



ENDANGERED SPECIES BIOLOGICAL ASSESSMENT REPORT

Project Development & Environment (PD&E) Study

GOLDEN GLADES INTERCHANGE

from SR 826 / Palmetto Expressway
Eastbound to I-95 Northbound

Financial Management No.: 428358-1-22-01

Efficient Transportation Decision Making (ETDM) No.: 11300

April 2014

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Prepared for
Florida Department of Transportation - District Six
Miami, Florida



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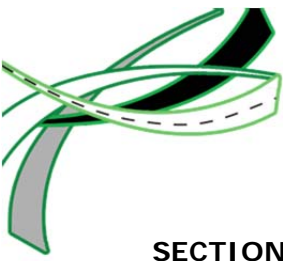
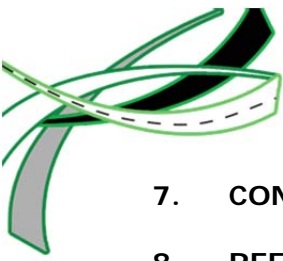


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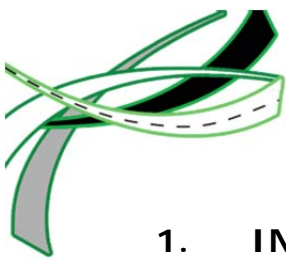
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1. INTRODUCTION

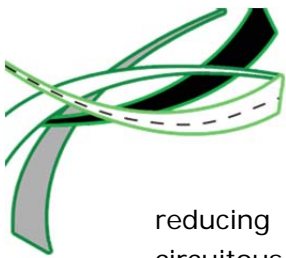
The Florida Department of Transportation (FDOT) District Six is conducting a Project Development and Environment (PD&E) Study to evaluate alternatives for the improvement of the Golden Glades Interchange (GGI) system in Miami-Dade County, Florida. The purpose of this biological assessment is to document potential project involvement with protected species in compliance with Section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). The following information is provided to determine the anticipated effects that the proposed GGI system improvements will have on federal and state endangered or threatened species. State designated species of special concern were also considered.

1.1 PROJECT DESCRIPTION

The Golden Glades Interchange (GGI), located in northeastern Miami-Dade County in Florida, is of regional importance providing connectivity to six major principal arterials and/or limited access expressway facilities including Interstate 95 (I-95), SR 826/Palmetto Expressway, Florida's Turnpike, SR 9, SR 7/US 441 and NW 167th Street. The project study area encompasses the GGI and portions of the major transportation corridors that converge at this interchange (see **Figure 1-1**). Given the nature of the GGI, the approximate equivalent length of the ramp and mainline components within the interchange area equate to over 10 miles of roadway. The GGI also supports the I-95 Express Lanes system and the Golden Glades Multimodal Facility, which provides access to inter-county transit service including the existing GGI to Downtown Miami-Dade express bus service. The GGI has a direct impact on inter-county travel between Miami-Dade, Broward and Palm Beach Counties and is the backbone for the transportation of goods and services, as well as passenger trips in the northeast region of Miami-Dade County. This interchange is bordered by the City of Miami Gardens to the north and west, the City of North Miami Beach to the east and the Golden Glades Census Designated Place (CDP) and City of North Miami to the south. The South Florida Rail Corridor (SFRC) also traverses the interchange area.

Currently, there is no dedicated system-to-system connection from SR 826/Palmetto Expressway eastbound to I-95 northbound. The existing network connection for this system-to-system movement includes the use of surface streets with tight radii, traffic signals, and weaving segments that considerably slow down traffic through this interchange. In addition, southbound Florida's Turnpike connects to I-95 southbound via a two-lane ramp that transitions to a single lane prior to merging with the SR 826/Palmetto Expressway eastbound to southbound movement. The lane drop combined with weaving movements from SR 826/Palmetto Expressway has resulted in peak period backups that extend beyond the Florida's Turnpike Golden Glades Mainline Toll Plaza.

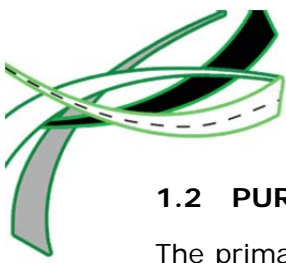
Over the years, this interchange and the surrounding multimodal facilities have been studied for the purpose of improving traffic operations and increasing user benefits by



reducing congestion, increasing connectivity and improving travel delay caused by the circuitous routes in existence today. The FDOT District Six has also been evaluating, and in some cases implementing, modifications to existing ramp configurations to improve traffic operations within the GGI. This is evident by the improvements recently completed at the I-95 northbound ramps to Florida's Turnpike and westbound SR 826/Palmetto Expressway (FPID: 415456-4) and other planned operational and safety improvements along various interchange ramps (FPID: 425637-1 & 429134-1).

This GGI PD&E Study will focus on the development and evaluation of alternatives for a new system-to-system connection from SR 826/Palmetto Expressway eastbound to I-95 northbound and the feasibility of increasing the capacity of the southbound movement of the Turnpike to I-95 southbound to address traffic operations and safety issues and enhance multimodal (transit and freight) use. The study will also evaluate the connectivity of a potential express lanes system for SR 826/Palmetto Expressway and how it will connect to the existing I-95 Express Lanes system. The express lanes along SR 826/Palmetto Expressway are currently being evaluated under a separate adjacent PD&E Study (FPID: 418423-1-22-01). The PD&E concepts developed will be utilized to support the express lanes concepts being developed under the SR 826/Palmetto Expressway mainline PD&E Study, as well as to establish an Ultimate Master Plan for the interchange.





1.2 PURPOSE AND OBJECTIVES

The primary purpose of this project is to provide a system-to-system connection for the SR 826/Palmetto Expressway eastbound to I-95 northbound movement and to improve the Turnpike southbound to I-95 southbound connection in order to address traffic operations and safety issues and enhance multimodal use for both transit and freight. The ultimate phase will evaluate a system-to-system connection between new express lanes on SR 826/Palmetto Expressway and the existing I-95 Express Lanes system. It also considers a direct future connection from southbound Turnpike to the southbound I-95 Express Lanes. The feasibility of express lanes along SR 826/Palmetto Expressway is currently being evaluated under a separate adjacent PD&E Study (FPID: 418423-1-22-01, ETDM #11241). In addition, interim operational improvements will also be identified within the GGI to be developed as integral components of an Ultimate Master Plan to be established for this interchange. The overall objectives of this PD&E Study include the following elements:

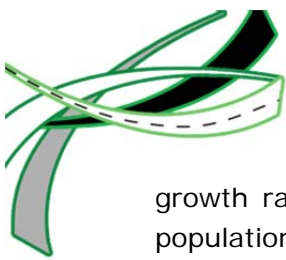
- Improve critical access to the Strategic Intermodal Systems (SIS) Facilities, Freight Activity Centers, Local and Regional Businesses / Hubs of Economic Importance
- Enhance safety, mobility and circulation
- Incorporate express lanes, bus rapid transit and multimodal options
- Address Transportation Systems Management and Operation concerns
- Address operational and physical deficiencies of the interchange
- Establish an Ultimate Master Plan
- Incorporate anticipated improvements into the Local Comprehensive Plan
- Maximize operational benefits with limited funds through a Master Plan
- Develop an implementation program
- Obtain Location Design Concept Acceptance (LDCA) from FHWA for the Interim Improvements

1.3 NEED FOR THE PROJECT

1.3.1 Transportation Demand

The GGI connects major freeways and arterials including I-95, SR 826/Palmetto Expressway, Turnpike, SR 9, SR 7/US 441 and NW 167th Street. It carries over 400,000 vehicles per day and has a direct impact on inter-county travel between Miami-Dade, Broward and Palm Beach Counties. It is the backbone for the transportation of goods and services, as well as passenger trips in the northeastern region of Miami-Dade County. The GGI also supports the I-95 Express Lanes system and the Golden Glades Multimodal Facility, which provides access to inter-county transit service including the existing GGI to Downtown Miami-Dade express bus service.

In the last five decades, Miami-Dade and Broward counties have experienced significant population growth from 935,047 persons and 333,946 persons in 1960 to 2,496,435 persons and 1,748,066 persons in 2010, respectively. This represents an average annual

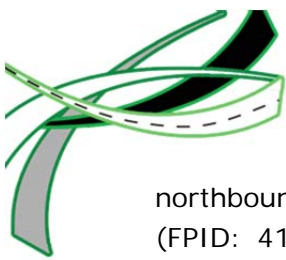


growth rate of 1.98% for Miami Dade County and 3.37% for Broward County. The rapid population growth has resulted in a significant increase in surface transportation demand, particularly along the major freeways and arterials linking the three counties. The population of Miami-Dade County is projected to increase by approximately 18% from 2010 to 2035 while that of Broward County is projected to increase by 11% within the same period (Source: Bureau of Economic and Business Research). As the population in these counties increase over time, transportation demand will continue to grow thereby increasing the amount of vehicular traffic using the interchange for both local and regional trips.

1.3.2 Capacity

The GGI influence area is located within the City of Miami Gardens Transportation Concurrency Management Areas (TCMA) as well as the Transportation Concurrency Exemption Area / Urban Infill Area (TCEA/UIA) established by the City of North Miami Beach. These transportation concurrency areas influence the Level of Service (LOS) requirements and standards adopted for the roadway links within the GGI influence area. Based on field observations as well as results from the previous planning study prepared by the District Six Planning Department, the existing roadway capacity within the interchange study area is deficient at several locations along SR 826/Palmetto Expressway eastbound, Florida's Turnpike southbound, SR 7/US 441, SR 9 and I-95 at merge, diverge, weave and/or intersection locations within the interchange area. Queues at these deficient locations extend upstream, creating additional mobility issues at nodes that would otherwise operate at acceptable levels of service. The SR 826/Palmetto Expressway eastbound to I-95 northbound and the Turnpike southbound to I-95 southbound movements are the two most critical links that are currently experiencing heavy congestion during the peak hours with insufficient link capacity. Currently, there is no dedicated system-to-system connection from SR 826/Palmetto Expressway eastbound to I-95 northbound. The existing network connection for this system-to-system movement includes the use of surface streets with tight radii, traffic signals, and weaving segments that considerably slow down traffic through this system interchange. In addition, the Turnpike's ramp to I-95 southbound is currently two lanes that transitions to a single lane prior to the merge with SR 826/Palmetto Expressway eastbound to I-95 southbound movement. The lane drop combined with weaving movements from SR 826/Palmetto Expressway has resulted in peak period backups that extend beyond the Florida's Turnpike Golden Glades Mainline Toll Plaza. The congestion has also contributed to a significant number of crashes in the southbound direction in the vicinity of the toll plaza.

Over the years, this interchange and the surrounding multimodal facilities have been studied for the purpose of improving traffic operations and increasing user benefits by reducing congestion, increasing connectivity and improving travel delay caused by the circuitous routes in existence today. FDOT District Six has also been evaluating, and in some cases implementing, modifications to existing ramp configurations to improve traffic operations within the GGI. Recent improvements include the auxiliary lane addition for I-95



northbound connector to Florida's Turnpike and westbound SR 826/Palmetto Expressway (FPID: 415456-4) and other planned operational and safety improvements along various interchange ramps (FPID: 425637-1 & 429134-1). However, these projects have not alleviated the chronic congestion on the SR 826/Palmetto Expressway eastbound to I-95 southbound and the Turnpike southbound to I-95 southbound movements during the peak periods.

The proposed improvements at the GGI will provide additional capacity to accommodate the anticipated transportation demand, improve connectivity for traffic destined to northbound and southbound I-95 from SR 826/Palmetto Expressway and Turnpike respectively and ultimately improve safety, circulation and mobility for both commuter and multimodal (transit and freight) travel within both local and regional transportation networks.

1.3.3 Plan Consistency

The SR 826/Palmetto Expressway eastbound to I-95 northbound ramp connection is identified in the Miami-Dade County Metropolitan Planning Organization (MPO) 2035 LRTP Cost Feasible Plan (CFP) with funding for the planning, design and construction phases. It is also identified in the Miami-Dade County 2014 Transportation Improvement Program (TIP) (FPID: 428358-1) with funding for the design phase in 2014 and the construction phase in 2017. The proposed improvement along the Turnpike Connector to I-95 southbound is also identified in the Miami-Dade County MPO 2035 LRTP CFP Amendment, the Miami-Dade County 2014 TIP (FPID: 423373-2) with funding for the design phase in 2015 and the construction phase in 2017. The right of way phase is partially funded for 2015 and 2016.

The project is consistent with the Miami-Dade County Comprehensive Development Master plan (CDMP) as amended and the 2009 update of the MPO-approved Congestion Management System, which is federally required as an integral part of the metropolitan planning process in Transportation Management Areas under the Safe, Accountable, Flexible, Efficient, Transportation Equity Act-A Legacy for Users (SAFETEA-LU). Additionally, the project is included in the FDOT 2035 SIS CFP, as well as the 2013 State Transportation Improvement Program (STIP) with funding for the design and construction phases. FDOT will coordinate with Miami-Dade County during the next update of the LRTP to include the Turnpike Connector improvements.

1.3.4 Social Demands and Economic Development

Evacuation and Emergency Response: The GGI serves as a critical transportation hub for the evacuation network established by the Florida Division of Emergency Management for Miami-Dade County. It plays an important role in facilitating traffic movement during emergency evacuation periods between three freeways (I-95, SR 826/Palmetto Expressway, and Florida's Turnpike) and two major principal arterials (SR 9 and SR 7/US-441), all of which are designated evacuation routes for Miami-Dade County residents. In addition, the GGI provides access to the emergency entrance for the Jackson North Medical Center.



