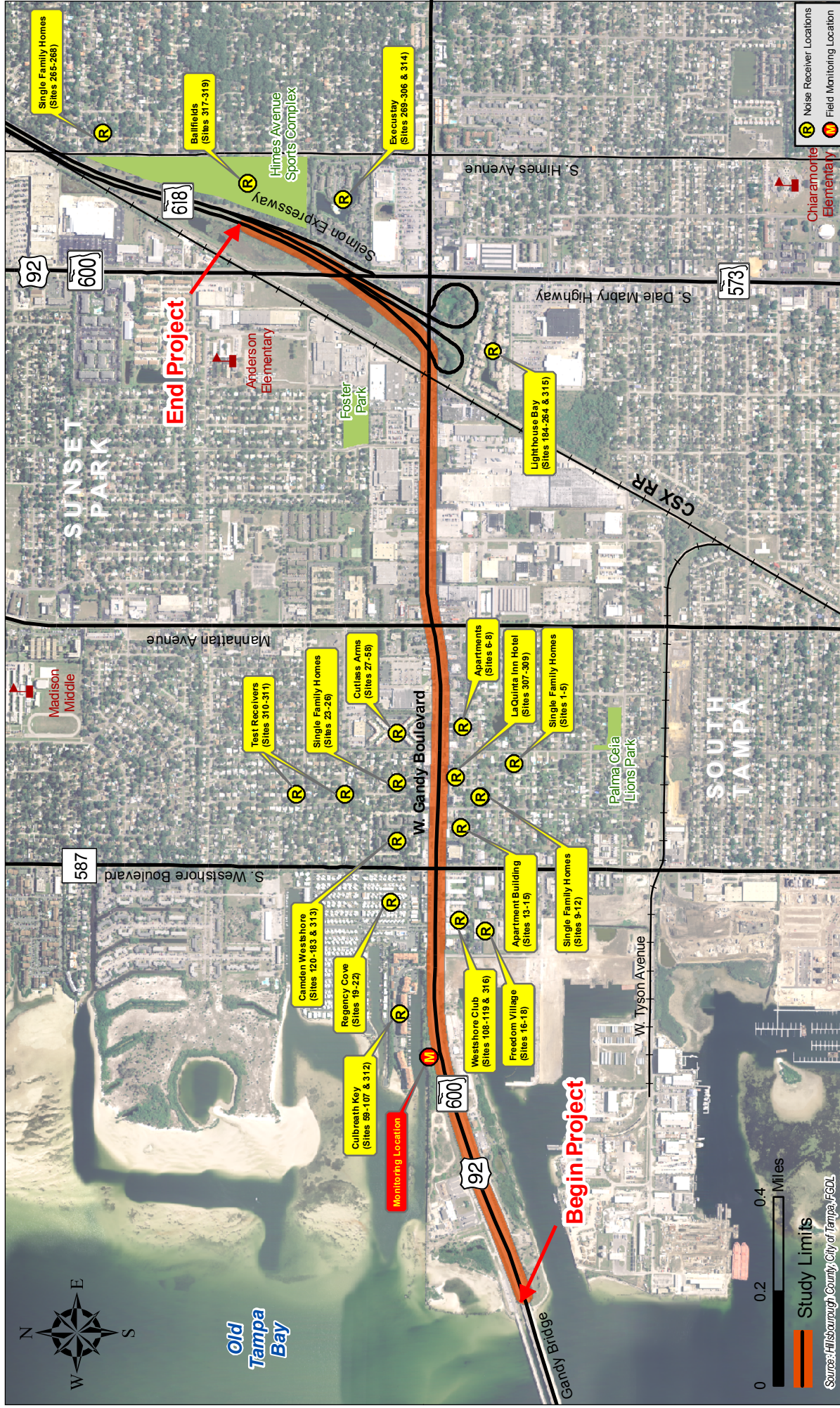
When predicted noise levels “approach” or exceed the NAC or, when predicted noise levels increase substantially, the FHWA requires that noise abatement measures be considered. The FDOT defines the word “approach” to mean within 1 dBA of the NAC and considers that a substantial increase will occur if traffic noise levels are predicted to increase by 15 or more dBA as a direct result of a transportation improvement project. Increases of 15 dBA or more are not likely adjacent to the project corridor as increases of this magnitude typically occur at sites where no roadway existed previously.

One thousand two hundred and eighty four (1,284) noise-sensitive sites were identified along the project corridor. One hundred and twenty six (126) sites are single-family (SF) residences and are represented by twenty-one (21) receivers within TNM. Areas of frequent human use for the single family residences, usually the rear of the dwelling

units, were utilized in TNM. One thousand and twenty two (1,022) sites are multi-family residences and are represented by 282 receivers within TNM. Areas of frequent human use for the multi-family residences, usually the location of the patio/balcony, were used within TNM. Interior noise levels were predicted for 126 noise sensitive sites and are represented by six (6) receptors within TNM. These sites include the LaQuinta Inn Hotel and the Goodwill Freedom Village II. In addition to the residential receivers modeled within TNM as previously discussed, five (5) receivers were placed at the community pool and/or tennis court area for Culbreath Key, Camden Westshore, Execustay, Lighthouse Bay and Westshore Club complexes, along with three (3) receivers placed within the recreational ball field facility located adjacent to the Selmon Expressway along Himes Avenue. The placement of all receivers was done in accordance with the FDOT PD&E Manual and all are within 500 feet of the edge of pavement of the nearest roadway. However, due to the addition of an elevated structure, two additional “test” receivers were placed at 1,000 feet and 1,500 feet from the edge of pavement of the nearest roadway. These two receivers were located within the residential area north of Gandy Boulevard and between Manhattan Avenue and Westshore Boulevard. A generalized location of each receiver is shown in **Figure 4-1** with a more detailed location of each of the noise-sensitive sites in **ETC Appendix G**. The 1,148 residential sites along with the community pools/tennis courts and recreational area were considered Activity Category “B” as shown in **Table 4-1**. As such, exterior noise levels will be evaluated for these sites, and noise abatement measures will be considered if the predicted exterior traffic noise level is 66.0 dBA or more, or if levels are predicted to increase by 15 dBA or more as a result of the proposed improvements. The other 126 sites were considered Activity Category “E” as shown in **Table 4-1** and consist of the LaQuinta Inn and the Goodwill Freedom Village II. As such, interior noise levels were evaluated for these sites, and noise abatement measures were considered if the predicted interior traffic noise level is 51.0 dBA or more, or if levels are predicted to increase by 15 dBA or more as a result of the proposed improvements.

