



Florida Department of Transportation

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STEPHANIE C. KOPELOUSOS
SECRETARY

June 16, 2010

Mr. Martin Knopp
Division Administrator
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Attention: Mr. Derek Fusco, Transportation Engineer

Dear Mr. Knopp:

SUBJECT: SR-9 (I-95) LDCA Request
Project Development and Environment (PD&E) Study
From South of Glades Road to South of Linton Boulevard
Federal Project Number: 0951-605-1
Financial Project Number: 412420-1-22-01
County: Palm Beach County

Enclosed are two (2) copies of the Project Development Summary Report, which includes Master Plans and a certified copy of the Public Hearing transcript (included in the Public Involvement Summary Report). A Systems Interchange Justification Report for this project was approved by the FHWA on December 4, 2008. The Public Hearing was held on March 4, 2010. Additional backup documentation is available upon request.

Upon your review and acceptance of these documents, we request your concurrence that this project is properly classified as a Categorical Exclusion as described in 23 CFR 771.115 and 771.117, and that the general project location and design concepts described in these documents are acceptable as allowable in 23 CFR 771.113. Please acknowledge your concurrence with these findings by signing and dating this request in the space below, and then returning a signed copy for the project files.

Sincerely,



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

Concurrence by FHWA:



Derek A. Fusco
FHWA Division Administrator

7 / 21 / 10
Date

GS:prg

Enclosures

PROJECT DEVELOPMENT SUMMARY REPORT



From South of Glades Road
to South of Linton Boulevard
Palm Beach County, Florida

FM No: 412420-1-22-01
Federal Aid Project No: 0951-605-I
County Section No: 93220
ETDM No: 3333

Prepared by



2400 East Commercial Blvd
Ste 1000
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Prepared for



Florida Department of Transportation
District Four
3400 West Commercial Boulevard
Fort Lauderdale, FL 33309

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with TranSystems Corporation, a Missouri Corporation, authorized to operate as an engineering business, Certificate of Authorization (CA) No. 7503, by the State of Florida Department of Professional Regulation, Board of Engineers, and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice hereby reported for:

Financial Project ID: 412420-1-22-01

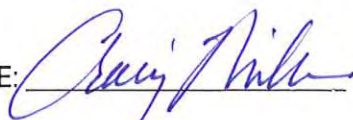
Federal Aid Project No: 0951-605-I

Project: SR 9 (I-95) PD&E Study

County: Palm Beach

FDOT Project Manager: Patrick Glass, P.E.

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

SIGNATURE: 

Name: N. Craig Miller, P.E.

P.E. No. 13147

Firm: TranSystems

2400 E. Commercial Boulevard
Ste 1000

Fort Lauderdale, FL 33308

Date: 4-10, 2010

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
Summary of Environmental Impacts Checklist

Topical Categories	S	NS	N	NI	Basis for Decision *
A. NATURAL ENVIRONMENT					
1. Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.1.1</u>
2. Coastal and Marine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Contaminated Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.1.2</u>
4. Farmlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5. Floodplains	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.1.3</u>
6. Infrastructure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.1.4</u>
7. Navigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8. Special Designations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9. Water Quality/Quantity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.1.5</u>
10. Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.1.6</u>
11. Wildlife and Habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.1.7</u>
B. CULTURAL IMPACTS					
1. Historic /Archaeological	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.2.1</u>
2. Recreation Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.2.2</u>
3. Section 4(f) Potential	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.2.3</u>
C. COMMUNITY IMPACTS					
1. Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.3.1</u>
2. Economic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Land Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.3.2</u>
4. Mobility	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.3.3</u>
5. Relocation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.3.4</u>
6. Social	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.3.5</u>
D. OTHER IMPACTS					
1. Noise	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.4.1</u>
2. Construction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>See Section 6.4.2</u>

* S = Significant; NS = Not Significant; N = None; NI = No Involvement.

Prepared By: Ray / M Date: 6-1-10

Reviewed By: Ann Broadwell Date: 6-15-2010
Signature: _____
District Environmental Administrator

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CHAPTER 1

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) has initiated a Project Development and Environment (PD&E) Study for the widening of SR 9 (I-95) in Southern Palm Beach County which also includes a proposed new interchange with I-95. The location of the new proposed I-95 interchange is between Spanish River Boulevard (NW 40th Street) and Yamato Road (SR 794) and is referred to as the "Airport Road/FAU" interchange for this PD&E Study. The limits for this I-95 PD&E Study are from south of Glades Road (SR 808) to south of Linton Boulevard. In addition to evaluating roadway and safety improvements for I-95, the project also includes improvements for Glades Road from Butts Road to just east of Florida Atlantic Boulevard. A project location map for the study is provided in Figure 1-1.

The PD&E Study has been conducted to make recommendations for improvements which would best serve the following goals and objectives for I-95 and Glades Road:

- **Level-of-Service** – Identify mainline, interchange, and intersection improvements which can be accomplished with minimal right-of-way acquisition. Provide sufficient additional capacity to meet the regional travel demands through the design year of 2033 to operate at a level-of-service "E", or better, throughout this period.
- **High Occupancy Vehicle (HOV) and Auxiliary Lanes** – Continue to provide HOV lanes for I-95 and construct additional general use and auxiliary lanes as need, in each direction according to demand and promote the concept of car pooling. The locations for auxiliary lanes between interchange on/off ramps will be identified, as required, to provide safety and efficiency on the I-95 mainline.
- **Ramps** – Ramp terminals will be evaluated and improved as necessary to ensure a proper level-of-service for merging and diverging of mainline traffic.

Further objectives include drainage improvements for the added impervious area, evaluating access management to meet standards and obtain an approved access management plan, and improve bicycle/pedestrian facilities where appropriate. In meeting the objectives of the project, the analysis of alternatives gave careful consideration to environmental and socio-economic impacts as well.

Several alternatives were evaluated during the PD&E process. Consideration was given to possible alignments and typical sections in the development of the alternatives. Intersection and interchange improvements were based on level-of-service analysis and right-of-way considerations. Factors that were considered for each alternative also included the environment, construction phasing, maintenance of traffic for roadway and bridge improvements, utility impacts, costs, drainage, possible access management issues, and drainage.

The proposed improvements are anticipated to have minimal environmental impacts as a result of utilizing the existing corridor and by mitigating potential environmental impacts. The project does not negatively or seriously impact any known land use patterns, archeological or historical resources, recreational areas, wetlands, wild and scenic rivers, coastal zones, or floodplains. No negative impacts on air or water quality are anticipated. Potential noise impacts will be mitigated, if necessary, through the use of noise walls as part of the project. Thirty-four (34) sites within the project study area were determined to be handlers or potential handlers of hazardous material. Of those 34, 12 were given a contamination rating of "medium" and five of "high". The rest were rated "no" or "low" risk.

I-95 PD&E Study



Project Location Map

Figure 1-1



The acquisition of additional right-of-way for mainline improvements is not necessary, as the proposed mainline roadway typical section and all associated drainage needs can be accommodated within the existing right-of-way. Acquisition of state-owned land for the proposed "Airport/FAU" interchange will be required. The majority of this property is owned by Florida Atlantic University. In addition, a narrow sliver of right-of-way will also be required from two parcels (one owner) in the southeast quadrant of the I-95/Yamato Road interchange. Additional right-of-way is also needed between Butts Road and Renaissance Way along both sides of Glades Road. Right-of-way will also be required near the Airport Road/Glades Road intersection on the north side of Glades Road. On the south side of Glades Road at this intersection (NW 15th Avenue), a narrow sliver of right-of-way will be required on the west side from the Boca Raton High School. Finally, additional right-of-way will be needed along Spanish River Boulevard on both sides in order to accommodate widening to six lanes from Florida Atlantic Boulevard to NW 6th Terrace, a distance of approximately 900'.

This project has the full support of the City of Boca Raton, Florida Atlantic University (FAU), and the Boca Raton Airport.





CHAPTER 2

Introduction

2.1 Project Purpose

This Project Development Summary Report (PDSR) has been prepared as part of the PD&E Study for the previously described 5.795 mile and 2.055 (total of 7.85 miles) mile segments of roadway for I-95 and Glades Road, respectively. This PD&E Study recommends the addition of two general use lanes from south of Glades Road to south of Linton Boulevard, plus two auxiliary lanes from Glades Road to the Congress Avenue Connector (NW 82nd Street). The existing HOV lane system is proposed to be maintained as part of the future I-95 operation. A new interchange ("Airport/FAU" interchange) connecting to Spanish River Boulevard and Florida Atlantic Boulevard is recommended, along with improvements to the Glades Road and Yamato Road interchanges. Eight-laning Glades Road is also recommended. This report provides the documentation for the decisions reached in determining the types of improvements to be implemented in the I-95 corridor between south of Glades Road and south of Linton Boulevard, and the improvements on Glades Road between Butts Road and east of Florida Atlantic Boulevard. The data upon which these decisions were based on is presented herein. The criteria applied in making engineering judgments are also presented. The factors, which may impact the project, are evaluated for the effects of project implementation as well as the option to not build the project. Finally, this report makes recommendations for the improvements, which would best serve the Palm Beach County Metropolitan Planning Organization (MPO) goals and objectives for the I-95 corridor, and the Glades Road corridor.

This study provides the documentation necessary to initiate final design and construction of the proposed improvements to the I-95 corridor from south of Glades Road to south of Linton Boulevard in Palm Beach County, and Glades Road from Butts Road to east of Florida Atlantic Boulevard.

The demand for transportation services has grown along with the Tri-County area's population. I-95 serves an integral role in meeting those needs. I-95 is the most important north-south freeway through southeast Florida and provides significant regional and local movements for people and goods as well as serving interstate and intrastate trips. The proposed I-95 project located from south of Glades Road to south of Linton Boulevard will satisfy several project needs and goals:

Operations - The proposed project will relieve operational shortcomings which have been identified within the corridor. These deficiencies include areas such as freeway operation, levels-of-service, ramp terminal design, and substandard pedestrian and bicycle designs on crossroads within interchanges.

Safety - The proposed project will enhance the safety of the project corridor by improving the facility to meet current design standards and capacity needs.

Consistency - The proposed improvements along the I-95 mainline and the new interchange are consistent with the 2035 Long Range Transportation Plan – Needs and Cost Feasible Plan of the Palm Beach County Metropolitan Planning Organization (MPO), approved by the MPO Board on October 15, 2009. The proposed improvements are also contained in the Fiscal Year 11-15 Transportation Improvement Program (TIP) for the area, approved on September 17, 2009, which includes the new interchange between Glades Road and Yamato Road, connecting I-95 with Spanish River Boulevard. The project is also listed in the FDOT Strategic Intermodal System (SIS)/Florida Intrastate Highway System (FIHS) Long Range Highway Capacity Plan for fiscal years 2021-2025.





Capacity - An upgraded mainline will provide for higher levels-of-service and this in turn will serve some existing latent demand. I-95 currently is an eight-lane Interstate Highway with an existing Annual Average Daily Traffic (AADT) of over 202,900 vehicles per day. Projections indicate that mainline I-95 traffic volumes under existing conditions will be approaching 289,800 vehicles per day by year 2033. Trucks comprise 7.5% of vehicles traveling along this corridor. Southeast Florida is comprised of over 5.2 million people, and is recognized as one of the most traffic-congested regions in the country. Population is expected to grow 33 percent to 6.8 million people by 2020, and to 7.6 million people by 2030. Growth in both freight and tourist visitors is expected to increase just as substantially.

New Interchange - A new interchange is proposed immediately south of the existing Yamato Road interchange. The new interchange is situated so that there is no interaction between the new interchange and the Yamato Road interchange via I-95. The reason for the new interchange is to relieve traffic from Glades Road, which is approaching 1.5 times its theoretical capacity, and Yamato Road which is currently approaching capacity. The new interchange will provide a direct route between I-95 and the Boca Raton Airport and Florida Atlantic University (FAU), thereby relieving traffic from both Glades Road and Yamato Road. Major developments adjacent to the project segment include FAU, Boca Raton Community Hospital, the Boca Technology Center, and the Boca Town Center Mall. The FAU football program has experienced success in its first seven years and the school is planning to construct a football stadium. The commercial, retail, and educational activities result in severe demand on the arterial network including Glades Road and Yamato Road, resulting in the need for an interstate connection between the two interchanges. A System Interchange Justification Report (SIJR) has been prepared and approved by the FDOT and Federal Highway Administration (FHWA). This document is available in the project file.

Multimodal System - The proposed project is an important factor in a multi-modal, system-wide approach to solving the long-term north-south travel demands of Palm Beach County and Tri-County motorists. I-95 provides service to major area airports, sea ports and rail lines. The South Florida Rail Corridor, which handles both passenger (Tri-Rail) and freight traffic, borders I-95 on the west. Tri-Rail handles Mass Transit from Miami-Dade County to northern Palm Beach County.

System Linkage - The I-95 system is part of the designated Strategic Intermodal System (SIS), providing the major north-south corridor along Florida's eastern seaboard. Since opportunities for parallel corridors are limited due to intense development in the area, I-95 is a critical link to major transportation facilities. I-95 is a major connector between Northern Broward/Southern Palm Beach Counties and serves the Boca Raton Airport, FAU, Fort Lauderdale-Hollywood International Airport, Palm Beach International Airport, major shopping malls and business centers.

Emergency Evacuation - I-95 serves as part of the evacuation route network established by the Florida Division of Emergency Management. The I-95 corridor is a major hurricane evacuation route. Improvements to I-95 are expected to enhance evacuation capacity and traffic circulation which will lead to improved evacuation response times.

Socioeconomic Demand - The rapid growth of Palm Beach County is expected to continue for the foreseeable future. As Miami-Dade and Broward Counties build-out, more and more development pressure has been placed on Palm Beach County. As a result, absorption rates of real-estate projects have continued to grow. This is reflected in the most recently adopted MPO LRTP, which expands I-95 from eight to ten lanes, in the project area. This expansion of I-95 was performed to keep up with projected growth, as shown



Project Development Summary Report

in the County's approved Land Use. The traffic projections used in this report are based upon the Palm Beach County Planning Model (PBCPM). The PBCPM model relies upon multi-zonal allocations of forecast socioeconomic and land use data, which allows the model to predict future travel behavior. The land use and socioeconomic data, used in the PBCPM model is based upon local approved Comprehensive Development Master Plans (CDMP's), which also recommends ten lanes on I-95.

In summary, the ten-laning of I-95, between south of Glades Road and south of Linton Boulevard (plus two auxiliary lanes from Glades Road to Congress Avenue) is necessary to support and sustain the projected and locally-approved levels of socioeconomic growth in the County. Without these improvements to I-95, economic growth would be threatened and unsustainable.

Established LOS Standards for the facility

FDOT's Statewide minimum Level-of-Service (LOS) standards for the State Highway System were adopted by Administrative Rule in 1992 (Rule Chapter No. 14-94) and are shown below in the Table.

Table 2-1: Statewide Minimum LOS Standards for the State Highway System

	Transitioning Urbanized Areas, Urban Areas, or Communities	Urbanized Areas under 500,000	Urbanized Areas over 500,000
Limited Access Highway (Freeway)	C	C (D)	D (E)
Other Multilane	C	D	D
Collector/Distributor, Merge/Diverge and other checkpoints	C	D	D

Source: FDOT's Q/LOS Handbook

Note: LOS standards inside the parentheses apply to general use lanes only when exclusive through lanes exist. LOS E is acceptable for I-95 wherever a parallel transit facility is present. In this case, Tri-Rail.

Existing Condition Operation

Based on the traffic count data it is observed that, I-95 currently operates at LOS "F" during the peak hour direction of travel within the study boundary from Glades Road to Linton Boulevard. The maximum AADT along I-95 is 201,900 vehicles per day (vpd) between Palmetto Park Road and Glades Road. Additionally most of the east-west corridor crossings within the study area e.g. Glades Road, Spanish River Boulevard, Yamato Road, and Linton Boulevard operate at LOS "F" during peak hours. The existing traffic pattern within the study boundary shows the need for improving the roadway conditions immediately.

Below is a general description of the six levels-of-service¹.

- LOS A: This is a condition of free flow, accompanied by low volumes and high speeds. Traffic density will be low, with uninterrupted flow speeds controlled by driver desires, speed limits, and

¹ Information taken from Traffic Engineering, by William R. McShane and Roger P. Roess 1990, and Traffic Engineering Theory and Practice, by Louis J. Pignataro 1973.

Project Development Summary Report

physical roadway conditions. There is little or no restriction in manoeuvrability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.

- LOS B: This occurs in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted. The lower limit (lowest speed, highest volume) of this LOS has been used in the design of rural highways.
- LOS C: This is still in the zone of stable flow, but speeds and manoeuvrability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained, with service volumes suitable for urban practice.
- LOS D: This level of service approaches unstable flow, with tolerable operating speeds being maintained, though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to manoeuvre, and comfort and convenience are low. These conditions can be tolerated, however, for short periods of time.
- LOS E: This cannot be described by speed alone, but represents operations at lower operating speeds, typically, but not always, in the neighbourhood of 30 miles per hour, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration. This LOS is associated with operation of a facility at capacity flows.
- LOS F: This describes a forced-flow operation at low speeds, where volumes are below capacity. In the extreme, both speed and volume can drop to zero. These conditions usually result from queues of vehicles backing up for a restriction downstream. The section under study will be serving as a storage area during parts or all of the peak hour. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of the downstream congestion.

Need for Interchange and Roadway Improvement

The existing interchanges on I-95 from Palmetto Park Road to Linton Boulevard are approximately seven miles apart. The existing freeway segment between Congress Avenue and Yamato Road operates at LOS "E" with a density of 36 passenger cars/lane-mile (pc/lane-mi), while the segment between Yamato Road and Glades Road operates at LOS "E" with density greater than 45 pc/lane-mi along the peak direction of flow. Some signalized intersections along Yamato Road, Spanish River Boulevard, Glades Road, and Palmetto Park Road are also operating at LOS "F" in the existing peak hours. Peak period congestion within the I-95 interchange system from Linton Boulevard to Palmetto Park Road and significant traffic volume growth on I-95 in the city of Boca Raton has resulted in the need to study additional access with I-95 at/or around Spanish River Boulevard, along with interchange improvements at the Yamato Road and Glades Road interchanges. However, even with significant improvements to the Yamato Road and Glades Road interchanges additional access to I-95 is desperately needed.

Design Year (2033) "No-Build" Traffic Operation

The maximum Annual Average Daily Traffic (AADT) under existing conditions in the design year (Year 2033) is estimated to be about 289,800 vehicles per day (vpd) between the segment of Palmetto Park Road

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and Glades Road. Based on the FDOT's Q/LOS handbook, two segments of I-95 within the study area would fail to operate at an acceptable LOS standard in the peak direction. The I-95 segment between Palmetto Park Road to Glades Road and between Congress Avenue and Linton Boulevard would operate at LOS "F" in the peak direction if the proposed interchange is not built. In addition to the freeway segment, the off and on ramps at Glades Road, Yamato Road and Linton Boulevard would operate at LOS "F" during the 2033 "No-Build" scenario. Moreover, all the study intersections along the east-west corridor (Glades Road, Yamato Road, Congress Avenue Connector, and Linton Boulevard) within the project boundary operate at LOS "F" during the 2033 "No-Build" scenario.

Design Year (2033) Build Traffic Operation

Freeway Segment: The I-95 Freeway Segment between Palmetto Park Road and Glades Road operates at LOS "E" with an assumed Peak Hour Factor (PHF), which is the ratio of hourly volume to peak rate of flow within the hour, of 0.99 in 2033 in the "Build" scenario. The Freeway segment between Congress Avenue to Linton Boulevard operates at LOS "F" in the 2033 "Build" scenario peak direction with ten lanes, but the segment would operate at LOS "E" or better by widening it to twelve lanes. The on/off ramps at Palmetto Park Road, Glades Road, and Yamato Road operate at a better LOS condition of LOS "E" or better in the 2033 "Build" scenario as compared to 2033 "No-Build". The 2033 "Build" condition shows that all fourteen intersections within the study boundary operate at a better operating condition (i.e. improved intersection delay and better LOS standard of LOS "E" or better).

Based on the analysis performed in the development of the System Interchange Justification Report (SIJR) for this project, it can be concluded that the addition of the proposed "Airport/FAU" interchange will provide needed relief to roadway facilities within the study area. Specifically, the proposed interchange will improve the operating condition (LOS) at both the Glades Road and Yamato Road interchanges. In addition, residential cut-through traffic (to Florida Atlantic University) will be reduced in the Spanish River communities. This project (and interchange) is supported by the Palm Beach County MPO, The City of Boca Raton, FAU, and the Boca Raton Airport.

2.2 Project Description

I-95 represents the easternmost north-south interstate highway in the National System of Interstate and Defense Highways. It serves as a "main-street" for the heavily populated Atlantic Seaboard, from Aroostook County in Maine near the U.S./Canadian border, to just south of downtown Miami, Florida.

The existing I-95 mainline typical section within the study limits consists of three 12' general use lanes (each direction) and one HOV lane (each direction) separated by a buffer. According to existing plans, the HOV buffer is four-feet. However, the buffer measures less than four-feet in various areas of the project, based on aerial and field reviews. Outside shoulders are 12' wide (ten-feet paved). The section from south of Glades Road to just north of Clint Moore Road is separated by a barrier wall and generally has inside shoulders measuring less than the minimum allowable width of 14'. This is also based on field visits and aerial review. However, existing plans show a width of 15'. The inside shoulders measure 12' (ten-feet paved), north of Clint Moore Road to near the end of the project. This section consists of a flared grass median with a guardrail that transitions back to a barrier separation at the end of the project.

The existing mainline typical section for Glades Road is a six-lane (three 12' lanes each direction) divided section with bike lanes and sidewalks for the majority of the project corridor. The project segment has two full curb and gutter sections as well as one section with curb and gutter on the outside and a four-foot paved shoulder on the inside. The median width varies from 15.5' to 40'.

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The classification for I-95 is a state maintained expressway. I-95's operational classification is a Group One freeway in an urbanized area for FDOT generalized level-of-service analysis and a freeway for Highway Capacity Manual-based analyses. Glades Road is a state-maintained principal arterial with an access management classification of Class 5, which is restrictive.

Over the past two decades, the State of Florida has consistently maintained one of the highest growth rates in the country. During this period, Miami-Dade, Broward, and Palm Beach Counties, (the southeast Florida "Tri-County" area) have accounted for about one-third of the state's population growth. Miami-Dade County was the first county to experience this growth trend in the decades preceding the 1970's. Between 1970 and 1980, the growth trend migrated northward, and Palm Beach County's population grew 65 percent.¹ Palm Beach County has sustained a relatively high rate of growth, with an increase of 31 percent between the 1990 census and the 2000 census. This growth rate equates to approximately 2.7 percent, compounded, per year. This rate is expected to taper off in the following two decades to just less than 1.5 percent per year.

The 2006 census estimated Palm Beach County's population at 1,274,013 persons. The mid-range population projection for the year 2020 is anticipated to be 1,450,000.²

The demand for transportation services has grown along with the Tri-County area's population. I-95 serves an undeniable and integral role in meeting those needs. I-95 is the most important north-south freeway through Southeast Florida. I-95 provides for significant regional and local movement of persons and goods as well as serving interstate and intrastate trips. One of the region's most serious challenges is continuing to meet the ever-increasing demand for additional capacity within the overall multimodal transportation system. The FDOT has taken initiatives to address the problems associated with moving increasing numbers of residents, visitors, and commercial traffic on I-95 in the Tri-County area. These initiatives include the following:

- **Miami-Dade HOV Lanes** – FDOT completed construction of additional general use and HOV lanes along I-95 in Miami-Dade County. The HOV lanes have recently been converted to express lanes, from downtown Miami to the Golden Glades interchange in north Miami-Dade County under an Urban Partnership Agreement with the Federal Highway Administration (FHWA).
- **Broward General Use Lanes** – FDOT has completed the upgrading of I-95 in Broward County to include northbound and southbound general use lanes between the Miami-Dade/Broward County line and Commercial Boulevard in Broward County. A PD&E study is in underway to evaluate additional lanes on I-95 from Oakland Park Boulevard (SR 816) to south of Glades Road.
- **Broward-Palm Beach HOV Lanes** – FDOT has completed construction of I-95 HOV lanes from the Miami-Dade-Broward County line north, to PGA Boulevard (SR 786) in Palm Beach County. HOV lanes are currently under construction from PGA Boulevard to Indiantown Road in Palm Beach County.

¹ *Florida Statistical Abstract*. Bureau of Economic and Business Research, College of Business Administration, University of Florida. 1991. University Press of Florida. Tables 1.12, 1.20, 1.66 and 1.84

² *Florida Statistical Abstract*. Bureau of Economic and Business Research, College of Business Administration, University of Florida. 2000. University Press of Florida.





SR 9 (I-95) PD&E

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The corresponding project numbers for this I-95 PD&E Study from south of Glades Road to south of Linton Boulevard are:

State Road No.:	SR 9
County Section:	93220
Financial Project Identification No.:	412420-1-22-01
Federal Aid Project ID:	0951-605-I
Palm Beach County	Florida

Tri-County railroad corridors have also been incorporated into proposed solutions for the regional urban transportation problem. Potential opportunities for development of multimodal transportation facilities are currently being investigated along the Florida East Coast (FEC) Railroad, which parallels SR 5 (US 1) throughout most of Florida. The Southeast Florida Rail Corridor (SFRC), formerly the CSX rail line, which parallels I-95, is currently providing commuter rail (Tri-rail) service, seven days a week, from Mangonia Park to the Miami Intermodal Center near the Miami International Airport. The Department has initiated several studies to investigate ways of better utilizing these mass transit and rail transportation resources. A new Tri-Rail station at Yamato Road has been recently constructed and opened-to-traffic. Double tracking of the SFRC system has been completed.



CHAPTER 3

Recommendations and Commitments

3.1 Recommendations

The "Build" alternative is recommended as the proposed alternative for I-95. This report recommends the addition of two general use lanes from south of Glades Road to south of Linton Boulevard and two auxiliary lanes from Glades Road to the Congress Avenue Connector. A new interchange ("Airport Road/FAU" interchange) near Spanish River Boulevard is also recommended along with the eight-laning of Glades Road from Butts Road to east of Florida Atlantic Boulevard. The existing HOV lanes are to be maintained and incorporated into the "Build" alternative. Below is a listing of these proposed improvements:

- **I-95 Mainline** – Add two general use lanes from south of Glades Road to south of Linton Boulevard, and add two auxiliary lanes from Glades Road to the Congress Avenue Connector.
- **Glades Road** – Glades Road is proposed to be widened from six lanes to eight lanes from Butts Road to east of Florida Atlantic Boulevard. Intersection improvements along Glades Road are proposed to be implemented as needed based on forecast traffic.
- **Glades Road Bridges and Interchange** – The westbound Glades Road Bridge over Military Trail needs to be widened to accommodate the new eight-lane section. Separate bridges are provided for the two loop ramp extensions, to avoid widening the existing Glades Road bridges over I-95. This also avoids widening the eastbound Glades Road bridge over Military Trail since the existing off-ramp lane will be converted to the fourth through-lane. The on-ramps from the two loops are to be accommodated by removing the slope pavement under the end spans of the Glades Road bridges over I-95.
- **New "Airport/FAU" Interchange** – A new three-level "Directional-T" interchange ("Airport/FAU" interchange) is proposed south of Yamato Road, connecting to the Florida Atlantic Boulevard/Spanish River Boulevard intersection leading into the Florida Atlantic University campus.
- **Yamato Road Interchange** – Two-lane on/off ramps for all Yamato Road connections to I-95 to/from the south are proposed. It is also proposed that the interchange geometry will be improved and both loop ramps will be modified. Braided ramps are to be provided, as needed, to avoid weaving conflicts with the new "Airport/FAU" interchange, located immediately south of Yamato Road. In addition, a three-lane northbound loop off-ramp to Yamato Road is proposed. An eight-lane section is recommended on Yamato Road under I-95 to connect to a future eight-lane section on Yamato Road (to be developed by others), to the west.
- **Tri-Rail/El Rio Trail Pedestrian Overpass at Yamato Road** – A pedestrian overpass at Yamato Road is recommended on the alignment of the El Rio Trail, and providing for access to the Tri-Rail station, and to the El Rio Trail, as shown in Figure 3-1. If funding is not available for the pedestrian overpass over Tri-Rail then a diversion route, represented by the dotted lines in Figure 3-1 (1-2-3 & 4-5-6), could be implemented.

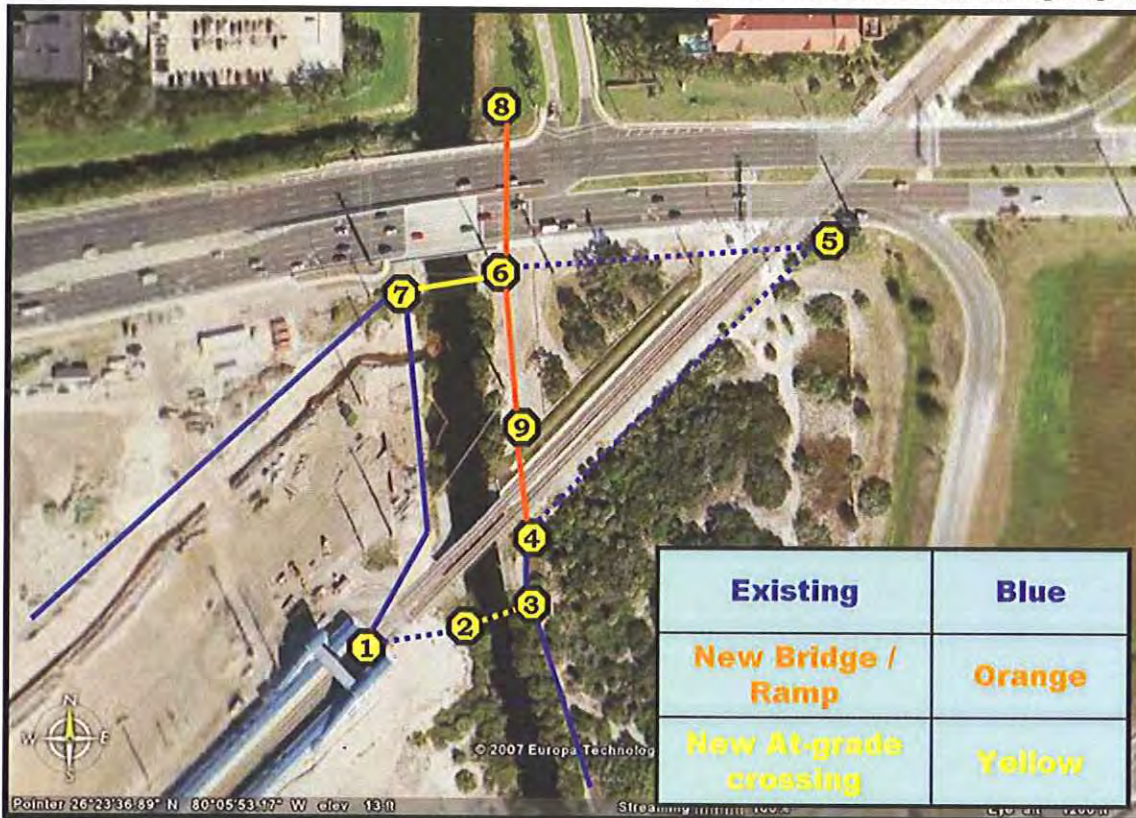


Figure 3-1: Tri-Rail/El Rio Trail Pedestrian Overpass at Yamato Road

- **Tri-Rail/FAU Connector Ramps** - Roadway ramps that provide for a direct connection between the Tri-Rail station, Yamato Road, and the "Airport/FAU" interchange connection to Florida Atlantic Boulevard are recommended to be integrated into the Yamato Road/FAU interchange subsystem. This will allow for direct shuttle bus service to/from FAU and the Tri-Rail station but will also be open for public use.
- **Variable Message Signing (VMS) Subsystem** – A ground-mounted variable message electronic signing system is suggested for further study for the subject section of I-95. This subsystem should be considered as part of an overall Intelligent Transportation Systems (ITS) for I-95 and Tri-Rail. Specific features of the VMS system should include: FAU stadium event traffic management, Tri-Rail departure data, alternative route information, and highway condition (congestion) data. Currently, an ITS project is under construction for I-95 throughout all of Palm Beach County. The estimated completion date is April 2011.
- **Congestion Management Study** – A congestion management study is recommended for the entire I-95 system, including this project. Horizon year forecast traffic has surpassed the projections in the "I-95 Master Plan", and LOS "F" conditions are predicted on the I-95 mainline from Oakland Park Boulevard in Broward County to Linton Boulevard in Palm Beach County, even if I-95 is widened to 12-lanes. Congestion management, Intelligent Transportation Systems (ITS), and managed lane studies are needed to develop a system-wide strategy to cope with future congestion in this corridor.

