I-595 (SR-862)

PROJECT DEVELOPMENT & ENVIRONMENT STUDY

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From the I-75 Interchange
To the I-95 Interchange
Broward County, Florida

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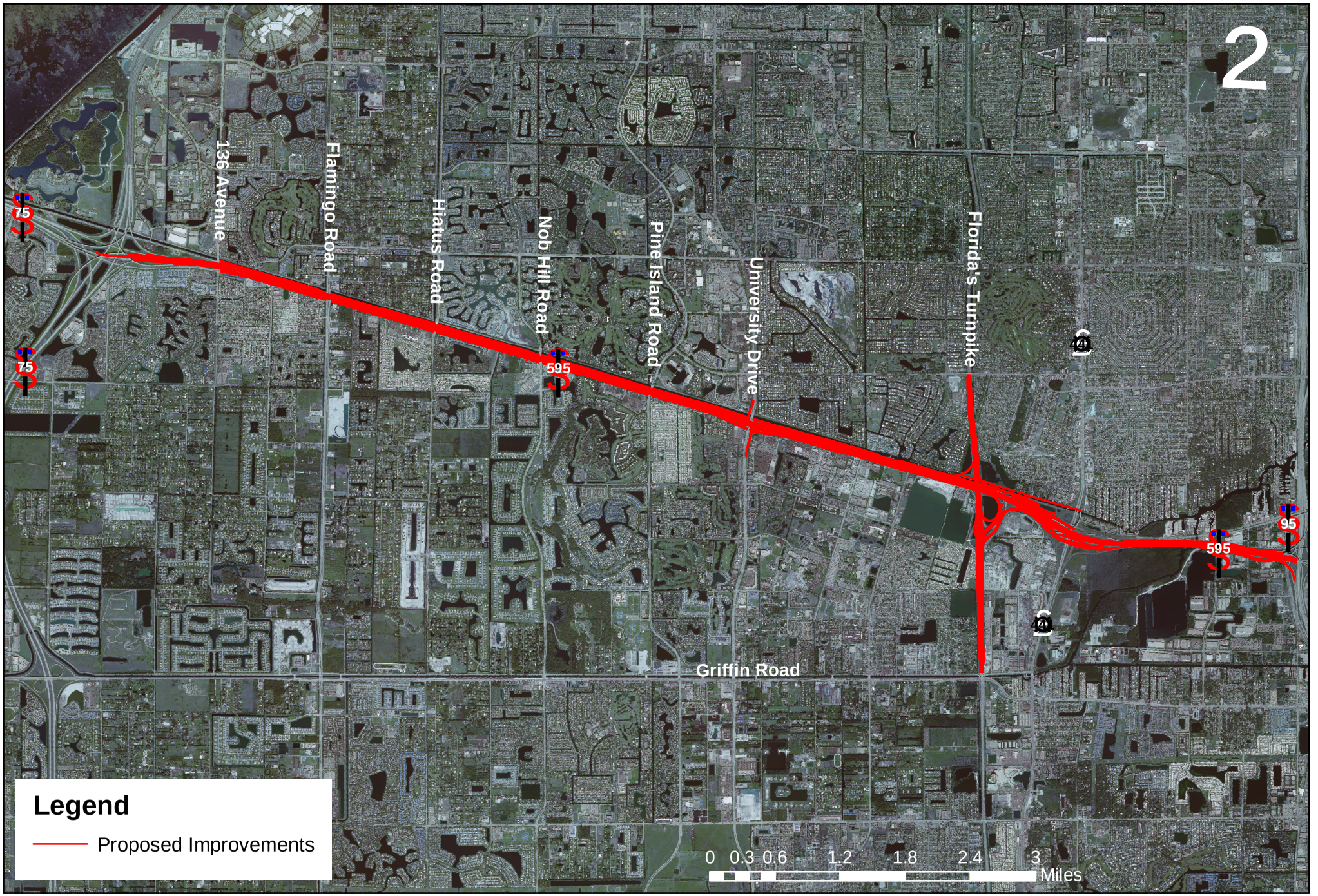
1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study for proposed improvements to the I-595 corridor in central Broward County, Florida. The PD&E Study limits extend from the I-75/Sawgrass Expressway interchange (Mile Post 0.592) west of 136th Avenue to the I-95 interchange (Mile Post 10.407) for a total project length of approximately 10 miles. Figure 1-1 illustrates the location and limits of the project.

The purpose of this report is to present the findings of a wetland evaluation for the proposed improvements and 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 (USDOT) Order 5660.1A (August 24, 1978), and Federal Highway Administration (FHWA) Technical Advisory T6640.8A (October 30, 1987). This report discusses the potential of the proposed improvements to impact wetlands and identifies potential mitigation to offset unavoidable impacts to wetlands.



RS&H	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY WETLAND EVALUATION REPORT PROJECT LOCATION MAP	FIGURE 1-1

2.0 PROJECT DESCRIPTION

The western study limit is the I-75/Sawgrass Expressway interchange and the eastern study limit is the I-95 interchange. The total project length is approximately ten miles. I-595 is currently a six general purpose lane, limited access facility with interchanges I-75/Sawgrass Expressway, 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 US 441 (SR 7). Also included in the study limits is SR 84, which has two westbound lanes immediately north of I-595 and two eastbound lanes immediately south of I-595.

The proposed improvements being studied include:

- Reversible lanes serving express traffic from I-75 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
- Modifications to the I-595/Florida's Turnpike interchange
- Braided interchange ramps to eliminate mainline weaving segments
- Bypass systems that combine two interchanges of traffic on one ramp to reduce the number of entrance/exit points along mainline
- Two-lane off-ramps, as needed
- Curb-and-gutter systems at select locations for stormwater collection
- Continuous shoulders that provide bicycle areas along the outside SR-84 travel lanes
- Shared-use, bi-directional path located along the outside of eastbound SR 84, between SW 136th Avenue and Davie Road.
- Transit envelope, for a system such as a commuter rail, integrated into the corridor (with details of the concept to be developed in a separate study)

Additional details regarding the proposed improvements are available in the Preliminary Engineering Report prepared for this study. This study is a continuation of the I-95/ I-595 Multimodal Transportation Corridor Master Plan Study completed in March 2003. The Master Plan included a Tier One Alternative Corridor Study and evaluated fifteen different build alternatives and produced a Locally Preferred Alternative (LPA) based on interagency coordination and public comment received at a Public Hearing conducted on November 16, 2000. The LPA was adopted by the Broward County Metropolitan Planning Organization (MPO) on January 7, 2003 and subsequently approved by the Federal Highway Administration (FHWA).

The objective of the I-595 PD&E Study is to re-examine the original justifications for the Master Plan LPA and accommodate a new design year of 2032, which adds 14 years of additional traffic growth to the corridor. Based on the updated conditions in the project area, four design alternatives were developed that all maintained the basic design components of the Master Plan LPA. Two alternatives were eliminated based on a comparative analysis resulting in further consideration of Alternatives 1B and 2A during the PD&E Study.

The typical sections proposed for Alternatives 1B and 2A will each provide six 12-foot wide general purpose lanes (three per direction) and two 12-foot auxiliary lanes between interchanges. The I-595 mainline will have 10-foot paved shoulders on both the inside and outside.

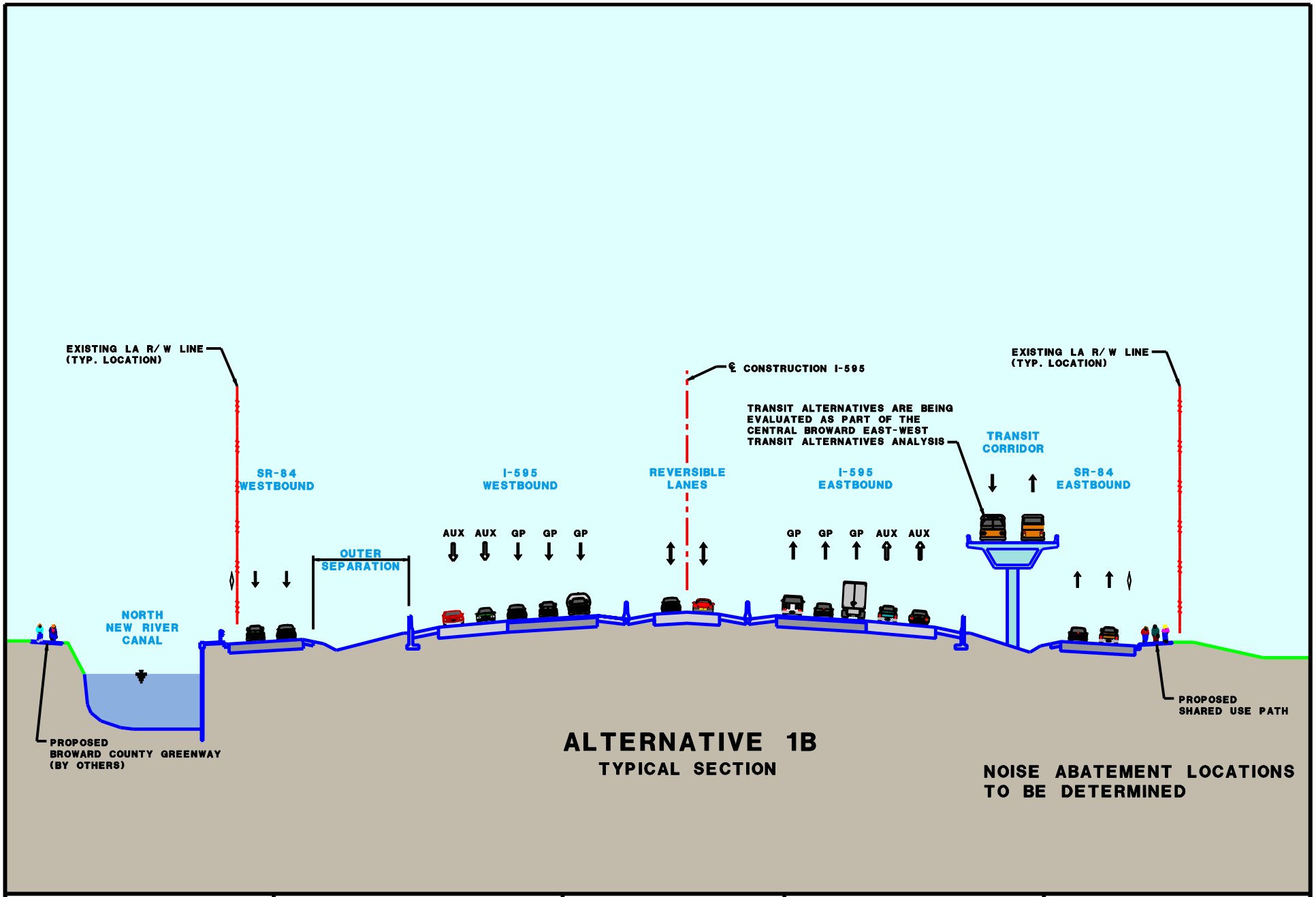
SR 84 will have two 12-foot lanes with 4-foot paved shoulders to the inside and to the outside. Type F curb and gutter and 6 feet to 12 feet of shared-use sidewalk/bicycle path will be included on the outside.

The configuration of the reversible lanes features is the primary way in which the two alternatives differ.

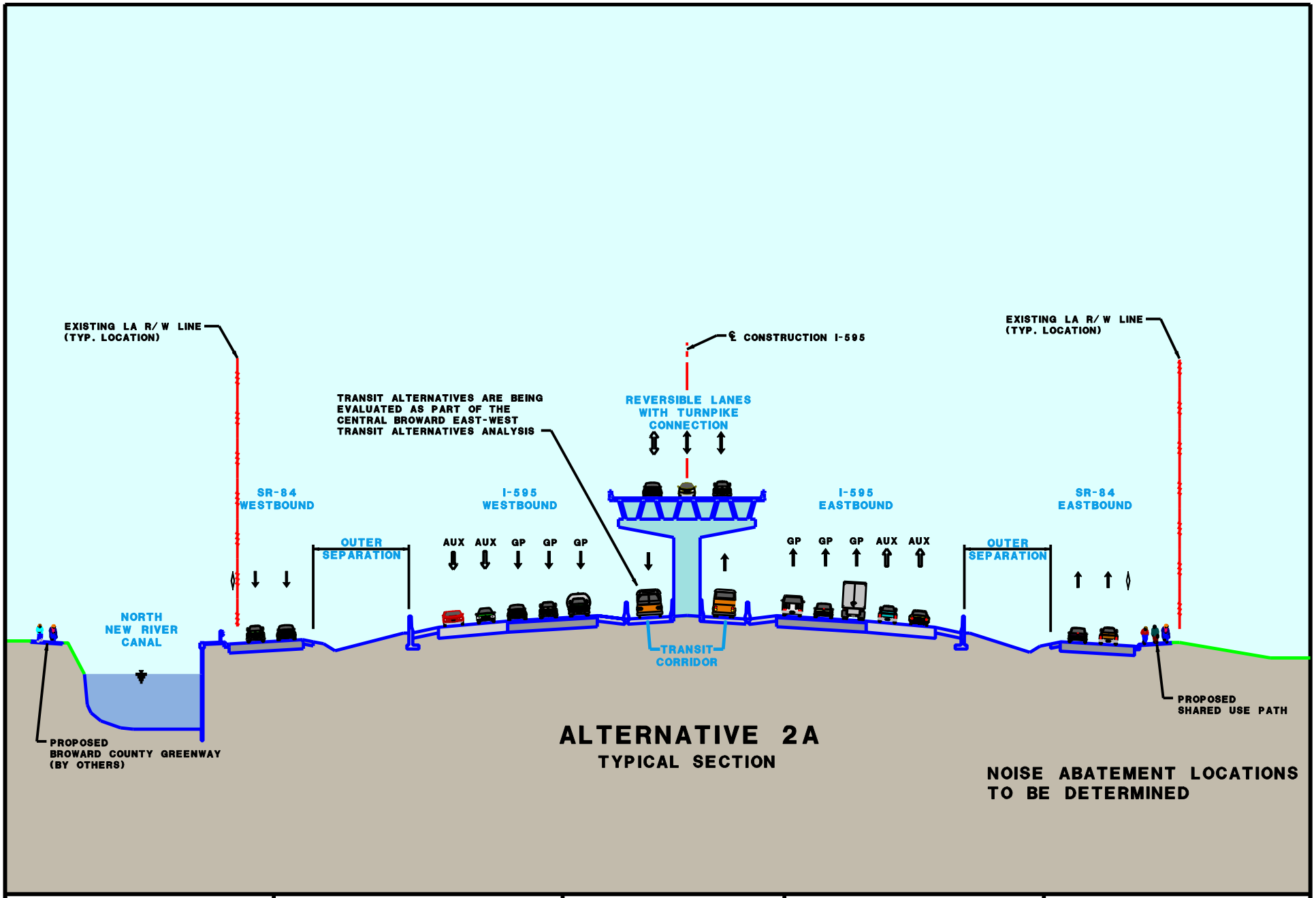
- **Alternative 1B** proposes that the reversible lanes be constructed at grade level within the I-595 median, separated from the mainline by median barrier walls. Under this design concept, there will be two 12-foot reversible lanes with 10-foot shoulders.

- **Alternative 2A** proposes that the reversible lanes be carried on a bridge structure that is 59 feet wide. It, too, will be located within the I-595 median. In Alternative 2A, there will be three 12-foot reversible lanes with 10-foot shoulders. Alternative 2A will also provide direct connect ramps from the reversible lanes to the Turnpike median.

The proposed typical sections for **Alternatives 1B** and **2A** are shown in Figures 2-1 and 2-2. Both alternatives have the same wetland impacts.



RS&H Reynolds, Smith and Hills, Inc. Architecture, Engineering and Planning	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY	ALTERNATIVE 1B TYPICAL SECTION	FIGURE 2-1



RS&H Reynolds, Smith and Hills, Inc. Architecture, Engineering and Planning	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY	ALTERNATIVE 2A TYPICAL SECTION	FIGURE 2-2

3.0 PROJECT NEED

The various improvements that comprise this project address a number of statewide, regional and corridor-specific needs. A detailed discussion of the project justification is provided in Preliminary Engineering Report. Statewide needs can be summarized as enhancing safe operation, expanding the service life of the corridor, boosting state and regional economic competitiveness in the global market, and ensuring that the qualities of life that are of value to Florida citizens are sustained. Regional needs include improving system linkages and modal interrelationships, accommodating transportation and social demands, and supporting economic development.

Within Miami-Dade, Broward and Palm Beach Counties, the I-595 corridor is the only east-west 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 western study limit, I-595 becomes I-75, which provides a direct connection to the Gulf Coast. This linkage is important for many reasons since I-595 plays an important role in the regional, statewide and national distribution of products. I-595 is also a critical link between other components of the Florida Intrastate Highway System network, such as US 27 (west of the project corridor), Sawgrass Expressway, I-75, Florida's Turnpike and I-95. It is also an important link to Strategic Intermodal System network components for other travel modes such as freight and passenger rail, port, aviation and intercity transit. I-595 is also an important emergency evacuation route for Southeast Florida.

Corridor specific needs include reductions of incident-related delay and design solutions for the existing interchange design deficiencies, and unsafe weaving and merging conditions within the project corridor. Broward County MPO's 2030 Long-Range Transportation Plan includes all the elements of the proposed project.

4.0 WETLAND IDENTIFICATION AND IMPACT ASSESSMENT

The methods used to determine the impacts of the proposed project on each wetland include the following:

- Wetlands within 500 feet of the proposed improvements were identified using the U.S. Fish and Wildlife Service (FWS) “Classification of Wetlands and Deepwater Habitats of the United States.”

- Wetlands were delineated according to the U.S. Army Corps of Engineers (ACOE) "Wetlands Delineation Manual," (1987) and the Florida Department of Environmental Protection’s "Florida Wetlands Delineation Manual" (1995). Wetland boundaries were delineated with the aid of the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) “Soil Survey of Broward County Florida (1984), several aerial photos, and field observations.

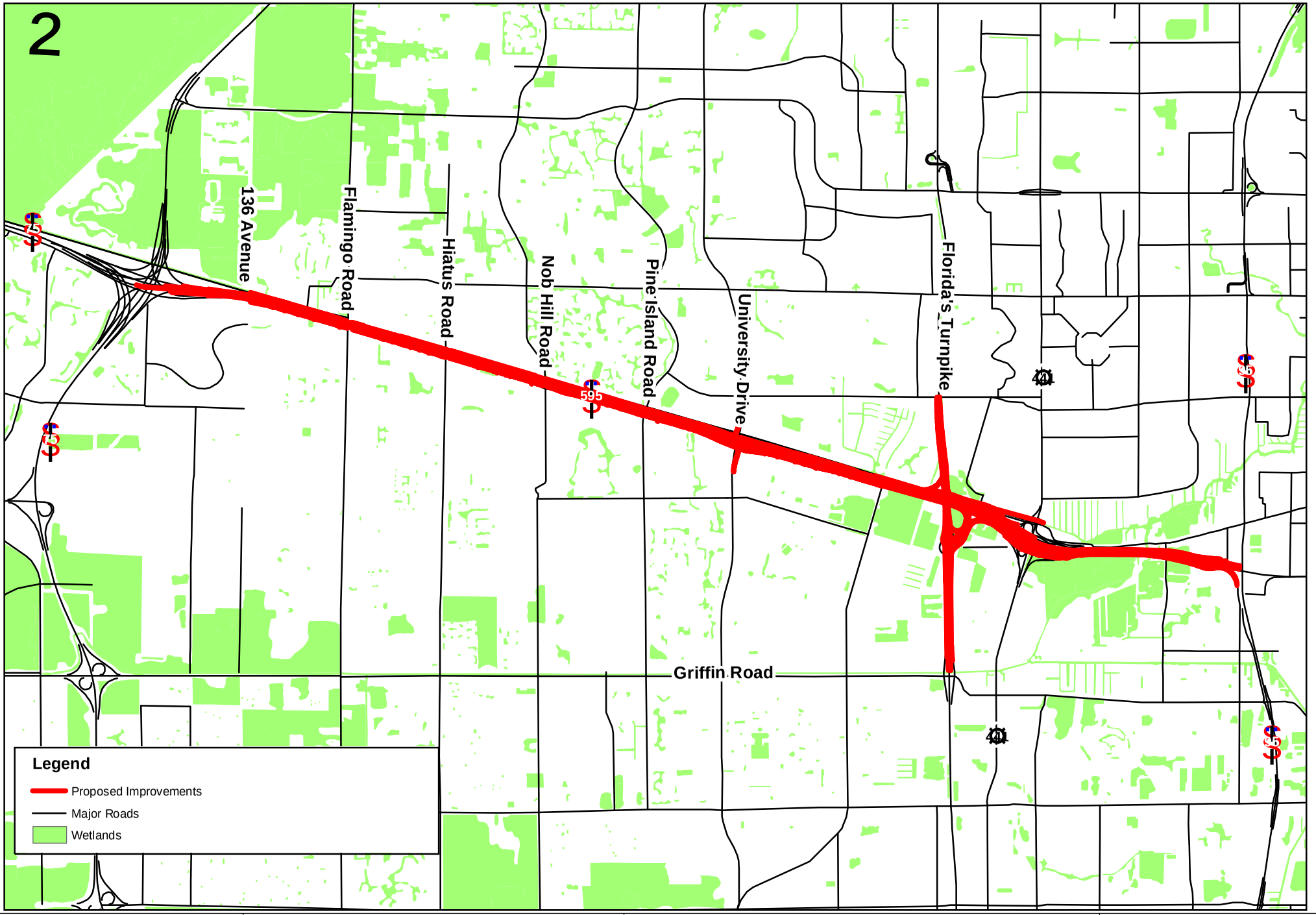
- Wetlands were classified using the Florida Land Use Cover Classification System (FLUCCS) to Level 3, and the FWS classification system as described in Cowardin’s "Classification of Wetlands and Deepwater Habitats of the United States" to the subclass level.