Various factors affect the “transmittal” of sound from a source to a receiver. These factors include vegetation, intervening structures, elevation of the source and/or the receiver, surrounding topography and the type of ground surface between the source and

the receiver. The attenuation (reduction) of sound levels due to intervening structures occurs when a receiver's view (line-of-sight) is obstructed or partially obstructed by dense objects (e.g. right of ways of buildings, or other barriers). The attenuation provided by a right of way of buildings (houses) depends on the actual density and length of the right of way occupied by the buildings.



Gandy Connector PD&E Study

from Gandy Bridge to the western termini of the Selmon Expressway Hillsborough County, Florida

Figure 4-1: Generalized Receiver Location Map

4.1.4 Measured Noise Levels

As previously stated, future noise levels with the proposed improvements were modeled using the TNM. To ensure that these predictions are as accurate as possible, the computer model was validated using measured noise levels at locations adjacent to the project corridor. Traffic and meteorological data, including traffic volumes, vehicle speeds, and atmospheric conditions were recorded during each measurement period.

The field measurements for the Gandy Connector were conducted along the existing Gandy Boulevard in accordance the FHWA's *Measurement of Highway Related Noise*. Each field measurement was obtained using a Casella CEL-593 Type 1 Sound Level Meter. The meter was calibrated before and after each monitoring period with a Casella CEL-284 Type 1 Sound Level Calibrator. Actual vehicle speeds were captured during the monitoring periods.

The measured field data were used as input for the TNM to determine if, given the topography and actual site conditions of the area, the computer model could “re-create” the measured noise levels with the existing roadway. Following FDOT guidelines, a noise prediction model is considered valid for the use of predicting traffic noise levels if the measured and predicted noise levels are within a tolerance standard of 3 dBA. Initial field measurements were taken on May 12, 2009 on Gandy Boulevard at one location for two (2) monitoring periods. Each monitoring period consisted of three (3) sets of 10-minute measurements. The location at which the measurement was taken is shown in **Figure 4-1**. The sound level meter was placed approximately 50 feet from the centerline of the roadway at a height of five (5) feet above ground. Sets of 10-minute measurements were taken for both eastbound and westbound traffic. Data collected in the field can be found in **ETC Appendix H**.

Table 4-2 presents the field measurements and the computer validation results for Gandy Boulevard. As shown, the ability of the model to accurately predict noise levels for the project was confirmed. Notably, the computer-modeled levels are all equal to or higher than the field measured values. Documentation in support of the validation is provided in **ETC Appendix H** of this report.

Table 4-2 TNM Model Validation Data

Validation Run	Measurement Period	Modeled	Measured	Difference
Run 1	9:35 am to 9:45 am	66.1	64.7	1.4
Run 2	10:05 am to 10:15 am	65.4	63.5	1.9
Run 3	10:25 am to 10:35 am	64.5	64.5	0
Run 4	1:30 pm to 1:40 pm	64.9	63.0	1.9
Run 5	1:50 pm to 2:00 pm	65.0	63.4	1.6
Run 6	2:15 pm to 2:25 pm	65.6	65.1	0.5
Measurements were obtained May 12, 2009 on the north side of Gandy Blvd. at Culbreath Key				

4.1.5 Results

The calculated existing (2006) and future year (2035) traffic noise levels for noise-sensitive sites adjacent to Gandy Boulevard can be found in **ETC Appendix G**. All input and output files from the TNM model runs are located in **ETC Appendix I**.

The results of the analysis indicate that existing (2006) traffic levels range from 39.1 to 66.5 dBA with traffic noise levels predicted to approach, meet, or exceed the NAC at one (1) of the receivers. The No-Build (2035) exterior traffic noise levels range from 39.5 to 67.8 dBA, with traffic noise levels predicted to approach, meet, or exceed the NAC at two (2) of the receivers. In the future (2035), with the proposed improvements to Gandy Boulevard in the form of Elevated Express Lanes, traffic noise levels are predicted to range from 41.0 to 67.7 dBA, with levels predicted to approach, meet, or exceed the NAC at six (6) of the receivers. Under the future build scenario, the six (6) impacted receivers represent 14 individual noise sensitive sites.

The difference in noise levels at the 1,284 noise-sensitive sites between existing and the Build alternative ranges from 0.3 and 8.6 dBA, with differences between the No-Build and Build alternatives ranging from -0.8 to 8.4 dBA. As such, none of the sites are predicted to experience a substantial increase (15 dBA or more) in traffic noise levels as a result of the proposed improvements.

4.1.6 Evaluation of Abatement Alternatives

Noise abatement alternatives are considered when predicted traffic noise levels approach, meet, or exceed the NAC. The measures considered for Gandy Boulevard Corridor were traffic management, alternative roadway alignments, property acquisition, land use controls, pavement treatments and noise barriers. The following discusses the feasibility (engineering considerations) and reasonableness (amount of noise reduction provided, number of noise-sensitive sites benefited, absolute noise levels, cost, etc.) of the measures.

Traffic Management Measures

The improvements to the Gandy Boulevard Corridor with respect to the addition of the regional express lanes are meant to help alleviate future traffic congestion and aid in regional connectivity. Traffic management measures that limit motor vehicle speeds and reduce volumes can be effective noise mitigation measures. However, these measures can also negate a project's ability to accommodate forecast traffic volumes.

For example, if the posted speed limit on the Elevated Express Lanes were reduced, the capacity of the roadway to handle the forecast traffic demand would also be reduced. Therefore, reducing traffic speeds and/or traffic volumes is inconsistent with the goal of improving the ability of the roadway to handle the forecast volumes. As such, although feasible, traffic management measures are not considered a reasonable noise mitigation measure for the project.

Alignment Modifications

The proposed alignment seeks to minimize the need for additional right of way within the project corridor by utilizing the median along the existing Gandy Boulevard corridor. A shift in the roadway alignment would result in the need for additional right of way and possibly acquisition of businesses and/or residences. As such, an alternative roadway alignment is not considered a reasonable noise mitigation measure for the project.