The recommended improvements to I-95 are proposed in order to provide needed capacity and, thereby, improve the quality of life of local residents by improving public safety and by providing a positive economic

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and community development framework for the surrounding area. The proposed improvements will reduce travel-time, resulting in savings for the residents of Palm Beach County and cross county commuters.

The proposed improvements are anticipated to have minimal environmental impacts as a result of utilizing the existing corridor and by mitigating potential environmental impacts. The project does not negatively or seriously impact any known land use patterns, archeological or historical resources, recreational areas, wetlands, wild and scenic rivers, coastal zones, or floodplains. No negative impacts on air or water quality are anticipated. Potential noise impacts will be mitigated, if necessary, through the use of noise walls as part of the project. Thirty-four (34) sites within the project study area were determined to be handlers or potential handlers of hazardous material. Of those 34, 12 were given a contamination rating of "medium" and five of "high". The rest were rated "no" or "low" risk.

The acquisition of additional right-of-way for mainline improvements is not necessary, as the proposed mainline roadway typical section and all associated drainage needs can be accommodated within the existing right-of-way. Detention ponds are proposed within the footprints of the existing and proposed interchange areas. Acquisition of state-owned land for the proposed "Airport/FAU" interchange will be required. The majority of this property is owned by Florida Atlantic University. Therefore, it is anticipated that this land acquisition will not require eminent domain for the state-owned parcel. In addition, a narrow sliver of right-of-way will also be required from two parcels (one owner) in the southeast quadrant of the I-95/Yamato Road interchange. These parcels are east of the El Rio Canal and south of Yamato Road, adjacent to the existing northbound off-ramp at Yamato Road. This property will be needed to accommodate the proposed "braided" ramps and the northbound-to-westbound loop ramp extension at the Yamato Road interchange. Additional right-of-way is also needed between Butts Road and Renaissance Way along both sides of Glades Road. Right-of-way will also be required near the Airport Road/Glades Road intersection on the north side of Glades Road to accommodate the Glades Road widening and an expanded intersection at this location. This property is publicly-owned by the City of Boca Raton. On the south side of Glades Road at this intersection (NW 15th Avenue), a narrow sliver of right-of-way will be required on the west side from the Boca Raton High School. Finally, additional right-of-way will be needed along Spanish River Boulevard on both sides in order to accommodate widening to six lanes from Florida Atlantic Boulevard to NW 6th Terrace, a distance of approximately 900'. This right-of-way includes narrow slivers from state-owned (FAU) land, one vacant private parcel, and from the Vistazo at Boca Raton Community.

By creating the new "Airport/FAU" interchange, the traffic volumes on Spanish River Boulevard will increase. This is a concern, because the land uses to the east are residential. A public workshop (Nob Hill meeting) was conducted for residences in the area, and the vast majority of those attending were in favor of the new interchange, with very little opposition. FAU and the Boca Raton Airport support the new interchange along with the FAU Research Park.

Energy consumption will be reduced through the reduction in travel-time and congestion.

It is recommended that no additional drainage be allowed to flow into existing wetlands due to implementation of the proposed improvements. Direct coordination with the South Florida Water Management District (SFWMD) as well as other local drainage districts is recommended to prevent any possible flooding due to the project.

Final recommendations include design and implementation of strategically-placed barrier wall-protected enforcement areas located in the median of the I-95 corridor. These barrier-protected areas will provide median-area protection for Florida Highway Patrol (FHP) vehicles and apprehended violators of the HOV lane system regulations. This recommendation should be considered in final design and based on a system-wide plan for selective enforcement developed in cooperation with the Florida Highway Patrol.



3.2 Commitments

This PD&E Study addresses the proposed roadway improvements that are required to provide I-95 with two additional general use lanes (one in each direction) from south of Glades Road to south of Linton Boulevard and two additional auxiliary lanes (one in each direction) from Glades Road to the Congress Avenue Connector.

An examination of the existing and future traffic data, within the limits of the project, reveals the need to expand the capacity of this segment of roadway from the existing eight lanes to ten and 12 lanes. The traffic volumes show the existing level-of-service along the mainline of I-95 to be "F" from Palmetto Park Road to Yamato Road, and from the Congress Avenue Connector to Linton Boulevard, and "E" from Yamato Road to the Congress Avenue Connector. The proposed widening will help relieve future congestion, enhance safety, and should reduce the number of accidents that would otherwise occur within the corridor.

The proposed roadway improvements are generally consistent with the *I-95/I-595 Master Plan Study* which calls for the addition of two general use lanes from Glades Road to south of Linton Boulevard.

In order to minimize the impacts of this project on the environment, the Florida Department of Transportation (FDOT) is committed to the following measures:

- The FDOT is committed to continuing coordination with the MPO, local communities, and appropriate regulatory agencies as required throughout the final design and permitting phases of the project, as well as prior to and during construction.
- The proposed storm-water facility design will include, at a minimum, the water quantity and water quality treatments as required by the South Florida Water Management District (SFWMD) in Rules FAC 40E-40 and minimum requirements of local water control districts. Rules FAC 40E-40 are the minimum standard rules needed for the project and no special rules apply to this project.
- Disturbed soil surfaces will be re-vegetated and stabilized when practical to minimize temporary construction impacts and prevent erosion.
- Floodplain encroachment will be minimized to the extent practicable and mitigation measures will be developed to compensate for the anticipated encroachment.
- Seventeen (17) potential contamination sites posing a "medium" or "high" risk have been identified. Level II testing will be performed for these sites as determined by the Department. A soil and groundwater survey and plan are recommended to address these areas of concern.
- In the event contamination is detected during construction, the FDOT will notify the Department of Environmental Protection (DEP) and Palm Beach County and the FDOT may address the problem through additional assessment and/or remediation activities.
- The FDOT will make arrangements to properly abandon (in accordance with Chapter 62-532, F.A.C.) and/or replace any groundwater monitoring wells or water production wells that may be destroyed or damaged during construction.



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- The FDOT will characterize for disposal any land clearing or construction debris. The FDOT will also manage any potentially hazardous materials in accordance with Chapter 62-730, F.A.C. In addition, the FDOT will manage in accordance with Chapter 62-701, F.A.C. any solid wastes or other non-hazardous debris.
- The FDOT will plan staging areas, with controlled access, in order to safely store raw material paints, adhesives, fuels, solvents, lubricating oils, etc. that will be used during construction. The FDOT will properly label all containers. The FDOT may develop written construction Contingency Plans in the event of a natural disaster, spill, fire or environmental release of hazardous materials.
- The existing sidewalk on the north side of the Spanish River Boulevard Bridge over I-95 will be maintained during construction and temporary short-term detour routes for all required temporary closures will be provided.
- To protect the West Indian Manatee, the FDOT will adhere to the *Standard Manatee Conditions for In-Water Work*. The Conditions will be incorporated into the construction documents and FDOT will require that the construction contractor abide strictly to the guidelines during construction. In addition, grates will be placed over all culverts greater than eight inches to protect manatees.
- FDOT will continue to seek avoidance and minimization measures for wetland impacts through final design and permitting.
- FDOT will provide appropriate wetland mitigation for any loss of suitable wood stork foraging habitat in coordination with the United States Fish and Wildlife Service (USFWS).
- FDOT will coordinate with Palm Beach County Environmental Resource Management (ERM) to determine if scrub jays are present in the Yamato Scrub Natural Area. If scrub jays are present, FDOT will coordinate with USFWS to minimize impacts to the scrub jay.
- To minimize negative project effects to the burrowing owl, FDOT commits to: 1) Conduct a burrowing owl survey prior to construction; 2) Coordinate with the appropriate regulatory agency depending on nesting status. If adult owls are present between February 15 and July 10, or if eggs, hatchlings or fledglings are present, then USFWS Migratory Bird Coordination must occur. If it is non-nesting season, only coordination with FFWCC is required; 3) Obtain appropriate permits to destroy/relocate burrowing owl burrows depending on activity; and 4) Coordinate with the appropriate agency on suitable mitigation and ensure mitigation is implemented, such as, construction of starter burrows with an accompanying T-perch in an area outside of future disturbances.
- FDOT will conduct a preconstruction survey of Wetland W-3a at the FAU Fish Research Center for nesting activity by wading birds. If nesting is observed, then FDOT will coordinate with Florida Fish and Wildlife Conservation Commission (FFWCC) to avoid adversely affecting State-listed wading birds. The Department will work with FAU and the FFWCC to preserve as much of the Fish Research Center as possible.
- To minimize adverse affects to the Eastern indigo snake, during construction, the FDOT

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will adhere to the *Standard Protection Measures for the Eastern Indigo Snake*. The measures will be incorporated into the final project construction documents and FDOT will require that the construction contractor abide strictly to the guidelines during construction.

- To minimize direct impacts to the gopher tortoise, FDOT commits to: 1) Avoid and minimize negative project effects to the maximum extent practicable to the gopher tortoise; 2) Conduct a gopher tortoise survey prior to construction; 3) Coordinate with the appropriate regulatory agency; 4) Obtain appropriate permits to relocate gopher tortoises; and 5) Utilize qualified personnel to relocate gopher tortoises to a mutually agreed upon/permitted location.
- The FDOT will scope gopher tortoise burrows located during the survey to determine the presence of any commensals, such as Florida mouse and gopher frog. If listed commensals are sighted, FDOT will coordinate with the appropriate agency.
- State and federally listed plants potentially present in the project area include those endemic to scrub habitats. Scrub areas proposed to be directly impacted by the new interchange, including Uplands U-1, U-2, U-4, U-5 and U-6, will be surveyed for listed plants prior to construction. If listed plants are present, FDOT will coordinate with the appropriate agency.
- The FDOT will continue to coordinate with the appropriate regulatory agencies as required throughout the design and permitting phases of the project, as well as during and after construction.
- The Endangered Species Biological Assessment (ESBA) prepared for this project will be distributed to the appropriate regulatory agencies for review and comment.
- Best Management Practices will be implemented during construction following FDOT's *Standard Specifications for Road and Bridge Construction*.
- The FDOT is committed to the construction of feasible noise abatement measures at noise impacted locations within the project corridor contingent upon the following conditions: 1) performance of a detailed noise analysis during the final design process supports the need for noise abatement, 2) reasonable cost analysis indicates that the economic cost of the barriers will not exceed the cost-reasonable criterion, 3) community input regarding desires, types, heights, and locations (if applicable), 4) consideration of preferences regarding compatibility with adjacent land uses, particularly as addressed by officials having jurisdiction over such land uses; and 5) consideration of safety and engineering aspects as related to the roadway user and the adjacent property owner.
- A PD&E Study for the possible six-laning of Spanish River Boulevard from Military Trail to US 1 is proposed. This study will be coordinated with the Palm Beach County MPO and the City of Boca Raton.



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- Maintenance of traffic activities will be coordinated with the City of Boca Raton and Florida Atlantic University during construction.
- The Florida Department of Transportation will coordinate with the Federal Aviation Administration (FAA) during design and construction regarding the Boca Raton Airport runway approaches.



CHAPTER 4

ALTERNATIVES CONSIDERED

4.1 Corridor Analysis

The previous I-95 PD&E Studies, from Linton Boulevard to Indiantown Road, evaluated I-95 in addition to five other corridors which could reasonably be considered as alternatives to widening I-95 through Palm Beach County. These corridors included the South Florida Rail Corridor, Florida's Turnpike, Military Trail, Congress Avenue, and US 1. These facilities are parallel limited access, or uncontrolled-access arterial roadway facilities and rail corridors to the east and west of the I-95 corridor. For this study, the SR A1A corridor, the Dixie Highway corridor, and the FEC rail corridor were added to the list of alternative corridor candidates. The locations of these alternatives are shown in Figure 4-1. For the reasons provided in the sections that follow, each of the alternatives to I-95 was rejected and improvements within the existing I-95 corridor were deemed to be the most appropriate location for corridor-wide capacity enhancement.

An evaluation of each corridor is provided in the sections that follow.

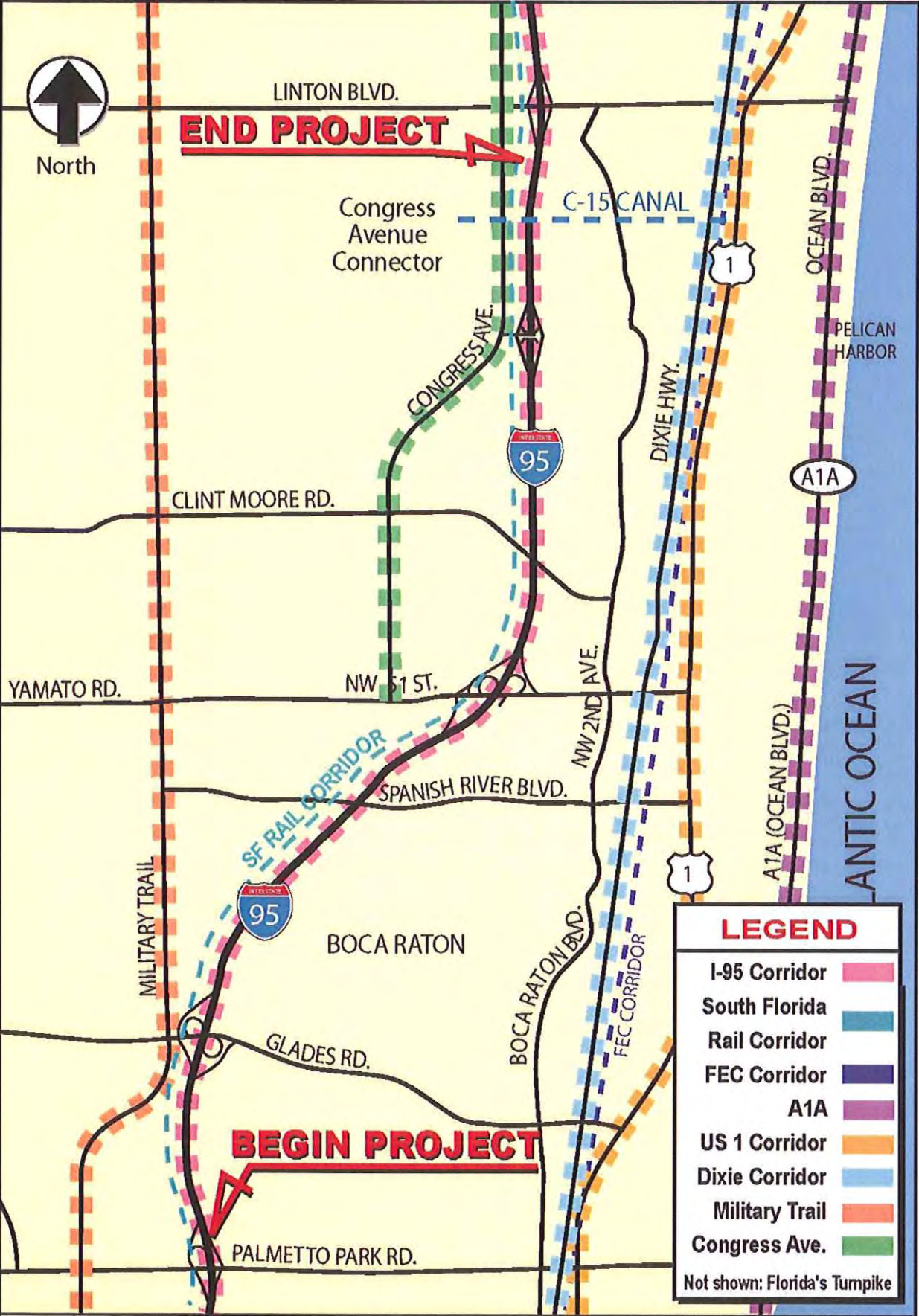
4.1.1 South Florida Rail Corridor/CSX Rail Line

The CSX Rail Line parallels I-95 from SR 826 in North Miami to immediately north of the Belvedere Road interchange, where it veers to a northwesterly course. Through the southern and central portions of Palm Beach County the CSX Rail Line lies approximately 200' west of the centerline of I-95. South of Belvedere Road, the railroad and I-95 separate, then veer toward each other, crossing between the Belvedere Road and Okeechobee Boulevard interchanges. The CSX Rail Line moves to the east side of Clear Lake and Lake Mangonia through West Palm Beach. I-95 lies west of the lakes. I-95 again crosses over the CSX Rail Line, together with Beeline Highway (SR 710), approximately 0.75 miles south of the Blue Heron Boulevard interchange. The CSX Rail Line follows a northwest-southeast alignment through the northern portion of Palm Beach County and does not parallel the I-95 corridor north of SR 710. Therefore the CSX Railroad corridor does not represent a viable alternative corridor when viewed in the context of inter-county travel in northern Palm Beach County, from SR 710 to the north. The market shed served by the I-95 project does not overlap the CSX or South Florida Rail Corridor market shed on an interstate or intrastate basis. Therefore, though previously included in other corridor studies of I-95, the South Florida Rail Corridor cannot be viewed as a viable alternative for the I-95 corridor for inter-county travel to the north.

Even under optimum assumptions and providing for maximum diversion of passengers from I-95 highway usage to commuter rail, and using 100 percent peak hour load-factors for Amtrak and Tri-Rail, there would not be sufficient modal diversion to eliminate the need for capacity improvements to the highway component of the I-95 corridor. The future demand for travel within the I-95 corridor exceeds all off-project available transit capacity. The operation of the commuter rail system means that the I-95 corridor will enjoy the advantages of modal choice and added passenger throughput. This will enable a greater percentage of the total corridor travel demand to be met. However, the large majority of additional vehicular and passenger demand will remain to be satisfied, in large part, within the highway element of the overall multimodal I-95 corridor. It should be noted that the term "highway element" in this context also includes HOV lanes, park-ride facilities, and future, possible, express bus transit too. Express bus transit currently operates on I-95 in Miami-Dade County.



I-95 PD&E Study



4.1.2 FEC Rail Corridor

The FEC Rail Corridor is currently under study as a possible second commuter rail corridor in the southeast Florida area. A Tri-rail extension into Martin County using the FEC corridor is also being considered at the time this report is being written. The FEC corridor in Miami-Dade, Broward, Palm Beach, and Martin Counties is a desirable rail corridor because it passes directly through numerous downtown areas all along the southeast coastal cities. It is also a desirable Intrastate corridor, in that it connects to Jacksonville and could help serve I-95 corridor demand on a statewide basis, thereby being a more competitive alternative transit corridor than the CSX corridor.

Unfortunately, even if a commuter line were established on the FEC corridor, and even if passenger demand exceeded everyone's expectations, the total diversion of vehicular demand from I-95 would not be sufficient to cause a "No-Build" decision for the I-95 corridor. Highway demand on I-95 will out-strip "supply" even with a robust commuter rail facility on the FEC corridor.

4.1.3 Parallel Highway Facilities***Florida's Turnpike (SR 821)***

Florida's Turnpike is the only north-south arterial through Palm Beach County, which is truly comparable to I-95 as a limited-access facility. However, the Turnpike ranges in distance from 3.0 to 5.0 miles west of I-95 throughout much of southern and central Palm Beach County. In the northern part of Palm Beach County, the Turnpike right-of-way actually abuts I-95's right-of-way, making it a reasonably competitive route in northern Palm Beach County. A close examination of the market shed served by the Turnpike and I-95, however, places the Turnpike's market considerably west of the highest concentration of both residential and employment centers, which are more effectively served by I-95 in southern Palm Beach County. The Turnpike's widely-spaced interchanges also fail to serve the short-haul travel market that is served in the I-95 corridor. North of the subject project, the US 1 Corridor Study (in Martin/St. Lucie Counties) tested additional interchanges on the Turnpike, using the Treasure Coast Regional Planning model, in an attempt to attract/divert traffic from US 1. The results were marginal, and very few trips diverted to the Turnpike. This reinforces the notion that the Turnpike serves a long-haul market that does not overlap US 1 and/or I-95 market sheds to any significant degree. In addition, the Turnpike serves the central Florida market from a statewide perspective while I-95 serves the heavily urbanized east coast of Florida. For these reasons, Florida's Turnpike was not considered a viable alternative corridor for the local or statewide I-95 travel markets.

Military Trail (CR 809)

Military Trail is the only north-south arterial lying between Florida's Turnpike and I-95, which extends from the Broward County line, terminating at Indiantown Road. It is a six-lane principal arterial where it underpasses I-95 at Glades Road just north of PGA Boulevard. Moderate levels of access control have been provided by limiting curb and median cuts to adjacent properties. Just north of PGA Boulevard, the I-95 alignment shifts to the west, passing over Military Trail.

Portions of Military Trail already consist of a six-lane cross-section. In addition, signalized intersections reduce the capacity of Military Trail when compared to a grade-separated, limited-access facility such as I-95. Current traffic projections for Military Trail for the year 2030 show very heavy volumes just north of Glades Road. These volumes exceed the maximum service volume which can be achieved on typical six-lane Group "A" arterials for level-of-service "D".



Any additional volumes diverted from I-95 to Military Trail would push level-of-service conditions to less than acceptable levels. The market shed served by Military Trail terminates at Indiantown Road, while I-95 serves a vast market to the north of this limit. The two markets are very dissimilar. Therefore, Military Trail was not pursued as a viable alternative corridor.

Congress Avenue (SR 807)

The remaining north-south facility west of I-95, in Palm Beach County, which could be considered as an alternative corridor to I-95, is Congress Avenue. Several factors preclude Congress Avenue from being retained for more serious study.

- **Length** - Congress Avenue only extends as far north as 45th Street, and, therefore, does not serve Martin County and regions to the north. It also terminates at Yamato Road on the south, failing to serve southern Palm Beach County and regions to the south.
- **Collector** - Congress Avenue is an urban collector facility, not an arterial. It has a higher priority to provide access to adjacent properties than does an arterial and, as such, has a lower per-lane service volume than does an arterial.
- **State Maintenance** - As an urban collector, Congress Avenue is not a state-maintained facility.

The last factor is significant. For the Department to use this facility as a reliever to I-95, it would be necessary to upgrade the highway to State standards throughout the project length, in addition to providing additional through lanes to accommodate the increased demand diverted from I-95. With the low per-lane capacity of an improved and widened Congress Avenue, coupled with its inability to provide a parallel alternate route for long-distance travel over the entire limits of the I-95 corridor, Congress Avenue was not pursued as a viable alternate corridor.

Dixie Highway (SR 811)

This typical section consists of four lanes, generally, and operates at or slightly below capacity. Dixie Highway is not an interstate facility, but it does have good inter-county continuity, with a few exceptions. In some areas, it operates as a one-way pair (i.e. Pompano Beach and West Palm Beach). This facility, however, is constrained by its capacity, its right-of-way and abutting land-uses, making it unacceptable as an alternative corridor that could significantly divert traffic from the heavily-congested I-95.

US 1 (SR 5)

The US 1 corridor is also referred to as US 1, Federal Highway, Broadway, Dixie Highway, and Olive Avenue at different locations within Palm Beach County. It is one of three State-maintained north-south principal arterials lying between I-95 and the Intracoastal Waterway. The US 1 typical section varies from a four-lane divided facility at the northern and southern ends of the County to a six-lane divided, or two three-lane one-way sections through other parts of the County. The US 1 corridor is the central north-south business route through many of the eastern cities such as Delray Beach, Boynton Beach, Lake Worth, West Palm Beach, Riviera Beach, and Jupiter. As such, it is heavily built up with commercial and retail properties. Signal spacing is very close through much of the corridor, further reducing capacity and the utility of the facility. The US 1 corridor was deemed an unfeasible alternative corridor because of the very limited additional traffic volume which could



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be added in the existing built-up corridor. The cost of expanding the facility would be impractical due to the cost of right-of-way and business damages that would be needed to implement a widening plan in a fully developed commercial corridor.

SR A1A (Ocean Boulevard)

The SR A1A corridor suffers from many of the same difficulties as the US 1 corridor. This corridor generally serves the barrier-island and residential oceanfront communities along the beach adjacent to the Atlantic Ocean. SR A1A is discontinuous in that it meanders westward, connecting with and combining with US 1 in order to bypass selected ship inlets separating the barrier islands. Such is the case for a distance between PGA Boulevard and a point south of Donald Ross Road, where SR A1A shares the US 1 designation, before bifurcating again. The same thing occurs at the Port Everglades inlet, where SR A1A "diverts" to US 1 via the SE 17th Street Causeway and Dania Beach Boulevard. Since SR A1A and US 1 must share the same right-of-way in different parts of Palm Beach and Broward Counties, SR A1A has the same capacity problems that US 1 does. Where the two facilities combine into a single right-of-way, the capacity problem is exacerbated.

Couple this with the fact that SR A1A is a discontinuous, residential, remote facility, east of US 1, and SR A1A becomes a candidate for rejection as a viable alternative to I-95. For these reasons, SR A1A was discarded from further consideration.

4.2 EVALUATION MATRIX

A formal evaluation matrix was prepared (see Table 4-1) for the corridor study element of the I-95 project. An evaluation of the technical feasibility of these corridors to accommodate a significant portion of the demand in the I-95 corridor was discussed, in detail, in Section 4.1. The matrix analysis clearly shows that I-95 is superior, in almost every category, to every other corridor alternative. In the rare case the other alternative might "match" I-95 under one criterion, that same alternative often "loses" and is clearly inferior, in most or several other categories. It is clear that I-95 is, by far, the best corridor to satisfy predicted corridor traffic demand and the long trip lengths associated with interstate travel.

4.3 SELECTION OF VIABLE ALTERNATIVE CORRIDORS

An evaluation of each of the alternative corridors presented in Section 4.1 shows that no viable corridor alternative exists in the overall north-south corridor that could physically or operationally accommodate the anticipated forecast traffic demand for the I-95 corridor. Therefore, this report evaluates improvement options to I-95 only. However, possible improvements to facilities and services within the alternative corridors are not dismissed and such improvements, consistent with the MPO's *LRTP* should be encouraged to provide increased mobility within the overall project corridor and to reduce the demand on I-95, to the extent possible. The traffic forecasts for this project assume that the off-project improvements in the MPO's *Cost Feasible Plan* will be implemented.





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TABLE 4-1
ALTERNATIVE CORRIDORS MATRIX ANALYSIS

Evaluation	Alternative Corridors								
CRITERIA	I-95	South Florida Rail Corridor	Florida's Turnpike	Military Trail	Congress Avenue	US 1	Dixie Hwy.	SR A1A	FEC Corridor
Interstate Route?	Yes	Yes	No	No	No	Yes	No	No	Yes
Inter-county Route?	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Continuity of Route	Good	Good	Good	Good	Poor	Good	Good	Poor	Good
Significant right-of-way and Capacity Available for reasonable cost?	Yes	No	Yes	No	No	No	No	No	No
Utilization	Good	Poor	Fair	Good	Good	Good	Fair	Fair	Poor
Serves I-95 market sheds?	Yes	No	No	No	No	No	No	No	Yes
Effectiveness as Reliever to I-95	Excellent	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Fair
Proximity to I-95	Excellent	Poor	Fair	Good	Good	Fair	Poor	Poor	Fair
Freeway Capacities Available?	Yes	No	Yes	No	No	No	No	No	No
EVALUATION									
No. "Positive" Grades	9	3	4	4	2	4	2	1	4
No. "Negative" Grades	0	6	2	5	7	4	6	7	3
No. "Fair" Grades	0	0	3	0	0	1	1	1	2
Overall Ranking	1	6	2	5	7	4	8	9	3

4.4 Alternatives

The final alignment of the I-95 widening is dictated by the existing centerline alignment of I-95, along with the existing profile grade. The most cost-effective alignment alternative consists of an alignment that matches, to the maximum extent practical, the existing alignment and grades. Other options, such as executing all of the widening to one side makes no sense, and are not viable alternatives. Therefore, the only viable alignment alternative options are approaches to widening that maintain existing centerline alignment geometries, and conduct the widening equally to the inside, or outside shoulders, while minimizing the amount of reconstruction required. A realignment of the centerline near Yamato Road was considered, but rejected as unnecessary and too costly. Additional documentation of alternatives is available in the "Alternatives Analysis" and "Value Engineering" reports included as an Appendix to this Report.

In order to provide adequate level-of-service for the project limits of I-95, widening from eight to ten lanes in addition to auxiliary lanes is needed. Glades Road needs to be widened from six to eight lanes, in addition to providing intersection improvements between Butts Road and Florida Atlantic Boulevard in order to operate at an acceptable level-of-service.



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Existing right-of-way along the I-95 mainline is 300' and flares out in interchange areas. This is adequate for mainline improvements but not for implementing the new "Airport Road/FAU" interchange. The existing right-of-way along Glades Road is 200' from east of I-95 to Florida Atlantic Boulevard. To the west of I-95, from Butts Road to Renaissance Way, the right-of-way reduces to a minimum of 110'. This section will require limited right-of-way acquisition on one or both sides in order to accommodate the eight-laning of Glades Road. An alignment which minimizes business impacts is recommended. Additional right-of-way will also be required at the Glades Road/Airport Road intersection in order to provide an expanded intersection at this location. Finally, additional right-of-way will be needed along Spanish River Boulevard on both sides in order to accommodate widening to six lanes from Florida Atlantic Boulevard to NW 6th Terrace, a distance of approximately 900'. This right-of-way includes narrow slivers from state-owned (FAU) land, one vacant private parcel, and from the Vistazo at Boca Raton Community.

Several alternatives were introduced and evaluated during the Value Engineering (VE) phase of the project. However, based on the outcome of the VE study, only two alternatives are being given consideration, the "No Build" and "Build" alternatives. Information on all other alternatives is provided in the Value Engineering Report which has been prepared for the PD&E Study.

4.4.1 "No Build" Alternative

The "No Build" alternative assumes that, no modifications or improvements will be implemented for the mainline of I-95 or Glades Road. Four northbound and four southbound lanes would continue to be available to accommodate future year traffic volumes on I-95, and Glades Road would continue to function as a six-lane highway. The existing I-95 HOV lanes would continue to operate as part of the South Florida HOV system. The limited capacity of the "No Build" alternative would constrain the available highway capacity of I-95. With other current projects under design and/or construction, HOV lanes (or express lanes) will eventually be continuous from the I-195/Airport Expressway in Miami-Dade County to Indiantown Road in Palm Beach County. The capacity of I-95 from south of Linton Boulevard to Indiantown Road would be a minimum of ten lanes, being fed/discharged into only eight lanes, south of Linton Boulevard which will have heavier traffic volumes than the ten-lane sections to the north. The "No Build" alternative would create a feeding-discharge imbalance that would devalue or lessen the benefits of the capacity investments on I-95 north of Linton Boulevard. In other words, the ten-lane capacity available at Linton Boulevard would not be fully utilized or effective due to the eight-lane constraint created by the "No Build" alternative to the south.