- The functions and values of the wetlands were evaluated using South Florida Water Management District’s (SFWMD) “Wetland Rapid Assessment Procedure” (WRAP), SFWMD “Estuarine WRAP” (E-WRAP), and the “Florida Uniform Wetland Mitigation Assessment Methodology” (Chapter 62-345, Florida Administrative Code).

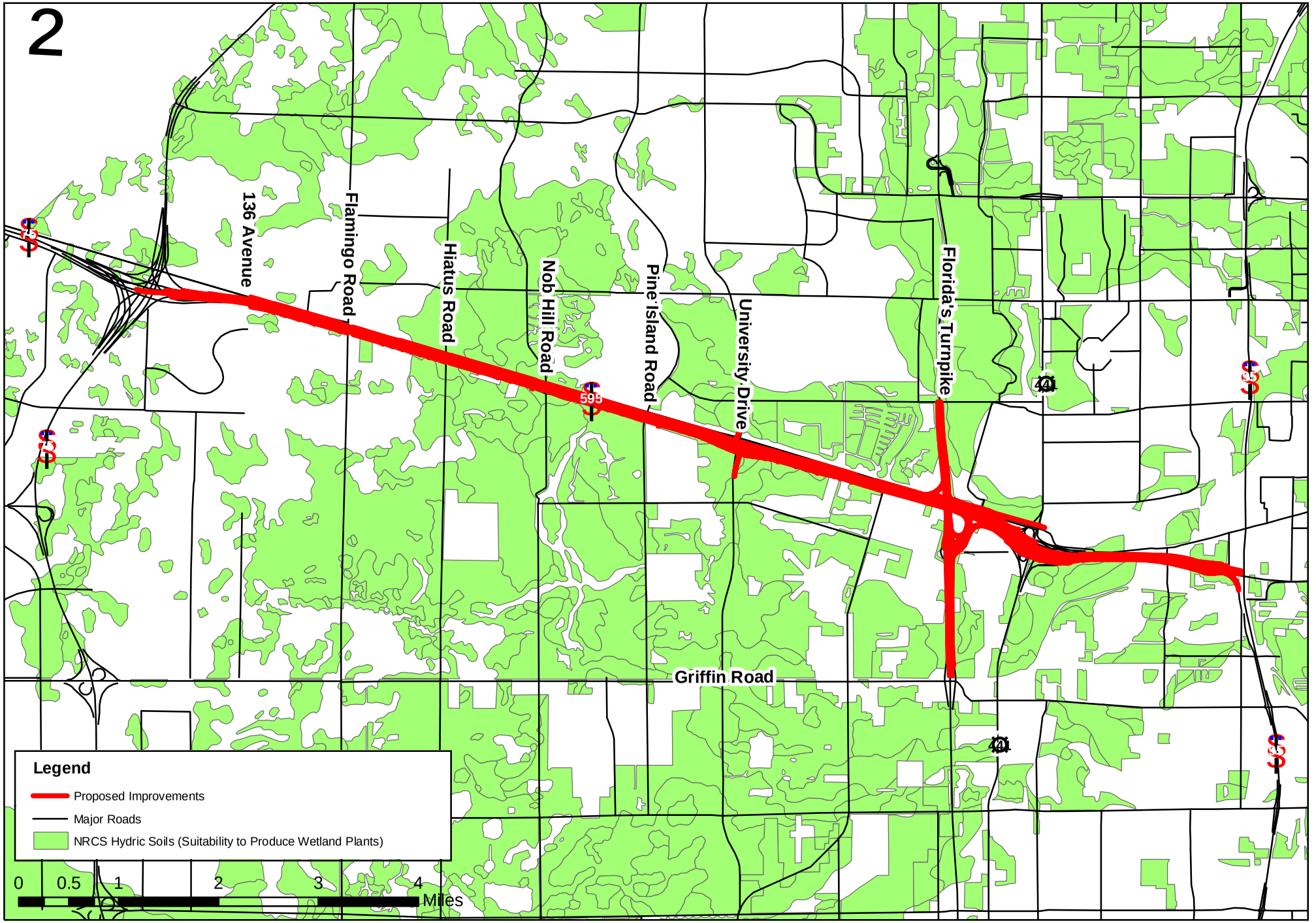
- The importance of the affected wetlands to the surrounding biological community was evaluated based on: importance of primary wetland functions (e.g., flood control, wildlife habitat, erosion control, etc.), relative importance of these functions to the total wetland resources of the area, and importance of the uniqueness of each wetland.

- The effects the project will have on wetland functions were evaluated and described. The significance of each alternative’s impact on each wetland site was determined by evaluating the effects on flood control, erosion control, water pollution abatement, and wildlife habitat value; the effects on stability and quality of the wetland system; and short-term vs. long-term effects.

The FWS 2003 National Wetlands Inventory (NWI) wetlands are shown on Figure 4-1. The location of hydric soils identified on the 1995 NRCS Soil Survey as the Soil Service Geographic (SSURGO) data set (using the attribute “suitability to produce wetland plants”) are shown on Figure 4-2.



RS&H	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY WETLAND EVALUATION REPORT FWS NWI WETLANDS	FIGURE 4-1



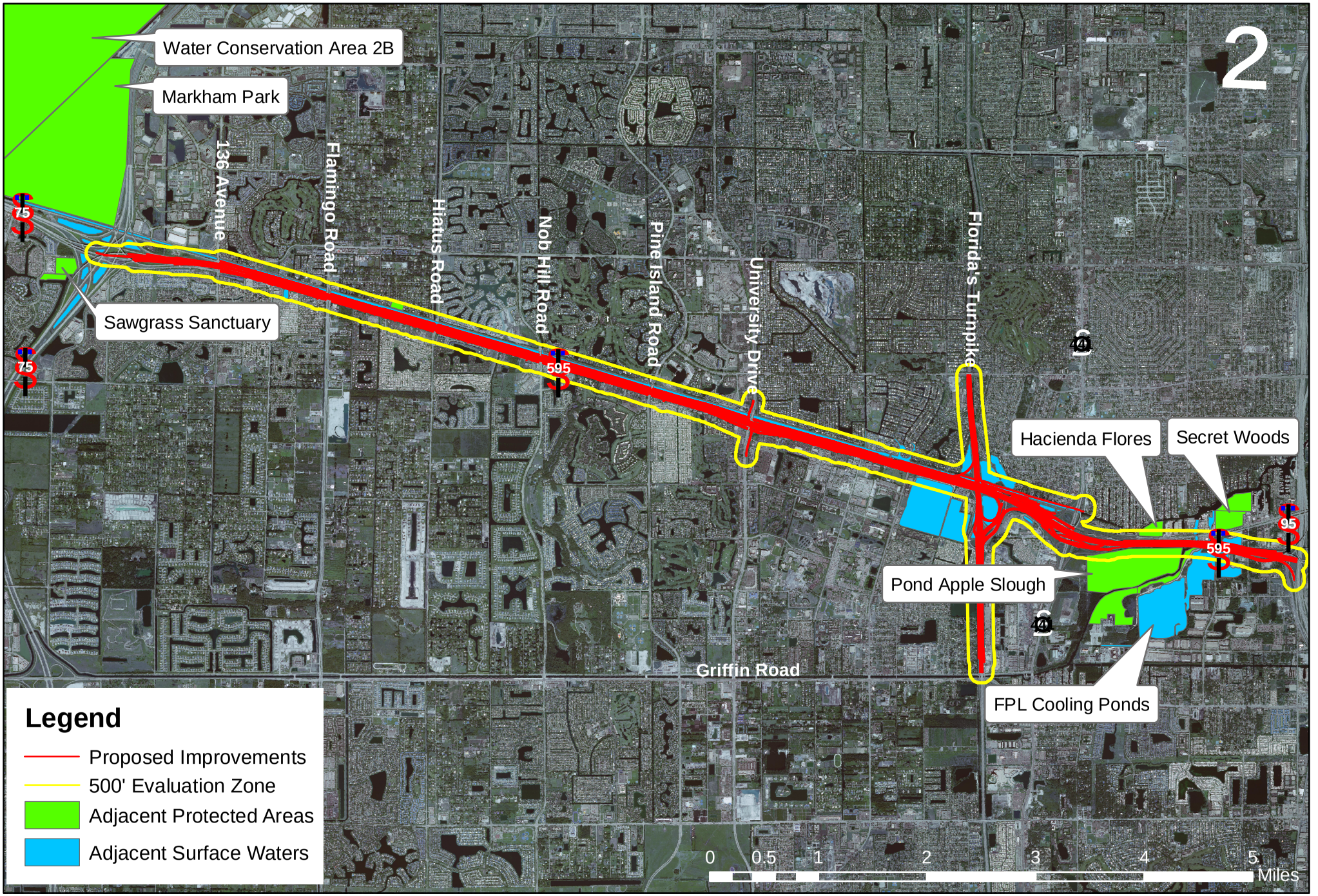
RS&H	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY WETLAND EVALUATION REPORT NRCS HYDRIC SOILS	FIGURE 4-2

The following provides an assessment of known unavoidable wetland impacts. Because the PD&E phase only requires preliminary design to be completed, some of the impact areas may change during the Final Design phase. Due to the sensitivity of the impacts adjacent to Pond Apple Slough Natural Area, the design was carried to a more advanced stage to provide the best estimate of impacts possible. The potential impacts to other wetlands areas are less certain.

In addition, there are several stormwater management systems throughout the project corridor that contain hydrophytic vegetation. The vegetation in these systems is typically mowed by FDOT maintenance crews when surface water is not present or mechanically excavated when the vegetation affects the management capacity of the stormwater systems. Furthermore, FDOT already mitigated for the wetlands that were impacted by the original construction of I-595, including wetland impacts resulting from the construction of the stormwater management systems. The hydrophytic vegetation persists in the stormwater management systems or has colonized them due to man-made hydrology.

Regulatory agencies would typically not require additional mitigation for impacts to such stormwater management systems because mitigation has already been provided to offset the loss of the wetlands that existed prior to the construction of the stormwater management systems. If at the time of permitting any of the regulatory agencies claim jurisdiction over the stormwater management systems and require impacts to them to be mitigated, these areas will need to be delineated based on conditions at that time and the extent of impacts determined based on the best available design estimates. Currently, the Stormwater Management Plan for the proposed improvements has not been completed and the extent of potential impacts to the existing stormwater management system is unknown. Although it is anticipated that implementation of the project will result in a net gain of stormwater management system area to comply with current water quality standards, there will be some unavoidable impacts to the existing stormwater swales and ponds from the roadway widening and new ramps that will be constructed.

The wetlands identified within 500 feet of the proposed improvements include those within Broward County Office of Integrated Waste Management's Hacienda Flores Environmentally Sensitive Land, Broward County Parks and Recreation Department's (BCPRD's) Pond Apple Slough Natural Area, and the I-595 limited access right of way (LA ROW) for the viaduct that crosses the South Fork of the New River immediately adjacent to BCPRD's Pond Apple Slough Natural Area. Figure 4-3 shows the location of these wetlands and the 500 foot evaluation zone for the proposed improvements.



RS&H	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY WETLAND EVALUATION REPORT 500' EVALUATION ZONE	FIGURE 4-3

4.1 HACIENDA FLORES ENVIRONMENTALLY SENSITIVE LAND

No impacts are anticipated.

Hacienda Flores Environmentally Sensitive Land is located on the South Fork of the New River across SR 84 from Pond Apple Slough, and is within 500 feet of the proposed improvements. The 16-acre property is owned by the Broward County Office of Integrated Waste Management and is a freshwater wetland mitigation site containing mature cypress (*Taxodium distichum*), oak (*Quercus* sp.) and maple (*Acer rubrum*).

The soils in this area are comprised of Lauderhill Muck (MUID #716018), and the wetland is classified as PFO1/3A - Palustrine, Forested, Broad-Leaved Deciduous, Forested, Broad-Leaved Evergreen, Temporarily Flooded. The FLUCCS Code for this wetland is 630 – Wetland Forested Mixed.

This wetland provides some of the following hydrologic functions: water quality enhancement/ pollution abatement - capacity to retain or absorb waterborne particulates or chemical compounds; water detention/flood and erosion control - capacity to regulate surface water runoff, reduce downstream peak flows during flood periods and maintain base flows during dry periods; and round water recharge/discharge - capacity to interact with subsurface aquifers. This wetland is not used for recreational or scientific uses, cultural uses or values, food and fiber (timber) uses, public water supply system uses, or special use classifications or designations. It has been subjected to physical alterations and influences resulting from human activities that have significantly affected the structure and/or function of the wetland. These alterations and influences include regional hydrological alterations, exotic species infestation, and point and non-point pollution sources. This wetland is important to the surrounding biological community because it provides primary wetland functions. However, because of the small size of this wetland compared to large wetlands located in the vicinity, the relative importance of these functions to the total wetland resources of the area and the uniqueness of this wetland are negligible.

The proposed project will not impact the Hacienda Flores Environmentally Sensitive Land. Therefore, no UWMAM, WRAP, or E-WRAP assessments were performed.

4.2 POND APPLE SLOUGH NATURAL AREA

No impacts are anticipated.

FDOT purchased Pond Apple Slough (including a conservation easement over the Griffey Tract) as mitigation for the unavoidable wetland impacts associated with the

original construction of I-595. A history of the purchase as well as other mitigation efforts that have been implemented in Pond Apple Slough Natural Area were presented at an inter-agency meeting on June 28, 2005 and is provided in Appendix A.

The soils in the Pond Apple Slough Natural Area are comprised of Lauderhill Muck (MUID #716018) and Plantation Muck (MUID #716027). Lauderhill Muck is a nearly level, very poorly drained, organic soil underlain by limestone at a depth of 20 to 40 inches. Plantation Muck is a nearly level, very poorly drained soil that has a muck surface layer over sandy mineral material. The organic surface layer is subject to oxidation, which decreases its amount of organic material each year.

Pond Apple Slough Natural Area is classified as PFO2C - Palustrine, Forested, Needle-Leaved Deciduous, Seasonally Flooded. The FLUCCS Code for this wetland is 616 – Inland Slough.

This wetland provides some of the following hydrologic functions: water quality enhancement/ pollution abatement - capacity to retain or absorb waterborne particulates or chemical compounds; water detention/flood and erosion control - capacity to regulate surface water runoff, reducing downstream peak flows during flood periods and maintaining base flows during dry periods; and round water recharge/discharge - capacity to interact with subsurface aquifers. In addition, Pond Apple Slough Natural Area provides recreational and scientific uses, but it does not have cultural uses or values, food and fiber (timber) uses, public water supply system uses, or special use classifications or designations (e.g., Outstanding Florida Water, Outstanding Natural Resource Water, etc.). It has been subjected to physical alterations or influences resulting from human activities which have significantly affected the structure and/or function of the wetland. These alterations and influences include regional hydrology alterations, exotic species infestations, and point and non-point pollution sources. This wetland is important to the surrounding biological community because it provides primary wetland functions (e.g., wildlife habitat, erosion control, etc.). However, because of the small size of this wetland compared to large wetlands located in the vicinity (e.g., water conservation areas), the relative importance of these functions to the total wetland resources of the area and the uniqueness of this wetland are negligible.

A portion of Pond Apple Slough Natural Area located immediately south of the southernmost edge of the existing I-595 viaduct was previously restored by FDOT in accordance with Florida Department of Environmental Protection Consent Order OGC Case #90-0712. The work was completed on October 25, 1992. The area was graded to an elevation of 2.2 feet and the following species were planted: leather fern (*Acrostichum danaeifolium*), pond apple (*Annona glabra*), cocoplum (*Chrysobalanus icaco*), dahoon holly (*Ilex cassine*), wax myrtle (*Myrica cerifera*), myrsine (*Myrsine guianensis*), red bay (*Persea borbonia*), and wild coffee (*Psychotria nervosa*).

Although the mitigation area was planted with freshwater species in accordance with BCPRD's desire to maintain Pond Apple Slough Natural Area as a freshwater wetland, most of the area that will be impacted is tidally influenced and is being invaded by white mangrove (*Laguncularia racemosa*). If the freshwater hydrology is not restored and the eradication of the white mangroves (which was performed during the mitigation site maintenance period) is not continued, this area could transition into an estuarine ecosystem and potentially support the estuarine-dependent species identified.

Many non-listed species were observed during the field surveys conducted in BCPRD's Pond Apple Slough Natural Area. All of the species observed were previously recorded by others in Broward County Environmental Protection Department's *Pond Apple Slough Species List* and the *Pond Apple Slough Restoration Project Management Plan.*

The proposed project will not impact the Pond Apple Slough Natural Area. Therefore, no UWMAM, WRAP, or E-WRAP assessments were performed.

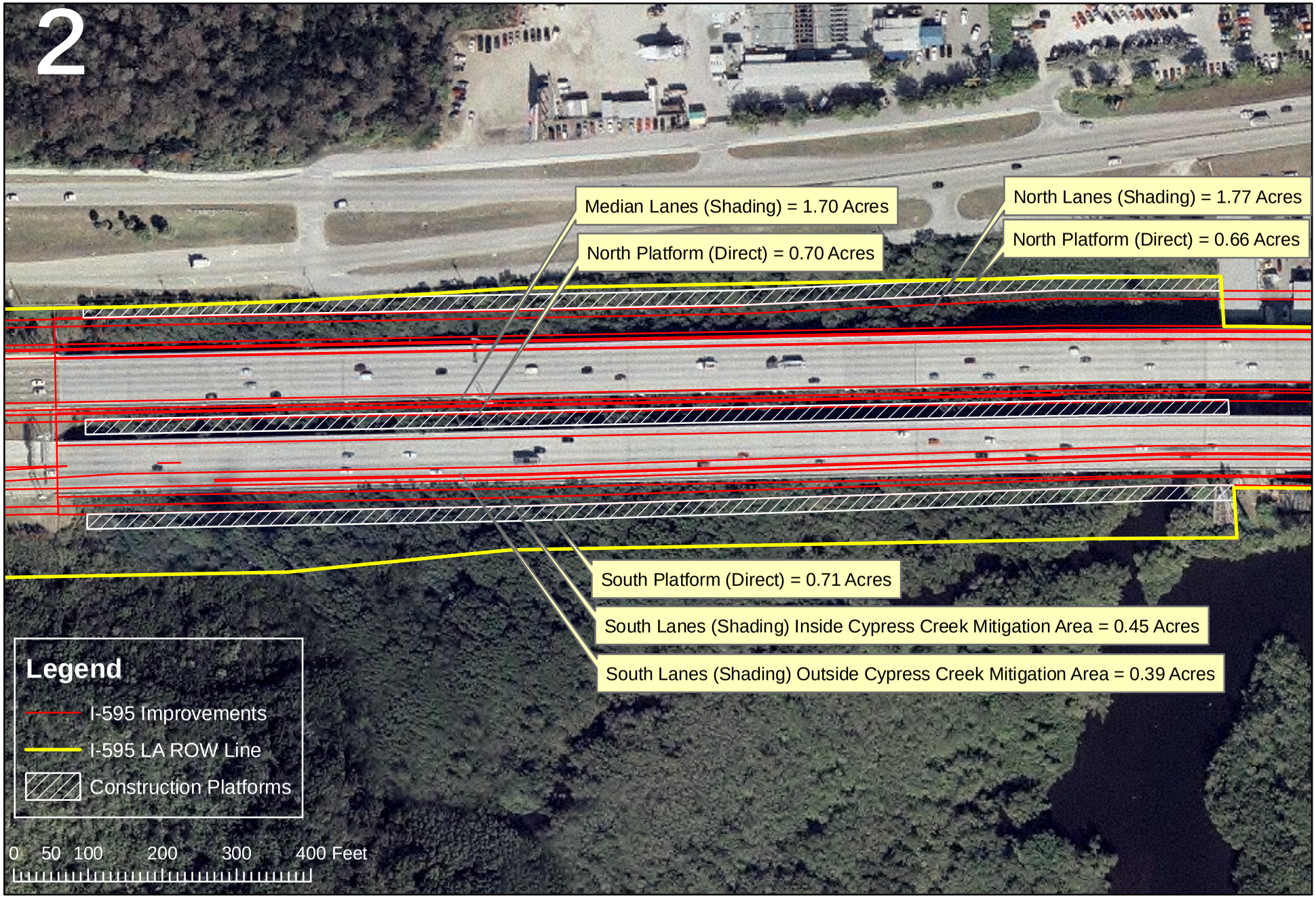
4.3 I-595 LIMITED ACCESS RIGHT OF WAY AT POND APPLE SLOUGH

Direct Impacts

The proposed project will result in unavoidable direct impacts to approximately 2.1 acres of wetlands and shading impacts to 4.3 acres of wetlands within the existing I-595 LA ROW 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.*).

The impacts were divided into seven (7) separate Assessment Areas. The Assessment Areas are contained within the I-595 LA ROW, which is contiguous with and hydrologically connected to the Pond Apple Slough Natural Area. Figure 4-4 shows the locations of these Assessment Areas and the acres of impacts in each.