Property Acquisition

The acquisition of property to provide noise buffers is not feasible due to the high cost and/or the unavailability of vacant land in proximity to noise-sensitive sites.

Land Use Controls

Land use controls can be used to minimize traffic noise in future developments or areas where redevelopment occurs. Land uses such as residences, motels, schools, churches, recreation areas and parks are considered incompatible with highway noise levels above 66 dBA. In order to reduce the possibility of additional noise related impacts, noise level contours were developed for the future improved roadway. These noise contours delineate the minimum distance from the improved roadway's edge of pavement where the FHWA Activity Category B land use should occur in 2035. Local planning officials can use the noise contour information to avoid development of noise sensitive land uses.

The extent of the 66 dBA noise level along the Gandy Boulevard Corridor is approximately 200 feet from the roadway's edge of pavement.

Noise Barriers

Noise barriers reduce noise levels by blocking the sound path between the source and the receiver. In order to effectively reduce traffic noise, a noise barrier must be relatively long, continuous (without intermittent openings) and sufficiently tall to provide a reduction in noise levels. Following FDOT procedures, the minimum requirements for a noise barrier to be considered both feasible and economically reasonable are:

- The barrier must provide at least a five (5) dBA reduction at the noise sensitive sites with a design goal of 10 dBA or more is desired.
- The barrier should not cost more than \$42,000 per benefited receiver (a benefited receiver is a site that receives at least a five (5) dBA reduction in noise from the barrier), unless a higher level of expenditure can be justified by other circumstances. The current estimated cost to construct a noise barrier (materials and labor) is \$30.00 per square foot.

Other factors considered when evaluating noise barriers as a potential noise abatement measure address both the feasibility of the barriers (given site-specific details, can a barrier actually be constructed) and the reasonableness of the barriers.

Feasibility factors that relate to noise barriers include driver/pedestrian sight distance (safety), ingress and egress requirements to and from affected properties, right of way requirements including access rights and easements for construction and/or maintenance, impacts on existing/planned utilities, and drainage.

Reasonableness factors include:

- The relationship of the predicted future noise levels to the NAC (do the predicted levels approach, meet, or far surpass the NAC);
- Land use stability (are the noise sensitive land uses likely to remain for an indefinite period of time);
- Antiquity (the amount of development that has occurred before and after the initial construction of a roadway);
- The desires of the affected property owners to have a noise barrier adjacent to their property; and
- Aesthetics

As previously stated, in year 2035, with the proposed addition of the Elevated Express Lanes along the Gandy Boulevard corridor, noise levels are predicted to approach, meet, or exceed the NAC at 14 noise sensitive sites along the project corridor. The following section discusses the feasibility and reasonableness of providing noise barriers as an abatement measure for the affected sites. Documentation in support of the noise barrier analysis is provided in **ETC Appendix J**.

The TNM accounts for the shielding effect of a noise barrier, the diffraction of sound over a noise barrier, and the effects of the ground between a barrier and a receiver (i.e. sound absorption). The net effect of the barrier shielding is referred to as “insertion loss”.

In other words, insertion loss is the difference in sound level before and after the installation of a barrier.

Culbreath Key Condominium Barrier – Under the Build scenario, three (3) receivers representing six (6) individual sites were impacted at the Culbreath Key Condominium community. Two options are available at this location for the study of noise barriers. The first option is a noise barrier positioned along the right of way of Gandy Boulevard. This option was not considered feasible due to the proposed reconfiguration of the Culbreath Key/Bridge Street entrance as well as the numerous driveways present and was not analyzed further. The second option consisted of a structure mounted barrier that would be positioned atop the proposed parapet wall along the Elevated Express Lanes. The height of the barrier analyzed was a maximum of eight (8) feet. Although this barrier is a reasonable means of noise abatement, this particular barrier was not able to provide the required five (5) dBA minimum reduction in noise. Results of this analysis indicated that the maximum amount of noise reduction achieved from this barrier would be 0.2 dBA and is therefore not recommended for further consideration.

Camden Westshore Apartments – Under the Build scenario, two (2) receivers representing four (4) individual sites were impacted at the Camden Westshore apartment community. Two options are available at this location for the study of noise barriers. The first option is a noise barrier positioned along the right of way of Gandy Boulevard. This option was not considered feasible due to the numerous driveways located along Gandy Boulevard and the relationship to the intersection of Gandy Boulevard and Westshore Boulevard. The second option consisted of a structure mounted barrier that would be positioned atop the proposed parapet wall along the Elevated Express Lanes. The height of the barrier analyzed was a maximum of eight (8) feet. Although this barrier is a reasonable means of noise abatement, this particular barrier was not able to provide the required five (5) dBA minimum reduction in noise. Results of this analysis indicated that the maximum amount of noise reduction achieved from this barrier would be 0.1 dBA and is therefore not recommended for further consideration.

Execustay Apartment Community – Under the Build scenario, one (1) receiver representing four (4) individual sites was impacted at the Execustay apartment

community. Two options are available at this location for the study of noise barriers. The first option is a structure mounted barrier that would be positioned atop the proposed parapet wall along the Elevated Express Lanes. The height of the barrier analyzed was a maximum of eight (8) feet. Although this barrier is a reasonable means of noise abatement, this particular barrier option was not able to provide the required five (5) dBA minimum reduction in noise. Results of this analysis indicated that this barrier would not provide any noise reduction and is therefore not recommended for further consideration. The second option is a noise barrier positioned along the existing right of way adjacent to the Selmon Expressway. The length of the barrier in the initial evaluation was approximately 500 feet in length. The results of this analysis indicate that noise levels could be reduced by five (5) dBA or more at this receiver, with one (1) additional receiver representing four (4) individual sites also receiving a benefit from this barrier. This initial analysis shows an estimated cost per benefited receiver of approximately \$30,700, a cost that is below the cost reasonable guideline. This barrier will be evaluated further in the design phase of the Gandy Connector project when more detailed engineering data is available.