The "No Build" alternative would retain existing structures, regardless of any deficiency related to vertical clearances. Not all structures meet the Department's minimum vertical clearance standards.

The primary advantages of the "No Build" alternative are that it does not directly require any capital, or expenditure of state/federal transportation trust funds, and it produces no physical or social impacts.

The disadvantages of the "No Build" alternative are numerous:

- It produces poorer level-of-service and more traffic congestion.
- It increases air pollution.
- It increases motor vehicle crashes, property damage, injuries and fatalities.



- It is non-conforming to the MPO's *L RTP*, and local comprehensive plans.
- It increases passenger travel-time and degrades the quality of life.
- It does not meet MPO goals and objectives.
- No multimodal improvements are provided.
- Emergency vehicle access is degraded.
- Hurricane evacuation clearance time is not improved.
- User costs are increased due to congestion.
- The improvements necessary to obtain a certificate of occupancy for the proposed new FAU football stadium will not be met.

In summary, the disadvantages of the "No-Build" alternative outweigh the advantages.

Crossroad improvements could be made in the future, under the "No Build" concept. However, these improvements would serve to improve east-west travel, not the north-south travel, which is the focus of the corridor improvements. Existing horizontal and vertical clearances associated with the I-95 structures could restrict crossroad improvements.

The current interchange configurations at Glades Road and Yamato Road will not accommodate projected year 2033 traffic volumes at acceptable levels-of-service under the "No Build" alternative.

4.4.2 Transportation System Management (TSM)

A Transportation System Management (TSM) plan has been developed as an integrated component of the "Build" alternative (described in the next section), and not as a stand-alone, separate alternative. The "Build" alternative for the mainline is one component of a systematic approach to improving the person-carrying capacity deficiencies in the corridor. Other components are equally important for accommodating the region's north-south travel needs. Eight TSM measures support the most efficient use of the I-95 corridor system: 1) HOV lanes, 2) park-ride facilities, 3) rail corridor development, 4) traffic operations improvements to the Glades Road interchange, 5) traffic operations improvements to the Yamato Road interchange 6) an Intelligent Transportation Systems (ITS) package 7) special ramp connections to/from the Yamato Road Tri-rail station and FAU for shuttle buses, and 8) a system of interconnected non-motorized trails, bridges, pedestrian, and bicycle facilities. Each of these TSM measures is vital to creating a multimodal system by combining ITS, traffic operations, signalization, park-ride, commuter rail, shuttle bus, non-motorized, crossroad, and HOV lane improvements. These improvements are designed to maximize multimodal efficiency, passenger throughput, modal choices, connectivity, and congestion management in the project study area.

4.4.3 "Build" Alternative

The *I-95/I-595 Master Plan Study* covered the segment of I-95 from Glades Road to the Linton Boulevard, and beyond. This study reviewed numerous "Build" alternatives for capacity improvements within the Palm Beach County I-95 corridor. The study covered each of the corridor's main components: mainline, interchange areas, non-interchange crossroads, and the



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South Florida Rail Corridor. An "I-95 Interchange Improvements and Railroad Grade Crossing Elimination Study" was previously developed that included this project segment. The only at-grade railroad crossing in this study corridor is at Yamato Road. All other crossroads pass over the CSX Rail Line. Access to/from the HOV lanes will be provided via general use lanes. No special flyover connections are proposed due to costs and underutilization of other flyovers in more densely traveled locations (i.e. I-95/Broward Boulevard flyovers).

Laneage

The "Build" alternative includes added lanes for different sections and links in the study area. All of these proposed improvements are illustrated in the Conceptual Plans provided under a separate cover for this project:

- Addition of Two General Use Lanes – This is recommended throughout the corridor from south of Glades Road to south of Linton Boulevard. This involves adding lanes nine and ten to the existing eight-lane cross-section of I-95 throughout the project limits.
- Addition of Two Auxiliary Lanes – This is recommended from Glades Road to the Congress Avenue Connector: adding lanes 11 and 12 to the ten-lane section, described above, for 12 lanes total.
- Glades Road – It is recommended that eight lanes be provided on Glades Road from Butts Road to east of Florida Atlantic Boulevard including bicycle lanes and sidewalks. Glades Road is six lanes at present. A major expanded intersection is also recommended at the Glades Road/Airport Road intersection.
- Yamato Road – Yamato Road is proposed to be eight-laned by private developers. The proposed I-95 improvements at Yamato Road are recommended to "match" the eight-laning by others through the interchange area.
- Interchange Ramps – Selected ramps in the Glades Road and Yamato Road interchanges are proposed to be widened as required to meet forecast traffic volumes.
- Intersection Laneage – Intersections within the Glades Road and Yamato Road interchanges are recommended for expansion to provide added capacity.

Widening will be done to the outside throughout the I-95 project corridor except for the section north of Clint Moore Road where widening will transition to the median. No right-of-way will be needed for mainline improvements on I-95. Acquisition of state-owned (FAU) land for the proposed "Airport/FAU" interchange will be required. However, it is anticipated that this land acquisition will not require eminent domain which will avoid lengthy delays. In addition, a narrow sliver of right-of-way will also be required from two parcels (one owner) in the southeast quadrant of the I-95/Yamato Road interchange. These parcels are east of the El Rio Canal and south of Yamato Road, adjacent to the existing northbound off-ramp at Yamato Road. This will be needed to accommodate "braided" ramps and the northbound-to-westbound loop ramp extension at the Yamato Road interchange. Additional right-of-way is also needed between Butts Road and Renaissance Way along both sides of Glades Road. Right-of-way will also be required near the Airport Road/Glades Road intersection on the north side of Glades Road to accommodate the Glades Road widening and an expanded intersection at this location. This property is publicly-owned by the City of Boca Raton. On the south side of Glades Road at this intersection (NW 15th Avenue), a sliver of right-of-way will be required on the west side from the Boca Raton High School. Finally, additional right-of-way will be needed along Spanish River Boulevard on both sides in order to accommodate widening to six lanes from Florida Atlantic



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Boulevard to NW 6th Terrace, a distance of approximately 900'. This right-of-way includes narrow slivers from state-owned (FAU) land, one vacant private parcel, and from the Vistazo at Boca Raton Community. No displacements or impacts to physical structures are anticipated for right-of-way acquisition purposes.

Elements of the "Build" alternative for I-95 consist of the following:

- Ten 12' general use lanes from south of Glades Road to south of Linton Boulevard
- Two 12' auxiliary lanes from Glades Road to the Congress Avenue Connector
- Two 12' (ten-foot paved) outside shoulders
- Two 15' paved inside shoulders where a median jersey barrier is used
- Two 14' (ten-foot paved) inside shoulders where a guardrail is used (grass median area)
- A median width varying from 32' to 60'
- Design Speed of 70 mph
- A mainline clear zone of 56' to 58'.
- Construct new interchange connecting I-95 to the Spanish River Boulevard/Florida Atlantic Boulevard intersection

Elements of the "Build" alternative for Glades Road from Butts Road to east of Florida Atlantic Boulevard consist of the following:

- Eight 12' general use lanes
- Outside type "F" curb and gutter
- Eight-foot inside shoulder (four-feet paved)
- Inside type "E" curb and gutter
- A median width varying from 15.5' to 40'
- Five-foot (existing to remain) or six-foot sidewalks (new construction) on both sides
- Four-foot bicycle lanes on both sides
- Design Speed of 45 mph
- Minimum border width of 12'

4.5 Summary of Alternatives

"No Build" Alternative

The existing I-95 mainline provides unacceptable levels-of-service under existing traffic volumes. The situation worsens significantly when design year 2033 travel demand volumes are assigned to the existing mainline cross-section. All segments function at level-of-service "F" when design year-design hour traffic volumes are applied to existing conditions for the northbound and southbound A.M. and P.M. peak hours.

The "No Build" alternative does not meet the project objectives. Existing substandard design features and motorist safety are not improved. Rather, the increased congestion associated with the "No Build" alternative will introduce a safety hazard throughout the corridor as future traffic volumes use the existing facilities under degraded conditions. Rear-end and side-swipe collisions and the attendant costs of damages and injuries are well-known by-products of congestion. The "No Build" alternative is not consistent with, and does not support local long-range transportation plans or social and economic development plans for the area.

The "No Build" alternative meets minimum horizontal clearance requirements, but does not meet vertical clearance design standards established by the Department in some areas. Loop ramp radii and ramp tapers at the mainline also do not meet current minimum design standards.



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The "No Build" alternative will have an adverse effect on air quality, fuel consumption, and economic growth. No additional right-of-way is required for the "No Build" alternative and thus will not affect existing patterns of access to adjacent properties. With no right-of-way acquisition or construction requirements, there are no direct costs associated with the "No Build" alternative. However, general costs will be incurred by the Palm Beach County community through increased gas consumption, increased user costs, increased travel-time, detrimental impact to economic growth in the region, and decreases in air quality coupled with attendant increases in health-related costs. Increased traffic congestion leads to increased delay, which adversely affects air quality and economic costs through higher distribution and delivery costs.

"Build" Alternative

The "Build" alternative consists of two mainline elements: implementation of two general use lanes (one per direction) from south of Glades Road to south of Linton Boulevard plus two auxiliary lanes (one per direction) from Glades Road to the Congress Avenue Connector. Interchange elements consist of improvements at Glades Road, Yamato Road, and the new "Airport/FAU" interchange connecting to the Spanish River Boulevard/Florida Atlantic Boulevard intersection. Also included is widening of Glades Road from Butts Road to Florida Atlantic Boulevard from six lanes to eight lanes.

Concurrent-flow HOV lanes will continue to operate as presently designed and will also allow corridor users to better avail themselves of the HOV facilities than they would under a physically-separated HOV-way scenario. The concurrent flow HOV lane scheme is that which has been implemented along other portions of the I-95 corridor in Southeast Florida, consistent with the existing HOV plan for the region. The proposed auxiliary lanes "drop" at the Congress Avenue Connector ramps which provides for a smooth transition to the ten lane section south of Linton Boulevard. The auxiliary lanes also "drop" for short distances, as they pass through the Yamato Road and Glades Road interchanges.

When compared to the "No Build" alternative, the "Build" alternative improves levels-of-service throughout all of the mainline and ramp terminals. It meets all project needs, goals and objectives, including the objective of accommodating mainline improvements within the existing right-of-way. The only exception to this is the I-95 mainline level-of-service. The 2033 horizon-year traffic drives mainline levels-of-service to a minimum of "E" with 12 lanes of capacity. At this time, a 14-lane section is deemed inappropriate and further system-wide study of other congestion management techniques, including managed lanes is recommended.

The "Build" alternative will require six new noise barriers. The first is on the west side of I-95 north of Palmetto Park Road, between the railroad right-of-way and the Fairfield Gardens development (a multistory, multifamily residential development). The recommended dimensions are proposed to be 22 feet in height and 1,065 feet in length. This barrier is being recommended to help mitigate noise generated by passing trains in addition to I-95 traffic noise. The second barrier is for the Country Club Village neighborhood. This barrier is proposed to be 14 feet in height and 215 feet in length, and is recommended to be positioned between two existing barriers. Public input regarding the high noise levels coming through the gap between the two existing barriers at this location has been received. The third barrier is a new 22-foot tall noise barrier, 540 feet in length. The proposed barrier would be constructed along the east edge of the I-95 right-of-way at the Boca Teeca Condos. The fourth barrier is proposed to be a new 18-foot tall noise barrier approximately 2,800 feet in length. The proposed barrier is recommended to be constructed along the east edge of the I-95 right-of-way from the drainage control ditch to the beginning of the Congress Avenue ramps at the Hidden Lakes & Hidden Valley neighborhoods. The fifth barrier is an extension of the existing eight-foot tall barrier located along the ramps at the Congress Avenue interchange. The extension of the eight-foot tall barrier across the C-15 Canal Bridge, would be a distance of 250 feet at the Hidden Valley and Tropic Palms neighborhoods. Finally, the sixth proposed barrier is a new 18-foot tall barrier approximately 3,900 feet in length to be located along the east edge of the I-95 right-of-way beginning at the C-15 Canal and extending northward toward Linton Boulevard. This wall would benefit the Tropic Palms, Bahia at Delray



Beach, and Terra Verde multifamily complexes. Noise impacts for the proposed I-95 widening are considered minor and easily mitigated.

The "No Build" and "Build" alternatives were compared in terms of the following goals:

- Improve levels-of-service
- Meet project objectives
- Meet engineering criteria
- Minimize impacts
- Minimize Costs

4.6 Design Criteria

The "Build" alternative is based on current design standards and criteria. Standards and criteria used in the previous I-95 HOV lane, mainline and interchange studies conducted in the Tri-County area have also been examined and evaluated. Current information on new advances in engineering analysis and technology were also used for the development of the "Build" alternative.

4.6.1 ROADWAY

Roadway engineering criteria were based on the Department's *PD&E Manual* and the *Roadway Plans Preparation Manual (PPM)*. Other primary references used for roadway design standards are listed below.

- *Roadway and Traffic Design Standards*, State of Florida: Florida Department of Transportation, 2010
- *A Policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials (AASHTO), 2004
- *Roadway Plans Preparation Manual: Volume 1 Design Criteria and Process*, Florida Department of Transportation, January 1, 2009 update
- *Manual on Uniform Traffic Control Devices for Streets and Highways*, Federal Highway Administration (FHWA), 2009 Edition
- *Highway Capacity Manual*
- *FDOT Structures Design Guidelines*
- *FDOT Drainage Manual*
- *FDOT Interchange Development and Review Manual*

The need for proper lane and median widths, bridge and roadway shoulder widths, horizontal curvature, superelevation, horizontal clearances, grades, and vertical clearances have been considered as well as design speeds and levels-of-service. Some roadway standards and criteria apply to all three types of roadway conditions within the project segment; mainline, interchange area entrance and exit ramps, and crossroads. Others vary according to the roadway type. The roadway design criteria used in the development of the "Build" alternative is listed on Table 4-2.

TABLE 4-2 ROADWAY DESIGN CRITERIA																
ROADWAY TYPE		DESIGN SPEED	LEVEL-OF-SERVICE	LANE WIDTH	SHOULDER INSIDE	SHOULDER OUTSIDE	MEDIAN WIDTH	HORIZONTAL CLEARANCE	VERTICAL CLEARANCE	DEGREE (Dmax)	RADIUS	e	MAX. GRADE	STOPPING SIGHT DISTANCE	K / V.C. LENGTH (min.) CREST	K / V.C. LENGTH (min.) SAG
MAINLINE		70 MPH	E ⁱ	12'	14'	12'	26' MIN. ^a 64' ^b	36' ^h	16'-6" ^g	03°30'00"	1,637'	0.1	4%	820' ^f	506 / 500'	206 / 400'
I-95 ENTRANCE AND EXIT RAMPS	FLYOVERS AND DIAMOND TYPE INTERCHANGES	30 MPH	E ⁱ Ei	15' ^d 24'	6' 8'	6' 10'	N/A N/A	10'	16'-6"	24°45'00"	260'	0.1	5% to 7%	200'	N/A	N/A
		45 MPH	E ⁱ Ei	15' ^d 24'	6' 8'	6' 10'	N/A N/A	14'	16'-6"	10°15'00"	560'	0.1	4% to 6%	360' ^c	98° / N/A	79° / N/A
	LOOP CONNECTIONS	30 MPH	Ei	15' 24'	6' 8'	6' 10'	N/A	10'	16'-6"	24°45'00"	260'	0.1	5% to 7%	200'	N/A	N/A
BRIDGE SECTION		70 MPH	E ⁱ	12'	10'	10'	N/A	10'	16'-6"	03°30'00"	1,637'	0.1	3%	820'	506 / 500'	206 / 400'
CROSSROAD		45 MPH	D	12'	10'	10'	19.5'	14'	16'-6"	10°15'00"	637'	0.1	5% 6%	360' ^c	98° / N/A	79° / N/A

Source: FDOT Plans Preparation Manual - 2007 update

Notes:

Median Width:

a - Based on two foot median barrier and two 12' shoulders

b - 88' when future lanes planned

Stopping Sight Distance:

c - Based on average speed of 45 mph

f - Length of crest vertical curves on interstate mainlines are not to be less than 1000' for open highways and 1800' within interchanges

Lane Widths:

d - Ramp widths vary from 15' min. to 23' depending on radius

"K" Values

e - Based on 45 mph arterials

Vertical Clearance for Bridge Structure Underpass

g - Includes future underpass resurfacing (six inches over pavements)

Horizontal Clearance for Bridge Structure Underpass

h - Horizontal clearances based on highway with flush shoulders

LOS

i - E is exceptable since Tri-Rail is present adjacent to the corridor.

In the development of the HOV lane treatments, other documents were evaluated. A number of documents and approaches have been developed, geared towards HOV lane use. Along with information from the standard roadway design literature (described above), the basis for HOV travel forecasts and designs were developed. The references used for the study are:

- *Guide for Design of High Occupancy Vehicles and Public Transfer Facilities*, AASHTO Task Force for Public Transportation Facilities, 1983
- *Safety Evaluation of Priority Techniques for High-Occupancy Vehicles*, FHWA, February 1979, prepared by N. Craig Miller, M.S., P.E., Principal Investigator, Beiswenger, Hoch and Associates, Inc. (with R. Deuser and Univ. of Florida).
- *Enforcement Requirements for High Occupancy Vehicle Facilities*, FHWA, 1978, prepared by N. Craig Miller, M.S., P.E., Principal Investigator, Beiswenger, Hoch and Associates, Inc. (with R. Deuser and Univ. of Florida).
- *Traffic Control in Carpools and Buses on Priority Lanes on Interstate 95 in Miami*, Transportation Research Center, University of Florida, August 1977
- *A Comparative Analysis of Results from Three Recent Non-Separated Concurrent Flow High Occupancy Freeway Lane Project*. Boston, Santa Monica and Miami, Simkowitz, H.J., US Department of Transportation, June 1978
- *Predicting Travel Volumes for HOV Priority Techniques*, FHWA, 1982

The designs were analyzed for methods of avoiding or minimizing the need of additional right-of-way throughout the project. The termini location criteria were taken from the Department's *Roadway and Traffic Design Standards 2010*.

Both Department and SFWMD policies and specifications were complied with for the segment's drainage requirements and stormwater runoff design.

- *Permit Information Manual: Volume IV*. South Florida Water Management District. Latest Edition.
- *Florida Department of Transportation Drainage Manual*. State of Florida: Florida Department of Transportation. Latest Edition.

Since most of the widening is proposed to the outside, we anticipate modification to interchange ramps at Glades Road and Yamato Road. Reconstruction of the Spanish River Boulevard overpass will also be required in order to provide adequate horizontal clearance. Glades Road is proposed to be eight-laned as part of this project and a new interchange, "the Airport/FAU" interchange is proposed between Spanish River Boulevard and Yamato Road which will provide direct access in and out of FAU.



4.7 Alternatives Evaluation

Below is an evaluation matrix prepared for comparing the "No-Build" alternative versus the "Build" alternative in regards to the project's goals.

TABLE 4-3 ALTERNATIVES EVALUATION MATRIX			
Goals	Evaluation Criteria	Alternatives	
		"No Build" Alternative	"Build" Alternative
Improve Level-of-Service	Mainline - # segments worse than LOS "E"/total	4 of 4*	1 of 4
	Ramp Terminals - # worse than LOS "E"/total	17 of 19	2 of 23
Meets Project Objectives	Provides additional capacity?	No	Yes
	Corrects substandard elements?	No	Yes
	Improves Safety?	No	Yes
	Consistent with transportation plans?	No	Yes
	Supports local economic plans?	No	Yes
	Requires new right-of-way?	No	Yes
Meets Engineering Criteria	Meets minimum horizontal and vertical clearance?	No	No
	Replace/modify existing major structures?	No	Yes
Minimize Impacts	Air quality impacts?	No	No
	Noise impacts?	Yes, Not Mitigated**	Yes, Mitigated
	Potential contaminated sites impacted?	No	12 "Medium", 5 "High" Risk
	Business/residential relocations required?	No	No
	Impact to wetlands/surface waters?	No	0.05 ac/8.27 ac
	Affects access to adjacent properties?	No	No
	Adverse effects to threatened & endangered species?	No	No
Keep Costs Reasonable	Engineering costs? (millions)	\$0	\$38 M
	Construction costs? (millions)	\$0	\$165 M
	Right-of-way acquisition costs?	\$0	\$10 M
	Total Capital costs (millions)	\$0	\$213 M

Segments are as follows: Palmetto Park Road to Glades Road, Glades Road to Yamato Road, Yamato Road to the Congress Avenue Connector, and the Congress Avenue Connector to Linton Boulevard; ** Some of the noise impacts are mitigated.



4.8 Selection of Preferred Alternative

Based on the evaluation of the two alternatives, the "Build" alternative has been tentatively selected as the preferred alternative. The "Build" alternative combines the auxiliary lane improvements and general use lane improvements for the mainline with improvements to interchange areas and other needed, concurrent improvements. The "Build" alternative provides the much needed additional capacity in southern Palm Beach County. The "Build" alternative provides the following:

- Improves the safety of the I-95 mainline and ramp terminal areas
- Provides mainline and intersection improvements for Glades Road
- Provides added capacity to help meet design year 2033 traffic requirements
- Corrects deficiencies and substandard design features
- Meets goals of long-range transportation plans
- Provides I-95 mainline improvements within the existing right-of-way



CHAPTER 5

Preferred Alternative

5.1 Typical Section

The recommended I-95 mainline and Glades Road typical sections are illustrated in Figures 5-1 through Figures 5-2. These typical sections reflect the recommended total lanes required for each corridor. A ten-lane section, plus two auxiliary lanes is proposed for I-95. This section is comprised of eight general use lanes, two auxiliary lanes, and two High Occupancy Vehicle (HOV) lanes, from south of Glades Road to Clint Moore Road. The auxiliary lanes taper off at Clint Moore Road and the section then becomes ten lanes up to the northern terminus of the project, south of Linton Boulevard.

The "Build" alternative's mainline typical section involves widening to the outside between south of Glades Road and north of Clint Moore Road. The existing two-foot Jersey barrier will remain in the median. Where the Jersey barrier is used, the two existing 15' shoulders will separate the barrier from the HOV lane. The 15' shoulders provide an extra margin of safety for HOV enforcement. A four-foot buffer (double broken white pavement markings) separates the HOV lane from the general use lanes. All lanes are 12' wide. In underpass areas where bridge piers are located in the existing median, the width of the inside shoulder is adjusted, as shown in Figure 5-3. Throughout the corridor, outside shoulders will be constructed to 12' (ten-feet of paved shoulder with a two-foot stabilized sod shoulder to the outside.)

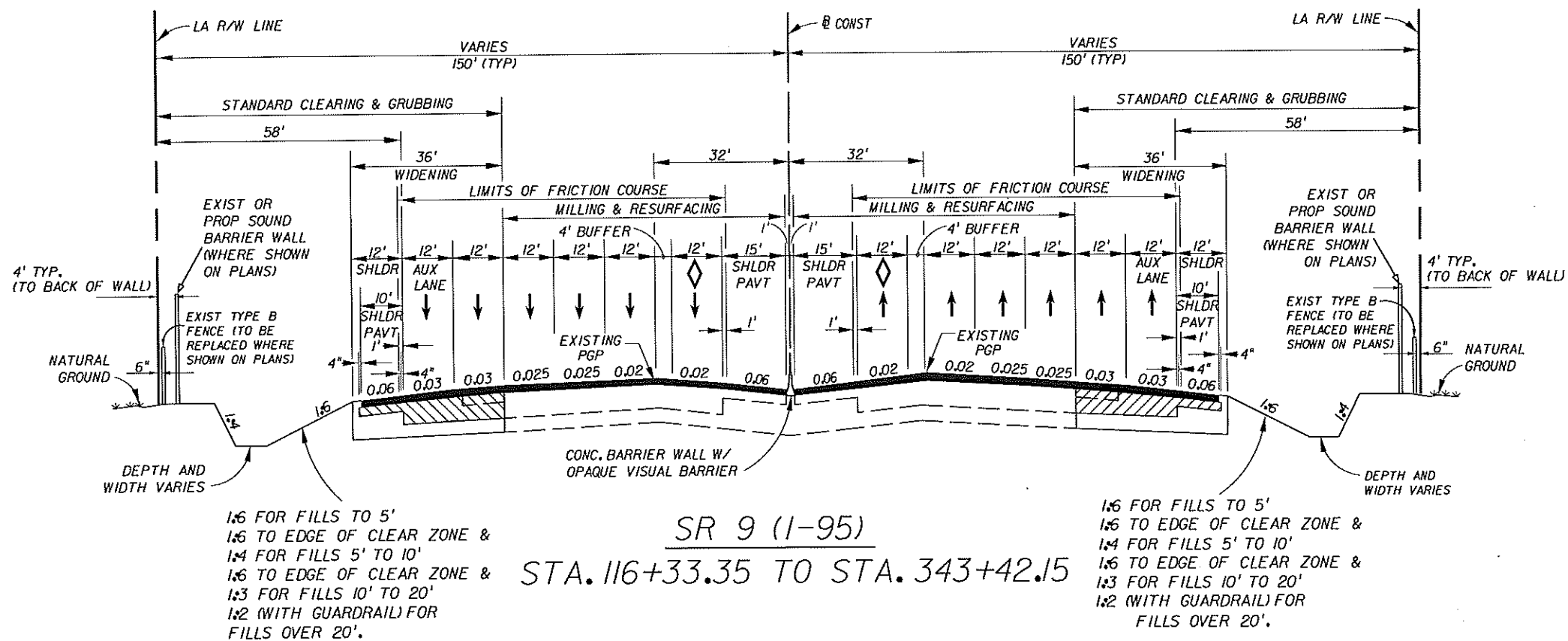
From north of Clint Moore Road to south of Linton Boulevard, widening will transition to the inside as shown in Figure 5-1 (b). Two general use lanes will be added in this section, to provide for ten lanes total, inclusive of two HOV lanes.

An eight-lane typical section is proposed for Glades Road from Butts Road to east of Florida Atlantic Boulevard. Three typical sections are displayed in Figures 5-2 (a,b,c). These sections provide for eight, 12' general use lanes, four-foot bicycle lanes, and curb and gutters plus five-foot, or six-foot sidewalks on both sides. In the "tight" section where the available right-of-way is minimal (between Butts Road and Renaissance Way), the proposed median is 15.5'. East of this location the median expands to 40' then narrows back to 20.5' on the east side of I-95.

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID	<u>412420-1-22-01</u>	FEDERAL AID PROJECT NO.	<u>0951-605-1</u>	COUNTY NAME	<u>PALM BEACH</u>
SECTION NUMBER	<u>93220</u>	ROAD DESIGNATION	<u>SR 9 (1-95)</u>	LIMITS/MILEPOST	<u>MP 1.893 TO MP 7.688</u>
PROJECT DESCRIPTION	<u>Widening and Resurfacing of SR 9 (1-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.</u>				

PROPOSED ROADWAY TYPICAL SECTION
TEN LANE SECTION WITH TWO AUXILIARY LANES



DESIGN SPEED = 70 mph

Tran Systems
2400 E. Commercial Boulevard
Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

***I-95 MAINLINE
TYPICAL SECTION***

FIGURE
NO.

5-1(a)

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01

FEDERAL AID PROJECT NO. 0951-605-1

COUNTY NAME PALM BEACH

SECTION NUMBER 93220

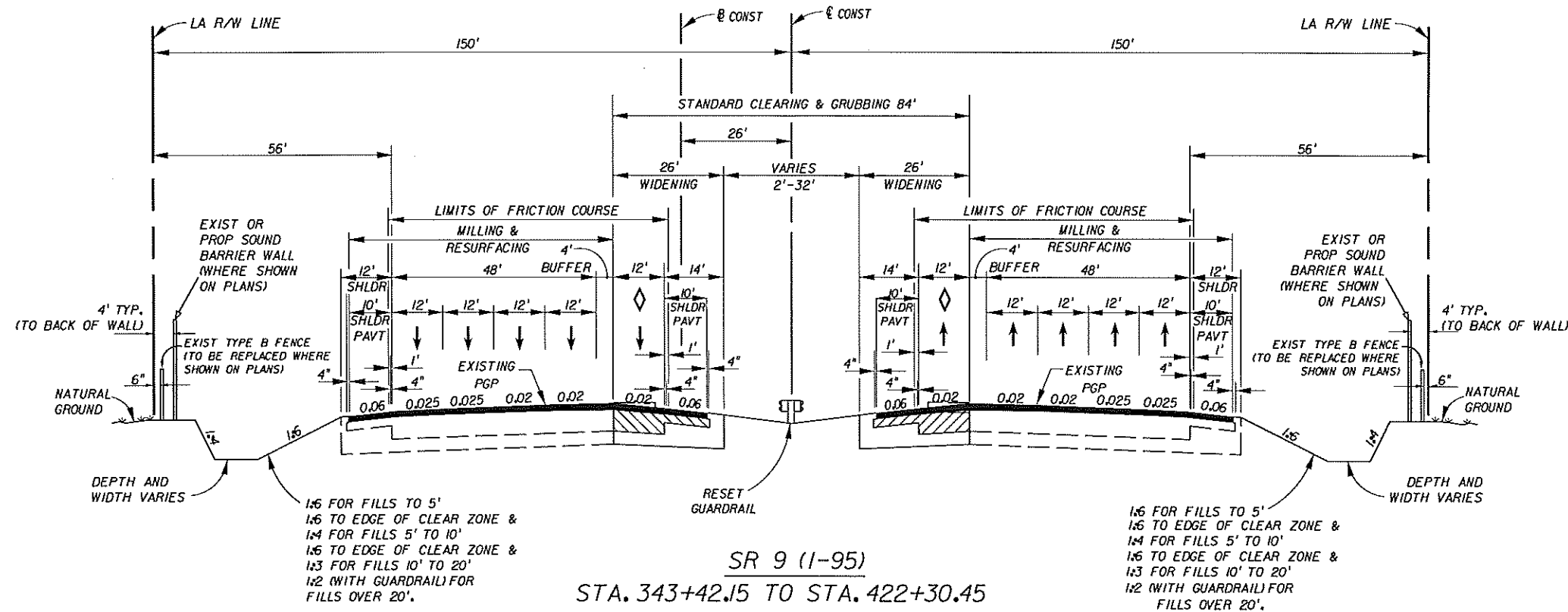
ROAD DESIGNATION SR 9 (I-95)

LIMITS/MILEPOST MP 1.893 TO MP 7.688

PROJECT DESCRIPTION	<p>Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.</p>
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PROPOSED ROADWAY TYPICAL SECTION

TEN LANE SECTION



DESIGN SPEED = 70 mph



**2400 E. Commercial Boulevard
Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700**

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

***I-95 MAINLINE
TYPICAL SECTION***

FIGURE
NO.

5-1 (b)

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID

412420-1-22-01

FEDERAL AID PROJECT NO.

