STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ENVIRONMENTAL DETERMINATION

1. GENERAL INFORMATION

County:BrowardProject Name:I-595 (SR 862) PD&E StudyProject Limits:From the I-75 Interchange to the I-95 InterchangeProject Numbers:409354-1-22-01
Financial Project5951 539 I
Federal

2. PROJECT DESCRIPTION

- a. Existing: See Attachment 2.A.
- b. Proposed Improvements: See Attachment 2.B.

3. CLASS OF ACTION

a. Class of Action:

b. Other actions:

- [] Environmental Assessment [X] Section 4(f) Statement
- [] Environmental Impact Statement [X] Type 2 Categorical Exclusion
- [X] Section 106 Consultation[X] Endangered Species Assessment
- c. Public Involvement:
 - 1. [] A public hearing is not required, therefore, approval of this Environmental Assessment constitutes acceptance of the location and design concepts for this project.
 - 2. [X] A public hearing was held on November 29, 2005 and a transcript is included with the environmental determination. Approval of this Type 2 Categorical Exclusion constitutes location and design concept acceptance for this project.
 - [] An opportunity for a public hearing was afforded and a certification of opportunity is included with the environmental determination. Approval of this constitutes Type 2 Categorical Exclusion acceptance of the location and design concepts for this project.
 - 3. [] A public hearing will be held and the public hearing transcript will be provided at a later date. Approval of this Type 2 Categorical Exclusion DOES NOT constitute location and design concept acceptance for this project.
 - [] An opportunity for a public hearing will be afforded and a certification of opportunity will be provided at a later date. Approval of this Type 2 Categorical Exclusion DOES NOT constitute acceptance of the project's location and design concepts.
- d. Cooperating Agency: [] COE [] USCG [] FWS [] EPA [] NMFS [X] NONE

4. REVIEWER'S SIGNATURE

FDOT Project Manager

____/___/____ Date

FDOT Environmental Specialist

FHWA Transportation Engineer

____/___/____ Date

____/__/___ Date

5. FHWA CONCURRENCE

Division Administrator

____/___/____ Date

6.	IMPACT EVALUATION					
•	Topical Categories	S i g n	M i n	N o n e	N o I n	REMARKS
Α.	 Land Use Changes Community Cohesion Relocation Potential Community Services Title VI Considerations Controversy Potential Utilities and Railroads 	[] [] [] [] [] []	[X] [X] [X] [X] [X]	[] [] [] [] [] []	[] [] [] [] [] []	See Attachment 6.A.1. See Attachment 6.A.2. See Attachment 6.A.3. See Attachment 6.A.4. See Attachment 6.A.5. See Attachment 6.A.6. See Attachment 6.A.7.
В.	 CULTURAL IMPACTS Section 4(f) Lands Historic Sites/Districts Archaeological Sites Recreation Areas 	[] [] [] []	[X] [X] [] [X]	[] [] [X] []	[] [] [] []	See Attachment 6.B.1. See Attachment 6.B.2. See Attachment 6.B.3. See Attachment 6.B.4.
C.	 NATURAL ENVIRONMENT Wetlands Aquatic Preserves Water Quality Outstanding Fla. Waters Wild and Scenic Rivers Floodplains Coastal Zone Consistency Coastal Barrier Islands Wildlife and Habitat Farmlands 	[] [] [] [] [] [] [] []	[X] [] [] [] [] [X] []	[] [X] [] [X] [X] [] []	[] [X] [X] [] [X] [X]	See Attachment 6.C.1. See Attachment 6.C.3. See Attachment 6.C.6. See Attachment 6.C.7. See Attachment 6.C.9.
D.	 PHYSICAL IMPACTS 1. Noise 2. Air 3. Construction 4. Contamination 5. Navigation 	[] [] [] []	[X] [] [X] [X]	[] [X] [] []	[] [] [] []	See Attachment 6.D.1. See Attachment 6.D.2. See Attachment 6.D.3. See Attachment 6.D.4. See Attachment 6.D.5.

- a. [] FHWA has determined that a US Coast Guard Permit IS NOT required in accordance with 23 CFR 650, Subpart H.
- b. [X] FHWA has determined that a US Coast Guard Permit IS required in accordance with 23 CFR 650, Subpart H.

E. PERMITS REQUIRED

See Attachment 6.E.

7. WETLANDS FINDING

It is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result in such use.

8. COMMITMENTS AND RECOMMENDATIONS

COMMITMENTS

The FDOT made a series of commitments during the course of the study pertaining to the I-595 corridor improvements.

- The first section below is a summary of the understandings established with FHWA at the conclusion of the *I-95/I-595 Master Plan Study*.
- The second set of commitments summarizes agreements reached between the FDOT and agencies having jurisdiction over facilities or resources adjacent to or within the I-595 corridor that are immediately impacted by, or have the potential to be impacted by, the proposed corridor improvements.
- The final set of commitments indicates how future aspects of the project will be conducted to assure that the interests of public agencies, elected officials, citizens, and related projects are respected as the proposed I-595 corridor improvements are enacted in the coming years.

Status of Master Plan Based Understanding with FHWA

At the conclusion of the *I-95/I-595 Master Plan Study*, FDOT made a presentation to FHWA which covered the study findings and proposed a series of follow-up actions regarding the I-595 corridor. As a result of the presentation, conducted on July 10, 2001, FDOT and the FHWA came to an understanding of how to proceed with these actions. The following is a summary of each of the key items presented to FHWA, the understanding reached between FHWA and FDOT regarding that proposal, and the status of each proposal as of March 2006.

1. The alternatives to be studied during the I-595 PD&E Study should only include the Master Plan LPA Build Alternative, and variations of it, and a No Build Alternative. This is possible because 15 different build alternatives were examined during the Master Plan Study. The Master Plan LPA, which had a design year of 2020, is to be updated and further developed during this PD&E phase of study to accommodate traffic for a design year of 2034, which is an additional 14 years of traffic growth within the corridor.

Understanding: The I-595 PD&E Study build alternative will consist of the Master Plan LPA concept, modified to accommodate an additional 14 years of growth in the I-595 corridor, and using 2034 as the forecast year for design traffic.

<u>Status as of March 2006</u>: The Master Plan LPA concept was modified to accommodate Year 2034 traffic. This modified version of the LPA became Alternative 1A of the I-595 PD&E Study. Due to right of way impacts associated with Alternative 1A, other design concepts were developed that combined a series of design modifications to meet year 2034 travel demands within the I-595 corridor.

2. For PD&E projects of a Type 2 Categorical Exclusion or lesser class of action, no Public Hearing will be conducted. Public Hearings will be conducted for projects requiring an Environmental Assessment or Environmental Impact Statement. The public will have another opportunity to review these projects during the Broward County MPO's annual *Transportation Improvement Program* (TIP) adoption process.

Understanding: The FHWA agreed to this proposal.

<u>Status as of March 2006</u>: Several changes to the Master Plan LPA Build Alternative were required to minimize potential environmental impacts, construction costs, and the right of way acquisition needed to implement the I-595 corridor improvements based on the 2034 design year traffic. Therefore, FHWA and FDOT decided that a formal Public Hearing would need to be conducted during the I-595 PD&E Study to present the design alternatives and the No Build alternative that were evaluated during the study. A formal Public Hearing was conducted on November 29, 2005.

3. An Interchange Operational Analysis Report (IOAR) using Highway Capacity Software (HCS) will be prepared for the segment of I-595 between University Drive and the west end of the study corridor. A Systems Interchange Modification Report (SIMR) using CORSIM will be prepared for the I-595 segment between I-95 and University Drive.

Understanding: The FHWA agreed to a traffic operational approach that could be used in subsequent development of systems interchange analyses and reports to the FHWA. Agreement was reached on creating a SIMR for the segment of I-595 between I-95 and the University Drive interchange (inclusive).

<u>Status as of March 2006</u>: In a letter dated January 28, 2005, FHWA approved the SIMR prepared for the I-595 corridor (from I-75 to I-95).

4. Design Exceptions are proposed for the viaduct that spans Pond Apple Slough Natural Area and the vertical and horizontal curves of the University Drive flyover ramp replacement. Reducing the width of the shoulders to less than 10 feet, in select areas, and reducing selected through-lane segments to less than 12 feet will dramatically reduce the right of way acquisition and construction costs of improvements within the I-595 corridor. This can be accomplished by restriping the existing roadway surface rather than constructing modifications to it. It is also proposed that FHWA authorize FDOT to reconstruct the flyover ramps at the University Drive interchange in-kind, as long as there are no crash or safety concerns within the interchange area. These proposals for the I-595/University Drive interchange will reduce right of way impacts in that portion of the corridor. As part of its understanding with FDOT, any design exceptions requested from FHWA will be supported by safety and design parameter analyses.

Understanding: With proper documentation of safety impacts and design parameter analyses, FHWA will grant design exceptions and in-kind reconstruction of the University Drive interchange flyover ramp replacements as part of a coordinated effort to reduce right of way acquisition and construction costs.

<u>Status as of March 2006</u>: The restriping project for adding an additional lane in the westbound direction on the viaduct section has been approved by the FHWA and has been constructed. Design exceptions were required for substandard shoulder widths on I-595 westbound over the south fork of the New River, I-595 westbound over SR 84, I-595 westbound over SR 7, and the I-595 westbound ramp from I-95 southbound.

Analysis of crash data within the I-595 corridor indicates that there is not a crash problem within the I-595/University Drive interchange area. Therefore, the design exceptions and in-kind ramp reconstruction previously identified for this interchange area have been incorporated into the improvements proposed for the I-595 corridor.

5. Level of Service failures are unresolved for the EB on-ramps at Nob Hill Road, Pine Island Road, and Davie Road. Continuing Level of Service failures along the EB on-ramps at the Nob Hill Road, Pine Island Road, and Davie Road interchanges may remain unresolved under the proposed design concept due to geometric constraints and proposed construction costs of alternate treatments. The I-595 PD&E Study will go forward with the philosophy that the Interstate highway mainline will be given priority in the system for moving corridor traffic. Areas that may not accommodate the demand will be restricted to on-ramps only.

Understanding: FHWA agrees with the philosophy that the Interstate mainline should be given priority in achieving acceptable operational performance levels. However, FHWA expects FDOT to fully document any proposed design solutions that result in any Level of Service failures remaining in the corridor after all proposed improvements are constructed to demonstrate that the failures have been moved away from the mainline and onto the ramps.

<u>Status as of March 2006</u>: All proposed failures remaining within the I-595 corridor have been identified and documented in this study. The documentation that these failures do not occur on mainline segments, but rather at the on-ramps, is provided in **Section 6.0** of this report.

6. An evaluation of the use of tolls for the reversible lanes portion of the project is proposed in the I-595 PD&E Study. Florida's Turnpike Enterprise will perform a detailed Toll and Revenue Analysis for the reversible lanes portion of the project corridor. The reversible lanes are the only portion of the corridor for which tolls are being considered.

Understanding: The FHWA has agreed that an analysis of the feasibility of placing tolls on the reversible lanes as a means of generating revenues that could capitalize a significant percentage of the reversible lanes construction costs is warranted.

<u>Status as of March 2006</u>: The Florida Turnpike Enterprise is currently developing a revenue model and report to determine the feasibility of placing tolls on the reversible lanes. The evaluation and coordination regarding the tolling of reversible lanes will continue to be evaluated into the design phase of the project. Consideration will be given to tolling these lanes as not only a means of generating revenue, but also as a way to manage the traffic through congestion pricing.

7. Impacts to Tri-Rail Double Tracking and Fort Lauderdale-Hollywood International Airport Expansion projects will be avoided. The I-595 PD&E Study proposed improvements will not encroach into or negatively impact vertical clearances for the rail corridor or the airport approach glide paths. Modifications to I-595 developed as part of the airport's access changes will be included in the study documents.

Understanding: The FHWA agreed with this concept. However, proposed changes in I-595/airport access identified by Broward County may be reflected in the proposed design concept when identified as being performed "by others."

Status as of March 2006: Through subsequent refinements of the scope of services for the I-595 PD&E Study, the limits of the study corridor addressed only mainline improvements through the I-595/I-95 interchange. The eastern terminus of the I-595 PD&E Study did not extend far enough to the east to involve either the Tri-Rail line or airport access improvements. Coordination with Broward County regarding proposed improvements with the I-595/I-95 interchange will continue through the design and construction phases of the project.

PD&E Study Commitments

As the I-595 PD&E Study progressed, several special agreements were developed between the FDOT and other public agencies with regard to specific project elements.

- 1. The South Florida Water Management District (SFWMD) North New River Canal runs parallel to the study corridor throughout the project length. The FDOT made several commitments related to preserving the flow capacity and maintainability of the canal while making improvements to the I-595 mainline, the SR 84 frontage road system, and several interchange areas. These commitments included the following:
 - FDOT will provide SFWMD with the wind loadings that are used in the design of the noise walls.
 - FDOT will provide a 100 feet staging area next to all bridge structures.
 - FDOT will provide a minimum 25 feet gap, or appropriate maintenance access approved by SFWMD, in the noise wall at the SFWMD "Lot #29" (purchased by SFWMD for maintenance of Sewell Lock).
 - FDOT will provide a 3-foot asphalt mow strip, similar to a guardrail treatment, in front of proposed noise walls. This will assist the SFWMD with maintenance adjacent to the walls.

In the event that noise abatement measures cannot be constructed on the south side of the canal and therefore must be provided on the north side of the canal, FDOT will adhere to the following commitments:

- FDOT will typically locate the noise walls ±4 feet from the residential property line to allow for construction of the wall and foundation.
- FDOT will encroach into the SFWMD right of way for the noise walls on the north side of the SFWMD right of way, where the existing canal right of way is

more than 44 feet. The FDOT will provide a minimum of 40 feet from top of bank to the noise wall for maintenance of the canal.

- FDOT will not meander the noise walls for trees and fences but will hold to the northern SFWMD right of way line and the ±4 feet offset.
- FDOT may need to provide access to docks located south of the proposed noise walls. To accomplish this, it may be necessary to stagger the walls, which would ultimately reduce the berm width. The issue of access and its design will be coordinated with the SFWMD during the design phase of the project.
- 2. In a meeting held on October 21, 2005, the United States Coast Guard agreed that the 55-foot vertical clearance criterion for the North New River Canal will not apply to the proposed bridges (i.e. direct connection ramp/bridge from/to Florida's Turnpike, WB I-595 ramp/bridge to NB Florida's Turnpike, and the New River Greenway Pedestrian Bridge) crossing over the section of canal between Sewell Lock and SR 7. The FDOT committed to maintain at least 20-foot of vertical clearance and 30-foot of horizontal clearance (15 feet each side of the centerline of the waterway) for navigation.
- 3. Access to Sewell Lock Park, located on the north side of the I-595 corridor west of the Davie Road interchange, is provided from SR 84 WB. The Park is a historic site and a Section 4(f) resource owned by the Broward County Parks and Recreation Department. FDOT agreed that no permanent impacts to either Sewell Lock Park or its access from SR 84 will result from the improvements proposed for the I-595 corridor.
- 4. The I-595 corridor passes over an area impacted by a deep groundwater contamination plume from an offsite source identified by the United States Environmental Protection Agency under Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA aka. Superfund). The offsite source of contamination is known as the Florida Petroleum Reprocessors (FPR) Superfund Site.

Meetings were held with the U.S. Environmental Protection Agency and plans were reviewed for all improvements within the I-595 corridor including Florida's Turnpike interchange and mainline. Based on this coordination, a Consent Decree was drafted and lodged by the U.S Department of Justice which provides provisions to design and construct all roadway improvements within the contaminated area. The FDOT committed to adhere to all provisions of the Consent Decree and coordinate with the EPA on any substantial construction plan changes during the final design phase. A copy of the Consent Decree is provided in the *Contamination Screening Evaluation Report*.

5. Pond Apple Slough Natural Area is a wetland area located adjacent to the I-595 corridor east of the SR 7 interchange area. FDOT committed to the SFWMD and the Broward County Parks and Recreation Department that designs developed for improvements to the I-595 corridor will minimize impacts to limited access right of

way adjacent to Pond Apple Slough Natural Area and provide any mitigation measures that are required by the jurisdictional agencies.

6. Broward County has developed its Greenways System plan to connect all major neighborhoods within the County using travelways designed for non-motorized transportation modes. The countywide Greenways System will consist of bicycle and equestrian paths, nature trails, and waterways. Portions of SR 84 and I-595 crossroads have been designated as major components of this Greenways System.

FDOT agreed to modify its plans for the corridor by relocating the Greenway from the south bank of the North New River Canal (immediately north of I-595) to the north bank of the North New River Canal (immediately south of SW 25th Street) between SR 7 and theoretical SW 51st Avenue. The relocated Greenway would be within 200 feet of the existing alignment and would occupy SFWMD right of way for the North New River Canal from SR 7 to SW 41st Avenue, Broward County right of way for SW 25th Street between SW 41st Avenue and SW 44th Terrace, and SFWMD right of way for the North New River Canal from SW 44th Terrace to theoretical SW 51st Avenue. At theoretical SW 51st Avenue, a new bridge will be constructed for the Greenway over the North New River Canal to connect it to the south bank of the North New River Canal, where it will continue to Davie Road immediately adjacent to the canal bulkhead. From Davie Road to Sewell Lock Park, the Greenway will follow its current alignment. FDOT has committed to construct the relocated section of the Greenway prior to impacting the existing section thereby resulting in no net loss of Greenway or its function. As a result, there will be minimal impacts to the Greenway during construction as documented in the *Programmatic Section 4(f) Evaluation* that was approved by FHWA on March 14, 2006. See Appendix G of this report for the Section 4(f) approval letter from FHWA. The Broward County Greenways Project Manager has concurred with this proposed action.

The relocation of the Broward County Greenway is acceptable to the SFWMD as long as it remains flush with the ground and does not impact the SFWMD's ability to maintain the canal bank. Erosion concerns must be addressed during construction and final disposition of the Greenway.

- 7. FDOT has included recommendations for the location of a transit envelope within the I-595 corridor suitable for future implementation of a light rail transit (LRT) system. These envelopes have been incorporated into the typical sections developed for each Build Alternative proposed for the I-595 corridor improvements. This includes an understanding that the Federal Transit Authority (FTA) Preliminary Engineering phase for the *Central Broward East-West Transit Alternatives Analysis* (CBE-WTAA) will evaluate the transit project's location and impacts in more detail. FDOT will reevaluate the I-595 PD&E Study before advancing the right of way phase of any I-595 corridor project. This re-evaluation will consider the latest progress and information from the transit study.
- 8. To minimize adverse effects to the endangered Wood stork, the FDOT will determine if there are any active Wood stork breeding colonies within 18.6 miles of the proposed improvements at the time the Environmental Resource Permit (ERP) application is submitted to the US Army Corps of Engineers (ACOE). If the proposed

improvements are determined to be within the core foraging area (18.6 miles) of any active Wood stork breeding colony, any wetlands impacted will be replaced within the core foraging area of the active Wood stork breeding colony. The compensation plan will include a temporal lag factor, if necessary, to ensure wetlands provided as compensation adequately replace the wetland functions lost due to the project, and the wetlands offered as compensation will be of the same hydroperiod as the wetlands impacted. If the replacement of wetlands within the core foraging area is not practicable, the FDOT will coordinate with the U.S. Fish and Wildlife Service (USFWS) to identify acceptable wetland compensation outside the core foraging area, such as purchasing wetland credits from a "FWS Approved" mitigation bank.

The FDOT agrees to follow the USFWS Standard Construction Conditions for the Florida Manatee during implementation of the project, and Technical Special Provisions will be incorporated into the contractor's bid documents

The FDOT agrees to follow the USFWS Standard Protection Measures for the Eastern indigo snake during implementation of the project, and Technical Special Provisions will be incorporated into the contractor's bid documents

- 9. The FDOT will provide the following information to the National Marine Fisheries Service (NMFS) as the project progresses to the design, permitting, and implementation stage:
 - A detailed description of the construction activities. The information will describe whether subaqueous work will be implemented, types of construction methods proposed (i.e., pile drivers, cranes, dredges, hoppers, or barges, etc).
 - A list of conservation and avoidance measures for listed species on construction methods (i.e., best management practices for water quality protection and erosion control to be implemented in the project design and implemented during construction).
 - A short description or drawings of the new bridge(s) over tidal waters. The drawing or description will indicate the number of piles in the water for the bridge fenders and the location of the new piers.
 - A Stormwater Management Plan. The plan will include the type of treatment and maintenance of the stormwater treatment system. The treatment will be in accordance with state and federal (NPDES) standards.
- 10. The FDOT will keep a boundary fence around the Cherry Camp archaeological site (8BD82) for the duration of the I-595 construction projects to prevent staging areas or temporary access roads from impacting the site.
- 11. In order to minimize the unavoidable effects of right of way acquisition and displacement of people, the FDOT will carry out a Right of Way and relocation program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 as amended by Public Law 100-17).

Commitments for Later Phases of the Project

The following commitments have been made by the FDOT and will be adhered to during the final design and/or construction phases:

- 1. FDOT will continue to coordinate with elected officials and agency/municipality representatives over the course of the final design phase of the project.
- 2. FDOT will continue to coordinate with the Turnpike Enterprise regarding the design of I-595/Florida's Turnpike interchange structures, project funding, sequencing of the improvements, and the design and construction schedules.
- 3. FDOT will continue to coordinate with the State Historic Preservation Officer (SHPO) regarding the design of noise walls adjacent to the North New River Canal.
- 4. FDOT will create a Community Awareness Plan (CAP) so that public involvement is maintained throughout the entire project.
- 5. FDOT will seek community input regarding the desires, types, heights, and locations of noise abatement barriers where it has been deemed reasonable and feasible during the PD&E process. The FDOT is committed to the construction of feasible noise abatement measures at noise-impacted locations, contingent upon the following conditions: detailed noise analyses during the final design process support the need for abatement; reasonable cost analyses indicate that the economic cost of the barriers will not exceed the guidelines; preferences regarding the compatibility of the proposed mitigation measures with adjacent land uses, particularly as addressed by officials having jurisdiction over such land uses has been noted; safety and engineering aspects as related to the roadway user and the adjacent property owner(s) have been reviewed; and any other mitigating circumstances identified in the FDOT *PD&E Manual*, Volume II, Section 17-4.6.1.
- 6. FDOT will maintain access to businesses and residences to the maximum extent possible during construction.
- 7. FDOT will require that the sequence of construction be planned in such a way as to minimize traffic delays. The project will involve the development and use of a Maintenance of Traffic Plan / Traffic Control Plan. The local news media will be notified in advance of road closings and other construction-related activities, which could inconvenience the community so that business owners, residents, and/or tourists in the area can plan travel routes in advance. A sign providing the name, address, and telephone number of an FDOT contact person will be displayed onsite to assist the public in obtaining answers to questions or complaints about project construction.
- 8. FDOT will mitigate for any wetland impacts resulting from the construction of this project by using one of the options discussed during the Interagency Meeting on June 28, 2005. These options include, but do not limit FDOT to, rehydration of Pond Apple Slough Natural Area; property acquisition and wetland restoration adjacent to I-595 and Pond Apple Slough Natural Area; purchase of credits in an appropriate Wetland Mitigation Bank; or utilization of the Senate Bill. FDOT will maintain coordination with all appropriate regulatory and government agencies regarding the mitigation required for unavoidable impacts to wetlands adjacent to Pond Apple Slough Natural Area.

- 9. FDOT will evaluate the use of drainage structures, such as box culverts, to minimize or avoid haul road impacts to natural flow areas from the limited access right of way into Pond Apple Slough Natural Area.
- 10. FDOT will require the contractor to adhere to air quality and noise provisions of the FDOT *Standard Specifications for Road and Bridge Construction*, as well as appropriate Best Management Practices, to minimize the adverse effects on air and noise quality from construction activities.
- 11. FDOT will require the contractor to dispose of all oil, chemicals, fuel, etc., in an acceptable manner according to local, state, and federal regulations and forbid any dumping of contaminants on the ground or in sinkholes, canals, or borrow lakes. Appropriate Best Management Practices will be used during the construction phase for erosion control and water quality in order to obtain Chapter 62-25, F.A.C. compliance. In addition, the contractor will be required to adhere to the FDOT *Standard Specifications for Road and Bridge Construction*.

RECOMMENDATIONS

As part of the I-595 PD&E Study design analysis, a comprehensive Value Engineering/Design Review (VE/DR) Team was assembled. The multi-disciplined team was composed of senior staff from FDOT District 4, Broward County, Florida's Turnpike Enterprise and consultants. The purpose of the team was to conduct detailed design reviews of the design alternatives at critical stages of the refinement process to assure that the proposed improvements were cost effective, constructible, and made the most efficient use of existing right of way. A series of six VE/DR sessions were held in which the project's key engineering decisions were thoroughly reviewed and evaluated. The refinements to the LPA that emerged from the earlier VE/DR workshops were incorporated into a single PD&E design concept, Alternative 1A.

As Alternative 1A, the LPA to advance from the Master Plan, was developed further it became apparent that extensive right of way acquisition would be required to construct transit along the south side of SR 84. As a result, the project team developed three additional concepts, in coordination with the transit study consultants, local municipalities and stakeholders, FHWA, and the VE/DR Team. The three alternatives were designated as Alternatives 1B, 2A, and 2B. The three alternatives maintained the basic design components of the Master Plan LPA (reversible lanes, auxiliary lanes, braided ramp systems, etc.) but made more efficient use of the space available within the existing corridor right of way. After a comparative analysis of the four design alternatives was performed, Alternatives 1A and 2B were eliminated from further consideration. The No Build Alternative and Alternatives 1B and 2A were carried forward for further consideration as the I-595 PD&E Study preferred alternative.

On November 29, 2005, FDOT held the I-595 PD&E Study public hearing to provide an opportunity for the public to comment on the project and the alternatives being considered. The public hearing was setup to accommodate an informal interaction (open forum) between attendees and project staff and a more formal presentation (in a theatre setting) which allowed for public comment. There were a total of 216 people who registered at the sign-in table.

During the public hearing, several individuals expressed appreciation for what they deemed as much needed improvements, but some individuals also voiced concerns with different components of the project improvements. The main concerns expressed by attendees were quite similar to comments expressed at the previous public workshops and commonly pertained to either noise generated by the existing facility and/or the potential improvements or to the perceived negative visual impact of braided ramps and elevated structures.

A total of 37 comment cards or letters were submitted to the FDOT at the public hearing, or by email or mail within the prescribed comment period of 20 days. The comments expressed support or concern for the project, the various components, or the alternatives. The feedback emerging from the public hearing was evenly split between the two alternatives as to which should be selected the preferred alternative. The documentation from the public hearing, including the public hearing transcript, is provided in more detail in Section 8.5 and Appendix A of the Preliminary Engineering Report.

After the public hearing, the FDOT conducted a review of the alternatives, public hearing results, and recent Florida Turnpike Enterprise coordination. The following factors were used to compare the remaining alternatives and to select a preferred alternative:

- Corridor benefit (capacity and operations, system linkage, transit): Of the two
 remaining alternatives, Alternative 2A maximizes the efficiency of the corridor by: 1)
 providing regional to regional direct connections between I-75, Florida's Turnpike,
 and I-95; 2) providing additional capacity within the corridor by a third reversible
 lane; 3) minimizing impacts to adjacent properties by locating most improvements
 within the existing right of way; and 4) supporting implementation of a potential
 transit facility. The opportunity to provide direct connectors to the Florida's Turnpike
 can only be made possible by providing three reversible lanes within the I-595
 corridor, as proposed in Alternative 2A. The existing corridor only has sufficient right
 of way for two at-grade reversible lanes, however, if the required three reversible
 lanes are provided on structure then right of way is not a constraint.
- Incident management (at-grade versus elevated reversible lanes): The City of Weston expressed some concern about the safety risks associated with the elevated reversible lanes. In the ensuing Freeway Incident Management (FIMT) meeting that was held on November 9, 2005, the group agreed that there were no fatal flaws in providing incident management on the elevated reversible lanes and that both Alternatives 1B and 2A were viable concepts.
- Environmental consideration: Considering that the two alternatives provide negligible differences in Section 4(f) and noise impacts, mitigation requirements, and aesthetics issues, environmental features were not deemed a decisive factor in selecting the preferred alternative.
- Costs: Detailed costs of the two remaining alternatives (including the transit component within the I-595 corridor) were developed as part of the study process. Alternative 2A has an overall corridor improvement cost of \$1.625 billion compared

to \$1.304 billion for Alternative 1B. The overall corridor improvement cost includes the construction costs associated with the I-595 roadway improvements, including reversible lanes and transit (but not transit stations); the right of way costs associated with the roadway, offsite drainage ponds, and transit requirements (but not transit stations); and the engineering costs associated with corridor management, final design, and construction, engineering, and inspection (CEI).

After evaluating each of these factors, it was determined that Alternative 2A provides the best opportunity to move people and goods along I-595 between I-75, Florida's Turnpike, and I-95. Alternative 2A provides a direct connection to Florida's Turnpike, which maximizes the potential capacity of the corridor by adding a third lane to reversible lane system and by reducing congestion on the mainline general purpose lanes. This increase in capacity will ultimately improve the operations and safety along the corridor, particularly at the interchange with the Florida's Turnpike. Alternate 2A also provides the most flexibility for additional transportation options in the corridor by providing space in the median area for future transportation needs. **These benefits that maximize the corridor's potential for transportation make Alternative 2A the preferred alternative.**

Alternative 2A, the preferred alternative, provides for six 12-foot general purpose lanes (three in each direction), 10-foot inside and outside paved shoulders, and 12-foot auxiliary lanes between interchanges. SR 84 will have two 12-foot lanes and 4-foot paved shoulders (undesignated bicycle lanes), with Type F curb and gutter and 6- to 12-foot wide shared use path proposed on the outside. Alternative 2A also proposes three 12-foot reversible lanes with 10-foot shoulders on a 59-foot wide bridge structure elevated in the I-595 median. The proposed typical section is shown in Figure 1-2 from the PER. Consistent with the major components of the previous Master Plan LPA, the preferred alternative 2A provides the following improvements:

- Reversible lanes, serving express traffic, to/from I-75/Sawgrass Expressway from/to east of SR 7
- Direct connect ramp to/from Florida's Turnpike from/to the reversible lanes
- Continuous connection of SR 84 between Davie Road and SR 7
- Collector-Distributor (C-D) system between Davie Road and I-95
- Two-lane off-ramps
- Braided interchange ramps to eliminate mainline weaving segments
- Combined ramps and cross-street bypasses to reduce congestion
- A WB to NB ramp at Florida's Turnpike
- Modifications to the I-595/Florida's Turnpike interchange
- An envelope for a potential transit element to be integrated into the corridor



Attachment 2.A: EXISTING CONDITIONS

PROJECT DESCRIPTION Project Location

The I-595 corridor is located in central Broward County, Florida. The I-595 PD&E Study limits extend from the I-75/Sawgrass Expressway interchange (Mile Post 0.592) west of SW 136th Avenue to the I-595/I-95 interchange (Mile Post 10.407) for a total project length of approximately 10 miles (see Figure 1-1). The I-595 corridor passes through or lies immediately adjacent to six governmental jurisdictions: the City of Sunrise, Town of Davie, City of Plantation, City of Fort Lauderdale, and Town of Dania, as well as unincorporated areas of Broward County.

The majority of the I-595 corridor is comprised of two facilities: I-595 and SR 84. The I-595 portion of the corridor is a six-lane, limited access facility. In addition to the interchanges with the two freeway systems at each end of the study corridor, there are nine other interchanges along the corridor at the following crossroads: SW 136th Avenue, Flamingo Road (SR 823), Hiatus Road, Nob Hill Road, Pine Island Road, University Drive (SR 817), Davie Road, Florida's Turnpike (SR 91) and SR 7 (US 441).

The SR 84 portion of the corridor lies both north and south of the I-595 mainline. The two lanes north of the mainline operate one-way WB while the two lanes south of the mainline operate one-way EB. In the area west of the I-75 interchange and continuing east to Davie Road, the SR 84 lanes serve as a collector-distributor system to the I-595 mainline. The SR 84 system is suspended through the I-595 interchanges with Florida's Turnpike and SR 7. East of the SR 7 interchange, the SR 84 and I-595 rights of way separate. The SR 84 alignment veers to the northeast and the I-595 alignment continues nearly due east.

Project History

Until the 1970's, growth patterns in Southeast Florida (Miami-Dade, Broward and Palm Beach Counties) were concentrated along the Atlantic coastline, primarily east of the I-95 corridor. As the region continued to grow, the need for available land drove development west of the I-95 corridor. Initially, surface arterial and collector roadways were able to provide sufficient capacity to meet east-west travel needs.

However, as growth pressures increased, it became clear that substantially greater east-west transportation network capacity would be required to meet future travel demands. The existing SR 84 corridor in south-central Broward County was selected as the area where the greatest level of demand could be accommodated.

The current I-595 facility was opened in 1989. Yet, travel demand within the corridor increased at a pace that made it clear that the long-range traffic forecasts for the new highway would be reached in the short-term. Quantification of traffic growth in the corridor, assessments of corridor operations, and recommendations for measures that could be enacted in the short term were prepared and presented to FDOT in the form of the *Interstate 595 Freeway Operational Analysis, Final Report* in 1994.

To prepare for the continued evolvement of I-595, the FDOT determined that a Corridor Master Plan should be developed. In the late 1990's, most of the recommendations from the Master Plan for the region's I-95 corridor (prepared in the early 1980's) had been implemented and the corridor was rapidly approaching its planning horizon. Therefore, I-95 was also in need of a new Master Plan which would address any remaining safety, capacity, and multimodal options that could be incorporated within the next 25 years. These two efforts were combined and the *I-95/I-595 Master Plan Study* was completed in 2003.

I-95/I-595 Master Plan Study Investigations and Recommendations

Tier 1 of the *I-95/I-595 Master Plan Study* (Master Plan) examined 15 alternative concepts for the I-595 corridor. During Tier 2 of the analysis, the number of concepts under investigation was narrowed to seven. Tier 3 of the Master Plan study examined each of the remaining seven concepts in greater detail. Throughout the analysis process, federal, state and local agencies, elected officials, and the public were provided numerous opportunities to express their opinions concerning the concepts, including their physical features and their positive and negative social, economic, political, and environmental impacts. By the end of the Tier 3 investigations, these efforts produced a single LPA for the I-595 corridor that consisted of a series of proposed improvements. The most extensive improvements were recommended to occur between SW 136th Avenue and I-95. A major focus of effort during the development of the LPA was minimizing the project's need for additional right of way and associated right of way impacts. This directive included potential transit accommodations in the future.

The LPA called for two physically separated, reversible express lanes to be constructed at-grade in the center median area. The reversible lanes would flow in the peak direction of travel during the peak hours: EB during the morning peak hours and WB during the evening peak hours. The LPA proposed that the reversible lanes would extend from Nob Hill Road to SR 7, allowing adequate distance to merge with the general purpose lanes east of the interchange with I-75/Sawgrass Expressway and west of the interchange with I-95. In addition, east of Davie Road, the mainline would be widened to four lanes per direction.

A major revision of access patterns between I-95, Florida's Turnpike, SR 7, SR 84, and I-595 were proposed as part of the LPA improvements. The LPA also provided for a collector-distributor (C-D) system between I-95 and the Florida's Turnpike ramps. At several locations, it was proposed that existing single-lane ramps be widened to two lanes as listed below:

WB Direction Off-Ramps	WB Direction On-Ramps	EB Direction Off-Ramps	EB Direction On-Ramps
University Drive	Pine Island Road	Pine Island Road	University Drive
Pine Island Road		University Drive	
Nob Hill Road		Davie Road	
Flamingo Road			

The improvements also called for several sets of braided ramps. Existing typical ramp sequencing locates an on-ramp from an upstream interchange to be followed by the off-ramp for the downstream interchange. When the ramps are in relatively close proximity to one another, this configuration can lead to difficulties with merging, diverging, and weaving maneuvers. Braided ramps reverse this sequence so that the two ramp loads are never on the mainline at the same time, which effectively increases the throughput capacity of the general purpose lanes. Braided ramps were proposed between the following sets of I-595 interchanges in the Master Plan LPA.

WB Direction

EB Direction

University Drive and Pine Island Road Pine Island Road and Nob Hill Road Hiatus Road and Flamingo Road Flamingo Road and Hiatus Road Nob Hill Road and Pine Island Road

The introduction of the C-D system also allowed the streamlining of ramp connections between the I-595 mainline and SR 84. Proposed overpasses of Hiatus Road by WB SR 84 and of Hiatus Road and Pine Island Road by EB SR 84 would allow the number of ramp connections to and from the mainline to be reduced. This is accomplished by having the traffic demand for two successive crossroads exit at a single upstream location. Ramps between the C-D system and the first crossroad operate as usual with one exception: the C-D roadways through vehicles, as well as the vehicles wishing to access the second crossroad, are carried over the first crossroad on an elevated structure, thereby decreasing the amount of C-D system conflict with crossroad traffic.

A number of Intelligent Transportation Systems (ITS) measures were also recommended for inclusion in the Corridor Improvements package. Initially proposed in the 1994 *Southeast Florida Intelligent Corridor System Final Report* and incorporated into the Master Plan, the ITS plan suggested a variety of measures that could be included in the project. The specific measures are identified below, with the type(s) of ITS technology each measure employs shown in parentheses.

- Service Patrols (Advanced Incident Information System)
- Variable Message Signs (Dynamic Message Sign System, Advanced Traveler Information System)
- Loop Detectors (Advanced Incident Information System, Advanced Traveler Information System)
- Closed Circuit Television (Advanced Incident Information System)

Once in place, these ITS actions would have a positive impact on the efficient movement of persons, goods, freight, and services on the corridor's roadway network.

The Master Plan LPA also recommended development of a transit element within the I-595 corridor. The transit concept incorporated into the study corridor was the LPA that emerged from the *Central Broward East-West Transit Alternatives Analysis*, a separate investigation that recommended construction of a light rail transit (LRT) service within the I-595 right of way.

A systems analysis of the I-595 corridor, reflecting the Master Plan's recommended improvements, was performed. Under traffic demand volumes for the Master Plan Study design year of 2020, it was found that the majority of the reconfigured corridor would operate within acceptable parameters. Once the necessary improvements for the I-595 corridor had been identified, an Implementation Plan was prepared. The projects were divided into 3 categories.

- **Major Bottlenecks**, *Highest Priority, Short Term Improvements*: The analyses performed in preparation of the Master Plan identified several bottlenecks in the I-595 corridor. Bottlenecks are locations where the traffic demand exceeded available capacity. The congestion levels at those bottlenecks located at ramp terminals (weaves, merges, and diverges) were so severe that most of them affected traffic flow along the mainline.
- **TSM and Operational Efficiency Improvements,** *Medium Priority*: The projects in this category were those that addressed capacity issues in the areas operating, or predicted to operate, below the governing jurisdiction's adopted minimum standards. All of the improvements in this category consisted of ramp improvements, requiring either reconstruction as braided ramps or widening to two lanes.
- Ultimate Project Build-out Improvements, Long Term Priority: Three projects were included in this category. These projects were anticipated to be the most time-intensive to design and construct, costly to implement, and have the greatest impact on corridor system operations. These projects entailed:
 - 1. Creating reversible lanes in the median
 - 2. Adding a through (general purpose) lane in portions of I-595 (east of SR 7), resulting in five lanes per direction
 - 3. Constructing an LRT line and at least three transit stations within the existing I-595 median

The first phase of improvements, the Highest Priority projects, were predicted to be open to traffic by 2014. The Medium Priority projects, or Phase Two, were scheduled to be operational by 2024. Full implementation of the LPA, including completion of the Phase Three or Long Term Priority projects was expected by 2034. However, to achieve this long-range goal, emphasis was placed on the need to continue with the design process for the projects immediately upon completion of the Master Plan effort.

The I-595 Master Plan LPA served as the base build alternative for the I-595 PD&E Study.

RELATED PROJECTS WITHIN THE STUDY AREA

Coordination with both state and local transportation agencies was maintained throughout the I-595 PD&E Study process to assure that recently completed, ongoing, and programmed study and design efforts affecting other components of the regional

transportation network were incorporated into this study's findings. A great emphasis was placed on identifying those efforts undertaken by others that would be influenced by, or that could influence, the I-595 PD&E Study effort. This held true for both short term and long range transportation network improvements intersecting or influencing traffic volumes within the study corridor.

Two projects were found that would have a dynamic impact on the I-595 PD&E Study. The first project has just recently completed construction and includes widening of the Sawgrass Expressway from four lanes to six lanes. The Sawgrass Expressway is a limited access toll expressway located at the western limits of the I-595 PD&E Study corridor. In the development of design year 2034 traffic volumes for the I-595 corridor, the Sawgrass Expressway was treated as a six-lane facility.

The second project relates to widening of Florida's Turnpike mainline. Since the improvements required at the I-595/Florida's Turnpike interchange overlap between responsibility of FDOT District 4 and the Florida Turnpike Enterprise, funding for the proposed improvements will be provided by different sources. An agreement was drawn up by FDOT District 4 and Florida's Turnpike Enterprise, detailing the responsibilities of each party. The agreement provides for the following:

- Florida's Turnpike Enterprise will widen the Turnpike bridge over I-595 and the Turnpike mainline, south of I-595, from six to eight lanes. The Florida's Turnpike mainline, north of I-595, will be widened from six to ten lanes and be designed to accommodate a future direct connection to I-595. As part of the mainline widening, the Turnpike is coordinating with Florida Gas Transmission to relocate a 36 inch gas main to an offset 25 feet off the east right of way line.
- FDOT District 4 will construct a new WB I-595 to NB Turnpike ramp, eliminating the current weaving section on the I-595 off-ramp.
- FDOT District 4 will reconstruct the EB I-595 to NB Turnpike ramp, on structure and at a larger radius.
- Florida's Turnpike Enterprise will reconstruct the I-595 to SB Turnpike on-ramp, on structure, and reconstruct the SB Turnpike off-ramp and bypass lane to Griffin Road.
- Florida's Turnpike Enterprise will reconstruct the SB Turnpike to I-595 ramp to provide sufficient horizontal clearance for the proposed I-595 to SB Turnpike ramp and the proposed SB Florida's Turnpike off-ramp to Griffin Road.
- Florida's Turnpike Enterprise will construct a new exclusive NB Turnpike to EB I-595 ramp that is physically separated from the WB movement, eliminating the current weaving section on the Florida's Turnpike off-ramp.