4.1.7 Summary

Noise abatement measures were evaluated for the noise-sensitive sites predicted to be affected by the proposed improvements to the Gandy Boulevard corridor. The measures are traffic management, alignment modifications, property acquisition, land use controls, and noise barriers. Although feasible, traffic management, alignment modification, land use controls and property acquisition were determined to be unreasonable methods to reduce the predicted traffic noise levels for the affected sites.

Based on the results of the analysis, it appears that the construction of one (1) noise barrier may be a feasible and cost-reasonable method of reducing predicted traffic noise levels for the Execustay Apartment Community.

At the public hearing, the noise study results were presented and the community discussed and responded to the findings. After the *State Environmental Impact Report* is approved, copies of this final noise analysis will be furnished to the City of Tampa to assist them in establishing compatible land uses for future development.

It should be noted that the noise barrier that has been identified as potentially feasible and cost-reasonable is still subject to an engineering feasibility review during the project's design phase. The purpose of this review is to ensure that the noise barrier could be built as planned. It will take into consideration items such as drainage, utilities (both existing and planned), safety, constructability, maintainability, right of way needs, and any other construction or engineering issues that may preclude providing the noise barrier.

4.1.8 Noise Contours

As previously stated, land uses such as residences, motels, schools, churches, recreation areas and parks are considered incompatible with highway noise levels above 66 dBA. In order to reduce the possibility of additional noise sensitive sites being located within an area with traffic noise of this level, a noise contour was developed for the future improved roadway facility. This noise contour delineates the distance from the improved roadway's edge of pavement where the FHWA's NAC would be approached (within 1 dBA of the NAC). Based on the results of the analysis, a level of 66 dBA would extend approximately 200 feet from the closest travel lane. Local officials should not approve construction of any new noise sensitive sites (e.g., residences, parks, churches, etc.) within this area unless noise abatement is considered as part of the planned structures.

4.2 AIR QUALITY

The proposed project is located in Hillsborough County, an area currently designated as being attainment for the following criteria air pollutants: nitrogen dioxide, particulate matter (2.5 microns in size and 10 microns in size), sulfur dioxide, carbon monoxide and lead. Ozone is currently designated at attainment, however; new Environmental Protection Agency (EPA) regulations developed in 2008 are expected to bring the Tampa Bay region into non-attainment status.

The project alternatives were subjected to a carbon monoxide (CO) screening model that makes various conservative worst-case assumptions related to site conditions, meteorology and traffic. The FDOT's screening model CO Florida 2004 (released September 7, 2004) uses the latest U.S. EPA approved software (**MOBILE6 and**

CAL3QHC) to produce estimates of one-hour and eight-hour CO at default air quality receptor locations. The one-hour and eight-hour estimates can be directly compared to the one- and eight-hour *National Ambient Air Quality Standards (NAAQS)* for CO that are 35 parts per million (ppm) and 9 ppm, respectively.

The roadway intersection forecast to have the highest total approach traffic volume located within the project limits is Gandy Boulevard @ Dale Mabry Highway. The Existing, Build and No-Build scenarios were evaluated. The design year for this project is established at year 2035. For the purposes of this project, the Build and No-Build Scenarios are treated as the same, as no capacity is being added to the existing roadway.

Estimates of CO were predicted for the default receptors which are located 10 feet to 150 feet from the edge of roadway. The maximum impacts occur in the no-build conditions and are 10.5 ppm for the 1-hour concentration and 6.3 ppm for the 8-hour concentrations. Based on the results from the screening model, the highest project-related CO one and eight hour levels are not predicted to meet or exceed the one or eight hour *National Ambient Air Quality Standards (NAAQS)* for this pollutant with either the Build or No-Build alternatives. As such, the project “passes” the screening model. The results of the screening model are attached in **ETC Appendix K**.

4.3 CONSTRUCTION

During the construction phase of the proposed project, short-term noise and air quality impacts may be generated by stationary and mobile construction equipment. Construction of roadway improvements may have a temporary impact on noise-sensitive sites and local air quality adjacent to the project corridor. Construction noise and air pollution will be controlled by the adherence to the most recent edition of the FDOT’s Standard Specifications for Road and Bridge Construction.

Using FDOT’s listing of vibration sensitive sites; residences were identified as potentially sensitive to vibration caused during construction. If during final design it is determined that provisions to control vibration are necessary, the project’s construction provisions can include the necessary provisions as needed. A more detailed description

of the proposed construction method can be found in Section 6.11 of the *Preliminary Engineering Analysis (PEA)*.

4.4 CONTAMINATION

4.4.1 Methodology

A regulatory database search was requested from FirstSearch Technology Corporation along the entire project corridor (**ETC Appendix L**). The results of this search were used as a basis for performing the CSER. The database research includes an evaluation of the following:

1. National Priorities List (NPL) and Proposed NPL
2. Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
3. Comprehensive Environmental Response, Compensation, and Liability Information System Archived Sites (NFRAP)
4. Resource Conservation and Recovery Information System Treatment, Storage and Disposal Facilities (RCRA TSD)
5. Resource Conservation and Recovery Information System Sites (RCRA COR and RCRA GEN)
6. Emergency Response Notification System (ERNS)
7. Florida Sites List (FSL)
8. Solid Waste Facilities (SWF)
9. FL Cattle Dipping Vats
10. Dry Cleaning Facilities
11. Underground Storage Tank Database (UST)
12. Aboveground Storage Tank Database (AST)
13. Tribal Land Underground Storage Tanks
14. Leaking Underground Storage Tanks List (LUST)
15. Stationary Tank Inventory System (STI)

In addition to the database search of potential contamination sites, a site reconnaissance was conducted on October 7th, 2008 to further supplement the database results. The purpose of the site visit was to observe signs of other possible contamination sources not listed in the database search. This included a review of the following:

- Structures
- Potential sources of surface contamination
- Potential sources of airborne contamination
- Potential sources of waterborne contamination
- Tenant activities and general site conditions

Also, a review of aerial photographs was conducted to determine potential problem areas. A list of the locations of all sites within the study area is included in **Table 4-3**. The Map ID numbers correspond to **Figure 4-1**. **Table 4-4** summarizes the potential contamination involvement by the Preferred Alternative.