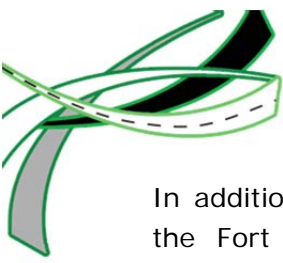
Economic Development: The GGI is a regional transportation hub linking residents and businesses of Miami-Dade and Broward Counties, with many residents commuting between these two counties for work. According to the 2000 Census, approximately 6.5% of Miami-Dade residents commute to Broward County, while 15.5% of Broward County residents and 1% of Palm Beach County residents commute to Miami-Dade County. The proposed improvements will enhance mobility within the GGI and promote economic growth and development within the three counties, as well as the South Florida region by reducing congestion and enhancing the movement of goods and services.

The City of Miami Gardens has identified planned developments including two residential developments (Legacy Pointe-Sola Bella and Lakeside Point Townhomes) adjacent to the interchange area. In addition, a 40 acre world-class water park is proposed to be developed adjacent to the Sun Life Stadium with direct access to the Florida Turnpike. These future potential residential and commercial developments will increase the traffic demand through this interchange and exacerbate the current congestion problem. The proposed improvements within the GGI will improve mobility and support the economic development of the area, as well as stimulate major construction activities that will contribute to economic growth within the South Florida Region.

1.3.5 System Linkage

The GGI is a vital transportation hub within southeast Florida, providing an inter-regional connection for Miami-Dade and Broward Counties. It serves as a confluence point for five major regional transportation corridors SR 826/Palmetto Expressway, I-95, Florida's Turnpike, SR 7/US 441 and SR 9. SR 826/Palmetto Expressway is one of the principal north-south corridors across the heart of Miami-Dade County which feeds traffic to Florida's Turnpike and I-95 via the GGI. The I-95 corridor carries local residents and serves millions of regional travelers along the eastern seaboard from Maine to Miami. The Florida's Turnpike mainline begins at the GGI and extends northwest linking Miami to Orlando. The two major arterials, SR 9 and SR 7/US 441, also funnel tens of thousands of commuters daily from neighboring residential and commercial areas into the GGI to connect to the expressways. These regional transportation corridors constitute major elements of the surface transportation system in Southeast Florida and facilitate the movement of goods and people between airports, seaports, and major employment centers, residential and recreational areas.

The GGI also provides connections to several SIS highways and hubs. Established by the Florida Legislature in 2003, the SIS is a network of high-priority transportation facilities that are the workhorses of Florida's air, water and ground transportation system. SR 826/Palmetto Expressway, I-95 and Florida's Turnpike are designated as SIS highways. The GGI Park-n-Ride facility located within the interchange area is a SIS intermodal facility which provides connections to South Florida Regional Transportation Authority (SFRTA) commuter trains; Miami-Dade Transit (MDT) express and local buses, Broward County Transit (BCT) express and local buses, Greyhound intercity buses and carpool commuters.



In addition, the interchange facilitates connections to the Miami International Airport and the Fort Lauderdale-Hollywood International Airport, both designated SIS commercial service airport hubs, via I-95.

The GGI is also the current end terminus of the I-95 Express lanes in Miami-Dade County and will serve as a begin terminus for the proposed I-95 Express lanes in Broward County. The interchange will also facilitate connection between the potential express lanes along SR 826/Palmetto Expressway and the I-95 Express lanes along I-95.

Consequently, the proposed capacity and mobility improvements within the GGI are critical in order to improve access to these major transportation facilities, as well as enhance mobility within the South Florida Region.

1.3.6 Traffic Safety

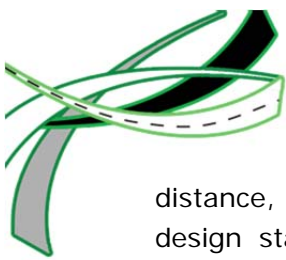
A review of crash data for the 2006 to 2010 period indicates that 3,238 crashes occurred along the roadway segments within the study area. A total of 1,496 injury and 18 fatal crashes occurred during the five-year analysis period with 19 fatalities; ten of these fatal crashes were located along the existing SR 826/Palmetto Expressway eastbound mainline and ramp to I-95 northbound and southbound. In addition, four freeway segments, three arterial segments and four signalized intersections are identified in the FDOT's list of High Crash Locations (HCL).

The predominant crashes are rear-end and sideswipe collisions which account for 44% and 18% respectively of the total crashes. Crashes of this type are typically attributed to the congested conditions along the interchange ramps and terminals during the peak periods. In addition, merging and weaving maneuvers between ramps due to the relatively short weaving distance between connecting ramps appear to be contributory causes for the frequent angle and sideswipe crashes.

In general, the proposed direct connections flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound as well as the widening of the Turnpike Connector southbound lanes will alleviate traffic congestion and improve mobility for these critical movements. This will potentially mitigate the crash rate and enhance overall public safety within the interchange.

1.3.7 Roadway Deficiencies

The GGI was originally constructed in 1964 consistent with the 1954 American Association of State Highway and Transportation Officials (AASHTO) publication "A Policy on Geometric Design for Rural Highways" (also known as the Blue Book) that was in place when the facility was designed in the early 1960s. In almost five decades of its existence, the only major geometric changes that have occurred are the construction of the flyover ramps to the Golden Glades Park-n-Ride Facility in the 1970s and the construction of the elevated HOV lanes in 1995. As such, several geometric elements such as vertical clearance, sight



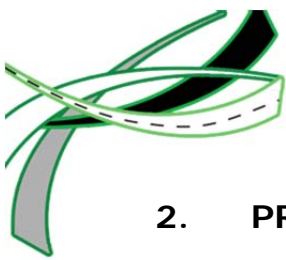
distance, curve length, superelevation and shoulder widths, do not meet the current FDOT design standards or AASHTO requirements. The proposed project would evaluate these deficiencies and provide recommendations for roadway improvements that satisfy the current design standards and enhance safety within the project area.

1.3.8 Modal Interrelationships

The GGI encompasses the Golden Glades Intermodal Center located in the southwest quadrant, which consists of a Park-n-Ride Lot, an adjacent vacant parcel east of the Park-n-Ride Lot, and the connecting roadways and ramps. The Park-n-Ride Lot currently accommodates the following transportation modes: SFRTA commuter trains, MDT express and local buses, BCT express and local buses, Greyhound intercity buses, and carpool commuters. The FDOT plans to redevelop the existing Golden Glades Park-n-Ride Lot into a Multimodal Facility with improved access. The proposed improvements will facilitate this goal by removing the SR 826/Palmetto Expressway eastbound to I-95 northbound traffic from SR 7/US 441. This will provide additional capacity for the multimodal traffic along SR 7/US 441, thereby improving access and mobility to the multimodal facility.

The Miami-Fort Lauderdale region is creating a 21-mile express-lane facility on I-95, between I-395 and I-595, with a long-term goal of providing a network of express lanes throughout the region. On-going studies are also considering extending the express lanes further north to the Martin County Line. The GGI will serve as one of the main access points for ingress and egress to the existing I-95 Express lanes in Miami Dade County, the proposed I-95 Express lanes in Broward County and the future potential express lanes along SR 826/Palmetto Expressway currently under evaluation. The express lane network will also serve as the back-bone of a proposed bus rapid transit (BRT) system with express feeder bus services running north-south along SR 7/US 441 and SR 817 (University Drive), and east-west along SR 820 (Hollywood/Pines Boulevard). Therefore, the proposed improvements will benefit multimodal uses and congestion management throughout the South Florida region.

The Miami-Dade Parks and Open Space Master Plan and North-Dade Greenways Master Plan identify the opportunity to develop the Gold Coast Trail. This trail consists of a 20 mile path occupying the easement of the SFRC. It provides an opportunity to create a multimodal access point at the GGI Park-n-Ride facility. The proposed interchange improvements will provide a clear envelope when placing bridge piers in order to accommodate the future planned trail.



2. PROJECT ALTERNATIVES

The alternatives considered as part of the Golden Glades Interchange PD&E Study include a No Build Alternative, Transportation System Management (TSM) Alternative, four Interim Build Alternatives and an Ultimate Build Alternative. The Alternatives are described as follows:

2.1 No Build Alternative

The No Build Alternative assumes no proposed improvements and serves as a baseline for comparison against the other alternatives. It however, includes on-going construction projects and all funded or programmed improvements scheduled to be opened to traffic in the analysis years being considered. These improvements must be part of the Department's adopted Five-Year Work Program, Miami-Dade County Metropolitan Planning Organization (MPO) cost feasible Long Range Transportation Plan (LRTP), transportation elements of Local Government Comprehensive Plans (LGCP), or developer-funded transportation improvements specified in approved development orders.

2.2 Transportation System Management (TSM) Alternative

The TSM Alternative considers minor improvements to enhance operations and safety without the addition of through lanes. TSM includes low-cost improvements such as adding auxiliary lanes along freeways, adding turn lanes at intersections, adjusting signal phasing and timings, and considering opportunities to enhance alternative travel modes and implement intelligent transportation systems (ITS). Another TSM improvement that will be considered is the widening of the southbound Turnpike Connector between SR 826/Palmetto Expressway and the off-ramp to SR 7/US 441 to provide an additional lane for Turnpike southbound to I-95 southbound movement.

2.3 Build Alternatives

As part of the alternatives analysis for this PD&E Study, both Interim and Ultimate Build improvements were developed and evaluated; however, this PD&E Study focuses on the Interim Build improvements while the Ultimate Build improvements will be studied and included as part of a separate and adjacent SR 826/Palmetto Expressway PD&E Study.

The proposed widening of the SR 826/Palmetto Expressway mainline and ramp modifications associated with the Build Alternatives require the relocation of the existing 18-inch gas main along the south side of SR 826/palmetto Expressway to a more accessible location. As part of this PD&E Study, several potential routes were identified and evaluated for the relocation of the existing 18-inch gas main (Refer to the **Florida Gas Transmission Utility Relocation Assessment Memorandum**). Three routes were recommended for



further evaluation during the final design phase of this project. The FDOT will coordinate with Florida Gas Transmission (FGT) to address the final disposition of the 18-inch gas main as well as prepare the necessary engineering and environmental documentation for approval, construction and operation of the new 18-inch gas line.

2.3.1 Interim Build Alternatives

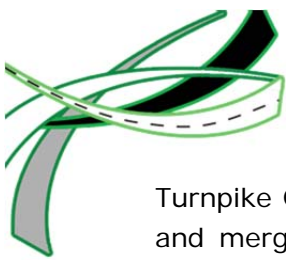
Four preliminary interim build alternatives (1A, 1B, 2A and 2B) were evaluated during the initial phase of the PD&E study and presented at the initial Alternatives Public Workshop held on May 3, 2012. These initial interim build alternatives were based on the concept developed for this interchange under the planning phase of this project which provided a two-lane off-ramp from SR 826 eastbound to I-95 northbound and southbound and maintained the NW 12th Avenue on-ramp. However, with the potential incorporation of express lanes along SR 826/Palmetto Expressway, the ultimate build alternative eliminated the NW 12th Avenue on-ramp and provided a Texas U-Turn at NW 17th Avenue interchange due to the right of way constraints. Consideration for alternative access was provided through the incorporation of a Texas U-Turn at NW 17th Avenue interchange due to right of way constraints.

Based on the traffic forecast analysis performed for this study, the initial interim build alternatives were refined into three interim build alternatives (3A, 3B, and 3C) and presented at the Alternatives Public Workshop Update held on August 23, 2012. The refined alternatives provided a three-lane off-ramp from SR 826 eastbound to I-95 northbound and southbound in order to accommodate the projected traffic volume in 2030 (mid-design year) as well as 2040 (design year). Consequently, the NW 12th Avenue on-ramp was now eliminated as part of the refined interim build alternatives due to the right of way constraints as well as the adverse operational and safety impacts.

As part of the public involvement process, several meetings and discussions were held with the residents and businesses who may be potentially impacted by the closure of the NW 12th Avenue on-ramp. Both the business owners and residents recommended the study team to evaluate additional alternatives to maintain the on-ramp since its closure could inconvenience their operations and travel patterns. As such, an additional improvement alternative (Interim Build Alternative 4) was developed to maintain the NW 12th Avenue on-ramp as well as provide a three-lane off-ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound. The interim Build Alternatives are described below:

2.3.1.1 Interim Build Alternative 3A

Interim Build Alternative 3A provides a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound. The new flyover ramp begins from the SR 826/Palmetto Expressway eastbound to I-95 southbound ramp and continues over the



Turnpike Connector and underneath the I-95 express flyover ramps. It then goes over I-95 and merges with the existing SR 7/US 441 northbound to I-95 northbound ramp before joining I-95 using the existing on-ramp alignment. The Turnpike Connector southbound lanes will be reconstructed to shift the alignment to the west in order to accommodate a future direct express lane connection from the Turnpike southbound to the I-95 express southbound lanes.

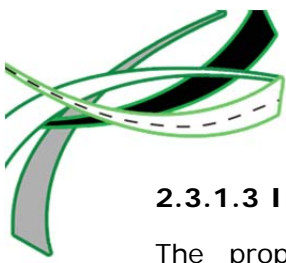
The proposed three-lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound movements removes the NW 12th Avenue eastbound on-ramp to SR 826 eastbound and provides a connection from NW 165th Street to NW 17th Avenue across the NW 17th Avenue Canal. It requires widening of NW 17th Avenue from two to four lanes between NW 165th Street and SR 829/Palmetto Expressway. The existing unsignalized single left turn lane from SR 826/eastbound to Florida's Turnpike northbound will also be upgraded to a signalized intersection with double left turn lanes. **Figure 2-1** illustrates the conceptual layout for Interim Build Alternative 3A.

2.3.1.2 Interim Build Alternative 3B

This build alternative also involves the construction of a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound movements and the provision of a direct connection flyover from SR 826/Palmetto Expressway eastbound to I-95 northbound similar to Interim Build Alternative 3A. The main differences are the improvements to the Turnpike Connector southbound and I-95 southbound movements.