0951-605-1

COUNTY NAME

PALM BEACH

SECTION NUMBER

93220

ROAD DESIGNATION

SR 808

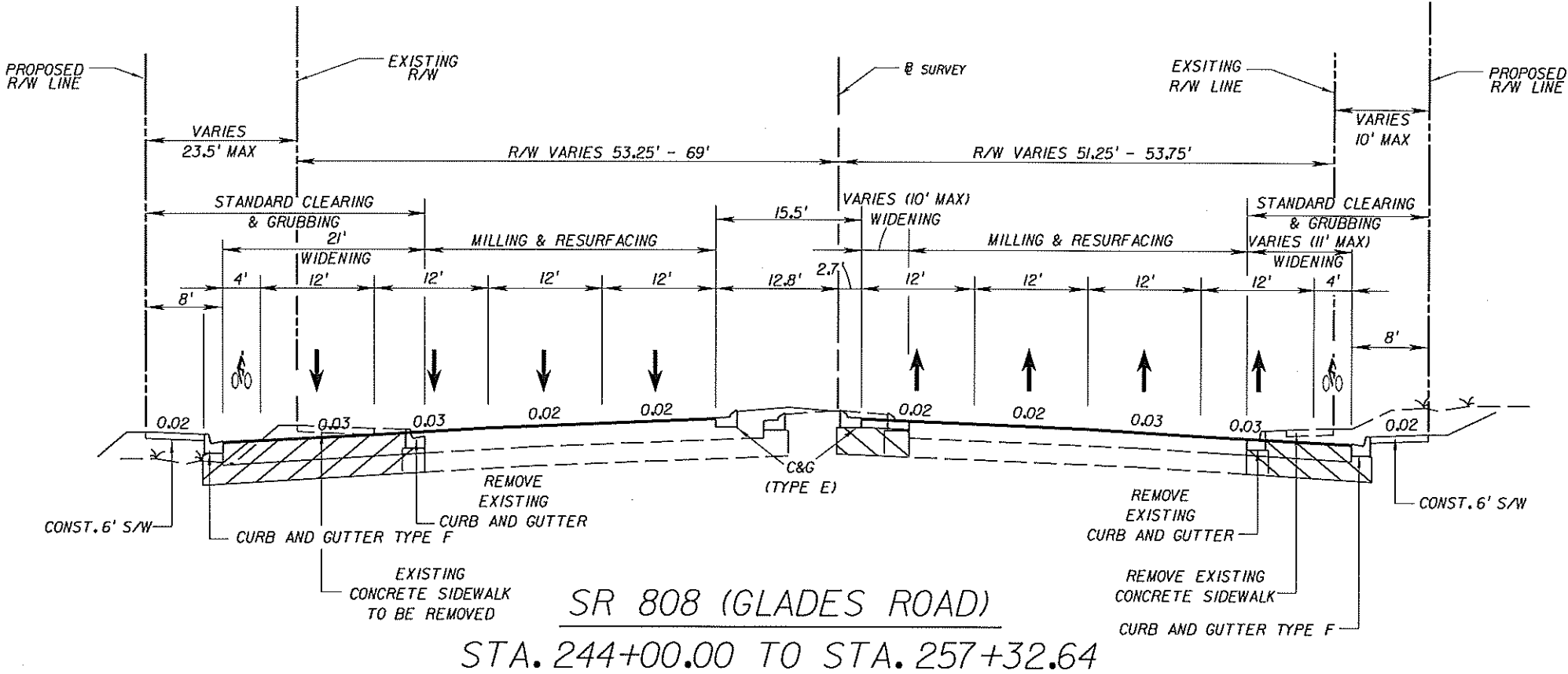
LIMITS/MILEPOST

MP 4.625 TO MP 4.879

PROJECT DESCRIPTION

Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED ROADWAY TYPICAL SECTION



2400 E. Commercial Boulevard
Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
808	PALM BEACH	412420-1-22-01

GLADES ROAD
TYPICAL SECTION

FIGURE
NO.

5-2 (a)

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID

412420-1-22-01

FEDERAL AID PROJECT NO.

0951-605-1

COUNTY NAME

PALM BEACH

SECTION NUMBER

93220

ROAD DESIGNATION

SR 808

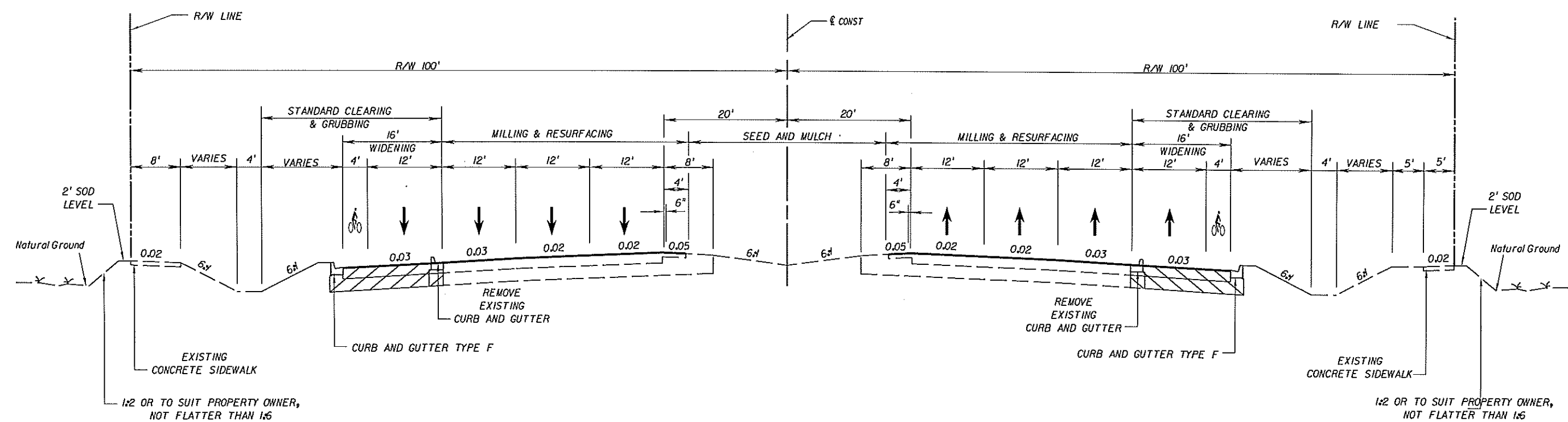
LIMITS/MILEPOST

MP 4.879 TO MP 6.309

PROJECT DESCRIPTION

Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED ROADWAY TYPICAL SECTION



PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01

FEDERAL AID PROJECT NO. 0951-605-1

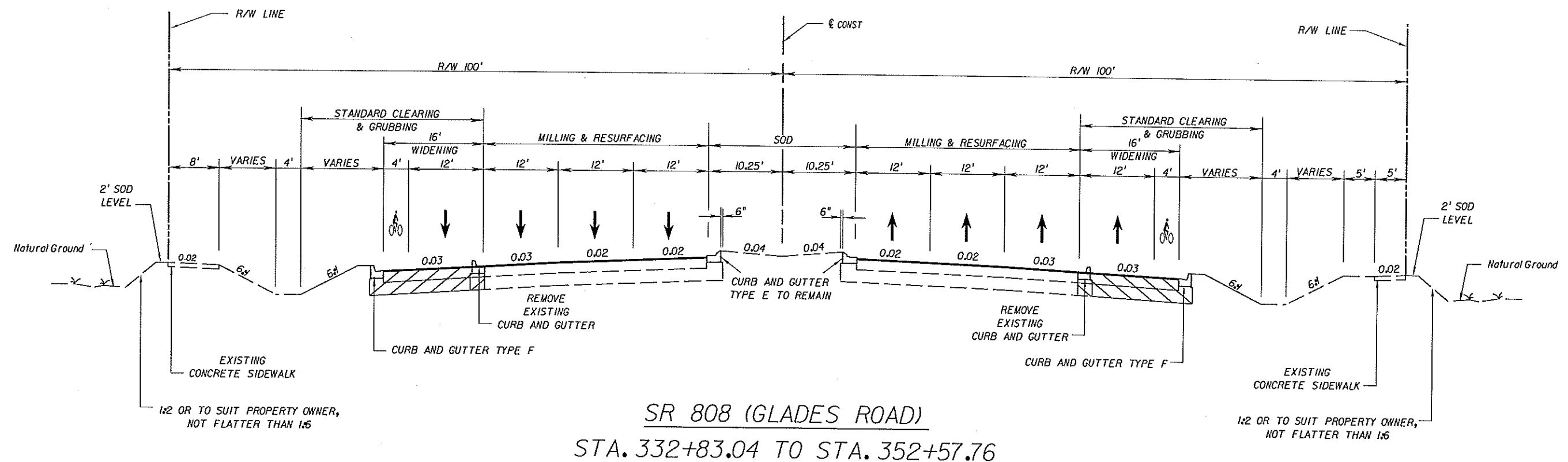
COUNTY NAME PALM BEACH

SECTION NUMBER 93220

ROAD DESIGNATION SR 808LIMITS/MILEPOST MP 6.309 TO MP 6.680

PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.
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PROPOSED ROADWAY TYPICAL SECTION



DESIGN SPEED = 45 MPH



2400 E. Commercial Boulevard
Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700

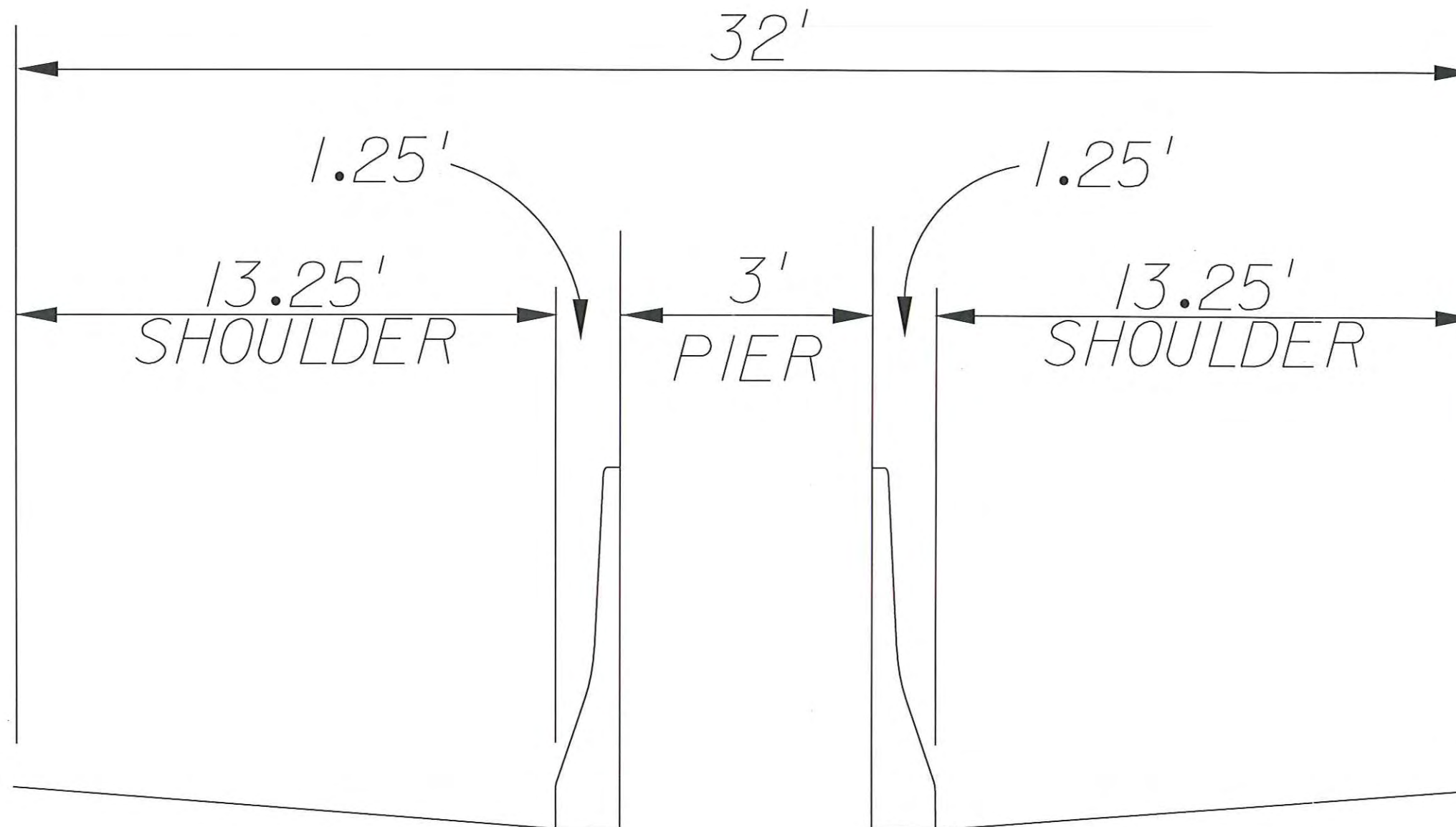
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
808	PALM BEACH	412420-1-22-01

**GLADES ROAD
TYPICAL SECTION**

FIGURE
NO.

5-2 (c)



TYPICAL SHOULDER WIDTH ADJUSTMENT
AT MEDIAN BRIDGE PIERS AT GLADES ROAD (Approximate Sta. 157+35.00 to Sta. 159+83.00),
SPANISH RIVER BOULEVARD (Approximate Sta. 237+35.00 to Sta. 238+55.00),
CLINT MOORE ROAD (Approximate Sta. 327+92.00 to Sta. 329+15.00)



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Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

**MEDIAN PIER
ADJUSTMENT**

FIGURE
NO.

5-3



5.2 Horizontal Alignment

Interstate 95's horizontal alignment generally runs north and south through Palm Beach County. The relative distance of I-95 to the Atlantic coast varies from approximately two to three miles. Within the project limits there are four horizontal curves. Using the stationing in the "as-built" plans, these curves are located at P.I. Stations 139+43.02, 190+41.93, 253+22.24, and 298+86.39. The minimum radius observed within the project corridor is 4,583.66'. Based upon horizontal curvature and superelevation, all four horizontal curves meet Department standards for an allowable design speed of 70 mph. Table 5-1 and Table 5-2 below display the existing horizontal geometry and existing cross sections respectively, for the project segment.

TABLE 5-1 I-95 EXISTING HORIZONTAL ALIGNMENT					
ROADWAY SEGMENT			DEGREE OF CURVATURE	SUPER-ELEVATION (E)	ALLOWABLE DESIGN SPEED
No.	FROM STATION	TO STATION			
1	116+33.35	149+56.27	01° 00' 00"	0.039	70
2	176+02.32	204+23.15	01° 00' 00"	0.039	70
3	245+00.00	261+33.33	01° 00' 00"	0.039	70
4	271+57.77	320+80.17	01° 15' 00"	0.049	70

Source: FDOT Plans Project No.: 93220-3423 & 93220-3406.

TABLE 5-2 I-95 EXISTING CROSS SECTIONS								
ROADWAY SEGMENT			NO. LANES	MEDIAN WIDTH	LANE WIDTH	CLEARANCE OUTSIDE	INSIDE SHOULDER	OUTSIDE SHOULDER
NO.	FROM	TO						
1	240+00.00	335+41.45	4	32'*	12'	82' min.	12'	12'
2	335+41.45	428+13.94	4	32' min.	12'	18' min.**	12'	12'

Note: *Barrier wall section, **Adjacent to auxiliary lane.

Source: FDOT Plans Project No.: 93220-3423 & 93220-3406.

5.3 Vertical Alignment

The vertical alignment along the project's mainline varies with grades from -2.00 percent to +2.00 percent. There are several slight vertical curves within the project limits, along the right and left inside edge of pavement. Table 5-3 summarizes the mainline vertical alignment. These curves are located north of the Spanish River Boulevard overpass. The existing vertical curves meet the minimum design criteria for 70 mph.



TABLE 5-3
I-95 EXISTING VERTICAL CURVE ALIGNMENT

Roadway Segment			Algebraic Difference in Grade %	Length of Curve (ft)	Calculated K Value	Allowable Design Speed
Curve No.	From	To				
1 - Sag	343+50.00	351+50.00	0.40	800	2,000	70
2 - Crest	356+50.00	366+50.00	1.6184	1,000	618	70
3 - Sag	368+00.00	376+00.00	0.6124	800	1,306	70

Source: FDOT Plans Project No.: 93220-3423 & 93220-3406.

Two sag curves found within the I-95 project corridor have curve lengths of 800'. The Department's minimum curve length standard for sag curves is 800'. The length of the crest curve has been identified to be less than the Department's allowable minimum of 1,800'. This substandard curve length could be lengthened with overbuild and special profiles, but a design variation is recommended to keep them as is. The minor difference achieved would hardly be perceptible to the driver. Also, the vertical curve at the bridge would be difficult to alter if at all possible with pavement work. The curve does meet the "K" value minimum criteria of 506'.

The most mentionable vertical curves occur off of the I-95 mainline, at the Glades Road overpass over I-95. At this location, there are two sag and two crest curves. The first sag curve, approaching the overpass, has a "K" value of 115, which meets the Department's standards for a design speed of 45 mph. Sag curves for a 45 mph design speed require a minimum "K" value (ratio of minimum curve length over algebraic difference in grades) of 79.

The next vertical curve is a crest curve, and has a "K" value of approximately 49, which does not meet Department standards (design speed of 45 mph). Crest curves require a minimum "K" value of 98. Therefore, this crest curve has a design speed of 35 mph.

The next vertical curve is a crest curve on the north side of the bridge, and has a "K" value of approximately 66, which again, does not meet Department standards for a design speed of 45 mph. A "K" value of 66 is four points shy of 70, the minimum "K" value for 40 mph.

The final vertical curve is a sag curve, and has a "K" value of approximately 156, which does meet Department standards for a design speed of 45 mph.

For both deficient crest curves, current plans call for keeping and not reconstructing the existing Glades Road bridges over I-95. For this reason, a variance is suggested for these two crest curves.

5.4 Drainage

The proposed design for stormwater storage for the project involves storing the roadway runoff in the proposed roadside ditches where feasible, and constructing stormwater storage ponds in infield areas at the interchanges or expanding existing ponds. The right-of-way for I-95 is typically 300' wide and expands at the interchanges. The proposed roadway will feature four general purpose lanes, an HOV lane, auxiliary lanes, and two paved shoulders in each direction. The remaining right-of-way available for drainage and stormwater treatment is limited and is approximately 40' wide on each side (except at the interchange areas).



Since the availability of areas for stormwater storage along the roadway is limited, it will be necessary to use the infield areas at the interchanges for this purpose. Fortunately, the proposed interchange configurations will provide ample opportunity for stormwater ponds. The partial cloverleaf at Glades Road will provide more than enough area for stormwater ponds and other considerations such as aesthetics and environmental considerations that will come into play. Similarly, the proposed changes to the interchange at Yamato Road will provide ample room for ponds. At the Congress Avenue Connector, the opportunities are not as great, and use of retaining walls may be necessary to provide sufficient storage. Retaining walls can be used to reduce grass slopes and increase the area available for storage of stormwater runoff. The existing ponds along the east side of the project will also have to be expanded and while some right-of-way does exist for this purpose, walls may also have to be considered there too.

Up to the Clint Moore Road overpass (Sta. 325+00.00), the roadway is being widened to the outside. From the Clint Moore Road overpass to the end of project, the roadway is being widened along the inside. Where the roadway is widened along the outside, the existing ditches will be displaced. In many areas, these ditches are part of the existing stormwater collection and treatment system. As such, the new ditches will have to provide the same function for the new roadway, and treatment quantities will have to be calculated for the entire roadway.

In addition, much of the roadway alignment in the project area is curvilinear and the roadway is superelevated. The result is that on the high side of the superelevated sections, the toe of slope naturally lands outside the right-of-way line using standard side slope ratios. This problem can be remedied by constructing retaining walls, which will also allow room for ditch construction, and it is anticipated that this will be required for a significant part of the project. Guardrail can also be used, which allows steeper side slopes and helps to keep the roadway footprint within the existing right-of-way. The exact limits of where guardrail can be used or where retaining walls are needed will be determined during final design.

Stormwater storage requirements will be met by providing storage within the proposed right-of-way. The existing interchange infield areas at Glades Road and the Congress Avenue Connector will provide the storage needed that cannot be met by storing stormwater in the road side ditches. The proposed modifications to the Yamato Road interchange and new connection to Florida Atlantic Boulevard, will provide additional land area for storage. The availability of land, plus the fact that the soil is permeable and the water table is deep in most areas, means that there will be no problems meeting stormwater storage requirements.

5.5 Structures

Treatments at the location of each structure within the project area will be executed as necessary, in order to accommodate the proposed I-95 improvements. The treatments at these structure locations can be categorized into four general treatments.

- **Widen** - The existing I-95 mainline overpass structures will require widening at Yamato Road (from eight to 12 lanes) and the C-15 Canal (from eight to ten lanes).
- **No Change** – At the Congress Avenue Connector, the horizontal clearances for I-95 under the existing crossroad structures are sufficient to permit the proposed mainline section to be constructed to current design standards without making any structural modifications. This site carries the crossroad over the mainline.
- **Bridge Replacement** – Due to insufficient horizontal clearances, the Spanish River Boulevard overpass must be reconstructed. The Spanish River Boulevard bridge is proposed to be

reconstructed as a four-lane bridge with a sidewalk on the north side and a multi-purpose two-way pedestrian/bike path on the south side.

- **Span Lengthening** – A creative treatment is recommended at the Clint Moore Road overpass, where there is currently insufficient horizontal clearance to accommodate the widening of I-95. The continuous span steel girder is proposed to be extended and the end-bent treatment modified so that additional northbound widening can be achieved on I-95 without replacing the entire Clint Moore Road Bridge. More detail is provided in the “Conceptual Bridge Report” for this project.
- **New/Independent Bridges** – There are a number of new bridges proposed as part of this project. The independent parallel “ramp-connector” bridges are proposed at Glades Road to provide additional capacity and connect to the two loop ramps in this interchange. Auxiliary lanes on the existing bridges are proposed to be connected to through-lanes as part of the eight-laning of Glades Road. The other new bridges are all associated with the new “Airport/FAU” interchange connecting to the Spanish River Boulevard/Florida Atlantic Boulevard intersection.

Listed below are the existing and proposed bridges, and major structures within the project corridor. The bridge alternatives considered are: remain as is, widen, modify, or fully replace. The proposed improvements identified below are shown in the preliminary plans.

Existing Bridges

- B01 Glades Road Overpass (two bridges) – modify east and west end spans to provide for new loop ramps to I-95 at grade. Upgrade bridge rails and include bike lanes within existing six-foot shoulders.
- B02 Glades Road over Military Trail / South Florida Rail Corridor (CSX Railroad) – Eastbound Bridge: upgrade bridge rails. Include striped bike lanes within the existing six-foot shoulder. Westbound Bridge: Widen to the north to provide a bike lane, barrier walls, and new covered sidewalk.
- B03 Spanish River Boulevard Overpass – full replacement with a new four-lane bridge. The bridge will have a raised median, a covered sidewalk on the north side, and an eight-foot wide sidewalk on the south side. Bike lanes will be included within the outside shoulders.
- B10 I-95 over El Rio Canal – Both the northbound and the southbound sides of the I-95 Bridge crossing the El Rio Canal will be widened. The overhangs and barriers on each side will be removed and more deck and beams will be added. Modified beams are needed to reduce the structure depth and maintain the existing eight-foot clearance above the El Rio Trail.
- B11 I-95 over Yamato Road - This bridge will be widened to provide 12' outside shoulders in the northbound and southbound directions. This requires one new Type IV beam on both sides, deck widening, and new barrier walls.
- B12 Clint Moore Road Overpass – This bridge is anticipated to be salvaged in its entirety by jacking the existing structure, shifting Pier 3 westward, removing Pier 5, and lengthening the spans above I-95 to accommodate the widening. The existing bridge consists of steel plate girders with a concrete deck supported on concrete piers.
- B13 Congress Avenue Connector Overpass – No changes are proposed since the structure was built to accommodate the future I-95 widening.
- B14 I-95 over C-15 Canal - Widen to the inside for new shoulder; upgrade bridge rails to barrier walls.

- B18 Spanish River Boulevard over El Rio Canal – Widen to the outside for a new lane in each direction, new shoulder, and an eight-foot sidewalk on the south side.

New Bridges

- B01B Ramp connection eastbound Glades Road to northbound I-95. This is an independent bridge over I-95 on the south side of the eastbound Glades Road Bridge.
- B01A Ramp connection westbound Glades Road to southbound I-95. This is an independent bridge over I-95 on the north side of the westbound Glades Road Bridge.
- B02A Ramp connection for eastbound Glades Road to northbound I-95. This is an independent bridge over I-95 on the south side of the eastbound Glades Road Bridge over the over Military Trail and the South Florida Rail Corridor (SFRC) / CSX Railroad.
- B04 Southbound I-95 to southbound FAU Extension Off-ramp over I-95. This bridge has two spans crossing the northbound and southbound sections of I-95. The bridge is a curved-steel girder structure with two lanes, shoulders, and barrier walls.
- B05 Northbound FAU Extension to southbound I-95 over I-95 and Bridge B04. This bridge has two spans crossing the northbound and southbound sections of I-95. The east span also crosses over the northbound I-95 Exit Ramp to Yamato Road. The west span also crosses over the southbound I-95 to FAU extension ramp near the west abutment. The bridge is a curved-steel girder structure with two lanes, shoulders, and barrier walls.
- B06 Southbound I-95 On-ramp from westbound Yamato Road over the El Rio Canal. This bridge has three spans crossing the El Rio Canal and the east span also crosses over the El Rio Trail. The bridge has Type II AASHTO beams with two lanes, shoulders, and barrier walls.
- B07 Southbound I-95 to southbound FAU Extension Off-ramp over the El Rio Canal. This bridge is a single span of 120 feet crossing the El Rio Canal and the east span also crosses over the El Rio Trail. The bridge has Type V AASHTO beams with two lanes, shoulders, and barrier walls. The vertical profile of the bridge is well above the Canal since the ramp grade is going up to cross I-95. Therefore, a single span is used, instead of a three-span configuration similar to Bridge 06, to eliminate tall piers which would be unsightly.
- B08 Northbound FAU Extension On-ramp to northbound I-95 over the El Rio Canal and NB I-95 Off-ramp to eastbound and westbound Yamato Road. The south span crosses over the El Rio Canal, the center span crosses over the El Rio Trail, and the north span cross over the I-95 northbound ramp to Yamato Road. The three alternatives for this bridge are three-span curved steel girder structures.
- Alternative 1 has a standard pier cap at Pier 3 which requires the entire pier to be clear of the northbound ramp.
- Alternative 2 has an integral pier cap at Pier 3, which allows the pier to overhang the northbound ramp. This alternative allows for a lower roadway profile due to the reduced structure depth.
- Alternative 3 introduces a fourth pier, which is a straddle bent between Pier 3 and the north end bent. Making this bridge a four-span configuration reduces the span lengths to a maximum of 160-feet for the two center spans.
- B09 Northbound I-95 Off-ramp to eastbound and westbound Yamato Road over the El Rio Canal. This bridge has three 40' spans crossing the El Rio Canal and the east span also crosses over the El Rio Trail. The bridge has Type II beams with two lanes, shoulders, and barrier walls.

The bridge profile must clear the El Rio Trail by eight feet minimum, which will control the ramp vertical profile.

- B11A Northbound FAU Extension On-ramp to northbound I-95 over Yamato Road. This bridge has two spans crossing Yamato Road with a single pier in the median. The bridge has BT 78 beams supporting one lane, shoulders, and barrier walls.
- B15 Westbound Yamato Road to southbound I-95 over Yamato Road. This bridge has two spans crossing Yamato Road with a single pier in the median. The bridge has BT 78 beams supporting one lane, shoulders, and barrier walls.
- B16 Westbound Yamato Road to southbound I-95 over westbound ramp from Yamato Road onto southbound I-95. This bridge is a single span crossing over a new single-lane at-grade ramp. The bridge has Type III beams supporting one lane, shoulders, and barrier walls.
- B17 Northbound I-95 and westbound FAU ramp to westbound Yamato Road loop ramp over Yamato Road. This bridge has two spans crossing Yamato Road with a single pier in the median. The bridge has Type IV beams supporting three lanes, shoulders, and barrier walls.

Other Structures

- L-46 Canal - canal crossing/overpass (single box culvert)
- L-40 Canal - canal crossing/overpass (twin 9' X 7' box culvert)

Prestressed concrete beams and cast-in-place concrete deck slabs were the primary choices for bridge types for their durability, standardized construction, economy and consistency with the other bridges in the vicinity. The span lengths vary from less than 100' for existing bridge widening to over 230' for new bridge construction or replacing existing bridges. On existing bridges, the same beam sizes as existing are proposed for bridge widenings.

Steel plate girder superstructure is proposed only on curved bridges. Three bridges, B04, B05, and B08 are proposed as steel plate girder superstructures. Other possible bridge types, such as segmental, were considered; however, the comparatively smaller overall bridge length limits the economy-of-scale needed for this alternative to be economically viable. Moreover, with steel girder bridges, utilizing closer girder spacing, the superstructure depth could be reduced to maintain tolerable vertical profiles. This flexibility affords opportunities to explore different combinations of girder depths with respect to economy due to fewer retaining structures, shorter piers, etc. in final design.

Pedestrian Bridge for El Rio Trail

Refer to Figure 3-1 for references to nodes. The existing El Rio Trail runs from Yamato Road (Node 5) along the east side of the tracks then turns east towards Florida Atlantic University. There is a trail spur from the Tri-Rail Station (Node 1) northeasterly over the El Rio Canal [(Node 2) to (Node 3)]. This study evaluates the option of providing a pedestrian bridge to span over the railroad to continue over Yamato Road before touching down on the north side of Yamato Road. The specific segments of this bridge are as follows:

- 3-4 This segment is a switchback ramp that meets Americans With Disabilities Act (ADA) requirements to raise the trail above the railroad tracks. Stairs are optional at Node 4.
- 4-9 This segment is a bridge over the railroad providing 23'-6" of vertical clearance above the tracks.
- 9-6 This segment is a pedestrian bridge that drops approximately five feet from the span over the railroad to the span over Yamato Road.
- 6-8 This segment is a single span crossing Yamato Road with a roadway vertical clearance of 17'-6".

7-6 This segment is a bridge over the Canal connecting back to the Tri-Rail Station. A switchback and stairs could be provided at Node 7 or Node 6. This can be determined in final design.

8 This would be a switchback and stairs to get back to the sidewalk level at the roadway.

Elevators are not anticipated for vertical circulation since the switchback ramps provide ADA accessibility. Stairs may be an option at Nodes 4, 6 and 8, which can be determined in the final design. The bridge will most likely be a steel frame structure to accommodate the span lengths and to closely replicate the Tri-Rail station bridge in terms of architecture. The structure style would be determined in final design.

5.6 Design Traffic Volumes

5.6.1 Forecasting Methodology

This section provides an overview of the forecasting methodology. Details of individual components follow in later subsections. Design Traffic was developed for the opening year of 2013 and horizon year of 2033 for the study area. The 2013 forecast was developed by interpolating between existing and committed network Annual Average Daily Traffic (AADT) and 2015 AADT. The design year 2033 traffic was forecasted using 2030 ZDATA and the 2030 cost feasible highway network of the Palm Beach County Planning Model.

5.6.2 Travel Demand Model

The model selected for use in the future year analysis was the Palm Beach County Planning Model (PBCPM.) The PBCPM was recently validated in 2000, with 2000 being the base year for the model. *Leftwitch Consulting Engineers Inc.* performed all the travel demand model runs and provided *TranSystems* with the results.