**Table 4-3 Potential Contamination Sites along the Gandy Connector
Corridor**

Map ID	Site Name	Site Address	Risk Rating	Government Database
1	Tampa Historical Landfill #49	NE of Gandy/Dale Mabry Intersection	Medium	SWL
2	7-Eleven #32336	3698 W. Gandy Blvd.	Low	LUST
3	Mobil 02-JBV	3699 W. Gandy Blvd.	Low	LUST
4	Gandy Auto Air	3821 W. Gandy Blvd.	Low	LUST
5	Tampa Historical Landfill #16	SW of Gandy/Dale Mabry Intersection	Medium	SWL
6	Chevron #397	4101 W. Gandy Blvd.	Medium	LUST
7	Bank of America	4109 W. Gandy Blvd.	Low	LUST
8	Macy's Furniture Gallery	4130 W. Gandy Blvd.	Low	LUST
9	Gas Kwick	4316 W. Gandy Blvd.	Low	LUST
10	Roberd's	4302 W. Gandy Blvd.	No	LUST
11	Jiffy Lube	4316 W. Gandy Blvd.	Low	UST
12	Marathon (BP #411)	4319 W. Gandy Blvd.	Low	UST
13	Former Petrol Mart #615	4465 W. Gandy Blvd.	Medium	LUST
14	Zayre Department Store #689	4465 W. Gandy Blvd.	Low	LUST
15	Vacant Lot	4602 W. Gandy Blvd.	Low	Visual
16	Auto Repair Shops	4621-4625 W. Gandy Blvd.	Low	Visual
17	Citgo #372	4702 W. Gandy Blvd.	High	LUST
18	Shell Station	4747 W. Gandy Blvd.	Medium	LUST
19	Circle K #8811	4801 W. Gandy Blvd.	Medium	LUST
20	Former Imperial Yacht Basin Marina	5000 W. Gandy Blvd.	Low	LUST
21	Coastal Mart #603	5002 W. Gandy Blvd.	Low	LUST
22	USMC Reserve Station	5121 W. Gandy Blvd.	Low	LUST
23	Empire Service Station	4618 S. Dale Mabry Hwy.	Medium	LUST
24	Lieberman Erwin Family Trust	4545 S. Dale Mabry Hwy.	Low	LUST
25	Gregory Property	4537 S. Dale Mabry Hwy.	Low	LUST
26	Sunshine Biscuits, Inc.	4535 S. Dale Mabry Hwy.	Low	UST



Gandy Connector PD&E Study

from Gandy Bridge to the western
termini of the Selmon Expressway
Hillsborough County, Florida

Figure 4-2: Potential Contamination
Site Map

Table 4-4 Potential Contamination Involvement by Alternative

ID No.	Site	Risk	Side on Gandy	Recommended Alternative
1	Tampa Historical Landfill #49	Medium	North	
2	7-Eleven #32336	Low	South	
3	Mobil 02-JBV	Low	North	
4	Gandy Auto Air	Low	North	
5	Tampa Historical Landfill #16	Medium	South	
6	Chevron #397	Medium	North	
7	Bank of America – Ekman Center	Low	North	
8	Macy’s Furniture Gallery	Low	South	
9	Gas Kwick	Low	South	
10	Roberd’s	No	South	
11	Jiffy Lube	Low	South	
12	Marathon	Low	North	
13	Petrol Mart #615	Medium	North	
14	Zayre Department Store #689	Low	North	
15	Vacant Lot	Low	North	
16	Auto Repair Shops	Low	North	
17	Citgo #372	High	South	
18	Shell Station	Medium	North	
19	Circle K #8811	Medium	North	
20	Former Imperial Yacht Basin Marina	Low	South	
21	Coastal Mart #603	Low	South	
22	USMC Reserve Station	Low	North	X
23	Empire Service Station	Medium	North	
24	Lieberman Erwin Family Trust	Low	North	
25	Gregory Property	Low	North	
26	Sunshine Biscuits, Inc.	Low	North	

Sites identified as contaminated or potentially contaminated were further evaluated to determine the extent of contamination or the risk of contamination. There were 26 sites evaluated within the proposed project limits. The assignment of a risk rating was based on the current and past existence of hazardous materials or petroleum products and the potential of the material/product to be encountered during proposed roadway expansion activities. The rating system developed by the FDOT as part of the PD&E process expresses the likelihood that hazardous material or petroleum products exist and the potential impact on roadway construction. The rating system developed by the FDOT as part of the PD&E process expresses the likelihood that hazardous material or petroleum products exist and the potential impact on roadway construction.

The hazardous material rating system is divided into four (4) degrees of risk as defined by the FDOT in the PD&E Manual. These include “No”, “Low”, “Medium”, and “High” potential for risk. A brief description of each risk rating includes the following:

No Risk

After review of available information and a limited site visit, there is no indication that hazardous waste or materials would impact construction of the proposed project. This does not preclude the possibility that hazardous waste or materials could have been handled on a site, only that information collected during this investigation suggests that hazardous waste has not historically existed on the site, and therefore, should not be expected to impact the proposed project.

Low Risk

Implies that hazardous waste or materials existed or currently exist on-site, but there is no reason to believe that there would be any involvement with this waste or materials during roadway construction activities.

Medium Risk

Known or suspected soil or groundwater contamination is indicated to exist, but will not likely require remediation or monitoring. However, there is a possibility that hazardous waste or material may create problems during roadway construction activities.

High Risk

Known hazardous material or waste was stored or handled on the site and/or soil or groundwater contamination exists that is likely to have an impact on roadway construction activities. Further assessment will be required to determine the extent and level of contamination as it would impact the potential roadway construction project.

Hazardous Waste

Hazardous waste is defined by the EPA as a material exhibiting ignitable, corrosive, reactive, or toxic properties. The EPA has identified several thousand chemical compounds that possess one (1) or more of these properties. These compounds are identified as part of the EPA list of hazardous and toxic waste contained in the Code of Federal Regulation (CFR) 40, Part 261 EPA regulation. The State of Florida has adopted EPA's definition of hazardous waste as well as the EPA list of waste types. Any hazardous material that has spilled or leaked and contaminated the soil or groundwater can be considered a hazardous waste. However, petroleum products spilled or leaked (and contaminating soil and groundwater) are not considered a hazardous waste, and therefore are exempt from hazardous waste federal regulation.