Under this alternative, the southbound Turnpike connector lanes will be reconstructed to shift the alignment to the west in order to accommodate a future direct express lane connection from Florida's Turnpike southbound to the I-95 express southbound express lanes. The Turnpike Connector southbound off-ramp to SR 7/US 441 is relocated approximately 1,150-ft south along SR 7/US 441 to Biscayne River Drive. The Turnpike connector then merges with the I-95 southbound mainline lanes further south just after the Biscayne Canal bridge. The I-95 southbound mainline lanes will also be reconstructed and realigned.

The removal of the NW 12th Avenue eastbound on-ramp to SR 826 eastbound and the provision of new a connection from NW 165th Street to NW 17th Avenue across the NW 17th Avenue canal as well as the widening of NW 17th Avenue from two to four lanes between NW 165th Street and SR 829/Palmetto Expressway and provision of a new signalized intersection with double left turn lanes for SR 826/Palmetto Expressway eastbound to Turnpike northbound is similar to that of Interim Build Alternative 3A. **Figure 2-2** illustrates the conceptual layout for Interim Build Alternative 3B.



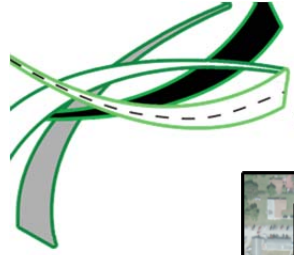
2.3.1.3 Interim Build Alternative 3C

The proposed improvements along SR 826/Palmetto Expressway and the Turnpike Connector under Interim Build Alternative 3C are similar to Interim Build Alternative 3B. The main difference is the provision of a third-level single-lane flyover ramp from Turnpike southbound to the I-95 express southbound lanes. The single-lane flyover merges with the existing single-lane I-95 express flyover south of the Biscayne Canal bridge to provide two express lanes south of the merge location. The improvements along the Turnpike Connector and I-95 southbound express lanes together with the direct connection flyover ramps from Florida's Turnpike to I-95 southbound express lanes represent the ultimate configuration necessary to accommodate the design year travel demand. **Figure 2-3** illustrates the conceptual layout for Interim Build Alternative 3C.

2.3.1.4 Interim Build Alternative 4

Interim Build Alternative 4 provides a three lane off-ramp for SR 826/Palmetto Expressway eastbound to I-95 northbound and southbound and also maintains the NW 12th Avenue on-ramp. In order to eliminate the current weaving issue along the SR 826 mainline, the NW 12th Avenue on-ramp will not connect directly to SR 826 mainline. Instead, it will be relocated and connected to the three lane off-ramp to I-95 northbound and southbound as a barrier separated auxiliary lane. An auxiliary lane will also be added to the Turnpike Connector southbound lanes to increase the weaving distance, and the off-ramp to SR 7/US 441 will be relocated approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection. An additional northbound left turn lane is also provided at the NW 2nd Avenue and NW 167th Street intersection to improve operations.

The provision of the NW 12th Avenue on-ramp will require the removal of the eastbound frontage road east of NW 10th Avenue. The warehouse property on the southwest quadrant of the interchange within the Sunshine Industrial Park will be acquired due to the removal of the only access road for this property. No improvements along NW 17th Avenue; however, Texas U-Turns (matching the existing bridge vertical clearances) will be provided underneath the SR 826/Palmetto Expressway mainline bridges over NW 17th Avenue and NW 12th Avenue to enhance access and mobility for the adjacent residents and the Sunshine Industrial Park.. The provision of a direct connection flyover from SR 826/Palmetto Expressway eastbound to I-95 northbound and a new signalized intersection with double left turn lanes for SR 826/Palmetto Expressway eastbound to Turnpike northbound is similar to that of Interim Build Alternative 3A. **Figure 2-4** illustrates the conceptual layout for Interim Build Alternative 4.



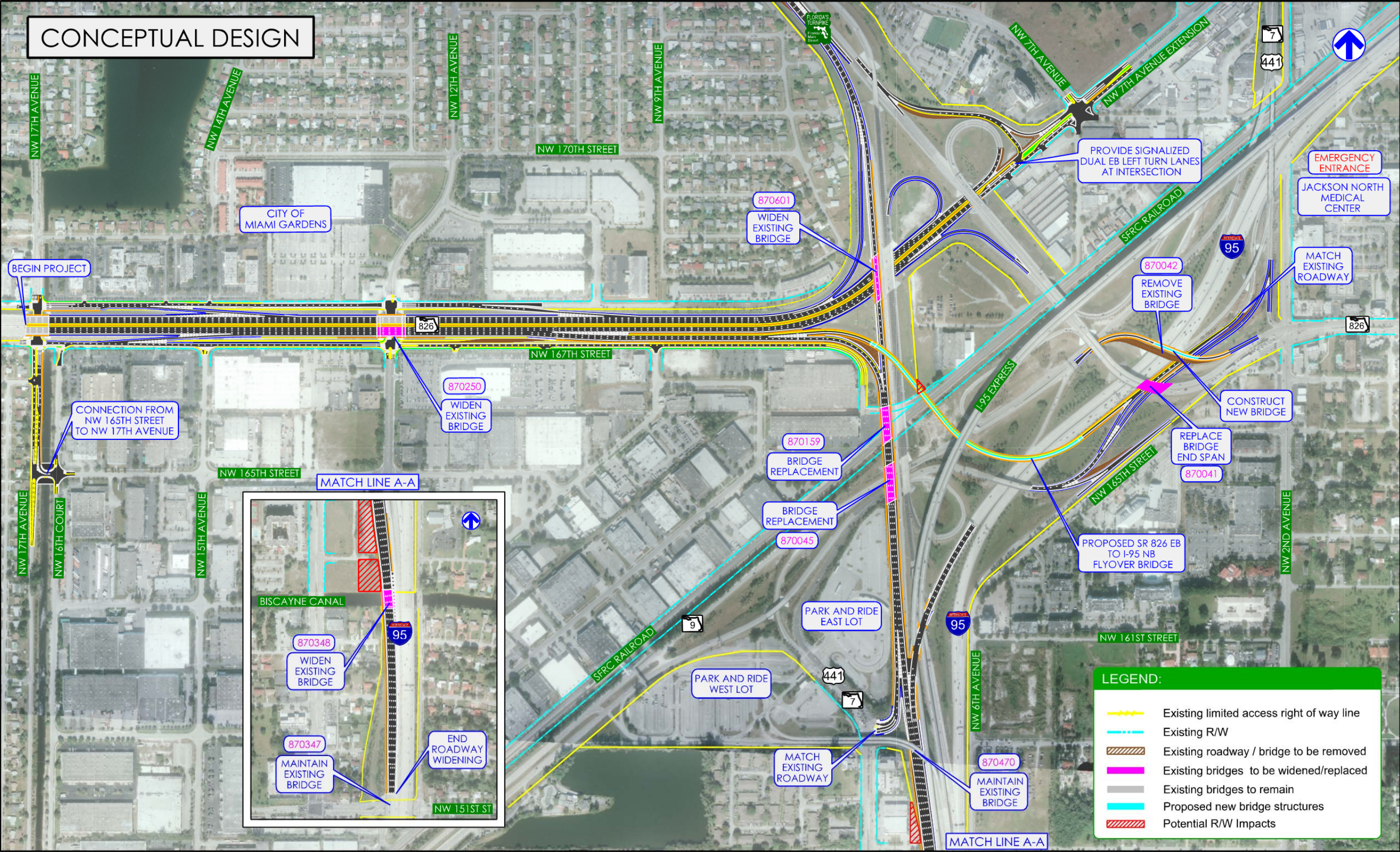
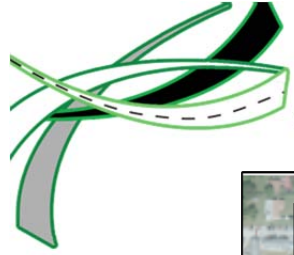


Figure 2-2 Conceptual Layout - Interim Build Alternative 3B





Endangered Species Biological Assessment



2.3.2 Ultimate Build Alternatives

The Ultimate Build Alternative represents the master plan to improve operations, safety and mobility within the Golden Glades Interchange and provide an improved connection between the new express lanes on SR 826/Palmetto Expressway and the I-95 express lanes system. The feasibility of express lanes along SR 826/Palmetto Expressway are currently being evaluated under a separate adjacent PD&E Study (FPID: 418423-1, ETDM #11241). The Ultimate Build Alternatives are described below:

2.3.2.1 Ultimate Build Alternative 1

Ultimate Build Alternative 1 provides a system-to-system connection between the proposed SR 826/Palmetto Expressway express lanes and the I-95 express lanes. The key features are illustrated below. The following improvements are included in the Ultimate Build Alternative 1 and illustrated in **Figure 2-5**:

1. Provide express lane connections between SR 826/Palmetto Expressway and I-95 to and from the north only with modifications to SR 826/Palmetto Expressway mainline between GGI and NW 17th Avenue to accommodate four general use lanes in each direction
2. Provide direct express lane connections between Florida's Turnpike and I-95 express southbound lanes and reconstruct I-95 southbound to accommodate new ramp
3. Provide a new ramp for the SR 9/SR 7/US 441 northbound to I-95 northbound movement that merges with the SR 826/Palmetto Expressway eastbound to I-95 northbound flyover ramp before joining I-95 as a two lane on-ramp
4. Provide an auxiliary lane along I-95 northbound between Golden Glades Interchange and Miami Gardens Drive to increase capacity along mainline
5. Widen the existing I-95 express flyover ramps from one to two lanes in each direction north of the merge/diverge locations with the new SR 826 express lanes flyover ramps
6. Widening of SR 826 connector to NW 167th Street to accommodate two lanes from SR 826/ Palmetto Expressway eastbound to NW 167th Street eastbound
7. Combination and realignment of the I-95 northbound to SR 7/US 441 northbound and NW 167th Street eastbound exit ramps
8. NW 2nd Avenue and NW 167th Street intersection improvements
9. Relocate Turnpike connector to SR 7/US 441 off ramp 1,150-ft south to increase distance between signals along SR 7/US 441.



2.3.2.2 Ultimate Build Alternative 2

Ultimate Build Alternative 2 provides a two-lane direct connection flyover ramp from SR 826/Palmetto Expressway eastbound to I-95 northbound with no direct connection between the proposed SR 826 express lanes and the I-95 express lanes. SR 826 express lane users will have to utilize the two-lane general use ramp from SR 826/Palmetto Expressway eastbound to I-95 Northbound and connect to the I-95 express lanes via the access location north of the GGI. The following improvements are included in the Ultimate Build Alternative 2 and illustrated in **Figure 2-6**:

1. Reconstruct SR 826 between NW 17th Avenue and GGI to accommodate five lanes in each direction and provide a two-lane direct connection flyover ramp from SR 826 eastbound to I-95 northbound
2. Provide direct express lane connections between Florida's Turnpike and I-95 express southbound lanes and reconstruct I-95 southbound to accommodate new ramp
3. Provide an at-grade signalized intersection between SR 9 and SR 7/US 441 to minimize weaving and accommodate the SR 9 southbound movement
4. Provide an auxiliary lane along I-95 northbound between Golden Glades Interchange and Miami Gardens Drive to increase capacity along the mainline
5. Relocate the park and ride entrance signal 500-ft south to accommodate new at-grade signal at SR 9 and SR 7/US 441 intersection
6. Widening of SR 826 connector to NW 167th Street to accommodate two lanes from SR 826/ Palmetto Expressway eastbound to NW 167th Street eastbound
7. Combination and realignment of the I-95 northbound to SR 7/US 441 northbound and NW 167th Street eastbound exit ramps
8. NW 2nd Avenue and NW 167th Street intersection improvements
9. Relocate Turnpike connector to SR 7/US 441 off ramp 1,150-ft south to increase distance between signals along SR 7/US 441.