5.6.3 Development of Future AADT

The first step in the development of Directional Design Hourly Volumes (DDHVs) is the development of AADTs. The design traffic methodology for calculating AADT begins with model traffic assignment output. 2030 traffic was factored up to 2033 using the annual compound growth percentage between 2000 and 2030. The development of the AADTs was performed on a link-by-link for the I-95 Mainline and surrounding roadways in the study area. This procedure was used as the basis for the determination of AADTs in all the scenarios.

5.6.4 Traffic Factors

The Design Traffic factors (K_{30} , D_{30} and T_{24}) are necessary to determine future year DDHVs. The K-factor is the ratio of the hourly two-way volume to the two-way AADT. The K_{30} , the design hour factor, is the relationship between the 30th highest hour volume and the AADT, and it is used to determine the Design Hour Volume (DHV). The D-factor is the percentage of the total, two-way peak hour traffic traveling in the peak direction. The D_{30} factor is the proportion of traffic in the 30th highest hour of the year traveling in the peak direction, and it is used to determine the Directional Design Hour Volume (DDHV). The T-factor is the percentage of trucks using the roadway. The T_{24} factor is the percentage of truck traffic for 24 hours. It is the same as 24T+B (24-hour truck plus bus percentage) in the *Florida Annual Classification Report*.



The K_{30} factors from FDOT count stations in the study area were evaluated. Telemetered count stations were not available for I-95 or crossroad arterials, near the study area so the FDOT portable count stations were used instead. For I-95, station site number 2191 located north of Glades Road was used. Telemetered Traffic Monitoring Stations (TTMS) sites serve as the source for the estimation for K_{30} for all other FDOT counts stations in the area. The site specific K_{30} factors on the arterials were found to be within the range allowed in FDOT's design traffic procedure. As shown in Table 5-4, the K_{30} proposed for I-95 is within the recommended values used in FDOT's design traffic procedure. A meeting was held and several items were discussed from the comments which FDOT provided Transystems on the Systems Interchange Justification Report (SIJR) document submitted October 2006 (Revised July 2007). One of the issues brought up at the meeting was related to the design traffic (DDHV) numbers generated based on the "K" and "D" factors used per the Methodology Letter Of Understanding (MLOU) document.

Table 5-4 Design Traffic Factors Comparison and Recommendations

FDOT Site	Description	Year	K_{30} (%)	D_{30} (%)	T-Daily (%)
I-95					
93-2191	North of Glades Road	2004	8.31	56.50	15.65
Arterials					
93-0046	Yamato Road-west of I-95	2004	11.98	58.43	1.91
93-0047	Yamato Road-east of I-95	2004	11.98	58.43	3.84
93-0040	Glades Road-west of I-95	2004	11.98	58.43	4.29
93-0041	Glades Road-east of I-95	2004	11.98	58.43	4.26
Average					
			11.25	58.04	5.99
FDOT Acceptable Value-Urban Freeway*					
	Low		9.40	50.40	
	Average		9.70	55.80	
	High		10.00	61.20	
FDOT Acceptable Value-Urban Arterial*					
	Low		9.20	50.80	
	Average		10.20	57.90	
	High		11.50	67.10	
Recommended Hour Factors for the I-95 SIJR Study					
			K_{30} (%)	D_{30} (%)	T-Peak (%)
Freeway			8.43	55.0	7.5
Arterials			9.20	55.0	2.0
Other Factors					
PHF (All)		0.95			

* Source: FDOT Project Traffic Forecasting Handbook, October 2002.

All of the actual K-factors on I-95 and arterials are much lower than the ones used in the I-95 SIJR's Methodology Letter of Understanding (MLOU). The recommendation was made that the K factors used in the development of DDHVs be changed to:

K_{30} = 8.43% for I-95

K_{30} = 9.2% for Arterials

The daily traffic forecasts would remain the same (as approved by FDOT) and the "D" and "T" factors would also remain per the MLOU.

The D_{30} factor was also determined from the FDOT count site data. The average D_{30} values from the FDOT count sites were used for the arterials. For the T-Peak value on arterials, the data from FDOT count sites (T-Daily) was averaged and divided by two.

5.6.5 Development of DDHV

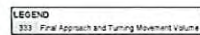
Four sets of DDHVs were developed for this project. These sets include two DDHVs each for opening year (2013), and design year (2033). They consist of peak and off-peak design hour volumes for the "No Build" and "Build" alternatives.

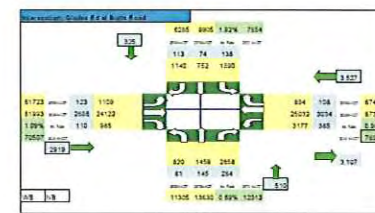
The DDHVs were developed from the calculated AADTs using the Department's design traffic procedure. The K_{30} and D_{30} used for each of the time frames analyzed were 8.43 percent and 55.00 percent, respectively, on I-95, and 9.2 percent and 55.00 percent, respectively, on all other facilities. These values were obtained based on the consensus of the traffic review meeting held at FDOT on September 6, 2007, previously mentioned.

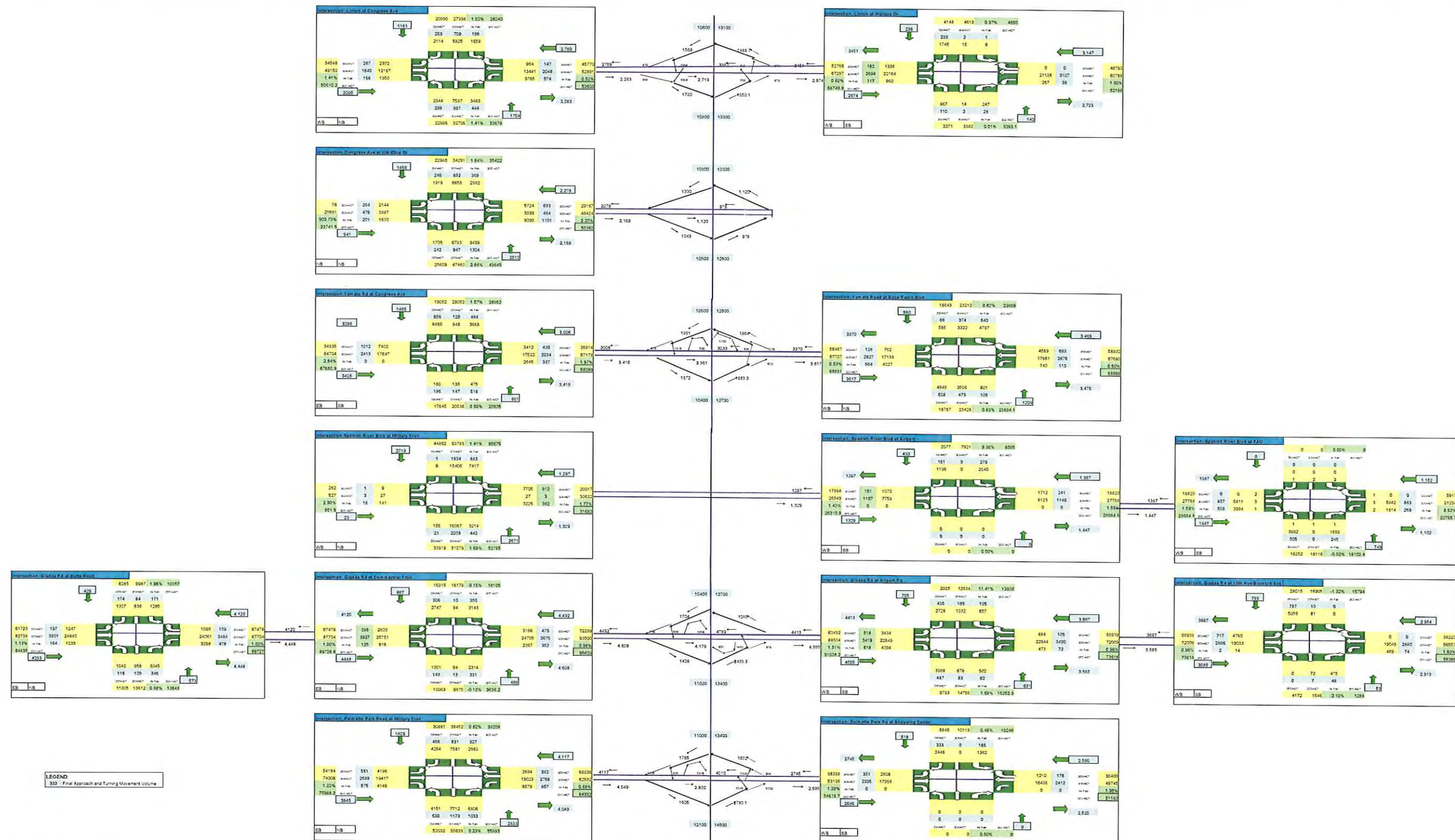
The peak DDHVs were determined by using the following equations:

$$\begin{aligned}\text{DDHV, peak direction} &= \text{AADT} * K_{30} * D_{30} \\ \text{DDHV, off-peak direction} &= \text{AADT} * K_{30} * (1 - D_{30})\end{aligned}$$

The calculation of the DDHVs on the I-95 links and turns were calculated by applying these factors to the AADT volumes. Figures 5-4, 5-5, 5-6, and 5-7 show the future opening year (2013) and design year (2033) "No Build" and "Build" volumes from AADT and intersections turning movement volumes.



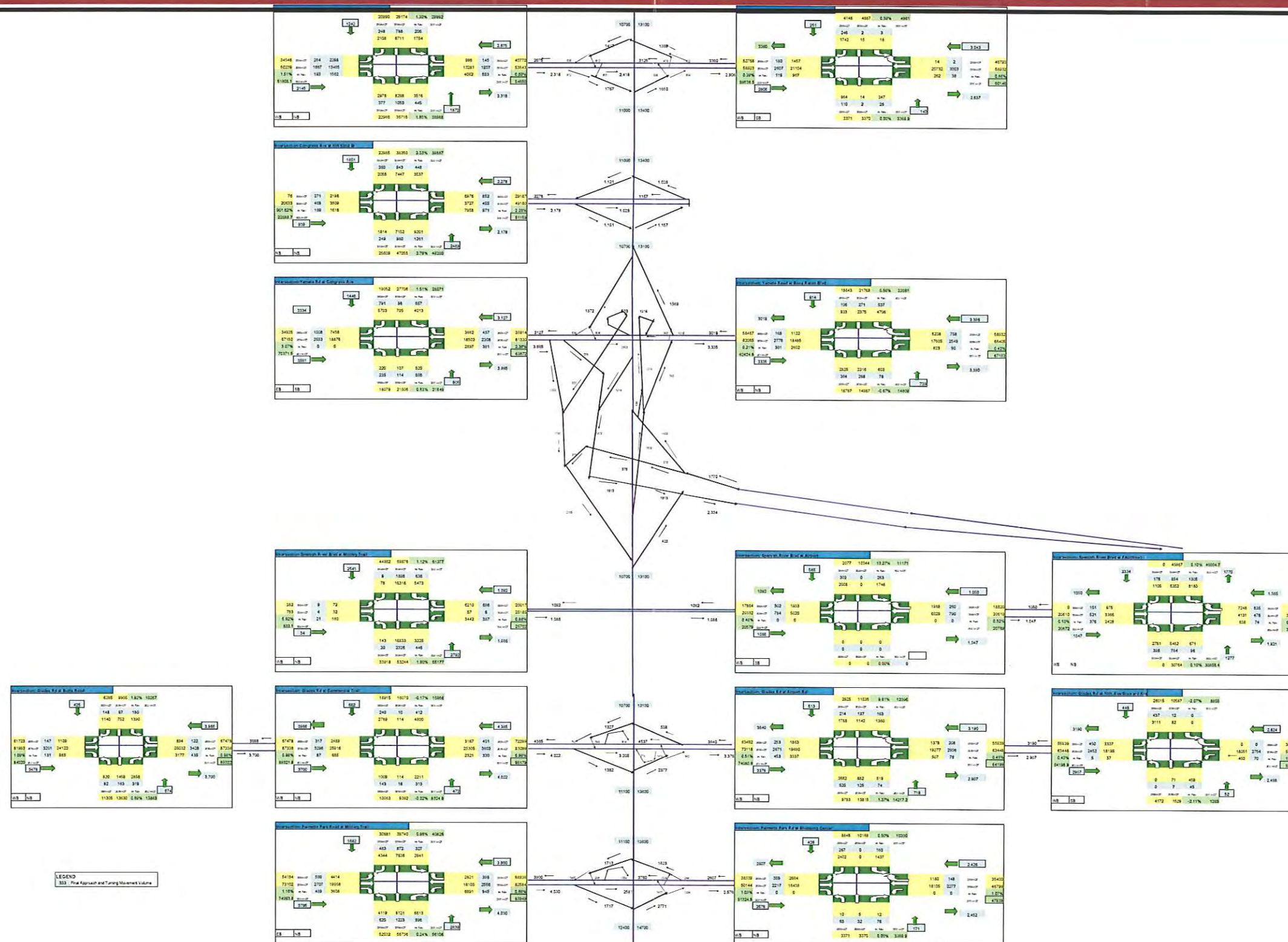




Future Peak Hour Traffic Volumes Opening Year 2033 No Build

Figure 5-6





Future Peak Hour Traffic Volumes Opening Year 2033 Build

Figure 5-7



5.6.6 Element Operational Analysis

The element operational analysis is a thorough technical traffic engineering investigation to show the operational characteristics of the proposed interchange system, the impact on the mainline and the adjacent interchange operations, and the influence of the proposed interchange on the surrounding street system within the area of influence. The operational analysis takes into account all FDOT general design parameters and standards for the interchange proposal as well as a determination of the level-of-service. The systems operational analysis has been conducted as prescribed below:

The following elements within the area of influence require operational analysis:

- Mainline through movements and exit ramps,
- Ramp terminal merge and diverge areas,
- Weaving sections, and
- Surface streets (intersections and arterials).

As agreed upon in the MLOU, the procedures recommended by the 2000 Highway Capacity Manual were utilized in the analysis. The analysis was performed for all alternatives in the opening and design years. At most locations, the green times were modified during the future year analysis in order to equalize the delay among approaches. The results of the operational analysis are summarized in Tables 5-5 through Table 5-13, with the corresponding Highway Capacity Software (HCS) outputs included in Appendix E of the SIJR.

TABLE 5-5 - Peak Hour Ramp Analysis – Level-of-Service (LOS) Future Conditions Comparison

Ramp Location	No-Build No. of Lanes	Build No. of Lanes	Year 2013				Year 2033			
			No-Build		Build		No-Build		Build	
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
Linton Blvd SB off ramp	2	2	17.9	B	15.9	B	29.7	F	15.9	B
Linton Blvd SB on ramp	2	2	28.5	F	29.9	D	45.7	F	27.9	C
Linton Blvd NB off ramp	2	2	30.8	F	24.8	C	54.4	F	21.5	C
Linton Blvd NB on ramp	2	2	40.0	F	33.4	F	65.5	F	46.0	F
NW 82nd Street SB off ramp	2	2	10.3	B	12.4	B	13.3	B	18.9	B
NW 82nd Street SB on ramp	1	1	26.4	C	27.1	C	25.4	C	27.6	C
NW 82nd Street NB off ramp	1	1	33.0	D	38.0	E	41.4	F	42.6	F
NW 82nd Street NB on ramp	1	1	30.0	D	37.0	F	44.6	F	44.9	F
Yamato Road SB off ramp	1	2	36.4	E	16.0	B	44.7	E	15.6	B
Yamato Road SB on ramp	1	2	29.9	D	24.4	C	48.7	F	27.9	C
Yamato Road NB off ramp	1	2	43.3	E	14.3	B	55.5	F	15.6	B
Yamato Road NB on ramp	1	2	46.8	F	24.4	C	65.1	F	27.9	C
Spanish River Blvd SB off ramp	n/a	1	-	-	29.9	D	-	-	34	D
Spanish River Blvd SB on ramp	n/a	2	-	-	26.5	C	-	-	30.9	D
Spanish River Blvd NB off ramp	n/a	1	-	-	30.7	D	-	-	36.8	E
Spanish River Blvd NB on ramp	n/a	1	-	-	30.2	D	-	-	27.7	C
Glades Road SB off ramp	1	2	35.4	E	13.5	B	44.7	E	15.4	B
Glades Road SB on ramp	1	1	31.5	D	29	D	53.8	F	21.3	C
Glades Road NB off ramp	1	2	44.8	E	18.9	B	50.4	F	25.8	C
Glades Road NB on ramp	1	1	46.2	F	28.9	D	68.5	F	34.8	D
Glades Road SB on ramp (Loop)	1	1	25.2	C	22.8	C	42.9	F	28.7	D
Glades Road NB on ramp (Loop)	1	1	38.8	F	31.1	D	43.4	F	27.1	C
Palmetto Park Road SB off ramp	1	1	36.4	E	30.9	D	47.2	F	34.7	D

Table 5-5 and Table 5-6 summarize the HCS results of the I-95 entrance/exit ramps and freeways for both opening year (2013) and Design year (2033) scenario. The overall operating condition at all the ramps during both opening year (2013) and design year (2033) year scenarios improve in the "Build" condition compared to the "No-Build" alternative. In some cases the operating level-of-service did not change but the overall ramp density improved in the build scenario compared to the "No-Build". The only exception is the I-95 northbound on and off-ramp from Palmetto Park Road, and the I-95 northbound on-ramp at Linton Boulevard. These on and off-ramps operate at level-of-service "F" during the opening 2013 and design year 2033 "Build" conditions, but the overall density along the ramps improves from 54.8 to 47.3 passenger cars/lane-mile (pc/lane-mi) and 74.3 to 39.4 pc/lane-mi. In the case of Linton Boulevard, the density increases in the 2033 "Build" scenario compared to the 2013 "Build". The density goes from 33.4 pc/lane-mi to 46 pc/lane-mi for the on-ramp during 2033 "Build" conditions. No improvements (e.g. lane additions) to the failing ramps at Palmetto Park Road and Linton Boulevard were considered in this study since these ramps are outside the scope of this study and are, or will be evaluated by others in current or future studies. However, this study recommends adding an evaluation of the failing ramps north and south of this specific project.



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TABLE 5-6 - Peak Hour Freeway Analysis – Level-of-Service (LOS) Future Conditions Comparison

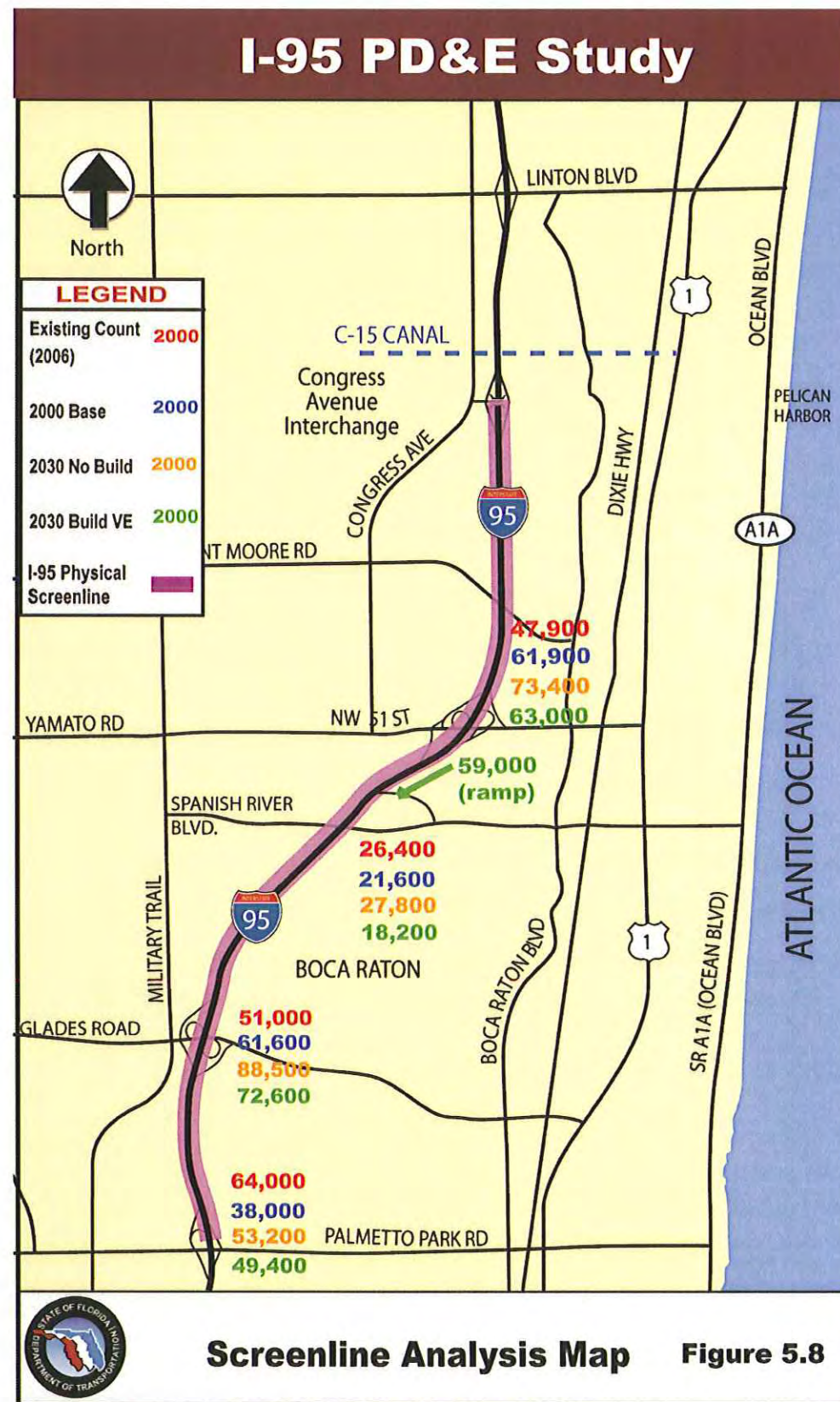
Freeway Segment	No. of Lanes (No Build)	No. of Lanes (Build)	Year 2013				Year 2033			
			No-Build		Build		No-Build		Build	
			Density	LOS	Density	LOS	Density	LOS	Density	LOS
Linton Boulevard to Congress Ave	8 LF	10 LF	42.6	E	>45	F	>45	F	>45	F
Congress Avenue to Yamato Road	8 LF	12 LF	27.9	D	35.3	E	42.3	E	44.9	E
Yamato Road to Glades Road	8 LF	12 LF	27.5	D	30.7	D	41.5	E	44.9	E
Glades Road to Palmetto Park Road	8LF	12 LF	28.7	D	33.1	D	>45	F	44.5*	E

The I-95 Freeway Segment between Palmetto Park Road and Glades Road operates at level-of-service “E” with an assumed Peak Hour Factor (PHF) of 0.99 in 2033 in the “Build” scenario. The freeway segment between Linton Boulevard to the Congress Avenue Connector operates at level-of-service “F” in the 2033 “Build” scenario peak direction with ten lanes, but the segment would operate at level-of-service “E” or better by widening it to 12 lanes. This study does not consider widening this particular segment of I-95 as per the previous argument of the scope of services.

The traffic pattern within the study area will change and I-95 will attract more traffic from the surrounding cross-streets. A screen-line analysis was performed to document this fact. The analysis results are shown below in Table 5-7. I-95 was assumed as the physical screen-line. It was observed that the total traffic east of I-95 increases significantly in the design year 2033 “Build” scenario compared to both the 2000 base year and the existing counts. The traffic along Spanish River Boulevard, east of I-95 increases in the year 2033 under the “Build” scenario due to the new interchange ramps at Spanish River Boulevard and Florida Atlantic Boulevard. The I-95 northbound off-ramp is projected to carry about 59,000 vpd in the 2033 “Build” scenario. It is anticipated that in the future year 2013 and 2033 the traffic distribution will change significantly due to the improvement of parallel east-west corridors within the study area including; Glades Road and Yamato Road. The screen-line is shown graphically in Figure 5-8.

TABLE 5-7 - Screenline Analysis – East of I-95

Location	AADT			
	Existing Count (2006)	2000 Base Model	2030 No Build Model	2030 Build VE Model
Palmetto Park, east of I-95	64,000	38,000	53,200	49,400
Glades Road, east of I-95	51,000	61,600	88,500	72,600
Spanish River Boulevard, east of I-95	26,400	21,600	27,800	18,200
Yamato Road, east of I-95	47,900	61,900	73,400	63,000
I-95 NB off/on ramp to/from FAU	-	-	-	59,000
Total	189,300	183,100	242,900	262,200





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Table 5-8 summarizes the results of the HCS results at all the signalized intersections for 2013 and 2033 future conditions. The results of the intersection analysis indicate an overall improvement with all the intersection operating conditions within the study area. The only exception is at three intersections, Yamato Road/Congress Avenue, Palmetto Park Road/Military Trail, and Spanish River Boulevard/Military Trail. These three intersections operate at level-of-service "F" in both scenarios in 2033. However, the intersection delay improves dramatically from 135.3 pc/in-mi to 85.4 pc/in-mi for Yamato Road/Congress Avenue, from 348.5 pc/in-mi to 230.6 pc/in-mi for Palmetto Park Road/Military Trail, and from 726.7 pc/in-mi to 226.3 pc/in-mi for Spanish River Boulevard/Military Trail. It is important to note that all the intersections located east of I-95 near the "Airport/FAU" interchange, operate at a level-of-service "E" or better during the opening (2013) and design year (2033) "Build" conditions compared to 2013 and 2033 "No-Build" conditions. An important conclusion is that the "Airport/FAU" interchange upgrades the operational performance of the study area. The performance of intersections in the study area is improved due to the proposed I-95 "Airport/FAU" interchange.

Table 5-8 shows that in the 2033 "Build" scenario, all 14 intersections within the study operate better (i.e. with improved delay and better level-of-service) compared to 2033 "No-Build" conditions. The intersection at Linton Boulevard/Congress Avenue operates at level-of-service "E" by assuming a Peak Hour Factor (PHF=0.95) at all approaches of the intersection instead of 0.90.

TABLE 5-8 - Peak Hour Intersection Analysis – Level-of-Service (LOS) Future Conditions Comparison

Intersection	Year 2013				Year 2033			
	No-Build		Build		No-Build		Build	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Yamato Road & Boca Raton Blvd	300.6	F	73.4	E	393.2	F	77.5	E
Yamato Road & Congress Ave	135.3	F	74.6	E	135.3	F	85.4	F
Glades at Airport Rd(*)	154.4	F	44.7	D	255.3	F	66.4	E
Glades at Commercial Trail	271.4	F	62.1	E	448.5	F	71.3	E
Glades at Butts Road	281.4	F	75.5	E	483.6	F	75.1	E
Glades at 10 th Ave	218	F	47.4	D	296.5	F	38.8	D
Palmetto Park Rd & Shopping Center	66.2	E	24.2	C	119.9	F	28.3	C
Palmetto Park Rd & Military Trail	284.9	F	206.1	F	348.5	F	230.6	F
Linton Blvd at Wallace Dr	131.1	F	57	E	214.8	F	66.8	E
Linton Blvd at Congress Ave	100.1	F	75.2	E	151	F	75.4	E
Congress Ave Connector at Congress Ave	76.4	E	36.6	D	137.5	F	71.5	E
Spanish River Blvd at Military Trail	691.8	F	79.8	E	726.7	F	226.3	F
Spanish River Blvd at Airport Road	18.4	B	20.2	C	82.9	F	27.5	C
Spanish River Blvd at FAU Blvd	43	D	56.8	E	90.6	F	77.5	E

Delay = Intersection delay (Seconds/vehicle). (*) Not all proposed westbound through lanes (seven in total) were not included in the HCS analysis due to limitations of the software. Instead, four through lanes were coded and the volume was reduced proportionally.



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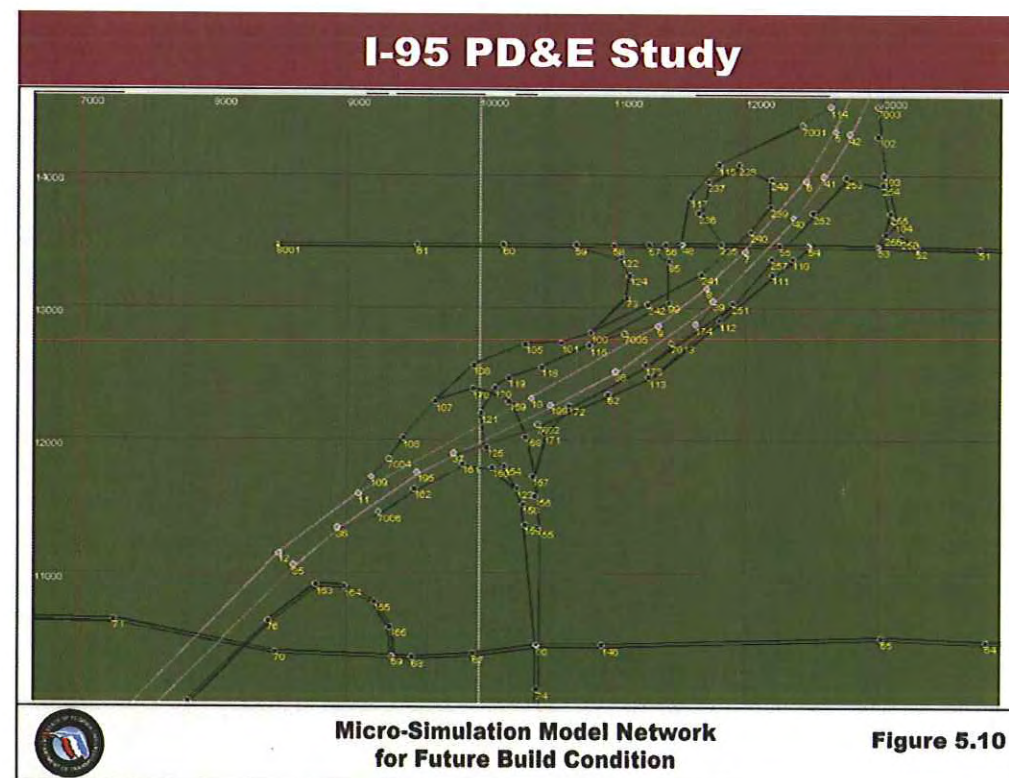
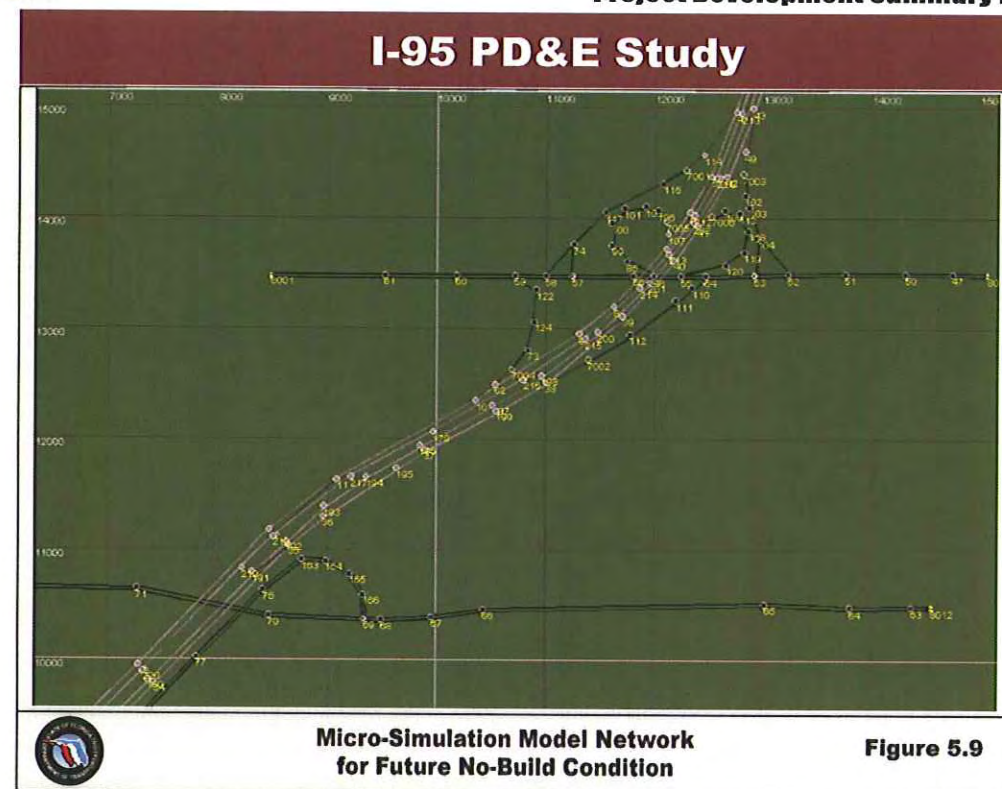
The results of the intersection analysis indicate some difference between the "No-Build" and "Build" scenarios in terms of level-of-service for both 2013 and 2033. An important conclusion is that the proposed "Airport/FAU" interchange upgrades the operational performance of the study area. The performance of intersections in the study area is improved due to the proposed "Airport/FAU" interchange. For more detailed please refer to the SIJR for this project.