Potential Hazardous Waste Sites

For the purposes of this report, a potential hazardous waste site is a parcel of land upon which hazardous material are or were produced, stored or accumulated, regardless of the disposal method. Included in this category are gas stations and other businesses that store hazardous products, materials, or waste in tanks either above or underground. This definition is not meant to imply that these sites are contaminated, but that the operations conducted on them involve hazardous materials and the overall potential exists for contamination if these materials were not properly handled on these sites. This definition also does not mean that petroleum products from gas station activities fall under regulatory scrutiny within hazardous waste regulations by either the EPA or the Florida Department of Environmental Protection (FDEP).

Contamination

Contamination is defined as the presence of any regulated material/chemical contained within the soil, surface water or groundwater on or adjacent to FDOT property or proposed project property, that may require assessment, remediation, or special handling, or that has a potential for liability. These materials would include, but not be limited to, those substances normally referred to as petroleum or petroleum product.

4.4.3 Project Impacts

This section of the CSER includes a description of each potential contamination site as mentioned previously in **Table 4-3** and depicted in **Figure 4-1**. These sites represent the comprehensive list as determined from a combination of data sources. Photos of these sites are included in **ETC Appendix M**.

Potential Contamination Site 1 – Tampa Historical Landfill #49

The former Landfill #49 is located just northeast of the intersection of Gandy Boulevard and Dale Mabry Highway. The former landfill does not appear to impede on Gandy Boulevard or the right of way. According to the Historic Landfill Association Program (HLAP), the majority of the landfill falls within an area occupied by an apartment complex. The HLAP also states that no evidence of impacted groundwater has been identified on the site. Based on the lack of information related to the boundaries of the historical landfill, this site is rated “Medium” for potential contamination.

Potential Contamination Site 2 – 7-Eleven # 32336

The 7-Eleven #32336 is located at 3698 W. Gandy Boulevard, which is on the southeast corner of Gandy Boulevard and Dale Mabry Highway. This retail fueling station was identified on the LUST database for a discharge that was discovered during a spill bucket replacement. An ensuing Site Assessment Report (SAR) was conducted by Shaw, which found that the groundwater surrounding the tank farm was not contaminated. Furthermore, after the EPCHC reviewed the SAR a letter of “No Further Action” (NFA) was issued to the site. In addition, the tank farm is located approximately 80 feet south of Gandy Boulevard which is not in the vicinity of the right of way.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 3 – Mobil 02-JBV

The Mobil 02-JBV is located at 3699 W. Gandy Boulevard, which is on the northeast corner of Gandy Boulevard and Dale Mabry Highway. This retail fueling station was identified on the LUST database for a discharge that was discovered during a spill bucket replacement. An ensuing SAR was conducted by Handex, which found that the groundwater surrounding the tank farm was not contaminated. Furthermore, after the EPCHC reviewed the SAR a letter of “No Further Action” (NFA) was issued to the site. In addition, the tank farm is located approximately 60 feet north of Gandy Boulevard which is not in the vicinity of the right of way.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 4 – Gandy Auto Air

The former Gandy Auto Air is located at 3821 W. Gandy Boulevard, which is on the northwest corner of Gandy Boulevard and Dale Mabry Highway. This former retail fueling station was identified on the LUST database for a discharge that was discovered during a tank closure in 1993. A Discharge Notification Report Form (DNRF) was submitted for the suspected discharge of waste oil and kerosene. After reviewing the tank closure report, the EPCHC determined that the facility did not require any additional remediation and issued the site a Cleanup Not Required (NREQ) status. Subsequently, the site has been redeveloped as a Hollywood video.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 5 – Tampa Historical Landfill #16

The former Landfill #16 is located just southwest of the intersection of Gandy Boulevard and Dale Mabry Highway. The former landfill does not appear to impede on

Gandy Boulevard or the right of way. According to the HLAP, the majority of the landfill falls within the parking lot area of the current Sam's Club. Based on the lack of information related to the boundaries of the historical landfill, this site is rated "Medium" for potential contamination.

Potential Contamination Site 6 – Chevron #397

The Chevron #397 is located at 4101 W. Gandy Boulevard, which is on the northwest corner of Gandy Boulevard and Clark Avenue. The Property contains three (3) USTs used for its retail fueling operation. A discharge was reported on site due to the contamination discovered during routine spill bucket replacement. A SAR was conducted by Ottman & Associates, which focused on the area surrounding the spill buckets. According to the SAR, the contamination on the site was minimal and does not require any remediation. Currently, the site is waiting for approval on a Natural Attenuation Monitoring Plan that was submitted by Ottman & Associates. Furthermore, the tank farm is located approximately 100 feet north of Gandy Boulevard

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated "Medium" for potential contamination.

Potential Contamination Site 7 – Bank of America – Ekman Center

The Bank of America is located at 4109 W. Gandy Boulevard which is northwest of the intersection of Gandy Boulevard and Clark Avenue. The Property contains one (1) UST used for a diesel powered backup generator. During closure activities, a discharge was discovered in the area of the tank. Remediation was conducted by Greenfield Environmental, Inc. and subsequently, was later issued a letter of NFA by the EPCHC. Furthermore, the tank area is located approximately 500 feet north of Gandy Boulevard.

During a site review on October 7th, 2008, Remedial Solutions was restricted from the location of the tanks. Based on this information, this site is rated "Low" for potential contamination.

Potential Contamination Site 8 – Macy’s Furniture Gallery

The Macy’s Furniture is located at 4130 W. Gandy Boulevard which is on the southeast corner of Gandy Boulevard and Lois Avenue. This site was identified on the LUST database for a discharge that was discovered during closure activities. During removal of the one (1) 10,000 gallon UST, GLE and Associates discovered soil and groundwater contamination at the site. The site has since been remediated and a letter of NFA has been issued by the EPCHC. Furthermore, the tank area is located approximately 1,200 feet south of Gandy Boulevard.

During a site review on October 7th, 2008, Remedial Solutions was restricted from the location of the tanks. Based on this information, this site is rated “Low” for potential.