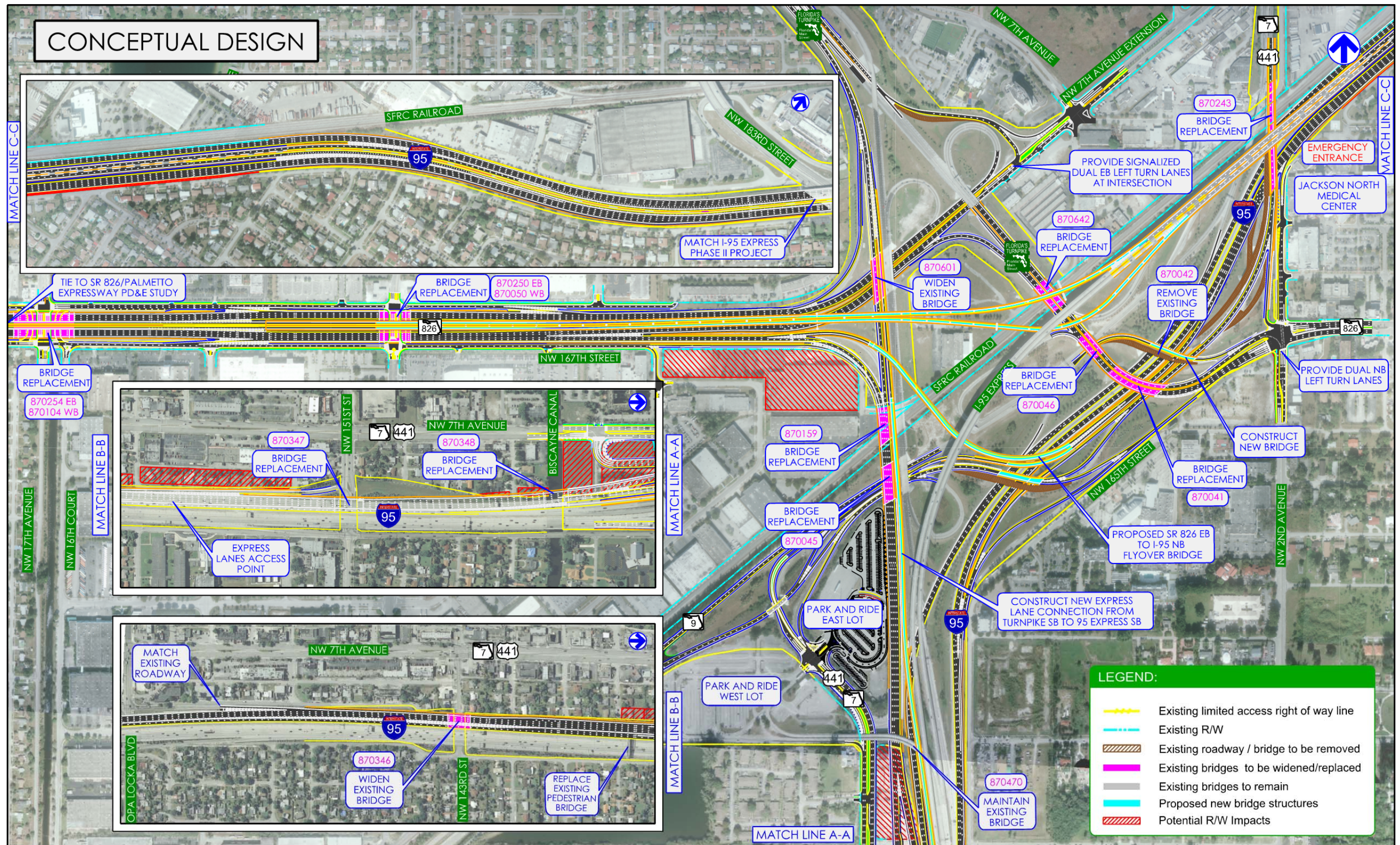


Figure 2-5 Conceptual Layout - Ultimate Build Alternative 1

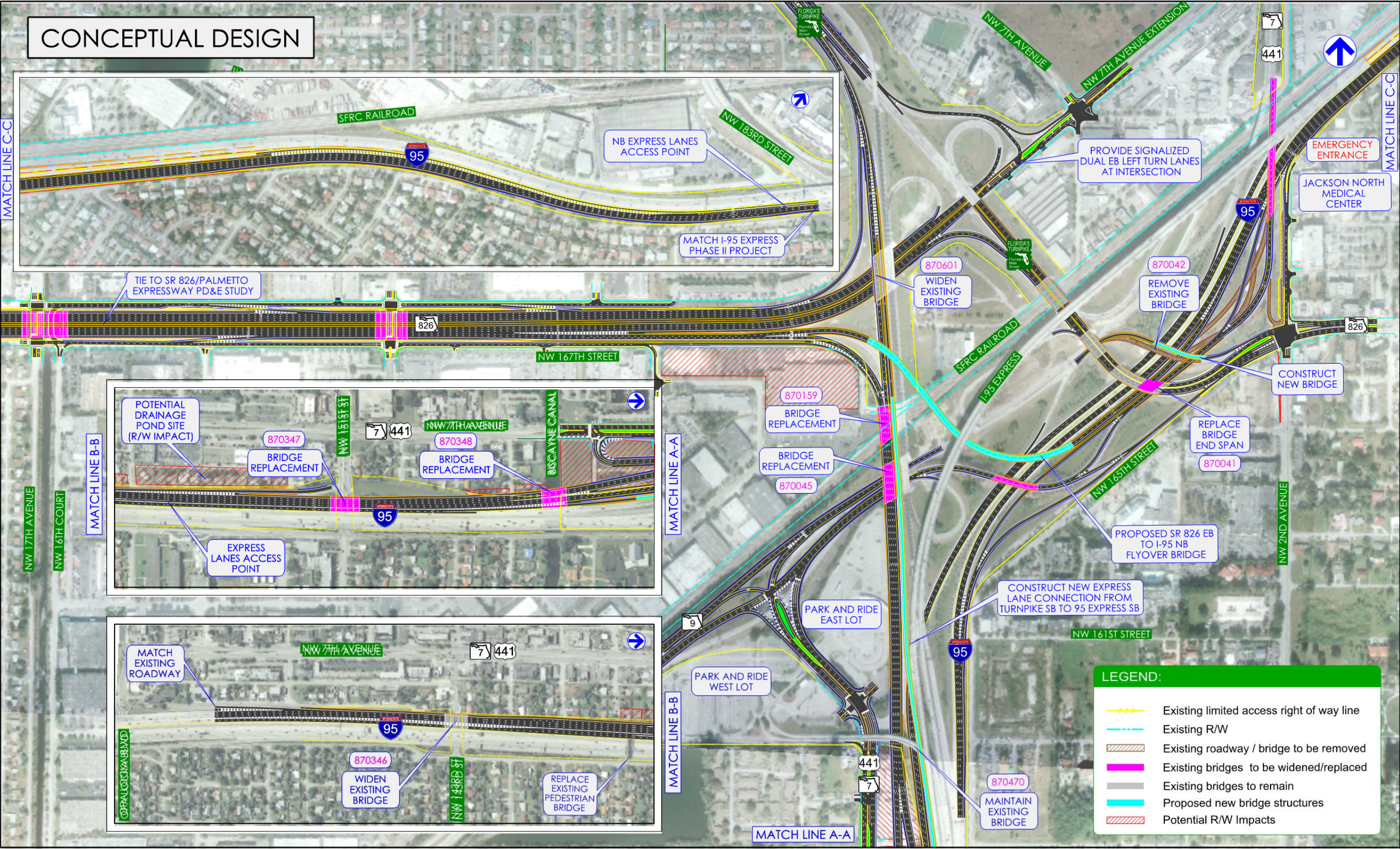
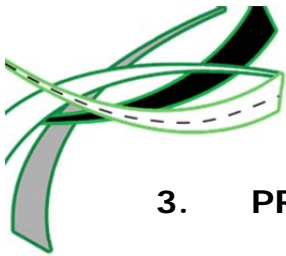


Figure 2-6 Conceptual Layout - Ultimate Build Alternative 2



3. PROJECT AREA DESCRIPTION

The GGI project lies within the designated boundaries of the Biscayne Aquifer. Land use throughout the project area is urbanized, with no undisturbed habitats. Potential habitat for terrestrial or avian wildlife in the project study area consists of stormwater treatment areas located within, and adjacent to, the interchange (i.e., maintained and unmaintained drainage ditches, swales and wet retention pond), and vacant lots (which are generally paved or disturbed and invaded by exotic vegetation).

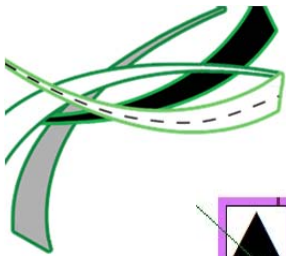
Two canals exist within the study area: the NW 17th Avenue Canal and the C-8/Biscayne Canal. The NW 17th Avenue Canal is managed by Miami-Dade County and runs north-south on the east side of NW 17th Avenue to a culvert under NW 167th Street and SR 826 (which is elevated and separates the east- and west- bound lanes of NW 167th Street) at the western extent of the study area. The NW 17th Avenue Canal connects with the South Florida Water Management District (SFWMD)-managed C-8 Canal southwest of the GGI. The southbound Turnpike Connector/I-95 southbound system crosses the C-8/Biscayne Canal approximately 600 feet south of NW 157th Street, south of the GGI. These canals are depicted in **Figure 3-1**, Waterways Map.

A SFWMD control structure (S-28) is located on the C-8/Biscayne Canal, approximately 3.7 miles east of the proposed project area. The S-28 is a gated spillway located in the vicinity of the Miami Shores golf course, between the Florida East Coast Railway and the US 1 bridges.

3.1 Existing Land Use

Land use descriptions provided for both uplands and wetlands were classified utilizing the *Florida Land Use Cover and Forms Classification System* (FLUCCS, FDOT, 1999). Existing land use in the project area was determined utilizing the U.S. Geological Survey (USGS) topographical maps, aerial photographs (2009 and 2010), land use mapping from SFWMD (2004-2005), and field verification. Field reviews generally confirmed the SFWMD's land use mapping, with minor updates. **Figure 3-2** shows the land use categories present within the project area. The majority of the project area is dominated by transportation land use (e.g., roads, parking lots and highways, FLUCCS 8100 and 8140). Areas adjacent to roads and highways consist mainly of commercial and services land uses (FLUCCS 1400) with minor portions of institutional land use (FLUCCS 1700) and other light industries (FLUCCS 1550). Medium density single family units (FLUCCS 1210) are located along the northern and southern limits of the project area. High density, multiple low and high rise dwelling units (FLUCCS 1330 and 1340) are also found within the project area. Two open land areas (FLUCCS 1900) are present within the project area: a four-acre area just north of the NW 7th Avenue Extension (part of a 16-acre vacant lot located between US 441 and Florida's Turnpike), and a 3.9-acre vacant area located just north of the C-8/Biscayne Canal.





Golden Glades Interchange PD&E Study
From SR 826/Palmetto Expressway Eastbound to I-95 Northbound

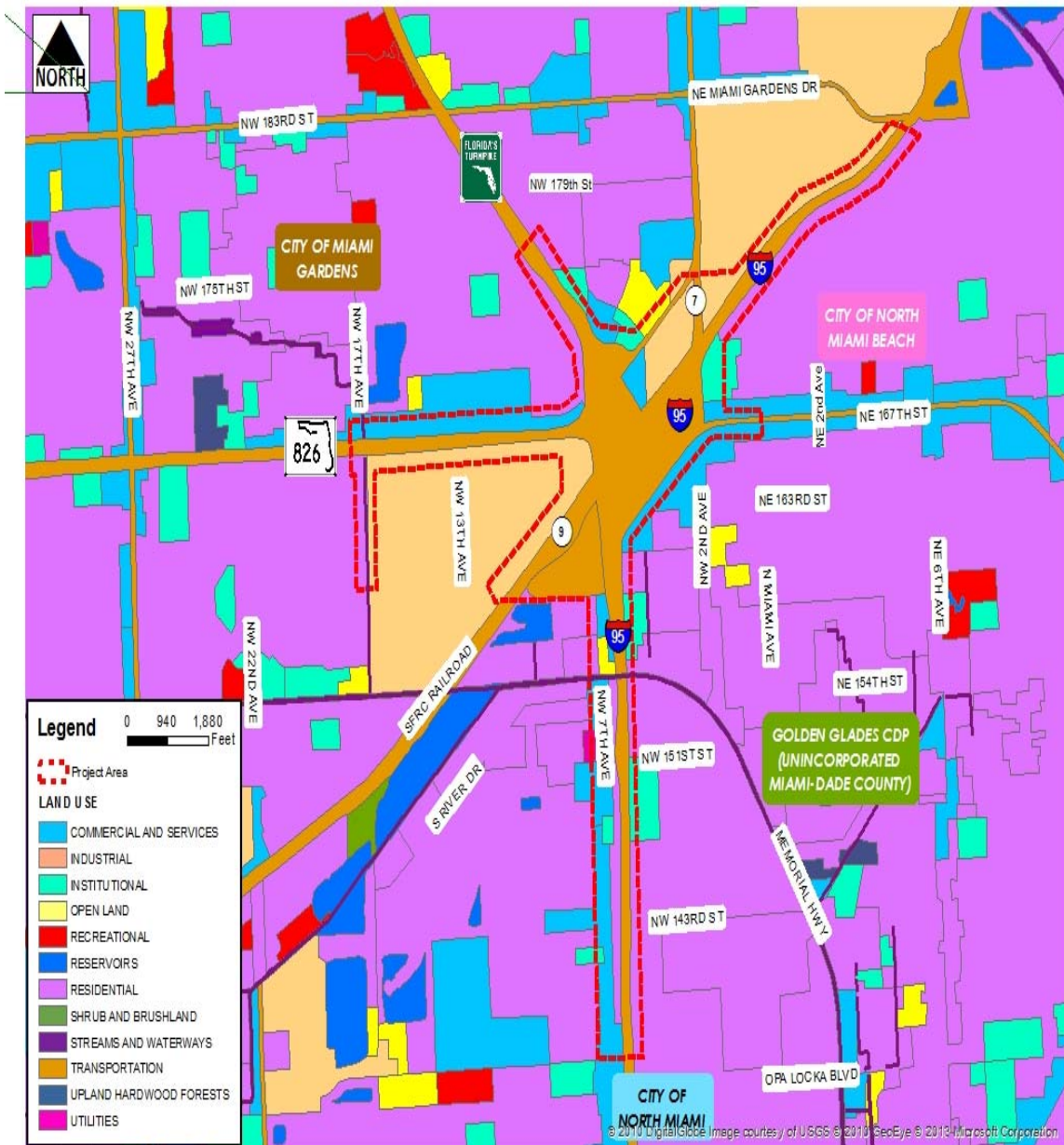


Figure 3-2 Land Use Map

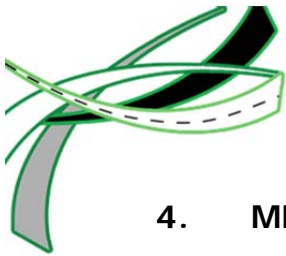


3.2 Soils

The *Miami Dade-County Soil Survey* (Natural Resources Conservation Service [NRCS], 1996 and the NRCS Soil Web Survey) indicates three soil types exist within the project area, none of which are considered hydric. Almost the entire project area is considered urban land. Recent studies have shown that the physical, chemical, and biological properties of urban soils are quite variable, with conditions ranging from highly modified to relatively natural (Hagan et al., 2010). Urban land within the project location consists of street, driveways, sidewalks, parking lots, buildings, and other structures in areas where the soil is covered and cannot be readily observed. Udorthent soils are located on the southern and western portions of the project area and consist of urban sites including lawns and vacant lots. **Table 3-1** identifies the soils listed by the Soil Survey as occurring onsite. **Figure 3-3**, Soils Map, depicts the locations of the soil types within the project area.