NEED FOR IMPROVEMENT

The I-595 corridor was opened in 1989, coordinating the movement of high traffic volumes between the developable areas in the western parts of the Southeast Florida region with the established north-south freeway and principal arterial systems to the east: I-75, Florida's Turnpike, US 441 (SR 7), I-95, and US 1 (SR 5).

However by 1994, several segments of the six-lane freeway had already exceeded the 2015-projected volumes. Two factors were mostly responsible for this accelerated growth.

- 1. The destruction that occurred in southern Miami-Dade County as a result of Hurricane Andrew in 1992 caused a major redistribution of population in the three Southeast Florida counties (Miami-Dade, Broward, and Palm Beach Counties). While the region as a whole saw no significant change in growth rate in the years that followed the hurricane, there were major changes in the region's population distribution. The southernmost and easternmost areas of the three counties experienced decreases in population while the western parts of both Broward and Palm Beach Counties experienced marked increases in growth rates, particularly residential growth. While the shift in residential site patterns changed rapidly, business relocations were slower to redistribute. As a result, the growth in east-west travel demand within the region increased at a greater rate than did the north-south travel demand.
- 2. Two Florida industries led the state's recovery from the economic recession of the 1980's: tourism and international trade. Tourism is a statewide industry. International trade, particularly expansion of Florida's trade relations with Central and South America, is led by the Southeast Florida region. Southeast Florida's airports and port facilities lead the state in the volume of goods moving through their facilities. The I-595 corridor is a strategic element in the movement of goods to and from these international gateways and the manufacturing and distribution centers that contribute to and benefit from their activities.

To prepare for the continued evolution of I-595, the FDOT determined that a Corridor Master Plan should be developed. The I-595 PD&E Study is the next step in furthering implementation of staged improvements for the I-595 corridor identified within the Master Plan. The various improvements that comprise this project address a number of state, regional, and corridor-specific needs.

STATEWIDE NEEDS

The improvements proposed for the I-595 corridor are directly related to the FDOT Mission Statement.

The Department will provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity and preserves the quality of our environment and communities.

The proposed improvements to the I-595 corridor are directly related to the four goals that FDOT has adopted as its means of carrying out this Mission.

Safe Transportation

The proposed improvements will enhance the safe operation of the corridor by increasing the number of persons, vehicles and travel modes it can accommodate. This is an asset to residents, visitors, and commerce.

There were a total of 1,530 crashes recorded along the I-595 corridor between January 1997 and December 2001 with an average of 306 crashes per year. The highest number of crashes was recorded in 1998 with 354 crashes and the lowest number of crashes was recorded in 1997 with 259 crashes.

The most common type of crash was the rear-end collision, which accounted for 41.6% of all crashes recorded. The number of rear-end collisions can be attributed to congestion related to peak period traffic volumes and lane reductions on-ramps feeding onto the mainline from the SR 84 frontage road system. Two other frequent crash types were sideswipes and angle crashes. Sideswipes accounted for 14.1% of the total crashes experienced during the five years examined and angle crashes accounted for 10.0% of the total. These crash types are also predictive of the congested conditions in the corridor along the ramps and interchanges.

The improvements proposed for the corridor specifically address the following conditions.

- The separation of long-distance users of the corridor from those having local interchange destinations as will be achieved by the construction of the express lanes will help to eliminate the speed differential and lane changing friction that is a contributing factor in sideswipe and angle crashes on Interstate facilities.
- The introduction of braided ramp configurations at selected locations, reconfiguration
 of interchange ramps at other locations, increased numbers of auxiliary lanes
 between interchange pairs, and extension of the SR 84 C-D network through a
 greater portion of the corridor all measures under consideration in the corridor will
 also help in reducing congestion along the mainline, thereby improving ramp-traffic
 merging operations and relocating the congestion that does occur to the slower
 speed SR 84 C-D system.

These measures will, in turn, improve not only the safety of corridor operations, but will also help to improve emergency service provider response times while increasing the person throughput of the corridor.

System Management

The proposed improvements expand the service life of the corridor, expanding upon the original vision for whom and how the corridor operates to serve the Southeast Florida traveling public.

The original construction of the I-595 corridor represented a major investment in Southeast Florida's freeway infrastructure. The importance of the facility to the area's transportation network was recognized soon after its opening, when the facility was identified as a link of the Florida Intrastate Highway System, or FIHS. The FIHS is the

state's premiere highway system. FIHS facilities are those segments of the state's highway network that have the principal responsibility of carrying large volumes of traffic over long distances and, conversely, minimal responsibility for providing access to adjacent property. The 3,834-mile FIHS network constitutes less than three percent of the state-managed highway system, yet it carries 29% of all traffic and nearly 70% of the state's long-distance truck traffic. To assist the FIHS in fulfilling its role within the state highway system, FIHS facilities are held to higher design standards, as well as higher level of service standards.

The recent master planning exercise demonstrated that a number of additional improvements are needed to preserve that investment. The proposed improvements will enable I-595 to continue to serve large volumes of traffic while operating in a safe manner with improved efficiency. Such characteristics are hallmarks of the FIHS network. Another aspect of system management is assuring that FDOT, and thereby the citizens of Florida, get the greatest return on their investment, including:

- The best possible design.
- Recommendations that meet the greatest number of project objectives.
- Recommendations that generate high levels of community support.
- Recommendations that strive to minimize negative impacts to the community's socio-economic structure.
- A project that strives to minimize negative impacts to the environment.
- A project that can be implemented for a reasonable cost.

As part of the I-595 PD&E Study design analysis, a comprehensive VE/DR Team was assembled from senior staff of FDOT District 4, Broward County, Florida's Turnpike Enterprise and specialty consultants. The purpose of the VE/DR Team was to conduct detailed design reviews of the design alternatives at critical stages of the refinement process to assure that the project remained cost effective, constructible, and made the most efficient use of existing right of way. A series of VE/DR sessions were held in which the project's key engineering decisions were thoroughly reviewed and evaluated. During these discussions, two variations of the I-595 Master Plan LPA emerged that are designated throughout this document as Alternative 1B and 2A. These concepts were then carried forward for more detailed analysis during the later phases of this study. Details of the alternatives features and impacts appear in **Attachment 2B** of this report.

Economic Competitiveness

Because of its critical location in the center of Broward County and its proximity to a wide range of other major transportation hubs and corridors, such as Port Everglades, Fort Lauderdale-Hollywood International Airport, Florida East-Coast Rail Line, and Tri-County Commuter Rail, as well many of the region's major north-south expressways and principal highways, improvements to the I-595 corridor are a boost to the state and regional economic competitiveness in the global market.

In addition to being an FIHS facility, the 10-mile I-595 urban corridor is identified as a component of the Designated Highway Corridors on the state's Strategic Intermodal System (SIS). Development of the Florida SIS was authorized by the Florida Legislature during its 2001 session. The SIS is a network of transportation hubs (rail

stations, airports, ports, etc.), corridors (rail lines, highways, waterways, etc.), and connectors (highways, rail lines, transit lines, and waterways) that link select highways, railways, transit lines, and waterways with other Designated SIS hubs, corridors, and connectors.

Prior to the SIS, planning for the different modes that comprise Florida's transportation system was performed in separate efforts. Planning for the SIS brings two new elements to the state's previous transportation planning processes.

- Integration of the needs of all 10 intermodal elements of the state's transportation system into a single, coordinated plan for the assessment of needs, priority ranking of projects, and distribution of funding, particularly state discretionary transportation funds.
- Integration of economic concerns into all phases of the SIS, from designation of SIS facilities to assessment of economic benefits to be derived from project implementation.

The I-595 corridor is an important link to many other major transportation facilities that are recognized as important to the state's economy. These facilities represent half of the transportation modes recognized by the SIS. Designated SIS facilities that are located within or immediately adjacent to the I-595 corridor are listed below, as are other regionally significant freeway and principal arterial facilities. Roadways highlighted in **boldface** are Designated SIS facilities.

- <u>Highway Corridors:</u> I-75/Sawgrass Expressway (SR 869), Florida's Turnpike, US 441 (SR 7), I-95, and US 1 (SR 5, locally known as Federal Highway)
- <u>Freight Rail:</u> CSX Transportation (through agreement with Tri-County Commuter Rail) and Florida East Coast (FEC) Railroad, both Class I rail facilities
- <u>Passenger Rail:</u> **Amtrak**, **Tri-Rail**, the commuter rail system serving the three Southeast Florida counties and operated by the South Florida Regional Transportation Authority
- <u>Waterways:</u> Port Everglades, North New River Canal, south fork of the New River
- <u>Airports:</u> Fort Lauderdale-Hollywood International Airport
- Intermodal Freight Terminals: FEC Intermodal Rail Terminal

I-595 and Port Everglades

Port Everglades, the area's SIS Designated Seaport, is a major component in the region's economy. Its growth as a port facility has been greatly enhanced by the direct connection between the port and I-595. Port Everglades is among the largest of the state's fourteen deep-water ports.

- Port Everglades is the second largest passenger cruise port in the world, serving more than 2,000,000 passengers per year.
- Port Everglades is second in Florida to the Port of Tampa, and 12th in the U.S. in tons of containerized cargo moving through the port (4.1 million tons). More than 25 million tons of container, bulk and neo-bulk cargo move through Port Everglades annually.

- One-fifth of the state's energy needs are met by petroleum products stored and distributed through Port Everglades. Approximately 12.5 million gallons of petroleum products per day are brought into the port, meeting the fuel requirements of Miami, Fort Lauderdale-Hollywood, and Palm Beach International Airports and 12 southern and central Florida counties. In addition, nearly 7 million barrels of storage are provided on site.
- The Free Trade Zone (#25) was the first one in Florida and remains the largest in Florida, moving more than \$400 million in goods in 2004.
- Port Everglades, at 44 feet below Mean Low Water, is the deepest commercial harbor south of Virginia. In addition, the distance of 1.2 nautical miles from the sea buoy to the main turning basin makes it the shortest and straightest entrance of any seaport on the Atlantic Coast.
- Port Everglades generates more than 7,700 jobs, \$414 million dollars in wages, approximately \$1.35 billion in business activity to Broward County and a total of \$2.3 billion in business activity throughout the state of Florida. Nearly 15,000 more indirect and induced jobs are associated with the cargo and passenger flows through Port Everglades, making the port one of the largest employment centers in Broward County.
- Port Everglades is a key component of the Trade, Transportation, and Utilities business sector, which is the largest sector of the Broward County economy at 20.9%.

I-595 plays an important role in the continued success and expansion of Port Everglades' operations. Nearly 70% of the goods moving through the port arrive or depart by truck, with studies of the port indicating that the port "benefits from an unusually high level of access to the external roadway network [through its] direct connection to I-595 [which provides] excellent access to I-95 and the Florida Turnpike." Review of access routes to the other deepwater ports in Florida indicates that Port Everglades, alone, has direct access to a regional limited access freeway system from the port facilities. The *Broward County 2030 Long-Range Transportation Plan Update* also references the importance of the Port's connections to SR 7 and I-75, which are provided by I-595. In advertising to potential customers, nearly all of the businesses at the port hail the direct access to I-595 (often referenced in advertising as Port Everglades Expressway) as one of their sites' major selling points.

Since September 11, 2001, concerns about security at our nation's ports have moved from being industry concerns to subjects of importance to the average citizen. Port Everglades has implemented state of the art security throughout its complex. With a large number of the goods and vehicles departing the port destined for the regional highway network, it is reassuring to know that all cargo has been x-rayed and drivers have undergone thorough background screenings, increasing the security of freight and goods moving within the I-595 corridor.

Emergencies at the port, such as hazardous material spills or fires, are ably dealt with by port-based staff and equipment. The port's emergency services receive special

training and undergo periodic drills to prepare for such events, should they occur. However, on the rare occasions when additional assistance may be required, I-595 is a strategic part of the emergency and haz-mat response procedures developed within the region. Broward County continues to review and enhance the community's ability to respond to port-related emergencies, as indicated in the *Broward County ITS Intermodal Plan: Final Report* (Broward County MPO, 2003).

The Role of I-595 in Freight and Goods Movement

Broward County, through its MPO, is unique in Florida for having taken an aggressive, proactive stance regarding freight and goods mobility. It has been a leader in Florida regarding its work to educate the public as to the contributions that freight and goods movement, service delivery, and trucking in general have on the regional economy. The MPO has also:

- Identified a point of contact within the government for coordination of all freightrelated matters, established an in-house library of freight movement case studies and research efforts throughout the world and raised the profile of freight interests to equal those of transit and non-motorized transportation concerns within the MPO.
- Initiated a review of local ordinances affecting truck routing and weight restrictions.
- Reviewed the location and duration of school zones to assure that they are applicable during periods when children are actually present.
- Reviewed geometric design of specific locations identified by transportation system users to identify those sites that present physical impediments to expedient movement of freight and goods.
- Worked with local land use planners to assure that future land use decisions enhance, rather than impede, goods distribution networks.
- Worked with industry professionals, including carriers, couriers, drivers, and warehousing and distribution operators to establish a forum that meets regularly with local transportation officials to identify projects, set priorities for action, identify potential funding sources (including private-sector contributions) and assess progress on shared matters of interest.

Among the research findings of the Broward County MPO has been that 65% of all freight moving in the county is by truck. Further study has shown that the three facilities carrying the largest volumes of that truck traffic are I-95, I-595, and US 27. The I-595 project corridor provides direct links to both I-95 and US 27, via I-75 to the west.

One of the objectives of the Freight and Goods Movement Initiative in Broward County has been to increase the number of trucks making use of Florida's Turnpike for travel to and from southeast Florida, as well as intraregional travel within the area. However, an impediment to its use, particularly for trucks moving to and from the Port and FEC Intermodal Rail Terminal, has been configuration of ramps to and from the Turnpike. The proposed improvements included in this I-595 PD&E Study directly address these concerns, thereby helping to resolve one of the major obstacles in meeting this Freight Movement objective.

Another concern expressed by transportation business operators and drivers, one repeatedly identified as a concern in regional freight movement, has been the need for additional capacity to travel east-west. As previously noted, I-595 is the only corridor that serves to connect all of the major north-south routes in the region: US 27, Sawgrass Expressway, Florida's Turnpike, SR 7, I-95, and US 1. Initial investigations into development of an additional east-west corridor have indicated that such an effort would be very costly and require a number of years to implement. Widening of the I-595 corridor, however, would greatly assist in meeting the additional capacity needs. It is also a measure that can be implemented at considerably less cost and within a much more reasonable time frame than development of a new corridor. The Freight Movement Initiative has been one of the most vocal proponents of capacity improvements to the I-595 corridor.

The role of the I-595 corridor in the SIS, its integration into the growth and success of Port Everglades, and its key role in the general freight and goods movement strategies of the region serve to underscore the economic benefits that will come from maximizing the operational efficiency of the I-595 corridor. Improvements in corridor capacity and interchange configurations will result in reduced congestion, less delay, and decreased travel times for goods and freight movement.

Quality of Life

The proposed improvements to the I-595 corridor have been developed in a manner that ensures that the qualities of life that are of value to Florida citizens are sustained: preserving parklands, protecting sensitive wetlands, and taking appropriate measures to mitigate any environmental impacts that may occur.

The importance of the I-595 project corridor, and the improvements proposed for implementation within it, to the quality of life for Southeast Florida citizens is most clearly understood by reviewing the No Build Alternative's impacts. A detailed discussion of these impacts appears in **Attachment 2.B** of this report.

In brief, the No Build Alternative entails maintaining the existing I-595 corridor without implementing capacity, operational, or safety improvements within the project corridor, except for those already funded and included in the Broward County MPO's *Transportation Improvement Plan.* No improvements to the I-595/Florida's Turnpike interchange ramps would be made, nor would changes to the SR 84 frontage road system, and no action in support of locating a light rail transit system within the corridor right of way would be taken.

Advantages of the No Build Alternative include no additional costs, other than maintenance of the existing facility; no need for acquisition of additional right of way for construction of detention ponds that would be needed for additions to the impervious areas within the corridor limits; and no impacts to traffic or surrounding neighborhoods as a result of construction activities. Additionally, there would be no concerns about impacts to wetlands or threatened or endangered species and there would be no risk of contamination or exacerbation of existing contamination at any site within the project's study area. There would be no direct or indirect impacts to community cohesion or existing system linkages within the area.

However, the No Build Alternative would also have consequences. The lack of improvements would result in a steady and dramatic decrease in the level of service within the I-595 corridor, particularly for weaving actions and merges as vehicles move between the mainline lanes and the ramps. Travel times and delays would increase between the neighborhoods in the western part of the county and the communities in the eastern part of the county. Lengthy queues and impaired traffic flows would result, which in turn would increase response time for emergency vehicles. The lack of upgraded facilities could pose a serious impediment to emergency evacuation and response times for Broward County. With increased traffic volumes and without capacity improvements, congestion will worsen along the existing facilities and air quality will decrease around critical intersections. Traffic congestion is one of the leading quality of life complaints of Americans.

With the increase in congestion, motorists would be required to spend more time in their vehicles, often a contributing factor to commuter frustration that may result in aggressive driving, as well as increase noise and air pollution. In addition to the safety concerns for the motoring public will be greater personal and economic costs that must be borne by the public. More vehicles competing for the same space are likely to cause increased numbers of crashes that, in turn, create additional delay and, with it, an increased likelihood of more crashes. All of this significantly reduces highway capacity.

Taken in combination, all of these factors are a growing impediment to economic efficiency. Increased traffic congestion causes drivers to alter their travel patterns and make choices that influence their daily activities. Traffic congestion may also pose economic impacts through delays in movement and increased time and costs in the delivery of goods and services. Additionally, no overall long term corridor capacity improvement would result in worsened operating conditions than established by the local governments. This eventually filters through parallel roadway systems, degrading the operation of the transportation network as a whole. It also affects the ability of local governments to approve future development when the existing transportation system is unable to support continued growth. In the long term, these types of issues will begin to affect the socioeconomic character of the area.

Table 3-1 from the PER compares the results of the impacts discussed above for the No Build Alternative and the proposed improvements Design Alternatives.

As the comparison of the No Build Alternative and Design Alternatives attributes shows, failure to carry out the proposed improvements for the I-595 corridor will have a long-term effect on the quality of life for residents, businesses, and visitors of Southeast Florida.

Table 3-1 Comparison of No Build Alternative and Design Alternatives (from PER)

No Build Alternative	Design Alternatives		
No Corridor Improvements	Improvements to help meet Year 2034 travel demand		
Decreased levels of service, particularly for weave and merge conditions at the approaches and departures from ramp areas	Improved mainline, weaving and ramp terminal levels of service due to introduction of additional ramp lanes, additional auxiliary lanes and redesigned ramp configurations		
Increased travel times and associated travel- related delays	Increased numbers of mainline lanes, reducing the total number of lane-miles in the transportation network, reducing per-person travel time and minimizing per-vehicle travel delays		
Increased response time for emergency responders and increased hurricane evacuation times	Maintaining or reducing emergency response times and increased hurricane evacuation capacity		
Increased congestion	Improved traffic flow		
Increased crash rates	Improved corridor safety, reducing the probability of congestion-related, as well as weave- and merge-related, sideswipe and angle crash rates		
Increased travel costs and decreased travel times for goods and services having potentially negative impact on area's socioeconomic well-being	Minimizing travel costs/improved travel times helping area goods and services to remain competitive in the global market		
Impediment to economic activity and efficiency	Supportive of economic growth		
Degradation of transportation network operations and continued reliance on personal vehicles for meeting home-work/work-home travel needs	Improved operation of surface transportation network and increased options of travel mode within the corridor and increased corridor person throughput		

REGIONAL (AREAWIDE) NEEDS

There are a number of regional issues that serve to justify implementation of the proposed I-595 improvements. Business and economic leaders identify Southeast Florida as the area of the state having the strongest regional identity, both by local citizens and by business and economic experts from around Florida and outside of its borders. The types of issues that serve as regional project justifications relate to matters that are not reasonably limited by jurisdictional or political boundaries and include system linkages; transportation demand; federal, state and local authorities' support for the project; social demands and economic development, and modal interrelationships.

System Linkages

The developed areas of Miami-Dade, Broward, and Palm Beach Counties in Southeast Florida are in the shape of an elongated rectangle lying along the Atlantic Coast in the southeast corner of mainland Florida. This rectangle stretches from the Homestead/Florida City area in southern Miami-Dade County to Palm Beach Gardens; nearly 80 miles north in Palm Beach County, and from the Atlantic Ocean on the east to the Everglades and Everglades-related wetlands located 20 miles west of the coast. Within this 3,200-square-mile area, the I-595 corridor is the only east-west multi-lane freeway providing connections to all of the region's principal north-south corridors, as well as freeways beyond the region's boundaries. West of the I-75/Sawgrass Expressway, I-595 connects to I-75, with direct connections to the population centers along the Gulf Coast. This linkage is important for many reasons.

- Southeast Florida, which constitutes less than 6% of the state's land area, is home to more than 30% of the state's population. The resulting population density makes Southeast Florida a strong market for trade and commerce the generation, distribution, and consumption of freight, goods, and services. I-595 plays an important role in the distribution of these products, both within the Southeast Florida area and between the region and other areas of the state and nation.
- I-595, located near the midpoint of the region, is a critical link between other components of the FIHS network, such as US 27 (located west of the project corridor), Sawgrass Expressway, I-75, Florida's Turnpike and I-95. It is also an important link to SIS network components for other travel modes: freight and passenger rail, port, aviation, and intercity bus. These linkages work to ensure an efficient transportation network.
- I-595 is an important facility in the area's emergency evacuation plans. In the event
 of an emergency, such as a hurricane, residents east of US 1 are directed to leave
 the area using I-95 and I-595. In addition, I-595 is a principal access route to many
 of the designated shelters for residents of Broward County. Fox Trail Elementary
 School is one such designated shelter and is located within one block of the corridor.
 I-595 is also a primary route for departure from the Southeast Florida area, while
 avoiding the coastal region. Using the corridor, WB travelers would continue west
 out of the region on I-75 to US 27, then turn north on US 27 to the inland areas of
 the state or west to the Gulf Coast region.

Transportation Demand

Which locations within the I-595 corridor are most in need of immediate improvement? What types of improvements would be most effective at relieving congestion at these locations? Which operations within the corridor are the leading contributors to the corridor's congestion problems?

These questions are most effectively answered by determining the levels of service experienced in the corridor at selected locations under current traffic volumes. These locations should include representations of the various operating components within its limits. Level of service analyses were performed on Base Year 2002 (existing) travel conditions within the I-595 corridor. They examined each of the system's operating elements: mainline sections, mainline/ramp merge and diverge points, weave sections, ramps, and ramp/crossroad intersections. A number of these elements were found to have existing traffic volumes that resulted in less than acceptable levels of service, based on the local jurisdictions' adopted minimum standards. The failing elements are listed by component in Table 3.2 from the PER.

Three system interchanges are located along the I-595 PD&E Study corridor: I-75/Sawgrass Expressway, Florida's Turnpike, and I-95. The level of service analyses indicated that the EB I-595 merge with the NB and SB Turnpike on-ramp operates at LOS F during the AM Peak.

Two weaving operations between I-595 and Florida's Turnpike were analyzed, one to the Turnpike and one from it. The Turnpike-to-I-595 weave failed in the AM peak period. Both operations were below the minimum standard, LOS E, during the PM peak period. Analysis of the future design years travel demand forecasts for this project (Year 2014 and Year 2034) showed these deficiencies would worsen in future years.

The severity of these conditions can be demonstrated using the eastbound segment of I-595, between I-95 and SR 7/Turnpike as an example. The year 2002 PM peak hour traffic volume for this mainline segment was 6,552 vehicles, resulting in LOS F conditions. By the year 2014, that travel demand is forecast to increase to 10,686, still LOS F, but resulting in far more congestion and associated delay – and requiring more recovery time once the peak hour is over.

Another aspect of the transportation demand also emerged from the traffic forecasting process. As lanes were added within the corridor in the future year scenarios, both the corridor volume and the total number of trips and travel-miles in the system increased. This is a clear indication that there is a greater demand for east-west travel than the corridor alone can supply. Therefore, any degree of additional capacity that the corridor can contribute to the total system capacity will improve the responsiveness of the entire Southeast Florida regional transportation network to the needs of the motoring public.

Table 3.2 Corridor Elements Below Adopted Level of Service (LOS) Standards (from PER)

System Component: Direction of Travel Element Location	AM Peak Hour LOS	PM Peak Hour LOS
Mainline I-595: EB • Viaduct between I-95 and SR 7/Florida's Turnpike	F	
 <u>I-595 Mainline/Ramp Merges & Diverges: EB</u> SR 7 – Diverge Florida's Turnpike – Merge SR 7 – Merge¹ 	FFF	
 <u>I-595 Mainline/Ramp Merges and Diverges: WB</u> SR 7, from NB mainline – Merge SR 84/Davie Road, from C-D Rd² – Merge SW 136th Avenue – Diverge 	E	F F E
Mainline Weave Analyses: EB I-595• Between 136 th Ave and Flamingo Rd• Between Flamingo Rd and Hiatus Rd• Between Hiatus Rd and Nob Hill Rd• Between Nob Hill Rd and Pine Island Rd• Between Pine Island Rd and University Dr	EFFF	ШН
 Mainline Weave Analysis: WB I-595 Between Florida's Turnpike and Davie Rd Between University Dr and Pine Island Rd Between Pine Island Rd and Nob Hill Rd Between Nob Hill Rd and Hiatus Rd Between Hiatus Rd and Flamingo Rd Between Flaming Rd and SW 136th Ave 	E F E E	FFFE
Ramp Levels of Service No ramps had substandard levels of service		
 <u>SR 84 /Crossroad Intersections: EB</u> Nob Hill Rd Pine Island Rd University Dr Davie Rd 	F F E E	
 <u>SR 84/Crossroad Intersections: WB</u> SW 136th Ave Pine Island Rd Davie Rd 		E F E

1. HCM Methodology recommends analyzing upstream and downstream basic freeway segments when there is an Add/Drop lane design on the ramp

 C-D Road – Collector-Distributor System developed using segments of parallel SR 84 and braided ramps between I-595 and SR 84

Federal, State, or Local Governmental Authority

It is important that any publicly-funded transportation project have the support of the public agencies charged with reviewing, approving, constructing, and/or financing it. For a project on the Interstate system, such as I-595, these agencies exist at the local, state, and federal level.

Local support for the I-595 PD&E Study and its related physical improvements are coordinated through the Broward County MPO. The Broward County MPO *2030 Long-Range Transportation Plan* shows that the elements of the Master Plan-defined LPA are included.

- Project #4 on the list of Cost-Feasible Transit Projects is the "Central Broward East-West Transit Corridor." The light rail transit project limits extend from Sawgrass Mills on the west to Florida A1A on the east. The budgets established for the project are \$30.826 million in operating costs and \$800 million in capital costs.
- Project #44 on the list of Cost-Feasible Highway Projects is broken down into two separate projects.
 - The first is a 10-mile segment of I-595, from I-75 to SR 7 and includes adding reversible lanes in the median area. The project has a budget of \$84.1 million in the plan.
 - The second is a 14-mile segment of I-595, extending from I-75 to US 1. Listed with the general description of "Causeway Improvements," this project is budgeted at \$151.8 million in the plan.

At the state level, the proposed improvements within the I-595 corridor are addressed in two different plans, one for each of the major corridor designations.

Additional measures have been taken to assure that all public agencies had sufficient opportunities to express their views regarding the projects set forth for the corridor. As with all Master Plan and PD&E Studies, appropriate local, state, and federal agencies received Advance Notification (AN) of the project (on November 5, 2003) at the outset of each study phase. These AN packages included descriptions of the project limits and the anticipated study areas limits; basic information about existing conditions within the corridor; overviews of the rationale for pursuing the studies; and important dates along the timeline of each study. Each of the agencies also received individual invitations to attend the study kickoff meetings, public workshops, and public hearings.

The breadth of scope and importance of the I-595 corridor to the regional transportation operations and economic development required more extensive efforts be made to involve public agencies in the study process. For this reason two Interagency Meetings were conducted during this I-595 PD&E Study (October 21, 2004 and June 28, 2005). These meetings provided a contained environment where the focus was placed on dialogue between agency representatives and the project's Management and Design Team members. In addition, a series of six VE/DR meetings were conducted at FDOT District 4 headquarters (one introductory session on February 13, 2005; four working sessions held April 26-30, 2004; November 1-5, 2004; January 18-21, 2005; and May 16-20, 2005; and a final session held on December 16, 2005). As a result of the many

interagency meetings, particularly the VE/DR sessions, held throughout the duration of the study, several important decisions were reached.

- Roadway improvements were shifted away from Sewell Lock Park, historical Section 4(f) property, and a Florida Power and Light (FP&L) substation. Through design modifications, FDOT was able to avoid approximately \$35 to \$40 million in right of way impacts.
- Coordination with the Broward County Greenway project resulted in redesign of both projects and coordination mitigation measures, steps that helped both projects achieve their desired objectives.
- Spin-off projects, measures that would require relatively small financial investments for noticeable improvements in traffic flow, were identified from the Master Plan.
- Sixteen projects were identified for the corridor from the I-595 PD&E Study. This measure provided FDOT with flexibility in pursuing the complex corridor project, allowing it to move forward with their work program and construction schedules with confidence.
- The interagency coordination process presented an opportunity for FDOT staff to perform VE/DR of two projects at once: the I-595 PD&E Study and the *Central Broward East-West Transit Alternatives Analysis*. Since a portion of the alignment set forth in the transit study would occur within the I-595 corridor, this combined process assured that each study incorporated the best and most pertinent elements of the other project.
- Two alternative noise mitigation treatments were incorporated into the project through coordination between SFWMD and FDOT. One alternative places noise walls immediately adjacent to the main I-595 corridor, between the mainline and the SR 84 collector-distribution system. The other alternative provides for the construction of the noise mitigation measures on the outside of the SR 84 C-D lanes, adjacent to the right of way lines. Where necessary, the SFWMD has agreed to the construction of noise walls atop bulkheads constructed as part of the mitigation of impacts to the North New River Canal, particularly in areas adjacent to interchange reconstruction.

As previously stated, the I-595 PD&E Study corridor is an FIHS facility. FDOT prepares a comprehensive long-range plan for the FIHS network in 5-year cycles. The FDOT published an *FIHS 2025 Cost Feasible Plan Update* in 2003. The importance of this update was that it reflected revenue forecasts that reflect the priorities and economic realities of the state's post-9/11 economy. The highway portion of the proposed I-595 improvements appears as five separate projects in the District 4 portion of the FIHS Long-Range Plan. The projects include reconstruction of multiple interchanges, construction of express lanes, and improvements to the causeway mainline itself.

The I-595 corridor is also considered a Designated SIS Highway Corridor link of the state's intermodal transportation network. FDOT's Central Office staff has completed the bulk of SIS network development. The first coordinated intermodal SIS network Needs List has been completed and includes all SIS facilities projects that have passed established criteria and that have been identified in at least one other long-range

planning effort. Seven of the projects included on the SIS Needs List were obtained from the Broward County MPO's Long-Range Plan. An eighth project refers to a recently completed Intelligent Transportation Systems (ITS) Study, the FDOT District 4 *10-Year ITS Cost Feasible Plan.* On November 2, 2005, the Executive Office of the Governor announced the SIS Growth Management projects proposed for funding between fiscal year 2005/2006 and 2010/2011. The list included nine of the I-595 corridor projects that were identified from this study.

Social Demands and Economic Development

One of the objectives of this I-595 PD&E Study is to maximize the capacity of the corridor within the existing right of way to the greatest extent feasible. Acquisition of additional right of way has been restricted to very narrow confines. The directive to minimize acquisition of right of way worked to protect the Section 4(f) lands and the pristine waters and sensitive environmental features adjacent to the corridor. The protection of the natural assets of Southeast Florida enhances the area's attractiveness to potential business interests, developers, and visitors.

Modal Interrelationships

The LPA for the I-595 corridor that emerged from the Master Plan Study introduced several multimodal features into the I-595 corridor: light rail transit (LRT), special use lanes, integration with transit lines on crossroads, and non-motorized travel.

Light Rail Transit – The Master Plan LPA recommended development of a transit element within the I-595 corridor. The transit concept incorporated into the study corridor was from the LPA that emerged from the *Central Broward East-West Transit Alternatives Analysis*, a separate investigation that recommended construction of a light rail transit system within the I-595 right of way.

In response to the potential transit needs, the design alternatives prepared for the I-595 PD&E Study have incorporated a transit envelope within the I-595 corridor suitable for future implementation of a light rail transit system with an understanding that the Federal Transit Authority (FTA) Preliminary Engineering phase for the *Central Broward East-West Transit Alternatives Analysis* will evaluate the transit project's location and impacts in more detail. FDOT will re-evaluate this I-595 PD&E Study before advancing the right of way phase of any I-595 corridor project. This re-evaluation will consider the latest progress and information from the transit study.

Special Use Lanes - The Master Plan LPA provides for two reversible lanes to be located within the mainline median. At the present time, it is envisioned that the reversible lanes will function as express lanes.

Integration with Transit Lines on Crossroads – The Master Plan LPA provides for integration of the express lanes with transit operations on the crossroads by design of special service ramps to these lanes. As stated previously, the I-595 PD&E Study design alternatives have incorporated a transit envelope within the corridor suitable for future implementation of a light rail transit system. The Preliminary Engineering phase

for the *Central Broward East-West Transit Alternatives Analysis* will focus on selection of the best sites to develop as park-and-ride facilities and how to integrate the sites with transit along the corridor.

Non-Motorized Travel – The preliminary designs of those interchanges requiring modifications to accommodate predicted traffic volumes have been configured to also serve non-motorized travel modes, namely pedestrians and bicyclists. These non-motorized travel provisions are made within the limits of the crossroads at these locations.

Most of the coordination for these projects occurred in frequent meetings between local and elected officials, agency representatives, and the FDOT project team throughout the study. Coordination meetings were also held at the FDOT District 4 offices, allowing representatives from FDOT's individual departments to attend. Frequent briefings were also made to the Broward County MPO and their citizens and technical advisory committees, as well as with elected and public officials of Davie, Plantation, and Weston. Finally, a series of week-long VE/DR meetings were conducted during the study that provided opportunities for in-depth roundtable discussions of a number of project aspects: the original LPA, anticipated impacts and their remediation, modifications to the original concept to lessen potential impacts and address public and agency concerns and comments on the project, and review of both systemwide and individual element assessments. Through numerous meetings during the I-595 PD&E Study, the agencies, including FHWA, were afforded numerous opportunities to provide comments and input into the development of the project concepts.

Utilizing a comprehensive multimodal planning approach in these I-595 corridor studies will enable optimum performance to be derived from all parts of the system, balancing the needs of the various travel modes while minimizing their collective impacts.

PROJECT CORRIDOR NEEDS

In addition to the statewide and regional benefits of implementing the proposed improvements, there are benefits that are specific to the corridor. Most of the corridorspecific justifications for the project have already been identified throughout this discussion. The following is a summary of the most critical elements that support implementation of the proposed corridor improvements.

- The I-595 corridor is the only east-west expressway in Broward County. As Broward County grows, demand for east-west movement will grow as well. The costs associated with developing a second east-west freeway corridor are prohibitive. The proposed improvement scheme identifies means of increasing the number of persons served by the corridor by almost 30% while staying essentially within existing right of way, a far more economic means of addressing the region's longterm east-west travel needs.
- The safety of the corridor will be improved in three different ways through the proposed improvements.
 - 1. The proposed express lanes and potential transit system will increase the number of people that can be served by the corridor. This directly affects

congestion along I-595, as well as separating higher speed long-distance trip takers from users wishing to move to and from the interchanges that connect the corridor with the local roadway network. Taken in combination, these actions will help to eliminate the conditions that contribute to rear-end and sideswipe crashes that currently account for more than 50% of the incidents occurring in the corridor.

- 2. Reconstructing selected interchange ramps as braids, increasing the number of lanes on-ramps and the number of auxiliary lanes between successive on/off-ramp pairs, redesigning the complex interchange configurations at Florida's Turnpike and SR 7, and extending the SR 84 C-D/frontage road system will also improve corridor safety. These improvements will enhance the operational efficiency of the mainline lanes, reduce the number of weaving operations occurring at the approaches and departures from interchange areas, and simplify merging operations. These improvements will also contribute to reductions in rear-end, sideswipe, and angle crashes.
- 3. The I-595 corridor plays an important role in the region's emergency evacuation plans. Improvements to the corridor will help move large volumes of people and vehicles away from coastal areas, directing traffic to central Florida roadways (Florida's Turnpike, I-75, and US 27) and allowing the Interstate routes closer to the coast to be used for influx of emergency responders and supplies.
- The proposed improvements ensure the integrity of past investments in the corridor development while keeping faith with area citizens by following through on commitments made through several different adopted long-range plans. The local Broward County MPO and the FDOT FIHS and SIS networks (I-595 is an important segment on both of these networks) identify the proposed improvements as part of their long-range plans. Implementation of these projects is important to the visions for the local, regional, and state critical transportation systems identified by these plans.
- The proposed improvements are important to the economic vitality of Southeast Florida. Improving I-595's corridor operations improves the movement of persons and goods into and out of other important parts of the area's transportation system: Port Everglades, Fort Lauderdale-Hollywood International Airport, Florida East Coast Rail Terminal, FEC and CSX rail lines, Tri-Rail commuter rail system, and major expressways (I-75, Sawgrass Expressway, Florida's Turnpike, SR 7, and I-95).
- Implementation of the proposed improvements is important for continuing and improving the quality of life for residents, business, and visitors to the communities of Southeast Florida. It allows the communities located along the corridor to achieve the goals of their long-range comprehensive plans by supporting their continued economic development.
- The proposed improvements have been developed in close coordination with local, regional, state, and federal resource and permitting agencies to ensure that the project has been developed in a manner that minimizes or avoids impacts to environmentally sensitive and Section 4(f) lands.
As these many points emphasize, implementation of the improvements to the I-595 corridor that are outlined in the remainder of this report are in the long-term interests of the expressway users, the Southeast Florida region, and the State of Florida.

EXISTING CONDITIONS

The following section describes the existing conditions within the project study limits.

EXISTING ROADWAY CHARACTERISTICS

Functional Classification

I-595 is a limited access facility that runs in an east-west direction. I-595 is an integral part of the Florida Intrastate Highway System (FIHS)/Strategic Intermodal System (SIS) with a functional classification of limited access expressway. There are one-way frontage roadways, WB SR 84 and EB SR 84, on the north and south sides of the mainline between SW 136th Avenue and Davie Road. SR 84 has a functional classification of one-way collector.

Typical Section(s)

Four main typical sections comprise the I-595 corridor. The following are the limits for the four existing typical sections.

- Typical Section 1: SW 136th Avenue to University Drive
- Typical Section 2: University Drive to Florida's Turnpike
- Typical Section 3: Florida's Turnpike to West of SR 7
- Typical Section 4: West of SR-7 to I-95

Typical Section 1 – SW 136th Avenue to University Drive

Typical Section 1 includes a 64-foot median, 10-foot paved inside and outside shoulders (12-foot overall width), and three general-purpose (GP) lanes in each direction. There are one or two auxiliary lanes between each pair of successive interchanges. Guardrails are located on the outside of the travel lanes to protect motorists in sections with high fill, while barrier walls are located on areas where mechanically stabilized earth (MSE) retaining walls are used.

This first typical section has a frontage road system, SR 84, on the north and south side of the freeway. SR 84 is a two-lane, one-way pair that acts as a collector/distributor (C-D) roadway to I-595. When I-595 was planned, the SR 84 right of way served as the original working alignment for the new Interstate connector. Typical Section 1 is depicted in Figure 4-1 from the PER.



4-2

Typical Section 2 - University Drive to Florida's Turnpike

The second typical section extends from University Drive to Florida's Turnpike. It is similar to Typical Section 1, except that its median width is 68 feet: three 12-foot GP lanes in each direction (see Figure 4-2 from the PER). The I-595 mainline has a frontage road system (SR 84) on its north and south sides along most of its length, from University Drive to Davie Road.

Typical Section 3 – Florida's Turnpike to West of SR 7

Typical Section 3 extends from Florida's Turnpike to west of SR 7. This area has median and inside shoulder widths that vary. This variability is due to a restriping project, completed in 2002, that created an additional WB auxiliary lane on I-595. The mainline alignment is on curve and superelevated through much of this area. No frontage roads are present along this section of I-595. Three 12-foot GP lanes and one or two auxiliary lanes are present between interchanges in each direction. Typical Section 3 is shown in Figure 4-3 from the PER.

Typical Section 4 – West of SR 7 to I-95

The fourth typical section extends from west of SR 7 to I-95. Through much of this area, I-595 is on structure. This area has a varying median width and a 3-foot inside shoulder width that resulted from the 2002 restriping project described above. Three GP and two auxiliary lanes are present within this segment of I-595; no frontage roads are present (see Figure 4-4 from the PER).