Potential Contamination Site 9 – Gas Kwick

The Gas Kwick is located at 4202 W. Gandy Boulevard, which is on the southwest corner of Gandy Boulevard and Lois Avenue. The site formerly contained seven (7) USTs from the retail fueling operation that took place on site. In 1993, a waste oil discharge was reported to the Florida Department of Environmental Protection (FDEP) and the ensuing Contamination Assessment Report (CAR) was conducted in the same year. Results from the CAR found that the site did not meet the criteria for required cleanup. Subsequently, the site was issued a letter of NFA by the FDEP in November of 1993.

During a site review on October 7th, 2008, it appears that the site has been developed as a Pleasure Zone Adult Supercenter, which has since been closed. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 10 – Roberd’s

The former Roberd’s is located at 4302 W. Gandy Boulevard, which is on the southwest corner of Lois Avenue and Gandy Boulevard. According to internal documents by the FDEP, the discharge was a data entry error and there is no evidence that a discharge has ever taken place at the site.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “No” for potential contamination.

Potential Contamination Site 11 – Jiffy Lube

The Jiffy Lube is located at 4316 W. Gandy Boulevard, which is on the southeast corner of the intersection of Gandy Boulevard and S. Manhattan Avenue. The site formerly contained three (3) waste oil USTs which were installed in 1985 and removed in 1997. At the time of the closure, no discharges were reported by the contractor that removed the tanks.

During a site review on October 7th, 2008, no obvious signs of contamination were present. Due to the fact that this site has had the potential for a release, this site is rated “Low” for potential contamination.

Potential Contamination Site 12 – Marathon (formerly BP #411)

The Marathon Station is located at 4319 W. Gandy Boulevard, which is on the northeast corner of Gandy Boulevard and S. Manhattan Avenue. The Marathon Station is identified on the database as a UST facility. The site has contained four (4) USTs since their original installation in 1977. At the time of this assessment, no discharges have been reported at the site. In addition, the tank farm is located approximately 55 feet north of Gandy Blvd which is not in the vicinity of the right of way.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 13 – Former Petrol Mart #615

The former Petrol Mart #615 is located at 4465 W. Gandy Boulevard, which is northwest of the intersection of Gandy Boulevard and S. Manhattan Avenue. The site has contained eleven (11) USTs throughout the history of the Petrol Mart, beginning in 1973 and ending in 2005. During this period, two (2) discharges were reported to the FDEP. The first discharge was reported in 1988 and was eventually accepted into the Early Detection Incentive (EDI) Program. The second discharge was reported in 2002 and it was

determined to be remediated at the owner's responsibility. The 1988 discharge is still awaiting funds for cleanup, and the 2002 discharge has already been assessed and remediated. The 2002 discharge should be receiving a letter of NFA in the foreseeable future.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. The site has not been redeveloped after the demolition and removal of the former Petrol Mart. Based on this information, this site is rated "Medium" for potential contamination.

Potential Contamination Site 14 – Former Zayre Department Store #689

The former Zayre Department Store #689 is located at 4465 W. Gandy Boulevard, which is northwest of the intersection of Gandy Boulevard and S. Manhattan Avenue. The site formerly contained two (2) USTs used for waste oil storage. In 1994, the tanks were removed from the site and all of the surrounding impacted soil was removed. In August of 2008 the EPCHC and FDEP have agreed to change the status of the Property to NREQ, which concedes that the original remediation was satisfactory and no additional work is required at the site.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated "Low" for potential contamination.

Potential Contamination Site 15 – Vacant Lot

A vacant lot is located at 4602 W. Gandy Boulevard, which is northeast of the intersection of Gandy Boulevard and S. Trask St. This is not listed on the reviewed database, but the former site may have been occupied by a gas station or light industrial.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated "Low" for potential contamination.

Potential Contamination Site 16 – Auto Repair Shops

A group of auto repair shops is located at 4621 to 4625 W. Gandy Boulevard, which is northwest of the intersection of Gandy Boulevard and S. Trask St. These sites are not listed on the reviewed database, but due to the potential mishandling of hazardous materials associated with auto shops a contamination issue is possible.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 17 – Citgo #372

The Citgo Station #372 is located at 4702 W. Gandy Boulevard, which is on the southwest corner of Gandy Boulevard and S. Renellie Drive. The site has contained seven (7) different USTs over its history. Currently, only three (3) USTs remain on site with all of the others having been closed or removed. The site is listed as a LUST facility due to the two (2) discharges that were reported in 1988. The site has been entered into the EDI program and was assessed by Handex from 2001 to 2002. Conclusions from their assessment found that there were high levels of benzene, total BTEX, MTBE, and naphthalene in the groundwater situated in the northeast portion of the site, including the right of way and Gandy Boulevard.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “High” for potential contamination. A copy of the contamination maps from the Handex assessment is included in **ETC Appendix N**.

Potential Contamination Site 18 – Shell

The former Shell Station is located at 4747 W. Gandy Boulevard, which is on the northeast corner of Gandy Boulevard and S. Westshore Boulevard. The site has historically contained four (4) USTs, all of which have been removed when the station was closed. The site is listed on the LUST database due to a discharge of gasoline in 1997. The site is currently in the Petroleum Liability and Restoration Insurance Program (PLRIP). To this date, no official assessment has been conducted on the site due to its relatively low priority score of 11.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “Medium” for potential contamination.

Potential Contamination Site 19 – Circle K #8811

The Circle K is located at 4801 W. Gandy Boulevard, which is on the northwest corner of Gandy Boulevard and Westshore Boulevard. Four (4) USTs are currently located on the site. The site is listed as a LUST facility due to two (2) discharges that happened in 1991 and 1996. The site is currently in the PLRIP and remediation is ongoing. Presently, there are known plumes of benzene, total xylenes, 1-3-5 trimethylbenzene, and 1-2-4 trimethylbenzene on the north end of the site. The contamination does not appear to be present near the right of way or on Gandy Boulevard.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “Medium” for potential contamination.