RS&H	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY WETLAND EVALUATION REPORT WETLAND IMPACTS IN I-595 LA ROW	FIGURE 4-4

Per the request of the NMFS, the Assessment Areas were evaluated using Florida Uniform Wetland Mitigation Assessment Methodology (UWMAM) and SFWMD's WRAP and E-WRAP. Copies of the worksheets are provided in Appendices B, C and D.

The UWMAM Impact Delta (ID) for each of the shading impacts was 0.30 because the impacted area will still provide some wetland function. The UWMAM ID for each of the direct impacts was 0.60 because the impacted area will no longer be a wetland.

The WRAP and E-WRAP Assessment Areas consisted of the entire limited access right of way alongside and beneath the existing viaduct, the areas of direct impact from the construction platforms, and the shading impacts. The differences between the WRAP and E-WRAP scores were negligible because the relevant criteria in each category scored the same. The entire limited access right of way scored an overall score of 0.62. The areas directly impacted received a score of 0 because they will no longer be wetlands after the impacts. The areas impacted by shading scored 0.42 because several wetland functions will persist after the impacts.

During the field surveys conducted in the Assessment Areas, the only fauna observed were giant land crabs, an iguana, fiddler crabs, and a rat. Additionally, opossum and raccoon tracks were also observed.

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 facility. With the exception of the bridge over the South Fork New River, which will 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 *Drainage Report* and a *Water Quality Impact Evaluation* has been performed to address water quality impacts.

As illustrated in the various figures, the area surrounding the project corridor is urban and there are numerous anthropogenic impacts to the fragmented wildlife habitat remaining within it. For example, habitats located near the eastern terminus of the

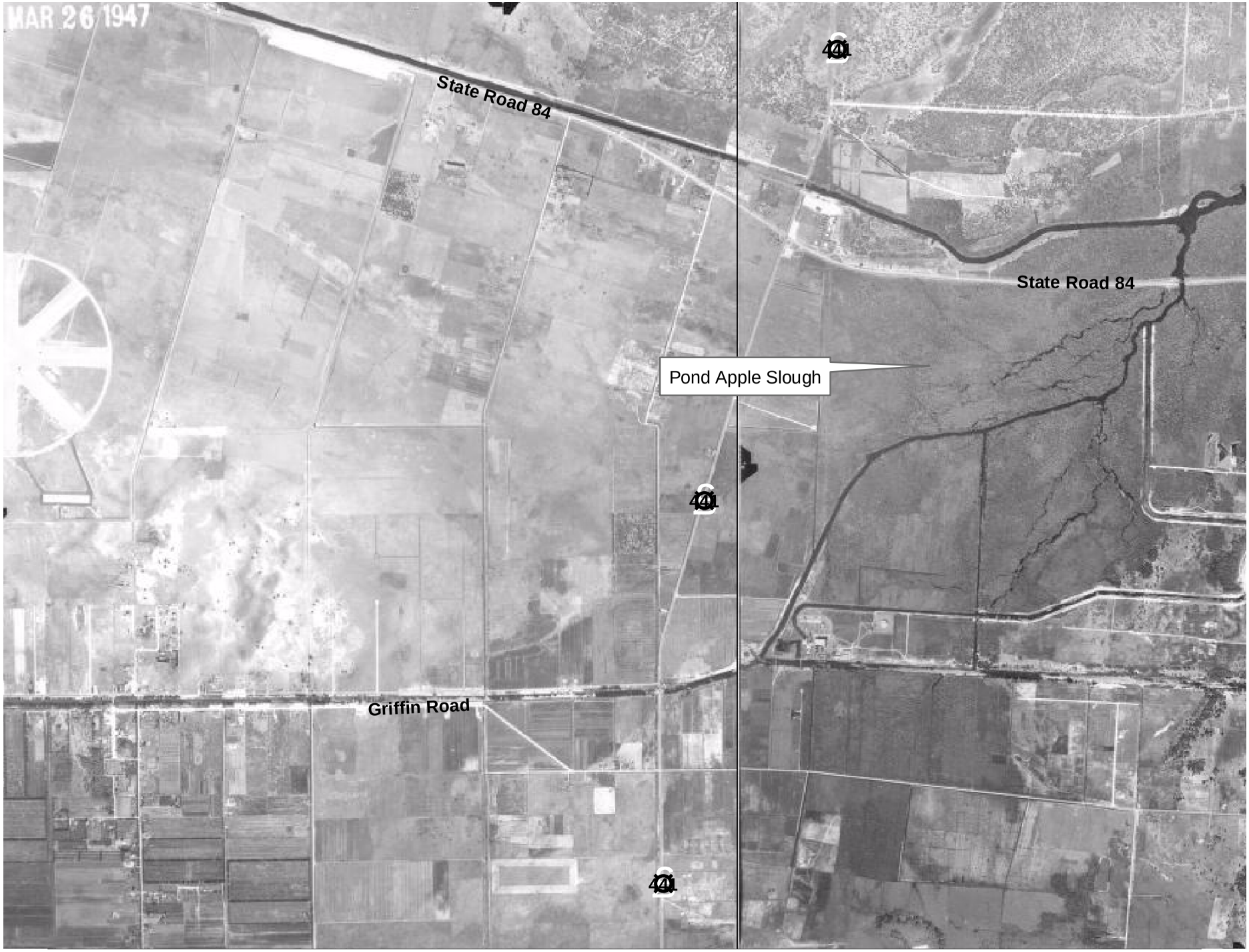
project corridor, including Pond Apple Slough Natural Area, are under the flight path of commercial jets landing at Fort Lauderdale-Hollywood International Airport and are also impacted by boat traffic on the South Fork New River and North New River Canal.

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 illustrates the condition of Pond Apple Slough in 1947, prior to the development of the surrounding areas. Although Pond Apple Slough appears relatively unchanged in current aerial photographs (Figures 4-3 and 4-4), 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 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. Though the improvements are to an existing facility, 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 all of these projects needs to be addressed in the mitigation provided for them. This *Wetland Evaluation Report* contains the conceptual mitigation plan. It 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.



RS&H	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY WETLAND EVALUATION REPORT 1947 AERIAL OF POND APPLE SLOUGH	FIGURE 4-5

Table 4-1 summarizes the characteristics of the wetlands addressed in this report and the impacts to them.

Table 4-1 – Summary of Wetland Impacts

Name	Class	FLUCCS	Acres	Impacts	Percent
Hacienda Flores	PFO1/3A	630	16	0	0
Pond Apple Slough	PFO2C	616	220	0	0
I-595 L/A ROW	PFO2C	814	12.4	6.4	52%

5.0 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 ROW 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 limits. These alternatives offer different sets of modifications to the Master Plan LPA, required to meet Year 2034 travel demand. At the onset of the development of these concepts, FDOT issued a directive regarding the design of corridor features for this area.

- Location of proposed improvements was limited to the existing limits of the Limited Access Rights of Way south of the corridor.

Of the several alternatives developed for this area, the impacts associated with Pond Apple Slough 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 special design of the LPA attempted to limit impacts to the area within the LA ROW 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).

Even with these considerations, direct impacts will occur to approximately 2.1 acres of wetlands and shading impacts will occur to 4.3 acres of wetland habitat within the LA ROW 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 to not only meet the environmental resource permitting regulations, but also provide improved. 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 any measures included in FDOT's "Standard Specifications for Road and Bridge Construction".

6.0 CONCEPTUAL MITIGATION PLAN

According to FHWA's Environmental Policy Statement (issued on April 20, 1990), FHWA will "fully participate in the costs of environmental mitigation for project impacts that are necessary to satisfy federal law while ensuring that mitigation necessitated by state law and all environmental enhancement measures represent a reasonable expenditure of highway funds". The FHWA mitigation policy in 23 CFR 777.11(f) states that "the reasonable cost of acquiring lands, or interests therein, to provide replacement lands with equivalent wetlands functions for privately owned wetlands that are directly affected by a Federal-aid highway project is eligible for Federal participation". It is FHWA's preference in project development for FDOT to reach early resolution with all federal and state regulatory agencies and regulatory review agencies regarding acceptable mitigation measures for a project.

Wetland impacts that will result from the construction of this project will be mitigated pursuant to S. 373.4137 F.S. to satisfy all mitigation requirements of Part IV. Chapter 373, F.S. and 33 U.S.C.s. 1344.

As per 373.4137 Florida Statutes (commonly referred to as Senate Bill 1986), compensatory mitigation of wetland impacts resulting from FDOT projects as of July 1, 1997, will be implemented by the appropriate Florida Water Management District (WMD) where the impacts occur. FDOT will fund such compensatory mitigation activities at a rate of $75,000 per impact acre (1997 dollars adjusted for inflation), with implementation to be performed by the WMDs. Mitigation performed by a WMD must be coordinated with ACOE and must satisfy all state and federal mitigation requirements. FDOT will document a clear commitment to mitigate for unavoidable impacts either through the provisions of 373.4137 Florida Statutes or through an individual project conceptual mitigation plan.

The following discusses the mitigation options considered and those rejected as a result of consultation, economy and reasonableness. 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; and, finally, the consideration of avoidance alternatives should take into account all relevant environmental and economic factors. Additional cost does not necessarily render alternatives impractical in meeting the national wetland policy objectives established by EO 11990.

Federal funding for off-site mitigation is permitted in all cases where it can be shown that it is a necessary and reasonable expenditure. Off-site mitigation should have a

direct correlation between the wetland functions that will be adversely affected and the mitigation option selected. Ideally, the replacement wetland should be located in the same watershed or tidal regime. Wetland functions gained from the mitigation proposal should approximate the lost values as closely as possible. Where out-of-kind mitigation is proposed, it must clearly be supported through documentation by the appropriate permitting agencies.

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:

1. Ensure no additional avoidance and minimization opportunities exist.
2. If unavoidable wetland impacts remain, the FDOT will attempt to preserve additional land and create, restore or enhance wetlands on it. The FDOT is currently evaluating the acquisition of five vacant parcels on the east side of the South Fork 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. Mitigation for the wetland impacts beneath and adjacent to the I-595 viaduct will currently 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 shows the Potential Property Acquisitions being evaluated and Figure 6-2 shows the potential wetland mitigation areas that could be provided on them.
3. Enhance existing wetlands. FDOT may consider participating with Broward County in the implementation of such a project as mitigation.
4. Purchase mitigation credits at the FPL Everglades Mitigation Bank in south Miami-Dade County.
5. 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.

RS&H	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY WETLAND EVALUATION REPORT POTENTIAL PROPERTY ACQUISITIONS	FIGURE 6-1

RS&H	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	I-595 PD&E STUDY WETLAND EVALUATION REPORT POTENTIAL WETLAND MITIGATION AREAS	FIGURE 6-2

7.0 COORDINATION

In fulfilling the requirements of EO 11990, FHWA requires that potential wetland impacts be addressed at the following stages: Advance Notification (AN), Class of Action Determination, the public involvement program, and the environmental document. Several inter-agency coordination meetings were also conducted.

On November 5, 2003, the AN for the project was distributed to the National Marine Fisheries Service (NMFS), FWS, Florida Fish and Wildlife Conservation Commission (FWC), FDEP, BCEPD and other governmental agencies. The AN identified potential involvement with the wetlands described in this report.

The NMFS responded to the AN on December 31, 2003, FWC responded on December 2, 2003; FDEP responded on January 9, 2004; South Florida Regional Planning Council (SFRPC) responded on December 9, 2003; South Florida Water Management District (SFWMD) responded on December 11, 2003; and BCEPD responded on January 5, 2004. Overall, the responses supported the assessment of potential environmental impacts, the avoidance minimization of impacts, and mitigation for the unavoidable impacts.

On July 14, 2004, a meeting was held with BCEPD and 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 held at the FDOT consultant's office in Plantation, Florida. Invitations to the meeting were sent to the FWS, NMFS, ACOE, U.S. Coast Guard (USCG), U.S. Environmental Protection Agency (EPA), FHWA, FDOT, FWC, FDEP, SFWMD, SFRPC, BCDEP, and BCPRD. Representatives from the EPA, FHWA, FDOT, SFWMD, BCDEP, 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, 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 at the SFWMD headquarters in West Palm Beach, Florida. 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 28, 2005, FDOT's consultant and representatives from FDOT met with an NMFS Fisheries Biologist at Pond Apple Slough to discuss Essential Fish Habitat issues.

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

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 NMSF responded, identifying species and their habitats that should be addressed in the EFH.

Public workshops on March 30 and March 31, 2004 were attended by BCDEP representatives. Public workshops on April 13 and April 14, 2005 were attended by BCDEP and NMFS representatives.

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 FWS, NMFS, ACOE, USCG, EPA, FHWA, FDOT, FWC, FDEP, SFWMD, SFRPC, 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, 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.

On July 6, 2005, the FDOT presented the project to FHWA.

The Public Hearing for the project was held on November 29, 2005. There were no comments regarding the wetland impacts.

Appendix A contains the meeting minutes.

8.0 CONCLUSION

A wetland evaluation for the proposed improvements to SR 862/I-595 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).

Many alternatives were analyzed during the development of the LPA and this PD&E Study. A comprehensive discussion of these alternatives is provided in the *Preliminary Engineering Report* for this project. The no-build alternative is one of the alternatives being considered. All of the alternatives previously considered in the vicinity of Pond Apple Slough Natural Area had greater wetland impacts than the LPA.

The special design of the LPA included the following considerations.

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

Even with these considerations, direct impacts to approximately 2.1 acres of wetlands and shading impacts to 4.3 acres of freshwater wetland habitat immediately adjacent to the Pond Apple Slough Natural Area. Through the coordination with the regulatory agencies, the following conceptual measures were developed to mitigate the unavoidable wetland/habitat impacts associated with the proposed project:

1. Ensure no additional avoidance and minimization opportunities exist.
2. If unavoidable wetland impacts remain, the FDOT will attempt to preserve additional land and create, restore or enhance wetlands on it. The FDOT is currently evaluating the acquisition of five vacant parcels on the east side of the South Fork 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. 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 would be planted with white mangroves with a fringe of red mangroves, possibly planted within riprap planters along the waterward perimeter of each site.

3. Enhance existing wetlands. FDOT may consider participating with Broward County in the implementation of the Pond Apple Slough Hydrological Restoration Project as mitigation.
4. Purchase mitigation credits at the FPL Everglades Mitigation Bank in south Miami-Dade County.
5. 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.

Appendix A

MEETING MINUTES

1/05/05

SFWMD FIELD OFFICE – DAVIE, FLORIDA

Participants: Jeff Bowen – RS&H
Steve Braun - FDOT
Keith Brockman – RS&H
Tom Fratz - SFWMD
Michael Massa - SFWMD
Shandra Davis-Sanders - FDOT
Jose Varon - SFWMD
Mary Tery Vilches - FDOT
Patrick Webster – FDOT

A meeting was held with the South Florida Water Management District to discuss I-595 roadway improvements and potential impacts/encroachment to the North New River Canal adjacent to the I-595 corridor. The following are items/issues discussed:

- FDOT initiated coordination of the I-595 improvements with the SFWMD during the PD&E phase of the project. This early coordination effort will allow the SFWMD to be part of the decision-making process regarding improvements to I-595 and State Road 84.
- For canal impacts, FDOT should focus on bank stabilization, maintaining flow and reducing/eliminating maintenance areas. This should occur at any location FDOT encroaches into SFWMD right-of-way.
- Broward County is currently maintaining the area between the southside of the canal and SR 84 in areas where bike/pedestrian path facilities exist.
- Do not reduce the area behind the existing SR 84 guardrail and the canal to include shoulders for canal maintenance purposes. Shoulders provide no benefit for the SFWMD in regards to maintaining the canal. If encroachment occurs in these areas, bulk heading the affected area would be the preferred solution.
- SFWMD staging areas will be required at all crossroad locations for the purpose of debris removal. FDOT must demonstrate that the current staging areas are being maintained or improved. At a minimum, FDOT must provide access from the northwest side of the canal at crossroad locations. At Hiatus Road, FDOT can relocate the existing north/south lateral canal to create a staging area in the northwest quadrant of the interchange.
- Maintaining barrier wall and/or guardrail along the north side of SR 84 (westbound) will not impact the SFWMD's ability to maintain the canal.
- The SFWMD would prefer soundwalls over trees between the north side of SR 84 and the adjacent canal.

- Existing access locations along the north side of SR 84 must be maintained unless maintenance issues have been eliminated. All transition areas from bulkhead to slope embankment will require access for maintenance purposes. Existing access locations maybe relocated as long as similar access is provided to the same area.
- Any additional piers placed in the canal must be in-line with existing pier locations.

Additional Noise Wall related comments received from the SFWMD

- The required minimum gap for any vertical wall structure crossing the SFWMD's lot # 29 is 25 feet.
- The maximum encroachment into the SFWMD R/W for noise walls on the north side of the SFWMD's R/W is four (4) feet. This is in areas where the existing canal R/W is over 44 feet in width providing a minimum of 40 feet of space from the top of bank to the wall. This would also set a straight alignment of the wall, offset four (4) feet from the R/W line.
- An asphalt mow strip (similar to guard rail treatment), three (3) feet in width, will be required in front of the noise walls.

RS&H
Architectural, Engineering, Planning and Environmental Services

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FL Cert. Nos. AAC001886 • EB0005620 • LCC000210

Date: March 8, 2005 **(Revised April 6, 2005)**

To: Mr. Steve Braun, PE
Project Manager
Florida Department of Transportation
3400 West Commercial Boulevard
Fort Lauderdale, Florida 33309-3421

From: Phil Schwab, PE

RE: **I-595 PD&E Meeting With SFWMD Local Field Office**
FM NOS. 409354-1-22-01
BROWARD COUNTY

A coordination meeting was held at the local field office of the South Florida Water Management District (SFWMD). The purpose of the meeting was to discuss the potential of placing noisewalls within SFWMD Canal Right-of-Way with the above referenced project. The meeting was held on March 7, 2005. Attending the meeting were:

Name	Affiliation	Phone
Jose Varon	SFWMD	954.452.4814(x4822)
Mike Mass	SFWMD	954.452.4814(x4821)
Tom Fratz(by Phone)	SFWMD	1-800-432-2045
Steve Braun	FDOT	954.777.4143
Pat Webster	FDOT	954.777.4344
Shandra Davis	FDOT	954.677.7896
Phil Schwab	RS&H	954.236.7386
Keith Brockman	RS&H	954.236.7370

The Project Team gave an overview of the proposed noisewall locations associated with the referenced project. There were numerous locations along and within the north side of the SFMWD Canal R/W between 136th Avenue and SR-7 that proposed noisewalls were discussed. The following is a list of concerns and issues that were discussed regarding the noise wall locations:

- FDOT would place the wall typically +/- 4 feet from the residential property line to allow for the foundation and wall construction.
- The walls will be most effective against noise the closer they can get to the residents.

- SFWMD is concerned with the +/- 4' on the North side of the Noisewalls. The concern is over maintenance or non-maintenance of this area as well as how encroachments will be handled.
- It was agreed to not meander the wall for trees and fences but to hold to the R/W line and the +/- 4' offset.
- SFWMD will provide copies of any permits that have been granted including docks, utilities, fences and landscaping along the SFWMD property.
- It may be necessary to provide access to docks south of the Noisewalls. To accomplish this it may be necessary to stagger the walls, which would ultimately reduce the berm width.
- SFWMD has concerns wherever the Berm width is reduced beyond 40 Feet.
- SFWMD owns lot 29 adjacent to the Sewell lock. This is needed for access. The plans will need to show a gap in the wall at this location. It will be shown @ 100' until SFWMD is able to commit to anything less.
- The sea grapes adjacent to SW 21 Court in the City of Plantation have been permitted by the city through SFWMD.
- Typical ground mounted walls will be 22ft.
- Walls will have an anti-graffiti coating
- SFWMD requested that they be provided with the wind loading that will be used to design the Noisewalls.
- SFWMD will require a 100-foot staging area next to all bridge structures.
- Overall, SFWMD is very supportive of working with the Department and allowing the noiswalls within SFWMD property. With the main concerns noted above.

Additional informational items added April 6, 2005

- The required minimum gap in the wall for SFWMD's "Lot #29" is 25 ft.
- The maximum encroachment into SFWMD R/W for the Noise Walls on the north side of the SFWMD's R/W is 4 ft. where the existing canal R/W is over a minimum of 44 ft. This provides a minimum of 40 ft. for SFWMD in these areas (top of bank to the wall). This would also set a straight alignment of the wall offset 4 ft. from the R/W line.
- SFWMD requests a 3 ft Asphalt Mow Strip (similar to guardrail treatment) in front of the noise walls. This will assist SFWMD with the maintenance adjacent to the wall.

copy: Attendees
Jeff Bowen, PE (RS&H)
File

RS&H

MEETING MINUTES

Reynolds, Smith and Hills, Inc.
Architectural, Engineering, Planning and Environmental Services

Copies to:	Participants Steve Braun, FDOT Jeff Bowen, RS&H File D.5	**Date:**	March 9, 2005
Project:	I-595 PD&E (DOT Dist. 4) Plantation, Florida	**Project Nos:**	
Meeting Place:	SFWMD West Palm, Florida	**Meeting Date:**	February 11, 2005
		Meeting Time:	8:45 AM
Participants:	Tony Waterhouse, SFWMD Carlos Derojas, SFWMD Pat Webster, FDOT Shandra Davis, FDOT Phil Schwab, RS&H Hamid Ashtari, RS&H Erik Neugaard, RS&H		
Purpose:	SFWMD Pre-Application Meeting		
Prepared By:	Hamid Ashtari, RS&H		

After project introduction by Shandra Davis and Phil Schwab, Hamid Ashtari talked about RS&H's understanding of permitting requirements. Hamid explained that the permits for the original construction of the I-595 were issued in the mid nineteen eighties. A review of the existing permits indicates that treatment one inch of runoff over the impervious surface areas has been provided for most of the I-595 corridor, utilizing French Drains and shallow swales. RS&H's understanding of the criteria is to provide treatment for 2.5 inches of runoff over the proposed impervious surface areas, in addition to providing treatment volume for the existing paved areas based on their construction permit. Compensatory treatment could be provided by providing 2.5 inches of treatment over both existing and proposed paved areas in lieu of not treating some proposed pavement where it is not feasible to do so. SFWMD agreed with concept indicating that the arithmetic needs to work such that we are not taking compensation credit for treating more than 2.5 inches of runoff. We may also provide treatment for the existing untreated areas of SR 84 in lieu of providing treatment for the proposed widening.