East of SR 7, SR 84, which served as the mainline frontage road in western sections of the project, resumes its original alignment north of, and separate from, the I-595 mainline.

Pedestrian and Bicycle Facilities

There are no designated pedestrian or bicycle crossings along the I-595 mainline, although there are sidewalks along SR 84. The North New River Greenway is a combined pedestrian/bicycle path that is located adjacent to the North New River Canal and SR 84 throughout the I-595 project corridor.

Right of Way

Between SW 136th Avenue and University Drive, I-595 and its adjacent frontage roads lie within a right of way which varies from 337 ft to 396 ft. Between University Drive and Florida's Turnpike, I-595 and its frontage roads lie within a right of way which is typically 369 ft but varies from 318 ft to 586 ft. Between Florida's Turnpike and SR 7, I-595 lies within a right of way which is typically 265 ft but widens to as much as 1,800 feet in the vicinity of the SR 7 interchange. Between SR 7 and I-95, I-595 lies within a right of way which varies from 235 ft to 457 ft.



4-4





Horizontal Alignment

The design elements reviewed during the evaluation of the existing horizontal alignment conditions include radius of curves, superelevation of the roadway surface, and horizontal clearance to adjacent obstacles. The existing horizontal alignment for I-595 is oriented in a general east-west direction throughout the project corridor. Of the 13 horizontal curves within the corridor, the most significant is a 31°16'33" horizontal curve located along the mainline within the SR 7 interchange area. The radius of each horizontal curve meets minimum FDOT standards for the design speed of the facility.

Superelevation within the corridor ranges from a high of +5.2% to a low of -7.4%. At only one location, the eastern end of the corridor in the westbound direction does the superelevation of the facility fail to meet FDOT standards.

Vertical Alignment

Four vertical alignment elements were analyzed for the I-595 corridor: (1) grade, in percent; (2) length of vertical curve; (3) K Value, which is a factor of the length of a vertical curve; and (4) stopping sight distance. Each of these elements is noted in Figure B-1. The existing vertical alignment of the I-595 mainline is composed of 81 vertical curves, 41 eastbound and 40 westbound. Fifteen of the EB curves and 14 of the WB curves did not meet current design standards with respect to the length of the vertical curves. Three areas in each direction were found to be below FDOT standards for the superelevation relative to the length of the vertical curve and design speed of the facility.

Drainage

The I-595 project corridor lies within the SFWMD North New River Canal Basin. The North New River Canal is aligned parallel with the interstate along the northern limited access right of way line. The North New River Canal begins west of the project limits, at the main Everglades dike, and continues eastward until its confluence with the south fork of the New River (between SR 7 and I-95). The New River ultimately drains into the Atlantic Intracoastal Waterway and Atlantic Ocean.

The existing drainage within the project limits involves a multitude of separate, independent stormwater management systems consisting of various inlets, structures, swales, wet detention ponds, and exfiltration trenches. Typically throughout the corridor, stormwater runoff sheet flows off the roadway pavement to swales located within the median or between I-595 and SR 84, where it is treated and attenuated before discharging into the North New River Canal. However, exfiltration trenches scattered throughout the project corridor, as well as detention and retention facilities at the major interchanges, also provide a substantial amount of the treatment and attenuation for the corridor runoff.

Although there are no major cross drains or box culverts within the I-595 corridor, approximately 30 circular culverts (less than 48 inches in diameter) provide conveyance of runoff from the I-595 corridor into the North New River Canal. While several of these culverts are regulated by control structures located within the limited access right of

way, the canal is regulated by the SFWMD G-54 lock structure. Also known as Sewell Lock, the G-54 is located approximately one mile west of the Turnpike and regulates discharge from the North New River Canal to tidewater. The G-54 consists of a 45-foot flashboard spillway (with a total of eight bays) at a weir elevation of -3.6 feet NGVD (National Geodetic Vertical Datum). The resulting design headwater (HW) is 3.5 feet NGVD. The design TW of the North New River Canal immediately downstream of G-54 is 3 feet NGVD. Further downstream, the North New River Canal drains into the south fork of the New River.

Accident Data

Crash data reported along the I-595 corridor from 1997 to 2001 was obtained from the FDOT District 4 Traffic Operations Division. The crash data was reviewed and compiled to obtain information such as: number of crashes, type of crashes, severity of crashes (fatality, injury or property damage), crash location, and roadway and weather conditions. A safety analysis was performed for the I-595 PD&E Study project corridor limits.

There were a total of 1,530 crashes recorded between January 1997 and December 2001 with an average of 306 crashes per year. The highest year was 1998 with 354 crashes and the lowest year was 1997 with 259 crashes recorded. The most common type of crash was rear-end collision, which accounted for 41.6% of all crashes recorded. The number and type of these accidents can be attributed to traffic conditions associated with the peak period traffic volumes, the ramp lane reductions and the merge conditions. Table 4-1 of the PER summarizes the total crashes by type that occurred along the I-595 corridor.

Safety ratios for the I-595 corridor were calculated for each year of data based on the FDOT Highway Safety Improvement Program Guideline Topic No.500-000-100-c. The safety ratio is an indicator of whether a roadway can be considered a possible high crash location. The safety ratio is determined by dividing the actual crash rate by the critical crash rate. The critical crash rate is based on national crash rates for particular types of roadway. If the safety ratio exceeds 1.0, then the segment is considered a high crash location. Table 4-2 indicates that the I-595 corridor had safety ratios less than 1.0 for the five consecutive years examined, 1997-2001. There are millions of dollars per year in economic loss due to traffic accidents on I-595 within the study limits. Accidents in 2001 alone resulted in an economic loss of \$29,427,200.00 as shown in Table 4-2 of the PER.

The 1,530 crashes resulted in 19 fatality crashes, 853 injury crashes and 658 property damage crashes. The highest number of injuries occurred in 2001 (312 injuries) and the highest number of fatalities occurred in 1998 (6 fatalities). 72% of the crashes occurred during daylight hours and 80% of the crashes occurred on dry surfaces. Table 4-3 of the PER summarizes the crash severity and the lighting and road surface conditions of crashes for each year examined.

Intersections and Signalizations

There are 14 signalized intersections within the corridor under the operational control of the Broward County Traffic Engineering Division. The following intersections were evaluated as part of this study. The signals are actuated and the cycle length varies between 80 and 150 seconds.

- SR 84 EB and WB At SW 136th Avenue SR 84 EB and WB at Pine Island Road
- SR 84 EB and WB at Flamingo Road
 SR 84 EB and WB at University Drive
- SR 84 EB and WB at Hiatus Road
- SR 84 EB and WB at Nob Hill Road

EXISTING BRIDGES

There are 55 bridges along the I-595 corridor within the study area. The locations are identified in Table 4-6 of the PER. As part of the National Bridge Inventory and Structural Inventory and Appraisal program conducted by FHWA, FDOT requires biannual evaluations of all bridges under its jurisdiction. The results of the evaluation indicate that the I-595 bridges received Sufficiency Ratings in the 1980's - 1990's. However, the highest rating of 100 percent was for a bridge that is considered part of Florida's Turnpike system, connecting that facility to I-595.

SR 84 EB and WB at Davie Road

Attachment 2.B: PROPOSED IMPROVEMENTS

ALTERNATIVE ALIGNMENT ANALYSIS

The following section describes the different improvement alternatives that were considered, including the No Build Alternative.

NO BUILD ALTERNATIVE

The No Build Alternative maintains the existing I-595 corridor. No traffic capacity, operation, or safety improvements would be implemented. The consequence associated with this alternative includes the acceptance of existing highly congested traffic conditions with the continued growth in South Florida increasing travel demand significantly over the next 20 years. The No Build Alternative was used throughout the study process as a comparative baseline condition. The following are among the advantages of the No Build Alternative.

- No construction or right of way costs
- No residential or business relocations
- No direct social and economic impacts
- No utility relocations
- No direct impacts to environmental resources

The No Build Alternative fails to satisfy the project objective of developing an integrated multimodal corridor that is economically efficient, safe, and environmentally sound. There are other disadvantages associated with the No Build Alternative.

- Inconsistent with the I-595 Master Plan, Broward County MPO Adopted Long-Range Plan, the state's FIHS and SIS Long-Range Plans, and other adopted local, regional, and state plans
- Fails to meet future travel demand and adopted levels of service for any of the corridor elements: mainline, ramps, frontage roads, merges, diverges, weaves, and intersections
- Fails to improve traffic operations and safety
- Increases congestion leading to such consequences as continued degradation of air quality, increased travel times and costs, and increased emergency response time
- Does not provide an opportunity for noise abatement
- Impedes new economic and social activities and deters expansion of existing economic and social conditions

STUDY ALTERNATIVES

I-595 Master Plan Locally Preferred Alternative

The I-595 PD&E Study is a continuation of the *I-95/I-595 Master Plan Study* completed in March 2003. The Master Plan produced a Locally Preferred Alternative (LPA) that was adopted by the Broward County MPO on January 7, 2003. The major components of the LPA are listed below and a schematic is shown in Figure 8-1 of the PER.

- Reversible lanes, at grade, serving express traffic to/from I-75/Sawgrass Expressway from/to east of SR 7
- Continuous connection of SR 84 between Davie Road and SR 7
- Collector-Distributor (C-D) system between Davie Road and I-95
- Two-lane off-ramps, as needed
- Braided interchange ramps to eliminate mainline weaving segments
- Combining ramps and provides cross-street bypasses to reduce congestion
- A westbound to northbound (WB-NB) ramp at Florida's Turnpike
- Modifications to the I-595/Florida's Turnpike interchange
- Provisions for a transit element, such as a commuter rail line, integrated into the corridor (with details of the concept to be developed in a separate study)

Public comment on the LPA was received at the I-595 Master Plan Public Hearing conducted on November 16, 2000, at the Davie Police Department. The LPA was reviewed by FHWA and it was agreed that the alternatives to be studied during the I-595 PD&E Study should only include the Master Plan LPA Build Alternative, and variations of it, and a No Build Alternative, since 15 different build alternatives were evaluated during Tiers 1 and 2 of the Master Plan Study. Also, given that the LPA consists of an integrated set of projects, the integration of the Master Plan would be compromised if alternatives analyses for the individual projects resulted in different design concepts. Therefore, the I-595 Master Plan LPA serves as the base Build Alternative for the I-595 PD&E Study.

Refinements to the Master Plan LPA

The Master Plan LPA was developed with a Design Year of 2020. The primary objective of the I-595 PD&E Study alternative analysis phase was to refine the Master Plan LPA, as necessary, to satisfy the future travel demand for Design Year 2034. The LPA was also updated to include changed conditions within the corridor that have occurred since the Master Plan Study. In addition, the LPA was refined to reflect comments received at interagency meetings and public workshops, as well as an extensive VE/DR process conducted for the I-595 PD&E Study.

The following are critical elements that were considered during the refinement of the Master Plan LPA.

I-595 PD&E Study Design Year 2034

The Master Plan LPA was developed with a Design Year of 2020; the I-595 PD&E Study was developed with a Design Year 2034. The LPA was refined to accommodate traffic growth for an additional 14 years, requiring additional auxiliary lanes and ramps at selected locations.

North New River Greenway

Broward County is developing the North New River Greenway, a shared-use bicycle/pedestrian trail that would extend from Markham Park, west of I-75 to SR 7. As originally proposed, the Greenway would run adjacent to the I-595 corridor along the

north side of the North New River Canal between Markham Park and University Drive. The Greenway exits the corridor between University Drive and Davie Road, travels along Nova Drive (an east-west roadway located south of the I-595 corridor), then reenters the corridor at Davie Road. From Davie Road, it continues east along the south side of the New River Canal before finally exiting the I-595 corridor between the Davie Road and SR 7 interchanges. As part of the *Programmatic Section 4(f) Evaluation*, it was determined that impacts to the Greenway are unavoidable. Therefore, a portion of the Greenway, between Davie Road and SR 7 will be relocated by FDOT as part of the I-595 improvements.

Sewell Lock Park

The historical Sewell Lock Park, located on the North New River Canal on the north side of I-595 just west of Davie Road, presented an obstacle for the proposed LPA improvements in that area. The Master Plan LPA would impact the park and could potentially create Section 4(f) involvement. To avoid impacts to the park, the alignment of the proposed braided ramps and typical sections of both the on/off-ramps and SR 84 between University Drive and Davie Road were modified. This modification allows for the roadway improvements to be constructed without permanent impacts to the park. After this design modification was implemented, it was determined through the *Determination of Applicability* that there would be no Section 4(f) involvement associated with the Sewell Lock Park.

Minor temporary impacts will be necessary for final dressing and connection to access points. All final design aspects will be coordinated with SFWMD and Broward County Parks.

FP&L substation

There is an existing FP&L substation located on the south side of I-595 immediately west of Davie Road. The substation, located across the corridor from Sewell Lock Park, is directly adjacent to the SR 84 right of way line. As developed, the Master Plan LPA would most likely have required relocation of the substation. However, by reducing the roadway typical section width in this area, impacts to the substation were avoided.

Measures taken during the VE/DR process to avoid impacts to Sewell Lock Park and the FP&L substation, such as shifting the roadway improvements away from the original alignment near these properties, avoid approximately \$35 to \$40 million in right of way impacts.

Central Broward East-West Transit Alternatives Analysis

Since the Master Plan Study, FDOT has initiated the *Central Broward East-West Transit Alternatives Analysis* (CBE-WTAA). As a result of the CBE-WTAA study, the Broward County MPO endorsed the I-595 corridor as the preferred location for the Central Broward East-West Transit Alignment on April 14, 2005. At the same time, the MPO selected light rail transit (LRT) as the preferred transit mode. The preliminary scope of the I-595 PD&E Study included provision for an exclusive LRT alignment within the I-595 corridor between SW 136th Avenue and SR 7. The Master Plan LPA had identified

an elevated transit alignment on the south side of the I-595 corridor, south of EB SR 84. Extensive coordination is ongoing between the I-595 PD&E and CBE-WTAA studies to assure that each reflects the efforts of the other study in its location of the potential transit alignment.

Value Engineering/Design Review (VE/DR) Process

As part of the I-595 PD&E Study design analysis, a comprehensive VE/DR Team was assembled, composed of senior staff from FDOT District 4, Broward County, Florida's Turnpike Enterprise, and specialty consultants. The purpose of the VE/DR Team was to conduct detailed design reviews of the LPA at critical stages of the refinement process to assure that the project is cost effective, constructible, and minimizes project impacts by maximizing the use of existing right of way. Several refinements of the LPA were the result of the VE/DR workshop series. A Value Engineering/Design Review Documentation Report is available containing transcripts and/or summaries of the detailed discussions that took place during the VE/DR sessions.

The following is a list of the major refinements to the Master Plan LPA that have been incorporated into the design alternative designated Alternative 1A.

- Added auxiliary lanes to the I-595 mainline to accommodate the increase in design year traffic from year 2020 to year 2034.
- Changed the typical section design criteria for SR 84 from rural to suburban in an effort to reduce overall width requirements. The changes were made to minimize right of way impacts to the SFWMD North New River Canal on the north side of I-595 and to residents and businesses located on the south side of I-595. The SR 84 typical section was revised from a 12-foot (10-foot paved) outside shoulder to a 4-foot shoulder/undesignated bicycle lane with Type F curb and gutter and a 12-foot shared-use path. This change in the SR 84 typical section reduces the required footprint by 8.5 to 9 feet depending on the use of shoulder gutter.
- Maintained EB SR 84 at grade level along the south right of way line at all times in an effort to eliminate the closing of driveway connections to commercial, industrial, and residential properties along the south side of I-595.
- Added a bi-directional 12-foot shared-use path along the south side of EB SR 84 from SW 136th Avenue to Davie Road to accommodate pedestrian and bicycle traffic to/from the many businesses that abut the project. Included the Broward County Greenway along the north side of the corridor, from the western terminus of the project to east of Davie Road and on the south side of the corridor between Davie Road and SR 7.
- Added a 4-foot undesignated bicycle lane along EB and WB SR 84 to provide accommodations for avid and non-recreational cyclists.
- Improved the WB SR 84 ramps in the area between Florida's Turnpike and SR 7.
- Switched the proposed three bridge structures between Flamingo Road and Hiatus Road with a single two-lane bypass ramp and a two-lane bridge to limit impacts to the North New River Canal.

- Switched the location of the WB on-ramp at Flamingo Road and the off-ramp at SW 136th Avenue to improve operations of the WB reversible lane exchange area and eliminate a weave section on the I-595 mainline.
- Adjusted the locations of the ramp braids to the areas where the grade differential between I-595 and SR 84 can be maximized.
- Shifted the I-595 mainline alignment to the north and reduced the typical section on SR 84 in the area between Davie Road and Florida's Turnpike to avoid impacts to the FP&L substation.
- Avoided impacts to Sewell Lock Park by shifting the University Drive off-ramp and Davie Road on-ramp braid to the west.
- Shifted the SB Turnpike to Griffin Road off-ramp upstream from the I-595 to SB Turnpike on-ramp to eliminate the weave section.
- Combined the NB Turnpike off-ramps to I-595 to a three-lane off-ramp then splitting the EB and WB movements rather than having two separate off-ramps from Florida's Turnpike.
- Developed Corridor Construction Phasing that ensures constructibility, compatibility, and logical project limits.

The typical section for Alternative 1A is shown in Figure 8-2 from the PER; the schematic is depicted in Figure 8-3 of the PER. More detailed typical sections are included in Appendix C of the PER. The configurations shown in the figures represent the Master Plan LPA as modified, refined, and endorsed by engineering assessments, VE/DR Team input, and concerned public agencies and general public comments.

Development of Additional Alternatives

As Alternative 1A was further developed, it became apparent that extensive right of way acquisition would be needed to construct the proposed elevated transit alignment along the south side of EB SR 84 (see Figure 8-2 from the PER). As a result, the project team developed three subsequent alternatives. The alternatives were developed in coordination with the transit study consultants, local municipalities and stakeholders, FHWA, and VE/DR workshops. These three alternatives, designated as Alternative 1B, Alternative 2A, and Alternative 2B maintain the same basic design components of the modified Master Plan design, Alternative 1A (reversible lanes, auxiliary lanes, braided ramps, etc.), but more efficiently use the limited available space within the existing right of way.

The following are the alternatives that were developed in addition to Alternative 1A that was described earlier. Detailed typical sections and concept plans for each of the alternatives are provided in Appendix C of the PER.



Alternative 1B

Alternative 1B maintains the same concept as Alternative 1A, which has the reversible lanes at-grade in the median throughout the corridor. With this alternative, the elevated transit alignment would be located to the area between EB I-595 and EB SR 84. This alternative would allow most of the roadway and transit alignments to be within the existing right of way limits. Right of way acquisition would still be necessary, primarily at braided ramp locations, but would be significantly less than Alternative 1A.

The Alternative 1B roadway alignment is similar to Alternative 1A with the exception of some minor shifts of the SR 84 and bypass ramp alignments in the areas of the cross streets. The schematic for Alternative 1B is shown in Figure 8-3 of the PER; the typical section is shown in Figure 8-4 from the PER.

Alternative 2A

In an effort to further reduce the right of way impacts and to allow more flexibility for design and construction with regard to integrating transit, two elevated reversible lane concepts were developed. Alternative 2A would construct the reversible lanes on an elevated structure in the median and the area under the structure would be used for the proposed transit alignment. This alternative would reduce the amount of right of way necessary to construct the transit alignment. The roadway alignments would remain the same as Alternative 1A except in the two reversible lane exchange areas where a wider median is necessary to accommodate the elevated reversible lane alignment. Elevating the reversible lanes allows for the flexibility of adding a third reversible lane on the structure, increasing the overall capacity of the system, and allowing for direct connections to I-75 and Florida's Turnpike. The typical section for Alternative 2A is shown in Figure 8-5 from the PER; the schematic is depicted in Figure 8-6 of the PER.

Alternative 2B

Alternative 2B is the second of the two elevated reversible lane alternatives and uses the area under the elevated structure to compress and shift the mainline lane footprint. The I-595 mainline is shifted 12 feet into the median and as a result, SR 84 could be shifted in as well, providing additional space along the existing south right of way line for the proposed elevated transit alignment. Similar to Alternative 2A, elevating the reversible lanes allows for the flexibility of adding a third reversible lane on the structure increasing the overall capacity of the system. A major component of Alternative 2B that differs from Alternatives 1A or 1B is an option of direct connections at I-75 and Florida's Turnpike to the reversible lanes with elevated flyover ramps.

The schematic for Alternative 2B is shown in Figure 8-6 of the PER; the typical section is shown in Figure 8-7 from the PER.





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EVALUATION MATRIX

Once the design alternatives had been created, it was necessary to evaluate their relative merits. The intent of the evaluation process was to reflect in an objective manner the decision-making processes that led to the various design features of the design alternatives. This was accomplished through the use of evaluation matrices.

Matrices Development

The first step in the development of evaluation matrices was to review the process by which decision-making occurred during the development of the various design alternatives. Extensive notes were made during interagency meetings and the VE/DR sessions throughout the PD&E process. Information from these notes was combined with comments received during public workshops. Together, this information helped to identify the key decisions made during the study and the factors influencing those decisions. These influencing factors became the criteria used in the development of the evaluation matrices. A total of 58 criteria were identified in this manner.

Once the decision-making criteria were identified, a second review was made to establish how these criteria related to one another. The criteria were found to fall into one of two major groupings: criteria related to the I-595 highway corridor alone and criteria related to influencing factors such as the environment and transit. The major groupings were further divided into four categories, two within each of the major groupings as follows:

I-595 Highway Corridor Issues	Environmental and Transit Issues
Engineering Criteria	Environmental Criteria
Cost Estimates	Transit Corridor Criteria

Separate matrices were developed for each of the major sets of decision-making issues. The specific criteria included in each of the four categories are listed in the first column (the left-hand column) of each matrix. The I-595 Highway Corridor Evaluation Matrix is shown in Table 8-1 of the PER. The I-595 Environmental and Transit Evaluation Matrix is shown in Table 8-2 of the PER.

The evaluation matrices were initially created during a VE/DR workshop conducted in May 2005 after receiving comments in two Public Workshops held in April 2005. The initial matrices were developed by a team consisting of the I-595 PD&E Study design team, the CBE-WTAA design team, FDOT District 4 and Florida's Turnpike Enterprise personnel, and the VE/DR consultants. Subsequent updates and modifications to the matrices occurred as the design concepts were refined, the analyses were completed, and additional information became available.

Evaluation Process

Once the general matrices were created, the measures to be applied in scoring the alternatives had to be determined. After much deliberation, it was decided that the initial assessment should be qualitative. The following scoring mechanisms were chosen:

- + Noticeably better than other alternatives
- 0 Neutral; neither better nor worse than other alternatives
- Noticeably worse than other alternatives

A separate score was given to each alternative in each of the four categories. No relative weighting of criteria occurred within these matrices; each criterion had equal standing with every other criterion. An alternative's score was determined by subtracting the number of "-" awarded from the number of "+" awarded. For example:

$$(+)(+)(+)(+)(+)
= (-)(-)(-)(-)
= (+)
= (1)$$

To more closely evaluate the alternatives, an evaluation matrix was developed. The criteria selected for application in this new evaluation matrix were viewed by the project team as key to the success of the project. Six criteria were deemed most crucial to the development of the corridor improvements.

Cost Criteria

- Total Construction Costs
- Right of Way Costs

Engineering Criteria

- Mainline LOS/Express Lanes Capacity
 - System Linkage/ITS Operation
- Design and Construction Phasing Flexibility
- Public Opinion/Socioeconomic Impacts

Two types of design concepts had been developed at this point in the study: the first concept placing the express lanes at grade level and elevating the transit line, and the second concept elevating the express lanes and locating the transit line at grade level. Within each concept type, two variations of each concept had been developed (i.e. Alternatives 1A and 1B; Alternatives 2A and 2B). Using the evaluation matrix, the better of the two alternatives within each concept were identified.

A scoring system ranging from "1" to "3" was used for each of the six criteria. A score of "1" represents a worst-case condition; a score of "3" represents the best condition. The final ranking of the alternatives was determined by the total number of points awarded to each of the four design alternatives. The quantitative Key Criteria Evaluation Matrix is displayed in Table 8-3 of the PER.

Summary of Evaluation Results

As can be derived by Tables 8.1, 8.2, and 8.3 of the PER, the qualitative and quantitative evaluation results are summarized in Table 8.4 from the PER as follows:

Table 8-4	Summary of Evaluation Results
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Evaluation Matrix		Design Alternatives			
Evaluation Category	1A	1B	2A	2B	
I-595 Highway Issues Evaluation Matrix (Table 8-1)					
Engineering Criteria and Costs	3	3	0	-3	
I-595 Environmental and Transit Evaluation Matrix (Table 8-2) Environmental and Transit Criteria	-3	-2	5	-4	
Key Criteria Evaluation Matrix (Table 8-3)					
Total Score	11	13	15	12	

Application of Evaluation Results

Both the qualitative and quantitative evaluations indicated that Alternatives 1B and 2A outperformed Alternatives 1A and 2B in several areas. For the reasons listed below, further assessment of Alternatives 1A and 2B was terminated and the remaining alternatives were subjected to further, more rigorous assessment.

Alternative 1A

Five points underscore why Alternative 1A was dropped from further consideration.

- Provides no additional corridor benefits compared to Alternative 1B
- Impacts to FP&L substation
- Extensive right of way impacts on south side of EB SR 84
- Driveway impacts along EB SR 84
- Visual impacts of having the transit elevated on the south side of EB SR 84

Alternative 2B

There were several reasons that supported terminating any further examination of Alternative 2B.

- Sequencing of construction requires reversible lanes to be built first (preliminary analysis indicates that this is not desirable)
- No additional benefits compared to Alternative 2A, while being less flexible for transit or future expansion in the median
- Driveway impacts along EB SR 84
- Extremely high construction cost compared to the other alternatives; having to construct elevated reversible lanes and an elevated transit system
- Visual impacts of having the transit elevated on the south side of SR 84

FINAL PD&E ALTERNATIVES

Based on the recommendation of the VE/DR team on May 20, 2005, the results of the engineering and environmental analyses, and the input received at the public workshops, Alternatives 1B and 2A were selected as the I-595 PD&E Study Build Alternatives to carry forward through the I-595 PD&E Study process. The following sections describe the two remaining alternatives in greater detail. The following is a list of the project elements and their treatments discussed in the following pages.

- Mainline interchanges
- Reversible lanes
- Reversible lane interchanges
- SR 84
- Pedestrian/Bicycle facilities

- Florida's Turnpike mainline
- Transit facilities
- Impacts to Sewell Lock Park
- Impacts to Pond Apple Slough Natural Area
- Impacts to FPL substation

The concept plans for all of the design alternatives are shown at a scale of 1 inch to 400 feet, and are provided in Appendix C of the PER.

Alternative 1B (At-Grade Reversible Lanes)

Mainline I-595

Mainline I-595 is a 70 mph facility and currently has three general purpose lanes in each direction with one or two auxiliary lanes between interchanges. Opposing traffic is separated by a 64-foot to 68-foot grass median.

The proposed alignment maintains six general purpose lanes in their existing location with the exception of the two reversible lane interchange areas, where the mainline median is widened on both sides to allow for the reversible lane access/egress ramps. With the exception of these two areas, the left and right profile grade line (PGL) will remain in their current location, 34 feet left and right of the centerline of construction and at their current elevations. The I-595 general purpose lanes will be milled and resurfaced with widening to the outside for additional auxiliary lanes. Mechanically stabilized earth (MSE) walls are proposed in lieu of fill slopes where the I-595 profile rises to pass over cross streets. Barrier wall along the outside shoulder is required for much of the I-595 mainline because of clear zone issues and grade differentials between I-595 and SR 84. All entrance ramps along I-595 are parallel type entrance ramps and are designed for a 50 mph design speed.

Mainline I-595 Interchanges

As presently configured, I-595 is served by tight diamond interchanges with frontage roads at SW 136th Avenue, Flamingo Road, Hiatus Road, Nob Hill Road, Pine Island Road, University Drive, and Davie Road. In addition to the tight diamond configuration, the University Drive interchange also includes flyover ramps serving the SB-EB and NB-WB movements. The SR 7 and Florida's Turnpike interchanges are complex system interchanges with frontage roads. Major improvements are proposed for the mainline interchanges that minimize the merging, diverging, and weaving segments along the mainline caused by exit and entrance ramps to and from the interstate. These proposed improvements accomplish this by introducing braided ramps, eliminating on-

and off-ramps by combining ramp movements, and swapping the location of ramps (placing the off-ramp before the on-ramp). These improvements either eliminate the mainline weaving segments or move the weave onto the frontage road. All ramps are parallel in type with auxiliary lanes beginning/ending at the ramp gores to improve the operations of the merge and diverge segments. The University Drive interchange flyovers are proposed to be removed and reconstructed adjacent to the existing flyovers to accommodate the median widening needed for the reversible lanes and mainline improvements on the outside (auxiliary lanes and braided ramps).

Reversible Lanes

The reversible lanes will be located at grade level within the existing I-595 median, except where required to be elevated to a second level at the University Drive interchange. Horizontal and vertical alignments will follow the existing I-595 mainline alignment. The reversible lane facility proposes two 12-foot lanes and 10-foot paved shoulders. Median barrier walls will separate the reversible lanes from the I-595 mainline general purpose lanes. The intent of the reversible lane system is to be open for EB traffic in the AM and WB in the PM, removing the long distance through traffic from the general purpose lanes and providing an additional two lanes in the peak direction. Access and egress to and from the reversible lanes will be limited to two points. The western access/egress point is proposed between the SW 136th Avenue and Flamingo Road interchanges serving I-75 and the Sawgrass Expressway. The eastern access/egress point is proposed between Florida's Turnpike and SR 7 serving points east of SR 7, including I-95. Intermittent emergency access points will be located between the reversible lanes and mainline lanes in both the EB and WB direction. Movable barrier wall systems in which a gap in the barrier wall can be manually created to allow emergency vehicles to access/egress the reversible lanes will be installed for incident management.

During the course of the study, the City of Weston expressed some concern about the safety risks associated with the reversible lanes, in particularly incident management. As a result, a Freeway Incident Management (FIMT) meeting was held on November 9, 2005, to solicit how emergency responses could be handled on the reversible lanes and what improvements may be necessary to minimize safety risk. The FIMT offered the following recommendations to consider for Alternative 1B:

- Provide emergency access openings
- Provide removable or breakaway glare screens to allow access over barrier walls
- Provide integration of ITS/TMS components to improve emergency response capabilities

Additional FIMT recommendations that pertained to both alternatives included the following:

- Provide procedure to identify location of incidents
- Consider emergency air lift/rescue operations in final design
- Meet regularly with the FIMT during final design

- Provide pipe connections to existing water bodies that can be utilized by pump trucks for fire rescue
- Consider the traffic increases expected from US-27 as a system to system connection from US-27 to I-95 through the reversible lanes along I-595
- Evaluate impacts of incidents to traffic and the costs associated with them in evaluating the alternatives
- Consider the intermodal truck facility planned in Davie along I-595
- Evaluate the durations that will be necessary to clear incidents and the impacts to the state open lane policy commitment by FHP
- Provide safety to first responders

The FDOT reiterated their commitment to continue coordinating with the FIMT during the final design phases of the I-595 projects.

Reversible Lane Interchanges

The reversible lane interchanges are proposed to be located between the SW 136th Avenue and Flamingo Road interchanges and between Florida's Turnpike and the SR 7 interchanges. The I-595 mainline median will be widened to accommodate the reversible lane interchanges. Two inside auxiliary lanes are developed in the median for access into the reversible lane system. The auxiliary lanes will be separated from the I-595 mainline by a 4-foot buffer area. Overhead Dynamic Message Signage (DMS) will guide motorists into or away from the auxiliary lanes leading to the reversible lanes depending on the time of day. Opposing traffic will be prohibited from entering the reversible lanes by access control gates that extend from the inside barrier wall in the area of the auxiliary lanes. Access control barriers and automated security gates may also be used to prohibit motorists from entering or exiting the reversible lanes in the wrong direction. Barrier wall is used along the I-595 mainline to eliminate clear zone violations in the reversible lane interchange area.

SR 84

Currently, SR 84 is a rural four-lane facility (two lanes in each direction) located along the north and south sides of I-595 and designed for a 50 mph speed. Limited right of way, proposed mainline auxiliary lanes, realigned ramps, braiding of ramps, proposed bicycle/pedestrian facility, and potential impacts to the North New River Canal make maintaining the rural design criteria impractical. It is proposed that SR 84 be changed to a suburban four-lane facility (two 12-foot lanes in each direction) with Type F curb and gutter on the outside and a 4-foot paved shoulder on the inside (for an overall width of 8 feet). The curb and gutter is necessary to contain roadway drainage within the right of way, allow for a pedestrian/bicycle path on the outside between Davie Road and SR 7 and reduce clear zone requirements. Guardrail is proposed along the curb and gutter to protect the canal drop off hazard in the WB direction.

Additional right of way is required along the north side of WB SR 84 for much of the segment. Meetings were held with SFWMD regarding this issue and the following guidelines are being followed with respect to impacts to the North New River Canal:

- FDOT will not reduce capacity of the canal
- FDOT will not reduce conveyance of the canal
- FDOT will bulkhead the canal if the proposed roadway footprint encroaches into SFWMD right of way
- FDOT will install noise walls on top of the bulkhead, but not within 100 feet of any bridge crossing the canal
- FDOT will typically locate the noise walls ±4 feet from the residential property line to allow for construction of the wall and foundation.
- FDOT will encroach into the SFWMD right of way for the noise walls on the north side of the SFWMD right of way, where the existing canal right of way is more than 44 feet. The FDOT will provide a minimum of 40 feet from top of bank to the noise wall for maintenance of the canal.
- FDOT will not meander the noise walls for trees and fences but will hold to the northern SFWMD right of way line and the ±4 feet offset.
- FDOT may need to provide access to docks located south of the proposed noise walls. To accomplish this, it may be necessary to stagger the walls, which would ultimately reduce the berm width. The issue of access and its design will be coordinated with the SFWMD during the design phase of the project.
- FDOT will provide SFWMD with the wind loadings that are used in the design of the noise walls.
- FDOT will provide a 100 feet staging area next to all bridge structures.
- FDOT will provide a minimum 25 feet gap, or appropriate maintenance access approved by SFWMD, in the noise wall at the SFWMD "Lot #29" (purchased by SFWMD for maintenance of Sewell Lock).
- FDOT will provide a 3-foot asphalt mow strip, similar to a guardrail treatment, in front of proposed noise walls. This will assist the SFWMD with maintenance adjacent to the walls.

SR 84 is proposed to maintain its current elevations in order to maintain access to existing driveway/access points wherever possible. It is also to be located on the outside of the I-595 mainline ramps and bypass ramps in order to maintain a continuous 4-foot undesignated bicycle lane along the outside and access to adjacent parcels. One exception of where SR 84 cannot be maintained on the outside occurs in the WB direction between Pine Island Road and Nob Hill Road. The reason for this is due to the limited space adjacent to the North New River Canal and the need for braiding the I-595 off-ramp with the SR 84 on-ramp in this location. The improvements to WB SR 84 necessitates the reconstruction of the intersections at SW 136th Avenue, Flamingo Road, Hiatus Road, Nob Hill Road, Pine Island Road, University Drive, and Davie Road. Westbound SR 84 access across the canal to SW 125th Avenue and Commodore Avenue shall be eliminated due to limited space between the widened I-595 mainline and the canal. Currently, SR 84 ends to the east of Davie Road and EB traffic is forced onto the I-595 mainline. SR 84 is proposed to be extended through the Florida's Turnpike and SR 7 interchanges and a continuous connection be made without traffic having to enter onto the I-595 mainline.

Pedestrian/Bicycle Facilities

The I-595 corridor has been designated by Broward County to be a major component in the Broward County Greenways system. A bi-directional mixed use path is currently being designed and constructed by Broward County and will be located on the north side of the North New River Canal from the western I-595 PD&E Study project limits to University Drive. The recreational path leaves the project corridor between University Drive and Davie Road, re-enters the corridor at Davie Road, and runs along the south side of the North New River Canal to SR 7. As part of the *Programmatic Section* 4(f) *Evaluation*, it was determined that impacts to the Greenway are unavoidable. Therefore, a portion of the Greenway, between Davie Road and SR 7 will be relocated by FDOT as part of the I-595 improvements.

In addition to the Greenway, a 12-foot shared use, bi-directional path is proposed along the outside of EB SR 84 between SW 136th Avenue and University Drive. The path will be reduced to a width of 6 feet between University Drive and Davie Road to avoid substantial right of way impacts to the FP&L substation. Undesignated 4-foot bicycle lanes are also proposed along SR 84 in both directions. The bicycle lanes are to be undesignated due to their proximity to the Interstate ramps and high speed traffic.

Florida's Turnpike Interchange

A new WB-NB ramp will be added in the northeast quadrant of the interchange (see Figure 8-8 of the PER). The addition of this ramp removes WB-NB traffic out of the short weaving section where EB and WB I-595 traffic converges and then diverges to Florida's Turnpike, NB and SB. Barrier wall will be placed in the existing weave section to prohibit vehicles from any unnecessary weaving movements. The EB/WB I-595 bridge to Florida's Turnpike SB will be reconstructed as a three-lane bridge. The Griffin Road SB off-ramp will be relocated to the north to accommodate the additional lane from EB I-595 and the WB bridge to the SB Turnpike. The two existing NB off-ramps to I-595 EB and WB are combined to form a single three-lane off-ramp, then diverging, eliminating the need for two separate mainline exits. The I-595 to Florida's Turnpike ramp is proposed to be on structure and designed with a larger radius than the existing ramp. Interchange improvements were analyzed for constructibility project phasing to ensure that the interchange can be constructed in a logical manner.

Florida's Turnpike Mainline

Alternative 1B has no significant impacts to the Florida's Turnpike mainline alignment. Mainline impacts include restriping, reconstructing ramp terminals, and widening to the outside of Florida's Turnpike NB to allow for the extra laneage from the proposed WB-NB on-ramp.

Transit Facilities

The location of the Central Broward East-West transit alignment is the main difference between Alternative 1A and Alternative 1B. The transit alignment is to be elevated on a dedicated structure within the limits of the I-595 right of way. Unlike Alternative 1A, the Alternative 1B transit envelope is recommended to use the outer separation area created between EB SR 84 and EB I-595.

Locating the transit in this area has the following benefits:

- Minimizes right of way impacts and costs compared to providing transit on the south side of EB SR 84
- Avoids the FP&L substation
- Avoids long spans when right-turn lanes are introduced along SR 84
- Allows for more visibility of businesses from SR 84
- Creates a buffer between transit and adjacent properties on south side of SR 84

Sewell Lock Park

Sewell Lock Park is a historic property located along WB SR 84 just west of the Davie Road interchange. The original layout for the braided ramps proposed between Davie Road and University Drive would have resulted in impacts to Sewell Lock Park. Initial efforts shifted the project to the south in an effort to avoid the park. However, in doing so, a significant impact to the FP&L substation located on the opposite side of the corridor (along the EB SR 84 lanes) resulted. Therefore, the braided ramp configuration was repositioned farther to the west, eliminating the most severe impacts to the property. SR 84 was also repositioned slightly to the south. When combined with design exceptions that will narrow lanes the lanes on EB SR 84 to 11 feet and reduce the sidewalk to 6 feet in the immediate vicinity of the substation, permanent impacts to both the park and the substation can be avoided.

Pond Apple Slough Natural Area

The proposed widening of the existing I-595 causeway structures over the Pond Apple Slough Natural Area between SR 7 and I-95 will allow for the extension of the CD road system to the east, terminating at I-95. Avoidance of wetland impacts to the fullest extent possible has been carefully considered while still widening the corridor to accommodate the additional lanes necessary to satisfactorily handle future traffic demand. The least invasive solution is to widen the existing structures to the inside as much as physically possible to avoid excessive widening to the outside into the environmentally sensitive areas of Pond Apple Slough Natural Area. All developed alternatives have the same optimum design for this section of the project (construction methodology, proposed layout, and access road). During the final design phase, the use of drainage structures, such as box culverts, will be evaluated to minimize or avoid haul road impacts to natural flow areas in Pond Apple Slough Natural Area. Detailed typical sections, showing the viaduct section in the area of Pond Apple Slough Natural Area, can be found in Appendix C of the PER.

Alternative 2A (Elevated Reversible Lanes)

Mainline I-595

Mainline I-595 is a 70 mph facility and currently has three general purpose lanes in each direction with one to two auxiliary lanes between interchanges. Opposing traffic is separated by a grass median that ranges from 64 feet to 68 feet in width. The proposed alignment maintains six general purpose lanes in their current location, with the exception of the two reversible lane interchange areas where the mainline median is

widened on both sides to allow for the reversible lane access/egress ramps. With the exception of these two areas, the left and right PGL will remain in their current location, 34 feet left and right of the centerline of construction and at their current elevations. The I-595 general purpose lanes will be milled and resurfaced with widening to the outside for additional auxiliary lanes. Mechanically stabilized earth (MSE) walls are proposed in lieu of fill slopes where the I-595 profile rises to pass over cross streets. Barrier wall along the outside shoulder is required for much of the I-595 mainline because of clear zone issues and grade differentials between I-595 and SR 84. All entrance ramps along I-595 are parallel type entrance ramps and are designed for a 50 mph design speed.