Table 3-1 Soils within the Golden Glades Interchange		
Soil Type	Slope	Characteristics
Pomello	0 To 2 Percent	This soil is described as deep, nearly level, moderately well drained soil located in moderately high, broad hills on the Miami Ridge. Typically, the surface layer is dark gray sand about five inches thick. The subsurface layer is sand to a depth of about 35 inches. This is not a hydric soil.
Udorthent Soil	0 to 2 Percent	The southern and western portions of the project site are Udorthent soils, composed of limestone substratum. These soils are somewhat poorly drained and are usually located within urban lands in areas of lawns and vacant lots. Typically the Udorthent soils consist of light gray fill material that is underlain by hard, porous limestone bedrock. This is not a hydric soil.
Urban Land	0 to 2 Percent	Most of the entire project area is urban land. Urban land consists of street, driveways, sidewalks, parking lots, buildings, and other structures in areas where the soil is covered and cannot be readily observed. This is not a hydric soil.
Water	N/A	This classification is associated with open water areas. For example, the C-8 and NW 17 th Avenue Canals.

Source: *Miami Dade County Soil Survey*, NRCS, 1996 and NRCS Web Soil Survey



4. METHODS

This project was evaluated for impacts to wildlife and habitat resources, including protected species in accordance with 50 CFR Part 402 of the ESA of 1973, as amended, and Part 2, Chapter 27 of the FDOT PD&E Manual.

4.1 Data Collection

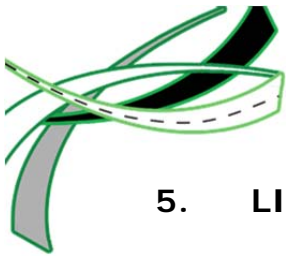
Data collection through literature reviews, Environmental Technical Advisory Team (ETAT) review, agency database searches, agency coordination, and field reviews of potential habitat areas were performed to identify state and federally protected species occurring or potentially occurring within the project area that may be impacted by the No Build, TSM, Interim and Ultimate Build Alternatives. Information sources and databases utilized for the wildlife analysis include the following:

- ETDM Summary Report for the GGI System (Project # 11300)
- ETDM Environmental Screening Tool
- U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System
- Florida Natural Areas Inventory (FNAI)
- FNAI listed species element occurrence database
- Florida Fish and Wildlife Conservation Commission (FWC) databases
- Miami-Dade County Soil Survey
- National Wetlands Inventory (NWI) maps
- FWC Bald Eagle Nesting database
- FWC Waterbird Colony Locator
- FWC's Strategic Habitat Conservation Areas (SHCA)
- USFWS Wood Stork Rookeries (18.6 mile radius) (2009 data)
- USFWS South Florida Multi-Species Recovery Plan

4.2 Field Survey Methodology

Biologists conducted field reviews on June 20, 2011 and August 21, 2012 to address the occurrence or potential occurrence of wildlife and plant species listed as Threatened, Endangered, and Species of Special Concern (SSC). Field reviews consisted of vehicular surveys, roadside observations and pedestrian (walking) surveys through areas with the potential to support listed plant and/or wildlife species. Potential species observations by pedestrian surveys were accomplished by visual observation of listed plant and wildlife species or indicators of their presence (e.g., vocalizations, tracks, scat, burrows, etc.).

The surveys took place within the project's right-of-way, and the 16-acre and 3.9-acre vacant areas on the north side of the NW 7th Avenue Extension and just north of the C-8/Biscayne Canal, respectively. The reviews of these sites were conducted through pedestrian surveys and visual examination of the area.



5. LISTED SPECIES OCCURRENCES

Through review of USFWS, FNAI and FWC wildlife databases, no evidence was found of use of the project area by listed species, nor was any critical habitat identified in the field. The FWC bald eagle nest locator was reviewed on April 27, 2012 and August 24, 2012; there are no known bald eagle nests located within the vicinity of the project area. The FWC wading bird colony locator was also reviewed and did not indicate active or inactive wading bird rookeries on site. However, the project area lies within the 18.6-mile radius Core Foraging Area (CFA) of two nesting colonies for the endangered wood stork (*Mycteria americana*) and within the USFWS Consultation Areas for the threatened American crocodile (*Crocodylus acutus*) and the endangered Everglade snail kite (*Rostrhamus sociabilis plumbeus*).

During design of the previous Turnpike Connector Ramp Project (FM No. 415456-4), a burrowing owl (*Athene cunicularia*) was observed (on October 21, 2009) standing at the opening of a burrow located about 80 feet east of the Turnpike/I-95 Connector, and about 250 feet southeast of the intersection between the NW 7th Avenue Extension and the Turnpike Connector/I-95. This burrow was located in FDOT right-of-way in an area to be excavated for construction of a stormwater retention system. This area was systematically surveyed per FWC guidelines, and a FWC permit for the removal of the burrowing owl nest was obtained prior to construction. The burrow, however, was abandoned before construction of this project began on May 13, 2010.

During the field reviews, no wildlife species or indicators of wildlife species (e.g., burrows, nests, and scat) listed as threatened or endangered by the USFWS or the FWC, and those listed as SSC by the FWC were observed. During those field reviews, a great egret (*Ardea alba*) was observed on the 16-acre vacant parcel located just north of the NW 7th Avenue Extension, a green heron (*Butorides virescens*) was observed along the NW 17th Avenue Canal bank and American coots (*Fulica americana*) were observed in the C-8/Biscayne and the NW 17th Avenue Canals. These species are not listed by the USFWS or the FWC. **Table 5-1** below summarizes the Federal and State-listed species that could potentially occur within or in the vicinity of the proposed project. The species are listed as endangered or threatened by the USFWS and/or the FWC, and SSC by the FWC. Note this species list does not preclude the existence of other wildlife, listed or not, from inhabiting or migrating through the project area. Detailed information on the morphology, life history, behavior and status of those listed species discussed in this biological assessment is provided in the South Florida Multi-Species Recovery Plan (USFWS, 1999).



Table 5-1 Species Listed as Threatened or Endangered			
Common Name	Scientific Name*	Status	
		USFWS	FWC
Wood stork	<i>Mycteria americana</i>	Endangered	Endangered
Eastern indigo snake	<i>Drymarchon corais couperi</i>	Threatened	Threatened
West Indian manatee	<i>Trichechus manatus</i>	Endangered	Endangered
Gopher tortoise	<i>Gopherus polyphemus</i>	Candidate	Threatened
Burrowing owl	<i>Athene cunicularia</i>	Not listed	SSC**
Tricolored heron	<i>Egretta tricolor</i>	Not listed	SSC
Snowy egret	<i>Egretta thula</i>	Not listed	SSC
White ibis	<i>Eudocimus albus</i>	Not listed	SSC
Little blue heron	<i>Egretta caerulea</i>	Not listed	SSC
American crocodile	<i>Crocodylus acutus</i>	Threatened	Threatened
Snail kite	<i>Rostrhamus sociabilis plumbeus</i>	Endangered	Endangered

* These species could potentially occur in the project area, and are the subject of analysis in this biological assessment

** Species of Special Concern

The following is a description of each of the listed species' habitat and foraging habitat.

5.1 Federally Listed Species

5.1.1 Wood Stork

The wood stork is listed as endangered by both the USFWS and FWC. The wood stork nests in a variety of inundated forested wetlands, including cypress strands and domes, mixed hardwood swamps, sloughs, and mangroves. It has also been increasingly nesting in artificial habitats (e.g., impoundments and dredged areas with native or exotic vegetation) in North and Central Florida. This bird forages mainly in shallow water, freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures and ditches. Wood storks are attracted to falling water levels that concentrate food sources (mainly fish). The project lies within the CFA of two wood stork nesting colonies. During the field reviews, wood storks were not observed within or adjacent to the project area. Areas of Suitable Foraging Habitat (SFH) for the wood stork include swales or stormwater ponds adjacent to, and within, the GGI.



5.1.2 Eastern Indigo Snake

The eastern indigo snake (*Drymarchon corais couperi*) is listed as threatened by both the USFWS and FWC. The eastern indigo snake frequents several habitat types, including forested uplands and wetlands as well as wet and dry prairies. The snake also occurs in human-altered habitats. Generally, in xeric habitats, the presence of indigo snakes is associated with gopher tortoise (*Gopherus polyphemus*) occurrences, as the burrows provide shelter during the winter (Bogert and Cowles 1947, Speake et al. 1978, Layne and Steiner 1996). During the field reviews, no eastern indigo snakes were observed within or adjacent to the project area. Habitat within the project limits considered to be xeric is limited to portions of the 16-acre vacant lot located to the north of the NW 7th Avenue Extension and the vacant lots north of the C-8/Biscayne Canal, east of NW 7th Avenue. No gopher tortoise burrows were found within those areas.

5.1.3 West Indian Manatee

The West Indian manatee (*Trichechus manatus*) is listed as endangered by both the USFWS and the FWC. Manatees have minimal tolerance for cold weather and tend to inhabit warm water areas. They prefer large, slow-moving rivers, river mouths, and shallow coastal areas such as coves and bays. Manatee habitat includes coastal waters, bays, rivers, canals, and (occasionally) lakes. Manatees usually swim at depths of three to six feet, and very rarely below 25 feet. They may travel great distances as they migrate between winter and summer grounds. Today, the greatest threats to manatee survival are collisions with boats and, in Florida, loss of warm water habitat.

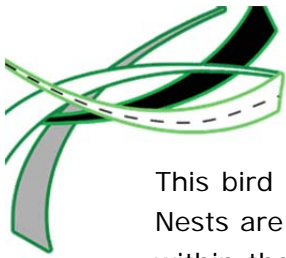
Habitat for the manatee includes all of the marine and freshwater areas of Miami-Dade and Monroe Counties including the C-8/Biscayne and NW 17th Avenue Canals. Portions of these canals are located within the project limits. Manatees were not observed within the two canals during the field visits.

5.1.4 American Crocodile

The crocodile (*Crocodylus acutus*) is listed as Threatened by both the USFWS and the FWC. Crocodile habitat includes coastal estuarine marshes, tidal swamps and creeks along mainland edges and islands. The southern limits of this project are located within the USFWS Consultation Area for this species. Crocodiles or their habitat were not observed within, or adjacent to, the project corridor during the field reviews.

5.1.5 Snail Kite

The snail kite (*Rostrhamus sociabilis plumbeus*) is listed as Endangered by both the USFWS and FWC. Snail kite habitat includes large, open, shallow freshwater marshes and lakes.



This bird is dependent upon apple snails (*Pomacea paludosa*) caught at the water surface. Nests are over water in low trees or shrubs. The southern limits of this project are located within the USFWS Consultation Area for this species. Snail kites or their habitat were not observed within, or adjacent to, the project corridor during the field reviews.

5.2 State-Listed and Other Species

5.2.1 Bald Eagle

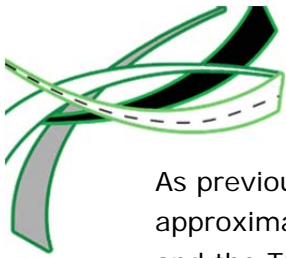
The bald eagle (*Haliaeetus leucocephalus*) is no longer listed by the USFWS or FWC, but is protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Bald eagle habitat includes areas close to coastal areas, bays, rivers, lakes, or other bodies of water that provide concentrations of food sources, including fish, waterfowl, and wading birds. Throughout their range, bald eagles use forested habitats (that are isolated from human disturbance) for nesting and roosting, and expanses of shallow fresh or salt water for foraging. There are no documented eagle nests or rookeries within or near the project area. No suitable foraging habitat was identified during the field surveys, and no eagles were observed.

5.2.2 Gopher Tortoise

The gopher tortoise is a state-listed Threatened species and listed as a Candidate species by the USFWS. The gopher tortoise generally lives in dry upland habits, including sandhills, scrub, xeric oak hammock, and dry pine flatwoods. Tortoises also use disturbed habitat such as pastures, old fields, and road shoulders. They excavate deep burrows in soil for shelter and egg laying. Potential suitable habitat for gopher tortoises within the project area is limited to portions of the 16-acre vacant lot located to the north of the NW 7th Avenue Extension and the vacant lots north of the C-8/Biscayne Canal, east of NW 7th Avenue. No burrows or gopher tortoises were observed within the project limits during the field reviews.

5.2.3 Burrowing Owl

The burrowing owl is listed as a SSC. Its habitat includes high, sparsely vegetated, sandy ground, with dry prairie and sandhill as its natural habitat. In urban settings, burrowing owls also make extensive use of ball fields, parks, school grounds, university campuses, road right-of-ways, and vacant spaces in residential areas. Owls use burrows year-round; for roosting during the winter and for raising young during the breeding season (February - July) and typically dig their own burrows. Owls, however, will use gopher tortoise or armadillo burrows and tend to nest on vacant lots in rapidly developing urban areas as they are attracted to disturbed soil conditions associated with early construction activities. Hence, residential and commercial construction subsequently can be a major cause of burrow destruction in these areas (FWC, 2009).

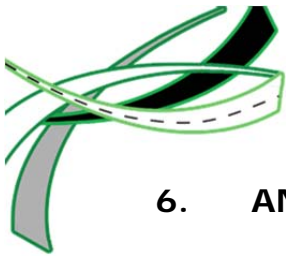


As previously stated, in October 2009 a burrowing owl was observed within the project area, approximately 250 feet southeast of the intersection between the NW 7th Avenue Extension and the Turnpike Connector/I-95. This area where the owl and burrow were discovered was subsequently turned into a stormwater retention system as part of the Turnpike Connector Ramp Project. Although a permit for removal of the burrow was obtained, the burrow was abandoned before project construction began in May 2010. This area is still used for stormwater retention purposes and no other burrow or burrowing owl has been observed at this location. No burrowing owls or burrows were observed in the vicinity of the project area during the field surveys.