On attenuation, Hamid explained that the outfall for the entire project is the North New River Canal, and that attenuation volume could be provided in the infield areas of the interchanges within the project limits. SFWMD agreed with the concept saying that it is possible to compensate for attenuation of runoff for segments of roadway between the interchanges by providing extra attenuation within the interchange areas.

Erik Neugaard addressed the unavoidable wetland impacts. He stated that the only wetland impacts would occur at Pond Apple Slough, and would entail approximately 4 acres of permanent shading impacts from the viaduct widening and approximately 0.6 acres of impact from the construction road that would be

required on the south side of the viaduct. Rob Robbins asked if the construction road impacts would be temporary. Erik stated that at this time, FDOT was planning to leave the road for bridge maintenance and the total unavoidable impacts would be approximately 4-1/2 acres.

Erik stated that FDOT was still in the Project Development and Environment (PD&E) phase and that they were currently in the process of identifying conceptual wetland mitigation options. He stated that FDOT was still considering participation in Broward County Environmental Protection Department's hydrological restoration plans for Pond Apple Slough to offset some of the wetland impacts, and was looking for areas to provide the minimum 2:1 replacement ratio also requested by Broward County Environmental Protection Department at an inter-agency meeting previously held for the project. He also stated that FDOT was interested in holding another inter-agency meeting, possibly at Pond Apple Slough, next month.

Erik stated that a portion of the project was within the horizontal extent of the Florida Petroleum Reprocessors Superfund Site, but FDOT had coordinated with the EPA and EPA is allowing FDOT to manage stormwater from I-595 within the horizontal extent of the Superfund plume. He also stated that most of the contamination was deep due to the higher specific gravity of the contaminants and that natural attenuation was being used for remediation.

Carolyn Farmer asked if FDOT was still interested in obtaining a conceptual permit for this project, as discussed at the previous inter-agency meeting. Pat Webster stated that they would probably not request one. Rob Robbins noted that even though Erik stated the wetland impacts had been minimized to the maximum extent practicable, the SFWMD would still look for additional minimization possibilities.

The meeting concluded at approximately 9:30 AM

I-595 PD&E STUDY
Pond Apple Slough Agency Coordination Meeting

PROJECT: I-595 from I-75 to East of I-95 PD&E Study
FM No.: 409354-1-22-01

DATE: June 28, 2005
LOCATION: Nova Southeastern University (Carl D Building – Room 1053)
SUBJECT: Pond Apple Slough

ATTENDEES: See attached lists

MEETING MINUTES:
By Wendy G. Lasher, AICP, PBS&J

I. Welcome (Ms. Ann Broadwell, FDOT)

- Over the past month several things have occurred that effect FDOT work schedule and agency interaction.
  - Strategic Intermodal Systems (SIS) program is being funded. The SIS is to connect ports to railroads to airports to Federal Interstate Highway Systems (FIHS) facilities which push for economic development in Florida.
  - On June 26, 2005 – Governor Jeb Bush signed the "Pay as You Grow" Senate Bill 360, 444, and 362. This is a growth management plan that promises to provide room on the roads, space in the classrooms and water available for the natural environment within three years of local government's approval for new development.
  - The Florida Department of Transportation (FDOT) was issued an additional $1.7 billion for the entire State. Projects will be going through the Work Program at a more rapid pace.
  - FDOT will have to further streamline their processes.
  - The FDOT wants to make sure what is produced in Project Development goes directly into design and the permitting phase so that the permit application does not become a roadblock.

II. Goals and Objectives (Ms. Ann Broadwell, FDOT)

- The PD&E Study is a Type II Categorical Exclusion (CE).
- The Endangered Species Biological Assessment (ESBA) will be submitted to US Fish and Wildlife Service (USFWS) and the Cultural Resource Assessment Survey (CRAS) to the State Historic Preservation Officer (SHPO) for review. The Wetland Evaluation Report (WER) will not be submitted to the regulatory agencies for review, but a copy will be sent to USFWS.
- Meeting Goals
  - No surprises during permitting

- Document agency input in the PD&E Study

➢ The FDOT wants to identify things that need to be done in order to mitigate impacts to wetlands. There will be wetland impacts to Pond Apple Slough (PAS).

III. Project Overview (Mr. Steve Braun, FDOT I-595 Project Manager and Mr. Erik Neugaard, RS&H)

➢ The presentation gave an overview and history of I-595 and connections, project schedule, need, PD&E focus areas, explanation of reversible lanes, alternatives, design approach to the "Viaduct" section and impacts from shading, construction platforms, and roadway widening to wetlands at Pond Apple Slough. This project is within a Strategic Intermodal Corridor and is the only east-west expressway in Broward County. The PowerPoint presentation is attached.

➢ There were questions about the construction platforms that will be built on the north side, south side, and in between the two Viaduct structures. Mr. Mike Bone (Construction) explained that the platforms could be a limerock pad would be used to hold heavy equipment for construction of the bridge and routine bridge inspections and maintenance after the construction is complete. By Federal mandate, a complete bridge inspection must occur at a minimum of once a year. The platforms would be approximately 30 feet (ft.) wide by 5 ft. deep. These platforms would be permanent. Conventional methods of using a snooper truck will not be possible because of the bridge width. It is still unknown whether there will be a need to demuck. By the time construction occurs there may be other methods available. Mr. Bone also explained that the construction of the Viaduct portion would start with access roads and then piers would be built, beams set, and the deck poured.

➢ Ms. Madelyn Martinez, National Marine Fisheries Service (NMFS), inquired if there are any other wetland impacts. Mr. Neugaard stated that there would be stormwater management system impacts that could be considered wetlands. These impacts would be offset with other stormwater ponds elsewhere.

➢ Mr. Braun explained the design schedule, approach, and design constraints and considerations from the master plan to current design that avoided or minimized impacts to PAS. All four alternatives evaluated ties into the geometry of the Viaduct section. Construction at PAS is within the right-of-way (R/W). This PD&E Study will be broken into approximately 15 design and construction projects. The last component of construction is the Viaduct section and collector distributor roads. The schedule is based on current funding sources. A Public Hearing is scheduled for November 2005, Location Design Concept Acceptance (LDCA) in June 2006, Phased Final Design begins in July 2006, and Phased Construction begins 2011. This project design could be advanced in future years depending on funding sources. District Four competes with other Districts for funding. Currently the Viaduct section design is scheduled for 2015 and Construction will be in approximately 2020.

- Mr. Braun said that the FDOT wants to get the agencies involved and document their comments and ideas so there are no surprises in the permitting stage. This project is not using the ETDM process. From this meeting the FDOT wants to know how the agencies want these permitting packages delivered to them.

- Mr. Braun also noted that at the Public Workshop the attendees had positive feedback and support for the elevated reversible lanes.

- Mr. Neugaard noted that the Broward County Greenway is adjacent to the project and that there could be possible issues or impacts. Also, Mr. Neugaard is setting up individual field reviews with agencies for the entire project.

- Ms. Broadwell explained that for the SR 60 project, St. Johns River Water Management District gave a 20-year conceptual permit for seven segments. When each segment goes forward the conceptual permit will be revised and the permit issued for that particular segment.

- Mr. Keith Brockman, RS&H, and Ms. Broadwell showed the aerials that depicted the alignments, canals, PAS, and the R/W. Mr. John Wrublick asked how reversible lanes work. Ms. Brockman indicated that they are shut down for 30 minutes to reverse direction. The use of variable message boards are used (ITS).

- Ms. Martinez asked about light rail. Ms. Broadwell explained that the transit portion is under a separate study (Central Broward East-West Transit Alternatives Analysis) and schedule from the roadway project. An Environmental Impact Statement (EIS) for the light rail is being prepared for Federal Transit Administration (FTA) approval. They are looking at several different funding methods for the transit including a Referendum on the November ballot. The transit project is being provided for in the corridor.

- Mr. Brodie Rich, U.S. Coast Guard (USCG), commented:
  - There is a special interest group at Plantation Isles (Bob Beacham) located downstream (east of Sewell Lock) that wants improved navigational access. This is a waterway oriented community who wants the bridges raised and pilings out of waterways to improved navigation up to the Plantation Isles area.
  - Anything downstream or east of Sewell Lock is navigational (tidal) which requires a USCG permit.
  - There are no clear guide clearances for this waterway.
  - East of the Lock new bridge structures need to have 55 ft. vertical clearance above mean high water (MHW) for fixed structures which is consistent with what has been permitted in this waterway. Mr. Braun asked even if bridges upstream and downstream are not. Mr. Rich indicated yes and that the USCG is trying to get all bridges in the area of 55 ft. as they are being replaced or constructed even in the Plantation Isles area. If Plantation Isles objects, it will cause a delay in the permit. Mr. Rich did not think the FDOT would get even get a permit at that point.

- There is a bridge support pile in the waterway (north New River Canal) that this interest group wants removed. Mike Liebram can answer questions about this pile and why it was put in the waterway.
- Concerning a sheet pile wall along the canal, do not encroach on the horizontal clearance.

IV. History of Pond Apple Slough (Ms. Wendy Cyriaks, CECOS Environmental Consultants)

➢ The presentation gave history of events for PAS. Ms. Cyriaks noted that there was a Management Plan for PAS created by the County in the early 1990's, but did not know if this is still in use. Also, PAS had a Working Group that focused on how to address saltwater intrusion, reduced freshwater flow occurring, and removal/prevention of exotics. The PowerPoint presentation is attached.

V. Agency "Must Haves" and Discussion of Creative Mitigation Opportunities (Ms. Ann Broadwell, FDOT)

Ms. Broadwell asked each agency what they would need in order to permit this project and documented their comments individually on a notepad posted on the wall. Ms. Broadwell also had two questions to discuss during this portion. Can you go back and impact a site that you have restored for in another project? Is pursuing the rehydration project suitable mitigation for impacting 6.5 acres (ac.)? The agency comments were as follows:

US Fish and Wildlife Service (USFWS) – Mr. John Wrublik

- Wants to see ESBA address potential impacts to woodstork (core foraging areas) and manatee (covered under permit provisions).
- Ms. Broadwell added that she wants the ESBA to cover both the USFWS and NMFS species.

National Marine Fisheries Service (NMFS) – Ms. Madelyn Martinez

Comments:

- Small tooth saw fish – protected species.
- Indirect effects to water quality; introduction of freshwater.
- EFH conservation measures.
- Why there are no sea turtles in waterway? They are listed, but not likely there.
- Wants proof of PAS being kept as freshwater state.
- Would like a copy of the original Memorandum of Agreement, the Management Plan that was developed by the County in the 1990's, and a copy of the WRAP/UMAM report that states the wetland impacts.

Suggestions:

- Conduct a saltwater edge range (where are limits of saltwater edge).
- Type of water quality.

- Conduct a Photopoints Study. Ms. Martinez has an example of this and methodology which she can give to the FDOT.

US Army Corp of Engineers (USACE) – Ms. Alisa Zarbo

- FDOT will need to apply for an Individual Permit.
- Expressed her understanding of the need for the project.
- Utilize ways of avoidance, minimization, and measures of mitigation after avoidance and minimization is shown.
- USACE is implementing UMAM.
- Was there a conservation easement in the USACE permit? Ms. Cyriaks said that in her review there is no conservation easement. It was permitted as deconstruction of wetlands.
- Ms. Broadwell added that the FDOT has typical sections that show what the project first started out as with separate structures and how these structures were pulled in. This shows the FDOT's first step in PD&E of avoidance and minimization.

Broward County Parks and Recreation – Mr. Kurt Volker

- Parks and Recreation would like PAS to have fresh water delivery facilitated and to have passive recreational use such as canoeing and non-motorized boats.
- Has a concern that the construction road at the canal just west of the South Fork will block major flow. Mr. Neugaard stated that this will be evaluated in design for possible structures, box culverts, etc. Mr. Braun added that this will be documented as a recommendation in the PD&E document to minimize haul road impacts to natural flow areas.

Broward County Environmental Protection Department (EPD) – Ms. Linda Sunderland and Mr. Kent Edwards

- Also, utilize ways of avoidance, minimization, and measures of mitigation after avoidance and minimization are shown.
- Concerned with impacts to species such as the manatee and woodstork.
- Construction methodology as it pertains to turbidity controls.
- Wants to see wildlife and vegetation lists along with relocation of orchids. Submit a list of how the FDOT will address these species.
- Check if there are any existing conservation easements that could be amended. Conservation easements can be amended at a cost, but this is not easy and would require a good reason to amend it.
- Address water flow issue of historic freshwater delivery systems into PAS.
- Wants UMAM worksheets.
- Wants a mitigation plan.
- The County does not issue conceptual permits. The County issues five-year Environmental Resource License. FDOT is not required to get a County license.
- Need an agreement in place for work on County property.

- Would like to see a topographic map of PAS and provide "experimental flow" on the map. Ms. Broadwell stated that the FDOT has excellent aerial plots that they will also supply to the County.
- Mr. Steve Krupa was doing a study of monitoring wells out there (SWFWMD Saltwater Intrusion study results).
- Have concerns about groundwater and hazardous waste. Mr. Neugaard indicated that they will work with the County and this will be part of the Contamination Screening Report.

Florida Fish and Wildlife Conservation Commission (FFWCC) – Ms. Yvette Alger and Mr. Tim Reagan

- There are crocodiles in the area. FFWCC has removed some in the FPL area (Parcel 28). They are expanding and reinhabiting their original range. Will need to have construction avoidance measures.
- Document nesting bird activity and have setback distances not to disturb nesting wading birds.
- Ms. Broadwell stated that the FDOT will need to have special provisions for crocodiles.

US Coast Guard (USCG) – Mr. Brodie Rich

- Comments stated earlier.
- Areas that are tidally influenced are navigational waters.
- It was established at this meeting that there is no navigation in PAS.
- There have been waterway usage changes including lights on bridges.
- Ms. Broadwell inquired that since we are adding to the current structure what would our clearance need to be? Mr. Rich replied that FDOT would need to maintain the existing vertical clearance (for the Viaduct section).
- Contact and coordinate with the Marine Safety Office about restricting or closing the channel.

During this portion of the meeting there was a detailed discussion on mitigation opportunities and measures. Ms. Broadwell initiated the discussion by asking again if you can go back and impact a site that you have already impacted and mitigated for in another project. Ms. Zarbo stated that USACE typically does not allow new (additional) impacts to mitigation areas. Mitigation areas are usually put into a conservation easement. The FDOT would have to go back and mitigate for the original impacts on top of the new impacts. In other words, if the FDOT is impacting a mitigation area from a previous project, then we have to include those in addition to the impacts identified with the current project.

Mr. Volker and Ms. Sunderland said that the Parks and Recreation Department is acquiring properties that will be available for mitigation. The County is attempting to acquire the Elmore property (owner of the previous Alandco Tract) for mitigation. He suggested that FDOT send a letter to the Real Properties Department expressing an interest in joint partnership in purchasing the Elmore property. Ms. Zarbo stated that she is interested in seeing more land acquisition and putting it under public ownership. Also, the FDOT can get

mitigation credit if you are impacting wetlands for doing land acquisition and turning it over to the County for public use once the property has been restored. If we impact wetlands we need to be creating wetlands. Typically do not allow wetland impacts to be offset by uplands. Since the Elmore property is an upland she does not know if there is any way some portions of it can be restored to wetlands.

Ms. Broadwell inquired if we are mitigating for three separate systems (freshwater, upper tidal, and lower tidal) which is the existing conditions or for what was historically there? Also how did the consent order want it to be maintained? Ms. Cyriaks stated the consent order was in PAS, but not in the current impacted area. It was just in the Cypress Creek impact area which was planted as a freshwater system. Mr. Volker felt that FDOT should try to maintain what is in PAS without future degradation. Set goals for desired systems and have future eradication of white mangroves.

Ms. Zarbo stated that the last resort option would be for FDOT to use Florida Power and Light (FPL) Everglades mitigation bank which is within the service area. She indicated that FDOT needed to get a mitigation plan together and explore other options. Ms. Sunderland agreed. She said that the FDOT would have to go down the list and could not just go to the banks. The guidance that the County follows, in order, is to:

- avoid,
- minimize,
- mitigate,
- mitigate off-site,
- mitigate off-site as close by as possible,
- mitigate off-site in the same drainage basin
- mitigate off-site in a close drainage basin, and so on with mitigation banks as the last option.

Ms. Sunderland suggested that mitigation should be as much on site as possible. The Broward County wants to keep mitigation within the County as much as possible. Mr. Wrublik's stated that his first choice is for the FDOT to try to acquire lands that are not protected first before acquiring public lands. This can be in addition to replantings (restoration).

Mr. Volker said that there is an opportunity to restore Parcel 1 (Alandco Tract) rock area which is currently owned by the County. Ms. Broadwell said there are also enhancement opportunities available along the south side of the Griffey Tract in reestablishing the berm. Mr. Volker said the berm is something that Parks and Recreation is still very interested in. Ms. Broadwell stated that the FDOT had a problem with either USACE or NMFS on whether or not it would be suitable because of bare bottom impact issues and the berm would be above MHW; therefore it was not accepted. Ms. Broadwell noted that there are other enhancement opportunities, but FDOT needs to know if agencies can apply mitigation credits to it and needs to convert it into a cost resulting in an economic mitigation activity. The Senate Bill is available, but this does not seem to be working in Broward County because of land prices.

Mr. Neugaard felt that the FDOT needed to know from this meeting the magnitude of mitigation required for the three (3) ac. of direct and three (3) ac. of shading impacts that will

occur from the project and how much land will need to be purchased. Ms. Sunderland indicated that they would need the UMAM to determine which Mr. Neugaard said had been completed. Ms. Zarbo said that USACE would need to take a closer look at the mitigation areas that are being impacted and could not commit to ratios or numbers during the meeting. Ms. Broadwell offered the suggestion of contacting Jim Wilt (PBS&J) to help with mitigation questions since he has over 30 years permitting experience while working for the FDOT. Mr. Wilt may have access to historic information on how impacts to wetlands mitigation within R/W have been permitted and what were the ratios used. The FDOT could also check the files and do a historic survey to see what other Districts have done to give a ratio that USACE can use or consider. Ms. Broadwell stated that they need to know a ratio or number soon in order to apply for funding in advance. The USACE will need old permits, what other Districts have done with impacting mitigation sites within R/W, and UMAM to determine.

Mr. Braun asked when land is acquired does the FDOT give money and the local agencies do the restoration or enhancement work or does the FDOT do this work and then turn the land over to the agency? Mr. Volker said that this may be a policy issue that would need to be coordinated with the County possibly through a partnership agreement. He indicated that maybe there can be a middle of the road approach with construction by the FDOT and monitoring and maintenance by the County.

VI. Close (Ms. Ann Broadwell, FDOT)

- The FDOT has opportunities to do the following:
  - Participate in land acquisition.
  - Further restoration of the Alenco Tract.
  - Entertaining rehydration and figuring out a way of putting mitigation credits on this activity.
  - Enhancement opportunities available with reestablishment of the berm.
  - Acquiring other lands in the PAS area.
- The FDOT established during this meeting that they will need to:
  - Apply UMAM to the site.
  - Determine what the ratios or numbers are going to be.
  - Develop several different scenarios that all of the agencies would be willing to move forward with.
  - Present a plan that mitigation credit can be applied to.
- Ms. Broadwell requested that in the next 2 to 4 weeks the agencies discuss PAS with their supervisors and e-mail any additional thoughts and ideas to Ms. Broadwell.

The meeting ended at approximately 1 p.m.