Mainline I-595 Interchanges

As presently configured, I-595 is served by tight diamond interchanges with frontage roads at SW 136th Avenue, Flamingo Road, Hiatus Road, Nob Hill Road, Pine Island Road, University Drive, and Davie Road. In addition to the tight diamond configuration, the University Drive interchange also includes flyover ramps serving the SB-EB and NB-WB movements. The SR 7 and Florida's Turnpike interchanges are complex system interchanges to eliminate friction in the outer lanes caused by merge, diverge and weaving segments along the mainline. The proposed improvements accomplish this by introducing braided ramps, eliminating on and off-ramps by combining ramp movements, and swapping the location of ramps (placing off-ramp before the on-ramp). The improvements either eliminate the mainline weaving segments or move the weave onto the frontage road. All ramps are parallel in type with auxiliary lanes beginning/ending at the ramp gores to improve on the operations of the merging and diverging segments.

The University Drive interchange flyovers are proposed to be removed and reconstructed adjacent to the existing flyovers to accommodate the median widening needed for the transit envelope and mainline improvements to the outside. Even with reconstruction of the flyovers, the elevated reversible lanes are required to pass over the University Drive flyovers at a fourth level.

Reversible Lanes

The reversible lanes will be located on an elevated structure within the existing I-595 median (see Figure 8-5). The vertical alignment will follow the existing I-595 mainline alignment. The reversible lanes will be constructed one level higher than the mainline with the exception of where the reversible lanes go to the fourth level to avoid the University Drive flyovers and the locations where the transit enters and exits the median. The proposed reversible lane structure will be 59 feet wide and will have three 12-foot travel lanes and a 10-foot paved shoulder on each side. It is intended that the reversible lane system flow west-to-east during the morning peak period and from east-to-west during the evening peak period, removing a portion of the long distance through traffic from the general purpose lanes.

The third lane on the proposed elevated reversible lane structure provides an opportunity for a direct link between I-75, the Florida's Turnpike, and I-95, an option not available with Alternative 1B. In addition, the direct connection provides additional capacity within the corridor with a third reversible lane while removing traffic from the general purpose lanes.

Access and egress to and from the reversible lanes would be limited to four points. The western access/egress point is proposed between the SW 136th Avenue and Flamingo Road interchanges, serving I-75 and Sawgrass Expressway; the eastern location is proposed between Florida's Turnpike and SR 7, serving points east of SR 7 including I-95; the southern location is proposed along Florida's Turnpike between I-595 and Griffin Road; and the northern location is proposed along Florida's Turnpike between Peters Road and I-595.

As mentioned previously, the City of Weston expressed some concern about the safety risks associated with the reversible lanes. In the ensuing Freeway Incident Management (FIMT) meeting that was held on November 9, 2005, the group agreed that there were no fatal flaws in providing incident management on the elevated reversible lanes and that both Alternatives 1B and 2A were viable concepts. In addition to the FIMT recommendations made common to both alternatives, the group also offered the following recommendations specific to Alternative 2A:

- Consider restriction of trucks on the elevated structure
- Provide proper widths to enable removal of vehicles and potential U-turns by emergency vehicles
- Provide system to identify if incident was on elevated structure
- Start agreements with responders to ensure proper resources and funding are available
- Ensure that final design elements, such as lighting and wall heights, address emergency response needs and be coordinated closely with the FIMT

Reversible Lane Interchanges

The reversible lane interchanges are proposed to be located between the SW 136th Avenue and Flamingo Road interchanges and between Florida's Turnpike and the SR 7 interchanges. Two additional interchanges are located in the Florida's Turnpike median north and south of I-595. The I-595 mainline and Florida's Turnpike mainline medians will be widened to accommodate the reversible lane interchanges. Two inside auxiliary lanes will be developed for access into the reversible lane system. The auxiliary lanes will be separated from the I-595 mainline by a 4-foot buffer area. Overhead DMS will guide motorists into or away from the auxiliary lanes leading to the reversible lanes depending on the time of day. Opposing traffic will be prohibited from entering the reversible lanes by access control gates that extend from the inside barrier wall in the area of the auxiliary lanes. Access control barriers and automated security gates may also be used to prohibit motorists from entering or exiting the reversible lanes in the wrong direction. Barrier wall will be installed along the I-595 mainline to eliminate clear zone violations in the reversible lane interchange area. The two lanes will then increase

in grade to second level on MSE wall. Once a vertical clearance of 16.5 feet is attained, the reversible lanes change to structure and converge with the additional lane providing a direct connection to/from Florida's Turnpike or to/from I-75.

During the course of the study, the City of Plantation expressed some concern about the direct connection to/from the Florida's Turnpike, in particularly because of the close proximity that the elevated northern ramp structure would have to residents of the Plantation Harbor neighborhood. Consequently and prior to the Public Hearing held on November 29, 2005, a meeting was held between the FDOT and the City of Plantation that resulted in two additional concepts for the direct connection. As a result, three different direct connector concepts were displayed at the Public Hearing with the intention of presenting alternatives that shifted the northern ramp away from Plantation Harbor. The direct connector concepts are shown in Appendix C of the PER.

- North Alignment: Original I-595 PD&E Study direct connector concept that minimizes bridge length but brings the structure closer to the residential community in the northwest quadrant of the interchange (Plantation Harbor). This option has the lowest cost and most desirable geometry.
- Center Alignment: This option extends the bridge structure by crossing over I-595 to the north and then crossing back over to the south to split the connections and then extending the connection, which will ultimately connect to the north, to the south and east in order to fit the geometry required for the design speed. This option is much more costly and creates a very long single lane structure that will need to be maintained at a third level for most of its length. The geometry is much less desirable than the North Alignment.
- South Alignment: This option extends the bridge structure by crossing over I-595 to the south and then splitting and then following geometry similar to the Center Alignment. This option is more costly and requires the acquisition of right of way. The geometry is better than the Center Alignment but is still undesirable for the same reasons.

Since comments received at the Public Hearing were not conclusive as to which direct connector concept should proceed forward with Alternative 2A, it became a focal point of a VE/DR Meeting held between the FDOT and Florida's Turnpike Enterprise on December 16, 2005. The group performed an evaluation of the three concepts, based on a ranking method for construction costs, right of way impacts, proximity to neighborhoods, height of bridge, and geometry, and determined that the original, North Alignment concept should proceed forward. The two other concepts were ruled out for further consideration.

The documentation from the VE/DR Meeting discussed in this section is provided in the *VE/DR Documentation Report*.

SR 84

Currently, SR 84 is a rural four-lane facility (two lanes in each direction) located along the north and south sides of I-595 and designed for a 50 mph speed. Limited right of way, proposed mainline auxiliary lanes, realigned ramps, braiding of ramps, proposed

bicycle/pedestrian facility and potential impacts North New River Canal make maintaining the rural design criteria impractical. It is proposed that SR 84 be changed to a suburban four-lane facility (two 12-foot lanes in each direction) with Type F curb and gutter on the outside and a 4-foot paved shoulder on the inside (8-foot overall width). The curb and gutter is necessary to contain roadway drainage within the right of way, to allow for a pedestrian/bicycle path on the outside between Davie Road and SR 7 and to reduce clear zone requirements. Guardrail is proposed along the curb and gutter to protect the canal drop off hazard in the WB direction. Additional right of way is required along the north side of WB SR 84 for much of the segment. Meetings were held with SFWMD regarding this issue and the following guidelines are being followed in respect to impacts to the North New River Canal.

- FDOT will not reduce capacity of the canal
- FDOT will not reduce conveyance of the canal
- FDOT will bulkhead the canal if the proposed roadway footprint encroaches into SFWMD right of way
- FDOT will install noise walls on top of the bulkhead, but not within 100 feet of any bridge crossing the canal
- FDOT will typically locate the noise walls ±4 feet from the residential property line to allow for construction of the wall and foundation.
- FDOT will encroach into the SFWMD right of way for the noise walls on the north side of the SFWMD right of way, where the existing canal right of way is more than 44 feet. The FDOT will provide a minimum of 40 feet from top of bank to the noise wall for maintenance of the canal.
- FDOT will not meander the noise walls for trees and fences but will hold to the northern SFWMD right of way line and the ±4 feet offset.
- FDOT may need to provide access to docks located south of the proposed noise walls. To accomplish this, it may be necessary to stagger the walls, which would ultimately reduce the berm width. The issue of access and its design will be coordinated with the SFWMD during the design phase of the project.
- FDOT will provide SFWMD with the wind loadings that are used in the design of the noise walls.
- FDOT will provide a 100 feet staging area next to all bridge structures.
- FDOT will provide a minimum 25 feet gap, or appropriate maintenance access approved by SFWMD, in the noise wall at the SFWMD "Lot #29" (purchased by SFWMD for maintenance of Sewell Lock).
- FDOT will provide a 3-foot asphalt mow strip, similar to a guardrail treatment, in front of proposed noise walls. This will assist the SFWMD with maintenance adjacent to the walls.

SR 84 is proposed to maintain its current elevations in order to maintain access to existing driveway/access points wherever possible. It is also to be located on the outside of the I-595 mainline ramps and bypass ramps in order to maintain a continuous 4-foot undesignated bicycle lane along the outside and access to adjacent parcels. One exception where SR 84 cannot be maintained on the outside occurs in the WB direction

between Pine Island Road and Nob Hill Road. The reason for this is due to the limited space adjacent to the North New River Canal and the need for braiding the I-595 offramp with the SR 84 on-ramp in this location. The improvements to WB SR 84 will require reconstruction of the intersections at SW 136th Avenue, Flamingo Road, Hiatus Road, Nob Hill Road, Pine Island Road, University Drive, and Davie Road. Currently, SR 84 ends to the east of Davie Road and EB traffic is forced onto the I-595 mainline. SR 84 is proposed to be extended through the Florida's Turnpike and SR 7 interchanges and a continuous connection be made without traffic having to enter onto the I-595 mainline.

Sewell Lock Park

Sewell Lock Park is a historic property located along WB SR 84 west of the Davie Road interchange. The original layout for the braided ramps proposed between Davie Road and University Drive would have resulted in impacts to Sewell Lock Park. Initial efforts shifted the project to the south in an effort to avoid the park. However, in doing so, a significant impact to the FP&L substation located on the opposite side of the corridor (along the EB SR 84 lanes) resulted. Therefore, the braided ramp configuration was repositioned farther to the west, eliminating the most severe impacts to the property. SR 84 also was repositioned slightly to the south. When combined with design exceptions that will narrow lanes the lanes on EB SR 84 to 11 feet and reduce the sidewalk to 6 feet in the immediate vicinity of the substation, permanent impacts to both the park and the substation can be avoided.

Pedestrian/Bicycle Facilities

The I-595 corridor has been designated by Broward County to be a major component in the Broward County Greenways system. A bi-directional mixed use path is currently being designed and constructed by Broward County and will be located on the north side of the North New River Canal from the western I-595 PD&E Study project limits to University Drive. The recreational path leaves the project corridor between University Drive and Davie Road, re-enters the corridor at Davie Road, and runs along the south side of the North New River Canal to SR 7. As part of the *Programmatic Section 4(f) Evaluation*, it was determined that impacts to the Greenway are unavoidable. Therefore, a portion of the Greenway, between Davie Road and SR 7 will be relocated by FDOT as part of the I-595 improvements.

In addition to the Greenway, a 12-foot shared use, bi-directional path is proposed along the outside of EB SR 84 between SW 136th Avenue and University Drive. The path will be reduced to 6 feet between University Drive and Davie Road to avoid substantial right of way impacts to the adjacent FP&L substation. Undesignated 4-foot bicycle lanes are also proposed along SR 84 in both directions to accommodate those riders that currently use SR 84. The bicycle lanes will be undesignated because of proximity to the interstate ramps and high speed traffic.

Florida's Turnpike Interchange

A new WB-NB slip ramp will be added in the northeast quadrant of the interchange (see Figure 8-8). The addition of this ramp removes WB-NB traffic from the short weaving section where EB and WB I-595 traffic converges, then diverges to Florida's Turnpike, NB and SB. Barrier walls will be placed within the existing weave section to prohibit vehicles from any unnecessary weaving movements. The EB/WB I-595 bridge to Florida's Turnpike SB will be reconstructed as a three-lane bridge. The Griffin Road SB off-ramp will be relocated to the north to accommodate the additional lane from the EB I-595 and WB bridge to the SB Florida's Turnpike. The two existing NB off-ramps to EB and WB I-595 will be combined to form a three-lane off-ramp, then diverge, rather than having two separate mainline exits. The I-595 to Florida's Turnpike ramp is proposed to be on structure and at a larger radius than the existing ramp. The interchange improvements have been analyzed for construction and project phasing to ensure that the interchange is constructed in a logical manner.

Florida's Turnpike Mainline

The Florida's Turnpike mainline must be realigned from north of Griffin Road to the south abutment of the Florida's Turnpike bridges over I-595 and also from the north abutment of the Florida's Turnpike bridges over I-595 to Peters Road. The Florida's Turnpike median will require widening from 26 feet to 81.5 feet in these two areas to allow for the reversible lane interchange areas in the median. In addition, Florida's Turnpike NB will be widened to the outside to allow for the extra laneage from the proposed WB-NB on-ramp.

The Florida's Turnpike Enterprise expressed some concern to potential impacts to the Griffin Road Toll Plaza from the improvements proposed under the I-595 PD&E Study. However, as reaffirmed at the VE/DR Meeting held between the FDOT and Florida's Turnpike Enterprise on December 16, 2005, the Turnpike widening shown in Alternative 2A does not impact the Griffin Road Toll Plaza or the bridges over Griffin Road.

The Florida's Turnpike Enterprise also expressed some concern with how the Turnpike widening proposed in Alternative 2A would impact a Florida Gas Transmission (FGT) 36 inch gas main being placed near the outside edge of a future travel lane. Currently, FGT is finalizing plans to relocate the 36 inch gas main to an offset 25 feet off the east right of way line. Since the Turnpike widening proposed in Alternative 2A results in the gas main being located under a future travel lane, modifications to the utility adjustment plans are required. As part of the VE/DR Meeting held on December 16, 2005, and a subsequent teleconference held on January 12, 2006, the group discussed this concern in further detail. Consequently, it became evident that an area of constrained right of way, approximately 1600 feet in length, would limit the available options to relocate the gas main away from the future travel lane. Three options were developed to maximize the ability for FGT to relocate the gas main without right of way implications or sacrificing maintainability.

• Option A: This option keeps the Turnpike centered along its current alignment but places the NB travel lanes and shoulder on retaining wall. This option also moves the proposed noise wall from the right of way line to the shoulder. These proposed changes allow for a minimum of 24 feet between the right of way line and the

retaining wall. Drainage would be piped and contained in the wall section and the offsite flow appears minimal and can be handled by a shallow conveyance ditch above the gas line. FGT would have the option to relocate the gas main anywhere within the 24 feet. This option adds approximately \$3 million to the cost of the direct connector.

- Option B: This option is similar to Option A but shifts the Turnpike alignment approximately 10 feet to the west. This allows approximately 35 feet between the right of way line and the retaining wall. This option adds approximately \$5 million to the cost of the direct connector.
- Option C: This option moves the direct connector tie down point to the north and in turn the median expansion moves to the north. This option potentially impacts the Peters Road bridge and potentially the bridges over Broward Boulevard. Therefore, this option was dropped from further consideration.

The VE/DR Team agreed that Option A would be the preferred alternative and that the Florida's Turnpike Enterprise would proceed forward in discussions with FGT to coordinate the gas main relocation.

Transit Facilities

Alternative 2A differs from the other alternatives in that the envelope for the transit corridor will be located in the median under the elevated reversible lane structure. The reversible lane structure will be raised from the second to third level to allow the transit to enter/exit the median at level two east of Flamingo Road and west of University Drive. The transit will then be lowered to run along the same profile as the I-595 mainline. It is anticipated that the transit will enter and exit the median from the south side of I-595 between SW 136th Avenue and Hiatus Road, and in the vicinity of University Drive. However, the final transit alignment and relevant station locations will be developed in subsequent phases of the CBE-WTAA.

Locating the transit in this area has the following benefits:

- Minimizes right of way impacts and costs compared to providing transit on the south side of EB SR 84
- Minimizes construction impacts along EB SR 84
- Avoids the FP&L substation
- Avoids long spans when right-turn lanes are introduced along SR 84
- Allows for more visibility of businesses
- Creates a greater buffer between transit and properties on south side of SR 84

Pond Apple Slough Natural Area

The proposed widening of the existing I-595 causeway structures over Pond Apple Slough Natural Area between SR 7 and I-95 will allow for the extension of the CD road system to the east, terminating at I-95. Avoidance of wetland impacts to the fullest extent possible has been carefully considered while still widening the corridor to accommodate the additional lanes necessary to satisfactorily handle future traffic demand. The least invasive solution is to widen the existing structures to the inside as much as physically possible to avoid excessive widening to the outside into the environmentally sensitive areas of Pond Apple Slough Natural Area. All developed alternatives have the same optimum design for this section of the project (construction methodology, proposed layout, and access road). During the final design phase, the use of drainage structures, such as box culverts, will be evaluated to minimize or avoid haul road impacts to natural flow areas in Pond Apple Slough Natural Area. Detailed typical sections, showing the viaduct section in the area of Pond Apple Slough Natural Area, can be found in Appendix C of the PER.

SELECTION OF THE PREFERRED ALTERNATIVE

On November 29, 2005, FDOT District 4 held an I-595 PD&E Study public hearing at the Renaissance Plantation Hotel. This public hearing was the third opportunity during the study for the public to comment on the project and the evolving alternatives.

After the public hearing, the FDOT conducted a review of the alternatives, public hearing results, and recent Florida Turnpike Enterprise coordination. The preferred alternative was selected, based upon the following factors:

- Corridor benefit (capacity and operations, system linkage, transit): Of the two remaining alternatives, Alternative 2A maximizes the efficiency of the corridor by: 1) providing regional to regional direct connections between I-75, Florida's Turnpike, and I-95; 2) providing additional capacity within the corridor by a third reversible lane; 3) minimizing impacts to adjacent properties by locating most improvements within the existing right of way; and 4) supporting implementation of a potential transit facility.
- Incident management (at-grade versus elevated reversible lanes): The City of Weston expressed some concern about the safety risks associated with the reversible lanes. In the ensuing Freeway Incident Management (FIMT) meeting that was held on November 9, 2005, the group agreed that there were no fatal flaws in providing incident management on the elevated reversible lanes and that both Alternatives 1B and 2A were viable concepts.
- Environmental consideration: Considering that the two alternatives provide negligible differences in Section 4(f) and noise impacts, mitigation requirements, and aesthetics issues, environmental features were not deemed a decisive factor in selecting the preferred alternative.
- Costs: Detailed costs of the two remaining alternatives (including the transit component within the I-595 corridor) were developed as part of the study process. Alternative 2A has an overall corridor improvement cost of \$1.625 billion compared to \$1.304 billion for Alternative 1B. The overall corridor improvement cost includes the construction costs associated with the I-595 roadway improvements, including reversible lanes and transit (but not transit stations); the right of way costs associated with the roadway, offsite drainage ponds, and transit requirements (but not transit stations); and the engineering costs associated with corridor management, final design, and construction, engineering, and inspection (CEI).
After evaluating each of these factors, it was agreed that the corridor benefits associated with Alternative 2A provide the best opportunity to move people and goods along I-595 and between I-75, Florida's Turnpike, and I-95. Alternative 2A provides a direct connection to Florida's Turnpike, adds capacity to the system, and minimizes the required right of way acquisition by locating the improvements in the median. Alternative 2A also provides for additional transportation options in the median area for future transportation needs. The recommendation was to carry Alternative 2A forward as the preferred alternative.

The Alternatives Comparative Analysis that shows an overall comparison of the two alternatives is provided in Table 8.5 from the PER. The concept plans for the preferred alternative are shown at a scale of 1 inch to 200 feet, and are provided in Appendix D of the PER.

Table 8.5Alternatives Comparative Analysis

Criteria	Alternative 1B	Alternative 1B Remarks	Alternative 2A	
COST ESTIMATES (Millions)				
Construction Cost (I-595 PD&E Roadway Improvements)	\$477	Preliminary Construction Cost / Phased into several projects	\$477	Preliminary Constructio
Construction Cost (I-595 Reversible Lanes)	\$75	At-grade reversible lanes	\$503	Elevated reversible lane
Right-of-way Cost	\$164	Preliminary R/W Cost includes drainages ponds / reflects transit costs for CBEWTA between 136th Ave and SR 7 / does not include R/W for transit stations.	\$163	Preliminary R/W Cost ir SR 7 / does not include
Overall I-595 PD&E Project Cost	\$790	Preliminary costs for I-595 roadway improvements (Construction, Engineering, R/W)	\$1,302	Preliminary costs for I-5
Transit Cost	\$514	Transit being evaluated under separate study / more elevated transit structure needs to be constructed.	\$323	Less elevated transit str
Overall Corridor Cost	\$1,304	Includes Transit, Roadway and Right-of-Ways (No Transit Stations or Right-of Way for Stations included)	\$1,625	Includes Transit, Roadv
AESTHETICS				
Height of Bridge Structures	Fair	At-grade reversible lanes remain at-grade at University Drive. Elevated transit system required along the entire corridor.	Fair	Elevated reversible lane for transit to enter and e
Proximity of Structures to neighborhoods	Fair	Transit envelope provided between SR-84 EB and I-595 EB	Fair	Transit envelope provid residential communities
NOISE				
Avg. increase in noise levels (unabated)		Construction of unabated Alternative 1B results in an average increase of 1.4 dBA		Construction of unabate
Number of sites benefited by abatement	Fair	Alternative 1B benefits 425 receiver sites along corridor, soundwalls provided for same number of communities as 2A	Fair	Alternative 2A benefits a communities as 1B
OPERATIONS				
I-595 Mainline Operations	Good	Approx 1200 vehicles more in the Design Hour	Better	Approx 1200 less vehic
Reversible Lane Capacity	Good	2 Lanes	Better	3 Lanes with direct con
Reversible Lane Operations	Better	One less decision point for reversible lane users	Good	Additional decision poin
Turnpike Operations	Good	No additional ramps located in Turnpike median	Good	Additional ramps locate
Direct Connection to the Turnpike (system to system)	Poor	No direct connection to the Turnpike	Good	System to System linka
CONSTRUCTION				
Maintenance of Traffic	Good	Less mainline traffic disruptions due to less intensive median work. (i.e. flyovers)	Good	Overhead bridge constr
Utility Impacts	Good	Less impacts to overhead lines and less widening necessary at the Turnpike.	Fair	Turnpike widening impa
INCIDENT MANAGEMENT				
Emergency Response	Good	Allows for intermediate reversible lane emergency access points and Emergency Incident Management	Fair	No intermediate emerge management & system
DRAINAGE				
Treatment Area Required	Fair	Less Treatment volume required (new direct connects)	Fair	Additional Impervious a
TRANSIT				
Transit Considerations	Good	Requires elevated transit system closer to businesses and residents, access directly adjacent to all stations.	Better	Improved Fire/Life Safe transit further from resid corridor but may require
PUBLIC OPINION				
Public Workshop Comments	Good	Comments favored direct connections to the Turnpike	Good	Public favored direct co
Public Hearing Comments	Good	Public Hearing comments were generally mixed and fairly evenly divided.	Good	Public Hearing commer

Alternative 2A Remarks

on Cost / Phased into several projects

es

includes drainages ponds / reflects transit costs for CBEWTA between 136th Ave and e R/W for transit stations.

595 roadway improvements (Construction, Engineering, R/W)

ructure needs to be constructed. (At-grade in median)

way and Right-of-Ways(No Transit Stations or Right-of Way for Stations included)

e structure, elevating to 3rd and sometimes 4th level at University Drive flyovers and exit median. Elevated transit system required at east and west ends of the corridor.

led in the I-595 median. TPK direct connect ramp adds additional structures closer to

ed Alternative 2A results in an average increase of 2.0 dBA

358 receiver sites along corridor, soundwalls provided for same number of

les in the Design Hour

nect to Turnpike

int for egress to Turnpike and a merge is introduced in the WB direction

ed in Turnpike median but traffic taken out of interchange ramps

age with direct connection to Turnpike,

ruction of direct connection flyovers on 595 and Turnpike

acts and conflicts with overhead lines along I-595

ency access points to reversible lanes / Provides alternate system for ITS linkage

rea at the Turnpike exchange area requires additional treatment area

ety access, decreases additional Impervious, less impacts to existing utilities, moves idents and businesses, access directly adjacent to stations at west & east ends of the e access to median at some stations.

nnections to the Turnpike

nts were generally mixed and fairly evenly divided.

PRELIMINARY PROJECT COSTS

Right of Way Costs

Cost estimates for the additional right of way required for the proposed improvements were completed as part of this study. Right of way cost information was calculated by the FDOT District 4 Right of Way Office based on the proposed conceptual design plans and calculated on a parcel-by-parcel basis. Right of way estimates for the drainage ponds were based on the area needs of a particular basin and the average square footage price of land, with weighted factors, for that basin. Table 9-7 from the PER summarizes the estimated right of way acquisitions in acres and the right of way costs in millions of dollars (year 2005).

Table 9-7 R	Right of Way	Acquisitions and	d Costs
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Alternative	Right of Way Acquisition (acres)	Right of Way Costs (\$ millions, 2005)
Roadway	8.59	\$ 62.451
Ponds	47.00	\$101.000
Alternative 2A Total	55.59	\$163.451

Construction Costs

The estimated construction costs for Alternative 2A was developed using a combination of the FDOT Long Range Estimate (LRE) method and the *Basis of Estimate Handbook* for specific pay items. The construction costs for Alternative 2A, itemized by individual components, are shown in Table 9-8 of the PER.

Preliminary Engineering Costs

Preliminary engineering (PE) costs and construction engineering and inspection (CEI) costs are typically developed as a percentage of the total construction costs. Included in these costs are preliminary engineering fees, final engineering design fees, legal fees, administration fees, and post design services. The PE costs associated with the design and preparation of construction documents, as well as corridor design consultant, for Alternative 2A is \$111.290 million. The anticipated CEI cost (with 5% bonus) associated with Alternative 2A is \$166.364 million. The PE amounts are based on 10 percent of the construction total costs, whereas the CEI costs are based on 13 percent of the total construction estimate.

The total project costs are summarized in Table 9-9 from the PER.

Alternative	Item	Project Costs (In Millions)
2A	Construction Cost Estimate	\$861.016
	PE (10%)	\$111.290
	CEI (13%) + 5% Bonus	\$166.364
	Right of Way	\$163.451
	Project Total	\$1,302.12

Table 9-9 Preliminary Project Cost Estimate

Attachment 6.A.1: LAND USE CHANGES

The existing land uses along the project corridor are a mix of commercial and residential uses. The majority of the area is fully developed. The North New River Canal parallels the north side of WB SR 84 through most of the project corridor, from SW 136th Avenue to SR 7. Land uses north of the canal are primarily residential, with some commercial development clustered near interchanges. Land uses along EB SR 84 and south of the corridor are generally strip commercial with adjacent multi-family and single-family residential development.

East of I-95 and the eastern project terminus, Fort Lauderdale-Hollywood International Airport borders the south side of I-595. Light industrial land use is also found south of the corridor and east of Florida's Turnpike. A mixture of residential, industrial, and open space land uses border the corridor northeast of the I-595/I-95 interchange area.

The future land use in the project corridor was based on the Broward County Planning Council's *Future Land Use Plan*, an element of its *Local Government Comprehensive Plan*. Because the project area is almost entirely developed, future land uses will be similar to existing patterns. The future land use shows continued mixed-use development in the project corridor, with a change from industrial/residential to institutional land use in the central portion of the I-595 corridor south of SR 84. The proposed project will not cause any land use changes.

ATTACHMENT 6.A.2: COMMUNITY COHESION

No change is anticipated in community cohesion as a result of this project. This project will increase safety and reduce traffic congestion along the I-595 corridor by eliminating the atgrade weaving at the on/off-ramps and replacing them with grade-separated braids. This project is a prime opportunity to transform the I-595 corridor into a multimodal corridor, broadening its scope of services to potentially include light rail transit (LRT). Several options for locating the LRT within the corridor were developed and evaluated as part of the typical section package. In the event the LRT is approved, the I-595 PD&E Study will be addressed in the re-evaluation. In addition to providing for increased volume of vehicles and LRT within the corridor, the proposed concept typical sections make provisions for pedestrians and bicyclists along SR 84.

ATTACHMENT 6.A.3: RELOCATION POTENTIAL

Right of way acquisition for Alternative 2A involves some partial or complete purchase of parcels of land with resulting displacement of residential and non-residential properties. FDOT will acquire all right of way needed for the selected alternative. Under the requirements of federal law and state statute, property owners will be paid fair market value for their property and given assistance in finding replacement business sites and dwellings.

Three areas of displacements result from both proposed alternatives. The areas are as follows:

- 1. The proposed improvements at the Florida's Turnpike interchange will displace some residences along the SB Florida's Turnpike mainline to accommodate the proposed Griffin Road off-ramp and the widening of Florida's Turnpike in that area.
- 2. A new ramp is proposed that will complete the extension of the WB C-D system to the east by connecting to I-95. The ramp will be in the area east of Pond Apple Slough along the north side of the existing WB I-595 mainline. Several businesses will be impacted due to the proposed improvements.
- 3. A new ramp is proposed that will complete the extension of the EB C-D system to the east by connecting to I-95. The area along the south side of the existing I-595 EB-NB flyover will be impacted by the proposed ramp to I-95 SB from the EB C-D road. Several businesses will be impacted due to the proposed improvements.

The following table summarizes the estimated relocations for both alternatives.

Alternative	Relocations			
	Residential	Commercial	Signs	Personal Property Relocations
Alternative 2A	27	22	11	4

Note: Numbers do not include relocations necessary for pond construction.

As noted in the table above, the overall relocations for a corridor of this size are relatively small with only 27 residential mobile home relocations and 22 commercial relocations. A review of the study area revealed that there are a sufficient number of comparable homes and commercial sites available at the present time both for sale and for rent. Furthermore, all of the affected mobile homes occupants occupy leased lots and could be readily moved to other leased lots, possibly within the Everglades Lakes mobile home community. Additional information regarding these relocations can be found in the *Conceptual State Relocation Plan* prepared for the project. The *CSRP* is available for review at the FDOT District 4 Planning and Environmental Management Office.

In order to provide the affected residents opportunities to comment on the alternatives being developed for the project, FDOT conducted public workshops and hearings, including an individual workshop with the Everglades Lakes homeowners on April 5, 2005. Notification of the public meetings was provided by newspaper display advertisements, letter mailings to stakeholders along the corridor, and, in light of potential displacement of residents due to Hurricane Wilma, even hand-delivery of notices to each of the mobile home park managers along the corridor. During the course of these public involvement opportunities with the affected residents, concerns were expressed about noise impacts and relocation compensation. However, considering the magnitude of this 10-mile, billion-dollar improvement to the Interstate Highway System and the related improvements to Florida's Turnpike, these relocations are considered minimal and unavoidable.

In order to minimize the unavoidable effects of right of way acquisition and displacement of people, the FDOT will carry out a Right of Way and relocation program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 as amended by Public Law 100-17).

The FDOT provides advance notification of impending right of way acquisition. Before acquiring right of way, all properties are appraised on the basis of comparable sales and land use values in the area. Owners of property to be acquired will be offered and paid fair market value for their property rights.

No person lawfully occupying real property will be required to move without at least 90 days written notice of the intended vacation date and no occupant of a residential property will be required to move until decent, safe and sanitary replacement housing is made available. "Made available" means that the affected person has either by himself obtained and has the right of possession of replacement housing, or that the Florida Department of Transportation has offered the relocatee decent, safe and sanitary housing which is within his financial means and available for immediate occupancy.

At least one relocation specialist is assigned to each highway project to carry out the relocation assistance and payments program. A relocation specialist will contact each person to be relocated to determine individual needs and desires, and to provide information, answer questions, and give help in finding replacement property. Relocation services and payments are provided without regard to race, color, religion, sex, or national origin.

All tenants and owner-occupant displacees will receive an explanation regarding all options available to them, such as (1) varying methods of claiming reimbursement for moving expenses; (2) rental replacement housing, either private or publicly subsidized; (3) purchase of replacement housing; and (4) moving owner-occupied housing to another location.

Financial assistance is available to the eligible relocatee to:

- 1. Reimburse the relocatee for the actual reasonable costs of moving from homes, businesses, and farm operations acquired for a highway project;
- 2. Make up the difference, if any, between the amount paid for the acquired dwelling and the cost of a comparable decent, safe and sanitary dwelling available on the private market;
- 3. Provide reimbursement of expenses, incidental to the purchase of a replacement dwelling;
- 4. Make payment for eligible increased interest cost resulting from having to get another mortgage at a higher interest rate. Replacement housing payments, increased interest payments, and closing costs are limited to \$22,500 combined total.

A displaced tenant may be eligible to receive a payment, not to exceed \$5,250, to rent a replacement dwelling or room, or to use as down payment, including closing costs, on the purchase of a replacement dwelling.

The brochures that describe in detail the Department's relocation assistance program and right of way acquisition program are "Your Relocation: Residential", "Your Relocation: Business, Farms and Nonprofit Organizations", "Your Relocation: Signs" and "The Real Estate Acquisition Process". All of these brochures are distributed at all public hearings and made available upon request to any interested persons.

ATTACHMENT 6.A.4: COMMUNITY SERVICES

There are approximately 20 school campuses in the general vicinity of the project corridor. Eight schools in close proximity to I-595 are identified in this inventory. There are two schools in the City of Plantation north of I-595; a middle school and elementary school are south of I-595 in the Town of Davie; an elementary school is north of I-595 between Florida's Turnpike and SR 7; a middle school is north of I-595 between SR 7 and I-95; and the South Florida Educational Complex is located more than one-half mile south of I-595 between University Drive and Davie Road. The South Florida Educational Complex is a large multi-campus facility that houses Florida Atlantic University, Broward County Community College, Florida International University, and Nova Southeastern University.

The only cemetery near the I-595 project corridor is in the Town of Davie; the Forest Lawn South Cemetery adjacent to SR 84 on the south side of I-595 west of Davie Road.

Several shopping centers, industrial and commerce parks are located within the I-595 corridor. There are approximately 11 shopping centers within the I-595 corridor. Two major centers are located south of I-595 in the Town of Davie: Pine Island Ridge Plaza west of Pine Island Road and Tower Shops east of University Drive.

Several industrial and commerce parks are situated along the corridor, including:

- Sawgrass Commerce Park is at the western project terminus adjacent to the Highway Patrol station north of I-595 between SW 136th Avenue and Flamingo Road in the City of Plantation
- Gold Coast Industrial Park and the Broward Business Park is west of SR 7 in the Town of Davie
- The north edge of Port 95 Commerce Park south of I-595 on both sides of Port Boulevard is within one-half-mile of I-595
- Port Everglades Commerce Center is at the corridor's eastern terminus in the City of Dania, south of I-595

Government facilities within the corridor include the Florida Highway Patrol Station, which is located near the western project limits north of I-595 within FDOT right of way, and the Town of Davie Police Department, located in the southeast quadrant of the Nob Hill Road interchange. Also located along SR 84 on the south side of I-595 is a post office within the Plaza Shopping Center between Flamingo Road and Hiatus Road. The Fort Lauderdale-Hollywood International Airport is a major feature entirely within the area south of I-595 and north of Griffin road, between I-95 and US 1. Numerous clinics, medical centers, and doctor offices are located within the project study area corridor.

ATTACHMENT 6.A.5: TITLE VI CONSIDERATIONS

This project has been developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968. Title VI of the Civil Rights Act provides that no person shall, on the grounds of race, color, religion, sex, national origin, marital status, handicap, or family composition be excluded from participation in, or be denied the benefits of, or be otherwise subject to discrimination under any program of the federal, state, or local government.

The proposed I-595 improvements to Florida's Turnpike Griffin Road off-ramp will require 27 residential mobile home relocations in the Everglades Lakes mobile home community. Statistically, 15% of the households to be displaced are minorities, 21% of the residents in the study area are disabled, 9.5% of the residents in the study area are 65+ years of age, household size in the study area is 2.44 individuals, 43% of the residents are tenants and the estimated income of residents is \$26,000-\$66,000 per year. A review of the study area revealed that there are a sufficient number of comparable homes available at the present time both for sale and for rent. Furthermore, the affected mobile homes occupy leased lots and could be readily moved to other leased lots, possibly within the Everglades Lakes mobile home community. Additional information regarding these relocations can be found in the *Conceptual State Relocation Plan* is available for review at the FDOT District 4 Planning and Environmental Management Office.

In order to provide the affected residents opportunities to comment on the alternatives being developed for the project, FDOT conducted public workshops and hearings, including an individual workshop with the Everglades Lakes homeowners on April 5, 2005. Notification of the public meetings was provided by newspaper display advertisements, letter mailings to stakeholders along the corridor, and, in light of potential displacement of residents due to Hurricane Wilma, even hand-delivery of notices to each of the mobile home park managers along the corridor. During the course of these public involvement opportunities with the affected residents, concerns were expressed about noise impacts and relocation compensation. However, considering the magnitude of this 10-mile, billion-dollar improvement to the Interstate Highway System and the related improvements to Florida's Turnpike, these relocations are considered minimal and unavoidable.

ATTACHMENT 6.A.6: CONTROVERSY POTENTIAL

An extensive Public Involvement/Agency Coordination program was implemented for this project to identify and resolve potential controversy: As noted previously, an Advance Notification for this project was distributed on November 5, 2003 to various Federal, State and local agencies and elected officials. The Advance Notification and agency responses are included in Appendix A of this report.

Through the course of this process, comments were received regarding residential and commercial relocations, noise impacts, visual impacts, the North New River Greenway, and wetland impacts within the I-595 limited access right of way adjacent to Pond Apple Slough Natural Area.

On March 31, 2004, a meeting was held with the United States Environmental Protection Agency (EPA) to provide a project overview and to discuss the improvements within the I-595 corridor, including Florida's Turnpike interchange and mainline, which may pass over an area impacted by a deep groundwater contamination plume from an offsite source. Based on this meeting, a Consent Decree was drafted and lodged by the U.S Department of Justice which provides provisions to design and construct all roadway improvements within the contaminated area. The FDOT committed to adhere to all provisions of the Consent Decree and coordinate with the EPA on any substantial construction plan changes during the final design phase.

On July 14, 2004, a meeting was held with Broward County Environmental Protection Department and Broward County Parks and Recreation Department (BCPRD) to provide a project overview and solicit feedback regarding the unavoidable wetland impacts in the area immediately adjacent to BCPRD's Pond Apple Slough Natural Area.

On October 21, 2004, an interagency meeting was with representatives from the EPA, FHWA, FDOT, SFWMD, BCDEP, and BCPRD. The meeting included a presentation of the project, the associated environmental studies and reports in preparation, environmental considerations in the project area, the history of Pond Apple Slough Natural Area, the history of the Cypress Creek Mitigation Site, and preliminary conceptual mitigation options being considered. The potential for obtaining conceptual permits was also discussed.

On December 10, 2004, the project was presented at a monthly permitting meeting with representatives from SFWMD, ACOE, and EPA. The unavoidable wetland impacts were identified as being approximately 4 acres of shading impacts and 0.5 acres of direct impacts to provide a construction road. A brief discussion of the preliminary conceptual mitigation options being considered and the feasibility of conceptual permitting ensued.

On January 5, 2005, a meeting was held with the SFWMD regarding the North New River Canal. This meeting was to coordinate bulkheading of the canal and maintenance requirements.

On January 28, 2005, FDOT met with a National Marine Fisheries Service (NMFS) Fisheries Biologist at Pond Apple Slough Natural Area to discuss Essential Fish Habitat (EFH) issues.

On February 9, 2005, FDOT met with BCPRD representatives to review the Pond Apple Slough Management Plan. On March 23, 2005, FDOT met with BCEPD representatives to review their Pond Apple Sough files.

On February 11, 2005 a pre-application meeting was held with the SFWMD to provide an overall view of the project.

On March 7, 2005, a meeting was held with the SFWMD to discuss the placing of noise walls within the North New River Canal right of way. The meeting also reviewed relocating the North New River Greenway project from the south side of the canal to the north side of the canal within SFWMD right of way.

On March 7, 2005, the FDOT submitted a Request for EFH Assessment Assistance to the NMFS, which included an abbreviated list of federally managed species. On March 31, 2005, the NMFS responded, identifying species and their habitats that should be addressed in the EFH.

On March 30, 2004 and March 31, 2004, the FDOT conducted the I-595 Public Kickoff Meetings. Each of these meetings were attended by the public as well as agency representatives and elected officials.

On April 13, 2005 and April 14, 2005, the FDOT conducted the I-595 Public Workshops. Each of these meetings were attended by the public as well as agency representatives and elected officials.

On June 28, 2005, an interagency meeting was held at Nova Southeastern University's main campus in Davie, Florida. Invitations to the meeting were sent to the U.S Fish and Wildlife Service (FWS), NMFS, ACOE, U.S. Coast Guard (USCG), EPA, FHWA, FDOT, FWC, Florida Department of Environmental Protection (FDEP), SFWMD, South Florida Regional Planning Council (SFRPC), Broward County Environmental Protection Department (BCEPD), and BCPRD. Representatives from the ACOE, FWS, NMFS, USCG, FDOT, FWC, BCEPD, and BCPRD attended. The meeting included a presentation of the project, the associated environmental studies and reports in preparation, environmental considerations in the project area, the history of Pond Apple Slough Natural Area, the history of the Cypress Creek Mitigation Site, and preliminary conceptual mitigation options being considered. The agencies stressed the need for avoidance and minimization of wetland impacts before mitigation was considered and stated that the preferred mitigation would include preservation of additional land instead of enhancement of existing wetlands. As a last resort, the agencies agreed that the FPL Everglades Mitigation Bank could be used to offset the unavoidable wetland impacts.