5.2.4 Wading Birds

The tricolored heron (*Egretta tricolor*), snowy egret (*Egretta thula*), white ibis (*Eudocimus albus*), and little blue heron (*Egretta caerulea*) are state listed SSC. These wading birds utilize similar habitat and food resources and feed in permanently and seasonally flooded wetlands, creeks, streams, swales, ditches, lakes, marshes and swamps. They are generally year-round residents and nest in low woody vegetation including willow, cypress, and woody thickets.

There are no documented rookeries within or near the project area. No individuals or nesting areas were observed during the field surveys. The tricolored heron, snowy egret, white ibis and little blue heron may occur in, or fly over, the project limits as they may use the existing ditches and swales for foraging.



6. ANALYSIS OF EFFECTS

The subject area is urbanized and contains minimal wildlife habitat. Most of the environmental features within the project area are stormwater systems including maintained and unmaintained ditches, swales, a wet retention pond, and managed impoundments; some of which contain wetland vegetation. Although no listed animal species were observed during the field reviews, and no nests, burrows or habitat were identified, avian and reptile species may temporarily occur in, or fly over, the project limits. The following is a summary of the ETAT reviews and description of the potential effects of the Interim and Ultimate Build Alternatives on the listed species that could potentially inhabit the project area. There will be no impacts associated with the No Build Alternative.

6.1 ETAT Member Reviews

The USFWS and FWC commented on the potential impacts to listed species through the ETDM process. A copy of the ETDM Programming Screen (published on November 18, 2011) for this project is included in **Appendix A**. The FWC stated (on July 22, 2011) that minimal fish or wildlife resources were identified in the proposed project area. The USFWS stated (on July 15, 2011) that the wood stork and eastern indigo snake could possibly inhabit or migrate through the subject area. They advised that the project is located within the CFA of active wood stork nesting colonies and the loss of SFH within a CFA could result in the loss of foraging habitat for the wood stork. To minimize adverse effects to the wood stork, USFWS recommended any lost foraging habitat resulting from the project be replaced within the CFA of the affected nesting colony. Accordingly, any wetland mitigation plan proposed should include a restoration, enhancement, or creation component. For projects that impact five or more acres of SFH, the USFWS requires a functional assessment be conducted using their Wood Stork Foraging Analysis Methodology on the impacted foraging habitat and the foraging habitat provided as mitigation. The USFWS indicated that a Biological Assessment should be prepared for this project. Both agencies rated the project's effects on wildlife and habitat as Minimal.

6.2 Direct Effects

6.2.1 Wood Stork

SFH for the wood stork within the project limits include swales or stormwater ponds within and adjacent to the project limits. There are numerous constructed stormwater features throughout the GGI study area. The locations of these stormwater features were identified on June 20, 2011 using GPS devices and plotted using ArcGIS. A total of five stormwater ditches and one wet retention pond were identified on site within the GGI (see **Figure 6-1**). Four ditches and the retention pond are located within or in close proximity to the Interim Build Alternatives' footprint.

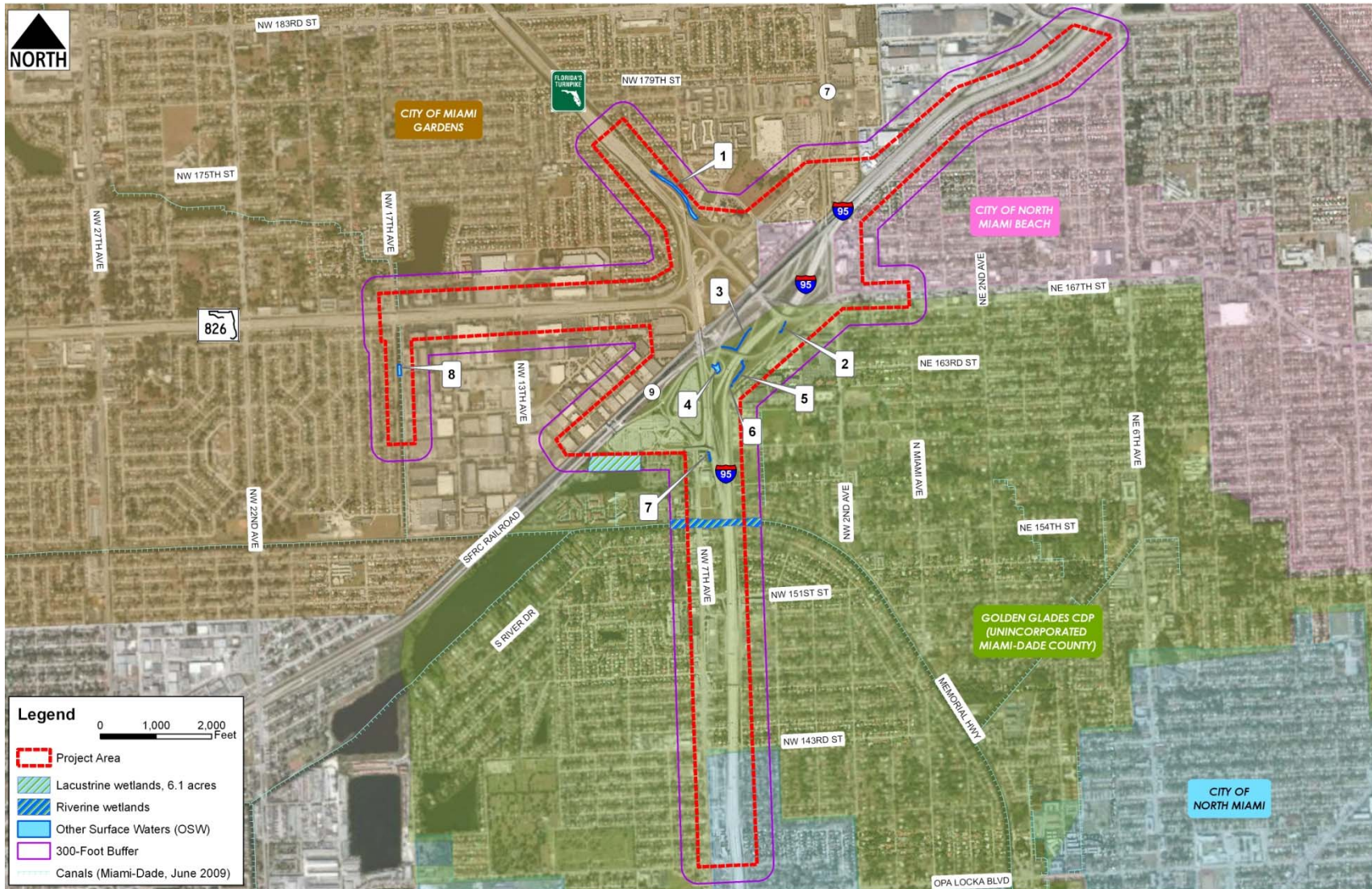
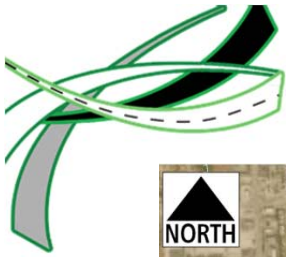
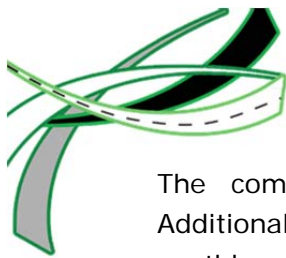


Figure 6-1 Features Map



The combined acreage of these stormwater features is approximately 0.70 acres. Additionally, one wet ditch was identified on August 21, 2012 adjacent to the I-95 southbound lanes. This ditch, south of the off-ramp to NW 7th Avenue, continues for approximately 180-ft south to a culvert. The SFH portion of this ditch encompasses approximately 0.07 acres. During the field reviews, wetland vegetation was identified within these man-made drainage features. All of these features are elements of the existing stormwater management system and do not typically constitute jurisdictional wetlands, but are instead usually categorized as Other Surface Waters (OSW) by SFWMD.

There are no wood stork colonies located within the project area. However, construction activities associated with the Interim and Ultimate Build Alternatives may directly impact existing swales, ditches, and the wet retention pond located between the I-95 express flyover ramp and NW 165th Street within the project limits that may constitute wood stork SFH. All the Interim and Ultimate Build Alternatives provide a direct connection flyover from SR 826/Palmetto Expressway eastbound to I-95 northbound. This proposed direct connection flyover from SR 826/Palmetto Expressway eastbound to I-95 northbound will be located over portions of two existing man-made ditches. Since these ramps are elevated and do not lie on top of the existing stormwater features, impacts to OSW will only occur at locations where the bridge piers for the new flyover ramps are constructed within the existing stormwater features. Any such direct impact will be minor. In addition, the proposed relocation of the Turnpike Connector southbound off-ramp to SR 7/NW 7th Avenue approximately 1,150-ft south along SR 7/US 441 to the Biscayne River Drive intersection under Interim Build Alternatives 3B, 3C, and 4, and Ultimate Build Alternatives 1 and 2 will impact the existing wet ditch adjacent to the I-95 southbound lanes.

Table 6-1 summarizes the impacts to the OSWs due to construction activities within the location of the existing swales, ditches, wet retention pond, and canal banks within the GGI study area.

Table 6-1 Other Surface Water Impacts			
Build Alternative	Drainage Ditches	Canal Banks	Total
Interim Build Alternative 3A	0.05 Acre	0.22 Acre	0.27 Acre
Interim Build Alternative 3B	0.12 Acre	0.34 Acre	0.46 Acre
Interim Build Alternative 3C	0.12 Acre	0.34 Acre	0.46 Acre
Interim Build Alternative 4	0.12 Acre	0.04 Acre	0.16 Acre
Ultimate Build Alternative 1	0.39 Acre	0.34 Acre	0.73 Acre
Ultimate Build Alternative 2	0.31 Acre	0.34 Acre	0.65 Acre



Regulatory agencies do not typically require mitigation for impacts to OSW, unless areas qualify as SFH. As such, the loss of wood stork SFH in the stormwater features affected by piles or filling the wet ditch will be mitigated through the construction of new stormwater features within the project area and the implementation of Best Management Practices (BMPs) for road and bridge construction projects. In the event on-site replacement swales and/or ditches are not possible, mitigation for wood stork SFH impact will be addressed through the purchase of credits from an appropriate mitigation bank. Thus, no net loss of wood stork SFH is anticipated as a result of the construction of the Interim and Ultimate Build Alternatives. The impacts to wood stork SFH and the corresponding mitigation measures associated with the Interim Build Alternatives were identified in accordance with the Wood Stork Effect Determination Key (USFWS, May 2010). Consequently, no direct impacts to wood storks and their critical habitat are anticipated with the No Build, TSM or Interim and Ultimate Build Alternatives.

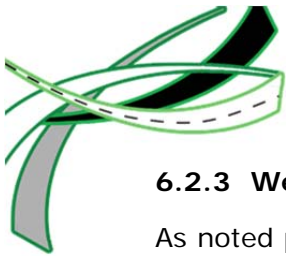
The FDOT and the Federal Highway Administration (FHWA) have determined that the TSM, Interim and Ultimate Build Alternatives *may affect, but not likely to adversely affect*, the wood stork.

6.2.2 Eastern Indigo Snake

The eastern indigo snake habitat within the project limits is limited to portions of the 16-acre vacant lot located to the north of the NW 7th Avenue Extension and the vacant lots north of the C-8/Biscayne Canal, east of NW 7th Avenue. No gopher tortoise burrows or snakes of any species were observed in these areas during the field reviews.

Because of the lack of suitable refugia and the developed/maintained nature, the eastern indigo snake is unlikely to occur within or adjacent to the project area. In addition, none of the construction activities associated with Interim and Ultimate Build Alternatives will occur near or adjacent to the 16-acre vacant lot north of the NW 7th Avenue Extension corridor. However, the vacant lots north of the C-8/Biscayne Canal, east of NW 7th Avenue will be used for drainage. During field surveys, gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried, trapped or injured were not observed. To help ensure the protection of the eastern indigo snake during construction, the *Standard Protection Measures for the Eastern Indigo Snake* (**Appendix B**) will be included in the project documents and implemented during construction.

The FDOT and FHWA have determined that the TSM, Interim and Ultimate Build Alternatives are anticipated to have *no effect* on the eastern indigo snake. The USFWS Effect Determination Key (USFWS, January 2010) for the eastern indigo snake was applied to the project conditions to identify the project effect on this species.



6.2.3 West Indian Manatee

As noted previously, two canals exist within the study area: the NW 17th Avenue Canal and the C-8/Biscayne Canal. The proposed improvements under Interim Build Alternatives 3A and 4 will widen the bridge over the C-8/Biscayne Canal, while the proposed improvements under Interim Build Alternatives 3B and 3C and Ultimate Build Alternatives 1 and 2 will replace the bridge over the C-8/Biscayne Canal. This involves construction activities over the canal and may also require the installation of piers within the canal banks. A bridge culvert crossing, similar to the existing crossing under NW 167th Street, is proposed for the NW 17th Avenue Canal to connect NW 165th Street to NW 17th Avenue, for Interim Build Alternatives 3A, 3B, 3C. This crossing, however, is not proposed in Interim Build Alternative 4 and Ultimate Build Alternatives 1 and 2. For those applicable alternatives, a bulkhead, to address slope erosion, is proposed along the west bank of the NW 17th Avenue Canal just south of NW 167th Street.

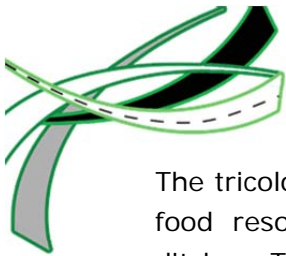
Although manatees are known for traveling upstream into narrow, shallow areas, seeking fresh water, it is unlikely they would travel upstream into the C-8/Biscayne Canal in the vicinity of the project or into the NW 17th Avenue Canal due to the presence of a gated spillway structure located in the C-8/Biscayne Canal (about 3.7 miles east of the project area). The FWC *Standard Manatee Conditions for In-Water Work* (**Appendix C**) will be adhered to during construction to account for potential encounters with manatees during canal work.