I-595 PD&E STUDY
Pond Apple Slough Agency Meeting

Tuesday, June 28, 2005

Sign-in Sheet
****PLEASE PRINT****

Name	Street	City	Zip
~~Mike Bane~~			
MIKE BONE	3500 N. 29TH AVE	H'WOOD FL	33020
Linda Sundstrom	1 N. Univ. Dr. (EPD)	Plantation	33324
ERIK NEUGAARD (RSH)	300 S. PINE ISLAND ROAD #300	PLANTATION	33324
SHANDRA DAVIS-SANDERS	FDOT		
Ann Broadwell	FDOT		33317
BRODIE RICH	U.S. COAST GUARD	MIAMI	33130
John Wrublik	USFWS	Vero Beach	32960
Madelyn T. Martinez	NMFS 263 13TH AVE. SOUTH.	St. Petersburg	33701
Laura Sowers	DBEA	Boca	FL
WENDY LASHER	PBS+J	TAMPA	
Kurt Voker	BCPRD (Broward County)	Ft. L.	33309
Tim Regan	8535 Northlake Blvd, WPB FL 33412	West Palm	33412
Alisa Zarbo	ACOE		

HISTORY OF EVENTS
I-595 AT POND APPLE SLOUGH

Pond Apple Slough

1982 Historic Aerial

POND APPLE SLOUGH (PAS) CHRONOLOGY OF EVENTS

- [illegible] 1979 MOU Between FDOT and Broward County for Acquisition Of PAS
- Nov 15, 1979 I-595 FEIS Approved (State Project Nos. 86095-3401 & 86095-3418)
- Aug 22, [illegible] ACOE Permit [illegible] Issued for I-595 Bridge & Temporary Haul Road
- [illegible] 1984 I-595 FDER Permit [illegible] Issued for I-595 Bridge and Temporary Haul Road
- [illegible] 1984 Begin Construction of I-595 Bridge and Temporary Haul Road
- [illegible] May 1986 Construction Impacts to PAS (FDER Permit No. [illegible])
- [illegible] 1986 ACOE Issued Notice of Noncompliance for Wetland Impacts to PAS (ACOE Permit [illegible])
- Jun [illegible], 1986 SFWMD Permit [illegible] Issued for Package M (SR 7 Interchange)
- Jun 20, 1986 FDER Permit [illegible] Issued for Package M (SR 7 Interchange)
- Jun 24, 1986 ACOE Permit # [illegible] Issued for Package M (SR 7 Interchange)
- Sep [illegible], 1986 FDER NOV Issued to FDOT & Contractors
- Oct 6, 1986 Begin Construction of Package M
- Aug [illegible], 1987 Signed Agreement between FDOT & Broward County for PAS Mitigation Plan
- Dec 30, 1987 I-595 Bridge over SFNR Complete
- Feb 1990 All Mitigation Parcels Acquired
- Jun 1991 Initial Restoration of FPL Parcels 1, 2A & 2B Complete

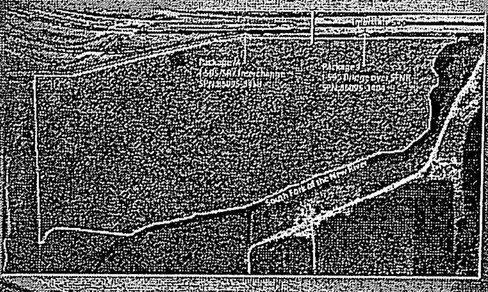
POND APPLE SLOUGH (PAS) CHRONOLOGY OF EVENTS

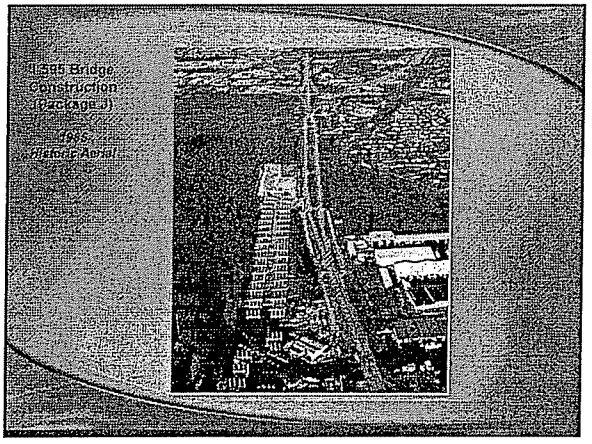
- Aug 1, 1991 Consent Order (FDER # 86-0632) Signed (FDER And FDOT) for Restoration of PAS
- [illegible] Establishment of Broward County Working Group For PAS
- Mar 18, 1992 DNRP Issues Permit for Cypress Creek Wetland Impacts & Authorizes Mitigation at PAS
- Jun 2, 1992 I-95 at Broward Blvd Mitigation Complete along the West Berm of the SFNR
- Jul 1992 Consent Order - Initial Restoration of 9.4 Acres Complete
- Jul 7, 1992 Consent Order (FDER Permit # 86-0632) Amendment for Time Extension
- Mar 1993 Begin Enhancement of Griffey Tract
- [illegible] 29, 1994 Issuance of FDER Permit # [illegible] for Enhancing the Freshwater Head in PAS by [illegible] Point Source Discharge & Berm Excavation
- June 1994 Remedial Maintenance/Selective Clearing of Exotic Vegetation on Parcels 1, 2A & 2B
- 1994/95 PAS Activities Funded by [illegible] Trust Fund
- Jan [illegible], 1995 ACOE Issued Permit to Excavate & Plug Areas of Retention Pond to Divert Freshwater [illegible] and Construct a Salinity Control Berm along South End of the Griffey Tract
- Jan 1995 Completion of Cypress Creek Mitigation
- Jun 2, 1995 SFWMD Sign-off on Permit # [illegible]
- Aug 8, 1995, Mitigation Requirements on Parcels 1, 2A, & 2B are Signed Off By FDEP

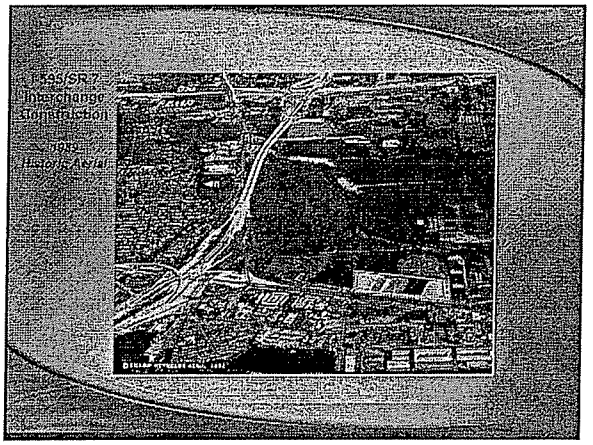
POND APPLE SLOUGH (PAS) CHRONOLOGY OF EVENTS

- [illegible] 16, 1996 FDEP Letter Stating Consent Order Requirements Fulfilled (Package M)
- Jan 1997 Griffey Tract Restoration Complete
- March 1997 Additional Installation of Riprap along PAS & Parcel 2b
- [illegible] 1998 Quit-Claim Deed Transferring PAS & Associated Mitigation Properties to Broward Co.
- June 17, 1998 PAS Closing (Transfer of all Properties to Broward County Complete)
- 1999-2000 Stone Harbor Mitigation – Enhancement within PAS and Parcels 1 & 1A
- [illegible] 1999 Broward Co to Develop "PAS Restoration Plan" to be Funded by SFWMD ([illegible] Trust Fund)
- [illegible] 2000 Broward Co. Submits ERP Application to SFWMD for PAS Restoration – Recharge [illegible]
- Jan 17, 2001 ACOE Issues NW Permit Associated with PAS Restoration Plan
- Jan 19, 2001 RAI Received from SFWMD
- April 13, 2001 Response to RAI
- August 7, 2003 Broward Co. DPEP Letter to SFWMD on Status of Rehabilitation Project & [illegible] Recommendations to Move Project Forward

I-595 CONSTRUCTION PROJECTS







Wetland Impacts

Package J Wetland Impacts = 21 acres

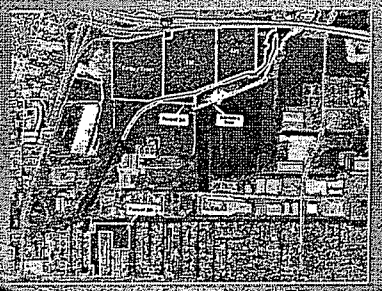
Package M Wetland Impacts = 56 acres

TOTAL Wetland Impacts = 77 acres

I-595 MITIGATION PLAN

- 1979 MOU BETWEEN FDOT AND BROWARD COUNTY FOR ACQUISITION OF PAS
- 1987 AGREEMENT BETWEEN FDOT AND BROWARD COUNTY BASED ON MITIGATION PLAN FOR I-595
  - CONSERVATION EASEMENT FOR GRIFFEY TRACT
  - TRANSFER OF PAS (OWNED BY FDOT)
  - ACQUISITION AND TRANSFER OF FPL PARCELS
  - DOT WILL PROVIDE PUBLIC ACCESS TO PAS
  - ALL LANDS WILL BE PRESERVED IN NATURAL STATE

FDOT PAS MITIGATION SITES



I-595 MITIGATION PLAN

(PRESERVATION, ENHANCEMENT & RESTORATION)

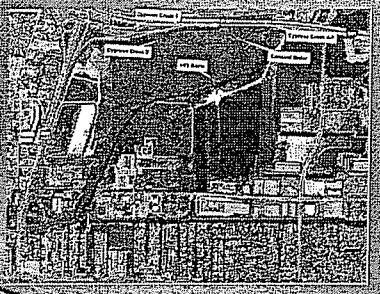
- POND APPLE SLOUGH – Purchase of 112.4± acres.
- GRIFFEY TRACT – Purchase of a Conservation Easement from Broward County for 58.8± acres. Enhancement include exotic removal. Complete 1993.
- ALANDCO TRACT (Parcel I) – Purchase of 22.5 acres of riverfront. Enhancement includes removal of exotics & replanting with native species. Placement of riprap along SFNR. Construction Complete 1991.

I-595 MITIGATION PLAN con't.

- LPI TRACT 2A - Purchase of 4.5 acres of riverfront property along SFNR. Enhancement of parcel including exotic removal, replanting with native species and placement of riprap. Construction Complete 1991.
- LPI TRACT 2B - Purchase of 20.5 acres with frontage along Dania Cut-off Canal. Restoration/Enhancement includes scrape down, exotic removal and replanting of native species. Construction Complete 1991.
- RESTORATION OF TEMPORARY HAUL ROAD Associated with Bridge construction – Approximately 7.10 acres.

TOTAL AREA PRESERVED > 215 ACRES
TOTAL AREA ENHANCED > 90 ACRES

ADDITIONAL FDOT MITIGATION/RESTORATION ACTIVITIES



ADDITIONAL FDOT MITIGATION/RESTORATION ACTIVITIES

- 1995 Consent Order
  - Restoration of 9.4 acres of PAS due to Construction Impacts
  - Construction Complete July 1992
- I-75 @ Broward Blvd. Mitigation
  - Revegetation of 4,500 lineal feet of SFNR Berm Restoration & Mangrove Planting
  - Construction Complete June 1992
- Cypress Creek NOV Mitigation
  - Creation of 6.5 acres Freshwater Wetlands for mitigation
  - Creation/Enhancement of 8.0 acres Voluntary wetlands Adjacent to PAS (underneath & adjacent to I-595 bridges)
  - Construction Complete January 1995

LAND TRANSFER INFO

- Following Agency Acceptance of Mitigation and Consent Order All Parcels Transferred to Broward County in Accordance with 1987 Agreement Between FDOT and Broward County
- Conservation Easement Purchased For Griffey Tract - Agency Clearance April 1997
- September 1998 – Quit Claim Deed to Broward County for Pond Apple Slough and the FPL Parcels (1, 2a & 2b).
- *"COUNTY will retain the properties predominantly in their scenic, still open space condition and will prevent any use of the properties that will significantly impair or interfere with the scenic, open space and ecological values of the properties."*

OTHER PROJECTS/ACTIVITIES WITHIN POND APPLE SLOUGH

POND APPLE SLOUGH WORKING GROUP

- Led by Broward County
- Established in 1990

HOMART TRUST FUND

- PAS Activities Funded by Homart Trust Fund
  - Phase I Work - Enhancing the Freshwater Head in PAS by Filling a Point Source Discharge & Berm Excavation
  - Exotic Plant Eradication
  - Develop PAS Management Plan

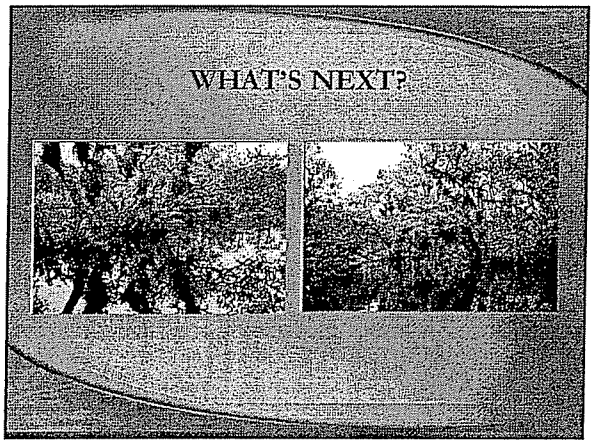
OTHER PROJECTS WITHIN POND APPLE SLOUGH

LONE HARBOR MITIGATION

- Exotic Removal within 10.5± Acres of Parcel 1, 1A and PAS
- Completed in 2000??

HOMART TRUST FUND (Pursuant to MSSW Permit # 06-00898-6-11)

- DEVELOP "PAS RESTORATION PLAN"
  - Plan Includes Design and Construction of a Freshwater Delivery System to PAS and Griffey Tract by Pumping Water from the CBDD N-1 Canal
  - Design Completed in April 2001
- Permit Issued from ACOE
- No Permit Issued from SFWMD


WHAT'S NEXT?

HISTORY OF EVENTS
I-595 AT POND APPLE SLOUGH

POND APPLE SLOUGH (PAS)
CHRONOLOGY OF EVENTS

October 12, 1979	MOU between FDOT and Broward County for acquisition of PAS
November 15, 1979	I-595 FEIS Approved (State Project Nos: 86095-3404 & 86095-3458)
August 22, 1983	I-595 ACOE Permit No. 83D-0325 Issued for I-595 Bridge and Temporary Haul Road
February 9, 1984	I-595 FDER Permit No. 06-0653979 Issued for I-595 Bridge and Temporary Haul Road
October 22, 1984	Construction begins on the I-595 Bridge and Temporary Haul Road
April & May 1986	Construction impacts to PAS (FDER Permit No. 06-0653979)
April 28, 1986	ACOE issued Notice of Noncompliance for wetland impacts (ACOE Permit No. 83D-0325)
June 12, 1986	SFWMD Permit No. 06-00774 issued for Package M construction of SR 7 Interchange – includes 12 miles of roadway and 19 bridges
June 20, 1986	FDER Permit No. 061110329 issued for Package M construction of SR 7 Interchange – 56 acres of wetland impact identified; mitigation plan reference. Required submittal of a detailed plan in 6 months.
June 24, 1986	USACOE Permit No. 85IPG 21113 issued for Package M (Construction of SR 7 Interchange). 56 acres of wetland impact identified. Draft mitigation plan identified including areas 1, 2A, 2B, 3 (Griffey Tract), and 4 (Pond Apple Slough).
September 2, 1986	FDER NOV issued to FDOT, Hardrives, and John P. Pike & Sons for wetland impacts to PAS observed on April 25, 1986 and May 2, 1986.
October 6, 1986	Construction begins on Package M
August 4, 1987	Agreement is signed between FDOT and Broward County based on mitigation plan for PAS
December 30, 1987	Construction of the I-595 Bridge over the South Fork of the New River (SFNR) is complete
1990	Establishment of Broward County Working Group for PAS

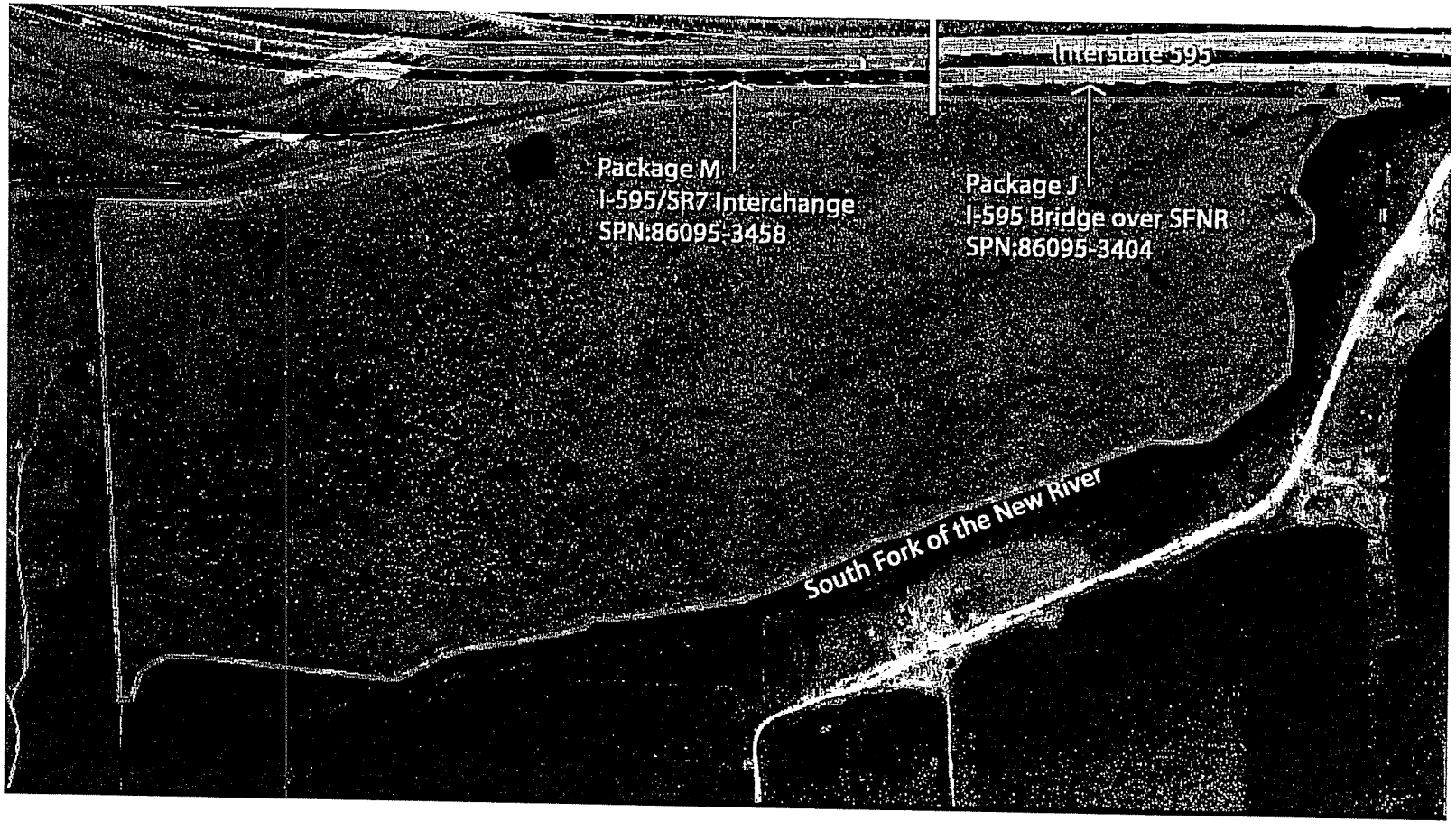
POND APPLE SLOUGH (PAS)
CHRONOLOGY OF EVENTS

• **February 1990**	All Mitigation Parcels are acquired
• **June 1991**	Initial restoration of FPL Parcels 1, 2A And 2B Complete
• **August 1, 1991**	Consent Order (FDER No. 86-0632) signed (FDER AND FDOT) for restoration of PAS due to construction impacts on bridge project.
• **March 18, 1992**	Broward County DNRP issues after-the-fact permit for wetland impacts at I-95/Cypress Creek Interchange and authorizes mitigation at the PAS.
• **June 7, 1992**	I-95 at Broward Blvd. Mitigation Project complete along the southern berm of the PAS (BCDNRP License No.DF92-1152 and FDER Permit No. 061876436) -3 years of quarterly monitoring and maintenance required.
• **July 1992**	Consent Order – Initial restoration on 9.4 acres is completed.
• **July 7, 1992**	Consent Order (FDER No. 86-0632) Amendment for time extension.
• **May 1993**	Enhancement work on Griffey Tract begins.
• **June 1994**	Remedial maintenance/selective clearing of exotic vegetation on Parcels 1, 2A, & 2B.
• **1994/95**	PAS activities funded by Homart Trust Fund
• **December 28, 1994**	Issuance of FDER Permit No. 062505206 to excavate and plug areas of retention pond to divert freshwater into PAS and construct a salinity berm along the south end of the Griffey Tract. Project managed by Broward County and funded with Homart Trust Fund.
• **January 19, 1995**	ACOE issued Permit to enhance hydrology of PAS. Project managed by Broward County and funded with Homart Trust Fund.

POND APPLE SLOUGH (PAS)
CHRONOLOGY OF EVENTS

- **January 1995** Cypress Creek mitigation construction completed – 5 years of quarterly monitoring required.
- **June 2, 1995** SFWMD signs off on Permit No. 06-00774 (Package M Mitigation).
- **August 3, 1995** Mitigation requirements of Parcels 1, 2A, & 2B are signed off by FDEP.
- **May 16, 1996** FDER letter stating Consent Order requirements are fulfilled.
- **January 1997** Griffey Tract enhancement (exotic vegetation removal) is complete.
- **March 1997** Additional installation of riprap along the PAS and Parcel 2B is complete.
- **September. 9, 1998** Quick Claim Deed transferring PAS & associated mitigation properties to Broward County.
- **September 17, 1998** PAS closing (Transfer of all properties to Broward County is complete).
- **1999/2000** Stone Harbor Mitigation – Enhancement within PAS and Parcels 1 & 1A.
- **February 23, 1999** Broward County approved hiring Hydrologic Associates to develop "PAS Restoration Plan" to be funded by SFWMD (K-Mart Trust Fund pursuant to MSSW Permit No. 06-00898-S-11)
- **December 13, 2000** Broward County submits Standard General ERP application for PAS restoration – recharge water.
- **January 17, 2001** USACOE issues Nationwide Permit associated with PAS restoration plan.
- **January 19, 2001** Request for Additional Information (RAI) Received from SFWMD.
- **April 13, 2001** Response to RAI
- **August 7, 2003** Broward County DPEP letter to SFWMD on status of rehydration project and additional recommendations moving project forward.