CORSIM simulation for Future conditions

A comprehensive CORSIM microscopic simulation model of the system of interchanges and the study area was developed utilizing the TSIS version 5.1. The CORSIM model was developed utilizing the traffic volumes prepared for opening year traffic (2013) and design year traffic (2033). The CORSIM model provides operational characteristics for the system of interchange improvements including the Yamato Road, possible "Airport/FAU", and Glades Road interchanges.

Figure 5-9 presents the micro-simulation network created for the future condition without the proposed 'Airport/FAU' interchange. Figure 5-5 presents the micro-simulation network created for the future condition with the proposed 'Airport/FAU' interchange.

The CORSIM model was run five times with five different random number seeds. After running the CORSIM simulations, the network-wide average statistical summary was obtained from the output files. Table 5-10 presents the network-wide average statistics of the 2013 "No-Build" scenario, 2013 "Build" scenario, 2033 "No-Build" scenario, and 2033 "Build" scenario. The controller timing at all the signalized intersections within the study area is optimized and the congestion problems were adjusted by modifying the concept plans to achieve the optimum scenario. The CORSIM animation feature was also used to visually check results and solve problems.



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Table 5-9 shows a distinct improvement in the average speed and total vehicle-miles traveled within the entire roadway network with the "Build" scenario compared to the respective "No-Build" scenario. The delay time measured in vehicle hours show a clear improvement in the "Build" condition for both opening year (2013) and design year (2033) compared to their respective "No-Build" scenarios.

TABLE 5-9 Network-Wide Average Statistics

Performance Measure		2013 No Build	2013 Build	2033 No Build	2033 Build
Total	(Vehicle-Miles)	82,142	89,591	90,882	92,892
Average Speed	(MPH)	33	40	27	39
Move Time	(Vehicle-Hours)	1,360	1,730	1,512	1,805
Delay Time	(Vehicle-Hours)	1,151	518	1,813	593
Delay Time	(Minutes/Mile)	0.84	0.35	1.2	0.38
Total Time	(Vehicle-Hours)	2,511	2,249	3,325	2,398
Total Time	(Minutes/Mile)	1.83	1.51	2.2	1.55

FRESIM Results Statistics

A link-by-link summarization of the FRESIM simulation results are provided in Table 5-10 and Table 5-11. The first table shows the results obtained from the CORSIM simulation along the I-95 corridor within the study area for the opening year (2013) "No-Build" and "Build" scenarios, while the second table documents the results of the link-by-link analysis along I-95 during the design year (2033) "No-Build" and "Build" scenarios.

TABLE 5-10 Summary of Opening Year (2013) FRESIM Results

I-95 Mainline	Northbound			Southbound		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
2013 No Build						
Between Glades and Spanish River Boulevard	51	25	C	59	22	C
Between Spanish River Boulevard and Yamato Road	19	78	F	56	26	C
2013 Build						
Between Glades and Spanish River Boulevard	48	35	D	50	27	D
Between Spanish River Boulevard and Yamato Road	50	31	D	51	28	D

The operating conditions along the northbound I-95 segment between Spanish River Boulevard and Yamato Road improves from level-of-service "F" to level-of-service "D" during the opening year (2013) "Build" scenario compared to the 2013 "No-Build" condition. The density along I-95 improves from 78 pc/ln-mi to 31 pc/ln-mi in the 2013 "Build" condition compared to the 2013 "No-Build" scenario. The speed along I-95 between Spanish River Boulevard and Yamato Road increases from 19 mph to 50 mph in the 2013 "Build" condition compared to 2013 "No-Build". The I-95 southbound segment between Glades and Yamato Road operates at level-of-service "D". It is important to note that the "No-Build" scenario includes mainline improvements (widening) to I-95, therefore relieving mainline congestion with or without the proposed "Airport/FAU" interchange.

TABLE 5-11 Summary of Design Year (2033) FRESIM Results

I-95 Mainline	Northbound			Southbound		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
2033 No Build						
Between Glades and Spanish River Boulevard	59	19	C	37	52	C
Between Spanish River Boulevard and Yamato Road	37	45	F	48	42	C
2033 Build						
Between Glades and Spanish River Boulevard	50	35	D	51	29	D
Between Spanish River Boulevard and Yamato Road	51	30	D	51	30	D

The operating conditions along the northbound I-95 segment between Spanish River Boulevard and Yamato Road improves from level-of-service "F" to level-of-service "D" in the design year (2033) "Build" scenario compared to 2033 "No-Build" scenario. The density along this segment of I-95 improves from 45 pc/ln-mi to 30 pc/ln-mi in the 2033 "Build" condition compared to 2033 "No-Build". The speed along I-95 between Spanish River Boulevard and Yamato Road increases from 37 mph to 51 mph in the 2033 "Build" conditions compared to 2033 "No-Build". The southbound I-95 segment between Glades Road and Yamato Road operates at level-of-service "D". It is important to note that the 'No-Build' scenario includes mainline improvements (widening) to I-95, therefore relieving mainline congestion with or without the proposed "Airport/FAU" interchange.

NETSIM Results Statistics

A link-by-link summarization of the NETSIM simulation results are provided in Table 5-12 and Table 5-13. The first table shows the results obtained from the CORSIM simulation along the I-95 corridor within the study area for the opening year (2013) "No-Build" and "Build" scenarios, while the second table documents the results of the link-by-link analysis along I-95 during the design year (2033) "No-Build" and "Build" scenarios.

TABLE 5-12 Summary of NETSIM Results

Intersection	Approach	2013 No Build			2013 Build		
		Input Volume in CORSIM (vph)	Processed Volume in CORSIM (vph)	Approach LOS	Input Volume in CORSIM (vph)	Processed Volume in CORSIM (vph)	Approach LOS
Glades Road and Airport Road	NB	494	491	F	584	711	E
	SB	367	281	F	276	398	D
	EB	3,916	3,744	F	2,628	2,911	C
	WB	3,019	3,030	F	2,648	2,636	B
Spanish River Boulevard and Florida Atlantic Boulevard	NB	-	-	-	1,137	1,095	D
	SB	-	-	-	2,042	1,606	C
	EB	-	-	-	907	1,021	E
	WB	-	-	-	1,233	1,230	A

The opening year (2013) NETSIM results show that the "processed" traffic volumes are reasonably close to the "input" volumes for both scenarios. The results show that all approaches of the Glades Road/Airport Road intersection operate at a level-of-service "E" or better in the "Build" condition compared to the level-of-service "F" in "No-Build" condition. At the Glades Road/Airport Road intersection, the northbound approach improves from level-of-service "F" to level-of-service "E", the southbound approach improves from level-of-service "F" to level-of-service "D", the eastbound approach improves from level-of-service "F" to level-of-service "C", and the westbound approach improves from level-of-service "F" to level-of-service "B" in the "Build" conditions. All approaches of the new intersection at Spanish River Boulevard/Florida Atlantic Boulevard operate within the acceptable level-of-service standards.

TABLE 5-13 Summary of NETSIM Results

Intersection	Approach	2033 No Build			2033 Build		
		Input Volume in CORSIM (vph)	Processed Volume in CORSIM (vph)	Approach LOS	Input Volume in CORSIM (vph)	Processed Volume in CORSIM (vph)	Approach LOS
Glades Road and Airport Road	NB	631	620	F	719	717	E
	SB	705	377	F	513	550	C
	EB	4,555	3,841	F	3,376	3,503	D
	WB	3,667	3,579	F	3,190	3,195	B
Spanish River Boulevard and Florida Atlantic Boulevard	NB	-	-	-	1,277	1,273	D
	SB	-	-	-	2,334	1,925	D
	EB	-	-	-	1,047	1,099	D
	WB	-	-	-	1,385	1,380	E

The design year (2033) NETSIM results show that the traffic volumes processed are reasonably close to the input volumes for 2033 "No-Build" and "Build" conditions. The results show that all approaches of Glades Road/Airport Road intersection operate at a better level-of-service in the "Build" condition compared to "No-Build" conditions. At Glades Road/Airport Road intersection, the northbound approach improves from level-of-service "F" to level-of-service "E", the southbound approach improves from level-of-service "F" to level-of-service "C", the eastbound approach improves from level-of-service "F" to level-of-service "D", and the westbound approach improves from level-of-service "F" to level-of-service "B" in the "Build" conditions. All approaches of the new intersection at Spanish River Boulevard/Florida Atlantic Boulevard operate within the acceptable level-of-service standards. The southbound approach at Spanish River Boulevard/Florida Atlantic Boulevard intersection would need two left turn lanes during the opening year 2013 and the design

year 2033 "Build" conditions. These tables show that level-of-service and/or delay are universally improved with the "Build" scenario.

Summary of Operational Analysis

An Element Operation Analysis (EOA) technique was utilized in the operational analysis for this project. Tables 5-5 and Table 5-6 summarize the results of the peak hour HCS analysis for ramps and freeway sections for "No-Build" and "Build" scenarios for the opening year 2013 and design year 2033 respectively. Table 5-8 summarizes the peak hour intersection level-of-service for "No-Build" and "Build" scenarios for the opening year 2013 and design year 2033.

Table 5-9 summarizes the network wide average statistics of CORSIM simulation of the I-95 interchange system from Yamato Road to Glades Road for "No-Build" and "Build" scenarios of opening year 2013 and design year 2033. Table 5-10 and Table 5-11 summarize the FRESIM link-by-link results of the I-95 freeway for the years 2013 and 2033, respectively. Table 5-12 and Table 5-13 summarize the NETSIM link-by-link results of the two critical intersections, Glades Road/Airport Road and Spanish River Boulevard/Florida Atlantic Boulevard for the years 2013 and 2033, respectively. These tables show that level-of-service and/or delay are universally improved with the "Build" scenario.

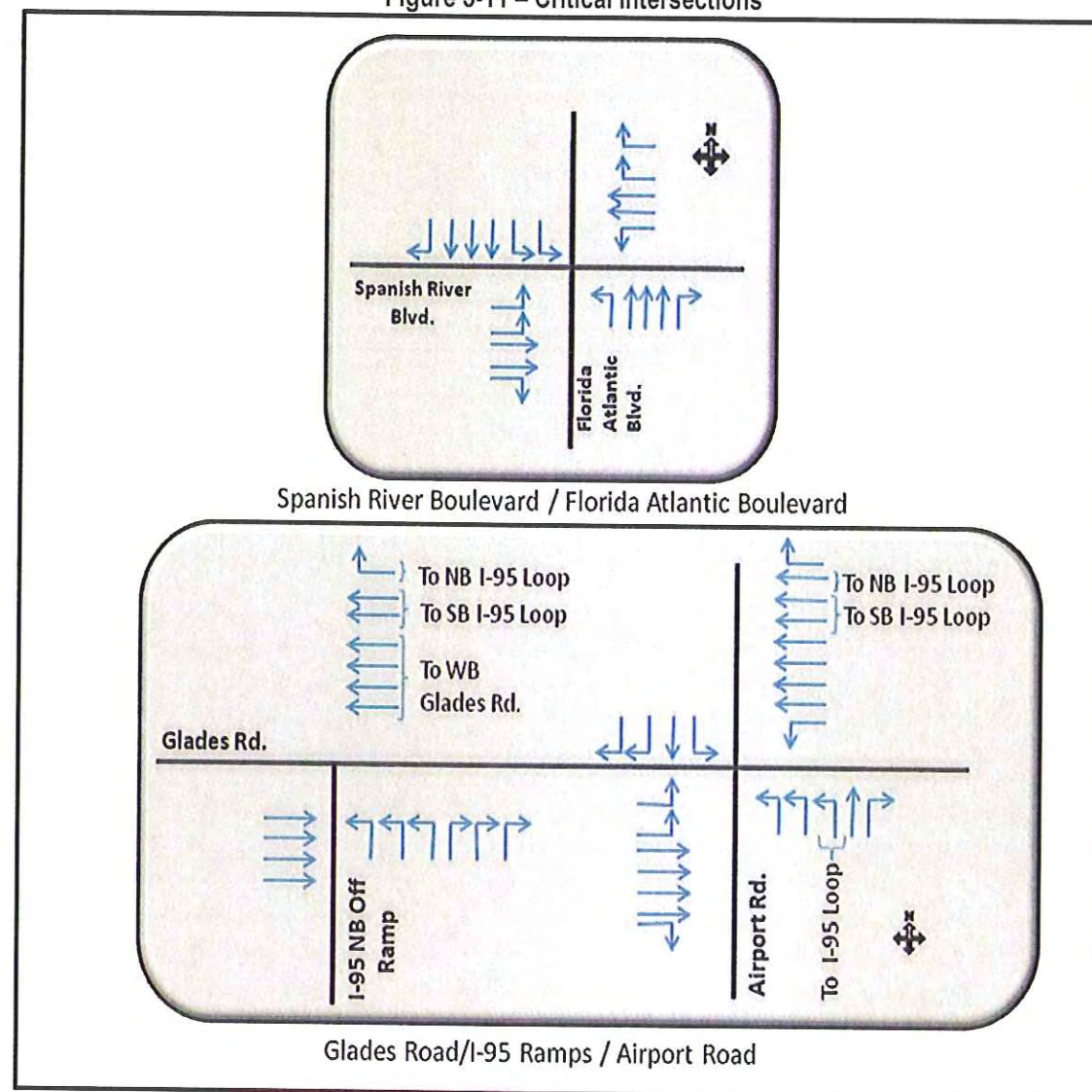
Overall, some general conclusions can be reached with respect to the operational analysis and simulation.

- The EOA results show that the "Build" scenario improves some ramps, freeway sections and intersections within the study area for years 2013 and 2033.
- The CORSIM simulation results show that within the study area interchange system between Glades Road and Yamato Road performs better with the "Build" scenario when compared to the "No-Build" scenario.
- The proposed "Airport/FAU" interchange does not adversely impact the local arterial system. To some degree, the proposed interchange helps relieve the traffic burdens of the Glades Road interchange and Yamato Road Interchange.
- The huge traffic demand produced by the growth of the City of Boca Raton will make the study area highways operate below acceptable levels-of-service in the "No-Build" design year 2033 scenario.
- A PD&E Study for the possible six-laning of Spanish River Boulevard from Military Trail to US 1 is proposed. This study will be coordinated with the Palm Beach County MPO and the City of Boca Raton.

5.6.7 Intersection Graphics

The intersection layouts at Spanish River Boulevard/Florida Atlantic Boulevard and Glades Road/Airport Road are modified extensively for this project. The revised layouts are shown in Figure 5-11.

Figure 5-11 – Critical Intersections



**5.7 Access Management**

The design of the mainline and related crossroad improvements are in accordance with the access management practices established by the Department's access management approach for I-95's roadway classification and the classification of each cross street.

The access classification for Glades Road is Class 5 and the Access Management Plan (approved and signed on 1/4/07) for the portion of the highway within the project limits is shown in Table 5-14.

5.8 Pedestrians and Bicycle Facilities

Due to the fact that I-95 is a limited-access freeway, pedestrian and bicycle facilities are prohibited. Non-motorized and low-brake horse-power vehicles are also prohibited from travel on I-95. Some means of pedestrian accommodation is provided by several of the crossroads. These are Glades Road, Spanish River Boulevard, Yamato Road, and Clint Moore Road. However, none of the crossroads provide designated bicycle lanes over or under I-95. Yamato Road contains undesignated three-foot bike lanes. Glades Road consists of undesignated bicycle lanes on the approaches to I-95 but not within the interchange. No pedestrian bridges exist within the project segment.

Bicycle lanes and sidewalks are proposed on both sides of Glades Road and Yamato Road. An eight-foot wide sidewalk is proposed adjacent to the Spanish River Boulevard Bridge over I-95 on the south side.

The project will not affect any existing pedestrian or bicycle service within the corridor. A bike path planned along the E-4 (El Rio) Canal corridor will not be significantly impacted by this project, which will pass over the proposed bike path with adequate vertical clearance. In addition, a pedestrian overpass of Yamato Road is proposed which will connect to the El Rio Trail and the new Tri-Rail station near Yamato Road.

5.9 Right-of-Way Requirements and Relocations

The acquisition of additional right-of-way for mainline improvements is not necessary, as the proposed mainline roadway typical section and all associated drainage needs can be accommodated within the existing right-of-way. Detention ponds are proposed within the footprints of the existing and proposed interchange areas. Acquisition of state-owned land for the proposed "Airport/FAU" interchange will be required. The majority of this property is owned by Florida Atlantic University. Therefore, it is anticipated that this land acquisition will not require eminent domain for the state-owned parcel. In addition, a narrow sliver of right-of-way will also be required from two parcels (one owner) in the southeast quadrant of the I-95/Yamato Road interchange. These parcels are east of the El Rio Canal and south of Yamato Road, adjacent to the existing northbound off-ramp at Yamato Road. This property will be needed to accommodate the proposed "braided" ramps and the northbound-to-westbound loop ramp extension at the Yamato Road interchange. Additional right-of-way is also needed between Butts Road and Renaissance Way along both sides of Glades Road. Right-of-way will also be required near the Airport Road/Glades Road intersection on the north side of Glades Road to accommodate the Glades Road widening and an expanded intersection at this location. This property is publicly-owned by the City of Boca Raton. On the south side of Glades Road at this intersection (NW 15th Avenue), a narrow sliver of right-of-way will be required on the west side from the Boca Raton High School. Finally, additional right-of-way will be needed along Spanish River Boulevard on both sides in order to accommodate widening to six lanes from Florida Atlantic Boulevard to NW 6th Terrace, a distance of approximately 900'. This right-of-way includes narrow slivers from state-owned (FAU) land, one vacant private parcel, and from the Vistazo at Boca Raton Community. No displacements or impacts to physical structures are anticipated for right-of-way purposes.

TABLE 5-14 " ACCESS MANAGEMENT PLAN

Project Number: 412420-1-22-01
Section Number: 93004
State Road Number: 808
Project Limits: Butts Road (MP 4.625) to Florida Atlantic Boulevard (MP 6.583)
County: Palm Beach County
Speed: 45mph
Classification: 5
Date: 9/14/06

Opening	Mile Post	Approx. Sta.	Existing Opening Type	Existing Spacing	Recommended Changes	Proposed Spacing (ft)	Deviation from Standard (%)	Constructed by	
								Project	Others
Butts Road	4.625	244+00.00	Full (Signal)	0	None	0	-		
Directional Median Opening	4.752	251+00.00	WB Directional	700	None	700	0%		
Shorrock Way/Executive Drive	4.959	256+64.00	Full (Signal)	564	None	564	15%		
I-95 Southbound Exit	5.172	273+25.00	SB Off-Ramp (Dir/Sig)	1661	None	1661	0%		
I-95 Northbound Exit	5.381	283+95.00	NB Off-Ramp (Dir/Sig)	1070	None	1070	19%		
NW 15th Ave/Airport Road	5.512	290+80.00	Full (Signal)	685	None	685	48%		
Directional Median Opening	5.696	301+00.00	WB Directional	1,020	None	1,020	0%		
Boca Raton Utility Entrance	5.821	307+60.00	Full	660	None	660	0%		
NW 10th Ave/FAU Entrance	6.070	320+33.00	Full (Signal)	1,273	None	1,273	4%		
FP&L	6.169	325+55.00	Full	522	Close	0	0%		
Entrance to Oaks Medical Complex	6.438	79+20.00	WB Directional	1,420	None	1,942	0%		
NW 13th Street/Florida Atlantic Blvd	6.583	86+50.00	Full (Signal)	730	None	730	0%		

Beth A 1/4/07
Recommended By: Date
Beth Coe
District Traffic Access Manager

Patrick R Glass 1/4/07
Concurred By: Date
Patrick Glass, P.E.
Project Manager

Howard Webb 1/4/07
Variances Approved By: Date
Howard Webb, P.E.
District Design Engineer

Tim Brock 1/4/07
Tim Brock, P.E.
District Maintenance Engineer

Mark Plass 1/4/07
Mark Plass, P.E.
District Traffic Operations Engineer

REVISIONS		
Date	By	Description

The proposed "Build" alternative will not displace any residences or businesses. Should this change over the course of the design and implementation of the project, the FDOT will carry out a right-of-way and relocation program in accordance with Florida Statutes Chapter 399.09 and the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970 (Public Law 91-646, as amended by Public Law 100-17). The brochures, which describe in detail the Department's relocation assistance program and right-of-way acquisition program, are "Your Relocation: Residential", "Your Relocation: Businesses, Farms, and Nonprofit Organizations", "Your Relocation: Signs" and "The Real Estate Acquisition Process." All of these brochures are available at all public hearings and are made available upon request to any interested persons.

5.10 Utilities and Lighting

The primary utilities within the corridor were identified through a detailed review of "as-built" plans for I-95 in Palm Beach County and standard utility coordination with the local utility companies. The existence of these utilities is partly due to roadway crossings, and continuing systems implemented prior to construction of I-95. A listing of the utilities found within the projects limits are shown in Table 5-15. Cable, sewer, water, electric, traffic communication, internet, fiber-optic, and telephone are some of the utilities found.

Table 5-15 Sunshine Ticket Utilities in Study Area	
Adelphia Business Solutions 2121 W. Prospect Road Fort Lauderdale, FL 33309	FPL Fibernet 9250 W. Flagler Street Miami, FL 33174
Adelphia - Communications 1401 Northpoint Parkway West Palm Beach, FL 33407	Florida Public Utilities Co 401 S Dixie Hwy West Palm Beach, FL 33401
City of Boca Raton - Traffic 201 W. Palmetto Park Road Boca Raton, FL 33432	MCI 2400 N. Glenville Richardson, TX 75082
City of Boca Raton Water Network 1401 Glades Road Boca Raton, FL 33432	Palm Beach County Traffic Operations 160 Australian Avenue West Palm Beach, FL 33406
City Of Delray Beach Water/Sewer Network 434 S. Swinton Avenue Delray Beach, FL 33444	Bellsouth 2021 S. Military Trail West Palm Beach, FL 33415
Florida Power & Light 4200 W. Flagler Street Miami, FL 33134	Fiberlight LLC. 22685 Holiday Park Dr., Suite 80 Sterling, VA 20166
Palm Beach County Finance Department 8100 Forest Hill Blvd West Palm Beach, FL 33413	Progress Telecom 100 2 nd Ave South St. Petersburg, FL 33701
Emergia USA, Inc 6503 W. Rogers Circle Boca Raton, FL 33487	-

Source: Sunshine Ticket

It is important to keep design and construction of mainline improvements confined to the existing right-of-way wherever possible. This limits the impacts that the project will have on utilities crossing the corridor. Maximum utility involvement will occur at the crossroad locations where proposed bridge

Project Development Summary Report

modifications/replacements and roadway and ramp widening may impact existing utilities in the interchange areas. If Glades Road is to be widened beyond the existing sidewalk to the south side between Butts Road and Renaissance Way, utility impacts will occur. The conceptual plan layout for the "Build" alternative suggests most, or all, of the widening in this section will be constructed on the north side, thereby avoiding these utility impacts.

Lighting is provided throughout the mainline of the I-95 corridor, and is generally located within the median of I-95. High-mast lighting is not provided along the mainline or at the interchanges. There is also lighting at the on and off-ramps composed of luminaries and ballasts mounted on DOT standard arms (Cobra style heads). The average spacing of lighting for on and off-ramps is between 200' and 240'. Overall, the lighting system is in good condition although lighting analysis will be needed to determine compliance with Department standards. Likewise, Glades Road has a lighting system that will also require review and lighting analysis.

5.11 Traffic Control Plan

Five conceptual Traffic Control Plans (TCP's) (Figures 5-12 through 5-16) have been created, keeping in line with the Manual on Uniform Traffic Control Devices (MUTCD) and FDOT standards. The first and second TCPs address mainline improvements between interchanges for widening to the outside for ten and 12 lanes, respectively. The third plan involves mainline widening to the inside. The fourth TCP addresses construction phasing at the Glades Road interchange. The fifth addresses construction phasing at Yamato Road and the new "Airport/FAU" interchange.

Each of the mainline widening plans utilizes two construction phases. These TCP's are conceptually detailed in Figures 5-12 through 5-16 and summarized in Table 5-14. Figure 5-13 conceptually shows a two-phase construction-sequencing plan for the Glades Road interchange. Where the existing roadways overlap the proposed improvements (i.e. northbound and southbound off-ramps) temporary and/or shoulder pavement will be required, per FDOT standards, to mill/resurface existing pavement. The Yamato Road interchange and "Airport/FAU" interchange, if built together, would require two phases as shown conceptually in Figure 5-14. Standard Index No 616 p. 2 and/or MUTCD Figure 6C-1 (Sect. 6C.04) provide some general concepts that can be adapted for work zone traffic management for this general condition.

TABLE 5-16 Maintenance of Traffic for Mainline Between Interchanges/Mainline Overpasses Crossroad	
Phase	Elements
1	Four lanes of I-95 traffic will be directed to inside or outside lanes and shoulders. Temporary barrier walls will be erected, as required along the edge of the four temporary lanes. The permanent new lanes, and shoulders will be constructed adjacent to temporary barrier.
2	After the outside area improvements are made, work shifts to the inside. When complete, ten lane or 12-lane sections are opened to traffic.

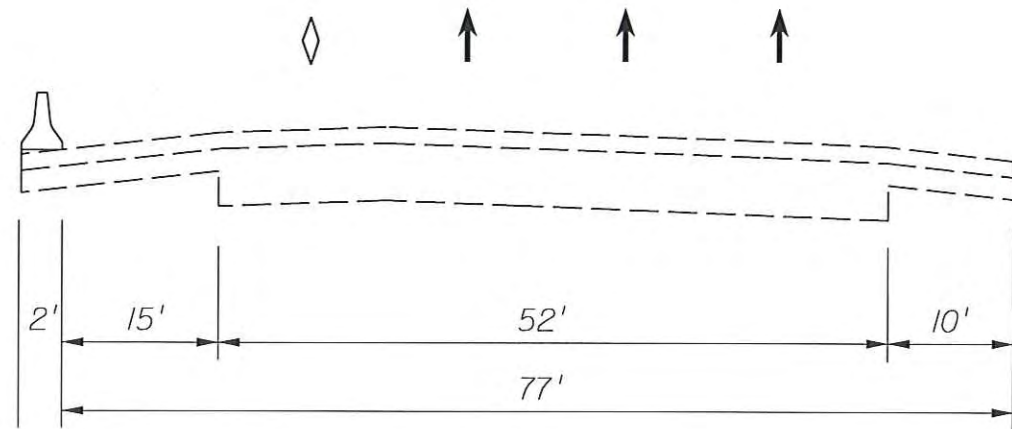
5.12 Construction Packaging and Staging

The I-95 project can be logically divided into a maximum of four construction projects. Depending on construction funding availability, the following sequence is suggested:

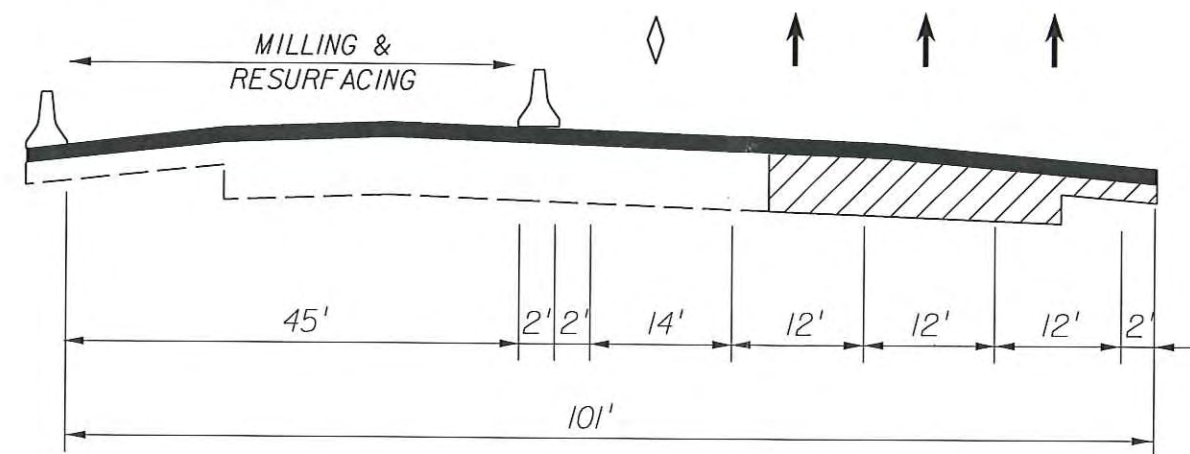
Phasing - Using up to four contracts, 1) build the "Airport/FAU" interchange 2) build the I-95 improvements from south of Glades Road to Yamato Road; 3) build the Glades Road eight-laning project; and 4) build the I-95 project from Yamato Road to south of Linton Boulevard.

NOTE: Typical sections pertain to the northbound roadway. The same concept would also apply to the southbound roadway.