The FDOT and FHWA have determined that the TSM, Interim and Ultimate Build Alternatives *may affect, but not likely to adversely affect*, the West Indian manatee.

6.2.4 State Listed/Other Species

Bald eagles typically nest in tall trees (mostly live pines) that provide clear views of the surrounding area. The primary prey of bald eagles in Florida includes various fish and waterfowl species. The project area lacks suitable foraging habitat for bald eagles, as well as mature pines or tall trees suitable for nesting. No eagle sightings or nests have been documented within or near the project area. In addition, no eagles were observed during the field surveys.

Gopher tortoises and burrowing owls utilize similar habitats. Habitat within the project area favorable to these species is limited to portions of the 16-acre vacant lot located to the north of the NW 7th Avenue Extension corridor and the vacant lots north of the C-8/Biscayne Canal, east of NW 7th Avenue. None of the proposed activities associated with the Interim and Ultimate Build Alternatives, will occur near or adjacent to the 16-acre vacant lot north of the NW 7th Avenue Extension corridor. However, the vacant lots, north of the C-8/Biscayne Canal, will be used for drainage. No gopher tortoises, burrowing owls, or their burrows were observed within those areas during the field reviews.



The tricolored heron, snowy egret, white ibis, and little blue heron utilize similar habitat and food resources, feeding in permanently and seasonally flooded wetlands, swales, and ditches. There are no documented rookeries within or near the project area, and no nesting areas were observed during the field surveys. Although no listed avian species were observed, these species may occur in, or fly over, the project and use existing ditches within the project limits for foraging. Thus, construction activities associated with the Interim and Ultimate Build Alternatives, which directly impact the existing swales, ditches and wet retention pond within the project limits may result in minor impacts to the foraging areas of these species.

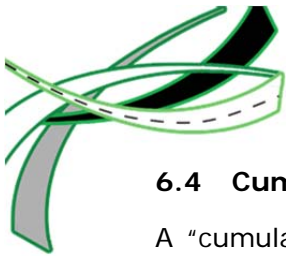
However, no adverse effects to the gopher tortoise, burrowing owl, bald eagle, tricolored heron, snowy egret, white ibis, or little blue heron are anticipated as a result of the TSM, Interim and Ultimate Build Alternatives. No adverse impacts to those non-listed species discussed in Section 5 (great egret, green heron and American coot) are anticipated, as open water will remain both upstream and downstream of the proposed canal crossings; allowing continuous use of these waters by these species.

6.3 Indirect Effects

Indirect (or secondary) effects are those impacts that are linked and causally related to the proposed action. They include temporary and permanent indirect effects. For transportation projects, indirect impacts typically include disturbance to areas adjacent to the project area. These impacts include short-term impacts associated with road construction activities as well as long-term impacts.

Possible short-term indirect impacts for any of the alternatives include: turbidity associated with construction activities, the use of heavy equipment, staging or stockpiling of equipment and materials, and sedimentation resulting from increased erosion associated with soil disturbance. BMPs typically associated with road and bridge construction projects will be implemented and maintained throughout construction activities. Staging and stockpiling locations will be coordinated with the construction project manager, and field reviews will be performed to check for environmental issues within staging areas. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared during design to minimize impacts to water quality during construction.

Possible long-term indirect impacts could include water quality degradation in adjacent waters. However, the stormwater treatment system will be designed in accordance with the Miami-Dade County Code and SFWMD permitting criteria. Thus, no long-term impacts to water quality from stormwater runoff after project completion are anticipated.



6.4 Cumulative Effects

A “cumulative impact”, according to the definition in the Council of Environmental Quality Regulations (40 CFR 1508.7), is “the impact on the environment, which results from the incremental impacts of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” Based on the proposed scope of work, no cumulative impacts are anticipated for this project.

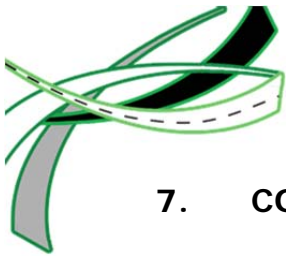
6.5 Avoidance and Minimization of Impacts

Avoidance, minimization, and conservation measures are intended to minimize or avoid environmental impacts to listed species or critical habitat. The proposed project has been designed to avoid and minimize impacts to native habitats, as well as threatened and endangered species to the maximum extent practical while still accomplishing the objectives of the project.

Minimal impacts to potential foraging areas for wood storks and other wetland-dependent avian species are anticipated as a result of the proposed action. Any impacts to wood stork SFH located within the GGI from proposed construction activities will be minimized and then mitigated through the construction of new stormwater features that replace SFH or the purchase of wetland credits at an approved mitigation bank.

To assure protection of the eastern indigo snake and manatee during construction the *Standard Protection Measures for the Eastern Indigo Snake* and the *Standard Manatee Conditions for In-Water Work* will be implemented. These construction guidelines will be a part of the final project design and are provided in **Appendices B and C**.

Minimal impacts to the canals and water quality are anticipated as a result of Interim and Ultimate Build Alternatives, as BMPs for road and bridge construction will be implemented during construction to prevent water pollution. The implementation of BMPs for the control of construction debris will also be included in the construction plans. BMPs and construction guidelines will be a part of the final project design and incorporated in the SWPPP and the project’s Erosion Control Plan. The drainage system will be designed to meet current water quality regulatory criteria, so post-construction impacts to water quality are not anticipated.



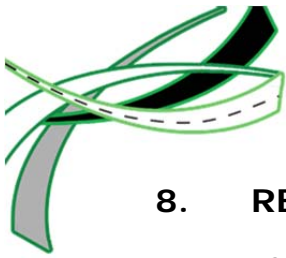
7. CONCLUSION

The No Build, TSM, Interim and Ultimate Build Alternatives were evaluated for impacts to protected wildlife species using a review of existing literature, GIS resources and field reviews. After careful analysis of the species' preferred habitats and accounting for the protective measures to be implemented during construction, the FDOT and FHWA have determined that minimal impacts to Federal or State-listed species are anticipated to occur in association with the proposed project.

The FDOT and FHWA made the following determinations for the TSM, Interim and Ultimate Build Alternatives:

- Wood stork: *may affect, not likely to adversely affect*
- West Indian manatee: *may affect, not likely to adversely affect*
- Eastern indigo snake: *no effect*

In addition, no adverse effect to the gopher tortoise, burrowing owl, bald eagle, tricolored heron, snowy egret, white ibis, or little blue heron is anticipated as a result of the TSM, Interim and Ultimate Build Alternatives. There will be no impacts to Federal or State listed species associated with the No Build Alternative.



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APPENDIX A

(ETDM Summary Report -
ETAT Comments related to Wildlife and Habitat)



ETDM Summary Report

Project #11300 - Golden Glades Interchange System Improvements - Ultimate Plan (FDOT44)

Preliminary Programming Screen - Published on 11/18/2011

Generated by Megan McKinney (on behalf of FDOT District 6)

Printed on: 11/18/2011

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Introduction to Programming Screen Summary Report

The Programming Screen Summary Report shown below is a read-only version of information contained in the Programming Screen Summary Report generated by the ETDM Coordinator for the selected project after completion of the ETAT Programming Screen review. The purpose of the Programming Screen Summary Report is to summarize the results of the ETAT Programming Screen review of the project; provide details concerning agency comments about potential effects to natural, cultural, and community resources; and provide additional documentation of activities related to the Programming Phase for the project. Available information for a Programming Screen Summary Report includes:

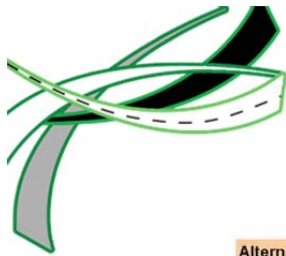
- Screening Summary Report chart
- Project Description information (including a summary description of the project, a summary of public comments on the project, and community-desired features identified during public involvement activities)
- Purpose and Need information (including the Purpose and Need Statement and the results of agency reviews of the project Purpose and Need)
- Alternative-specific information, consisting of descriptions of each alternative and associated road segments; an overview of ETAT Programming Screen reviews for each alternative; and agency comments concerning potential effects and degree of effect, by issue, to natural, cultural, and community resources.
- Project Scope information, consisting of general project commitments resulting from the ETAT Programming Screen review, permits, and technical studies required (if any)
- Class of Action determined for the project
- Dispute Resolution Activity Log (if any)

The legend for the Degree of Effect chart is provided in an appendix to the report.

For complete documentation of the project record, also see the GIS Analysis Results Report published on the same date as the Programming Screen Summary Report.



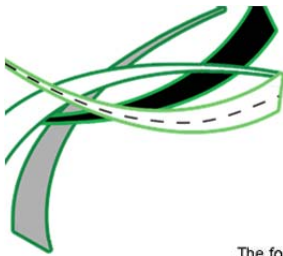
Golden Glades Interchange PD&E Study
From SR 826/Palmetto Expressway Eastbound to I-95 Northbound



Golden Glades Interchange PD&E Study

From SR 826/Palmetto Expressway Eastbound to I-95 Northbound

Alternative #1			
Alternative Description			
From:	SR 826 (Eastbound)	To:	I-95 (Northbound)
Type:	Traffic Operation Enhancement	Status:	ETAT Review Complete
Total Length:	? mi.	Cost:	
Modes:	Roadway Transit Bicycle Pedestrian	SIS:	Y
Project Effects Overview			
Issue	Degree of Effect	Organization	Date Reviewed
Natural			
Air Quality	0 None	US Environmental Protection Agency	08/26/2011
Coastal and Marine	0 None	National Marine Fisheries Service	07/19/2011
Contaminated Sites	3 Moderate	FL Department of Environmental Protection	08/26/2011
Contaminated Sites	4 Substantial	US Environmental Protection Agency	08/26/2011
Farmlands	0 None	Natural Resources Conservation Service	07/18/2011
Floodplains	0 None	US Environmental Protection Agency	08/26/2011
Infrastructure	No reviews recorded.		
Navigation	N/A N/A / No Involvement	US Coast Guard	08/11/2011
Navigation	0 None	US Army Corps of Engineers	08/04/2011
Special Designations	2 Minimal	Federal Highway Administration	08/18/2011
Water Quality and Quantity	2 Minimal	FL Department of Environmental Protection	08/26/2011
Water Quality and Quantity	4 Substantial	South Florida Water Management District	08/05/2011
Wetlands	2 Minimal	FL Department of Environmental Protection	08/26/2011
Wetlands	2 Minimal	US Environmental Protection Agency	08/26/2011
Wetlands	2 Minimal	US Army Corps of Engineers	08/04/2011
Wetlands	2 Minimal	National Marine Fisheries Service	07/19/2011
Wetlands	2 Minimal	US Fish and Wildlife Service	07/15/2011
Wildlife and Habitat	2 Minimal	FL Fish and Wildlife Conservation Commission	07/22/2011
Wildlife and Habitat	2 Minimal	US Fish and Wildlife Service	07/15/2011
Cultural			
Historic and Archaeological Sites	3 Moderate	Federal Highway Administration	08/18/2011
Historic and Archaeological Sites	2 Minimal	FL Department of State	08/08/2011
Historic and Archaeological Sites	2 Minimal	Seminole Tribe of Florida	07/25/2011
Recreation Areas	0 None	FL Department of Environmental Protection	08/26/2011
Recreation Areas	2 Minimal	Federal Highway Administration	08/18/2011
Recreation Areas	0 None	National Park Service	07/15/2011
Section 4(f) Potential	2 Minimal	Federal Highway Administration	08/18/2011
Community			
Aesthetics	3 Moderate	FDOT District 6	08/26/2011
Aesthetics	3 Moderate	Federal Highway Administration	08/18/2011
Economic	1 Enhanced	FDOT District 6	08/26/2011
Land Use	0 None	FDOT District 6	08/26/2011
Land Use	0 None	FL Department of Community Affairs	07/28/2011



Golden Glades Interchange PD&E Study

From SR 826/Palmetto Expressway Eastbound to I-95 Northbound

The following organization(s) were expected to but did not submit a review of the Special Designations issue for this alternative: FL Department of Agriculture and Consumer Services, South Florida Water Management District, US Environmental Protection Agency

Coordinator Summary: Water Quality and Quantity Issue

4 *Substantial* assigned 11/18/2011 by FDOT District 6

Comments: FDEP and USEPA commented that stormwater runoff from the proposed project may alter adjacent surface waters through increased pollutant loading and impact water quality. While the project is located within the vicinity of the Biscayne Sole Source Aquifer, the proposed stormwater facility design will include the water quantity requirements for the water quality impacts as required by Chapter 24, Section 24-58 of the Miami-Dade County code. The Miami-Dade County requirements meet or exceed the State of Florida's water quality and water quantity requirements. Therefore, it is anticipated that water quality within the project area will improve due to the proposed stormwater treatment measures. In addition, all necessary permits will be obtained in accordance with federal, state, and local laws and regulations.

During Project Development, FDOT will coordinate with the appropriate agencies concerning the necessary studies, documentation and commitments needed to adequately address all identified resources. All necessary permits (including ERP) will be obtained in accordance with federal, state, and local laws and regulations.

ETAT Reviews: Water Quality and Quantity Issue: 2 found

2 *Minimal* assigned 08/26/2011 by Lauren P. Milligan, FL Department of Environmental Protection

Coordination Document: Permit Required

Dispute Information: N/A

Identified Resources and Level of Importance: Stormwater runoff from the expressway surface may alter adjacent surface waters through increased pollutant loading. If widened, increased runoff carrying oils, greases, metals, sediment and other pollutants from the increased impervious surface would be of concern. Natural resource impacts within and adjacent to the proposed road right-of-way may include alteration of the existing surface water hydrology and natural drainage patterns, and reduction in flood attenuation capacity of area creeks, ditches and sloughs as a result of increased impervious surface within the watershed.