FDOT also met with staff and elected officials of municipalities located along the corridor. Meetings were held with the Town of Davie on March 7, 2005; Davie Council members Judy Paul and Susan Starkey on October 11, 1005; Mayor Armstrong of Plantation on October 10, 2005; the City of Weston on October 17, 2005; Broward County Mayor Jacobs and the Broward County Commissioners on October 13, 2005; Commissioner Rodstrom on October 10, 2005; and Commissioner Wexler on October 11, 2005.

A Public Hearing was held November 29, 2005 where Alternatives 1B and 2A were presented for public review and comment. Public comments were received, considered, and evaluated for Alternatives 1B and 2A. More in depth discussion on the Public Hearing is provided in the *Preliminary Engineering Report* and the *Public Involvement Report*.

On February 20, 2006, a meeting was held with the SFWMD to provide an update of the corridor improvements. Sound walls, bulkheads, the Broward County Greenway project, and bridge structures were discussed and all previous agreements were reaffirmed.

Through this series of coordination meetings, the potential controversy concerns regarding residential and commercial relocations, noise impacts, visual impacts, the North New River Greenway, and wetland impacts within the I-595 limited access right of way adjacent to Pond Apple Slough Natural Area were addressed. The residential and commercial relocations are being addressed through the *Conceptual Stage Relocation Plan.* Based on coordination with the public during the final design phase, noise barriers will be provided as mitigation for unavoidable noise impacts to the maximum extent practicable. The North New River Greenway was addressed in a *Programmatic Section 4(f) Evaluation* discussed below in Section 6.B.1. The wetland impacts will be mitigated as described below in Section 6.C.1.

ATTACHMENT 6.A.7: UTILITIES and RAILROADS

The existing utilities along the corridor include Bellsouth (telephone and fiber optic), MCI/Sprint (fiber optic cable), FP&L (electric), City of Hollywood (water and sewer), and City of Fort Lauderdale (water and sewer). An FP&L company substation is located in the southwest quadrant of the I-595/Davie Road interchange. West of Florida's Turnpike, an abandoned Enron/Sunniland pipeline runs parallel to I-595 on the north side of SR 84. A water/wastewater treatment plant is located on Fort Lauderdale-Hollywood International Airport property in the southwest quadrant of the I-595/US 1 Interchange. There is also a Florida Gas Transmission gas pipeline passing through the I-595/Florida's Turnpike interchange. Existing utility owners and contacts to be used for study coordination are identified in Table 4-5.

The South Florida Rail Corridor is located at the eastern terminus of the project. Currently, the I-595 ramps to I-95 are elevated over the rail corridor. No at-grade I-595 roadway elements are proposed that would interfere with the rail corridor. Prior to construction, FDOT will coordinate with South Florida Rail Corridor in order to address construction over the rail corridor.

During the Value Engineering and Design Review meetings, braided ramp locations were shifted in order to avoid Section 4(f) impacts to Sewell Lock Park. This shift resulted in an impact to the FPL substation property. It was determined by the VE team that design modifications for eastbound SR 84 adjacent to the FP&L substation would result in avoiding the relocation of the utility. Additionally, it was determined that this project would have no impacts to the FP&L substation and its discharge canal.

In locations where design modifications, or design exceptions and/or variations, cannot avoid utility relocations, the need for utility relocations and costs associated with the relocations will be determined during final design. Most utility companies have technologies to alter facilities without inconvenience to the customers. However, to the extent feasible, mitigation measures for utility disruptions will include the following measures.

- Minimizing or eliminating impact to major existing utilities
- Maintaining utility connections in temporary locations
- Minimizing the time without service
- Installing alternate or new service before disconnecting the existing service
- Allowing service disruption only during periods of non-usage or minimum usage

ATTACHMENT 6.B.1: SECTION 4(f) LANDS

Throughout this study, every effort was made to identify the limits of all nearby Section 4(f) lands, to avoid impacts to these lands and, where such impacts are unavoidable, to minimize the impacts that will occur. A *Section* 4(f) *Determination of Applicability* (DOA) was submitted to the FHWA on April 5, 2005. It provided information for twenty properties evaluated for potential Section 4(f) involvement. The following table identifies the properties evaluated.

Property Name	Type of Property
Acres South Park	Park
Arrowhead Golf Club	Not applicable (privately owned)
Bonaventure Country Club	Not applicable (privately owned)
C-11 Linear Park	Park
Cherry Camp	Archaeological site
Edgewood Passive Park	Park
Fox Trail Elementary School Playground	Not applicable (limited access)
Hacienda Flores ESL	Wildlife refuge
Jacaranda Golf Club	Not applicable (privately owned)
Marine Propulsion Lauderdale Propeller	Potential historic site
Markham Park	Park
New River – State Road 84 Greenway	Multi-purpose trail
New River Boating Center	Potential historic site
Pine Island Ridge Golf Club	Not applicable (privately owned)
Pond Apple Slough Natural Area	Park/wildlife refuge
Riverland Woods Park	Park
Sawgrass Sanctuary Park	Park/wildlife refuge
Secret Woods Buffer Natural Area	Park/wildlife refuge
Secret Woods Nature Center	Park/wildlife refuge
Sewell Lock Park	Park/historic site
Snyder Park	Park
SR-84 South Fork New River Bridge	Potential historic site
Town of Davie Recreational Trails	Not applicable
West Park F.P.L. Easement	Not Applicable (privately owned)

At the time the DOA was submitted, direct involvement was anticipated with the Broward County Department of Planning and Environmental Protection's (BCDPEP, now BCEPD) North New River/SR 84 Greenway and the South Florida Water Management District's (SFWMD) Sewell Lock Park, which is maintained as a park by Broward County Parks and Recreation Department under a right of way occupancy permit from SFWMD. Indirect involvement was anticipated with the Broward County Parks and Recreation Department's Pond Apple Slough Natural Area and the City of Plantation's Acres South Park. Based on coordination with FHWA on April 25, 2005, documentation for these four properties was submitted to FHWA on June 24, 2005 as a

Section 4(f) DOA Addendum. At the time, it was anticipated that the parking lot and access ramps to Sewell Lock Park would likely need to be removed by the proposed project, and it was noted that the lock mechanism is also listed on the *National Register of Historic Places* (8BD0058).

The addendum stated that approximately 1.7 miles (2.5 acres) of the existing eleven mile New River Greenway (approximately 16 total acres) would also need to be relocated for the proposed project and Sewell Lock Park may no longer be able to serve as a trailhead for it. It was also stated that the proposed project will result in shading impacts to approximately 4.6 acres of wetlands planted within the I-595 limited access right of way located immediately adjacent to the 220 acre Pond Apple Slough Natural Area, and that this would reduce the total contiguous habitat available to its flora and fauna by approximately 2% and will remove part of the buffer area between it and SR 84.

The addendum also noted that after further analysis of the potential noise impacts to Acres South Park, it appears that the impacts will exceed the FHWA noise abatement criteria because of high existing noise, but the increase in projected noise level if the proposed project is constructed, when compared with the projected noise levels if the project is not built is barely perceptible (2 dBA or less). It also noted that if noise walls are provided for abatement, they will not be placed within the park property; therefore, it was not anticipated that Section 4(f) applied.

After subsequent coordination with FHWA on September 22, 2005, as well as additional analyses and redesign, a second DOA addendum was submitted to FHWA on October 20, 2005. The second addendum noted the following:

- Impacts to Sewell Lock Park had been anticipated, based on the Master Plan LPA alignment. However, these impacts were avoided through design modifications. The location of the braided ramps proposed for WB I-595 between University Drive and Davie Road were repositioned farther west. The typical sections of SR 84 and the sidewalk on the north side of the corridor were redesigned and realigned. With approval of the design modifications, permanent impacts to Sewell Lock Park were avoided. Minor temporary impacts will be necessary for dressing of slopes from the back of the proposed curb and connection to access points. All final design aspects will be coordinated with the SFWMD.
- The proposed project will result in approximately 2.1 acres of direct impacts and approximately 4.3 acres of shading impacts to wetlands located within the I-595 limited access right of way adjacent to the 220-acre Pond Apple Slough Natural Area. These impacts will reduce the total contiguous habitat available to flora and fauna by approximately 2% and will remove part of the buffer area between the Pond Apple Slough Natural Area and SR 84. Indirect wetland impacts will be mitigated so that there is no net loss of wetlands.
- Analysis of the potential noise impacts to Acres South Park indicates that the build alternatives will slightly increase noise levels in the park. However, the predicted increases in noise levels associated with both alternatives will be barely perceptible and the use and enjoyment of the park are not anticipated to be substantially

impaired or diminished compared to existing conditions. Because the predicted noise levels within the park approach or exceed FHWA Noise Abatement Criteria, noise abatement measures will be considered and constructed on FDOT or SFWMD right of way if they are determined to be reasonable and feasible based on FHWA Noise Abatement Criteria.

The 1.7 miles of the New River Greenway to be relocated represents 1% of Broward County's 183 mile Greenway network. The relocation from the south bank of the North New River Canal (immediately north of I-595) to the north bank of the North New River Canal (immediately south of SW 25th Street) will occur between SR 7 and SW 51st Avenue and there will be no net loss of the Greenway. The proposed Greenway projects are being proposed by Broward County utilizing federal, state, and local funds. Broward County stated that construction of the Greenway will provide a connection for non-motorized transportation, and the Greenway project would re-establish bicycle/pedestrian links to the college/university complex in Davie which were lost when I-595 was constructed. The FDOT has made a commitment to Broward County to minimize temporary impacts to the Greenway system by staging construction of the relocation of the Greenway prior to I-595 construction activities so that there will be minimal gaps in operation of the Greenway facility. The FDOT will continue to coordinate with Broward County to ensure that this commitment is adhered to during the construction phase.

On November 17, 2005, FHWA responded to the second Addendum with a determination that Section 4(f) does not apply to Sewell Lock Park, Pond Apple Slough Natural Area, and Acres South Park since there are no direct use of the properties and indirect effects will be minor. FHWA determined that Section 4(f) was applicable to the relocation of 1.7 miles of the New River Greenway and that a *Programmatic Section 4(f) Evaluation* would need to be prepared.

Three alternatives were examined to avoid relocation of this portion of the New River Greenway.

- 1. No Build Alternative. This alternative is not feasible and prudent because it would constitute a community impact of extraordinary magnitude by not providing the needed capacity and safety improvements.
- 2. Build an Improved Facility on a New Location Alternative. Broward Boulevard, Sunrise Boulevard, and Griffin Road were considered, however, none of these corridors could provide the level of service required for an east-west multimodal transportation corridor due to their classification as an arterial roadway.
- 3. Improve the Highway without using the New River Greenway Alternative (by constructing the westbound I-595 to northbound Florida's Turnpike ramp entirely on structure and eliminating the proposed re-establishment of the continuation of SR 84 between SR 7 and Davie Road). Since the continuous SR 84 connection was one of the primary objectives of the project, and elimination of this connection would cause the mainline to fail to meet the required level of service, this alternative was deemed unfeasible.

Since there was no viable alternative to avoid the New River Greenway, four alternatives to minimize harm to the Greenway were also evaluated:

- 1. Minimization Alternative 1 keeps the Greenway geometry in its current position along the south bank of the North New River Canal. This alternative would require WB SR 84 to be elevated above the Greenway on structure between SR 7 and Davie Road. SR 84 would overpass Florida's Turnpike mainline on structure at a third level. This structure however, would be in conflict with the Alternative 2A direct connection-ramp between the I-595 reversible lanes and Florida's Turnpike north of I-595. In addition, the Greenway would still require relocation adjacent to the canal near the Davie Road westbound off-ramp, where the elevated portion of SR 84 returns to grade. It was anticipated that noise and aesthetic impacts to the Plantation Harbor community would increase with the elevated SR 84 structure. Broward County also did not support an alternative that located the Greenway underneath and between structures. This alternative was eliminated from further consideration.
- 2. Minimization Alternative 2 would relocate the Greenway north to the opposite side of Florida's Turnpike mainline bridge structure south bank column line. SR 84 just west of SR 7 would be elevated to pass over the Greenway and immediately return to grade to pass underneath Florida's Turnpike. The Greenway would be relocated to cantilever over the canal in the area of Florida's Turnpike. Like Minimization Alternative 1, Minimization Alternative 2 will also require relocating the Greenway immediately adjacent to the canal near the Davie Road westbound off-ramp. Because of the close spacing of existing structures for this portion of the alignment, the profile of SR 84 required for this alternative cannot meet current minimum design standards. This alternative was eliminated from further consideration.
- 3. Minimization Alternative 3 retains the roadway geometry as currently proposed and cantilevers the Greenway over the North New River Canal between SR 7 and Davie Road. This alternative would require bulkheading of the south side of the canal from SR 7 to Sewell Lock Park. This alternative was abandoned because Broward County did not support a Greenway cantilevered over a body of water. Additionally, the SFWMD expressed concerns that the cantilevered structure may result in problems with the maintenance of the canal and may collect debris. This alternative did not avoid impacts to the Section 4(f) resource and was eliminated from further consideration.
- 4. Minimization Alternative 4 is the preferred alternative to relocate the Greenway from the south bank of the North New River Canal (immediately north of I-595) to the north bank of the North New River Canal (immediately south of SW 25th Street) between SR 7 and theoretical SW 51st Avenue, resulting in no net loss of the Greenway. The relocated Greenway would be within 200 feet of the existing alignment and would occupy SFWMD right of way for the North New River Canal from SR 7 to SW 41st Avenue, Broward County right of way for SW 25th Street between SW 41st Avenue and SW 44th Terrace, and SFWMD right of way for the North New River Canal from SW 51st Avenue. At theoretical SW 51st Avenue, a new bridge will be constructed for the Greenway over the North New River Canal to connect it to the south bank of the North New

River Canal, where it will continue to Davie Road immediately adjacent to the canal bulkhead. From Davie Road to Sewell Lock Park, the Greenway will follow its current alignment.

This alternative will also provide additional separation between the Greenway and I-595 traffic between SR 7 and theoretical SW 51st Avenue. Access to the neighboring communities for this portion of the alignment will be improved providing better accessibility for residents on the north side of the North New River Canal and west of SR 7. The proposed construction sequencing for the section of the project would involve constructing the relocated section of the Greenway prior to impacting the existing section, thereby resulting in no net loss of Greenway or its function.

In addition, this alternative has the lowest cost of all the minimization alternatives considered. It will allow the SR 84 continuous connection to be provided by allowing SR 84 to pass under Florida's Turnpike mainline structures. All of the other LPA improvements, including the proposed WB I-595 direct connector ramp to NB Florida's Turnpike can also be provided with this alternative.

The proposed I-595 project will also result in several beneficial effects on the Greenway. It will provide a 6 foot to 12 foot wide continuous sidewalk/shared use path on the south side of SR 84 between SW 66th Terrace and Davie Road. This will provide an alternative route that was previously not available to Broward County for the New River Greenway due to the lack of sufficient public right of way for a sidewalk on the north side of the Florida Power and Light substation, located immediately east of SW 66th Terrace. If the new sidewalk is incorporated into the New River Greenway, it will reduce the travel distance and time for users traveling between University Drive and Davie Road because they will not have to go south to Nova Drive to make the connection. Furthermore, the proposed project also includes 4 foot wide bike lanes along both EB and WB SR 84 throughout the project limits.

Based on the above considerations, there is no feasible and prudent alternative to the use of land from the New River Greenway and the proposed action includes all possible planning to minimize harm to the New River Greenway resulting from such use. Minimization Alternative 4 is the only viable alternative that satisfies the needs of LPA improvements, the I-595 PD&E Study improvements, and the New River Greenway. The FDOT coordinated with the Broward County Greenways Project Manager throughout the project. On December 12, 2005, FDOT sent a letter to the Greenways Project Manager requesting approval of the proposed measures to minimize harm. The Greenways Project Manager responded that relocating this portion of the Greenway to the north side of the North New River Canal meets with their approval. See Appendix B of this report for the letter (undated) from the Greenways Project Manager.

The *Programmatic Section 4(f) Evaluation* prepared for this project was submitted to FHWA on January 31, 2006 and approved by FHWA on March 14, 2006. See Appendix G of this report for the Section 4(f) approval letter from FHWA. A copy of the *Programmatic Section 4(f) Evaluation* is located at the FDOT District 4 Planning and Environmental Management Office.

ATTACHMENT 6.B.2: HISTORIC SITES AND DISTRICTS

In accordance with the National Historic Preservation Act of 1966, as amended, and Florida Statute 267, a *Cultural Resource Assessment Survey* (CRAS), including background research and a field survey coordinated with the State Historic Preservation Officer (SHPO), was performed for the project. Five historic resources were identified within the project's Area of Potential Effect (APE). Two of these historic resources included the previously recorded and National Register of Historic Places (NRHP)-listed Sewell Lock (8BD58) and the NRHP-eligible North New River Canal (8BD3279). Sewell Lock was listed in 1978; however, since then the majority of the mechanisms and associated structures essential to its function have been removed. The North New River Canal was identified by the Division of Historical Resources/State Historic Preservation Officer as being potentially eligible in a concurrence letter to Janus Research dated December 20, 1999.

A Section 106 Evaluation and Determination of Effects Case Study Report has recently been prepared for the I-595 PD&E Study. In accordance with the provisions of Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Public Law 89-665, as amended), as implemented by 36 CFR Part 800 (Protection of Historic Properties, revised January 2001), the Case Study Report documents potential effects of the proposed improvements to the North New River Canal and Sewell Lock within the project APE. The findings of the Case Study Report indicate that the proposed improvements will have no effect on the NRHP-listed Sewell Lock since it is located outside of the project limits. However, the proposed I-595 improvements include construction of bulkheads which will result in the introduction of non-historic structures within the limits of the North New River Canal. When strictly applying the Criteria of Adverse Effect, the construction of the bulkheads on the south side of the North New River Canal will have an effect on the NRHP-eligible canal, but they will not alter the characteristics that make it eligible for inclusion in the NRHP, by filling the canal, changing the direction of flow in the canal, or reducing the flow capacity of the canal. The North New River Canal will still retain an ability to convey its importance as an example of an early water management system and as one of the primary canals of the Everglades Drainage District. In summary, the improvements will have no adverse effect on the NRHP-eligible North New River Canal.

The remaining three historic resources within the projects APE (8BD4072, 8BD4073, 8BD4074) exhibit common design types and/or non-historic exterior alterations which compromise their historic physical integrity. After application of the national Register Criteria of Significance, these resources were considered ineligible for listing in the NRHP on an individual basis or as part of a historic district. The FMSF forms for the five historic resources are located in Appendix A of the CRAS.

In a letter dated January 9, 2006, SHPO stated that they had reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1996, as amended, 36 CFR Part 800: Protection of Historic Properties, Chapter 267, Florida Statutes, and applicable local ordinances. SHPO found the submitted report complete,

sufficient, and concurred with the findings. Based on the fact that no additional historical sites or properties are expected to be encountered during subsequent project development, the Federal Highway Administration determined that no other National Register properties would be impacted.

In a subsequent letter dated April 25, 2006, SHPO concurred with the determinations made in the effects case study that there would be no effects on the Sewell Lock based on its distance away from the proposed improvements and that the addition of bulkheads to the North New River Canal would have no adverse effect on the resource. See Appendix C of this report for the SHPO concurrence letters.

ATTACHMENT 6.B.3: ARCHAEOLOGICAL SITES

In accordance with the procedures contained in 36 CFR, Part 800, a Cultural Resource Assessment, including background research and field survey coordinated with the State Historic Preservation Officer (SHPO), was performed for the project. Two archaeological sites were identified as sites to be evaluated further, including the Cherry Camp site (8BD82) and the Hacienda Village site (8BD3208).

The Cherry Camp (8BD82) survey indicated that a portion of the site remains intact. The black dirt midden layer was still present and intact below the disturbed upper levels containing modern debris. Subsequently, the Cherry Camp site was subject to a reassessment incident to the CRAS of the FDOT I-595 Slip Ramp project (FM # 413282-1-52-01). The CRAS confirmed that the site was eligible for listing in the NHRP and therefore, presented a proposed conservation plan to avoid future impacts to the site (See Appendix E of CRAS - FM # 413282-1-52-01). On November 3, 2005, the SHPO concurred with the findings conditional upon adherence to the proposed conservation plan.

The area around the Hacienda Village site (8BD3208) was considered to have high site potential, however, the survey indicated that this area is now a gated apartment complex called Stone Arch Apartments. The entire development is covered with grass and asphalt on top of shallow fill dirt that has been re-graded. The streets that were originally in this area have been wholly reconfigured and are different from those shown on the Fort Lauderdale South USGS Quadrangle (1962). Several sections of the North New River Canal banks retain large ficus trees with roots that extend into the bedrock The highest elevation of the site is located in this area, which exhibits exposed limestone bedrock and lack of soil. No testing was possible within the site or along the banks of the North New River Canal because of exposed limestone bedrock. The western portion of the site along SR 7 consists of very flat rock rubble fields. All available evidence indicates the site has been destroyed by modern land clearing and development. The CRAS confirmed that the Hacienda Village site was ineligible for listing in the NHRP

In a letter dated January 9, 2006, SHPO stated that they had reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1996, as amended, 36 CFR Part 800: Protection of Historic Properties, Chapter 267, Florida Statutes, and applicable local ordinances. SHPO found the submitted report complete, sufficient, and concurred with the findings. SHPO also requested immediate implementation of the Conservation Plan developed for the I-595 Slip Ramp project by fencing off the Cherry Camp site and maintaining it in place for the duration of the I-595 construction projects. In a subsequent letter dated April 25, 2006, SHPO reiterated this request. See Appendix C of this report for the SHPO concurrence letters.

ATTACHMENT 6.B.4: RECREATION AREAS

The following parks and recreational facilities occur in the vicinity of the project.

- Broward County's Pond Apple Slough Natural Area
- Broward County's Secret Woods Buffer Natural Area
- Broward County's Secret Woods Nature Center
- Broward County's Riverland Woods Park
- Broward County's Sewell Lock Park
- Broward County's Markham Park
- Broward County's New River/State Road 84 Greenway
- Broward County's Hacienda Flores Environmentally Sensitive Land
- Broward County's Edgewood Passive Park
- City of Sunrise Sawgrass Sanctuary Park
- City of Plantation Acres South Park
- City of Fort Lauderdale Snyder Park
- Town of Davie C-11 Linear Park
- Town of Davie Recreational Trails
- Bonaventure Country Club
- Jacaranda Golf Club
- Pine Island Ridge Golf Club
- Arrowhead Golf Club

As noted previously, a Section 4(f) Determination of Applicability was submitted to FHWA for review and concurrence for the publicly-owned parklands and recreation areas. A *Programmatic Section* 4(f) *Evaluation* was prepared for the New River Greenway and was approved by FHWA on March 14, 2006. There will be no direct or indirect impacts to any other publicly-owned parklands and recreation areas as a result of the proposed project. However, some of the stormwater management alternatives being considered involve modifications to the stormwater management systems for private golf courses located adjacent to the project corridor.

ATTACHMENT 6.C.1: WETLANDS

A *Wetland Evaluation Report* (WER) for the proposed improvements was performed to meet the requirements of Section 404 of the Clean Water Act of 1972, Presidential Executive Order 11990 (May 23,1977), U.S. Department of Transportation Order 5660.1A (August 24, 1978), and Federal Highway Administration Technical Advisory T6640.8A (October 30, 1987).

The eastern portion of Broward County has been completely developed and only fragments of pre-development habitat remain. Pond Apple Slough Natural Area is the only wetland within 500 feet of the proposed improvements that will directly be affected by the improvements. Several canals, ditches, stormwater management systems containing hydrophytic vegetation, and other surface waters within 500 feet of the proposed improvements were also addressed.

Avoidance and Minimization

The scarcity of remaining habitat in Broward County, especially wetlands, has been a focal point throughout the development of the proposed project. Impacts to habitat in the LA right of way adjacent to the Pond Apple Slough Natural Area have been avoided and minimized to the maximum extent practicable. Prior to the acceptance of the Master Plan LPA, there were several design alternatives for a direct connection from Florida's Turnpike to I-95 that would have resulted in significant impacts to Pond Apple Slough Natural Area. Though these alternatives would have provided significant traffic and other engineering benefits, they were not formally developed due to their unavoidable wetland impacts. Because these alternatives were discarded without being formally developed, the quantity and exact location of the wetland impacts were not calculated. However, the direct impacts were significantly greater than all of the build alternatives considered during the I-595 PD&E Study. The discarded alternatives would have resulted in fragmentation of the Pond Apple Slough Natural Area.

To protect Pond Apple Slough Natural Area, FDOT established a design constraint for the project that restricted the proposed improvements to the existing LA right of way in the area immediately adjacent to Pond Apple Slough Natural Area. Three alternatives were proposed within the LA right of way adjacent to Pond Apple Slough Natural Area:

- 1. Widen south to the LA right of way line with the remainder of required improvements placed north of the existing facility. This alternative had the greatest impact to the wetlands within the LA right of way because all the wetlands within the LA right of way would have been impacted and there would have been potential indirect impacts to the wetlands due to shading. This alternative was discarded without being formally developed.
- 2. Widen only north of the existing facility. This alternative would have avoided impacts to the existing wetlands in the median and on the south side of the existing facility, but would have resulted in significant right of way acquisition, business damages, and reconstruction of the existing interchange at I-95. Therefore, this alternative was also discarded without being formally developed.

3. The approved Master Plan LPA, which widened into the median with the remainder of required improvements placed north of the existing facility. During the I-595 PD&E Study design year (2034) traffic analysis, it was determined that an additional 12 foot through lane would also be required on the south side of the existing facility to adequately meet the projected traffic volumes. This lane could not be reasonably added elsewhere without resulting in significant right of way acquisition, business damages, and/or reconstruction of the existing interchange at I-95. It was also later determined that the existing viaduct could not be widened using a "top-down" construction methodology because of its high elevation and limitations of construction equipment. Instead it was determined that 20 foot-wide at-grade platforms would be required adjacent to each of the existing structures for construction and that these platforms would need to be retained after construction to maintain the new structures. These platforms will result in additional impacts to the wetlands within the LA right of way.

Although the wetland impacts within the LA right of way have been minimized to the maximum extent practicable, wetland impacts cannot be entirely avoided. Since there are no other east-west Interstate facilities in Broward County that connect directly to Florida's West Coast, there are no alternative corridors on which to provide the necessary capacity, operational, and safety improvements without requiring significant right of way acquisition, residential and/or business damages, and/or environmental or social impacts.

Additional minimization will be implemented during construction through the use of measures provided in the FDOT *Standard Specifications for Road and Bridge Construction*. No additional opportunities for avoidance and minimization are anticipated; however, they will continue to be explored throughout the project.

Direct Impacts

The proposed project will result in unavoidable direct impacts to approximately 2.1 acres of wetlands and shading impacts to approximately 4.3 acres of wetlands within the existing I-595 LA right of way for the viaduct that crosses the south fork of the New River immediately adjacent to BCPRD's Pond Apple Slough Natural Area. These are the only wetlands that will be directly impacted by the proposed project.

The area immediately north of the southernmost edge of the existing I-595 viaduct was previously used by FDOT as a wetland mitigation site for impacts associated with the I-95/Cypress Creek Park and Ride Lot. Planting of the mitigation areas was completed on October 21, 1995, at which time they contained the following species: red maple (*Acer rubrum*), leather fern (*Acrostichum danaeifolium*), pond apple (*Annona glabra*), saltbush (*Baccharis halimifolia*), cocoplum (*Chrysobalanus icaco*), coconut palm (*Cocos nucifera*), strangler fig (*Ficus aurea*), dahoon holly (*Ilex cassine*), wax myrtle (*Myrica cerifera*), myrsine (*Myrsine guianensis*), red bay (*Persea palustris*), laurel oak (*Quercus laurifolia*), live oak (*Quercus virginiana*), cabbage palm (*Sabal palmetto*), and willow (*Salix spp.*).

Secondary Impacts

Although the proposed project will result in secondary impacts from a minor increase in noise levels and minor decrease in air quality in the wetland habitats, the impacts are negligible considering the other impacts to which they have been subjected. A separate *Noise Study Report* and *Air Quality Technical Memorandum* have been prepared for this project to define the noise and air quality impacts.

Significant hydrological and water quality impacts are not anticipated to result from the project because the proposed improvements are to an existing Interstate facility. With the exception of the bridge over the south fork of the New River, which will likely continue to drain directly below through scuppers, the additional stormwater will be managed within the facility. Furthermore, since stormwater management standards have increased since I-595 was originally constructed, the project will result in overall water quality improvements in the project corridor to meet the new standards. Hydrological effects of the proposed project are described in a separate *Preliminary Pond Siting and Drainage Report. In addition, a Water Quality Impact Evaluation* has been performed to address water quality impacts.

Since the area surrounding the project corridor is urban, there are numerous anthropogenic impacts to the fragmented wildlife habitat remaining within it. For example, habitats located near the eastern terminus of the project corridor, including Pond Apple Slough Natural Area, are impacted by being located under the flight path of commercial jets landing at Fort Lauderdale-Hollywood International Airport and impacted by boat traffic on the south fork of the New River and North New River Canal.

Cumulative Impacts

Cumulative impacts are defined as the direct and indirect effects of the proposed project under consideration as well as other projects that may be proposed for the general vicinity in the foreseeable future. Due to the extent of urban development in Broward County, only small fragments of the naturally occurring ecological communities remain. Figure 4-5 of the WER illustrates the condition of Pond Apple Slough Natural Area in 1947 prior to the development of the surrounding areas. Although Pond Apple Slough Natural Area appears relatively unchanged in current aerial photographs, its hydrological alteration by the North New River Canal (completed in 1912), South New River Canal (completed circa 1915), and the nearby Peele-Dixie Wellfield (completed 1926) had already begun. Subsequent development of the surrounding areas resulted in additional hydrological impacts from increased surface water runoff and the resulting reduction in groundwater recharge. The overall effects of these hydrological changes have resulted in the gradual transition of Pond Apple Slough Natural Area from a freshwater wetland towards an estuarine system. This transition has manifested itself in the loss of cypress trees and continuing encroachment of mangroves into what was historically a freshwater wetland community. The fragmentation and reduction of available habitat in Broward County has also caused significant impacts on the habitat available to plant and animal species.

These impacts were not the result of any one project, yet cumulatively they have been significant to the ecosystem. The construction of SR 84/Alligator Alley, the subsequent construction of I-595, the extensive urbanization of Broward County, and the increased consumption of freshwater in South Florida have all contributed to these cumulative impacts.

The proposed improvements to I-595 will again contribute to these cumulative impacts, especially since Broward County is now almost completely developed and impacts to its remaining habitat represent a higher proportional loss than they would have previously. The cumulative loss of habitat from these projects will be addressed in the mitigation provided for them. The WER contains the conceptual mitigation plan and proposes the in-kind replacement of the wetland habitat impacted at a ratio greater than 1:1, resulting in an anticipated net gain of habitat.

Conceptual Mitigation Plan

The following discusses the mitigation options considered (and rejected) as a result of agency coordination, costs, and practicability. In considering the practicability of alternatives to the proposed action, the following criteria were considered:

- The practicability of alternatives is considered only for those actions that involve "new construction" in wetlands
- The consideration of alternatives should take into account only those alternatives that involve wetland avoidance or avoidance of new construction in wetlands, and not those that are, in essence, mitigative;
- The consideration of avoidance alternatives should take into account all relevant environmental and economic factors. Additional costs do not necessarily render alternatives impractical in meeting the national wetland policy objectives established by EO 11990.

Through coordination with the applicable regulatory agencies, the following conceptual measures were developed to mitigate the unavoidable wetland/habitat impacts associated with the proposed project:

- Ensure no additional avoidance and minimization opportunities exist.
- If unavoidable wetland impacts remain, the FDOT will attempt to preserve additional land and create, restore, or enhance wetlands within it. The FDOT is currently evaluating the acquisition of five vacant parcels on the east side of the south fork of the New River, portions of which will be needed for construction of the proposed improvements, and creating approximately 6.0 acres of wetlands on them. The properties will be scraped down to an elevation of approximately 2.0 feet and planted with hydrophytic vegetation, the species determined by the type of wetland impacts being mitigated. Currently, mitigation for the wetland impacts beneath and adjacent to the I-595 viaduct will require the use of the same plant assemblage used in the existing Cypress Creek Park and Ride Lot mitigation areas, and a berm will be constructed around the waterward perimeter of each site to minimize brackish water intrusion. However, if it is determined that the mitigation needs to offset impacts to the mangrove ecosystem the Cypress Creek Park and Ride Lot mitigation areas are transitioning into, it will be

planted with white mangroves with a fringe of red mangroves, possibly planted within riprap planters along the waterward perimeter of each site. Figure 6-1 of the WER shows the Potential Property Acquisitions being evaluated; Figure 6-2 of the WER shows the potential wetland mitigation areas that could be provided within them.

- Enhance existing EFH. FDOT may consider participating with Broward County in the implementation of the Pond Apple Slough Hydrological Restoration project as mitigation.
- Purchase mitigation credits at the Florida Power and Light (FPL) Everglades Mitigation Bank in south Miami-Dade County.
- Provide mitigation in accordance with Chapter 373.4137 Florida Statutes.

Additional wetland mitigation opportunities will continue to be evaluated throughout the subsequent final design phases.

Coordination

On November 5, 2003, the Advanced Notification (AN) for the project was distributed to the NMFS, FWS, FWC, FDEP, BCEPD, and other governmental agencies. The AN identified potential involvement with the wetlands described in the WER prepared for this project. Meetings with these agencies were held on July 14, 2004; October 21, 2004; December 10, 2004; January 28, 2005; February 9, 2005; March 7, 2005; and June 28, 2005.

Based upon the above considerations, it was determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

ATTACHMENT 6.C.3: WATER QUALITY

The project corridor is completely within the boundaries of the Biscayne Aquifer, a sole source aquifer that is the principal source of drinking water for 3 million residents of Miami-Dade, Broward and southern Palm Beach Counties. It is a shallow, highly permeable, unconfined aquifer that underlies approximately 4,000 square miles of the eastern portions of these counties. The project corridor intersects the proposed Sunrise System 3 Wellfield Protection Zone, located west of Flamingo Road, and is within ¹/₄- mile of several other wellfield protection zones. No public wellfield protection areas will be affected.

The proposed stormwater facility design will include, at a minimum, the water quantity requirements for the water quality impacts as required by the SFWMD in Chapters 40E-4 and 40E-40 of the Florida Administrative Code. Therefore, no further mitigation for water quality impacts will be needed. A *Water Quality Impact Evaluation* (WQIE) was performed as part of the PD&E Study and contained in Appendix E of the PER.

To control the effects of stormwater runoff during construction, a Storm Water Pollution Prevention Program (SWPPP) will be incorporated into the project, as required by the EPA National Pollutant Discharge Elimination System (NPDES) permit. An Advance Notification of this project dated November 5, 2003 was sent to the EPA's District IV Regional Administrator and to the Water Management Section. No response has been received from the EPA to date. If requested by the FHWA, the FDOT will send a copy of this Categorical Exclusion Type 2 document to the EPA. It is anticipated that the EPA will provide a response letter indicating concurrence with the measures proposed to protect the aquifer and state that the FDOT has met its obligation under *Section 1424(e) of the Safe Drinking Water Act*.

ATTACHMENT 6.C.6: FLOODPLAINS

According to the Flood Insurance Rate Map (FIRM) of Broward County, Florida, Community Panel numbers 12011C0195F, 12011C0214F, 12011C0215F, 12011C0302F and 12011C0306F, dated August 18, 1991 and obtained from the FEMA Map Service Center (www.fema.gov) in March 2005, portions of the project are located within the 100-yr Floodplain with the 100-yr flood elevation ranging from 6-7 feet NGVD. The I-595 alignment is elevated well above the 100-yr flood elevation with elevations ranging from 11 feet to over 30 feet NGVD; however SR 84 is aligned much nearer to the 100-yr flood elevation.

The proposed widening of I-595 will take place almost entirely within the existing right of way with the use of Mechanically Stabilized Earth (MSE) vertical walls between I-595 and SR 84, and with the use of sea walls along portions of the North New River Canal. Although the construction of the MSE walls and seawalls will create minor encroachment into the floodplain, any encroachment will be mitigated through storage provided in proposed drainage facilities.

This project is classified as a Category 5: "Projects on existing alignment involving replacement of drainage structures in heavily urbanized floodplains."

Replacement drainage structures for this project are limited to hydraulically equivalent structures. The limitations to the hydraulic equivalency being proposed are basically due to restrictions imposed by the geometrics of design, existing development, cost feasibility, or practicability. An alternative encroachment location is not considered in this category since it defeats the project purpose or is economically unfeasible. Since flooding conditions in the project area are inherent in the topography or are a result of other outside contributing sources, and there is no practical alternative to totally eradicate flood impacts or even reduce them in any significant amount, existing flooding will continue, but not be increased. The proposed structure will be hydraulically equivalent to or greater than the existing structure, and backwater surface elevations are not expected to increase. As a result, the project will not affect existing flood heights or floodplain limits. This project will not result in any new or increased environmental impacts. There will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.

ATTACHMENT 6.C.7: COASTAL ZONE CONSISTENCY

The Advance Notification Package for this project was sent to the Florida State Clearinghouse at the Florida Department of Environmental Protection (FDEP) on November 5, 2003. On January 9, 2004, the FDEP indicated that they did not object to the allocation of federal funds for the PD&E phase, and that final concurrence for coastal zone consistency would be granted during the permitting phase of the project.

ATTACHMENT 6.C.9: WILDLIFE and HABITAT

Endangered Species

An Endangered Species Biological Assessment (ESBA) was prepared for the project in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended, to evaluate potential impacts to Federally-listed species. The proposed project was evaluated for potential impacts to Federally-listed species. A literature review, GIS analysis, discussions with resource agencies, and field surveys were conducted to identify threatened or endangered species that may potentially occur in the project area. The species considered include the American alligator, American crocodile, Eastern indigo snake, Crested caracara, Bald eagle, Wood stork, Snail kite, Florida panther, Florida manatee, and Smalltooth sawfish. It was determined that American alligator, Eastern indigo snake, Wood stork, and Florida manatee had potential to occur in the project corridor.

The ESBA was submitted to the US Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) on January 31, 2006. As part of the project coordination with FWS and NMFS, FDOT made the following commitments regarding the Federally-listed species with potential to occur in the corridor:

- To minimize adverse effects to the endangered wood stork, the FDOT will determine if there is any active wood stork breeding colonies within 18.6 miles of the proposed improvements at the time the Environmental Resource Permit application is submitted to the US ACOE. If the proposed improvements are determined to be within the core foraging area (18.6 miles) of any active wood stork breeding colony, any wetlands impacted will be replaced within the core foraging area of the active wood stork breeding colony. The compensation plan will include a temporal lag factor, if necessary, to ensure wetlands provided as compensation adequately replace the wetland functions lost due to the project, and the wetlands offered as compensation will be of the same hydroperiod as the wetlands impacted. If the replacement of wetlands within the core foraging area is not practicable, the FDOT will coordinate with the FWS to identify acceptable wetland compensation outside the core foraging area, such as purchasing wetland credits from an "FWS Approved" mitigation bank.
- The FDOT agrees to follow the FWS Standard Protection Measures for the Florida manatee during implementation of the project, and Technical Special Provisions will be incorporated into the contractor's bid documents.
- The FDOT agrees to follow the FWS Standard Protection Measures for the Eastern indigo snake during implementation of the project, and Technical Special Provisions will be incorporated into the contractor's bid documents.

The NMFS responded in a letter dated February 23, 2006 that the information provided was not sufficient to adequately evaluate the effects of the project on a listed species and requested the following information as the project progresses to final design, permitting, and construction:

- A detailed description of the construction activities. The information will describe whether inwater work will be implemented, types of construction methods proposed (i.e., pile drivers, cranes, dredges, hoppers, or barges, etc.)
- A list of conservation and avoidance measures for listed species on construction methods (i.e., best management practices for water quality protection and erosion control to be implemented in the project design and implemented during construction).
- A short description or drawings of the new bridge(s) over tidal waters. The drawing or description will indicate the number of piles in the water for the bridge fenders and the location of the new piers;
- A Stormwater Management Plan. The plan will include the type of treatment and maintenance of the stormwater treatment system. The treatment will be in accordance with state and Federal (NPDES) standards.

FDOT has committed to continue its coordination with both the FWS and NMFS in accordance with the Endangered Species Act. See Appendix D of this report for the letter from NMFS.

Essential Fish Habitat (EFH)

An Essential Fish Habitat Assessment (EFH) was performed for the project in accordance with the Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended through 1996 (Magnuson-Stevens Act). The South Atlantic Fishery Management Council (FMC) has defined EFH for Peneaid shrimp, Red drum, and snapper-grouper species. On March 7, 2005, the FDOT submitted a Request for EFH Assessment Assistance to the NMFS and on March 31, 2005, the NMFS responded, identifying species and their habitats that should be addressed in the EFH. The managed species evaluated included Reneaid shrimp, Red drum, Gray snapper, jewfish (also known as the Goliath grouper), Mutton snapper, and White grunt. The EFH associated with this project includes all tidally-influenced surface waters and the hydrologically-connected freshwater wetlands downstream of the SFWMD G-54 salinity control structure (Sewell Lock). The areas of influence of the project are the existing I-595 limited access right of way that crosses the south fork of the New River and is immediately adjacent to BCPRD's Pond Apple Slough Natural Area and the North New River Canal, between SR 7 and Sewell Lock.