I-595 CONSTRUCTION PROJECTS



PERMITS/PERMIT REQUIREMENTS

I-595 Bridge over the SFNR – State Project No. 86095-3404(Package J)

The following permits were issued for construction of the I-595 Bridge over the South Fork of the New River and the construction of a temporary haul road impacting 21 acres of wetlands.

- DER Permit No. 060653479 - Issued 2/9/84
- ACOE Permit No. 83D-0325 - Issued 8/22/83
- SFWMD Permit No. GP 8338 – Issued N/A
- USCG Permit No. 11-83-7 – Issued N/A

Mitigation included acquisition of remaining parcel in PAS in accordance with MOU between FDOT and Broward County (October 12, 1979) and restoration of a temporary haul road.

I-595 SR 7 Interchange – State Project No. 86095-3458 (Package M)

The following permits were issued for construction of the I-595/S.R. 7 Interchange:

- FDER Permit No. 061110329 – Issued 6/20/86
- ACOE Permit No. 85IPG-21113 – Issued 6/24/86
- SFWMD Permit No. 06-00774-S – Issued 6/12/86

The FDER and ACOE Permit authorized the construction of the SR 7 Interchange with 56 acres of wetland impacts and the development of a conceptual mitigation plan. Submittal of a detailed mitigation plan was required within 6 months of issuance of the permits. A Draft Mitigation Plan was identified which included the purchase of Parcels 1, 2A, 3 (Griffey Tract), and 4 (PAS).

PERMITS/PERMIT REQUIREMENTS (Continued)

I-595 Project Impacts* (SR 7 to SFNR)

Activities associated with construction of I-595 from State Road 7 to the South Fork of the New River were going to impact the following wetland areas:

- **Broward County Resource Recovery Facility** (Area 1) - 15.88 Acres

  This area could be described as a disturbed freshwater wetland vegetated with wax myrtles, bays, maples, cypress, sawgrass and invasive species, such as, melaleuca and brazilian pepper.

- **Griffey Tract** (Area 2) - 22.03 ACRES

  This parcel of land was an abandoned agricultural area predominantly vegetated with sawgrass, wax myrtle, cypress, cabbage palms and invasive species such as, melaleuca.

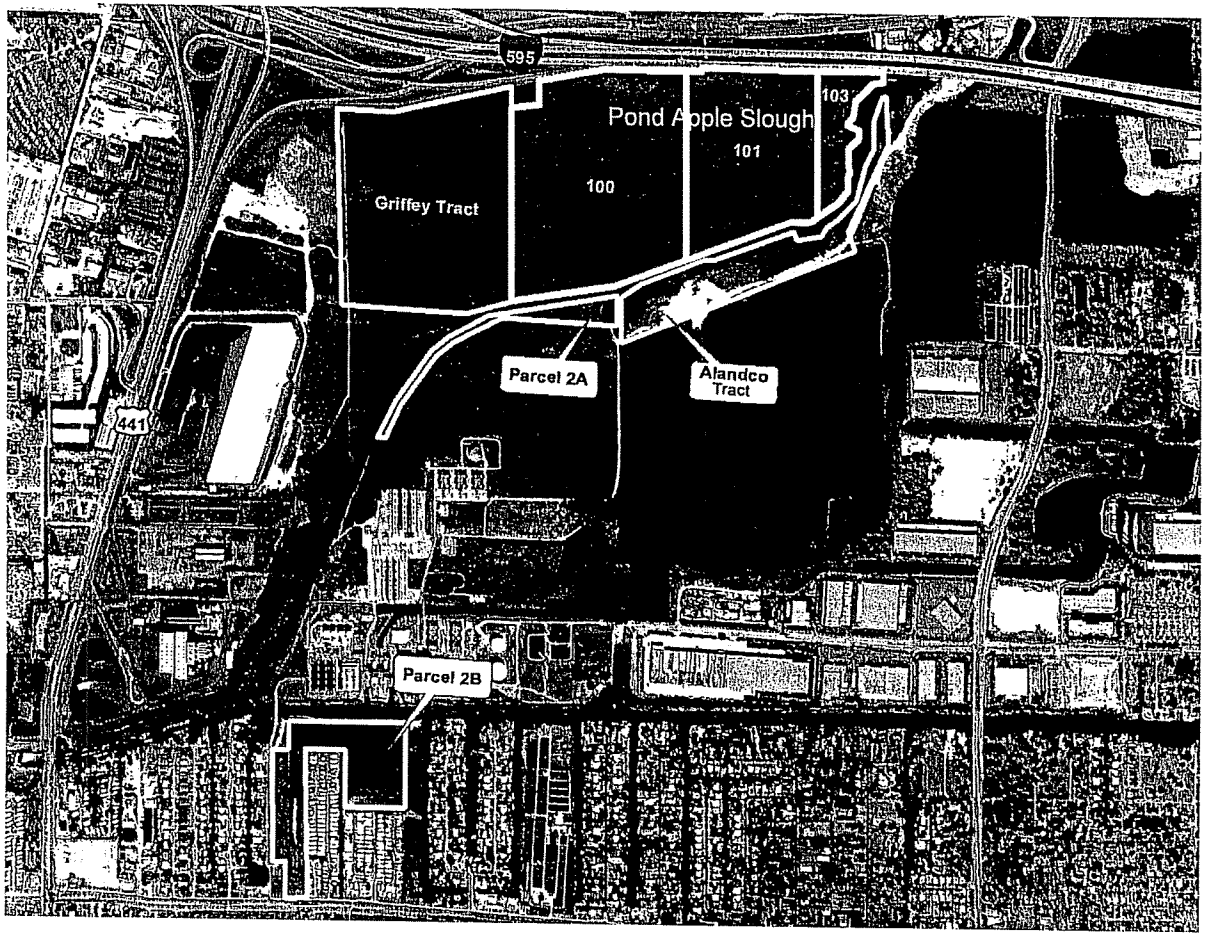
- **Pond Apple Slough** (Area 3) ~ 18.44 ACRES

  This area was considered a freshwater wetland predominately vegetated with cypress, pond apple, maple, wax myrtle, leather fern and invasive species such as, melaleuca and brazilian pepper.

Approximately 56.35 acres of wetlands were anticipated to be impacted by I-595 construction. An additional 10± acres were impacted but not filled.

*The wetland impact information for each area was obtained from the SFWMD Permit #06-00774 & the impact acreage was consistent with the other permits.

FDOT I-595 PAS MITIGATION SITES



I-595 MITIGATION PLAN (PRESERVATION, ENHANCEMENT & RESTORATION)

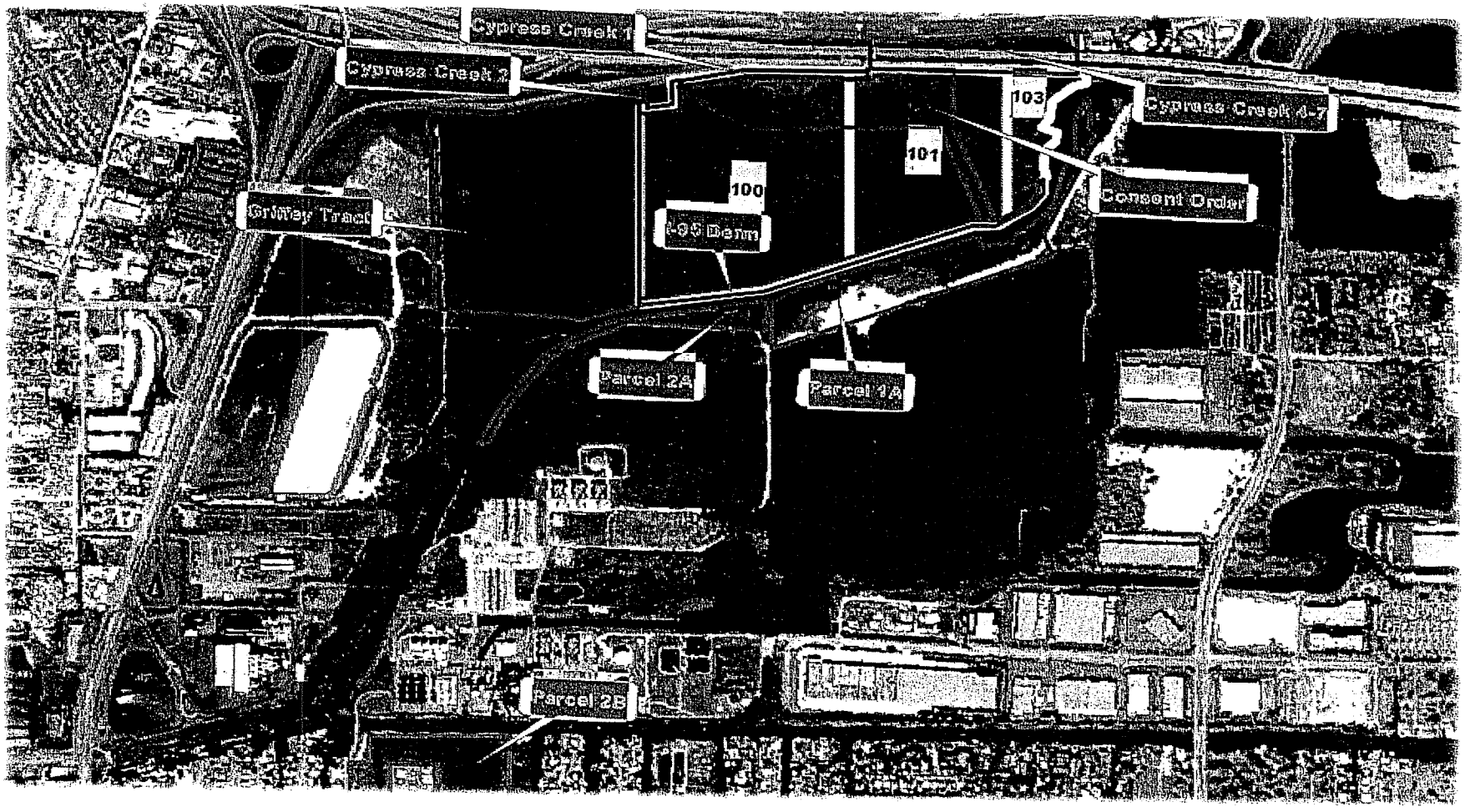
FDOT was required to fulfill the following mitigation activities to compensate for the wetland impacts and to fulfill the permit requirements.

- **Pond Apple Slough** - Purchase remaining 112.4± acres.
- **Griffey Tract** – Purchase a conservation easement from Broward County covering the remaining 58.8 acres and enhance the site by removing all exotic vegetation.
- **Alandco Tract (Parcel 1)** – Purchase 22.5 acres of riverfront property and enhance approximately 10 acres of the parcel by removing exotic vegetation and replanting with native vegetation.
- **FPL Parcel 2A** - Purchase 4.5 acres of riverfront property and enhance the parcel by removing exotic vegetation and replanting with native vegetation.
- **FPL Parcel 2B** – Purchase 20.5 acres of canal frontage property. Restore and enhance the parcel with scrape down activities, removal of exotic vegetation and replanting with native vegetation.
- Restore 7.16 acres used as a temporary haul road associated with bridge construction by replacing stockpiled muck and replanting with native vegetation.

As part of the mitigation plan, FDOT was required to sign an agreement with Broward County to preserve the Pond Apple Slough and place the Griffey Tract under a Conservation Easement. In 1987 the agreement was signed and included the following list of requirements:

- FDOT was required to pay Broward County over 2 million dollars to place the Griffey Tract under a Conservation Easement.
- FDOT was required to transfer ownership of the Pond Apple Slough, and Parcels 2A and 2B over to Broward County upon completion of all mitigation activities.
- The Pond Apple Slough would be preserved in its natural state.
- FDOT would provide public access to the Pond Apple Slough.

ALL FDOT
MITIGATION/RESTORATION ACTIVITIES



All FDOT MITIGATION/RESTORATION ACTIVITIES

I-595 Mitigation:

- Enhancement/Restoration of Parcels 1, 2A, & 2B
  - Construction complete June 1991
  - Maintenance/Monitoring complete June 1994
  - Agency sign-off August 1995

- Enhancement of the Griffey Tract
  - Initial exotic removal complete December 1993
  - Maintenance/Monitoring complete January 1997
  - Agency sign off April 1997

I-595 Consent Order

Restoration of 9.4 acres of PAS due to construction impacts. Activities included removal of sediment in northern areas of PAS, removal of fill along haul road and replanting with native vegetation.

- Construction complete July 1992
- Maintenance/Monitoring complete January 1997
- Agency sign-off May 1996

I-95 @ Broward Blvd Mitigation – SFNR Berm restoration and mangrove planting

Restoration of 3,500 linear feet of the PAS southern berm of the PAS along the South Fork of the New River. Activities included removal of exotic vegetation, placement of rubble rip-rap, creation of mangrove planters, installation of native hammock species and mangrove species.

- Construction complete June 1992
- Maintenance/monitoring complete July 1995
- Agency sign-off August 1995

All FDOT MITIGATION/RESTORATION ACTIVITIES (Continued)

Cypress Creek NOV – Mitigation
Creation of 4.7 acres of freshwater wetlands and enhancement of 7.8 acres of freshwater wetlands located within FDOT's right-of-way adjacent to the PAS (Underneath and adjacent to I-595 Bridges). Broward County required 6.5 acres of mitigation, but an additional 6.0 acres of voluntary wetland creation was completed to restore all areas underneath I-595.

- Construction complete January 1995
- Maintenance/Monitoring complete December 2000

Riprap Installation Along the SFNR
Riprap was placed along the southern berm of PAS and along Parcel 2B. SFWMD requested removal of Australian pines on Parcel 2B along the Dania Cut-off Canal. The berm along the canal started to erode. so FDOT placed rubble riprap along the berm of Parcel 2B to protect the site. The southern berm of the PAS was also eroding away, so FDOT placed additional rubble in the areas of concern.

- Construction complete March 1997

Land Transfer Information

- Following Agency Acceptance of Mitigation and Consent Order All Parcels Transferred to Broward County in Accordance with 1987 Agreement Between FDOT and Broward County.
- Conservation Easement Purchased For Griffey Tract. Agency Clearance April 1997.
- September 1998 – Quit Claim Deed to Broward County for Pond Apple Slough and the FPL Parcels (1, 2a & 2b).

OTHER PROJECTS/ACTIVITIES WITHIN POND APPLE SLOUGH

Pond Apple Slough Working Group

- Led by Broward County
- Established in 1990

Homart Trust Fund

PAS Activities Funded by Homart Trust Fund ($71,300)

- Phase I Work - Enhancing PAS hydrology by excavating and berming the FDOT retention pond to divert freshwater from the pond into the PAS. Additional work included the construction of a salinity control berm along the south end of the Griffey Tract to help control salt water intrusion from the SFNR.
- Exotic Plant Eradication
- Develop PAS Management Plan

Stone Harbor Mitigation

- Exotic Removal within 10.54 Acres of Parcel 1, 1A and PAS
- Completed in 2000

K-Mart Trust Fund (Pursuant to MSSW Permit # 06-00898-s-11)

- DEVELOP "PAS RESTORATION PLAN"
  - Plan Includes Design and Construction of a Freshwater Delivery System to PAS and Griffey Tract by Pumping Water from the CBDD N-1 Canal.
  - Design Completed in APRIL 2001
- Permit Issued from ACOE
- No Permit Issued from SFWMD

Appendix B

WETLAND RAPID ASSESSMENT PROCEDURE

(WRAP) for I-595 Viaduct Limited Access Right of Way

☑ Check Box — Existing Condition

☐ Check Box — Proposed Condition

Application Number	Project Name	Date	Evaluator
TBD	I-595 Improvements	1/28/2005	Erik Neugaard

Land Use	Wetland Type	Wetland Acreage	FLUCCS Code: Description
I-595 Right of Way (N)	Palustrine	12.4	616 - Inland Slough

Fish & Wildlife Utilization	Overstory & Shrub	Field Hydrology	Ground Cover
2.0	2.0	1.0	1.0

Habitat Support / Buffer

Buffer Type	(Score) X	(% of Area)	Sub Totals
Highway	0	50	0
Preserve	3	50	1.5
			0
			0
			0
TOTAL			1.50

Land Use Category (LU)

Land Use Category (LU)	(Score) X	(% of Area)	Sub Totals
Highway	1	50	0.5
Undeveloped Preserve	3	50	1.5
			0
			0
			0
TOTAL			2

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of Area)	Sub Totals
No Treatment	0	50	0
Undeveloped Preserve	3	50	1.5
			0
			0
			0
TOTAL			1.5

WQ Input & Treatment (WQ)*: 1.75

* The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment Category then dividing by 2.

WRAP SCORE

0.62

Field Notes:

Fish & Wildlife Utilization (WU)

The area no longer supports large mammals (i.e., deer and bobcats) due to isolation and surrounding urbanization. Noise levels from State Road 84 and I-595 make the adjacent Pond Apple Slough Natural Area more desirable for most species. Observation of a rat and opposum and raccoon tracks indicate use by small and medium sized mammals. Wading birds and forage fishes were also observed.

Overstory & Shrub (O/S)

As noted below, Pond Apple Slough has suffered significant hydrological impacts since the North New River Canal was completed and is now tidally-influenced and brackish. Although the Assessment Area was planted with freshwater hydrophytes, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing the Assessment Area. The white mangroves have been removed as exotics and are considered such in this assessment.

Wetland Ground Cover (GC)

Desirable ground cover is sparse. Where present the ground cover consists mostly of leather ferns or white mangrove saplings.

Habitat Support/Buffer

The Assessment Area is located immediately south of State Road 84, beneath the I-595 bridges over the South Fork New River, and immediately north of Broward County's Pond Apple Slough Natural Area. Pond Apple Slough Natural Area is undeveloped, greater than 300 feet wide, contains predominantly desirable plant species, and is large enough to support habitat for large reptiles.

Field Hydrology (HYD)

Pond Apple Slough has suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the Assessment Area is now tidally-influenced and brackish. Although the Assessment Area was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the Assessment Area.

WQ Input & Treatment (WQ)

Pond Apple Slough Natural Area is a large open space/natural undeveloped area and there is no treatment for State Road 84 runoff.

WETLAND RAPID ASSESSMENT PROCEDURE

(WRAP) for I-595 Viaduct Construction Platforms

☐ Check Box — Existing Condition

☑ Check Box — Proposed Condition

Application Number	Project Name	Date	Evaluator
TBD	I-595 Improvements	1/28/2005	Erik Neugaard

Land Use	Wetland Type	Wetland Acreage	FLUCCS Code: Description
I-595 Right of Way (N)	Palustrine	2.07	616 - Inland Slough

Fish & Wildlife Utilization	Overstory & Shrub	Field Hydrology	Ground Cover
0.0	0.0	0.0	0.0

Habitat Support / Buffer

Buffer Type	(Score) X	(% of Area)	Sub Totals
			0
			0
			0
			0
			0
TOTAL			0.00

Land Use Category (LU)

Land Use Category (LU)	(Score) X	(% of Area)	Sub Totals
			0
			0
			0
			0
			0
TOTAL			0

WQ Input & Treatment (WQ)*

0

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of Area)	Sub Totals
			0
			0
			0
			0
			0
TOTAL			0

* The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment Category then dividing by 2.

WRAP SCORE

0 (no longer a wetland)

Field Notes:

Fish & Wildlife Utilization (WU)

Overstory & Shrub (O/S)

Wetland Ground Cover (GC)

Habitat Support/Buffer

Field Hydrology (HYD)

WQ Input & Treatment (WQ)

WETLAND RAPID ASSESSMENT PROCEDURE

(WRAP) for I-595 Viaduct Shading Impacts

☐ Check Box — Existing Condition

☑ Check Box — Proposed Condition

Application Number	Project Name	Date	Evaluator
TBD	I-595 Improvements	1/28/2005	Erik Neugaard

Land Use	Wetland Type	Wetland Acreage	FLUCCS Code: Description
I-595 Right of Way (N)	Palustrine	4.31	616 - Inland Slough

Fish & Wildlife Utilization	Overstory & Shrub	Field Hydrology	Ground Cover
1.0	0.0	1.0	1.0

Habitat Support / Buffer

Buffer Type	(Score) X	(% of Area)	Sub Totals
Highway	0	50	0
Preserve	3	50	1.5
			0
			0
			0
TOTAL			1.50

Land Use Category (LU)

Land Use Category (LU)	(Score) X	(% of Area)	Sub Totals
Highway	1	50	0.5
Undeveloped Preserve	3	50	1.5
			0
			0
			0
TOTAL			2

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of Area)	Sub Totals
No Treatment	0	50	0
Undeveloped Preserve	3	50	1.5
			0
			0
			0
TOTAL			1.5

WQ Input & Treatment (WQ)*: 1.75

* The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment Category then dividing by 2.

WRAP SCORE

0.42

Field Notes:

Fish & Wildlife Utilization (WU)

The area no longer supports large mammals (i.e., deer and bobcats) due to isolation and surrounding urbanization. Noise levels from State Road 84 and I-595 make the adjacent Pond Apple Slough Natural Area more desirable for most species. Observation of a rat and opposum and raccoon tracks indicate use by small and medium sized mammals. Wading birds and forage fishes were also observed.

Overstory & Shrub (O/S)

Most of the vegetation will be lost.

Wetland Ground Cover (GC)

The existing ground cover of leather ferns and white mangrove saplings will likely persist.