Comments on Effects to Resources: Every effort should be made to maximize the treatment of stormwater runoff from the proposed roadway construction project, as area stormwater discharges to the local water bodies and, ultimately, Biscayne Bay. We recommend that the PD&E study include an evaluation of existing stormwater treatment adequacy and details on the future stormwater treatment facilities. Retro-fitting of stormwater conveyance systems would help reduce impacts to water quality.

Coordinator Feedback: None

4 *Substantial* assigned 08/05/2011 by Carlos deRojas, South Florida Water Management District

Coordination Document: Permit Required

Dispute Information: N/A

Identified Resources and Level of Importance: Water quality and quantity, Environmental Resource Permit required.

Comments on Effects to Resources: An Environmental Resource Permit will be required for the proposed project. As most of the existing interchange was constructed prior to Environmental Resource Permit requirements, there may not be extensive water quality treatment systems in place. Every effort should be made to design stormwater systems to provide as much water quality treatment to existing as well as proposed pavement. As this is a highly urbanized area, offsite drainage areas need to be evaluated so as to not impact existing levels of flood protection.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Water Quality and Quantity issue for this alternative: Federal Highway Administration, US Environmental Protection Agency

Coordinator Summary: Wetlands Issue

2 *Minimal* assigned 11/18/2011 by FDOT District 6

Comments: During Project Development, potential wetland impacts will be evaluated in accordance with Part 2, Chapter 18 of the FDOT PD&E Manual. All necessary measures will be taken to avoid and/or minimize impacts to wetlands to the greatest extent practicable during project design. Should avoidance and/or minimization not be practicable, a Mitigation Plan will be prepared. In addition, all applicable permits (including ERP) will be obtained in accordance with federal, state, and local laws and regulations.

ETAT Reviews: Wetlands Issue: 5 found

2 *Minimal* assigned 08/26/2011 by Lauren P. Milligan, FL Department of Environmental Protection

Coordination Document: Permit Required

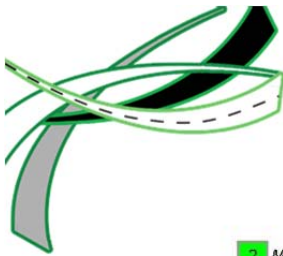
Dispute Information: N/A

Identified Resources and Level of Importance: The National Wetlands Inventory GIS report indicates that there are 13.6 and 1.3 acres of lacustrine and riverine wetlands, respectively, within the 500-ft. project buffer zone.

Comments on Effects to Resources: The proposed project will require an environmental resource permit (ERP) from the South Florida Water Management District. The ERP applicant will be required to eliminate or reduce the proposed wetland resource impacts of roadway construction to the greatest extent practicable:

- Minimization should emphasize avoidance-oriented corridor alignments, wetland fill reductions via pile bridging and steep/vertically retained side slopes, and median width reductions within safety limits.
- Wetlands should not be displaced by the installation of stormwater conveyance and treatment swales; compensatory treatment in adjacent uplands is the preferred alternative.
- After avoidance and minimization have been exhausted, mitigation must be proposed to offset the adverse impacts of the project to existing wetland functions and values.
- The cumulative impacts of concurrent and future road improvement projects in the vicinity of the subject project should also be addressed.

Coordinator Feedback: None



Golden Glades Interchange PD&E Study

From SR 826/Palmetto Expressway Eastbound to I-95 Northbound

2 Minimal assigned 08/26/2011 by Maher Budeir, US Environmental Protection Agency

Coordination Document: No Selection

Dispute Information: N/A

Identified Resources and Level of Importance: Wetlands

Comments on Effects to Resources: Minimal area of wetland is identified in the National inventory. Impact is likely to be minimal. Any impact on wetlands should be fully mitigated.

Coordinator Feedback: None

2 Minimal assigned 08/04/2011 by Garrett Lips, US Army Corps of Engineers

Coordination Document: PD&E Support Document As Per PD&E Manual

Dispute Information: N/A

Identified Resources and Level of Importance: No wetlands were identified with the EST GIS analysis. However, waters of the United States are within the project area.

Comments on Effects to Resources: The project as proposed is unlikely to result in more than minimal adverse effects on wetlands.

CLC Commitments and Recommendations: Coordinator Feedback: None

2 Minimal assigned 07/19/2011 by Brandon Howard, National Marine Fisheries Service

Coordination Document: No Selection

Dispute Information: N/A

Identified Resources and Level of Importance: None.

Comments on Effects to Resources: None.

Additional Comments (optional): Magnuson-Stevens Act: On June 5, 2009, NOAA's National Marine Fisheries Service (NMFS) provided comments to the Planning Screen for this project through the EST. Our comments remain the same. The canals in the vicinity of the interchange are upstream of South Florida Water Management District water control structures. This makes the site inaccessible to federally managed fishery species. Based on the project location, information provided in the ETDM website, and GIS-based analysis of impacts, NOAA's National Marine Fisheries Service (NMFS) concludes the proposed work would not directly impact areas that support essential fish habitat (EFH) or NOAA trust fishery resources. NMFS has no comments or recommendations to provide pursuant to the EFH requirements of the Magnuson-Stevens Fishery Conservation and Management Act (P.L. 104-297); and this project will not require an EFH Assessment. Further consultation on this matter is not necessary unless future modifications are proposed and you believe that the proposed action may result in adverse impacts to EFH.

Endangered Species Act: We are not aware of any threatened or endangered species or critical habitat under the purview of NMFS that occur within the project area. However, it should be noted that a "no effect" determination must be made by the action agency and the reasoning underlying the determination should be documented in a project file. Please coordinate closely with the U.S. Fish and Wildlife Service for other species listed under the Endangered Species Act that may require consultation.

Fish and Wildlife Coordination Act: Based on the project location, information provided in the ETDM website, and GIS-based analysis of impacts, NOAA's National Marine Fisheries Service (NMFS) concludes the proposed work would not directly impact wetlands areas that support NOAA trust fishery resources. NMFS has no comments or recommendations to provide pursuant to the Fish and Wildlife Coordination Act.

Coordinator Feedback: None

2 Minimal assigned 07/15/2011 by John Wrublik, US Fish and Wildlife Service

Coordination Document: To Be Determined: Further Coordination Required

Dispute Information: N/A

Identified Resources and Level of Importance: Wetlands

Comments on Effects to Resources: Wetlands provide important habitat for fish and wildlife. Data in the environmental screening tool indicate that wetlands may occur within the project area. We recommend that the project be designed to avoid and minimize impacts to wetland resources to the greatest extent practicable. If impacts to wetlands are unavoidable, we recommend that the FDOT provides mitigation that fully compensates for the loss of wetland resources.

CLC Commitments and Recommendations: Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Wetlands issue for this alternative: Federal Highway Administration, South Florida Water Management District

Coordinator Summary: Wildlife and Habitat Issue

2 Minimal assigned 11/18/2011 by FDOT District 6

Comments: The final design of the interchange will avoid and/or minimize impacts to wetlands/wildlife & habitat to the greatest extent possible and appropriate mitigation will be provided for unavoidable impacts.

An Endangered Species Biological Assessment (ESBA) will be prepared in compliance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 USC 1531 et seq) and in accordance with Part 2, Chapter 27 of the FDOT PD&E Manual.

ETAT Reviews: Wildlife and Habitat Issue: 2 found

2 Minimal assigned 07/22/2011 by Scott Sanders, FL Fish and Wildlife Conservation Commission

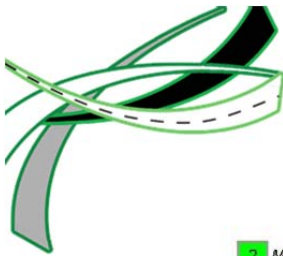
Coordination Document: No Selection

Dispute Information: N/A

Identified Resources and Level of Importance: Minimal fish or wildlife resources identified in the proposed project area.

Comments on Effects to Resources: minimal impacts to fish or wildlife resources anticipated to result from the proposed project.

Coordinator Feedback: None



Golden Glades Interchange PD&E Study

From SR 826/Palmetto Expressway Eastbound to I-95 Northbound

2 Minimal assigned 07/15/2011 by John Wrublik, US Fish and Wildlife Service

Coordination Document: To Be Determined; Further Coordination Required

Dispute Information: N/A

Identified Resources and Level of Importance: Federally-listed species and fish and wildlife resources

Comments on Effects to Resources: Federally-listed species - The Service has reviewed our Geographic Information Systems (GIS) database for recorded locations of federally listed threatened and endangered species on or adjacent to the project study area. The GIS database is a compilation of data received from several sources.

Wood Stork

The project corridor is located in the Core Foraging Areas (CFA) (within 18.6 miles) of an active nesting colony of the endangered wood stork (*Mycteria americana*). The Service believes that the loss of wetlands within a CFA due to an action could result in the loss of foraging habitat for the wood stork. To minimize adverse effects to the wood stork, we recommend that any lost foraging habitat resulting from the project be replaced within the CFA of the affected nesting colony. Moreover, wetlands provided as mitigation should adequately replace the wetland functions lost as a result of the action. The Service does not consider the preservation of wetlands, by itself, as adequate compensation for impacts to wood stork foraging habitat, because the habitat lost is not replaced. Accordingly, any wetland mitigation plan proposed should include a restoration, enhancement, or creation component. In some cases, the Service accepts wetlands compensation located outside the CFA of the affected wood stork nesting colony. Specifically, wetland credits purchased from a "Service Approved" mitigation bank located outside of the CFA would be acceptable to the Service, provided that the impacted wetlands occur within the permitted service area of the bank.

For projects that impact 5 or more acres of wood stork foraging habitat, the Service requires a functional assessment be conducted using our "Wood Stork Foraging Analysis Methodology" (Methodology) on the foraging habitat to be impacted and the foraging habitat provided as mitigation. The Methodology can found in the Service's letter and effect determination key to the U.S. Army Corps of Engineers dated May 18, 2010 (Service Federal Activity Code Number 41420-2007-FA-1494, available upon request).

The Service believes that the following federally listed species have the potential to occur in or near the project site: wood stork. Accordingly, the Service recommends that the Florida Department of Transportation (FDOT) prepare a Biological Assessment for the project (as required by 50 CFR 402.12) during the FDOT's Project Development and Environment process.

Fish and Wildlife Resources - Wetlands provide important habitat for fish and wildlife. Data in the environmental screening tool indicate that wetlands may occur within the project area. We recommend that the project be designed to avoid and minimize impacts to wetland resources to the greatest extent practicable. If impacts to wetlands are unavoidable, we recommend that the FDOT provides mitigation that fully compensates for the loss of wetland resources.

CLC Commitments and Recommendations: Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Wildlife and Habitat issue for this alternative: Federal Highway Administration

ETAT Reviews and Coordinator Summary: Cultural Issues

Coordinator Summary: Historic and Archaeological Sites Issue

2 Minimal assigned 11/18/2011 by FDOT District 6

Comments: Based on comments received from the State Historic Preservation Office (SHPO), there have been four surveys (14377, 14376, 10203, 1581) associated with the Golden Glades Interchange system since 1988. Two additional surveys associated with rail projects have also intersected the project area (4931, 5844).

According to SHPO, since the project area has been surveyed numerous times, a desktop analysis will suffice if the interchange alternatives remain within the current ROW. Note however, that if the project will require additional ROW, a more thorough review will need to be completed to determine the presence of historic, cultural and archeological resources in the area. Any potential impacts to such resources will be avoided and/or minimized during the process. Coordination with the SHPO will take place prior the initiation of any activities.

ETAT Reviews: Historic and Archaeological Sites Issue: 3 found

3 Moderate assigned 08/18/2011 by Cathy Kendall, Federal Highway Administration

Coordination Document: PD&E Support Document As Per PD&E Manual

Dispute Information: N/A

Identified Resources and Level of Importance: Three FMSF structures are within 100 feet of the project. Additionally, the Biscayne Canal and CSX Railroad resource groups are within close proximity.

Comments on Effects to Resources: CRAS needed to determine eligible resources within an APE for the project.

Coordinator Feedback: None

2 Minimal assigned 08/08/2011 by Ginny Leigh Jones, FL Department of State

Coordination Document: Tech Memo Required

Dispute Information: N/A

Identified Resources and Level of Importance: FDOT bridges:

GIS analysis reveals 28 historic-age bridges located within 5,280 ft of the proposed project area. Seventeen of the bridges are located within 100 ft of the project area. Two bridges are located between 500 and 1320 ft of the project area. The final 9 bridges are located between 1320 and 5280 ft from the project area. None of these bridges have been evaluated for their eligibility for the National Register of Historic Places (NRHP) by the Florida State Historic Preservation Officer (SHPO).



APPENDIX B

(Standard Protection Measures for the Eastern Indigo Snake
(February 12, 2004))



STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

1. An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (*e.g.*, an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and along any proposed access road to contain the following information:
 - a. a description of the eastern indigo snake, its habits, and protection under Federal Law;
 - b. instructions not to injure, harm, harass or kill this species;
 - c. directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and,
 - d. telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water and then frozen.
2. If not currently authorized through an Incidental Take Statement in association with a Biological Opinion, only individuals who have been either authorized by a section 10(a)(1)(A) permit issued by the Service, or by the State of Florida through the Florida Fish Wildlife Conservation Commission (FWC) for such activities, are permitted to come in contact with an eastern indigo snake.
3. An eastern indigo snake monitoring report must be submitted to the appropriate Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:
 - a. any sightings of eastern indigo snakes and
 - b. other obligations required by the Florida Fish and Wildlife Conservation Commission, as stipulated in the permit.

Revised February 12, 2004



APPENDIX C

(Standard Manatee Conditions for In-Water Work (2011))



STANDARD MANATEE CONDITIONS FOR IN-WATER WORK
2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.



CAUTION: MANATEE HABITAT

All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:



Wildlife Alert:

1-888-404-FWCC(3922)

cell *FWC or #FWC