Avoidance and Minimization

The scarcity of remaining habitat in Broward County has been a focal point throughout the development of the proposed project. Impacts to habitat in the LA right of way adjacent to the Pond Apple Slough Natural Area have been avoided and minimized to the maximum extent practicable. Four alternatives were proposed for the area adjacent to the Pond Apple Slough Natural Area limits. These alternatives offer different sets of modifications to the Master Plan LPA, required to meet design year 2034 traffic demand. At the onset of the development of these concepts, FDOT issued a directive regarding the design of corridor features for this area – the location of the proposed improvements were limited to the existing limits of the limited access right of way south of the corridor. Of the several alternatives developed for this area, the impacts associated with Pond Apple Slough Natural Area were kept to a minimum by widening into the median area. When additional width was required, the southern right of way line was held firm and all further widening occurred on the north side of the corridor.

The design of the Master Plan LPA attempted to limit impacts to the area within the limited access right of way rather than encroaching into Pond Apple Slough Natural Area by implementing the following considerations:

- Widening of proposed improvements mainly to the north side of the existing structures
- Utilizing the existing median area for proposed widening
- Minimizing design standards to establish the smallest possible footprint
- Implementing alternative improvements for this area of the corridor (no other major improvements are proposed for this section of I-595)

Direct Impacts

LA ROW for the Viaduct over the south fork of the New River

The widening of the viaduct will result in unavoidable direct impacts to approximately 2.1 acres of EFH and 4.3 acres of shading impacts to EFH, all of which potentially support the managed species identified in the EFH Assessment.

South Fork of the New River

The proposed improvements will require the installation of additional pilings in the south fork of the New River. Dredge/fill impacts are not anticipated, nor are additional shading impacts (due to the height of the viaduct which make any shading impacts negligible). The installation of additional pilings will provide additional hard substrate to which algae and sessile invertebrate food sources can attach. Therefore, no long term impacts are anticipated to affect the EFH within the south fork of the New River.

North New River Canal

The proposed improvements between SR 7 and Sewell Lock will require the construction of bulkhead along approximately 1¹/₄ miles of the south bank of the North New River Canal. In addition, new ramps from I-595 to Florida's Turnpike may require the installation of more pilings in the canal and will result in approximately 0.5 acres of additional shading impacts.

The installation of the bulkhead will result in direct impacts to the rock walls that provide a hard substrate to which algae and sessile invertebrate food sources can attach. However, it is anticipated that algae and sessile invertebrate food sources will also attach to the bulkhead, so this impact is considered temporary.

Because the SFWMD requires the cross sectional area of the canal to be maintained, it may also need to be dredged in areas where the construction of the bulkhead results in a loss in canal cross-sectional area. This will result in direct impacts to the sediment and debris on the bottom of the canal that may support managed species. However, the bottom area will increase as a result of the bulkheading and will provide additional
sediment cover for boring invertebrate food sources, as well as additional area for the accumulation of the scattered rocks and other debris that provide potential refuge for larval and juvenile stages of the managed species and their food sources. Therefore, this impact is also considered temporary.

The installation of pilings for the new ramps, if necessary within the canal, will provide additional hard substrate to which algae and sessile invertebrate food sources can attach. It is anticipated that this additional hard substrate will more than offset the minor impacts associated with the additional shading. Overall, no long term impacts are anticipated to affect the North New River Canal EFH as a result of the proposed improvements.

Secondary Impacts

The area surrounding the project corridor is urban with numerous anthropogenic impacts to the remaining natural habitat. Significant hydrological and water quality (e.g., chemical, physical, and biological properties) impacts are not expected to occur as a result of the proposed project because the proposed improvements are to an existing facility. With the exception of the viaduct over the south fork of the New River, which may likely continue to drain directly below through scuppers, the stormwater runoff from the additional travel lanes will be managed within the facility. Because stormwater management standards have become more stringent since I-595 was originally constructed, the project will result in overall water quality improvements in the project are described in a separate *Preliminary Pond Siting and Drainage Report. In addition*, a *Water Quality Impact Evaluation* has been performed to address water quality impacts.

Other secondary impacts resulting from environmental degradation can occur from:

- Temporary disturbance and displacement of fish species
- Increased sediment loads and turbidity in the water column
- Temporary loss of food items to fisheries
- Limited disruption or destruction of live bottom habitats
- Limited sediment transport and re-deposition

Most of these impacts are temporary and can be offset by special construction techniques and/or environmental protection guidelines. Some impacts are negligible considering the localized effect of the actions compared to the size of the area. Therefore, environmental degradation from the proposed improvements would have minor impacts on designated EFH or commercial fisheries. Direct loss to fish populations, if any, are likely to be negligible. Recovery of impacted EFH and commercial fisheries is expected to occur quickly (within one growing season) for the majority of the affected habitat.

Cumulative Impacts

Cumulative impacts are defined as the direct and indirect effects of the proposed project under consideration as well as other projects that may be proposed within the general vicinity in the foreseeable future. Due to the extent of urban development in Broward County, only small fragments of naturally occurring ecological communities remain. Although Pond Apple Slough Natural Area appears relatively unchanged in current aerial photographs, its hydrological alteration by the North New River Canal (completed in 1912), South New River Canal (completed circa 1915), and the nearby Peele-Dixie Wellfield (completed in 1926) had already begun. Subsequent development of the surrounding areas resulted in additional hydrological impacts from increased surface water runoff and the resulting reduction in groundwater recharge.

The overall effects of these hydrological changes have resulted in the gradual transition of Pond Apple Slough Natural Area from a freshwater wetland towards an estuarine system. This transition has manifested itself in the loss of cypress trees and continuing encroachment of mangroves into what was historically a freshwater wetland community. Fragmentation and reduction of other available habitat in Broward County has also caused significant impacts on the habitat available to plant and animal species. These impacts were not the result of any one project, yet cumulatively they have been significant to the ecosystem. The construction of SR 84/Alligator Alley, the subsequent construction of I-595, the extensive urbanization of Broward County, and the increased consumption of freshwater in South Florida have all contributed to these cumulative impacts.

Proposed Mitigative Measures and Guidelines for EFH Protection

Even with these considerations, direct impacts will occur to approximately 2.1 acres of EFH wetlands and shading impacts will occur to 4.3 acres of EFH wetland habitat within the limited access right of way immediately adjacent to Pond Apple Slough Natural Area. These impacts will be mitigated with the replacement of these wetlands at a minimum ratio of 1:1. Although no additional opportunities for avoidance and minimization are anticipated, they will continue to be explored throughout the project. Additional minimization will be implemented during construction through the use of measures included in the FDOT *Standard Specifications for Road and Bridge Construction*.

Because the permanent impacts to EFH also impact jurisdictional wetlands, the wetland mitigation proposed will also be used to mitigate EFH impacts as much as possible. The following outlines the conceptual mitigation plan for impact to wetlands as well as EFH for this project:

- Ensure no additional avoidance and minimization opportunities exist
- If unavoidable wetland impacts remain, the FDOT will attempt to preserve additional land and create, restore or enhance EFH wetlands on it. The FDOT is currently evaluating the acquisition of five vacant parcels on the east side of the south fork of the New River, portions of which will be needed for construction of the proposed improvements, and creating approximately 6.0 acres of EFH wetlands on them. The properties will be scraped down to an elevation of approximately 2.0 feet and planted with hydrophytic vegetation, the species selected being dependent on the type of EFH impacts being mitigated. Mitigation

for the EFH wetland impacts beneath and adjacent to the I-595 viaduct will require the use of the same plant assemblage used in the existing Cypress Creek Park and Ride Lot mitigation areas, and a berm will be constructed around the waterward perimeter of each site to minimize brackish water intrusion. However, if it is subsequently determined that the mitigation needs to offset impacts to the mangrove ecosystem that the Cypress Creek Park and Ride Lot mitigation areas are transitioning into, it will be planted with white mangroves with a fringe of red mangroves, possibly planted within riprap planters along the waterward perimeter of each site.

- Enhance existing EFH. FDOT may consider participating with Broward County in the implementation of the Pond Apple Slough Hydrological Restoration project as mitigation.
- Purchase mitigation credits at the Florida Power and Light (FPL) Everglades Mitigation Bank in south Miami-Dade County.
- Provide mitigation in accordance with Chapter 373.4137 Florida Statutes.

Additional mitigation opportunities will continue to be evaluated throughout subsequent final design phases, in coordination with the NMFS.

Coordination

On November 5, 2003, the Advance Notification (AN) for the project was distributed to the NMFS, FWS, FWC, FDEP, Broward County Department of Planning and Environmental Protection (now BCEPD), and other governmental agencies. The AN identified potential involvement with the wetlands described in the *Wetland Evaluation Report*. Meetings with these agencies were held on July 14, 2004; October 21, 2004; December 10, 2004; January 28, 2005; February 9, 2005; March 7, 2005; and June 28, 2005.

Based on the above assessment, it is expected that the unavoidable direct impacts to approximately 2.1 acres of EFH wetlands and shading impacts to 4.3 acres of EFH will occur immediately adjacent to Pond Apple Slough Natural Area as a result of the proposed project. The impacted wetlands are within the existing I-595 limited access right of way. Impacts to these hydrologically degraded wetlands will result in minimal adverse effects to EFH. Furthermore, as a result of the conservation measures that will be implemented to compensate for the loss of wetlands, the net effect on EFH is anticipated to be positive.

The EFH was transmitted to the NMFS on January 31, 2006 and they responded in a letter dated February 23, 2006 that FDOT had addressed their concerns and have no additional comments regarding the EFHG assessment. See Appendix E of this report for the letter from NMFS.

Attachment 6.D.1: NOISE

A *Noise Study Report* was conducted in accordance with the FDOT PD&E Manual, Chapter 17, Noise (November 20, 2001) and with Title 23 CFR (Code of Federal Regulations) Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise. The Noise Study Report for this project is available at the FDOT District 4 Office of Planning & Environmental Management.

Single-family residences, multi-family residences, and parks represent the 44 noise sensitive areas along the project corridor likely to be affected by the project. 384 receiver sites were selected to represent the 1,524 residences located within the 42 residential communities and 2 parks (Acres South Park and Sewell Lock Park) identified along the project corridor. All 384 representative noise receiver sites are classified under Activity Category B of Federal Highway Administration's (FHWA) Noise Abatement Criteria (NAC). For Activity Category B, noise abatement measures must be considered when predicted design year noise levels are within 1 dBA of or exceed the 67 dBA NAC (>66 dBA) or when a substantial noise increase (i.e., 15 dBA) occurs above existing conditions.

For Alternative 2A, the predicted design year 2034 noise levels range from 46.1 dBA to 76.7 dBA, an average increase of 2.0 dBA above existing levels. With Alternative 2A, design year 2034 traffic noise levels will approach or exceed the NAC at 672 noise sensitive sites in 26 noise sensitive areas. In addition, Alternative 2A will result in an additional 295 noise sensitive sites with predicted noise levels equal to or greater than 66.0 dBA compared to the existing conditions/No Build Alternative (672 versus 377). Although a number of sites approach or exceed the NAC, the proposed improvements do not result in any substantial noise increases (i.e., greater than 15 dBA).

In accordance with FDOT requirements, noise abatement measures were evaluated for each of the noise sensitive sites which approach or exceed the NAC. Following analysis of abatement alternatives, available right of way, safety criteria, and constructability and maintenance issues associated with providing noise abatement along this project corridor, construction of noise barriers was determined to be the most reasonable and feasible abatement alternative. A design goal of 10.0-dBA noise reduction with a minimum reduction of 5.0 dBA was used in the development and evaluation of the noise barriers. FDOT's cost guideline of \$35,000 per benefited receiver site was used to determine the cost reasonableness.

For Alternative 2A, noise barriers were evaluated at 19 locations representing the 26 areas where predicted noise levels approach or exceed the NAC. For Alternative 2A, noise barriers at 12 locations are recommended for further consideration and public input. These noise barriers are expected to reduce traffic noise levels by at least 5 dBA at 541 residences along the project corridor. The current *Long Range Estimate* of these barriers is approximately \$17 million. The general location, dimensions, and costs of the noise barriers recommended for further consideration are summarized in Table 7-1 and Figure 7.1 from the *Noise Study Report*. See Appendix F of this report for the referenced noise table and figure.

FDOT is committed to the construction of feasible noise abatement measures at the locations where noise barriers have been recommended for further consideration during the final design phase, contingent upon the following conditions:

- Detailed noise analyses during the final design process supports the need for abatement
- Reasonable cost analyses indicate that the economic cost of the barrier(s) will not exceed the guidelines
- Community input regarding desires, types, heights, and locations of barriers has been solicited by FDOT
- Preferences regarding compatibility with adjacent land uses, particularly as addressed by officials having jurisdiction over such land uses, has been noted
- Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed
- Any other mitigating circumstances found in Section 17-4.6.1 of the FDOT PD&E Manual have been analyzed

It is likely that the noise abatement measures for the identified locations will be constructed if found feasible based on the contingencies listed above. If, during the final design phase, any of the contingency conditions listed above cause abatement to no longer be considered reasonable or feasible for a given location(s), such determination(s) will be made prior to requesting approval for advertisement of construction. Commitments regarding the exact abatement measure locations, heights, and type (or approved alternatives) will be made during project re-evaluation and at a time before the construction advertisement is approved.

The cost to construct noise barriers at the remaining locations that were evaluated substantially exceeded FDOT's reasonable cost criteria of \$35,000 per benefited residence. Therefore, noise barriers are not recommended for further consideration or construction at these locations because they are not cost feasible. Based on the noise analyses performed to date, there appears to be no apparent solutions available to mitigate the noise impacts at the remaining noise sensitive sites along the project corridor. The traffic noise impacts to the 278 of 672 noise sensitive sites affected by the project are an unavoidable consequence of the project. Because of the relatively low number of impacted sites, the noise impacts associated with this project are not considered significant.

Residential areas adjacent to the project limits may be affected by noise and vibration associated with construction activities. Construction noise and vibration impacts to these sites will be minimized by adherence to the controls listed in the FDOT *Standard Specifications for Road and Bridge Construction*. Furthermore, to aid Broward County in promoting land use compatibility, FDOT will provide Broward County and local communities a copy of the *Noise Study Report* which provides information that can be used to protect future land development from becoming incompatible with anticipated high traffic noise levels.

ATTACHMENT 6.D.2: AIR

An air quality study was conducted to determine whether project-related motor vehicle emissions will cause or contribute to an exceedance of the National Ambient Air Quality Standards for CO. FDOT's Air Quality Screening Model (CO Florida 2004, Version 2.0.5, August 20, 2004) was used to evaluate the project alternatives. The CO Florida 2004 Model makes conservative worst-case assumptions about the project involving meteorology, traffic, and site conditions and provides an estimate of the 1-hour and 8-hour CO concentrations at a particular location.

The alternatives were evaluated to determine which portion of the study area would have the highest CO concentrations. This evaluation included an assessment of peakhour traffic volumes and average speeds. The evaluation also considered the closest reasonable air quality receptor sites in the vicinity of signalized intersections. A reasonable receptor site is a place where people can reasonably be expected to spend a significant amount of time, such as a frequently used sidewalk or the front yard of a residence. Based on this evaluation of traffic data and the proximity of reasonable receptor sites, the worst-case location is expected to occur in the back yard of an apartment unit in Valencia Village located approximately 740 ft west of University Drive and 50 ft south of the nearest SR 84 travel lane. The results of the analysis indicated that the worst-case 1-hour and 8-hour concentrations are not predicted to exceed the NAAQS for CO. Therefore, the project passes the screening test and further air quality analysis is not required.

The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards under the criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project.

ATTACHMENT 6.D.3: CONSTRUCTION

Construction activities for the proposed roadway improvements will have air, noise, water quality, and visual impacts for residents and motorists within the immediate vicinity of the project.

The air quality impact will be temporary and will primarily be in the form of emissions from diesel powered construction equipment and dust from embankment and haul road areas. Air pollution associated with the creation of airborne particles will be effectively controlled through the use of watering and/or the application of calcium chloride in accordance with the FDOT *Standard Specifications for Road and Bridge Construction*.

Noise and vibrations impacts will be created by heavy equipment movement and construction activities such as pile driving and vibratory compaction of embankments. Noise control measures will include those contained in the FDOT *Standard Specifications for Road and Bridge Construction* and those recommended in the Noise Impact section of this report.

Water quality impacts resulting from erosion and sedimentation will be controlled in accordance with the FDOT *Standard Specifications for Road and Bridge Construction* and through the use of Best Management Practices.

Maintenance of traffic and sequence of construction will be planned and scheduled so as to minimize traffic delays throughout the project. Signs will be used as appropriate to provide notice of road closures and other pertinent information to the traveling public. The local news media will be notified in advance of road closings and other construction related activities, which could excessively inconvenience the community so that motorists, residents, and business persons can plan travel routes in advance. Access to all businesses and residences will be maintained to the extent practical through controlled construction scheduling. The present traffic congestion may become worse during stages of construction where narrow lanes may be necessary. Traffic delays will be controlled to the extent possible where many construction operations are in progress at the same time. The contractor will be required to maintain two lanes of traffic in each direction of the project at all times and to comply with the Best Management Practices of FDOT. A sign providing the name, address, and telephone number of an FDOT contact person will be displayed onsite to assist the public in obtaining immediate answers to questions and logging complaints about project activities.

Construction of the roadway requires excavation of unsuitable material (muck), placement of embankments, and use of materials, such as lime rock, asphaltic concrete, and portland cement concrete. Demucking is anticipated at most of the wetland sites and will be controlled by Section 120 of the FDOT *Standard Specifications for Road and Bridge Construction*. Disposal may be onsite in detention areas or offsite. The removal of structures and debris will be in accordance with local and state regulatory agencies permitting this operation. The contractor is responsible for the methods of controlling pollution on haul roads, in borrow pits, other materials pits, and areas used for disposal of waste materials from the project. Temporary erosion control

features, as specified in Section 104 of the FDOT *Standard Specifications for Road and Bridge Construction*, will consist of temporary grassing, sodding, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms. For residents living adjacent to the project, some of the materials stored for the project may be displeasing visually; however, this is a temporary condition and should pose no substantial problem in the short term.

ATTACHMENT 6.D.4: CONTAMINATION

A comprehensive contamination evaluation was completed for the project. Over 1,000 sites within one half-mile of the I-595 corridor were researched as part of the contamination assessment. Detailed results of the evaluation are contained in the *Contamination Screening Evaluation Report* prepared for the project.

The I-595 corridor passes over an area affected by the deep groundwater contamination plume from an offsite source identified by the U.S. Environmental Protection Agency (EPA) under Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA aka. Superfund). The offsite source of contamination is known as the Florida Petroleum Reprocessors (FPR) Superfund Site.

Meetings were held with the U.S. Environmental Protection Agency and plans were reviewed for all improvements within the I-595 corridor, including Florida's Turnpike interchange and mainline. Based on this coordination, a Consent Decree was drafted and lodged (July 29, 2005) by the U.S. Department of Justice which provides provisions to design and construct all roadway improvements within the contaminated area. As stated in the Consent Decree Section IX, 26. (b) (i): "If any portion of Projects FM No: 409354-1, FM No.: 411189-2, FM No.: 407481-2, FM No.: 231739-3, FM No.: 231727-1, FPID No.: 406094-1, and FPID No.: 406095-4, including all subsequent phases interferes with or adversely affects the implementation, integrity, or protectiveness of the remedial measures to be performed pursuant to this Consent Decree, that portion may proceed only insofar as it is constructed according to concept and design plans reviewed and approved by the EPA on March 31, 2004."

The Department will adhere to all provisions of the Consent Decree as published in the Federal Register on August 11, 2005 (Volume 70, Number 154, Page 46889) and coordinate any substantial plans changes with the EPA, Region 4, Southeast Headquarters. Construction impacts are being minimized by the avoidance of areas of known and/or suspected contamination during the design of the drainage, lighting and signalization improvements.

Completion of a Level 2 assessment is recommended along the project corridor and for properties identified during development of the final design *Pond Siting Report* that are adjacent to or have been assigned high or medium risks associated with contamination. Once potential pond sites have been identified, a detailed scope of work and sampling strategy should be developed for each property to address potential contaminants in the subsurface. Furthermore, a Level 3 assessment should be developed for any contaminated properties that will be acquired by the FDOT.

Soil excavated at locations that have known or potential contamination shall be remediated and/or characterized for disposal at an approved facility. Construction activities that require dewatering of excavations shall be performed in such a manner to minimize the spread of contamination in groundwater. This will require engineering controls such as hydraulic barriers, liners, or control point pumping. Dewatering activities within contaminated groundwater plumes will also require a permitted treatment process before disposal to the ground surface or other surface water body.

Any construction activities within identified contaminated areas must protect human health and the environment. A complete assessment of the nature of contaminants should be performed to identify health and safety concerns relative to contamination. In the event that any hazardous materials or suspected contamination is encountered during construction, or if any spill of hazardous materials occurs during construction, the contractor shall stop work immediately and notify the FDOT Construction Engineer who will coordinate with the FDOT District 4 Environmental Management Office.

ATTACHMENT 6.D.5: NAVIGATION

During the inter-agency coordination meeting held on June 28, 2005, the United States Coast Guard (USCG) commented that a special interest group from the Plantation Isles community had requested improvement of the navigational access along the North New River Canal. The group specifically wanted all existing bridges to be raised and pilings be relocated out of the waterway. The USCG indicated that FDOT would be requested to accommodate the minimum vertical clearance criteria (55 ft) for any new ramps or bridges over the navigable section of the North New River Canal as a condition of the USCG Bridge Permit.

There are six existing fixed bridges over the North New River Canal located just downstream of Sewell's Lock, including two Turnpike interchange bridges and four SR 7 interchange bridges. There are three existing fixed residential bridges within the Plantation Isles neighborhood located just upstream of the Turnpike interchange bridges. The bridges over the North New River Canal have minimum vertical clearances that range between 12.7 ft and 30.9 ft from MHW, as shown in the following table below. The residential bridges have actual minimum vertical clearances that range from 7.8 ft to 9.8 ft (as per field measurements).

BRIDGE NUMBER	LOCATION	MINIMUM VERTICAL CLEARANCE	REMARKS
860532 and 860533	NB and SB Turnpike over New River Canal	24.49 ft	Extensive reconstruction to the Turnpike will be needed to accommodate a 55' vertical clearance.
860415	SB SR-7 to WB I-595 over New River Canal	12.69 ft	Extensive reconstruction to the SR-7 interchange will be needed to accommodate a 55' vertical clearance.
860423 and 860424	NB and SB SR-7 over New River Canal	12.74 ft	Extensive reconstruction to the SR-7 interchange will be needed to accommodate a 55' vertical clearance.
860477	EB I-595 to NB SR-7 over New River Canal	30.86 ft	Extensive reconstruction to the SR-7 interchange will be needed to accommodate a 55' vertical clearance.

In addition to the proposed ramps/bridges included in the I-595 PD&E Study, the Turnpike Enterprise and Broward County also have ongoing projects that will require new or widened bridge crossings over the North New River Canal. The Turnpike Enterprise is proposing to widen the existing Turnpike bridges over the North New River Canal and has already obtained documentation from the USCG indicating that no permit will be required. In the USCG letter dated January 9, 2004, the Turnpike is not required to raise either of the two existing bridges to meet new bridge vertical clearance criteria as long as it does not change the existing vertical clearance.

On October 21, 2005 a meeting was held with the USCG and local residents that are users of the North New River Canal to discuss the horizontal and vertical clearance requirements that the I-595 PD&E Study improvements should strive to obtain over and

within the North New River Canal in the vicinity between the Sewell Lock and SR 7. The following is a summary of the discussion items and the direction agreed upon at the meeting:

- The USCG stated that guide clearances for the North New River Canal were never established, but the Vertical Clearance for the North New River is 55 foot. It was also stated that the North New River Canal is not part of the "Federal Project Channel".
- The FDOT discussed the technical memorandum that was prepared addressing the impacts that a 55-foot vertical clearance would create.
- The USCG understood that a 55-foot vertical clearance at this location would not be required but the needed vertical clearance would have to be determined by the FDOT in conjunction with the users of the waterway.
- In discussion with the local residents, one of which had the largest vessel in the area, a 20-foot vertical clearance was desirable. This clearance is greater than some of the existing clearances, approximately 13-foot vertical clearance at SR 7, along the River but will provide for any future accommodations as well as equipment mounted on the top of the boats. It was also mentioned that it would not be necessary to accommodate sailboats in this area due to limitations of the canal system within the community.
- A 30-foot horizontal clearance, 15 foot on each side of the centerline of the waterway, was requested. This area should be free of any piers or footings.
- The FDOT indicated that both could be achieved for the roadway geometrics. However, the pedestrian crossing for the relocation of the Broward County Greenway would need to be evaluated further in order to confirm that both the requested vertical clearance and the minimum ADA (Americans with Disabilities Act) requirements could be met.
- An overview of the proposed activities (bulkhead where necessary with no plans for FDOT to change the canal width) and considerations related the SFWMD North New River Canal was provided.

The increase to the existing horizontal and vertical clearances are meant to help ensure safety for the boating traffic and the "reasonable needs of navigation".

ATTACHMENT 6.E: PERMITS REQUIRED

The proposed project improvements will require several different types of permits from the jurisdictional regulatory agencies, including the Broward County Environmental Protection Department (BCEPD), Florida Department of Environmental Protection (FDEP), South Florida Water Management District (SFWMD), US Army Corps of Engineers (ACOE), and United States Coast Guard (USCG). The anticipated permits for the proposed improvements include the following:

- BCEPD Environmental General Resource License
- BCEPD Surface Water Management License
- BCEPD Tree Removal License
- FDEP NPDES (Stormwater Pollution Prevention Plan)
- SFWMD Environmental Resource Permit
- SFWMD Right of Way Occupancy Permit
- SFWMD Water Use Permit
- ACOE Dredge/Fill Permit
- USCG Bridge Permit

In addition to obtaining the various types of permits from the regulatory agencies listed above, the proposed project improvements will require coordination and/or permits with several special drainage districts. The special (or local) drainage districts along the project corridor include:

- Central Broward Water Control District (CBWCD)
- Old Plantation Water Control District (OPWCD)
- Plantation Acres Improvement District (PAID)
- Tindall Hammock Irrigation & Soil Conservation District (THISCD)



Florida Department of Transportation

JEB BUSH GOVERNOR PLANNING AND ENVIRONMENTAL MANAGEMENT -- DISTRICT 4 3400 West Commercial Blvd., 3rd Floor, Ft. Lauderdale, FL 33309-3421 Telephone (954) 777-4601 Fax (954) 777-4671 Toll Free Number: 1-866-336-8435

JOSE ABREU SECRETARY

November 5, 2003

Ms. Lauren P. Milligan, Environmental Consultant Florida State Clearinghouse Florida Department of Environmental Protection 3900 Commonwealth Boulevard, Mail Station 47 Tallahassee, Florida 32399-3000

Dear: Ms. Milligan:

SUBJECT: Advance Notification SR-862 (I-595) Project Development & Environment Study Financial Project ID: 409354-1-22-01 Federal Aid Project No: 5951 539 I County: Broward

The attached Advance Notification Package is forwarded to your office for processing through appropriate State agencies in accordance with Executive Order 95-359. Distribution to local and Federal agencies is being made as noted.

Although more specific comments will be solicited during the permit coordination process, we request that permitting and permit reviewing agencies review the attached information and furnish us with whatever general comments they consider pertinent at this time.

This is a Federal-aid action and the Florida Department of Transportation, in consultation with the Federal Highway Administration, will determine what degree of environmental documentation will be necessary. The determination will be based upon in-house environmental evaluations and comments received through coordination with other agencies. Please provide a consistency review for this project in accordance with the State's Coastal Zone Management Program.

In addition, please review this improvement's consistency, to the maximum extent feasible, with the approved Comprehensive Plan of the local government jurisdiction(s) pursuant to Chapter 163, Florida Statutes.

We are looking forward to receiving your comments on the project within 60 days. Should additional review time be required, a written request for an extension of time must be submitted to our office within the initial 60-day comment period.

www.dot.state.fl.us

Your comments should be addressed to:

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation, District 4 3400 West Commercial Boulevard Fort Lauderdale, Florida 33309-3421

Your expeditious handling of this notice will be appreciated.

Sincerely,

MTM Mr.M

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Gustavo Schmidt, P.E. District Planning and Environmental Engineer

Attachments: Mailing List Location Map Advance Notification Fact Sheet Federal Assistance Multipurpose Fact Sheet

: :

MAILING LIST

cc:

:

Mr. Jim St. John, Division Administrator, Federal Highway Administration, U.S. Department of Transportation
Mr. Jerry Franklin, Regional Administrator, Federal Transit Administration - Region IV, U.S. Department of Transportation
Mr. Kenneth Burris, Jr., Regional Director, Region IV Office, Federal Emergency Management Agency
Director, Office of Economic Analysis (RRP-32), Federal Railroad Administration
Mr. Michael Nedd, Director, Eastern States Office, Bureau of Land Management,
U.S. Department of Interior
Mr. Bruce Dawson, Field Manager Bureau of Land Management - Jackson Field Office,
U.S. Department of the Interior
Mr. Anthony Amato, Regional Environmental Officer,
U.S. Department of Housing and Urban Development
Chief, Review Unit, Environmental Affairs Program, U.S. Geological Survey Chief,
U.S. Department of Interior
Mr. James Palmer, Jr., Regional Administrator, Region 4,
U.S. Environmental Protection Agency
Ms. Beverly Banister, Director, Water Management Division,
U.S. Environmental Protection Agency
Mr. Jay Slack, Field Supervisor, U.S. Department of Interior,
U.S. Fish & Wildlife Service, South Florida Office,
Colonel James May, District Engineer, Regulatory Branch,
U.S. Army Corps of Engineers
Mr. John Studt, Branch Chief, U.S. Army Corps of Engineers,
South Permits Branch Office,
Mr. Mark Thompson, Habitat Conservation Division, SEFSC,
National Marine Fisheries Service, U.S. Department of Commerce
Dr. Roy Crabtree, Ph.D., Regional Administrator, Southeast Region Office,
National Marine Fisheries Service, U.S. Department of Commerce
Ms. Audra Livergood, Fisheries Management Specialist,
National Marine Fisheries Service
Vice Admiral Conrad Lautenbacher, Jr., Administrator,
National Oceanic and Atmospheric Administration,
U.S. Department of Commerce - Regulatory Environmental Compliance
Mr. Dean Stringer P.E., Orlando Airports District Office, Federal Aviation Administration
Dr. Henry Falk, MD, Director, U.S. Department of Health and Human Services
National Center for Environmental Health and Injury Control
Kear Admiral Jay Carmichael, Seventh District Commander (oan), U.S. Coast Guard

Mr. Jerry Belson, Regional Director, SE Regional Office, National Park Service Bureau of Indian Affairs, U.S. Department of the Interior

Mr. Larry Scrimer, Director, Bureau of Indian Affairs - Office of Trust Responsibilities, U.S. Department of the Interior

Mr. Ed Tullis, Chairperson, Poarch Band of Creek Indians

Mr. Perry Beaver, Principal Chief, Muscogee (Creek) Nation of Oklahoma

Mr. Mitchell Cypress, Acting Chairman, Seminole Tribe of Florida

Mr. Billy Cypress, Chairperson, Miccosukee Tribe of Indians of Florida

Mr. Kenneth Chambers, Principal Chief, Seminole Nation of Oklahoma

Mr. David Brown, Chairman, Florida Transportation Commission

Mr. John Moulton, Interim Director, Southeast District Office, Florida Department of Environmental Protection

Mr. Brian Barnett, Interim Director, Florida Fish and Wildlife Conservation Commission, Office of Environmental Services

Mr. Mark Robson, Regional Director, South Region, Florida Fish and Wildlife Conservation Commission

Mr. Warren Henderson, Jr., State Soil Scientist, Natural Resources Conservation, Florida State Office, U.S. Department of Agriculture

Mr. Bob Jacobs, Regional Forester, Southern Region, U.S. Department of Agriculture

Ms. Carolyn Dekle, Executive Director, South Florida Regional Planning Council

Mr. Henry Dean, Executive Director, South Florida Water Management District

U.S. Senator Bill Nelson, United States Senate

U.S. Senator Bob Graham, United States Senate

U.S. Congressman Peter Deutsch, Congressional District 20

U.S. Congressman E. Clay Shaw Jr., Congressional District 22

U.S. Congressman Alcee Hastings, Congressional District 23

Florida Senator Steven Geller, State Senate District 31

Florida Senator Debbie Wasserman-Schultz, State Senate District 34

Florida Senator Larcenia Bullard, State Senate District 39

Florida Representative, State House District 91

Florida Representative Christopher Smith, State House District 93

Florida Representative Nan Rich, State House District 97

Florida Representative Roger Wishner, State House District 98

Florida Representative Timothy Ryan, State House District 100

Mr. Leroy Irwin, Manager, Environmental Management Office,

Florida Department of Transportation

Mr. James Jobe, Federal-Aid Programs Coordinator, Florida Department of Transportation

Mr. James L. Ely, Executive Director, Florida Turnpike Enterprise

Mr. Joe Giulietti, Executive Director, South Florida Regional Transportation Authority/Tri-Rail Commuter Rail Authority

Broward County Board of County Commissioners, County Administrator, Roger S. Desjarlais

Broward County Planning and Environmental Protection Department, Director, Steve Somerville

Broward County Community Development Division, Director, Raymond Lubomski

Broward County Community Services Department, Director, Larry Lietzke

Broward County General Services Department, Director, Alfred Smith

Broward County Sheriff's Office, Sheriff, Ken Jenne

Broward County Office of Transportation, Engineering Division, Director, Henry P. Cook, P.E.

Broward County Traffic Engineering Division, Director, Jihad El Eid, P.E.

Broward County Public Works Department, Director, Richard Brossard, P.E.

Broward County Mass Transit Divison, Director, Robert Roth

Broward County Planning Council, Administration, Susan M. Tramer

Broward County Development Management Division, Director, Elliot Auerhahn

Broward County Planning Services Department, Director, Cynthia Chambers

Broward County Parks and Recreation Division, Director, Bob Harbin

Broward County Fire-Rescue, Fire Rescue Chief, Herminio Lorenzo

Broward County Public Schools, Superintendent, Frank L. Till, Jr.

Broward County Planning Services Department, Growth Management, Principal Planner, Greg Stuart

Broward County Chamber of Commerce, President, Lawrence Zolnowski

Broward County Board of County Commissioners, Vice Mayor, Ilene Lieberman

Broward County Board of County Commissioners, County Commissioner, Kristin Jacobs

Broward County Board of County Commissioners, County Commissioner, Ben Graber, M.D.

Broward County Board of County Commissioners, County Commissioner, Jim Scott

Broward County Board of County Commissioners, County Commissioner, Lori Nance Parrish

Broward County Board of County Commissioners, County Commissioner, Sue Gunzburger

Broward County Board of County Commissioners, County Commissioner, John E. Rodstrom, Jr.

Broward County Board of County Commissioners, Mayor, Diana Wasserman-Rubin

Broward County Board of County Commissioners, County Commissioner, Josephus Eggelletion, Jr.

Broward County Metropolitan Planning Organization, Staff Director, Jennifer Schaufele

Broward County Metropolitan Planning Organization, Commissioner Josephus Eggelletion, Jr.

Broward County Metropolitan Planning Organization, Commissioner Kristin Jacobs Broward County Metropolitan Planning Organization, Commissioner Ben Graber, M.D.

Broward County Metropolitan Planning Organization, Commissioner Lori Nance Parrish Broward County Metropolitan Planning Organization, Commissioner Commissioner Scott Brook

Broward County Metropolitan Planning Organization, Commissioner Marc L. Sultanof Broward County Metropolitan Planning Organization, Commissioner Michael Udine (Alternate)

Broward County Metropolitan Planning Organization, Mayor Albert R. Capellini

Broward County Metropolitan Planning Organization, Vice Mayor Joseph Varsallone (Alternate)

Broward County Metropolitan Planning Organization, Vice Mayor Carlton B. Moore

Broward County Metropolitan Planning Organization, Commissioner Cindi Hutchinson

Broward County Metropolitan Planning Organization, Vice-Mayor Layne Walls (Alternate)

Broward County Metropolitan Planning Organization, Commissioner Fran Russo Broward County Metropolitan Planning Organization, Commissioner Sal Oliveri

Broward County Metropolitan Planning Organization, Mayor Joy Cooper (Alternate)

Broward County Metropolitan Planning Organization, Mayor Alex Fekete

Broward County Metropolitan Planning Organization, Mayor Annette Wexler (Alternate)

Broward County Metropolitan Planning Organization, Mayor Rae Carole Armstrong (Vice Chair)

Broward County Metropolitan Planning Organization, Council Member Judith Paul

Broward County Metropolitan Planning Organization, Commissioner Freddy Fiskelli (Alternate)

Broward County Metropolitan Planning Organization, Commissioner Kay McGinn Broward County Metropolitan Planning Organization, Commissioner Bruce Tumin (Alternate)

Broward County Metropolitan Planning Organization, Commissioner Irwin Harlem Broward County Metropolitan Planning Organization, Mayor Richard J, Kaplan (Chair)

Broward County Metropolitan Planning Organization, Mayor Sam Brown (Alternate)

Broward County Metropolitan Planning Organization, School Board Member Benjamin J. Williams

Broward County Metropolitan Planning Organization, School Board Member Darla Carter

Broward County Metropolitan Planning Organization, Representative (Vacant)

Broward County Department of Public Works, Director, Richard Brossard

Broward County Board of County Commissioners, Mass Transit Division, Director, Robert Roth

City of Hollywood, Mayor, Mara Giulianti

City of Hollywood, Commissioner, Cathleen Anderson

City of Hollywood, Commissioner, Beam Furr

City of Hollywood, Commissioner, Sal Oliveri

City of Hollywood, Commissioner, Keith Wasserstrom

City of Hollywood, Commissioner, Frances Russo

City of Hollywood, Vice Mayor, Peter Bober

City of Hollywood, City Manager, Cameron Benson

City of Hollywood, Department of Parks, Recreation & Cultural Arts, Director, David Flaherty

City of Hollywood, Police Chief, James H. Scarberry

City of Hollywood, Fire Chief (Interim), Edward Moran

City of Hollywood, Office of Planning, Director, Jave Epstein

City of Hollywood, Department of Public Works, Director, Greg Turek

City of Hollywood, Department of Building and Engineering Services, Director, Robert Rawls, P.E.

City of Hollywood, Department of Building and Engineering Services, City Engineer, Jonathan Vogt, P.E.

City of Hollywood, City Clerk, Patricia A. Cerny

Town of Davie, Mayor, Tom Truex

Town of Davie, Councilwoman, Lisa Hubert

Town of Davie, Councilman, Mike Crowley

Town of Davie, Councilwoman, Susan Starkey

Town of Davie, Councilwoman, Judy Paul

Town of Davie, Town Administrator, Thomas J. Willi

Town of Davie, Development Services, Manager, Fernando Levia

Town of Davie, Public Works, Director, Bruce Bernard

Town of Davie, Parks and Recreation, Director, Dennis Andresky

Town of Davie, Police Department, Police Chief, John A. George

Town of Davie, Fire Department, Fire Chief, Donald DiPetrillo

Town of Davie, Development Services, Director, Mark Kutney

Town of Davie, Engineering Department, Town Engineer, Larry Peters

City of Dania Beach, Public Works and Utilities Department, Director, Michael Sheridan

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City of Dania Beach, Mayor, Robert Anton

City of Dania Beach, Vice Mayor, C.K. McElyea

City of Dania Beach, Commissioner, Robert Chunn, Jr.

City of Dania Beach, Commissioner, Patricia Flury

City of Dania Beach, Commissioner, Robert Mikes

City of Dania Beach, City Manager, Ivan Pato

City of Dania Beach, City Clerk's Office, Charlene Johnson

City of Dania Beach, Park and Recreation Department, Kristen Jones

City of Dania Beach, Fire Department, Chief Kenneth Land

City of Plantation, Mayor, Rea Carole Armstrong

City of Plantation, Councilwoman, Diane Veltri Bendekovic

City of Plantation, Councilwoman, Sharon Uria

City of Plantation, Councilman, Ron Jacobs

City of Plantation, Councilman, Bruce Edwards

City of Plantation, Councilman, Jerry Fadgen

City of Plantation, City Clerk, Susan Slattery

City of Plantation, Department of Engineering, City Engineer, Brett Butler

City of Plantation, Director, Planning, Zoning & Economic Development, Marcia Berkley

City of Plantation, Plantation Police Headquarters, Chief Robert S. Pudney

City of Plantation, Park and Recreation Department, Director, James Romano

City of Plantation, Public Works Headquarters, Director, Frank DeCelles

City of Plantation, Plantation Police Headquarters, Chief Larry Massey

City of Sunrise, Mayor, Steven B. Feren

City of Sunrise, Deputy Mayor, Sheila D. Alu

City of Sunrise, Assistant Deputy Mayor, Joseph A. Scuotto

City of Sunrise, Acting City Attorney, Kimberly A. Register

City of Sunrise, Commissioner, Donald K. Rosen

City of Sunrise, Commissioner, Irwin Harlem

City of Sunrise, City Manager, Patrick Salerno

City of Sunrise, City Clerk, Felicia Bravo

City of Weston, Mayor, Eric Hersh

City of Weston, Commissioner, Robin Bartleman

City of Weston, Commissioner, Barbara Herrera-Hill

City of Weston, Commissioner, Daniel J. Stermer

City of Weston, Commissioner, Murray Chermak

City of Weston, City Manager, John R. Flint

City of Weston, Police Chief, Greg Page

City of Ft. Lauderdale, Mayor, Jim Naugle

City of Ft. Lauderdale, Vice Mayor, Carlton B. Moore

City of Ft. Lauderdale, Commissioner District 1, Christine Teel

City of Ft. Lauderdale, Commissioner District 2, Dean J. Trantalis

City of Ft. Lauderdale, Commissioner District 4, Cindi Hutchinson

City of Ft. Lauderdale, Acting City Manager, Alan A. Silva

City of Ft. Lauderdale, Assistant City Manager, Department of Public Services, Greg Kisela

City of Ft. Lauderdale, City Clerk, Lucy Kisela

City of Ft. Lauderdale, Office of the Fire Chief, Chief Otis J. Latin, Sr.