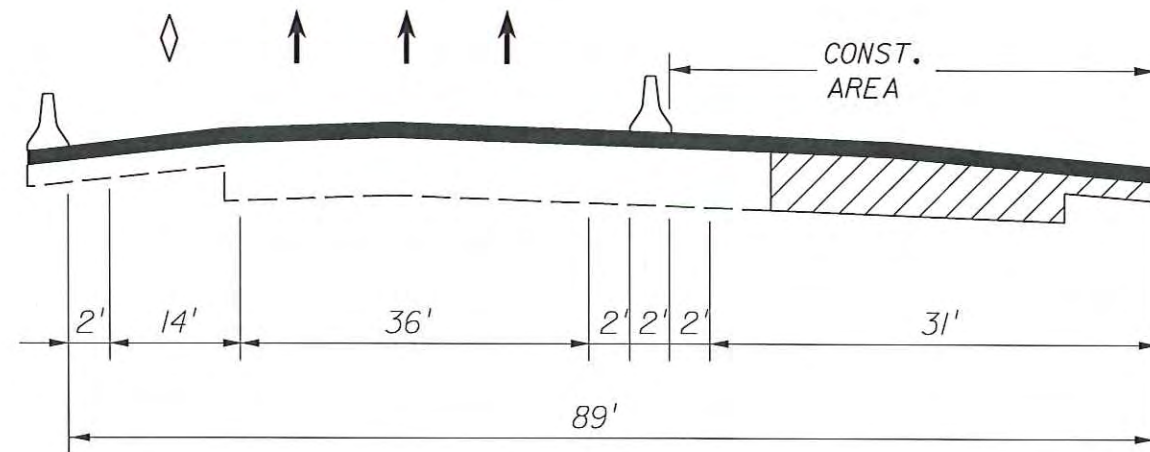
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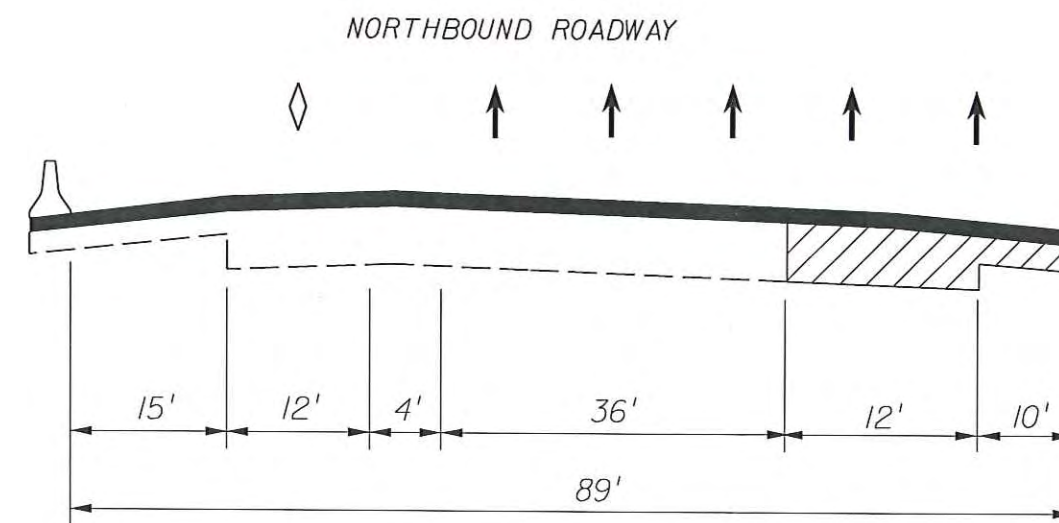
EXISTING (PAVED SURFACE)



PHASE 2
CONSTRUCTION



PHASE 1
CONSTRUCTION



PROPOSED (PAVED SURFACE)

WIDENING TO THE OUTSIDE -10 LANE ULTIMATE SECTION

NOTE: Interior lanes to be milled and resurfaced using barricades and lane closures.

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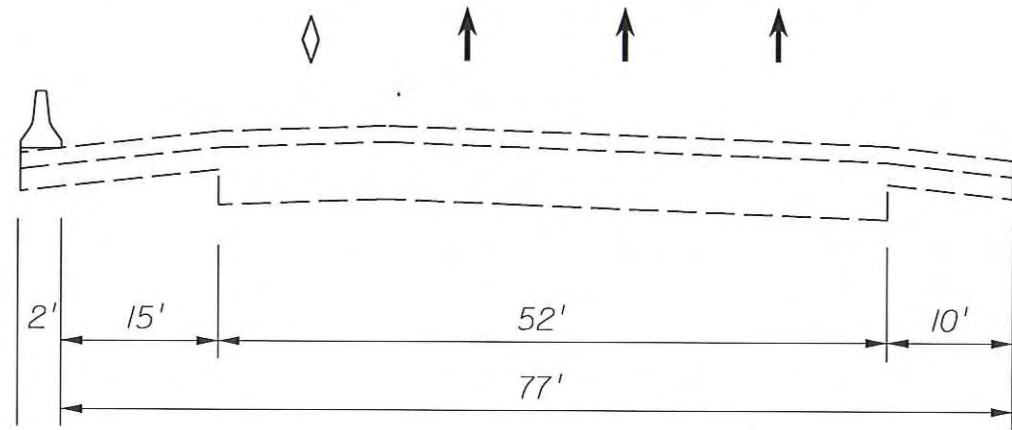
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

TRAFFIC CONTROL PLAN
TYPICAL SEQUENCE OF CONSTRUCTION
I-95 MAINLINE ROADWAY

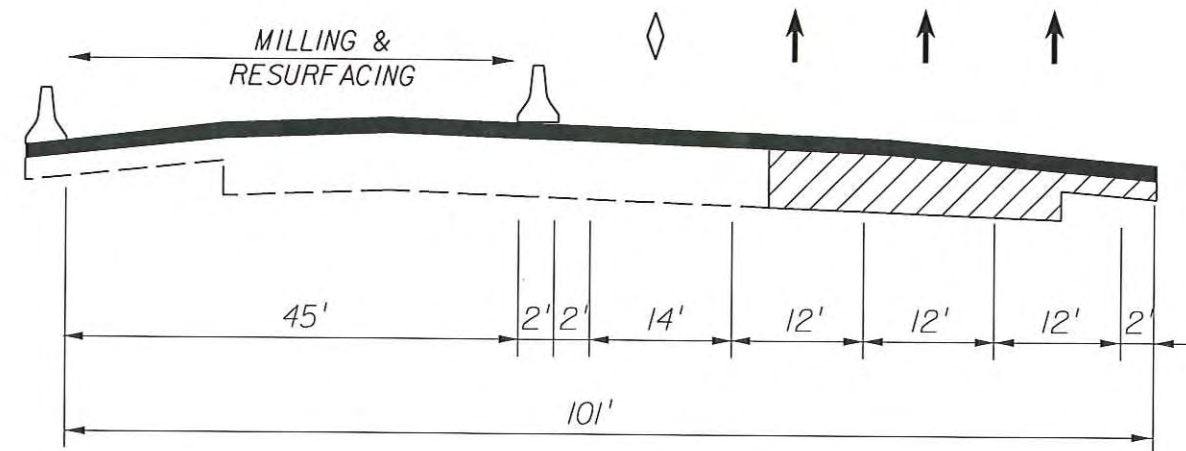
FIGURE
NO.
5-12

NOTE: Typical sections pertain to the northbound roadway. The same concept would also apply to the southbound roadway.

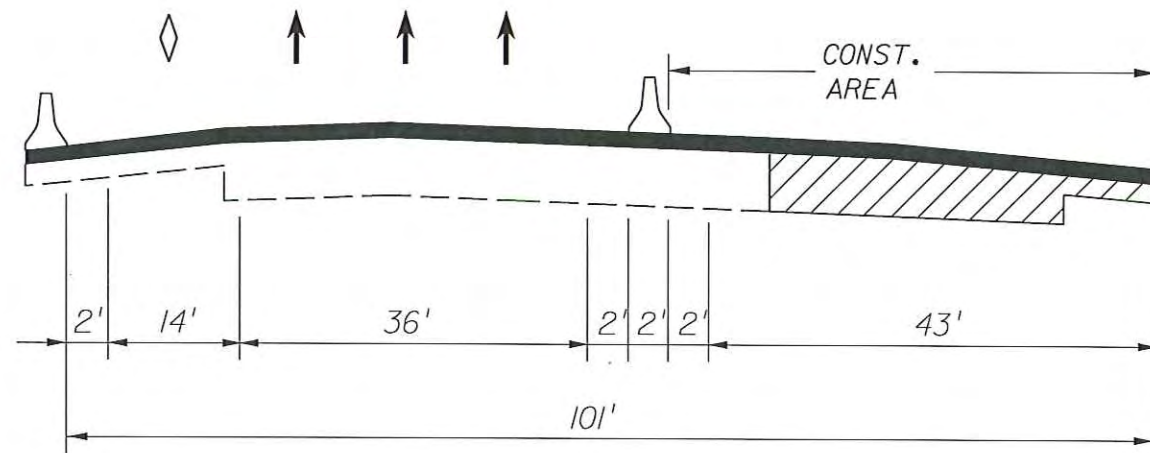
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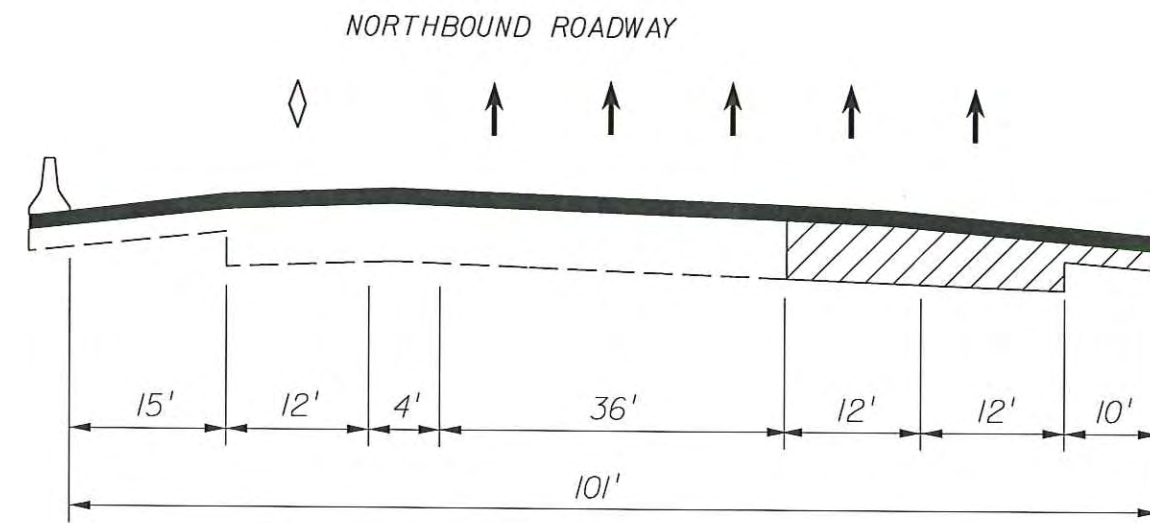
EXISTING (PAVED SURFACE)



PHASE 2
CONSTRUCTION



PHASE 1
CONSTRUCTION



PROPOSED (PAVED SURFACE)

WIDENING TO THE OUTSIDE - 12 LANE ULTIMATE SECTION

NOTE: Interior lanes to be milled and resurfaced using barricades and lane closures.

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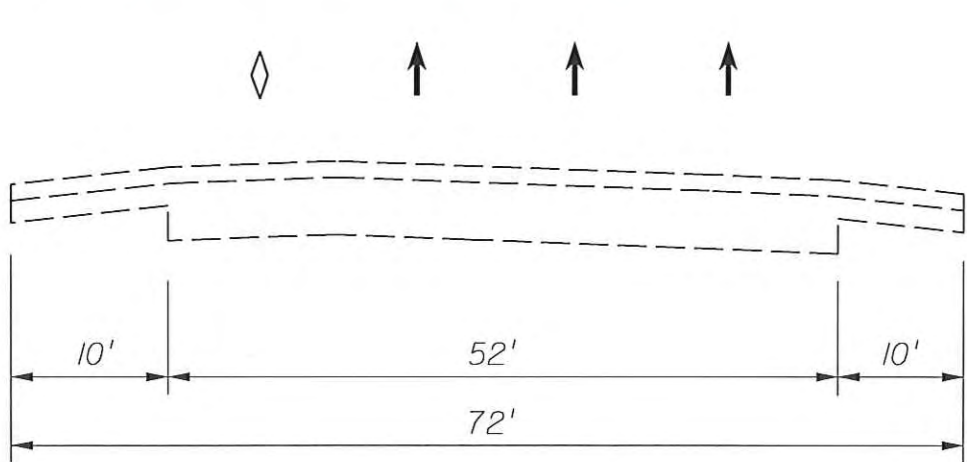
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

TRAFFIC CONTROL PLAN
TYPICAL SEQUENCE OF CONSTRUCTION
I-95 MAINLINE ROADWAY

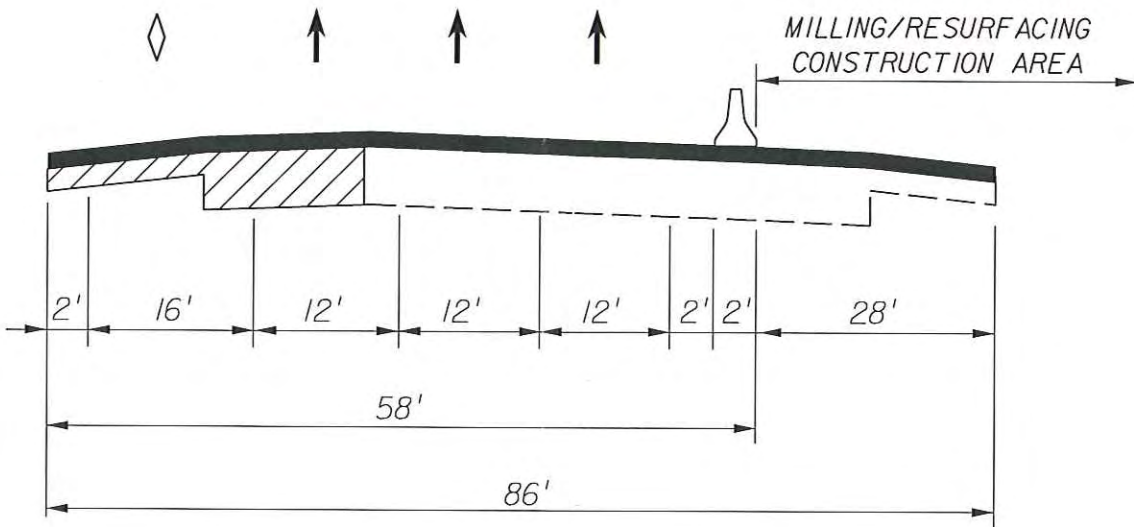
FIGURE
NO.
5-13

NOTE: Typical sections pertain to the northbound roadway. The same concept would also apply to the southbound roadway.

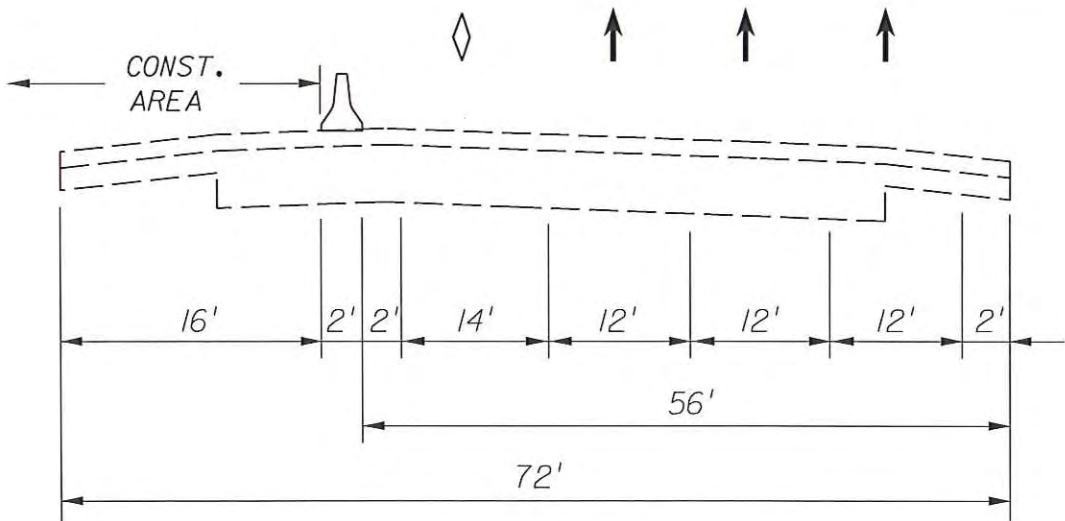
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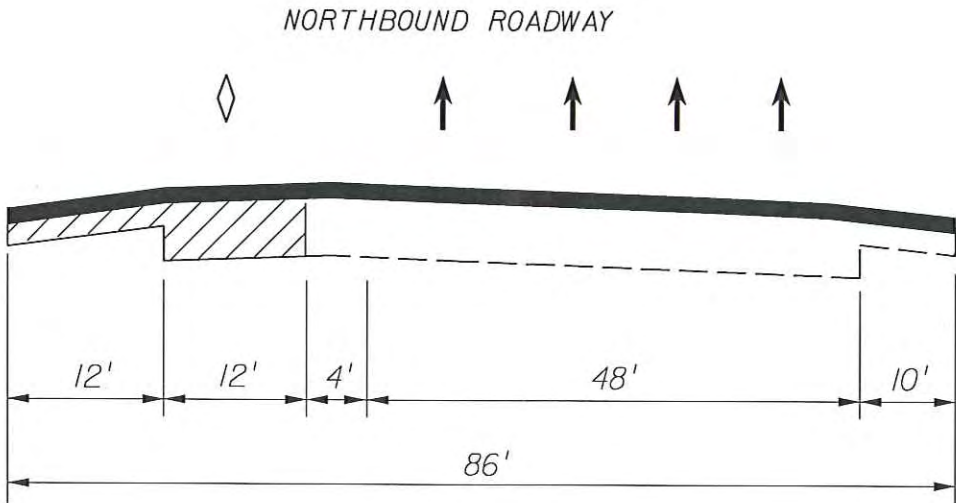
EXISTING (PAVED SURFACE)



PHASE 2
CONSTRUCTION



PHASE 1
CONSTRUCTION



PROPOSED (PAVED SURFACE)

WIDE MEDIAN
NORTH OF CLINT MOORE ROAD
WIDENING TO THE INSIDE ONLY

NOTE: Interior lanes to be milled and resurfaced using barricades and lane closures.

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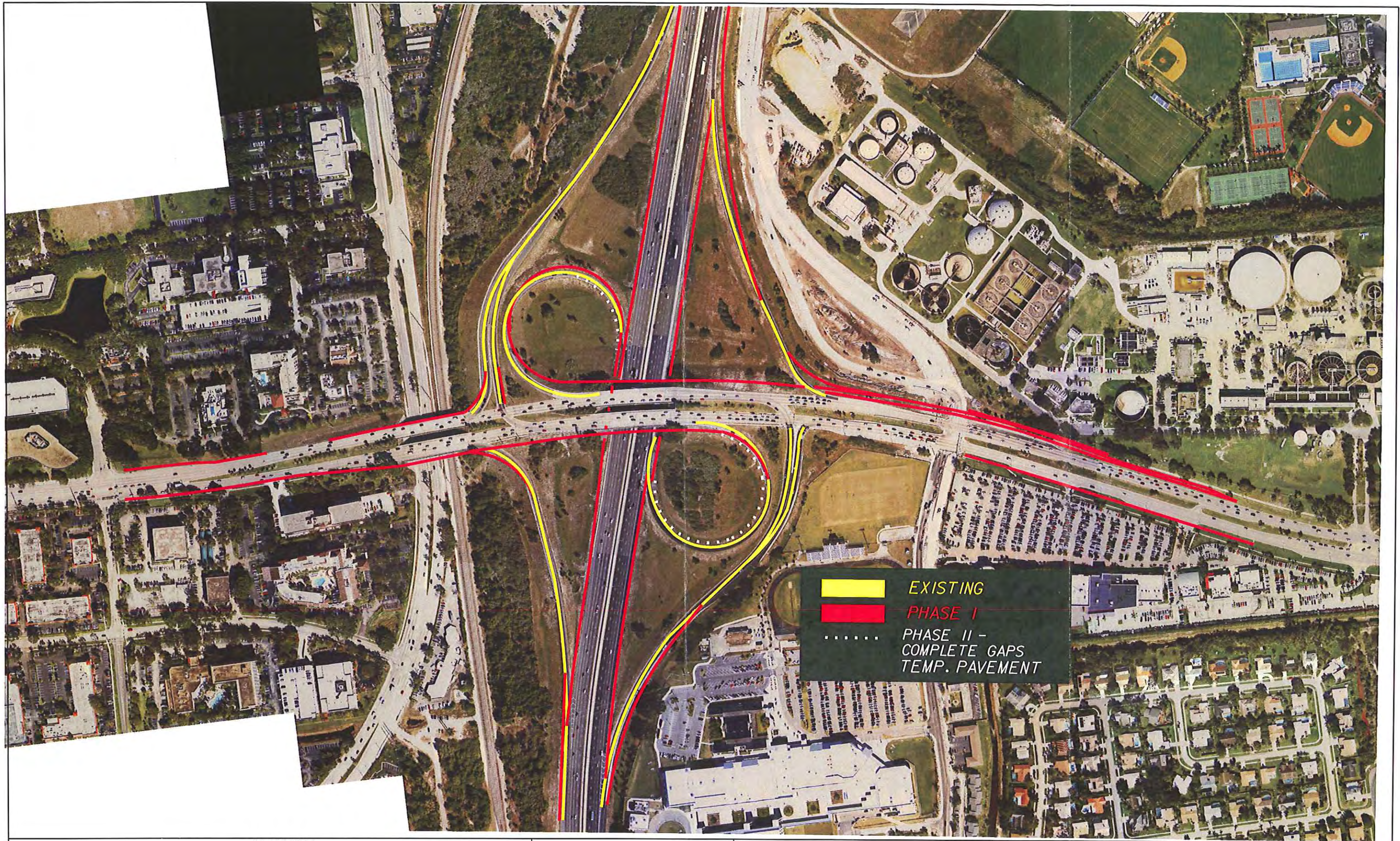
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TRAFFIC CONTROL PLAN
TYPICAL SEQUENCE OF CONSTRUCTION
I-95 MAINLINE ROADWAY

FIGURE NO.
5-14



EXISTING

PHASE I

PHASE II -
COMPLETE GAPS
TEMP. PAVEMENT

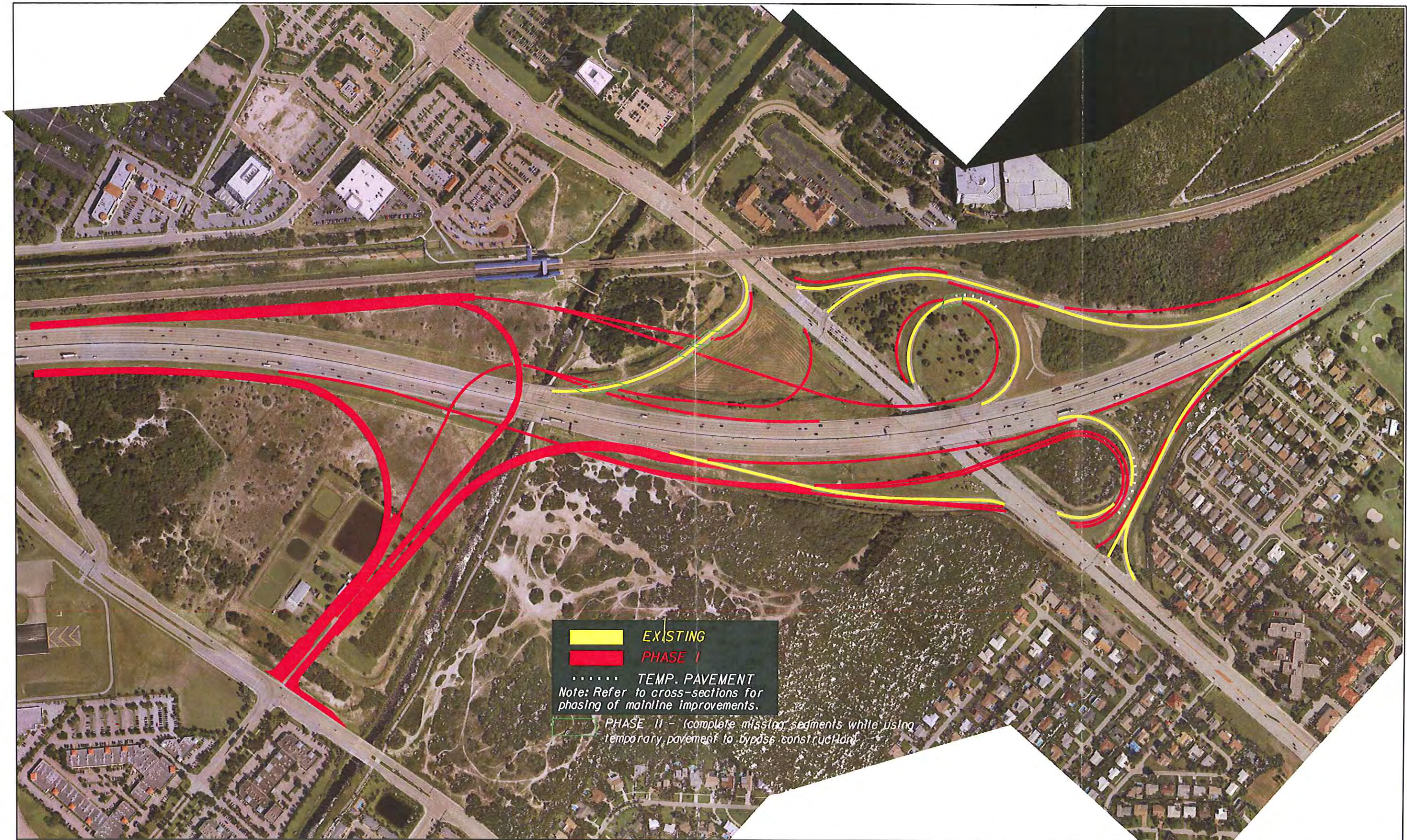
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GLADES ROAD CONSTRUCTION PHASING		FIGURE
		5-15



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"AIRPORT/FAU" & YAMATO ROAD CONSTRUCTION PHASING

FIGURE
5-16

Design and construction for these segments is not currently in the Department's Five-Year Work Program, but is proposed in the 2010 to 2015 timeframe of the MPO's *L RTP*.

5.13 Value Engineering

Value Engineering (VE) was performed for this project and a Value Engineering Report has been prepared for this PD&E Study. Below is a list of issues that were analyzed by the Value Engineering Team and the recommendations that were given for each issue:

- **Glades Road Interchange** – The original plan consisted of replacing the existing twin bridges over I-95 in order to provide adequate horizontal clearance underneath. The VE Team recommended modifying the interchange to a "High Capacity Parclo-A" by placing the on-ramp loops to I-95 on independent structures parallel to I-95 and running the ramps behind the outside bridge piers in order to increase horizontal clearance and save the existing bridges. An estimated savings of \$2,700,000 was estimated.
- **Glades Road/Airport Road Intersection** – Traffic analysis was showing that this intersection would still operate at a level-of-service "F" in the design year 2033 even with the eight-laning of Glades Road. The VE Team recommended an expanded at-grade intersection which will require additional right-of-way on the north side but would improve the level-of-service to "C". A narrow section of right-of-way will also be required from the Boca Raton High School along the west side of NW 15th Avenue at this intersection.
- **"Airport/FAU" Interchange** – The original concept consisted of a two-level intersection over I-95 for the ramps coming in and out of FAU at Spanish River Boulevard. The VE Team recommended removing the intersection and creating a 2½ level "nested" directional T-interchange. In addition, the VE Team recommended a pedestrian grade separation over the CSX railroad crossing at Yamato Road for the proposed El Rio Trail. It was recommended to provide bus ramp connectors to Yamato Road from the new "Airport/FAU" interchange as well for Tri-rail/FAU traffic.
- **Yamato Road Interchange** – The original plan for this interchange was to remove the two loop ramps and replace them with slip ramps to create a standard "Diamond" interchange. The VE Team recommended modifying the loops by putting the ramps on independent structures (modified "Parclo-AB").
- **I-95 Bridge Over Yamato Road** – The vertical clearance of I-95 (southbound) over Yamato Road is currently substandard (15'-3"). It was proposed and agreed upon by the VE Team to lower the grade on Yamato Road in order to achieve the minimum allowable vertical clearance.
- **Clint Moore Road Bridge Over I-95** – The initial plan called for replacing this bridge due to insufficient horizontal clearance beneath the bridge from the proposed widening of I-95. The VE Team recommended saving the existing steel bridge by extending the continuous steel girders and by moving the outside bents. The cost savings for this recommendation is estimated to be \$6,700,000.



5.14 Project Schedule

Table 5-17 shows the proposed Work Program Schedule for this project if funding can be found. Construction funding is not yet available for this project.

TABLE 5-17 Work Program Schedule	
Activity	Fiscal Year
PD&E Study	2005-2010
Design Build	2010-2011
Right-of-way	2011-2013
Construction	Not Funded

5.15 Project Cost Estimates

The right-of-way cost for the new "Airport/FAU" interchange is estimated to be approximately three million dollars. All of the land needed for the interchange is owned by FAU with the exception of a sliver needed for the I-95 northbound off-ramp to Yamato Road. It is expected that FAU will donate or "trade" the required right-of-way in an effort to encourage the development of the new interchange which will serve FAU and the Boca Raton Airport. Additional slivers of right-of-way along Glades Road needed for the eight-laning are estimated to be approximately 5.7 million dollars. The remaining right-of-way needed at the intersection of Glades Road/Airport Road and along Spanish River Boulevard is estimated at approximately \$1.3 million. Therefore, the total right-of-way cost for the projected is currently estimated to be \$10 million total.

The estimated probable costs of construction for improvements to the mainline and the associated crossroads and interchanges are 165 million dollars (present day costs). A breakdown of the project costs are given in the following section.

The estimated probable cost for engineering activities is shown in Table 5-18 below.

TABLE 5-18 Probable Engineering Costs	
Final Design (10%)	16,500,000
Construction Engineering Inspection (13%)	21,500,000
Total:	38,000,000

Source: TranSystems and Florida Department of Transportation (FDOT)

In summary, the combined total costs for the "Build" alternative, by phase are shown in Table 5-19.



SR 9 (I-95) PD&E
Project Development Summary Report

TABLE 5-19 Combined Probable Cost Summaries	
Description	Grand Total Cost of Project Including Engineering Costs
Construction Cost	\$165,000,000
Right-of-Way Acquisition Cost	\$10,000,000
Engineering Cost	\$38,000,000
Total Capital Cost	\$213,000,000

Note: Refer to the LRE prepared for this project for additional cost information.
Source: TranSystems and Florida Department of Transportation (FDOT)

5.16 Aesthetics and Landscaping

The landscaping concept and design for the I-95 improvements will be developed to complement the current landscaping schemes of within the corridor project corridor and the FDOT landscape policy plan for I-95. Attention will be given to the landscape design of the project interchanges to assure consistency with existing landscaping designs developed along I-95 and its crossroads.



CHAPTER 6 Summary of Environmental Impacts

6.1 Natural Environment

6.1.1 Air Quality

Palm Beach County is not in an Air Quality Non-Attainment or Maintenance Area for any of the four pollutants (nitrogen oxides, ozone, carbon monoxide, and small particulate matter) specified by the United States Environmental Protection Agency (USEPA) in the National Ambient Air Quality Standards. The Florida COScreen 2004 Model was used to predict air quality impacts at two critical locations; the I-95/Glades Road interchange, and the Glades Road/10th Avenue intersection. According to the results, the two locations, which represent the heaviest traffic volumes, passed the air screening test. The *Air Quality Technical Memorandum* is on file at FDOT District 4.

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

6.1.2 Contaminated Sites

Comments received from the AN and ETDM processes stated that a *Contamination Screening Evaluation Report* (CSER) must be performed for the project since there are a number of petroleum tanks in the vicinity of the project and the Boca Raton Army Airfield is a Formerly Used Defense Site. This report is on file at FDOT District 4.