Habitat Support/Buffer

The Assessment Area is located immediately south of State Road 84, beneath the I-595 bridges over the South Fork New River, and immediately north of Broward County's Pond Apple Slough Natural Area. Pond Apple Slough Natural Area is undeveloped, greater than 300 feet wide, contains predominantly desirable plant species, and is large enough to support habitat for large reptiles.

Field Hydrology (HYD)

Pond Apple Slough has suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the Assessment Area is now tidally-influenced and brackish. Although the Assessment Area was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the Assessment Area.

WQ Input & Treatment (WQ)

Pond Apple Slough Natural Area is a large open space/natural undeveloped area and there is no treatment for State Road 84 runoff.

Appendix C

ESTUARINE WETLAND RAPID ASSESSMENT PROCEDURE

(E-WRAP) for I-595 Viaduct Limited Access Right of Way

☑ Check Box — Existing Condition

☐ Check Box — Proposed Condition

Application Number	Project Name	Date	Evaluator
TBD	I-595 Improvements	1/28/2005	Erik Neugaard

Land Use	Wetland Type	Wetland Acreage	FLUCCS Code: Description
I-595 Right of Way (N)	Palustrine	12.4	616 - Inland Slough

Fish & Wildlife Utilization	Overstory & Shrub	Field Hydrology	Ground Cover
2.0	2.0	1.0	1.0

Habitat Support / Buffer

Buffer Type	(Score) X	(% of Area)	Sub Totals
Highway	0	50	0
Preserve	3	50	1.5
			0
			0
			0
TOTAL			1.50

Land Use Category (LU)

Land Use Category (LU)	(Score) X	(% of Area)	Sub Totals
Highway	1	50	0.5
Undeveloped Preserve	3	50	1.5
			0
			0
			0
TOTAL			2

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of Area)	Sub Totals
No Treatment	0	50	0
Undeveloped Preserve	3	50	1.5
			0
			0
			0
TOTAL			1.5

WQ Input & Treatment (WQ)*: 1.75

* The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment Category then dividing by 2.

WRAP SCORE

0.62

Field Notes:

Fish & Wildlife Utilization (WU)

The area no longer supports large mammals (i.e., deer and bobcats) due to isolation and surrounding urbanization. Noise levels from State Road 84 and I-595 make the adjacent Pond Apple Slough Natural Area more desirable for most species. Observation of a rat and opposum and raccoon tracks indicate use by small and medium sized mammals. Wading birds and forage fishes were also observed.

Overstory & Shrub (O/S)

As noted below, Pond Apple Slough has suffered significant hydrological impacts since the North New River Canal was completed and is now tidally-influenced and brackish. Although the Assessment Area was planted with freshwater hydrophytes, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing the Assessment Area. The white mangroves have been removed as exotics and are considered such in this assessment.

Wetland Ground Cover (GC)

Desirable ground cover is sparse. Where present the ground cover consists mostly of leather ferns or white mangrove saplings.

Habitat Support/Buffer

The Assessment Area is located immediately south of State Road 84, beneath the I-595 bridges over the South Fork New River, and immediately north of Broward County's Pond Apple Slough Natural Area. Pond Apple Slough Natural Area is undeveloped, greater than 300 feet wide, contains predominantly desirable plant species, and is large enough to support habitat for large reptiles.

Field Hydrology (HYD)

Pond Apple Slough has suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the Assessment Area is now tidally-influenced and brackish. Although the Assessment Area was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the Assessment Area.

WQ Input & Treatment (WQ)

Pond Apple Slough Natural Area is a large open space/natural undeveloped area and there is no treatment for State Road 84 runoff.

ESTUARINE WETLAND RAPID ASSESSMENT PROCEDURE

(E-WRAP) for I-595 Viaduct Construction Platforms

☐ Check Box — Existing Condition

☑ Check Box — Proposed Condition

Application Number	Project Name	Date	Evaluator
TBD	I-595 Improvements	1/28/2005	Erik Neugaard

Land Use	Wetland Type	Wetland Acreage	FLUCCS Code: Description
I-595 Right of Way (N)	Palustrine	2.07	616 - Inland Slough

Fish & Wildlife Utilization	Overstory & Shrub	Field Hydrology	Ground Cover
0.0	0.0	0.0	0.0

Habitat Support / Buffer

Buffer Type	(Score) X	(% of Area)	Sub Totals
			0
			0
			0
			0
			0
TOTAL			0.00

Land Use Category (LU)

Land Use Category (LU)	(Score) X	(% of Area)	Sub Totals
			0
			0
			0
			0
			0
TOTAL			0

WQ Input & Treatment (WQ)*: 0

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of Area)	Sub Totals
			0
			0
			0
			0
			0
TOTAL			0

* The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment Category then dividing by 2.

WRAP SCORE

0 (no longer a wetland)

Field Notes:

Fish & Wildlife Utilization (WU)	
Overstory & Shrub (O/S)	
Wetland Ground Cover (GC)	
Habitat Support/Buffer	
Field Hydrology (HYD)	
WQ Input & Treatment (WQ)	

ESTUARINE WETLAND RAPID ASSESSMENT PROCEDURE

(E-WRAP) for I-595 Viaduct Shading Impacts

☐ Check Box — Existing Condition

☑ Check Box — Proposed Condition

Application Number	Project Name	Date	Evaluator
TBD	I-595 Improvements	1/28/2005	Erik Neugaard

Land Use	Wetland Type	Wetland Acreage	FLUCCS Code: Description
I-595 Right of Way (N)	Palustrine	4.31	616 - Inland Slough

Fish & Wildlife Utilization	Overstory & Shrub	Field Hydrology	Ground Cover
1.0	0.0	1.0	1.0

Habitat Support / Buffer

Buffer Type	(Score) X	(% of Area)	Sub Totals
Highway	0	50	0
Preserve	3	50	1.5
			0
			0
			0
TOTAL			1.50

Land Use Category (LU)

Land Use Category (LU)	(Score) X	(% of Area)	Sub Totals
Highway	1	50	0.5
Undeveloped Preserve	3	50	1.5
			0
			0
			0
TOTAL			2

Pretreatment Category (PT)

Pretreatment Category	(Score) X	(% of Area)	Sub Totals
No Treatment	0	50	0
Undeveloped Preserve	3	50	1.5
			0
			0
			0
TOTAL			1.5

WQ Input & Treatment (WQ)*: 1.75

* The value of WQ is obtained by adding the TOTAL scores of Land Use Category and Pretreatment Category then dividing by 2.

WRAP SCORE

0.42

Field Notes:

Fish & Wildlife Utilization (WU)

The area no longer supports large mammals (i.e., deer and bobcats) due to isolation and surrounding urbanization. Noise levels from State Road 84 and I-595 make the adjacent Pond Apple Slough Natural Area more desirable for most species. Observation of a rat and opposum and raccoon tracks indicate use by small and medium sized mammals. Wading birds and forage fishes were also observed.

Overstory & Shrub (O/S)

Most of the vegetation will be lost.

Wetland Ground Cover (GC)

The existing ground cover of leather ferns and white mangrove saplings will likely persist.

Habitat Support/Buffer

The Assessment Area is located immediately south of State Road 84, beneath the I-595 bridges over the South Fork New River, and immediately north of Broward County's Pond Apple Slough Natural Area. Pond Apple Slough Natural Area is undeveloped, greater than 300 feet wide, contains predominantly desirable plant species, and is large enough to support habitat for large reptiles.

Field Hydrology (HYD)

Pond Apple Slough has suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the Assessment Area is now tidally-influenced and brackish. Although the Assessment Area was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the Assessment Area.

WQ Input & Treatment (WQ)

Pond Apple Slough Natural Area is a large open space/natural undeveloped area and there is no treatment for State Road 84 runoff.

Appendix D

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
I-595 Improvements	**To be determined**	**I-595 Viaduct North Lanes (Shading)**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
616	**Inland Slough**	**Impact**	**1.77** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Coral Reef Basin #5108 Broward-Palm Beach Coast	**South Fork New River (Class III)**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The AA is adjacent to Broward County's Pond Apple Slough Natural Area and the South Fork New River.

Assessment area description

The limited access right of way (L/A ROW) located beneath and north of the existing I-595 viaduct over South Fork New River. The AA is the width of the bridge widening multiplied by the length of the wetlands; however, it is offset 12.5 feet south to compensate for the shift in insolation. It is anicipated that vegetation will persist approximately 12.5 feet under the widened bridge as it does now.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The AA is adjacent to Pond Apple Slough Natural Area and the South Fork New River.	**Pond Apple Slough Natural Area is one of the largest remaining undeveloped parcels in Broward County.**
Functions	Mitigation for previous permit/other historic use
The AA provides a buffer between SR-84 and Pond Apple Slough Natural Area and is an extension of its available habitat.	**The AA was previously used as a mitigation site for the Cypress Creek Park and Ride Lot @ I-95 (see attached plans).**
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Attached are lists of previously recorded species in the Pond Apple Slough Natural Area. Most of these species could potentially utilize the AA; however, due to traffic noise and other disturbances from SR-84 and I-595, this area is less desirable than Pond Apple Slough Natural Area.	**It is anticipated that any of the listed species that utilize Pond Apple Slough Natural Area could also utilize the AA; especially bird species. The American crocodile (E) could also potentially use the AA; however, the probability is low due to traffic noise and other disturbances from SR-84 and I-595.**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Few wildlife species were observed in the AA or immediate vicinity. Several cattle egrets (Bubulcus ibis), grackles (Quiscalus quiscula), a little blue heron (Egretta caerulea), giant land crabs (Cardisoma guanhumi), fiddler crabs (Uca spp.), an iguana (Iguana iguana) and a rat (Sigmondon hispidus) were observed within the L/A ROW at the time of the survey. Oppossum (Didelphys marsupialis) and raccoon (Procyon lotor) tracks were also observed.

Additional relevant factors:

The AA and Pond Apple Slough have suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the AA is now tidally-influenced and brackish. Although the AA was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the AA. The white mangroves have been removed as exotics and are considered such in this assessment. The scoring also assumes total impact of all vegetation/wetland habitat in the AA.

Assessment conducted by:	Assessment date(s):
Erik Neugaard	**01/28/05**

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
I-595 Improvements	**To be determined**	**I-595 Viaduct North Lanes (Shading)**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**Erik Neugaard**	**01/28/05**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	7	4
	b. **Invasive plant species.**	7	7
	c. **Wildlife access** to and from AA (proximity and barriers).	7	7
	d. **Downstream benefits** provided to fish and wildlife.	7 X	4
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.	4 X	0
	f. **Hydrologic connectivity** (impediments and flow restrictions).	7	4
	g. **Dependency** of downstream habitats on quantity or quality of discharges.	7	4
	h. Protection of wetland functions provided by uplands (**upland** AAs only).	N/A	N/A
Current 7 / **With Impact 4**	Notes: Adjacent remaining habitat within the L/A ROW will be impacted by noise. Pond Apple Slough is a freshwater system; white mangroves are considered exotic. The project will result in a total loss of vegetation/wetland habitat in the AA as well as downstream benefits. Increase in traffic noise will also impact wildlife in AA. Construction roads will mpact hydrologic connectivity.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.	4	4
	b. Reliability of **water level indicators**.	7	7
	c. Appropriateness of **soil moisture**.	10	10
	d. **Flow rates**/points of discharge.	4	4
	e. **Fire frequency**/severity.	10	10
	f. **Type of vegetation**.	7 X	0
	g. **Hydrologic stress** on vegetation.	4	4
	h. **Use by animal**s with hydrologic requirements.	4 X	0
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	7	0
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	7	7
	k. **Water quality data** for the type of community.	7	7
	l. **Water depth, wave energy, and currents**.	4	4
Current 6 / **With Impact 5**	Notes: Water levels and flows are inapropriate for a freshwater slough. Water level indicators may not be reliable in planted vegetation. Soil moisture and fire frequency are appropriate and will not be impacted. Vegetation/plant community composition will be lost to shading and direct impacts, not hydrologic stress or water quality. Animal use will be significantly impacted. Water quality may	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species	7	0
	II. Invasive/exotic plant species	7	0
	III. Regeneration/recruitment	4	0
	IV. Age, size distribution.	7	0
	V. Snags, dens, cavity, etc.	4	0
	VI. Plants' condition.	4	0
	VII. Land management practices.	4	0
	VIII. Topographic features (refugia, channels, hummocks).	4	0
	IX. Submerged vegetation (only score if present).	N/A	N/A
	X. Upland assessment area	N/A	N/A
Current 5 / **With Impact 0**	Notes: Overall, community structure will be completely lost.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.60	0.30

Impact Acres =	1.77

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.531

Impact Delta (ID)	
Current - w/Impact	0.30

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
I-595 Improvements	**To be determined**	**I-595 Viaduct Median Lanes (Shading)**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
616	**Inland Slough**	**Impact**	**1.70** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Coral Reef Basin #5108 Broward-Palm Beach Coast	**South Fork New River (Class III)**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The AA is adjacent to Broward County's Pond Apple Slough Natural Area and the South Fork New River.

Assessment area description

The limited access right of way (L/A ROW) located beneath the existing I-595 viaduct over South Fork New River. The AA is the width of the existing median plus 12.5 feet on each side of the median (to compensate for the loss vegetation that persists under the bridges) minus 20 feet for the construction platform AA (a separate assessment) multiplied by the length of the wetlands.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The AA is adjacent to Pond Apple Slough Natural Area and the South Fork New River.	**Pond Apple Slough Natural Area is one of the largest remaining undeveloped parcels in Broward County.**
Functions	Mitigation for previous permit/other historic use
The AA provides a buffer between SR-84 and Pond Apple Slough Natural Area and is an extension of its available habitat.	**The AA was previously used as a mitigation site for the Cypress Creek Park and Ride Lot @ I-95 (see attached plans).**
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Attached are lists of previously recorded species in the Pond Apple Slough Natural Area. Most of these species could potentially utilize the AA; however, due to traffic noise and other disturbances from SR-84 and I-595, this area is less desirable than Pond Apple Slough Natural Area.	**It is anticipated that any of the listed species that utilize Pond Apple Slough Natural Area could also utilize the AA; especially bird species. The American crocodile (E) could also potentially use the AA; however, the probability is low due to traffic noise and other disturbances from SR-84 and I-595.**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Few wildlife species were observed in the AA or immediate vicinity. Several cattle egrets (Bubulcus ibis), grackles (Quiscalus quiscula), a little blue heron (Egretta caerulea), giant land crabs (Cardisoma guanhumi), fiddler crabs (Uca spp.), an iguana (Iguana iguana) and a rat (Sigmondon hispidus) were observed within the L/A ROW at the time of the survey. Oppossum (Didelphys marsupialis) and raccoon (Procyon lotor) tracks were also observed.

Additional relevant factors:

The AA and Pond Apple Slough have suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the AA is now tidally-influenced and brackish. Although the AA was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the AA. The white mangroves have been removed as exotics and are considered such in this assessment. The scoring also assumes total impact of all vegetation/wetland habitat in the AA.

Assessment conducted by:	Assessment date(s):
Erik Neugaard	**01/28/05**

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
I-595 Improvements	**To be determined**	**I-595 Viaduct Median Lanes (Shading)**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**Erik Neugaard**	**01/28/05**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	7	4
	b. **Invasive plant species.**	7	7
	c. **Wildlife access** to and from AA (proximity and barriers).	7	7
	d. **Downstream benefits** provided to fish and wildlife.	7 X	4
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.	4 X	0
	f. **Hydrologic connectivity** (impediments and flow restrictions).	7	4
	g. **Dependency** of downstream habitats on quantity or quality of discharges.	7	4
	h. Protection of wetland functions provided by uplands (**upland** AAs only).	N/A	N/A
Current 7 / **With Impact 4**	Notes: Adjacent remaining habitat within the L/A ROW will be impacted by noise. Pond Apple Slough is a freshwater system; white mangroves are considered exotic. The project will result in a total loss of vegetation/wetland habitat in the AA as well as downstream benefits. Increase in traffic noise will also impact wildlife in AA. Construction roads will mpact hydrologic connectivity.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.	4	4
	b. Reliability of **water level indicators**.	7	7
	c. Appropriateness of **soil moisture**.	10	10
	d. **Flow rates**/points of discharge.	4	4
	e. **Fire frequency**/severity.	10	10
	f. **Type of vegetation**.	7 X	0
	g. **Hydrologic stress** on vegetation.	4	4
	h. **Use by animal**s with hydrologic requirements.	4 X	0
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	7	0
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	7	7
	k. **Water quality data** for the type of community.	7	7
	l. **Water depth, wave energy, and currents**.	4	4
Current 6 / **With Impact 5**	Notes: Water levels and flows are inapropriate for a freshwater slough. Water level indicators may not be reliable in planted vegetation. Soil moisture and fire frequency are appropriate and will not be impacted. Vegetation/plant community composition will be lost to shading and direct impacts, not hydrologic stress or water quality. Animal use will be significantly impacted. Water quality may	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species	7	0
	II. Invasive/exotic plant species	7	0
	III. Regeneration/recruitment	4	0
	IV. Age, size distribution.	7	0
	V. Snags, dens, cavity, etc.	4	0
	VI. Plants' condition.	4	0
	VII. Land management practices.	4	0
	VIII. Topographic features (refugia, channels, hummocks).	4	0
	IX. Submerged vegetation (only score if present).	N/A	N/A
	X. Upland assessment area	N/A	N/A
Current 5 / **With Impact 0**	Notes: Overall, community structure will be completely lost.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.60	0.30

Impact Acres =	1.70

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.510

Impact Delta (ID)	
Current - w/Impact	0.30

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
I-595 Improvements	**To be determined**	**I-595 Viaduct South Lanes (Shading) Inside Cypress Creek Mitigation Area**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
616	**Inland Slough**	**Impact**	**0.45** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Coral Reef Basin #5108 Broward-Palm Beach Coast	**South Fork New River (Class III)**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The AA is adjacent to Broward County's Pond Apple Slough Natural Area and the South Fork New River.

Assessment area description

The limited access right of way (L/A ROW) located beneath the existing I-595 viaduct over South Fork New River for a width of 12.5 feet north of the southern edge of the viaduct multiplied by the length of the wetlands. The vegetation currently persists approximately 12.5 feet north of the southern edge of the viaduct (southern limit of the Cypress Creek Mitigation Area).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The AA is adjacent to Pond Apple Slough Natural Area and the South Fork New River.	**Pond Apple Slough Natural Area is one of the largest remaining undeveloped parcels in Broward County.**
Functions	Mitigation for previous permit/other historic use
The AA provides a buffer between SR-84 and Pond Apple Slough Natural Area and is an extension of its available habitat.	**The AA was previously used as a mitigation site for the Cypress Creek Park and Ride Lot @ I-95 (see attached plans).**
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Attached are lists of previously recorded species in the Pond Apple Slough Natural Area. Most of these species could potentially utilize the AA; however, due to traffic noise and other disturbances from SR-84 and I-595, this area is less desirable than Pond Apple Slough Natural Area.	**It is anticipated that any of the listed species that utilize Pond Apple Slough Natural Area could also utilize the AA; especially bird species. The American crocodile (E) could also potentially use the AA; however, the probability is low due to traffic noise and other disturbances from SR-84 and I-595.**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Few wildlife species were observed in the AA or immediate vicinity. Several cattle egrets (Bubulcus ibis), grackles (Quiscalus quiscula), a little blue heron (Egretta caerulea), giant land crabs (Cardisoma guanhumi), fiddler crabs (Uca spp.), an iguana (Iguana iguana) and a rat (Sigmondon hispidus) were observed within the L/A ROW at the time of the survey. Oppossum (Didelphys marsupialis) and raccoon (Procyon lotor) tracks were also observed.

Additional relevant factors:

The AA and Pond Apple Slough have suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the AA is now tidally-influenced and brackish. Although the AA was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the AA. The white mangroves have been removed as exotics and are considered such in this assessment. The scoring also assumes total impact of all vegetation/wetland habitat in the AA.

Assessment conducted by:	Assessment date(s):
Erik Neugaard	**01/28/05**

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
I-595 Improvements	**To be determined**	**I-595 Viaduct South Lanes (Shading) Inside Cypress Creek Mitigation Area**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**Erik Neugaard**	**01/28/05**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	7	4
	b. **Invasive plant species.**	7	7
	c. **Wildlife access** to and from AA (proximity and barriers).	7	7
	d. **Downstream benefits** provided to fish and wildlife.	7 X	4
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.	4 X	0
	f. **Hydrologic connectivity** (impediments and flow restrictions).	7	4
	g. **Dependency** of downstream habitats on quantity or quality of discharges.	7	4
	h. Protection of wetland functions provided by uplands (**upland** AAs only).	N/A	N/A
Current: 7 / **With Impact: 4**	Notes: Adjacent remaining habitat within the L/A ROW will be impacted by noise. Pond Apple Slough is a freshwater system; white mangroves are considered exotic. The project will result in a total loss of vegetation/wetland habitat in the AA as well as downstream benefits. Increase in traffic noise will also impact wildlife in AA. Construction roads will mpact hydrologic connectivity.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.	4	4
	b. Reliability of **water level indicators**.	7	7
	c. Appropriateness of **soil moisture**.	10	10
	d. **Flow rates**/points of discharge.	4	4
	e. **Fire frequency**/severity.	10	10
	f. **Type of vegetation**.	7 X	0
	g. **Hydrologic stress** on vegetation.	4	4
	h. **Use by animal**s with hydrologic requirements.	4 X	0
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	7	0
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	7	7
	k. **Water quality data** for the type of community.	7	7
	l. **Water depth, wave energy, and currents**.	4	4
Current: 6 / **With Impact: 5**	Notes: Water levels and flows are inapropriate for a freshwater slough. Water level indicators may not be reliable in planted vegetation. Soil moisture and fire frequency are appropriate and will not be impacted. Vegetation/plant community composition will be lost to shading and direct impacts, not hydrologic stress or water quality. Animal use will be significantly impacted. Water quality may	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species	7	0
	II. Invasive/exotic plant species	7	0
	III. Regeneration/recruitment	4	0
	IV. Age, size distribution.	7	0
	V. Snags, dens, cavity, etc.	4	0
	VI. Plants' condition.	4	0
	VII. Land management practices.	4	0
	VIII. Topographic features (refugia, channels, hummocks).	4	0
	IX. Submerged vegetation (only score if present).	N/A	N/A
	X. Upland assessment area	N/A	N/A
Current: 5 / **With Impact: 0**	Notes: Overall, community structure will be completely lost.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.60	0.30

Impact Acres =	0.45

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.135

Impact Delta (ID)	
Current - w/Impact	0.30

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
I-595 Improvements	**To be determined**	**I-595 Viaduct South Lanes (Shading) Outside Cypress Creek Mitigation Area**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
616	**Inland Slough**	**Impact**	**0.39** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Coral Reef Basin #5108 Broward-Palm Beach Coast	**South Fork New River (Class III)**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The AA is adjacent to Broward County's Pond Apple Slough Natural Area and the South Fork New River.