City of Ft. Lauderdale, Police Department, Chief Bruce G. Roberts

City of Ft. Lauderdale, Director Department of Community and Economic Development, Faye Outlaw

City of Ft. Lauderdale, Director Department of Engineering, Hector Castro

City of Ft. Lauderdale, Department of Parks and Recreation, Ernest Burkeen

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ADVANCE NOTIFICATION FACT SHEET

1. Need for Project: Urbanized Southeast Florida is among the most densely populated areas in the State. Increases in population of the region, which is comprised of Miami-Dade, Broward and Palm Beach Counties, have consistently exceeded statewide growth percentages for each of the past three decades. The region's transportation system has been a critical factor in sustaining the area's growth and economic competitiveness. I-595 (SR-862) serves as the major east-west link in Broward County providing a direct connection between the region's major expressways, I-95, Florida's Turnpike and I-75. These connections link Southeast Florida's urban areas with central and north Florida as well as the Gulf Coast. I-595 also provides local connections to primary north-south arterials such as SR-7 (US-441) and SR-817 (University Drive). Since the mainline opening in 1989, I-595 has maintained a steady increase in traffic volume that has lead to congestion in several areas throughout the corridor. In order to ensure the availability of sufficient capacity within the transportation network, traffic capacity improvements must be developed in an effort to sustain the region's growth.

The proposed project is consistent with affected local government comprehensive plans as required under Chapter 163, F.S., and as attested to through the Florida Department of Community Affairs (DCA) annual review of the Florida Department of Transportation (FDOT) tentative Work Program, pursuant to Section 339.135(4)(f), F.S. The improvements are consistent with the approved 2025 Long Range Transportation Plan (LRTP) of the Broward County Metropolitan Planning Organization (MPO) and are contained in the Gubernatorially-approved Transportation Improvement Program (TIP) for Broward County.

2. Description of the Project: The FDOT is conducting a Project Development and Environmental (PD&E) Study to improve traffic operations, capacity, and safety along the I-595 corridor in Broward County. The I-595 PD&E Study is an outgrowth of the I-95/I-595 Master Plan that lead to the development of the Locally Preferred Alternative (LPA) that was approved by the Broward County MPO in 2001 and has received favorable reviews from the FDOT Central Office and the Federal Highway Administration (FHWA). The LPA proposed the addition of reversible lanes in the median, a new collector-distributor road, and various interchange and ramp improvements. The PD&E Study is the next stage of the implementation process for the LPA. The project study limits extend from just west of I-75 to just east of I-95, an approximate project length of 12 miles. The attached Location Map illustrates the location and limits of the project.

3. Environmental Information:

a. Land Uses: Most of the section of I-595 included in this study was constructed between 1984 and 1989 along the existing alignment of SR-84. Prior to 1965, the western terminus of SR-84 was US-27; however, it was subsequently extended to Naples and named Alligator Alley. Alligator Alley, which is now incorporated into I-75, is one of the only east-west roadways connecting Southeast Florida and Southwest Florida across the Everglades, and hence has endured high traffic volumes that have increased steadily as the population in both of these regions has grown. As the population of Broward County expanded westward, a veneer of commercial land use became established at most of the major north-south road intersections with SR-84. Residential land use filled in between and behind the commercial land uses, typically replacing agricultural land use.

From the western project terminus east to Davie Road, I-595 is flanked at grade by the remnant of SR-84, with eastbound lanes on the south side and westbound lanes on the north side. Another remnant of SR-84 flanks the north side of I-595 within the US-441 interchange and extends approximately one mile east before meandering in a northeast direction away from the I-595 corridor. The South Florida Water Management District's (SFWMD) North New River Canal runs along the north side of SR-84, from the western project terminus east to the US-441 interchange, where it then also meanders northeast away from I-595. Land uses on both sides of the corridor between the western terminus and the US-441 interchange are residential and commercial, with the exception of light industrial land use immediately southwest of the interchange. Immediately northeast of the US-441 interchange is residential land use, and Broward County's Local Area of Particular Concern (LAPC) #90 is located immediately north of SR-84 where it begins to diverge from I-595. Immediately southeast of the US-441 interchange is a landfill and Broward County's Pond Apple Slough (conservation land use). Pond Apple Slough also extends under the elevated portion of I-595 east of where it begins to diverge from I-595, and a small marina is located on the western bank of the South New River Canal where it is crossed by I-595. Between the South New River Canal and the I-95 interchange are large borrow pits and light industrial land uses on both sides. East of the I-95 interchange to the eastern project terminus, Hollywood-Fort Lauderdale International Airport is on the south side of I-595, and residential land use occurs on the north side.

As noted above, this project is needed to meet existing demand and provide capacity for projected growth in Broward County. No significant land use changes are anticipated in the vicinity of the project corridor. Potential changes in land use will be analyzed, and current and future land use maps will be prepared for this study.

b. Wetlands: A preliminary evaluation of potential involvement with wetland resources was performed using the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI). The NWI identifies many wetlands within 500 feet of the project corridor; classifying the South New River Canal and North New River Canal downstream of the G-54 structure (located west of Davie Road) as estuarine, the North New River Canal upstream of the G-54 structure as riverine, most lakes and borrow pits as lacustrine, and most ponds and Pond Apple Slough as palustrine.

Pond Apple Slough is a high quality forested wetland which has been restored and is being maintained through several wetland mitigation projects. The project will result in unavoidable shading of the fragment located between the existing eastbound and westbound lanes, which will result in direct impact to these wetlands.

The extent of all wetlands in the immediate vicinity of the project will be identified

and delineated in accordance with the U.S. Army Corps of Engineers' "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" (ACOE, 1987) and the "Florida Wetlands Delineation Manual" (FDEP, 1995). The wetlands will be classified using the USFWS Classification System (Cowardin, et al. 1979) and assessed using the SFWMD Wetland Rapid Assessment Procedure (WRAP) and/or the new State-wide Uniform Wetland Mitigation Assessment Method, Broward County's Wetland Benefit Index (WBI), and possibly the ACOE Wetland Evaluation Technique (WET II) and/or hydrogeomorphic (HGM) evaluation model.

Wetland impacts will be minimized to the maximum extent practicable. A Wetland Evaluation Report (WER) will be prepared to summarize these findings and to present a conceptual mitigation plan for the unavoidable wetland impacts.

- c. Floodplains: The project corridor is within the 100-year flood plain and traverses Flood Zones AE and AH (areas located within special flood hazard areas) and Flood Zones X and X500 (areas located outside special flood hazard areas). There are no regulatory floodways in the vicinity of the project area. This information was obtained from Geographical Information System (GIS) data that the Florida Geographic Data Library (FGDL) extracted from 1990 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Numbers 12011C0195F, 12011C0214F, 12011C0215F, 12011C0302F, and 12011C0306F (fema9606.shp).
- d. Wildlife and Habitat: The Florida Natural Areas Inventory (FNAI) Field Guide to Rare Plants and Animals of Florida identifies 56 species in Broward County as having either State or Federal legal status, 17 of which are listed as Endangered (E) or Threatened (T) under the U.S. Endangered Species Act (ESA):

Common Name	Scientific Name	Status
Johnson's seagrass	Halophila johnsonii	Т
Beach jacquemontia	Jacquemontia reclinata	Е
Tiny polygala	Polygala smallii	E
Loggerhead turtle	Caretta caretta	т
Green turtle	Chelonia mydas	Е
Leatherback turtle	Dermochelys coriacea	Е
Hawksbill turtle	Eretmochelys imbricata	Е
Kemp's ridley turtle	Lepidochelys kempii	E
American alligator	Alligator mississippiensis	T (S/A)
American crocodile	Crocodylus acutus	E
Eastern indigo snake	Drymarchon couperi	Т
Crested caracara	Caracara cheriway	Т
Bald eagle	Haliaeetus leucocephalus	Т
Wood stork	Mycteria americana	Е
Snail kite	Rostrhamus sociabilis plumbeus	Е
Florida panther	Puma concolor coryi	Е
Manatee	Trichechus manatus	E

Based on their habitat requirements, none of the plant or sea turtle species would occur within the project corridor; however, the other reptiles, birds and mammals could. The American alligator, which is listed as Threatened due to Similarity of Appearance (S/A) to the American crocodile, occurs in the North New River Canal and could access the project corridor, especially near the western terminus. The American crocodile typically inhabits coastal estuarine marshes and mangrove forests, and could potentially be encountered in the fringes of Pond Apple Slough and the South New River Canal. The Eastern indigo snake occupies a wide range of habitats, including mangrove forests, and could be encountered in the project corridor.

Any of the birds could potentially fly through the project corridor; however, crested caracaras are typically found in Central Florida and the only Broward County bald eagle nest identified on the Florida Fish and Wildlife Conservation Commission (FFWCC) database is located more than 25 miles west of the project terminus. Wood storks likely forage in the roadside swales of the project corridor and snail kites likely forage in the freshwater marshes located near the western project terminus. Water Conservation Area 2, located west of the western project terminus is designated under the ESA as Critical Habitat for the snail kite.

Although the Florida panther is very reclusive and is not usually found near urbanized areas, they have been recorded near the intersection of I-75 and US-27. The manatee frequents North and South New River Canal, and can likely pass through the SFWMD G-54 control structure on the North New River Canal. Downstream of the G-54 control structure, the North New River Canal is designated as a Slow Speed Zone and the South New River Canal is designated as an Idle Speed Zone to protect the manatee. Several of the borrow pits located east of the South New River Canal, including those crossed by I-595, are designated as a No Entry Zone year round.

A review of the rare species occurrence GIS data (fleo99.shp), obtained from the FNAI through the FGDL, did not identify any occurrences of Federally-listed species in the project corridor. However, it did identify several occurrences of gopher tortoises (*Gopherus polyphemus*) and burrowing owls (*Athene cunicularia floridana*) in the vicinity of the project corridor, both of which are listed by the FFWCC as Species of Special Concern (SSC). Though unlikely, either of these species could potentially access the project corridor and excavate a burrow in it. Impacts to active burrows of either species would need to be permitted through the FFWCC.

Most of the improvements proposed for this project will be constructed in the existing I-595 right of way and significant impacts to listed species are not anticipated. A comprehensive Endangered Species Biological Assessment (ESBA) will be prepared to assess the potential involvement with listed species and document any unavoidable impacts.

e. Outstanding Florida Waters: None occur in the vicinity of the project corridor.

f. Aquatic Preserves: None occur in the vicinity of the project corridor.

g. Coastal Zone Consistency Determination is Required : X Yes No

h. Cultural Resources: Using the FGDL GIS data (arcdot.shp and archis.shp), a preliminary assessment of potential involvement with archaeological and historic sites was performed. Two resources were identified within 1000 feet of the corridor; BD00058 – Lock 1, North New River Canal, 6521 West SR-84; and BD00082 - Cherry Camp, a midden located within the I-595/I-75 interchange. A thorough Cultural Resources Assessment Survey (CRAS) will be performed for all resources located within the Area of Potential Effect (APE) of this project. Qualified archaeologists and historians will determine the APE and complete the CRAS.

Based on the results of the CRAS performed for the *I-95/I-595 Master Plan Study*, no resources listed or potentially eligible for listing on the National Register of Historic Places (NRHP) will be impacted by the proposed improvements to I-595.

In addition, a preliminary evaluation of potential involvement with public parks and wildlife refuges (Section 4(f) properties) was performed using Broward County's GIS data (lapc.shp, citypark.shp, cntypark.shp, statpark.shp) and a field reconnaissance. The following properties were identified: Broward County's Markham Park, located northwest of the I-595/I-75 interchange; City of Sunrise's Oscar Wind Park, located southwest of the I-595/I-75 interchange; City of Plantation's Plantation Acres South Park, located north of the North New River Canal and west of Hiatus Road; a Broward County LAPC, located northeast of the I-595/US-441 interchange; Broward County's Pond Apple Slough and a LAPC, located east of Pond Apple Slough; and another Broward County LAPC located immediately southeast of the I-595/I-95 interchange. A thorough evaluation of direct and constructive use impacts will be performed for each of these and any other Section 4(f) properties subsequently identified during this study.

i. Coastal Barrier Resources: None occur in the vicinity of the project corridor.

j. Contamination: A preliminary contamination screening evaluation was performed using the FGDL GIS data for potential sources of contamination (epanpl.shp, eparf.shp, epatri.shp, and haz97.shp), Broward County Department of Planning and Environmental Protection (DPEP) GIS data for contaminated sites (ear.shp), and the U.S. Environmental Protection Agency (EPA): Superfund Information Systems (CERCLIS). Several known Hazardous Material Generators are located within the vicinity of the project. One facility on the National Priorities List (NPL or Superfund Site List) was identified in the vicinity of the project corridor:

Florida Petroleum Preprocessors, 3211 SW 50 Avenue, FLD984184127 Nine additional CERCLIS facilities that are not listed on the NPL were also identified in the vicinity of the project corridor: Cramer and Maurer (Oil Pit) and Neff Oil, 3830 SW 47 Avenue, FLD000602920 Broward County 21st Manor Dump, 2300 SW 46th Avenue, FLD981930506 (was previously listed on the NPL but has been since removed from it) Fort Lauderdale Housing Site, Fort Lauderdale International Airport, FLN000407652 Hardrives Dump, 3000 SR-84, FLD984198325 National Resource Recovery, 3250 Fields Road, FLD984182014 Pasquariello Property, 2600 SW 36 Street, FLD984198333 Peele-Dixie Wellfield Site, US-441, FLD984259374 Uniweld Products Incorporated, 2850 Ravenswood Road, FLD004120523 Vision-Ease, 3301 SW 9 Avenue, FLD059859587

The following contaminated facilities in the vicinity of the project corridor were identified using the DPEP Contaminated Sites GIS dataset: Amoco Station, 13652 West SR-84 (petroleum) Cumberland Farms, 12450 West SR-84 (petroleum) Dry Clean USA, 11252 West SR-84 (chlorinated solvents) Dry Clean USA, 13608 West SR-84 (chlorinated solvents) Dry Clean USA, 15984 West SR-84 (chlorinated solvents) Formico Food, 3381 SW 15 Avenue, (petroleum) Kenan Transport, 3210 SW 26 Terrace (phenols) Markham Park Target Range, 16001 West SR-84 (metals) Mobil Station, 8810 West SR-84 (petroleum) Mobil Station, 15988 West SR-84 (petroleum) Plaza Gas and Wash, 11400 West SR-84 (petroleum) Warrickleen, 8820 West SR-84 (chlorinated solvents) Westgate Shell Station, 16000 West SR-84 (petroleum) Wright & Lopez, 5210 West SR-84 (petroleum) 7-Eleven, 8690 West SR-84 (petroleum)

A contamination screening evaluation will be conducted on the project. It will include a review of the above data, as well as the entire EPA Envirofacts database, EPA Emergency Response Notification System (ERNS), FDEP Brownfields database, FDEP Compliance and Enforcement Tracking (COMET) system, FDEP Dry Cleaning Facilities database, FDEP Storage Tank and Petroleum Contamination Monitoring (STCM) system, FDEP Solid Waste Facilities database, regulatory files, historic aerial photographs, previous reports prepared for the corridor, and a thorough field reconnaissance. The Contamination Screening Evaluation Report (CSER) will evaluate the potential involvement with contamination at each site identified, and will be used to compare alternative alignments, appraise property values for right-of-way acquisition, avoid the placement of drainage structures in contamination, and protect contractors from exposure to contamination.

k. Sole Source Aquifer: The project corridor is completely within the boundaries of the Biscayne Aquifer, a sole source aquifer that is the principal source of drinking water for 3 million residents of Miami-Dade, Broward and southern Palm Beach Counties. It is a shallow, highly permeable, unconfined aquifer that underlies approximately 4,000 square miles of the eastern portions of these counties. Based on GIS data (wpz.shp) obtained from the Broward County DPEP, the project corridor intersects the proposed Sunrise System 3 Wellfield Protection Zone, located west of Flamingo Road; and is within ¼-mile of several other wellfield protection zones.

A Water Quality Impact Evaluation (WQIE) will be performed for this project, and this project will meet all the water quality standards of the U.S. EPA, SFWMD, and DPEP.

- 1. Noise: Several residential communities, public parks, wildlife refuges, and other noise sensitive receivers occur in the immediate vicinity of the project corridor. A Noise Study Report (NSR) will be prepared in accordance with 23 Code of Federal Regulations Part 772, Chapter 335.17 Florida Statutes, and FDOT PD&E Manual to identify unavoidable noise impacts and propose abatement for them, where appropriate.
- m. Other Comments: It is anticipated that residents located immediately adjacent to the project corridor will actively object to the wetland and noise impacts associated with this project. The feasibility and reasonableness of noise barriers will be evaluated where required.
- 4. Navigable Waterway Crossing? X Yes No

A determination will be made later in the project study under 23 CFR 650, Subpart H, Section 650.805, regarding whether or not a U.S. Coast Guard permit is required.

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5. List Permits Required:

Implementation of the preferred alternative may require the following permits:

U.S. ACOE Dredge and Fill Permit U.S. Coast Guard Bridge Permit U.S. EPA National Pollutant Discharge Elimination System SFWMD Environmental Resource Permit Broward County DPEP Environmental Resource License

Broward County DPEP Tree Removal License

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LOCATION MAP

F.M. No. 409354-1-22-01 F.A.P. No. 5951 539 I Broward County I-595 PD&E Study U.S.G.S. Quads. Cooper City and Fort Lauderdale South APPLICATION FOR

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OMB Approval No. 0348-0043

FEDERAL ASSISTANCE		2. DATE SUBMITTED October 31, 2003		Applicant Identifier FPID No: 409354-1-22-01		
1. TYPE OF SUBMISSION.	1	3 DATE RECEIVED BY	CTATE	State Application Identifies		
Application	Preapplication	S. DATE RECEIVED BY STATE		State Application Identifier		
	Construction	4. DATE RECEIVED BY FEDERAL AGENCY		Federal Identifier		
5. APPLICANT INFORMATION	_ Non-Construction	I	·····			
Legal Name:			Organizational Unit:			
Florida Department c	of Transportation		Office of Design			
Address (give city, county, State,	and zip code):	•	Name and telephone number of person to be contacted on matters involving			
605 Suwannee Stree	t .	-	Gustavo Schmidt, P.F.; (954) 777-4629			
Tallahassee, Leon Co	ounty, Florida 3239	99-0450	District Planning and Environmental Engineer			
6. EMPLOYER IDENTIFICATION	NUMBER (EIN):		7. TYPE OF APPLICANT: (enter appropriate letter in box)			
59-6001	8 7 4		A State	H Independent School Dist		
8. TYPE OF APPLICATION:	· _ · · · · · · · · · · · · · · ·		B. County	I. State Controlled Institution of Higher Learning		
New	Continuation	Revision	C. Municipal	J. Private University		
If Devision, onlar approximits to the		1 3	D. Township	K. Indian Tribe		
in revision, enter appropriate tette	er(s) in box(es)		E. Interstate	L. Individual M. Profit Organization		
A. Increase Award B. Decr	rease Award C. Increase	= Duration	G. Special District	N. Other (Specify)		
D. Decrease Duration Other(s	specify):					
			9. NAME OF FEDER/	AL AGENCY:		
		······································	U.S. Department of Transportation			
10. CATALOG OF FEDERAL DO	MESTIC ASSISTANCE NU	JMBER:	11. DESCRIPTIVE TI	TLE OF APPLICANT'S PROJECT:		
]	20-205	FPID No.: 40935	4-1-22-01		
TITLE: Highway Play	nning and Constructio	n				
12. AREAS AFFECTED BY PRO	JECT (Cities, Counties, Sta	ites, etc.):				
Broward County						
13 PROPOSED DRO JECT		THICTS OF	l <u></u>	······································		
	14. Congressional Di	STRICTS OF:				
Start Date Ending Date	a. Applicant		b. Project			
0/24/03 0/24/00			U.S. Congressional Districts 20, 22, and 23			
IS LOTINATED FORDING.			ORDER 12372 PROCESS2			
a. Federal	\$	N				
L. A	310	,000,000	a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE			
b. Applicant	5	•	AVAILABLE PROCESS	FOR REVIEW ON:		
c. State	\$	00		40/24/02		
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i. Program income	3	•	17. IS THE APPLICA	NT DELINQUENT ON ANY FEDERAL DEBT?		
g. TOTAL	\$ 240		TYes if "Yes,"	attach an explanation.		
DOCUMENT HAS BEEN DULY	AUTHORIZED BY THE GO	VERNING BODY OF THE	E APPLICANT AND TH	HE APPLICANT WILL COMPLY WITH THE		
ATTACHED ASSURANCES IF T	HE ASSISTANCE IS AWA	RDED.				
Gustavo Schmidt, P.E. / / District Planning and E			d Env. Engineer	(954) 777-4629		
d. Signature of Authorized Representative				e. Date Signed		
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Florida State Clearinghouse Department of Environmental Protection 3900 Commonwealth Blvd, Mail Station 47 Tallahassee, Florida 32399-3000

FLORIDA DEPARTMENT OF TRANSPORTATION MR. GUSTAVO SCHMIDT, P.E. PLANNING & ENVIRONMENTAL MGT. - DISTRICT 4

3400 WEST COMMERCIAL BLVD FORT LAUDERDALE FL 33309-3421

SAI# FL200311134550C

Department of Transportation - Advance Notification - SR 862 (I-595) PD&E Study - Financial Project ID: 409354-1-22-01, Federal Aid Project No: 5951 539 I - Broward County, Florida.

The above-referenced project was received by the Florida State Clearinghouse on $\frac{11/12/03}{12}$, and has been forwarded to the appropriate reviewing agencies. The clearance letter and agency comments will be forwarded to you no later than $\frac{1/11/04}{12}$, unless you are otherwise notified. Please refer to the State Application Identifier (SAI) number in all written correspondence with the Florida State Clearinghouse regarding this project. If you have any questions, please contact the Clearinghouse staff at (850) 245-2161.

Florida Clearinghouse

Page 1 of 2



Florida Department of Environmental Protection More Protection, Less Process



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Projecił 👘	FL200311134550C			
Comments Duel	December 12, 2003			
Letter Due:	January 11, 2004			
Description	DEPARTMENT OF TRANSPORTATION - ADVANCE NOTIFICATION - SR 862 (I-595) PD&E STUDY - FINANCIAL PROJECT ID: 409354-1-22-01, FEDERAL AID PROJECT NO: 5951 539 I - BROWARD COUNTY, FLORIDA.			
Keywords:	DOT - SR 862 (I-595) PD&E STUDY - BROWARD CO.			
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SOUTH FL RPC - SO	UTH FLORIDA REGIONAL PLANNING COUNCIL			
The project must be consistent with the goals and policies of the cities of Fort Lauderdale, Hollywood, Davie, Dania Beach, Plantation, Sunrise, Weston, and Broward County comprehensive plan and their corresponding land development regulations. It is important for the permit grantor to coordinate its permitwith the local government granting permits for development at the subject site. See hard copy.				
BROWARD - BROW	ARD COUNTY			
No Final Comments R	eceived			
ENVIRONMENTAL P	OLICY UNIT - OFFICE OF POLICY AND BUDGET, ENVIRONMENTAL POLICY UNIT			
No Final Comments R	eceived			
COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS				
Released Without Comment				
FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION				
No comment by Steve Lau on 12/2/03.				
STATE - FLORIDA DEPARTMENT OF STATE				
No Comment/Consistent				
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION				
No Comment.				
SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT				
Letter faxed/mailed on 12/11/03.				

For more information please contact the Clearinghouse Office at:

AGENCY CONTACT AND COORDINATOR (SCH) 3900 COMMONWEALTH BOULEVARD MS-47 TALLAHASSEE, FLORIDA 32399-3000 TELEPHONE: (850) 245-2161 FAX: (850) 245-2190

Visit the <u>Clearinghouse Home Page</u> to query other projects.

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United States Department of Agriculture



ONRCS Natural Resources Conservation Service

2614 N.W. 43rd Street Gainesville, FL 32606 Phone: 352-338-9533

http://www.fl.nrcs.usda.gov

P.O. Box 141510 Gainesville, FL 32614 Fax: 352-338-9578

November 17, 2003

r lanning & environmental Mgint. District Four

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Office of Planning and Environmental Management - District 4 Florida Department of Transportation 3400 West Commercial Boulevard, 2nd Floor Ft. Lauderdale, Florida 33309-3421

RE: Advance Notification SR-862 (I-595) Project Development & Environmental Study Financial Project Number: 409354-1-22-01 Federal Aid Project Number: 5951 539 I County: Broward

Dear Mr. Schmidt:

I have reviewed the referenced document and determined that there is no unique farmland that will have any effect on completion of this project.

Please contact me if there are any questions.

Sincerely,

rein Henderson

Warren Henderson State Soil Scientist



Administration: (954) 797-1030 Administrative Services: (954) 797-1020 Budget & Finance: (954) 797-1050 Parks & Recreation: (954) 797-1145 Development Services: (954) 797-1111 Engineering: (954) 797-1113 Fire Department: (954) 797-1090 Police Department: (954) 693-8200 Public Works: (954) 797-1240 Utiliities: (954) 433-4000

TOWN OF DAVIE 6591 Orange Drive • Davie, Florida 33314-3399

(954) 797-1000

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Dept. of Transportation, District 4 3400 West Commercial Blvd. Fort Lauderdale, FL, 33309-3421

DEC Planning & Environmental Manu District [vuf

Subject: Comments – SR-862 (I-595) PD&E Study Reference: Advance Notification package dated November 5, 2003

Dear Mr. Schmidt:

Section 2 of the Advance Notification Fact Sheet indicates the Locally Preferred Alternative (LPA) includes the addition of reversible lanes in the median, a new collector-distributor road, and various interchange and ramp improvements.

Relative to the proposed improvements within the I-595 corridor, the Town of Davie Engineering Division has the following general comments.

- 1. Additional information is required regarding the new collector-distributor road and interchange /ramp improvements. Various projects, improvements and redevelopment within the Town include a number of projects along the SR 84 eastbound corridor.
- 2. Without additional information related to the specifically proposed improvements along this portion of the corridor, engineering comments related to traffic flow and design impacts to the Town's projects cannot be provided at this time.

Should you have any questions please call me at your earliest convenience.

Sincerely yours,

umar Don Haumann, P.E.

Assistant Town Engineer

\\Ns_th_01\Town_Hall\Develop_Service\Engln eefng\D2-Projects\\001-Misc Projects\\-595 Improvements\PD-E Adv Notifcation response.doc Engineering Form 01 Rev: 10/10/03

An Equal Opportunity Employer

COUNTY: BROWARD

DATE: 11/12/2003 COMMENTS DUE DATE: 12/12/2003 CLEARANCE DUE DATE: 1/11/2004 SAI#: FL200311134550C

MESSAGE:

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Agencies are required to evaluate	the consistency of the	he activity.	AID P	ROJECT NO:	5951 539 I -	BROWARD
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Federal Licensing or Permitting a	Activity (15 CFR 936 consistency when t), Subpart D). Such here is not an				
analogous state license or permit.						
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AGENCY CONTACT 3900 COMMONWEAI TALLAHASSEE, FLO TELEPHONE: (850) 24 FAX: (850) 245-2190	ATH BOULEVA RIDA 32399-30 45-2161	RD MS-47	∑ No □ Con □ Not	Comment ament Attached Applicable	Consist Consist Inconsi	ent/Comments Attached stent/Comments Attache plicable
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Community Services Department MASS TRANSIT DIVISION - Service Development 3201 West Copans Road • Pompano Beach, Florida 33069 954-357-8375 • FAX 954-357-8342

December 8, 2003



· John E. Rodstrom, Jr. • James A. Scott • Diana Wasserman-Rubin

Mr. Gustavo Schmidt, P.E. District Planning & Environmental Engineer Florida Department of Transportation 3400 West Commercial Boulevard Fort Lauderdale, Florida 33309-3421

Subject: Advance Notification SR-862 (I-595) Project Development & Environment Study

Dear Mr. Schmidt:

Broward County Transit (BCT) staff has reviewed the above subject notification. While no BCT routes directly serve the I-595 corridor, three (3) BCT routes run parallel/indirectly serve the surrounding area and markets: Route 22 (Broward Boulevard), Route 30 (Peters Road/Davie Boulevard), and Route 75 (SR 84). In addition, the Broward County 2025 Long Range Transportation Plan (LRTP) proposes High Performance Transit along the I-595 corridor and Bus Rapid Transit (BRT) along Broward Boulevard. As described in the Advance Notification, "traffic capacity improvements must be developed in an effort to sustain the region's growth". While staff is currently involved in the Central Broward East-West Transit Alternatives Analysis as it relates to the I-595 corridor, BCT formally requests that transit and related infrastructure be included in the project development and capacity improvements for this PD&E Study.

Please notify BCT as to the next steps in the study. We will be happy to provide more detailed comments and technical input as the study proceeds. If you require additional information, please contact me at (954) 357-7709 or e-mail at mronskavitz@broward.org.

Sincerely,

Michael Konskaurt

Michael Ronskavitz Project Manager

MR:mr

cc: Jeff Weldner, Office of Modal Development, Florida Department of Transportation Scott Seeburger, FDOT Project Manager, Florida Department of Transportation Catondra Noye, Transit Manager, Broward County Transit H:MyFiles\WyFiles\L595PD&EAdvanceNotification

Broweiling Josephus Eggelletion, Jr. • Ben Craber • Sue Gunzburger • Kristin @ 2000

www.broward.org/bct

Ilene Lieb
South Florida Regional Planning Council



December 9, 2003

Ms. Lauren P. Milligan Florida Coastal Management Program Department of Environmental Protection 3900 Commonwealth Boulevard, Mail Station 47 Tallahassee, Florida 32399-3000

RE: SFRPC #03-1113 SAI# FL200311134550C, Request for comments on the Advance Notification for a project development and environmental study to improve traffic operations, capacity, and salety along the I-595 corridor in Broward County, Florida Department of Transportation, Fort Lauderdale, Hollywood, Davie, Dania Beach, Plantation, Sunrise, Weston, Broward County.

Dear Ms. Milligan:

We have reviewed the above-referenced Advance Notification and have the following comments:

- The project must be consistent with the goals and policies of the cities of Fort Lauderdale, Hollywood, Davie, Dania Beach, Plantation, Sunrise, Weston, and Broward County comprehensive plan and their corresponding land development regulations. It is important for the permit granter to coordinate its permit with the local government granting permits for development at the subject site.
- Staff recommends that 1) impacts to the natural systems be minimized to the greatest extent feasible
 and 2) the permit grantor determine the extent of sensitive wildlife, marine life, and vegetative
 communities in the vicinity of the project and require protection and or mitigation of disturbed
 habitat. This will assist in reducing the cumulative impacts to native plants and animals, wetlands
 and deep-water habitat and fisheries that the goals and policies of the Strategic Regional Policy Plan for
 South Florida (SRPP) seek to protect.
- The project is located over the Biscayne Aquifer and Class I and II Waters, natural resources of
 regional significance designated in the SRPP. The goals and policies of the SRPP, in particular those
 indicated below, should be observed when making decisions regarding this project:

Strategic Regional Goal

3.2 Develop a more efficient and sustainable allocation of the water resources of the region.

Regional Policies

3.2.5 Ensure that the recharge potential of the property is not reduced as a result of a proposed modification in the existing uses by incorporation of open space, pervious areas, and impervious areas in ratios which are based upon analysis of on-site recharge needs.

RECEIVED DEC 1 5 2003 OIP/OLGA

3440 Hollywood Boulevard, Suite 140, Hollywood, Florida 33021 Broward (954) 985-4416, State (800) 985-4416 SunCom 473-4416, FAX (954) 985-4417, Sun Com FAX 473-4417 email: sfadmin@sfrpc.com, website: www.sfrpc.com Ms. Lauren P. Milligan December 9, 2003 Page 2

- 3.2.6 When reviewing proposed projects and through the implementation of the SRPP, discourage water management and proposed development projects that alter the natural wet and dry cycles of Natural Resources of Regional Significance or suitable adjacent buffer areas or cause functional disruption of wetlands or aquifer recharge areas.
- 3.2.9 Require all inappropriate inputs into Natural Resources of Regional Significance to be eliminated through such means as; redirection of offending outfalls, suitable treatment improvements or retrofitting options.
- 3.2.10 The discharge of freshwater to Natural Resources of Regional Significance and suitable adjacent natural buffer areas shall be designed to imitate the natural discharges in quality and quantity as well as in spatial and temporal distribution.
- 3.2.11 Existing storm water cutfalls that do not meet or improve upon existing water quality or quantity criteria or standard, or cause negative impacts to Natural Resources of Regional Significance or suitable adjacent natural buffer areas shall be modified to meet or exceed the existing water quality or quantity criteria or standard. The modification shall be the responsibility of the outfall operator, permittee or applicant.

Strategic Regional Goal

3.4 Improve the protection of upland habitat areas and maximize the interrelationships between the wetland and upland components of the natural system.

Regional Policies

- 3.4.8 Remove invasive exotics from all Natural Resources of Regional Significance and associated buffer areas. Require the continued regular and periodic maintenance of areas that have had invasive exotics removed.
- 3.4.9 Required maintenance shall insure that re-establishment of the invasive exotic does not occur.

In addition;

- Council staff finds that the proposed improvements to I-595 are generally consistent with the goals
 and policies of the *Strategic Regional Policy Plan for South Florida* (*SRPP*) in that it addresses the
 importance of improving transportation infrastructure to support the region's economic
 development. In doing so, the proposed project will further our goals for a more livable, sustainable,
 and competitive region.
- Council staff generally agrees that the proposed project is particularly compatible with the Strategic Regional Plan for South Florida's (SRPP) goals and policies listed below:

Strategic Regional Goal

4.1 Achieve a competitive and diversified regional economy, including lower unemployment rate and higher per capita income than the state and national average for Dade, Broward and Monroe Counties through the achievement of cutting edge human resources, economic development infrastructure and other resources to ensure a sustainable regional community. Ms. Lauren P. Milligan December 9, 2003 Page 3

Regional Policies

4.1.28 Encourage the investment in the land and infrastructure needed for sustainable economic growth. Investments should include land for highway and mass transit corridors, stations and public-private joint venture development opportunities.

Thank you for the opportunity to comment. Please do not hesitate to call should you have any questions or comments.

Sincerely,

Carlos Andres Gonzale Senior Planner

CAG/kal

cc: Elliot Auerhahn, Acting Director, Broward County DPEP Laurence Leeds, Director, Growth Management, Dania Beach Mark Kutney, Director, Planning & Zoning, Davie Chris Wren, Planning Manager, Fort Lauderdale Jaye Epstein, Director, Community Planning, Hollywood Marcia Berkley, Planning Director, Plantation Thomas Kassawara, Planning and Development, Sunrise Shelley Eichner, Growth Management Director, Weston Gustavo Schmidt, P.E., FDOT-District 4



CITY of HOLLYWOOD, FLORIDA

DEPARTMENT OF BUILDING AND ENGINEERING SERVICES

ENGINEERING DIVISION

December 10, 2003

RECEIVED DEC 1 5 2003 Planning & Environmental Mgmt District Four

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation, District 4 3400 West Commercial Boulevard Ft. Lauderdale, FL 33309

Subject: SR-862 (I-595) PD&E Study Financial project ID: 409354-1-22-01 Federal Aid Project No: 5951 539 I

Dear Mr. Schmidt:

This letter is in response to your request for comments, per your submittal dated November 5, 2003 for the above referenced project.

The City of Hollywood's Engineering Division has reviewed the Advance Notification Package and offers the following comments at this time:

 The collector-distributor road construction appears to be the only part of the project to impact the I-595 portion within the City of Hollywood. The proposed roadway will provide additional access to the Port 95 Commerce Park which should be beneficial for this area.

We look forward to providing specific comments as the project is developed and during the permit coordination process. If we may be of additional assistance, please do not hesitate to contact me at 954-921-3252.

Sincerely

Miguel Santibañez-Ceon, P.E. Traffic Engineer

2600 Hollywood Boulevard • P.O. Box 229045 • Hollywood, FL 33022-9045 Phone (954) 921-3254 • Fax (954) 921-3481 • www.hollywoodfl.org S:/Docs/Miguel/GS1595pde "An Equal Opportunity and Service Provider Agency"



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574 Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

GOV 04-40

December 11, 2003

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation 3400 West Commercial Boulevard Ft. Lauderdale, FL 33309-3421



Subject: S.R. 862 (I-595) Project Development & Environment Study Advance Notification [FP#: 409354-1-22-01] [SAI#: FL200311134550C]

Dear Mr. Schmidt:

In response to your request, South Florida Water Management District (SFWMD) staff has reviewed the Advance Notification for the above subject project located in FDOT District 4. According to the Fact Sheet, a Project Development and Environment (PD&E) Study will be performed to improve traffic operations, capacity, and safety along the I-595 corridor in Broward County. The project study limits extend from just west of I-75 to just east of I-95, an approximate project length of 12 miles.

The following comments should be considered in the design, construction, and permitting of this project.

- (1) The proposed roadway improvements will require an Environmental Resource Permit (ERP), pursuant to Rules 40E-1, 40E-4, 40E-40, 40E-41, and 40E-400, F.A.C.
- (2) The proposed roadway improvements must meet the SFWMD's water quality and water quantity criteria as specified in the Basis of Review for Environmental Resource Permit Applications.
- (3) It appears that the proposed roadway improvements may involve wetland impacts. To the extent possible, any wetland impacts due to location, design, and construction techniques should be minimized. Please note that information documenting that any proposed wetland impacts are unavoidable will be required at the time of permit application, as well as information on the alternatives considered to reduce the proposed impacts. Mitigation will be required for any unavoidable wetland impacts.

Governing Board

Michael Collins Hugh M. English Lennart E. Lindahl, P.E. Kevin McCarty Harkley R. Thornton Trudi K. Williams, P.E. EXECUTIVE OFFICE

Mr. Gustavo Schmidt, P.E. December 11, 2003 Page 2

The SFWMD has concerns regarding any proposed impacts to existing wetland mitigation areas (Pond Apple Slough). These concerns include locating appropriate mitigation to compensate for this type of wetland impact (i.e., mangroves).

FDOT staff should contact Carolyn Farmer, Senior Environmental Analyst in the SFWMD's Natural Resource Management Division, at (561) 682-6856 to schedule a pre-application meeting and site inspection to evaluate the proposed project.

(4) A Water Use Permit may be required for any dewatering activities associated with the proposed roadway improvements, pursuant to Rule 40E-2, F.A.C. Please contact the SFWMD's Water Use Division at (561) 682-6926, prior to the initiation of any dewatering activities and subsequent to the completion of the Contamination Screening Evaluation Report, to schedule a pre-application conference to discuss the details of the proposed dewatering activities.

Please note that, if the proposed roadway improvements include dewatering activities within contamination areas or if the dewatering activities have the potential to result in the induced movement of the contamination plume, a pre-application meeting involving SFWMD Water Use staff and the appropriate staff from the Florida Department of Environmental Protection should be scheduled to discuss management of dewatering effluent, including the design of appropriate containment/treatment methods.

- (4) A Right Of Way Occupancy Permit will be required for any proposed use of and/or occupancy of the North New River Canal right-of-way.
- (5) Lighting for the proposed project should incorporate full cut-off fixtures to minimize energy waste and light pollution to non-target and environmentally sensitive areas.

If any of the above requires additional clarification, please contact me at (561) 682-6862.

Sincerely,

from f. Sela

James J. Golden, AICP Senior Planner Environmental Resource Regulation

/jjg

c: Lauren Milligan, DCA

2003-10614 12

COUNTY: BROWARD SAI-DOTI-AN

DATE: 11/12/2003 COMMENTS DUE DATE: 12/12/2003 CLEARANCE DUE DATE: 1/11/2004 SAI#: FL200311134550C

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MESSAGE:

STATE	WATER MNGMNT	•	OPB PO	LICY	RPCS & LOC GOVS						
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Outer Continental Shelf Explore Activities (15 CFR 930, Subpart consistency certification for state	tion, Development or Production E). Operators are required to provide a concurrence/chiection.										
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Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation, District 4 3400 West Commercial Boulevard Fort Lauderdale, FL 33309-3421 RECEIVED DEC 3 1 2003 Planning & Environmental Mgmt District Four

Re: Request for comments on the Advance Notification for a project development and environmental study to improve traffic operations, capacity, and safety along the I-595 corridor in Davie, Florida.