Potential Contamination Site 20 –Former Imperial Yacht Basin Marina

The former Imperial Yacht Basin Marina is located at 5000 W. Boulevard, which is southwest of the intersection of Gandy Boulevard and S. Bridge Street. The site formerly contained a total of five (5) USTs used in its marina refueling operation. During closure activities in 2005, unleaded fuel was found to have been discharged into the environment. Subsequent to the discovery, 150 tons of petroleum contaminated soil was removed from the site. The geologist conducting the post remediation assessment requested a letter of NFA but was never granted it based on the lack of correspondence with the EPCHC.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 21 –Coastal Mart #603

The former Coastal Mart #603 is located at 5002 W. Boulevard, which is on the southwest corner of Gandy Boulevard and S. Bridge Street. The site formerly contained a

total of ten (10) USTs used in its retail refueling operation. The tank farm is located approximately 50 feet south of Gandy Boulevard. Two (2) discharges were reported on the site of the Coastal Mart, the first of which was in 1988 and the second in 1991. The 1988 discharge was minor in nature and did not affect the groundwater table and therefore, the FDEP did not require remediation. The second discharge was filed under the Abandoned Tank Restoration Program (ATRP) and has already had multiple assessments completed at the site. The latest assessments suggest that the former Coastal Mart is within the parameter of a NFA letter but due to lack of correspondence with the contractor, the EPCHC is unwilling to grant it at this time.

During a site review on October 7th, 2008 no signs of obvious discharge were observed at this site. The site is currently over grown with vegetation and is secured by a chain link fence. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 22 – USMC Reserve Station

The USMC Reserve Station is located at 5121 W. Gandy Boulevard, which is on north end of the causeway just east of the Gandy Bridge. The site has historically contained four (4) USTs, all of which have been removed from the site. In removal of tank #IR1 in 1995, a discharge was discovered and reported to the FDEP. The site was assessed by Earth Systems in 2004; no report is available for review. The site of the former tanks is located approximately 400 feet north of Gandy Boulevard and the right of way. Previous information suggests that the discharge did not affect the groundwater.

During a site review on October 7th, REA was unable to examine the former tank site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 23 – Former Empire Service Station

The former Empire Service Station is located at 4618 S. Dale Mabry Highway, which is north of the intersection of Gandy Boulevard and S. Dale Mabry Highway. The former Empire Service Station entered into the EDI program after it was determined that the site may have a potential discharge from their fueling operations. The site is currently awaiting assessment and remediation with a score of 10.

During a site review on October 7th, REA was unable to examine the former tank site. Based on this information, this site is rated “Medium” for potential contamination.

Potential Contamination Site 24 – Lieberman Erwin Family Trust

The former Lieberman Erwin Family Trust is located at 4545 S. Dale Mabry Highway, which is north of the intersection of Gandy Boulevard and S. Dale Mabry Highway. The former Lieberman Erwin Family Trust site was entered into the EDI program after it was determined that the site may have a potential discharge from their fueling operations. According to the EPCHC, the site does not require further assessment and cleanup is not required.

During a site review on October 7th, REA was unable to examine the former tank site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 25 –Former Gregory Property

The former Gregory Property is located at 4535 S. Dale Mabry Highway, which is north of the intersection of Gandy Boulevard and S. Dale Mabry Highway. A discharge of leaded fuel was reported on site in 1991 during a closure assessment. The facility was then entered into the ATRP and was required to be remediated. Remediation was completed the same year and the report that was submitted to the EPCHC found that the site did not contain any significant levels of contamination, and therefore, a letter of NFA was issued.

During a site review on October 7th, REA was unable to examine the former tank site. Based on this information, this site is rated “Low” for potential contamination.

Potential Contamination Site 26 – Former Sunshine Biscuits Inc.

The former Sunshine Biscuits Inc. is located at 4537 S. Dale Mabry Highway, which is north of the intersection of Gandy Boulevard and S. Dale Mabry Highway. The site is identified as a UST site for containing a single 2,000 gallon tank used for fueling operations at the site. The fuel tank has been removed from the site and no discharge has ever been associated with this property.

During a site review on October 7th, REA was unable to examine the former tank site. Based on this information, this site is rated “Low” for potential contamination.

4.4.4 Summary of Findings and Recommendations

Information was obtained for this report through reports from *FirstSearch Technology Corporation*, observations during on-site visits, and database information from the FDEP. A total of twenty-six (26) sites were reviewed within the project boundary, and the following conclusions and recommendations were made regarding the proposed project:

- Of the twenty-six (26) sites reviewed, one (1) site received rankings of NO risk, seventeen (17) sites received rankings of LOW risk, seven (7) sites received a ranking of MEDIUM risk, and one (1) site received a ranking of HIGH risk.
- For sites ranked “No” for potential contamination, no further action is recommended. These sites have been evaluated and determined not to have any potential environmental risk to the study area at this time. No sites with a risk ranking of “No” are anticipated to be impacted by the proposed project.
- For sites ranked “Low” for potential contamination, no further action is required at this time. These sites/facilities have potential to impact the study area but based on select variables have been determined to have low risk to the corridor at this time. Variables that may change the risk ranking include: A facility’s non-compliance to environmental regulations; new discharges to the soil or groundwater; and modifications to current permits. Should any of these variables change, additional assessment of the facility should be conducted by the implementing agency. These facilities should be re-evaluated during the design phase. One site (USMC Reserve Station) with a risk ranking of “Low” would potentially be impacted by the proposed project.
- For those locations with a risk ranking of “Medium” or “High”, Level II field screening should be conducted. These sites have been determined to have potential contaminants, which may impact the project corridor. A soil and groundwater-sampling plan should be developed by the implementing agency for each site. The sampling plan should provide sufficient detail as to the number of soil and

groundwater samples to be obtained and the specific analytical test to be performed. A site location sketch for each facility showing all proposed boring locations and groundwater monitoring wells should be prepared. No sites with a risk ranking of “Medium” or “High” are anticipated to be impacted by the proposed project.

- It must be recognized that the possibility still exists that other sites containing hazardous substances, hazardous wastes, petroleum products, or environmental contamination not identified during this assessment may exist on or in the immediate vicinity of the project study corridor. This is because regulatory agency records are not always complete; not all leaks, spills and discharges are reported; and not all USTs and ASTs are registered. Therefore, the purpose of this assessment is to reduce, but not to eliminate, the unknown and uncertainty regarding the absence or presence of hazardous substances or environmental contamination in connection with the project.

The potential contamination sites are outlined in **Table 4-3**, and the locations of these sites are illustrated in **Figure 4-1**. **Table 4-4** identifies the potential contamination involvement by the Recommended Alternative.

**ALL APPENDICES COVER SHEETS
IN SEPARATE DOCUMENT**