Assessment area description

The limited access right of way (L/A ROW) located immediately south of the southern edge of the existing I-595 viaduct over South Fork New River for a width of 11.0 feet multiplied by the length of the wetlands. The viaduct will be widened approximately 23.5 feet south. It is anticipated that the vegetation will persists approximately 12.5 feet north of the southern edge of the new viaduct as it does now.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The AA is adjacent to Pond Apple Slough Natural Area and the South Fork New River.	**Pond Apple Slough Natural Area is one of the largest remaining undeveloped parcels in Broward County.**
Functions	Mitigation for previous permit/other historic use
The AA provides a buffer between SR-84 and Pond Apple Slough Natural Area and is an extension of its available habitat.	**The wetlands in this AA were previously impacted but restored circa 1990 per FDEP Consent Order OGC #90-0712**
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Attached are lists of previously recorded species in the Pond Apple Slough Natural Area. Most of these species could potentially utilize the AA; however, due to traffic noise and other disturbances from SR-84 and I-595, this area is less desirable than Pond Apple Slough Natural Area.	**It is anticipated that any of the listed species that utilize Pond Apple Slough Natural Area could also utilize the AA; especially bird species. The American crocodile (E) could also potentially use the AA; however, the probability is low due to traffic noise and other disturbances from SR-84 and I-595.**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Few wildlife species were observed in the AA or immediate vicinity. Several cattle egrets (Bubulcus ibis), grackles (Quiscalus quiscula), a little blue heron (Egretta caerulea), giant land crabs (Cardisoma guanhumi), fiddler crabs (Uca spp.), an iguana (Iguana iguana) and a rat (Sigmondon hispidus) were observed within the L/A ROW at the time of the survey. Oppossum (Didelphys marsupialis) and raccoon (Procyon lotor) tracks were also observed.

Additional relevant factors:

The AA and Pond Apple Slough have suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the AA is now tidally-influenced and brackish. Although the AA was planted with freshwater hydrophytes in response to per FDEP Consent Order OGC #90-0712, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the AA. The white mangroves have been removed as exotics and are considered such in this assessment. The scoring assumes total impact of all wetland function in the AA.

Assessment conducted by:	Assessment date(s):
Erik Neugaard	**01/28/05**

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
I-595 Improvements	**To be determined**	**I-595 Viaduct South Lanes (Shading) Outside Cypress Creek Mitigation Area**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**Erik Neugaard**	**01/28/05**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	7	4
	b. **Invasive plant species.**	7	7
	c. **Wildlife access** to and from AA (proximity and barriers).	7	7
	d. **Downstream benefits** provided to fish and wildlife.	7 X	4
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.	4 X	0
	f. **Hydrologic connectivity** (impediments and flow restrictions).	7	4
	g. **Dependency** of downstream habitats on quantity or quality of discharges.	7	4
	h. Protection of wetland functions provided by uplands (**upland** AAs only).	N/A	N/A
Current: 7 / **With Impact: 4**	Notes: Adjacent remaining habitat within the L/A ROW will be impacted by noise. Pond Apple Slough is a freshwater system; white mangroves are considered exotic. The project will result in a total loss of vegetation/wetland habitat in the AA as well as downstream benefits. Increase in traffic noise will also impact wildlife in AA. Construction roads will mpact hydrologic connectivity.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.	4	4
	b. Reliability of **water level indicators**.	7	7
	c. Appropriateness of **soil moisture**.	10	10
	d. **Flow rates**/points of discharge.	4	4
	e. **Fire frequency**/severity.	10	10
	f. **Type of vegetation**.	7 X	0
	g. **Hydrologic stress** on vegetation.	4	4
	h. **Use by animal**s with hydrologic requirements.	4 X	0
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	7	0
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	7	7
	k. **Water quality data** for the type of community.	7	7
	l. **Water depth, wave energy, and currents**.	4	4
Current: 6 / **With Impact: 5**	Notes: Water levels and flows are inapropriate for a freshwater slough. Water level indicators may not be reliable in planted vegetation. Soil moisture and fire frequency are appropriate and will not be impacted. Vegetation/plant community composition will be lost to shading and direct impacts, not hydrologic stress or water quality. Animal use will be significantly impacted. Water quality may	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species	7	0
	II. Invasive/exotic plant species	7	0
	III. Regeneration/recruitment	4	0
	IV. Age, size distribution.	7	0
	V. Snags, dens, cavity, etc.	4	0
	VI. Plants' condition.	4	0
	VII. Land management practices.	4	0
	VIII. Topographic features (refugia, channels, hummocks).	4	0
	IX. Submerged vegetation (only score if present).	N/A	N/A
	X. Upland assessment area	N/A	N/A
Current: 5 / **With Impact: 0**	Notes: Overall, community structure will be completely lost.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.60	0.30

Impact Acres =	0.39

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.117

Impact Delta (ID)	
Current - w/Impact	0.30

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
I-595 Improvements	**To be determined**	**I-595 Viaduct North Construction Platform**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
616	**Inland Slough**	**Impact**	**0.66** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Coral Reef Basin #5108 Broward-Palm Beach Coast	**South Fork New River (Class III)**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The AA is adjacent to Broward County's Pond Apple Slough Natural Area and the South Fork New River.

Assessment area description

The limited access right of way (L/A ROW) located north of the existing I-595 viaduct over South Fork New River. The AA is 20 feet wide multiplied by the length of the wetlands.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The AA is adjacent to Pond Apple Slough Natural Area and the South Fork New River.	**Pond Apple Slough Natural Area is one of the largest remaining undeveloped parcels in Broward County.**
Functions	Mitigation for previous permit/other historic use
The AA provides a buffer between SR-84 and Pond Apple Slough Natural Area and is an extension of its available habitat.	**The AA was previously used as a mitigation site for the Cypress Creek Park and Ride Lot @ I-95 (see attached plans).**
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Attached are lists of previously recorded species in the Pond Apple Slough Natural Area. Most of these species could potentially utilize the AA; however, due to traffic noise and other disturbances from SR-84 and I-595, this area is less desirable than Pond Apple Slough Natural Area.	**It is anticipated that any of the listed species that utilize Pond Apple Slough Natural Area could also utilize the AA; especially bird species. The American crocodile (E) could also potentially use the AA; however, the probability is low due to traffic noise and other disturbances from SR-84 and I-595.**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Few wildlife species were observed in the AA or immediate vicinity. Several cattle egrets (Bubulcus ibis), grackles (Quiscalus quiscula), a little blue heron (Egretta caerulea), giant land crabs (Cardisoma guanhumi), fiddler crabs (Uca spp.), an iguana (Iguana iguana) and a rat (Sigmondon hispidus) were observed within the L/A ROW at the time of the survey. Oppossum (Didelphys marsupialis) and raccoon (Procyon lotor) tracks were also observed.

Additional relevant factors:

The AA and Pond Apple Slough have suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the AA is now tidally-influenced and brackish. Although the AA was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the AA. The white mangroves have been removed as exotics and are considered such in this assessment. The scoring also assumes total impact of all wetland function in the AA.

Assessment conducted by:	Assessment date(s):
Erik Neugaard	**01/28/05**

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
I-595 Improvements	**To be determined**	**I-595 Viaduct North Construction Platform**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**Erik Neugaard**	**01/28/05**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	7	0
	b. **Invasive plant species.**	7	0
	c. **Wildlife access** to and from AA (proximity and barriers).	7	0
	d. **Downstream benefits** provided to fish and wildlife.	7 X	0
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.	4 X	0
	f. **Hydrologic connectivity** (impediments and flow restrictions).	7	0
	g. **Dependency** of downstream habitats on quantity or quality of discharges.	7	0
	h. Protection of wetland functions provided by uplands (**upland** AAs only).	N/A	N/A
Current 7 / **With Impact** 0	Notes: Adjacent remaining habitat within the L/A ROW will be impacted by noise. Pond Apple Slough is a freshwater system; white mangroves are considered exotic. The project will result in a total loss of vegetation/wetland habitat in the AA as well as downstream benefits. Increase in traffic noise will also impact wildlife in AA. Construction roads will mpact hydrologic connectivity.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.	4	0
	b. Reliability of **water level indicators**.	7	0
	c. Appropriateness of **soil moisture**.	10	0
	d. **Flow rates**/points of discharge.	4	0
	e. **Fire frequency**/severity.	10	0
	f. **Type of vegetation**.	7 X	0
	g. **Hydrologic stress** on vegetation.	4	0
	h. **Use by animal**s with hydrologic requirements.	4 X	0
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	7	0
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	7	0
	k. **Water quality data** for the type of community.	7	0
	l. **Water depth, wave energy, and currents**.	4	0
Current 6 / **With Impact** 0	Notes: Water levels and flows are inapropriate for a freshwater slough. Water level indicators may not be reliable in planted vegetation. Soil moisture and fire frequency are appropriate and will not be impacted. Vegetation/plant community composition will be lost to shading and direct impacts, not hydrologic stress or water quality. Animal use will be significantly impacted. Water quality may	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species	7	0
	II. Invasive/exotic plant species	7	0
	III. Regeneration/recruitment	4	0
	IV. Age, size distribution.	7	0
	V. Snags, dens, cavity, etc.	4	0
	VI. Plants' condition.	4	0
	VII. Land management practices.	4	0
	VIII. Topographic features (refugia, channels, hummocks).	4	0
	IX. Submerged vegetation (only score if present).	N/A	N/A
	X. Upland assessment area	N/A	N/A
Current 5 / **With Impact** 0	Notes: Overall, community structure will be completely lost.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.60	0.00

Impact Acres =	0.66

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.396

Impact Delta (ID)	
Current - w/Impact	0.60

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
I-595 Improvements	**To be determined**	**I-595 Viaduct Median Construction Platform**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
616	**Inland Slough**	**Impact**	**0.70** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Coral Reef Basin #5108 Broward-Palm Beach Coast	**South Fork New River (Class III)**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The AA is adjacent to Broward County's Pond Apple Slough Natural Area and the South Fork New River.

Assessment area description

The limited access right of way (L/A ROW) located beneath the existing I-595 viaduct over South Fork New River. The AA is 20 feet wide multiplied by the length of the wetlands.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The AA is adjacent to Pond Apple Slough Natural Area and the South Fork New River.	**Pond Apple Slough Natural Area is one of the largest remaining undeveloped parcels in Broward County.**
Functions	Mitigation for previous permit/other historic use
The AA provides a buffer between SR-84 and Pond Apple Slough Natural Area and is an extension of its available habitat.	**The AA was previously used as a mitigation site for the Cypress Creek Park and Ride Lot @ I-95 (see attached plans).**
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Attached are lists of previously recorded species in the Pond Apple Slough Natural Area. Most of these species could potentially utilize the AA; however, due to traffic noise and other disturbances from SR-84 and I-595, this area is less desirable than Pond Apple Slough Natural Area.	**It is anticipated that any of the listed species that utilize Pond Apple Slough Natural Area could also utilize the AA; especially bird species. The American crocodile (E) could also potentially use the AA; however, the probability is low due to traffic noise and other disturbances from SR-84 and I-595.**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Few wildlife species were observed in the AA or immediate vicinity. Several cattle egrets (Bubulcus ibis), grackles (Quiscalus quiscula), a little blue heron (Egretta caerulea), giant land crabs (Cardisoma guanhumi), fiddler crabs (Uca spp.), an iguana (Iguana iguana) and a rat (Sigmondon hispidus) were observed within the L/A ROW at the time of the survey. Oppossum (Didelphys marsupialis) and raccoon (Procyon lotor) tracks were also observed.

Additional relevant factors:

The AA and Pond Apple Slough have suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the AA is now tidally-influenced and brackish. Although the AA was planted with freshwater hydrophytes for the Cypress Creek Park and Ride Lot @ I-95 mitigation project, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the AA. The white mangroves have been removed as exotics and are considered such in this assessment. The scoring also assumes total impact of all wetland function in the AA.

Assessment conducted by:	Assessment date(s):
Erik Neugaard	**01/28/05**

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
I-595 Improvements	**To be determined**	**I-595 Viaduct Median Lanes (Shading)**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**Erik Neugaard**	**01/28/05**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	7	4
	b. **Invasive plant species.**	7	7
	c. **Wildlife access** to and from AA (proximity and barriers).	7	7
	d. **Downstream benefits** provided to fish and wildlife.	7 X	4
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.	4 X	0
	f. **Hydrologic connectivity** (impediments and flow restrictions).	7	4
	g. **Dependency** of downstream habitats on quantity or quality of discharges.	7	4
	h. Protection of wetland functions provided by uplands (**upland** AAs only).	N/A	N/A
Current 7 / **With Impact 4**	Notes: Adjacent remaining habitat within the L/A ROW will be impacted by noise. Pond Apple Slough is a freshwater system; white mangroves are considered exotic. The project will result in a total loss of vegetation/wetland habitat in the AA as well as downstream benefits. Increase in traffic noise will also impact wildlife in AA. Construction roads will mpact hydrologic connectivity.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.	4	4
	b. Reliability of **water level indicators**.	7	7
	c. Appropriateness of **soil moisture**.	10	10
	d. **Flow rates**/points of discharge.	4	4
	e. **Fire frequency**/severity.	10	10
	f. **Type of vegetation**.	7 X	0
	g. **Hydrologic stress** on vegetation.	4	4
	h. **Use by animal**s with hydrologic requirements.	4 X	0
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	7	0
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	7	7
	k. **Water quality data** for the type of community.	7	7
	l. **Water depth, wave energy, and currents**.	4	4
Current 6 / **With Impact 5**	Notes: Water levels and flows are inapropriate for a freshwater slough. Water level indicators may not be reliable in planted vegetation. Soil moisture and fire frequency are appropriate and will not be impacted. Vegetation/plant community composition will be lost to shading and direct impacts, not hydrologic stress or water quality. Animal use will be significantly impacted. Water quality may	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species	7	0
	II. Invasive/exotic plant species	7	0
	III. Regeneration/recruitment	4	0
	IV. Age, size distribution.	7	0
	V. Snags, dens, cavity, etc.	4	0
	VI. Plants' condition.	4	0
	VII. Land management practices.	4	0
	VIII. Topographic features (refugia, channels, hummocks).	4	0
	IX. Submerged vegetation (only score if present).	N/A	N/A
	X. Upland assessment area	N/A	N/A
Current 5 / **With Impact 0**	Notes: Overall, community structure will be completely lost.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.60	0.30

Impact Acres =	1.70

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.510

Impact Delta (ID)	
Current - w/Impact	0.30

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
I-595 Improvements	**To be determined**	**I-595 Viaduct South Construction Platform**

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
616	**Inland Slough**	**Impact**	**0.71** Acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Coral Reef Basin #5108 Broward-Palm Beach Coast	**South Fork New River (Class III)**	**None**

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The AA is adjacent to Broward County's Pond Apple Slough Natural Area and the South Fork New River.

Assessment area description

The limited access right of way (L/A ROW) located approximately 23.5 feet south of the southern edge of the existing I-595 viaduct over South Fork New River for a width of 20.0 feet multiplied by the length of the wetlands.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The AA is adjacent to Pond Apple Slough Natural Area and the South Fork New River.	**Pond Apple Slough Natural Area is one of the largest remaining undeveloped parcels in Broward County.**
Functions	Mitigation for previous permit/other historic use
The AA provides a buffer between SR-84 and Pond Apple Slough Natural Area and is an extension of its available habitat.	**The wetlands in this AA were previously impacted but restored circa 1990 per FDEP Consent Order OGC #90-0712**
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Attached are lists of previously recorded species in the Pond Apple Slough Natural Area. Most of these species could potentially utilize the AA; however, due to traffic noise and other disturbances from SR-84 and I-595, this area is less desirable than Pond Apple Slough Natural Area.	**It is anticipated that any of the listed species that utilize Pond Apple Slough Natural Area could also utilize the AA; especially bird species. The American crocodile (E) could also potentially use the AA; however, the probability is low due to traffic noise and other disturbances from SR-84 and I-595.**

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Few wildlife species were observed in the AA or immediate vicinity. Several cattle egrets (Bubulcus ibis), grackles (Quiscalus quiscula), a little blue heron (Egretta caerulea), giant land crabs (Cardisoma guanhumi), fiddler crabs (Uca spp.), an iguana (Iguana iguana) and a rat (Sigmondon hispidus) were observed within the L/A ROW at the time of the survey. Oppossum (Didelphys marsupialis) and raccoon (Procyon lotor) tracks were also observed.

Additional relevant factors:

The AA and Pond Apple Slough have suffered significant hydrological impacts since the North New River Canal was completed in 1912. Almost all of the AA is now tidally-influenced and brackish. Although the AA was planted with freshwater hydrophytes in response to per FDEP Consent Order OGC #90-0712, it has not been maintained as a freshwater hydrological system and white mangroves are colonizing most of the AA. The white mangroves have been removed as exotics and are considered such in this assessment. The scoring assumes total impact of all wetland function in the AA.

Assessment conducted by:	Assessment date(s):
Erik Neugaard	**01/28/05**

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name:	Application Number:	Assessment Area Name or Number:
I-595 Improvements	**To be determined**	**I-595 Viaduct South Construction Platform**
Impact or Mitigation:	Assessment Conducted by:	Assessment Date:
Impact	**Erik Neugaard**	**01/28/05**

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		Current	With Impact
.500(6)(a) Location and Landscape Support	a. Quality and quantity **of habitat support** outside of AA.	7	0
	b. **Invasive plant species.**	7	0
	c. **Wildlife access** to and from AA (proximity and barriers).	7	0
	d. **Downstream benefits** provided to fish and wildlife.	7 X	0
	e. Adverse impacts to wildlife in AA from **land uses** outside of AA.	4 X	0
	f. **Hydrologic connectivity** (impediments and flow restrictions).	7	0
	g. **Dependency** of downstream habitats on quantity or quality of discharges.	7	0
	h. Protection of wetland functions provided by uplands (**upland** AAs only).	N/A	N/A
Current 7 / **With Impact** 0	Notes: Adjacent remaining habitat within the L/A ROW will be impacted by noise. Pond Apple Slough is a freshwater system; white mangroves are considered exotic. The project will result in a total loss of vegetation/wetland habitat in the AA as well as downstream benefits. Increase in traffic noise will also impact wildlife in AA. Construction roads will mpact hydrologic connectivity.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(b) Water Environment (n/a for uplands)	a. Appropriateness of **water levels and flows**.	4	0
	b. Reliability of **water level indicators**.	7	0
	c. Appropriateness of **soil moisture**.	10	0
	d. **Flow rates**/points of discharge.	4	0
	e. **Fire frequency**/severity.	10	0
	f. **Type of vegetation**.	7 X	0
	g. **Hydrologic stress** on vegetation.	4	0
	h. **Use by animal**s with hydrologic requirements.	4 X	0
	i. **Plant community composition** associated with water quality (i.e., plants tolerant of poor WQ).	7	0
	j. **Water quality of standing water by observation** (I.e., discoloration, turbidity).	7	0
	k. **Water quality data** for the type of community.	7	0
	l. **Water depth, wave energy, and currents**.	4	0
Current 6 / **With Impact** 0	Notes: Water levels and flows are inapropriate for a freshwater slough. Water level indicators may not be reliable in planted vegetation. Soil moisture and fire frequency are appropriate and will not be impacted. Vegetation/plant community composition will be lost to shading and direct impacts, not hydrologic stress or water quality. Animal use will be significantly impacted. Water quality may	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	
.500(6)(c) Community Structure X Vegetation ____ Benthic ____ Both	I. Appropriate/desirable species	7	0
	II. Invasive/exotic plant species	7	0
	III. Regeneration/recruitment	4	0
	IV. Age, size distribution.	7	0
	V. Snags, dens, cavity, etc.	4	0
	VI. Plants' condition.	4	0
	VII. Land management practices.	4	0
	VIII. Topographic features (refugia, channels, hummocks).	4	0
	IX. Submerged vegetation (only score if present).	N/A	N/A
	X. Upland assessment area	N/A	N/A
Current 5 / **With Impact** 0	Notes: Overall, community structure will be completely lost.	Place an "X" in the box above next to the two (2) most important criteria used in scoring this section	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	**With Impact**
0.60	0.00

Impact Acres =	0.71

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.426

Impact Delta (ID)	
Current - w/Impact	0.60

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigaiton bank.