Dear Mr. Schmidt:

The Town of Davie has reviewed the above referenced Advance Notification and has the following comments:

- It is noted that the Pond Apple Slough located on the Town's eastern boundary will be impacted by the proposed project. The Pond Apple Slough is a high quality forested wetland and the Town requests that all efforts be made to maintain this valuable environmental resource. Additionally, in concert with Goal 3 of the Town's Recreation, Open Space and Conservation Element which states, To preserve and protect the natural resources for the Town for the use and enjoyment of the existing and future residents, the protection of the Pond Apple Slough is an important component of the Town's Comprehensive Plan.
- The project is consistent with the goals and objectives of the Towns Comprehensive Plan as it relates to Objective 2.1 of the Traffic Element. Objective 2.1 reads, The Town will coordinate transportation improvements with the plans and programs with the BCMPO, Broward County Transit Division, FDOT and any appropriate resource planning and management plan prepared pursuant to Chapter 380, Florida Statutes, and approved by the Governor and Cabinet.
- The Town supports the proposed improvements, addition of reversible lanes in the median, a new collector-distributor lane, and various interchange and ramp improvements, along the I-595 corridor because growth and transportation needs are the greatest challenges facing Davie and the adjoining cities.

Gustavo Schmidt, P.E. December 22, 2003 Page 2

Thank you for the opportunity to comment. Please do not hesitate to call if you need additional information.

Respectfully,

Deborah Roso

Deborah Ross, AICP Planning Supervisor

PZC 12-16-03



UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office 9721 Executive Center Drive North St. Petersburg, Florida 33702-2432

December 31, 2003

JAN 0 6 2004

San Ag & Élivida Adda (sy'). District Four

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation, District 4 3400 West Commercial Boulevard Fort Lauderdale, Florida 33309-3421

Subject: SR-862 (I-595) Project Development & Environment Study Financial project ID#: 409354-1-22-01 Broward County, Florida

Dear Mr. Schmidt:

The National Marine Fisheries Service (NOAA Fisheries) has reviewed the Florida Department of Transportation's (FDOT) Advance Notification (AN), dated November 5, 2003, regarding the Project Development & Environment (PD&E) Study to improve traffic operations, capacity, and safety along the I-595 corridor in Broward County, Florida. According to the AN, the subject improvements are needed to sustain population growth in the southeast Florida region. The project study area is approximately 12 miles in length and begins just west of I-75 and terminates just east of I-95. The Environmental Information section of the AN indicates the presence of wetland communities within 500 feet of the project corridor. Based on the U.S. Fish and Wildlife Service National Wetland Inventory and information contained in the AN, wetland systems within the project study area may be classified as estuarine (the North New River Canal and North New River Canal downstream of the G-54 structure); riverine (the North New River Canal upstream of the G-54 structure); acustrine (most lakes and borrow pits); and palustrine (most ponds and Pond Apple Slough).

Estuarine and palustrine emergent and forested wetlands, and estuarine scrub/shrub mangroves have been designated as essential fish habitat (EFH) by the South Atlantic Fishery Management Council (SAFMC). Federally managed species associated with estuarine intertidal marshes include red drum, brown, white, and pink shrimp. EFH for penaeid shrimp (i.e., brown, white, and pink shrimp) includes inshore nursery areas such as tidal freshwater (palustrine), estuarine, and marine emergent wetlands; tidal palustrine forested areas; mangroves; tidal freshwater, estuarine, and marine submerged aquatic vegetation; and subtidal and intertidal non-vegetated flats. EFH for red drum includes the following habitats to a depth of 50 meters offshore: tidal freshwater; estuarine emergent vegetated wetlands; estuarine scrub/shrub mangroves; seagrasses; and oyster reefs and shell banks.



Federally managed species associated with mangrove habitat include red drum; brown, white, and pink shrimp; gray, lane, mutton, and schoolmaster snappers; Goliath grouper; and white grunt. Detailed information on the snapper/grouper complex (containing ten families and 73 species), shrimp, red drum, and other federally managed fisheries and their EFH is provided in the Final Habitat Plan for the South Atlantic Region (October 1998). The Habitat Plan was prepared in accordance with the Magnuson-Stevens Fishery Conservation and Management Act.

The AN states that Pond Apple Slough, which is described as a high quality forested wetland, would be directly impacted by shading associated with the proposed project. In connection with our review of this project, NOAA Fisheries will require detailed and specific information concerning the anticipated work and its proposed direct, indirect, and cumulative impacts on wetland communities. Therefore, we recommend that the environmental assessment and/or impact statement for the project include the following information:

- 1. An EFH Assessment that includes a description of the proposed action; an analysis of anticipated direct, indirect, and cumulative impacts of the proposed action on EFH, federally managed species, and associated species by life history state; and the FDOT's views regarding the effects of the proposed project on EFH.
- 2. A habitat characterization of wetland communities within and in close proximity to the project corridor, including the number of wetland acres that would be directly and indirectly impacted by the proposed project.
- 3. Information on measures to avoid and/or minimize adverse impacts to wetlands within the project corridor.
- 4. A mitigation plan to fully compensate for unavoidable impacts to wetland communities that would be degraded or permanently eliminated by the proposed project. The proposed mitigation must comply with the national policy of no net loss of wetlands.

We appreciate the opportunity to provide these comments. Related correspondence should be addressed to the attention of Audra Livergood at our Miami Office. She may be reached at 11420 North Kendall Drive, Suite #103, Miami, Florida 33176, or by telephone at (786) 263-0028.

Sincerely,

Audra Livergood (for) Miles M. Croom

Assistant Regional Administrator Habitat Conservation Division



DEPARTMENT OF PLANNING AND ENVIRONMENTAL PROTECTION – Biological Resources Division 218 S.W. 1st Avenue • Fort Lauderdale, Florida 33301 • 954-519-1230 • FAX 954-519-1412

JAN 0 9 2004

Planning & Environmental pagent District Four

arrish • John E. Rodstrom, Jr. • Jim Scott • Diana Wasserman-Rubin

01/05/04

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation, District 4 3400 West Commercial Blvd. Ft. Lauderdale, FL 33309-3421

Re: SR-862 (I-595) Project Development & Environment Study

Dear Mr. Schmidt:

I am writing in regards to the 11/5/03 advanced notification letter for the SR-862 (I-595) Project. Thank you for the opportunity to comment on this important project. Our Department concurs with many items addressed in the Fact Sheet attached to the 11/5/03 letter. Of specific concern are issues related to preserve lands adjacent to the project; assessment of wetland impacts and mitigation; and effects on adjacent County Park lands.

There are many wetlands and surface waters that occur within the project corridor, and we support the appropriate level of assessment, avoidance and minimization that is required by Environmental Resource regulations. Also in accordance with Environmental Resource regulations, we support any mitigation that is required to offset wetland impacts being located as close to the project site as possible.

Also, as identified in the 11/5/03 letter, we believe that the project must be designed so as to avoid impacts that construction and operation of the project might have on preserved lands such as Pond Apple Slough; or threatened and endangered species such as the manatee.

We appreciate the opportunity to comment on this project and would like to be copied on further notices in the future.

Sincerely,

+ Edus

Kent Edwards Wetlands and Uplands Section Manager

Broward

ilene

www.broward.org

Josephus Eggelletion, Jr. • Ben Graber • Sue Gunzburger • Kristin Dalacob



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control and Prevention (CDC) Atlanta GA 30333

January 8, 2004

Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation 3400 West Commercial Boulevard Fort Lauderdale, Florida 33309-3421



Re: SR-862 (I-595) Project Development and Environment Study Financial Project ID: 409354-1-22-01 Federal Aid Project No: 5951 5391

Dear Mr. Schmidt:

This is in response to your letter of November 5, 2003 requesting our agency's input and comments on the above referenced project. We are responding on behalf of the Department of Health and Human Services (DHHS), U.S. Public Health Service.

While we have no project specific comments to offer at this time, we do recommend that the topics listed below be considered during the NEPA process along with other necessary topics, and addressed if appropriate. Mitigation plans which are protective of the environment and public health should be described in the DEIS wherever warranted.

AREAS OF POTENTIAL PUBLIC HEALTH CONCERN:

I. Air Quality

- dust control measures during project construction, and potential releases of air toxins
 potential process air emissions after project completion
- compliance with air quality standards
- II. Water Quality/Quantity
- special consideration to private and public potable water supply, including ground and surface water resources
- compliance with water quality and waste water treatment standards
- ground and surface water contamination (e.g. runoff and erosion control)
- body contact recreation

III. Wetlands and Flood Plains

- potential contamination of underlying aquifers
- construction within flood plains which may endanger human health
- contamination of the food chain

Page 2 - Gustavo Schmidt, P.E.

IV. Hazardous Materials/Wastes

- identification and characterization of hazardous/contaminated sites
- safety plans/procedures, including use of pesticides/herbicides; worker training
- spill prevention, containment, and countermeasures plan

V. Non-Hazardous Solid Waste/Other Materials

any unusual effects associated with solid waste disposal should be considered

VI. <u>Noise</u>

 identify projected elevated noise levels and sensitive receptors (i.e. residential, schools, hospitals) and appropriate mitigation plans during and after construction

VII. Occupational Health and Safety

• compliance with appropriate criteria and guidelines to ensure worker safety and health

VIII. Land Use and Housing

- special consideration and appropriate mitigation for necessary relocation and other potential adverse impacts to residential areas, community cohesion, community services
- demographic special considerations (e.g. hospitals, nursing homes, day care centers, schools
- consideration of beneficial and adverse long-term land use impacts, including the potential
 influx of people into the area as a result of a project and associated impacts
- potential impacts upon vector control should be considered

IX. Environmental Justice

 federal requirements emphasize the issue of environmental justice to ensure equitable environmental protection regardless of race, ethnicity, economic status or community, so that no segment of the population bears a disproportionate share of the consequences of environmental pollution attributable to a proposed project. (Executive Order 12898)

While this is not intended to be an exhaustive list of possible impact topics, it provides a guide for typical areas of potential public health concern which may be applicable to this project. Any health related topic which may be associated with the proposed project should receive consideration when developing the draft and final EISs. Please furnish us with one copy of the draft document when it becomes available for review.

Sincerely yours,

Paul Jue

Paul Joe, DO, MPH Medical Officer National Center for Environmental Health (F16) Centers for Disease Control & Prevention



Department of Environmental Protection

Jeb Bush Governor Marjory Stoneman Douglas Building 3900 Commonwealth Boulevard, MS 47 Tallahassee, Florida 32399-3000

David B. Struhs Secretary

January 9, 2004

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation, District 4 3400 West Commercial Boulevard Fort Lauderdale, Florida 33309-3421



RE: U.S. Department of Transportation – Advance Notification – SK^a892 Krobin BLK Study – Financial Project ID: 409354–1–22-01 – Federal Aid Project No. 5951-539 Broward County, Florida SAI: FL200311134550C

Dear Mr. Schmidt:

The Florida State Clearinghouse, pursuant to Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the above offerenced advance notification.

The South Florida Water Management District (SFWMD) indicates that highway construction activities will require issuance of an Environmental Resource Permit (ERP) by the SFWMD. A Water Use Permit may also be required for certain de-watering activities (if proposed), particularly if there are any contamination sites in the vicinity. If so, a pre-application meeting with SFWMD and DEP staff should be scheduled to discuss the details of the proposed de-watering activities. Please refer to the enclosed SFWMD comments.

The South Florida Regional Manning Council (SFRPC) indicates that the project must be consistent with the goals and policies of the cities of Fort Lauderdale, Hollywood, Davie, Dania Beach, Plantation, Sunrise. Weston, and Broward County comprehensive plan and their corresponding land development regulations. It is important for the permit grantor to coordinate its permit with the local government granting permits for development at the subject site. Please refer to the enclosed SPIRPC comments.

Based on the information contained in the advance notification and the enclosed state agency comments, the state does not object, at this stage, to the allocation of federal funds for the above-referenced project. The applicant is encouraged to address the agency concerns that are summarized above, and enclosed, at the earliest opportunity in the planning process. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews.

"More Protection, Less Process"

Printed on recycled paper.

Mr. Gustavo Schmidt, P.E. SAI#200311134550C Page 2 of 2

It is recommended that any additional studies or reports be submitted to the Clearinghouse for further review. Final concurrence with the project will be determined during the permitting process.

Thank you for the opportunity to review this project. If you have any questions regarding this letter, please contact Lindy McDowell at 850-245-2163.

Sincerely,

Jacey 43. Manu

Sally B. Mann, Director Office of Intergovernmental Programs

SBM/lbm

Enclosures

CC: Mr. Jim Golden, South Florida Water Management District Ms. Christina Miskis, South Florida Regional Planning Council



Miccosukee Tribe of Indians of Florida

Business Council Members Billy Cypress, Chairman

Jasper Nelson, Ass't. Chairman Max Billie, Treasurer Andrew Bert Sr., Secretary Jerry Cypress, Lawmaker

April 2, 2004

Mr. Gustavo Schmidt FDOT District 4 Planning and Environmental Management 3400 West Commercial Blvd. Ft. Lauderdale, FL 33309-3421

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APR	- 7	2004	
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RE: SR 862 PD&E Study, Federal Project ID: 5951 539 I

Dear Mr. Schmidt:

The Miccosukee Tribe received your letter concerning the above referenced proposed project. The Tribal Chairman referred your letter to me as I am the Tribal Representative for Native American Graves Protection and Repatriation and Section 106 Consultation. Mr. Fred Dayhoff is a Tribal Consultant on these matters. Please direct all future correspondence to me.

We have no direct knowledge of any cultural, religious, or traditional sites at the proposed project location. We suggest that a cultural resources survey be conducted of the project area. We further request that we be kept informed of this project and receive a copy of the cultural resources survey.

Thank you for consulting with us. Please call me at (305) 223-8380, Ext. 2244, if you require further information.

Sincerely, INN

Steve Terry V NAGPRA & Section 106 Representative



Department of Urban Planning and Redevelopment TRANSPORTATION PLANNING DIVISION 115 S. Andrews Avenue, Room 329H • Fort Lauderdale, Florida 33301 • 954-357-6608 • FAX 954-357-6228

Mr. Steven Braun P.E. FDOT District IV 3400 West Commercial Blvd. Fort Lauderdale FL 33309 Dear Mr. Braun: RE: I 595/SR 862 PDE, Financial Project ID 409354-1-22-01 Project New River/SR 84 Greenway

I am in receipt of your December 12, 2005 letter regarding proposed changes to the SR 84/New River Greenway. As we have discussed, FDOT's preferred concept to relocate the greenway to the north side of the New River meets with our approval.

Sincerely

mark E

Mark Horowitz, SPCIV Greenways Project Manager





FLORIDA DEPARTMENT OF STATE Sue M. Cobb Secretary of State DIVISION OF HISTORICAL RESOURCES

Mr. David C. Gibbs Division Administrator Federal Highway Administration 545 John Knox Road, Suite 200 Tallahassee, FL 32303 January 9, 2006

RE: DHR Project File Number: 2005-12519
 Received by DHR: November 29, 2005
 Project: Cultural Resource Assessment Survey (CRAS) for the SR-862 (I-595) Project
 Development and Environment (PD&E) Study from I-75 Interchange West of 136th Avenue to the I-95 Interchange
 Federal-aid Project No.: 5951-547 5951 539-I (project numbers corrected)
 Financial Management #: 413282-1-52-01 409354-1-22-01 (project numbers corrected)
 County: Broward

Dear Mr. Gibbs:

Our office received and reviewed the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966 as amended, 36 CFR Part 800: Protection of Historic Properties, Chapter 267, Florida Statutes, and applicable local ordinances. It is the responsibility of the State Historic Preservation Officer to advise and assist, as appropriate, Federal and State agencies and local governments in carrying out their historic preservation responsibilities; to cooperate with Federal and State agencies to ensure that historic properties are taken into consideration at all levels of planning and development; and to consult with the appropriate Federal agencies in accordance with the National Historic Preservation Act of 1966 as amended, on Federal undertakings that may affect historic properties and the content and sufficiency of any plans developed to protect, manage, or to reduce or mitigate harm to such properties.

A cultural resources assessment survey (CRAS) was conducted and two archaeological sites (8BD82 and 8BD3208) and five historic resources (8BD58, 8BD3279, 8BD4072-4074) were identified within the project's area of potential effect. The *Sewell Lock* (8BD58) is listed in the National Register of Historic Places (NRHP) and two resources, the *Cherry Camp* site (8BD82) and the *North New River Canal* (8BD3279), have been previously determined potentially eligible for listing. The four remaining resources (8BD3208, 8BD4072-4074) were determined to be ineligible for NRHP listing. Based on the information provided, our office finds the submitted report complete and sufficient and concurs with the findings.

As you may be aware, in December of 2005, Sherry Anderson from our office along with representatives from the Florida Department of Transportation, District Five, conducted a field visit to the project

500 S. Bronough Street . Tallahassee, FL 32399-0250 . http://www.fiheritage.com

Director's Office	□ Archaeologic	al Research	2 Historic 1	reservation	Historica (850) 245-6400	al Museums	
(850) 245-6300 • FAX: 245-6435	(850) 245-6444 • 1	FAX: 245-6435	(850) 245-6333	• FAX: 245-6437		• FAX: 245-6433	
□ Palm Beach R	egional Office	5 St. Augustin	e Regional Office	☐ Tampa Reg	ional Office		
(561) 279-1475 • I	AX: 279–1476	(904) 825-5045	FAX: 825-5044	(813) 272-3843 • F	AX: 272-2340		

p.2

Mr. David C. Gibbs January 9, 2006 Page 2

corridor. Although the *Cherry Camp* site is located outside of the project area, it was the subject of a Conservation Plan that was recommended in the CRAS for the Westbound I-595 to Westbound SR 84 Slip Ramp project. As part of this plan, the installation of a boundary fence was proposed in order to prevent staging areas or temporary access roads from impacting the site. We recently asked that this fence be erected as soon as possible due to the fact that an emergency response staging area is currently located in the vicinity of the site. Our office further recommends that this boundary fence be kept in place for the duration of the I-595 project.

The field visit also indicated that there would be some changes occurring in the vicinity of the Sewell Lock and the North New River Canal. Our office looks forward to further consultation with you regarding the project plans and assessment of effects to these two significant resources.

If you have any questions concerning our comments, please contact Sherry Anderson, Architectural Historian, Transportation Compliance Review Program, by email *sanderson@dos.state.fl.us*, or at 850-245-6432.

Sincerely,

einh P. Gul

Frederick P. Gaske, Director, and State Historic Preservation Officer

XC: Ms. Ann Broadwell, FDOT, District Four



UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office 263 13th Avenue South St. Petersburg, Florida 33701-5511 (727) 824-5317; FAX (727) 824-5300 http://sero.nmfs.noaa.gov/

February 23, 2006

F/SER4:MM/dd

Mr. Steven C. Braun, P.E. District Planning and Environmental Management Florida Department of Transportation, District 4 3400 West Commercial Boulevard Ft. Lauderdale, Florida 33309-3421

Dear Mr. Braun:

This is in response to your January 31, 2006, letter and the draft Endangered Species Biological Assessment (ESBA) on the I-595/SR-862 Road Improvement Project (Financial Project Number: 409354-1-22-01) in Broward County, Florida. You requested section 7 consultation with the National Marine Fisheries Service (NMFS) pursuant to the Endangered Species Act (ESA). The Florida Department of Transportation (FDOT) as the U.S. Federal Highway Administration (FHWA) designated non-federal representative for section 7 consultation with NMFS has determined the proposed project is "not likely to adversely affect threatened and endangered species under the jurisdiction of NMFS". You requested our comments on the draft ESBA and concurrence of your findings.

The project is located in south Florida and transverse east to west in Broward County. The total length of the project is 10 miles from the I-75/Sawgrass Expressway to the eastern limit of I-95 interchange. The project is in the Project Development and Environment (PD&E) stage. The proposed improvements that are being studied include: 1) Reversible lanes serving traffic from I-75 to east of SR 7; 2) Continuous connection of SR 84 between Davie Road and SR 7; 3) Collector-Distributor system between Davie Road and I-95; 4) Modifications to the I-595/Florida's Turnpike interchange; 5) Braided interchange ramps to eliminate mainline weaving segments; 6) Bypass systems that combine two interchanges of traffic on one ramp to reduce the number of entrance/exit points along mainline; 7) Two-lane off-ramps, as needed; 8) Stormwater collection systems; 9) Bicycle lanes along the shoulder; 10) Bi-directional path along the outside of eastbound SR 84 between SW 136th Ave and Davie Road; and 11) Transit system integrated in the corridor. The eastern part of the project corridor entails impacting estuarine habitat in Apple Pond slough. Construction activities and methods are not defined at this point and no specific conservation measures are provided.

NMFS understands that the project is in the PD&E stage and the implementation date of the project is not certain. However, based on the information provided we are unable to concur with your determination. The information provided is not sufficient to adequately evaluate the effects of the project to listed species. As one of the Cooperating Agencies for the proposed project, we request that you provide the following information as the project progresses to the design, permitting, and implementation stage or the information may be incorporated in your final ESBA:

1. A detailed description of the construction activities. The information should describe whether inwater work will be implemented, types of construction methods proposed (i.e. pile drivers, cranes, dredger, hoppers, or barges, etc.);

- 2. A list of conservation and avoidance measures for listed species on construction activities (i.e. best management practices for water quality protection and erosion control to be implemented in the project design and implemented during construction;
- 3. A short description or drawings of the new bridge. The drawing or description should indicate the number of piles in the water for the bridge fenders and the location of the new piers; and
- 4. A Stormwater Management Plan. The plan should include the type of treatment and maintenance of the stormwater treatment system. In addition, the treatment should be in accordance with state and federal (NPDES) standards.

The above information will assist in the effects analysis and whether direct or indirect impacts may occur. It will also provide us a concept whether the provided list of conversation measures during construction activities are adequate to protect listed species or additional provisions are needed. To assist you, we have enclosed additional information on other statutory requirements that may apply to this action, as well as NMFS' new mechanism to allow you to track the status of this and other ESA consultations.

We appreciate your continued cooperation in the conservation of listed species and look forward to continue working with you in the future. Questions should be directed to Ms. Madelyn T. Martinez at (727) 824-5329 or by e-mail at Madelyn.Martinez@noaa.gov.

Sincerely,

/ for

Roy E. Crabtree, Ph.D. Regional Administrator

cc: (via electronic mail) COE, Palm Beach Gardens USCG USFWS, Vero Beach FDEP FDOT, District 4, Ann Broadwell SFWMD F/SER47, Karaszia F/SER47, Martinez

- 2 -

Additional Considerations for ESA Section 7 Consultations (Revised 12-6-2005)

Marine Mammal Protection Act (MMPA) Recommendations: The Endangered Species Act (ESA) section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA section 101 (a)(5) is necessary. Contact Ken Hollingshead of our NMFS Headquarters' Protected Resources staff at (301) 713-2323 for more information on MMPA permitting procedures.

Essential Fish Habitat (EFH) Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division (PRD) pursuant to section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act's (MSA) requirements for essential fish habitat (EFH) consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

<u>Public Consultation Tracking System (PCTS) Guidance</u>: PCTS is an online query system allowing federal agencies and U.S. Army Corps of Engineers' (COE) permit applicants to track the status of NMFS consultations under ESA section 7 and under MSA sections 305(b)2 and 305(b)(4): Essential Fish Habitat. Access PCTS via: <u>www.nmfs.noaa.gov/pcts</u>. Federal agencies are required to enter an agency-specific username and password to query the Federal Agency Site. The Corps Permit Site allows COE permit applicants the ability to check on the current status of Clean Water Act section 404 permit actions for which NMFS has conducted an ESA section 7 consultation with the COE since the beginning of the 2001 fiscal year (no password needed).

For COE-permitted projects, click on "Enter Corps Permit Site." From the "Choose Agency Subdivision (Required)" list, pick the appropriate COE district. At "Enter Agency Permit Number" type in the COE district identifier, hyphen, year, hyphen, number. The COE is in the processing of converting its permit application database to PCTS-compatible "ORM." An example permit number is: SAJ-2005-000001234-IPS-1. For the Jacksonville District, which has already converted to ORM, permit application numbers should be entered as SAJ (hyphen), followed by 4-digit year (hyphen), followed by permit application numeric identifier with no preceding zeros. E.g., SAJ-2005-123, SAJ-2005-1234, SAJ-2005-12345.

For inquiries regarding applications processed by Corps districts that have not yet made the conversion to ORM (e.g., Mobile District), enter the 9-digit numeric identifier, or convert the existing COE-assigned application number to 9 numeric digits by deleting all letters, hyphens, and commas; converting the year to 4-digit format (e.g., -04 to 2004); and adding additional zeros in front of the numeric identifier to make a total of 9 numeric digits. E.g., AL05-982-F converts to 200500982; MS05-04401-A converts to 200504401. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov. Requests for username and password should be directed to April Wolstencroft (PCTSUsersupport@noaa.gov).



UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office 263 13th Avenue South St. Petersburg, Florida 33701-5511 (727) 824-5317; FAX (727) 824-5300 http://sero.nmfs.noaa.gov/

February 23, 2006

F/SER4:MM/dd

Mr. Steven C. Braun, P.E. District Planning and Environmental Management Florida Department of Transportation, District 4 3400 West Commercial Boulevard Ft. Lauderdale, Florida 33309-3421

Dear Mr. Braun:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Florida Department of Transportation's (FDOT) draft Essential Fish Habitat (EFH) Assessment for the I-595 Road Improvement Project in Broward County, Florida (Financial Project Number: 409354-1-22-01). The draft EFH assessment was included in your letter dated January 31, 2006, as a response to our December 31, 2003, and March 31, 2005, letters requesting additional information as well as an agency coordination meeting on June 28, 2005. It is anticipated that approximately six acres of direct and indirect impacts to mangrove habitat would result from the proposed project and several mitigation plans are proposed. Your letter solicits NMFS comments and concurrence for the proposed project.

NMFS understands that the project is in the Project Development and Environment stage and the final road designs and implementation date of the project is not certain. Based on the information provided, FDOT has addressed our concerns in the draft EFH assessment and we have no additional comments regarding that assessment. As a Cooperating Agency for the proposed project, we look forward in reviewing your proposed mitigation plan alternatives as the project progresses to the design, permitting, and implementation stages. From the list of proposed mitigation plan alternatives in the draft EFH assessment, we recommend the acquisition of the five vacant parcels on the east side of South Fork New River as the preferred mitigation for the unavoidable impacts to mangrove habitat.

Thank you for the opportunity to provide comments. Questions should be directed to the attention of Ms. Madelyn T. Martinez. She may be reached by telephone at (727) 824-5329 or by e-mail at <u>Madelyn.Martinez@noaa.gov</u>.

Sincerely,

/ for

Miles M. Croom Assistant Regional Administrator Habitat Conservation Division



cc: (via electronic mail) COE, Palm Beach Gardens USCG USFWS, Vero Beach FDEP FDOT, District 4, Ann Broadwell SFWMD F/SER4 F/SER47, Karaszia F/SER47, Martinez









STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

I-595 PD&E STUDY

NOISE BARRIERS DURING THE FINAL DESIGN PHASE OF THE PROJECT



Noise Barrier Number (Area ID Number)	General Location	Community Name (Area ID Number)	Type of Noise Sensitive Site	Optimal Conceptual Barrier Design Number	Barrier Type	Height Lei (feet) (fe	igth iet)	Begin Station Number	End Station Number	Number of Affected Receivers	Average Noise Reduction for Affected Receivers (dBA)	Number of Affected/ Benefited Receivers	Number of Benefited Receivers/N ot Affected	Total Number of Benefited Receivers	Average Noise Reduction for all Benefited Receivers (dBA)	Cost	Average Cost/Site Benefited	Optimal Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$35,000 per Benefited Receiver Site	Noise Barrier Recommended for Further Consideration and Community Input	Estimated Cost of Noise Barriers	Total Number of Benefited Receivers	Average Cost per Site Benefited
Between SW 136 th B-1 Avenue and					Shoulder Mounted on MSE Wall (I-595)	8 2	40	153+20	155+60													
		Residential		Shoulder Mounted on Bridge (I-595)	8 3	40	155+60	159+00		8.8	54		79	8.5	\$1,782,780	\$22,567	Yes	Yes	\$1,782,780	79	\$22,567	
	Sunshine City		CD13	Shoulder Mounted on MSE Wall (I-595)	81,	20	159+00	170+00	61			25										
(A-1)	Flamingo Road - North of I-595	(A-1)	(A-1) (Mobile Home Park)		Shoulder Mounted (I-595)	8 800	00	170+00	178+00	_												
					Ground Mounted	22 1,	i90 —	157+15	165+50	-												
							166+25	174+80														
B-2	Between SW 136 th Avenue and	Paradise Village (A-7)	Residential (Mobile Home Park)	CD4	Ground Mounted	22 1.	540	190+00	194+00	71	71 5.1	43	0	43	7.4	\$847.000	\$19.698	Yes	Yes	\$847,000	43	\$19,698
(A-7, A-8)	Flamingo Road - South of I-595	Kings Manor Estates (A-8)	Residential (Mobile Home Park)			,		194+60	206+00								<i></i>	165	105			
B-3	Between Flamingo	Plantation Acres (A-9)	Residential (Single Family)																			
(A-9, A-10) Road - North of I-595	Acres South Park (A-10)	Park (Passive Recreation)	CD10	Ground Mounted	22 4,	'40	217+60	265+00	39	7.6	30	1	31	8.6	\$2,607,000	\$84,097	No	Yes	\$2,607,000	31	\$84,097	
B-4 (A-13)	Between Hiatus Road and Nob Hill Road - North of	Hawks Landing (A-13)	Residential (Single Family)	CD6	Ground Mounted	22 4,	900	269+00	318+00	42	5.7	36	19	55	7.2	\$2,695,000	\$49,000	No	Yes	\$2,695,000	55	\$49,000
B-5 (A-17, A-18, A-19) Between Nob Hill Road and Pine Island Road - North of I-595	The Trellises Condos (A-17)	Multi-Family Residential (Two Story Townhomes)))																			
	Between Nob Hill Road and Pine Island Road - North	Davide Isles (A-18)	Single Family Residential	CD4	Ground Mounted	22 5,00	000	322+00	372+00	65	6.2	57	7	64	7.0	\$2,750,000	\$42,969	No	Yes	\$2,750,000	64	\$42,969
	of I-595	Jacaranda Villas (A-19)	Multi-Family Residential (Multi-Story Condominium Buildings)	-																		
B-6 (A-21)	Between Nob Hill Road and Pine Island Road - South of I-595	Evergreen Place (A-21)	Multi-Family Residential (Multi-Story Condominium Buildings)	CD6	Ground Mounted	22 1,	00	340+00	351+00	41	4.3	19	0	19	5.6	\$605,000	\$31,842	Yes	Yes	\$605,000	19	\$31,842
B-7	Arrowh and T Between Pine Island CI Dad and University (A	Arrowhead Golf and Tennis Club (A-24)	Multi-Family Residential (Multi-Story Apartment Buildings)	- CD3	Ground Mounted	22 3	30	410+20	413+50		1 7.9	21	2	23	7.8	\$511,500	\$22,239	Yes	Yes	\$511,500	23	\$22,239
(A-24, A-25) Drive - South of I- 595	Drive - South of I- 595	Valencia Village (A-25)	Multi-Family Residential (Multi-Story Apartment Buildings)		Ground Mounted	22 6	00	414+40	4+40 420+40 21	21												
B-8 (A-26)	Between University Drive and Florida's Turnpike - North of I- 595	Lake View • Estates (A-26)	Residential (Single Family)	CD4	Ground Mounted	20 5,	100	431+00	485+00	54	8.8	52	33	85	8.0	\$2,700,000	\$31,765	Yes	Yes	\$2,700,000	85	\$31,765
B-9 (A-27)	Between University Drive and Florida's Turnpike - North of I- 595	Isla del Sol · (A-27)	Residential (Single Family)	CD1	Ground Mounted	14 1,	00	486+00	497+00	12	4.2	6	1	7	7.4	\$385,000	\$55,000	No	Yes	\$385,000	7	\$55,000
		Archstone	Multi-Family Residential (Multi-Story Apartment Buildings)	CD4 -	Shoulder Mounted on	8 4	00	624+00 628+00														
B-10 Bet (A-36) 95	Between SR 7 and I- 95 - North of I-595	Apartments (A-36)			Ground Mounted	22 2.	60	595+40	626+80	28	3.2	10	33	43	6.9	\$1,756,000	\$40,837	No	Yes	\$1,756,000	43	\$40,837
Betwee	Between Griffin	Evergladas	Residential (Mobile Home Park)	CD10	Shoulder Mounted	8 1,	90 4	4761+00 4772+00														
(A-40)	West of Florida's Turnpike	s Lakes (A-40)			Ground Mounted	20 1,	/80	4752+00	4769+00	31	9.5	31	12	43	8.6	\$1,352,160	\$31,446	Yes	Yes	\$1,352,160	43	\$31,446
B-12 (A-42)	Between I-595 and Peters Road - West of Florida's Turnpike	Plantation Harbor (A-42)	Residential (Single Family)	CD3	Shoulder Mounted	12 2,	625 ·	4815+00	4841+25	23	9.2	23	6	29	8.8	\$1,480,500	\$51,052	No	Yes	\$1,480,500	29	\$51,052

Table 7-1 Locations Recommended for Further Consideration for Noise Barriers During the Final Design Phase of the Project (Alternative 2A)

I:\I-595PD&EStudy\Noise Study Report Draft\NSR_PostPublicHearing\[Table7-1_NoiseBarrier Summary Table021206.xls]Table7.1

Conceptual noise barrier design that meets FDOT's reasonable cost criteria and recommended for further consideration during the Final Design phase of the project

Conceptual noise barrier design that does not meet FDOT's reasonable cost criteria but considered a priority location for cost averaging during the Final Design phase of the project



U.S. Department of Transportation

Federal Highway Administration 545 John Knox Road, Suite 200 Tallahassee, Florida 32303

(850) 942-9650

In Reply Refer To: HPO-FL

March 14, 2006

Mr. Gustavo Schmidt, P.E. District Planning and Environmental Engineer Florida Department of Transportation 3400 West Commercial Blvd. Ft. Lauderdale, Florida 33309

Attention: Mr. Steven C. Braun, P.E.

Dear Mr. Schmidt:

Subject: Programmatic Section 4(f) Evaluation I-595 /SR-862 from west of I-75/Sawgrass Expressway to east of I-95 Federal-Aid Project No.: 595-1 (539) I Financial Project ID: 409354-1-22-01 Broward County

The Federal Highway Administration (FHWA) has reviewed the Programmatic Section 4(f) Evaluation submitted to our office. Under Section 4(f), the U.S. DOT shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from a historic site of national, State, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use.

The subject document applies to the New River/SR 84 Greenway in Broward County. The Greenway, which will provide access to other park facilities, will extend for 11 miles from the Everglades to Port Everglades. For most of its length, the Greenway is located along the north side of SR 84, on the banks of the North New River Canal.

The I-595 project proposes the relocation of 1.7 miles of the Greenway from the south side of the New River Canal to the north side, from west of Turnpike to Riverland Woods Park, east of SR 7 (U.S. 441). The 1.7-mile segment represents 1% of Broward County's 183-mile greenway network.

An evaluation of alternatives to avoid and minimize impacts to the greenway was presented in the document. Based on our review, and subsequent contacts in regards to South Florida Water Management District (SFWMD)'s right-of-way use for the relocation of the greenway, we find this to be a satisfactory evaluation. Based on a February 23, 2006 letter from Reynolds, Smith and Hills, Inc, documenting a meeting with the SFWMD, the relocation will be acceptable to





Mr. Gustavo Schmidt, P.E. March 14, 2006

them as long as it remains flush with the ground, does not impact maintenance operations, and erosion concerns are addressed during construction and final disposition of the greenway.

Therefore, the document is approved and two signed copies are enclosed. Should you have any questions, please contact Mrs. Nahir DeTizio at (850) 942-9650, extension 3027.

Sincerely,

For:

/s/ Nahir DeTizio David Gibbs Division Administrator

Enclosures

cc: Mr. Paul Lampley, FDOT (District 4) Ms. Ann Broadwell, FDOT (District 4) Mr. Roy Jackson, FDOT CEMO



United States Department of the Interior

FISH AND WILDLIFE SERVICE South Florida Ecological Services Office 1339 20th Street Vero Beach, Florida 32960

March 6, 2006



Steven Braun Florida Department of Transportation 3400 West Commercial Boulevard Fort Lauderdale, Florida 33309-3421

> Service Consultation Code: 41420-2006-I-0045 Federal Activity Code: 41420-2006-FA-0252 Date Received: January 3, 2006 Project: Improvements to Interstate 595 County: Broward

Dear Mr. Braun:

The Fish and Wildlife Service (Service) has reviewed your letter and draft Endangered Species Biological Assessment dated January 31, 2006, submitted by the Florida Department of Transportation (FDOT) on behalf of the Federal Highway Administration for the project referenced above. This letter is submitted in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 *et seq.*).

PROJECT DESCRIPTION

The FDOT proposes to conduct a Project Development and Environment Study for improvements to Interstate 595 from the Interstate 75 (I-75) interchange to the Interstate 95 interchange. The project improvements include: the construction of reversible lanes from I-75 to State Road 7; connecting State Road 84 from Davie Road to SR 7; modifying the interchange at Florida's Turnpike, constructing two-lane off ramps where needed along the corridor; installing curb and gutter systems for stormwater collection at selected locations along the corridor; and widening and paving shoulders for bicycle use along State Road 84. Two alternatives are being proposed for the reversible lanes within the corridor. Alternative 1B proposes that the two 12-foot wide reversible lanes be constructed within the center median at grade, while Alternative 2A would construct the reversible lanes on a bridge structure in the median. The project site is located in Broward County, Florida.



Steven Braun

American crocodile

The project occurs within the geographic range of the endangered American crocodile (*Crocodylus acutus*). The project is not expected to significantly affect the American crocodile and the FDOT has determined the project "may affect, but is not likely to adversely affect the crocodile. The Service concurs with this determination.

Audubon's crested caracara

The project occurs outside the geographic range of the threatened Audubon's crested caracara (*Polyborus cheriway*). The FDOT has determined the project "may affect, but is not likely to adversely affect the caracara. The Service concurs with this determination.

Bald eagle

The project site is located within geographic range of the threatened bald eagle (*Haliaeetus leucocephalus*). Active nesting territories of the bald eagle are not known to occur in or near the project corridor. The FDOT has determined the project "may affect, but is not likely to adversely affect the bald eagle. The Service concurs with this determination.

Snail kite

The project site is located within geographic range of the endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*). The project is not expected to significantly affect snail kite nesting areas. The FDOT has determined the project "may affect, but is not likely to adversely affect the snail kite. The Service concurs with this determination.

Florida panther

The project occurs outside of the Service's consultation area for the endangered Florida panther. The FDOT has determined the project will not affect the Florida panther. The Service supports this determination.

West Indian manatee

The project site is located within geographic range of the endangered West Indian manatee (*Trichechus manatus*). To protect manatees, the FDOT has agreed to follow the Service's *Standard Manatee Construction Conditions* during implementation of the project. The Corps has determined the project will "not affect" the manatee. The Service supports this determination.

Steven Braun

Eastern indigo snake

The project occurs within the geographic range of the threatened eastern indigo snake (*Drymarchon corais couperi*). During construction, the FDOT has agreed to implement the Service's *Standard Protection Measures for the Eastern Indigo Snake* (Service 2002a), which will minimize adverse effects to this species.

Wood stork

The project site is located within the core foraging area (CFA) (within 18.6 miles) of an active breeding colonies of the endangered wood stork (*Mycteria americana*). The Service believes the loss of wetlands within a CFA may reduce foraging opportunities for wood storks. To minimize adverse effects to the wood stork, the Service's *Draft Supplemental Habitat Management Guidelines for the Wood Stork in the South Florida Ecological Services Consultation Area* (Service 2002b) (Guidelines) recommends the applicant replace wetlands lost due to the action. The compensation plan should include a temporal lag factor, if necessary, to ensure wetlands provided as compensation adequately replace the wetland functions lost due to the project. Moreover, wetlands offered as compensation should be of the same hydroperiod, and located within the CFA of the affected wood stork colony. In some cases, the Service accepts wetlands compensation located outside the CFA of the affected wood stork nesting colony. Specifically, wetland credits purchased from a "Service Approved" mitigation bank located outside the CFA would be acceptable to the Service, provided the impacted wetlands occur within the permitted service area of the bank.

The FDOT has determined the project "may affect, but is not likely to adversely affect" the wood stork. The project will result in impacts to wetlands that may provide foraging habitat for the wood stork. To compensate for impacts to wetlands, the FDOT has agreed to provide wetland mitigation that complies with the Guidelines. The Service concurs with the FDOT's determination for the wood stork.

This letter fulfills the requirements of section 7 of the Act and no further action is required. If modifications are made to the project, if additional information involving potential effects to listed species becomes available, or if a new species is listed, reinitiation of consultation may be necessary.

FISH AND WILDLIFE RESOURCES

The project has the potential to impact fish and wildlife habitat and protected lands located at Pond Apple Slough, Secret Wood, and Hacienda Flores conservation areas. We recommend the project be designed to avoid and minimize impacts to these areas to the greatest extent practicable. Steven Braun

Thank you for allowing us to provide these comments and for your cooperation and effort in protecting federally listed species. If you have any questions regarding this project, please contact John Wrublik at 772-562-3909, extension 282.

Sincerely yours,

Allen D. Webl gres

James J. Slack Field Supervisor South Florida Ecological Services Office

cc:

EPA, West Palm Beach, Florida (Richard Harvey) FWC, Vero Beach, Florida (Joe Walsh)

LITERATURE CITED

- U.S. Fish and Wildlife Service (Service). 2002a. Draft standard protection measures for the eastern indigo snake. South Florida Ecological Services Office; Vero Beach, Florida.
- U.S. Fish and Wildlife Service (Service). 2002b. Draft Supplemental Habitat Management Guidelines for the Wood Stork in the South Florida Ecological Services Consultation Area. Fish and Wildlife Service, South Florida Ecological Services Office; Vero Beach, Florida.