A total of 34 potential contamination sites, 29 business locations and five accidental spill locations were evaluated for potential impacts to the FDOT right-of-way. Twelve (12) of the known sites were rated as posing a "medium" risk and five posing a "high" risk of contamination associated with the I-95 project. Based on the visual observations and other research, evidence of soils and/or groundwater contamination impacts at known contamination sites may have occurred within or near the I-95 right-of-way. The twelve "medium" rated sites include: The Marriott, BP Station, Chevron Station, US Epperson – Lynn Insurance, City of Boca Raton Waste Water Treatment Plant, Boomers Sports and Recreation Center, Boca Aviation, Chevron, One Park Place, Ocean Breeze Golf & Country Club, site associated with Florida Rock Industries, Harddrives of Delray, Spill Site #3, and Spill Site #4. The five "high" risk sites include: associated with Florida Rock Industries, Harddrives of Delray, Spill Site #1, Spill Site #2, and Spill Site #5. All 17 of these sites may warrant further intrusive investigation prior to right-of-way acquisition and/or construction. Based on the CSER conducted for the project, this proposed project contains no known significant contamination.

Soil and groundwater sample analysis should be conducted adjacent to any facilities with a "medium" or "high" risk rating. During design, the FDOT will determine which of the "medium" and "high" risk sites will need to be tested. Additionally, files should be periodically reviewed to ascertain when a No Further Action (NFA) will be granted for those sites that are undergoing active remediation. Structures to be razed should be tested for asbestos and any other hazardous materials prior to demolition.



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Dewatering/excavation activities adjacent to known or suspect contamination sites could potentially cause a contamination plume to migrate into the FDOT right-of-way if it isn't already there. According to FDEP comments in the ETAT review, dewatering should be discouraged since it could spread potential contamination into a previously uncontaminated area.

6.1.3 Floodplains

According to FEMA Flood Zone Maps (Maps Numbers 125102 0006D, 120195 0006C, 120195 0005C, 120195 0004C, and 120195 0002C) the majority of the I-95 corridor is located outside the 100-year flood plain. The exceptions to this are located east of I-95 just north of Palmetto Park Road, east of I-95 just south of Glades Road, the area east of I-95 by the Boca Raton Airport, the Yamato Road interchange, between Spanish River Boulevard and Yamato Road, an area west of I-95 and the FEC Railroad just south of Yamato Road, and the area just east of I-95 and south of Linton Boulevard. There are no designated floodways in Palm Beach County.

6.1.4 Infrastructure

Utilities along the corridor have been identified and coordination with the utilities companies has been initiated. It is anticipated that utility adjustments will be required. Cable, sewer, water, electric, traffic, communication, internet, fiber-optic, and telephone are some of the utilities found. Continued coordination with each of the utility companies will occur throughout the design phase.

The CSX railroad runs parallel to and adjacent to the I-95 right-of-way (westside). Tri-Rail operates on these tracks and a Tri-Rail station is located in the southwest quadrant of I-95 and Yamato Road. There is one at-grade railroad crossing located within the project limits which intersects with Yamato Road. All cross streets that pass over I-95 also pass over the CSX Railroad. All of these overpasses meet CSX vertical and horizontal clearance standards. No impact to Tri-Rail operations is anticipated.

6.1.5 Drainage and Water Quality

The proposed design for stormwater storage for the project involves storing the roadway runoff in the proposed roadside ditches where feasible, and constructing stormwater storage ponds in infield areas at the interchanges or expanding existing ponds. The right-of-way for I-95 is typically 300' wide and expands at the interchanges. The proposed roadway will feature four general purpose lanes, an HOV lane, auxiliary lanes, and paved shoulders in each direction. The remaining right-of-way available for drainage and stormwater treatment is limited and is approximately 40' wide on each side (except at the interchange areas).

Since the availability of areas for stormwater storage along the roadway is limited, it will be necessary to use the infield areas at the interchanges for this purpose. Fortunately, the proposed interchange configurations will provide ample opportunity for storm water ponds. The partial cloverleaf at Glades Road will provide more than enough area for storm water ponds and other considerations such as aesthetics and environmental considerations that will come into play. Similarly, the proposed changes to the interchange at Yamato Road will provide ample room for ponds. At the Congress Avenue Connector, the opportunities are not as great, and use of retaining walls may be necessary to provide sufficient storage. The existing ponds along the east side of the project will also have to be expanded and while some right-of-way does exist for this purpose, walls may also have to be considered there too.





Up to the Clint Moore Road overpass (Sta. 325+00.00), the roadway is being widened to the outside. From the overpass to the end of project, the roadway is being widened along the inside. Where the roadway is widened along the outside, the existing ditches will be displaced. In many areas, these ditches are part of the existing storm water collection and treatment system. As such, the new ditches will have to provide the same function for the new roadway, and treatment quantities will have to be calculated for the entire roadway.

In addition, much of the roadway alignment in the project area is curvilinear and the roadway is superelevated. The result is that on the high side of the superelevated sections, the toe of slope naturally lands outside the right-of-way line using standard side slope ratios. This problem can be remedied by constructing retaining walls, which will also allow room for ditch construction, and it is anticipated that this will be required for a significant part of the project. Guardrail can also be used, which allows steeper side slopes and helps to keep the roadway footprint within the existing right-of-way. The exact limits of where guardrail can be used or where retaining walls are needed will be determined during final design.

Storm water storage requirements will be met by providing storage within the proposed right-of-way. The existing interchange infield areas at Glades Road and the Congress Avenue Connector will provide the storage needed that cannot be met by storing storm water in the road side ditches. The proposed modifications to the Yamato Road interchange, and the connection to Florida Atlantic Boulevard, will provide additional land area for storage. The availability of land, plus the fact that the soil is permeable and the water table is deep in most areas, means that there will be no problems meeting storm water storage requirements.

The major waterbodies found in the immediate vicinity of the project corridor are the C-15 Canal which crosses I-95 between Clint Moore Road and Linton Boulevard, the L-40 Canal which crosses I-95 just north of Clint Moore Road, and the El Rio Canal, located just east of I-95 between Glades Road and Spanish River Boulevard, then crossing over to the west side of I-95 at Yamato Road. In addition, a Lake Worth drainage canal is present along the west side of I-95 adjacent to the T-Rex Trail, and the El Rio (E-4) Canal runs in a north-south direction adjacent to the Patch Reef Trail to the west of the project area. Some other minor drainage canals and wet ditches are also present within the project area.

The project area is underlain by the Biscayne Aquifer, an EPA-designated sole-source aquifer. Coordination with the US Environmental Protection Agency (EPA) has occurred through the Advance Notification (AN) process to determine if the proposed project will have any impact to the Biscayne Aquifer.

The EPA noted that the additional paved surface will generate higher stormwater runoff, therefore stormwater management and treatment should be upgraded to minimize the impact of the project on water quality. The Department, in meeting the South Florida Water Management Districts stringent permitting requirements will accomplish this goal. A copy of the EPA letter is included in the project file.

A Water Quality Impact Evaluation (WQIE) has been conducted for this project to comply with the Clean Water Act (surface waters) and the Safe Drinking Water Act (groundwater impacts). A WQIE Checklist has been prepared for this study.





6.1.6 Wetlands/Surface Waters

In accordance with Executive Order 11990, Protection of Wetlands, dated May 23, 1977 and Part 2, Chapter 18 of the PD&E Manual, a wetland evaluation was conducted for the project. The objectives of this study were to identify, map, and evaluate potential wetland impacts that may be associated with the construction of the project, and to assess the function and value of wetlands potentially affected. The Unified Mitigation Assessment Methodology (UMAM) was utilized to assess functional values of each of the potentially affected wetlands. A *Wetland Evaluation Report* has been prepared for this PD&E Study.

Direct wetland impacts to 0.05 acres of W-3a (FLUCFCS 618 - Willow) are anticipated by the project. Additional impacts to swales/wet ditches (FLUCFCS 511) are anticipated due to both the new interchange and the proposed roadway widening and displacement of the stormwater treatment ponds. The UMAM impact raw score for the 0.05 acre assessment area of W-3a was 0.50 based on the fact that this is an isolated, man-made wetland created to treat the water from the fish ponds at the FAU Fish Research Center. The resulting functional loss of this wetland is 0.025 acres. Secondary impacts to the remainder of wetlands W-3a and W-3b are anticipated since the wetland will no longer receive input from the fish ponds due to the construction of the interchange. Impacts to the other wetlands identified by the project have been avoided. Since W-3a is a man-made wetland that is not hydrologically connected to waters of the US, mitigation for impacts to W-3a are not anticipated. Even so, Wetland W-4 will be expanded by 1.39 acres as part of the stormwater treatment improvements.

6.1.7 Wildlife and Habitat

An Endangered Species Biological Assessment (ESBA) has been prepared for this PD&E Study. The results of the ESBA indicate that adverse impacts to protected species are not anticipated as a result of the proposed project. Five federally listed species were evaluated to determine the potential effects of the proposed project on these species. It is unlikely that the West Indian Manatee could travel as far west as the project area along the drainage/flood canals due to the presence of flood control gates. However, the remote possibility exists; therefore, the FDOT will adhere to the USFWS *Standard Manatee Conditions for In-Water Work* during construction. The FDOT has determined that the project may affect, but is unlikely to adversely affect the manatee. Minor impacts to wood stork foraging habitat may occur due to loss of the drainage ditches and swales. However, since replacement foraging habitat in the form of stormwater treatment areas will be created, the FDOT has determined that the project may affect, but is not likely to adversely affect the wood stork. Although a portion of the project is within the snail kite consultation area, no involvement with this species is anticipated. At this time, the Florida scrub jay is not present in the project area, even though the project is within the scrub jay consultation area. The FDOT will coordinate with Environmental Resource Management (ERM) to determine if scrub jays have been re-introduced into the area, especially the Yamato Scrub Natural Area and, if so, coordinate with United States Fish and Wildlife Service (USFWS) accordingly. The eastern indigo snake was directly observed during field surveys in close proximity to, but south of the project limits. Suitable habitat for this species exists within and adjacent to the project area. In order to minimize adverse impacts during construction activities, the *Standard Protection Measures for the Eastern Indigo Snake* will be implemented.

Nine additional state listed animal species were evaluated to determine if the proposed project will affect these species. The scrub areas provide habitat for the gopher tortoise and any potential



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commensal species, including the gopher frog and Florida mouse. Impacts to gopher tortoise habitat are anticipated. A preconstruction survey will be conducted to determine if these species are present within the construction area of impact and, if present, coordination with the appropriate agency will occur to minimize adverse impacts to the maximum extent practicable. Impact to burrowing owl habitat is also anticipated. Preconstruction surveys will be conducted to determine the status of owls and burrows in the impact areas. Depending on status and time of year, FDOT will coordinate with the appropriate agency(ies) to minimize adverse impacts to the burrowing owl to the maximum extent practicable. Minor impact to habitat for four state listed wading bird species, including the snowy egret, little blue heron, tri-colored heron, and white ibis may occur. Habitat impacts include swales/wet ditches and Wetland W-3a at the Florida Atlantic University (FAU) Fish Research Center, which is reportedly a nesting site for little blue heron and white ibis. A nesting survey will be conducted by FDOT prior to construction to determine if nesting is occurring at this site. If so, coordination with Florida Fish and Wildlife Conservation Commission (FFWCC) will occur to avoid and minimize adverse impacts. Foraging habitat for wading birds will remain in the project area or be replaced with new stormwater treatment areas.

6.2 Cultural Impacts**6.2.1 Historical and Archaeological**

A Cultural Resource Assessment Survey (CRAS), conducted in accordance with the procedures contained in 36 CFR Part 800 and including background research and a field survey coordinated with the State Historic Preservation Officer (SHPO), was performed for the project. No archaeological sites were identified, nor are any expected to be encountered during subsequent project development. A total of eight historic resources (8PB12917-8PB12924) were identified, seven of which are considered ineligible for listing in the National Register of Historic Places (NRHP). One historic resource, the Seaboard Airline Railroad (8PB12917), is historically important based on associations with transportation in Florida. This railroad resource (currently referred to as the CSX railroad) parallels I-95 throughout the majority of the project area, and according to current project information, will not be affected by any proposed improvements. Due to the presence of numerous buried utilities (e.g., fiber optic and power cables) in the existing right-of-way, and a lack of access to properties outside of the right-of-way, areas where subsurface archaeological testing was possible was severely limited. All subsurface tests conducted were negative. No further work is recommended in relation to cultural resources, unless there are changes to the improvements that may affect the Seaboard Airline Railroad. If that is the case, more work may be required to determine the integrity and NRHP eligibility of this resource. The Federal Highway Administration, after consultation with the SHPO, has determined that no resources listed or eligible for listing on the National Register of Historic Places would be impacted.

6.2.2 Recreation Areas

Recreation areas in the vicinity of the I-95 project include six parks and preserves owned by the City of Boca Raton, three natural areas managed by Palm Beach County, one preserve owned by the State of Florida, four shared-use trails managed by the City of Boca Raton, and a private golf course. The publicly owned recreation areas are listed below and discussed in more detail in the next section.





Blazing Star Preserve
Cypress Knee Slough Preserve
Serenoa Glades Preserve
Yamato Scrub Natural Area
Pondhawk Natural Area
Patch Reef Trail
T-Rex Trail

Sugar Sand Park
George Snow Park
Countess de Hoernle Park
Delray Oaks Preserve
FAU Preserve
Spanish River Boulevard Trail
El Rio Trail

One privately owned recreational facility, the Boca Teeca Golf Course, is located adjacent to the east side of I-95, north of Yamato Road. No impact to any of the parks, natural areas or preserves, or the golf course, will occur. Effects of the project on the trails are discussed in the next section.

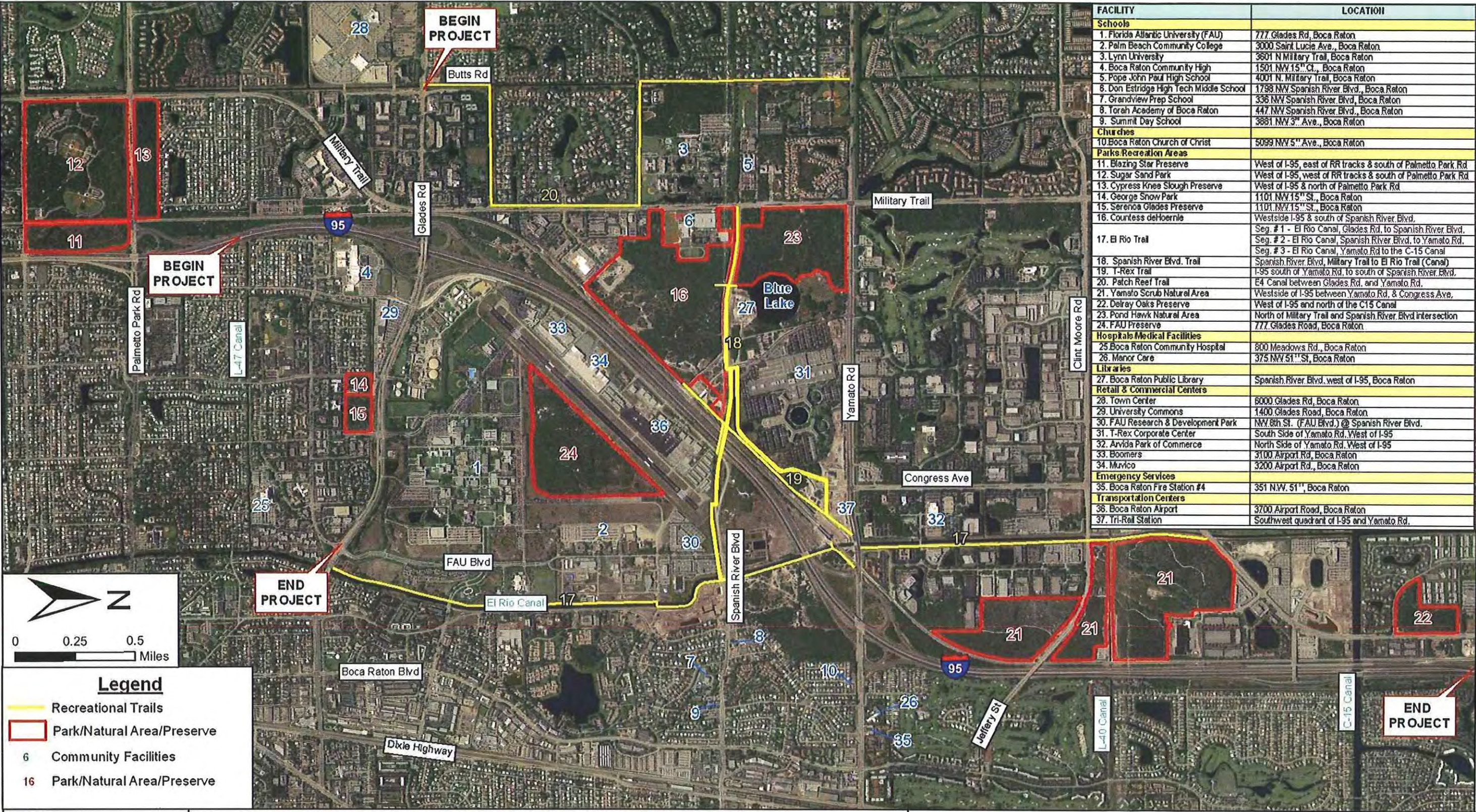
6.2.3 Section 4(f) Potential

Each of the publicly-owned parks, preserves, natural areas and trails discussed in the previous section are potential Section 4(f) resources. The playgrounds associated with Boca Raton High School along Glades Road are not considered Section 4(f) resources. The location of each is shown in the Community Facilities and Services Map in Figure 6-1. A brief description of each of the resources is presented below.

Six (6) City of Boca Raton Parks are located in the project area.

- Blazing Star Preserve is a 24.14 acre area located on the west side of I-95 just south of Palmetto Park Road. The Blazing Star Preserve was recently enhanced and is now primarily a sand pine community with a small wetland at the north end. The preserve is utilized by multiple listed species including the Florida scrub lizard, gopher tortoise, southeastern American kestrel, and the Florida mouse. Multiple listed plant species have also been observed within the site including several species of wildpine, nodding pinweed, large-flowered rosemary, prickly pear cactus, and erect scrub spurge. The preserve is the newest of the City of Boca Raton managed preserves, and is being used as a gopher tortoise relocation site. The preserve contains paved and unpaved nature trails, as well as kiosks and benches.
- Sugar Sand Park is a 132 acre property located on the southeast corner of Palmetto Park Road and Military Trail, just west of Blazing Star Preserve. The Park contains preserved native ecosystems as well as softball fields, picnic areas, a community center, a science playground and other recreation areas.
- Cypress Knee Slough Preserve is a 29.31 acre site located directly across from Blazing Star, on the north side of Palmetto Park Road. The site encompasses the last remaining portion of the Hillsboro Slough, a river system that once flowed into the Intracoastal Waterway. The last cypress-maple swamp in the City of Boca Raton is located in this preserve. This preserve contains unimproved nature trails that can be publicly accessed by permit.





FACILITY	LOCATION
Schools	
1. Florida Atlantic University (FAU)	777 Glades Rd, Boca Raton
2. Palm Beach Community College	3000 Saint Lucia Ave., Boca Raton
3. Lynn University	3601 N Military Trail, Boca Raton
4. Boca Raton Community High	1501 NW 15 th St., Boca Raton
5. Pope John Paul High School	4001 N. Military Trail, Boca Raton
6. Don Estridge High Tech Middle School	1798 NW Spanish River Blvd., Boca Raton
7. Grandview Prep School	336 NW Spanish River Blvd., Boca Raton
8. Torah Academy of Boca Raton	447 NW Spanish River Blvd., Boca Raton
9. Summit Day School	3681 NW 3 rd Ave., Boca Raton
Churches	
10. Boca Raton Church of Christ	5099 NW 5 th Ave., Boca Raton
Parks/Recreation Areas	
11. Blazing Star Preserve	West of I-95, east of RR tracks & south of Palmetto Park Rd
12. Sugar Sand Park	West of I-95, west of RR tracks & south of Palmetto Park Rd
13. Cypress Knees Slough Preserve	West of I-95 & north of Palmetto Park Rd
14. George Snow Park	1101 NW 15 th St., Boca Raton
15. Serenoa Glades Preserve	1101 NW 15 th St., Boca Raton
16. Countess deHoernle	Westside I-95 & south of Spanish River Blvd.
17. El Rio Trail	Seg. # 1 - El Rio Canal, Glades Rd. to Spanish River Blvd. Seg. # 2 - El Rio Canal, Spanish River Blvd. to Yamato Rd. Seg. # 3 - El Rio Canal, Yamato Rd. to the C-15 Canal
18. Spanish River Blvd. Trail	Spanish River Blvd. Military Trail to El Rio Trail (Canal)
19. T-Rex Trail	I-95 south of Yamato Rd. to south of Spanish River Blvd.
20. Patch Reef Trail	E4 Canal between Glades Rd. and Yamato Rd.
21. Yamato Scrub Natural Area	Westside of I-95 between Yamato Rd. & Congress Ave.
22. Delray Oaks Preserve	West of I-95 and north of the C15 Canal
23. Pond Hawk Natural Area	North of Military Trail and Spanish River Blvd intersection
24. FAU Preserve	777 Glades Road, Boca Raton
Hospitals/Medical Facilities	
25. Boca Raton Community Hospital	800 Meadows Rd., Boca Raton
26. Manor Care	375 NW 51 st St, Boca Raton
Libraries	
27. Boca Raton Public Library	Spanish River Blvd. west of I-95, Boca Raton
Retail & Commercial Centers	
28. Town Center	6000 Glades Rd., Boca Raton
29. University Commons	1400 Glades Road, Boca Raton
30. FAU Research & Development Park	NW 8th St. (FAU Blvd.) @ Spanish River Blvd.
31. T-Rex Corporate Center	South Side of Yamato Rd. West of I-95
32. Arvida Park of Commerce	North Side of Yamato Rd. West of I-95
33. Boomers	3100 Airport Rd., Boca Raton
34. Muvico	3200 Airport Rd., Boca Raton
Emergency Services	
35. Boca Raton Fire Station #4	351 NW 51 st , Boca Raton
Transportation Centers	
36. Boca Raton Airport	3700 Airport Road, Boca Raton
37. Tri-Rail Station	Southwest quadrant of I-95 and Yamato Rd.



I-95 PD&E Study
From South of Glades Rd to South of Linton Blvd
FPID No.: 412420-1-22-01/409355-3-22-01
Palm Beach County, Florida

Community Facilities
and Services Map

Figure
6-1



- George Snow Park is a 5.6-acre park located along the south side of Glades Road, east of I-95. Facilities within this park include picnic tables, pavilions, playground, tennis courts, and basketball/volleyball courts. In addition, a nature trail is also available.
- Serenoa Glades Preserve is a nine acre passive park located on the south side of Glades Road north of NW 10th Street and immediately adjacent to George Snow Park. The preserve's natural communities include scrub and scrubby flatwoods. The park contains a paved and unpaved walkways and informational kiosk.
- Countess de Hoernle Park is a new City of Boca Raton park, located on the west side of I-95 just south of Spanish River Blvd. When completed, the park will consist of 228 acres including four soccer fields, four baseball fields, a botanical garden loop, an arts building and a picnic area. The existing City of Boca Raton T-Rex shared-use trail will lead into the park.

Three sites managed by Palm Beach County are present.

- Yamato Scrub Natural Area, a 217-acre Palm Beach County managed preserve which is the largest remaining high-quality scrub tract in southern Palm Beach County. It is located on the west side of I-95 with its southern boundary north of Yamato Road and the northern boundary at Congress Avenue. The site is available to local residents and organizations for environmental education, scientific research, and passive recreation such as photography, bird watching, and nature walk.
- Delray Oaks Preserve is an approximately 25-acre preserve located west of I-95 and north of the C-15 Canal, adjacent to the west side of Congress Avenue. It contains some of the best remaining examples of prairie hammock and xeric oak hammock ecosystems in Palm Beach County, and also contains a small wetland and areas of mesic flatwoods. This preserve contains the Live Oak Nature Trail.
- Pondhawk Natural Area is a 78-acre nature preserve located west of the I-95 corridor just east of Military Trail between Spanish River Boulevard and Yamato Road. It was purchased with money from the County's conservation lands bond fund. Public activities include passive recreation activities such as photography, nature walks and bird watching. Planned facilities include a parking area, information kiosk nature and hiking trails. Approximately 70% of the site supports native communities including sand pine scrub, scrubby flatwoods, mesic flatwoods, dry prairie and prairie hammock.

One of the preserves is owned by the State of Florida.

- The approximately 80-acre FAU Preserve is located along the western side of the FAU campus and is adjacent to the Boca Raton Airport. The preserve is primarily scrub habitat and was formerly used as a gopher tortoise relocation site.



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In addition, four City of Boca Raton shared-use trails are also present or proposed in the project area. According to the City of Boca Raton, these trails provide both transportation and recreational uses. They include the Patch Reef Trail, the Spanish River Boulevard Trail, the T-Rex Trail and the El Rio Trail.

The Patch Reef Trail is a shared use trail which runs along the E-4 Canal for 3.5 miles between Glades Road and Yamato Road. The trail connects to Patch Reef Park located just south of Yamato Road west of I-95 and Military Trail. This trail will not be affected by the project.

The Spanish River Boulevard Trail is a shared use trail which runs along the south side of Spanish River Boulevard between Military Trail and the El Rio Trail. This trail passes over I-95 and the southern portion of the T-Rex Trail. Spanish River Boulevard was recently widened (excluding the bridge over I-95) and the trail is included. Due to the widening of I-95, the bridge over I-95 will need to be replaced and is being evaluated in this PD&E study. Coordination with the City of Boca Raton has occurred and the trail will be accommodated as an eight-foot sidewalk on the south side of the new Spanish River Boulevard Bridge over I-95. The existing trail will remain useable throughout the duration of this project.

The T-Rex Trail is a shared use trail located along the west side of I-95 adjacent to the T-Rex Corporate Center. The trail currently extends for approximately 1.8 miles from the new Tri-Rail Station at Yamato Road to the proposed Countess de Hoernle Park, just south of Spanish River Boulevard. Plans exist to extend this trail south around the east property line of Countess de Hoernle Park south of Spanish River Boulevard. The T-Rex Trail is an important transportation facility for both bicyclists and pedestrians and FDOT is committed to maintaining traffic along this facility. However, due to construction activities, it is anticipated that the T-Rex Trail will require short-term temporary closure of these facilities due to safety concerns associated with replacement of the bridge over I-95. An alternate route for bicyclists to access the Countess de Hoernle Park and Tri-Rail Station is available along the Spanish River Boulevard Trail and a detour will be implemented during construction. The closure of this trail will be minimized to the maximum extent possible.

The El Rio Trail is a 12-foot wide shared use trail which will ultimately extend from Glades Road to Congress Avenue. The Trail is divided into three sections:

- Section 1- Glades Road to Spanish River Boulevard (existing trail);
- Section 2 - Spanish River Boulevard to Yamato Road and the Tri-Rail Station; and,
- Section 3 - Yamato Road to C-51 canal (northern City limit) (future trail).

Section 1 of the El Rio Trail parallels the El Rio Canal, first on the west side and then on the east side north of the FAU Research and Development Park. Section 2 of the El Rio Trail is a northern extension of Section 1 runs northward along the east side of the El Rio Canal from Spanish River Boulevard to Yamato Road. A bridge is also present over the El Rio Canal to connect the Trail to the Tri-Rail Station located at 680 Yamato Road. The Trail crosses FDOT right-of-way under I-95 and the City has an Airspace Agreement with FDOT. The five year lease was executed on May 15, 2007. The City and the FDOT jointly planned this trail and the City obtained Local Agency Program (LAP) funds to design and construct the facility. Coordination with the City has occurred to





avoid/minimize potential conflicts between the Trail and the new interchange. The FDOT believes that the El Rio Trail is an important transportation facility for both bicyclists and pedestrians and is committed to maintaining traffic along these facilities. However, due to construction activities, it is anticipated that short-term temporary closure of these facilities may be required due to safety concerns associated with widening the I-95 bridges over the El Rio Canal. The FDOT is working with the City of Boca Raton to develop an acceptable temporary detour route. It is expected that a detour route will be developed and only in a last resort situation if the trail will be shut down. The closure of this trail will be minimized to the maximum extent possible.

Section 3 of the El Rio Trail is a northern extension north of Yamato Road to the Boca Raton city limits at the C-15 Canal. The FDOT has committed to the City to evaluate the 'connector segment' between Segments 2 and 3 as part of this PD&E study. The 'connector segment' is an elevated structure that crosses over Yamato Road from the Tri-Rail Station heading north. The structure will be designed and constructed as part of this I-95 project.

The proposed project will not use property from Blazing Star Preserve, Sugar Sand Park, Cypress Knee Slough Preserve, George Snow Park, Serenoa Glades Preserve, Countess de Hoernle Park, Yamato Scrub Natural Area, Delray Oaks Preserve, Pondhawk Natural Area, the FAU Preserve, the Patch Reef Trail, the Spanish River Boulevard Trail, and the T-Rex Trail. FHWA has determined there are no Section 4(f) issues for this project.

Coordination with the City of Boca Raton on the trails will continue during design and construction phases. A Determination of Applicability (DOA) on the temporary impacts due to potential, temporary shutdown of the El Rio Trail was prepared and submitted to FHWA on July 15, 2008. The FHWA determined that there is no Section 4(f) use of the City owned portion of the El Rio Trail.

6.3 Community Impacts

6.3.1 Aesthetics

The Department will provide standard landscaping for this classification of roadway.

6.3.2 Land Use

Existing Land Use

The proposed project is located within the urban area of Palm Beach County, primarily within the City limits of Boca Raton. The northern 2,800' of the project extend into the city limits of Delray Beach. In general, existing land use within the project area consists of public facilities, transportation, institutional, commercial, light industrial, residential, parks/recreational lands, nature preserves/conservation lands and undeveloped lands. Major features within the project study area include the Boca Raton Airport and associated facilities, FAU, Palm Beach Community College, Boca Raton High School, Tri-Rail/FEC Rail corridor and several nature preserves/conservation lands.

Residential areas are present along both the east and west sides of I-95 south of Glades Road, along the east side of I-95 from Yamato Road to Linton Boulevard, along both sides of Yamato





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Road to the east of I-95 and along the south side of Glades Road east of I-95. Commercial/Office land use is present in the vicinity of the Glades Road interchange and along Glades Road west and east of I-95 (Town Center Mall, University Commons); institutional land use (FAU, Palm Beach Community College, Boca Raton High School, Boca Raton Airport, Tri-Rail Station) is present on the east side of I-95 from the south side of Glades Road to the El Rio Canal and on the west side of I-95 at Yamato Road. Light industrial/commercial land use is present along Yamato Road, west of I-95. Conservation land use is present on the west side of I-95 along Palmetto Park Road (Blazing Star Preserve, Sugar Sands Park and Cypress Knee Slough Preserve) and to the south and north of Clint Moore Road (Yamato Scrub Nature Preserve). Two large undeveloped tracts of land (natural areas) are also present in the southeast quadrant of I-95 and Yamato Road and on the west side of I-95, south of Spanish River Boulevard.

Future Land Use

According to the City of Boca Raton Future Land Use Map and City Master Plans, proposed changes in land use within the project area include:

- Changing the undeveloped land (designated as light industrial) immediately west of I-95 and south of Spanish River Boulevard purchased with City of Boca Raton bond funds into Recreation and Open Space - currently called Countess de Hoernle Park (formerly Eco Site 18); and
- Changing the undeveloped area immediately south of Yamato Road and east of I-95 into Low-Residential.

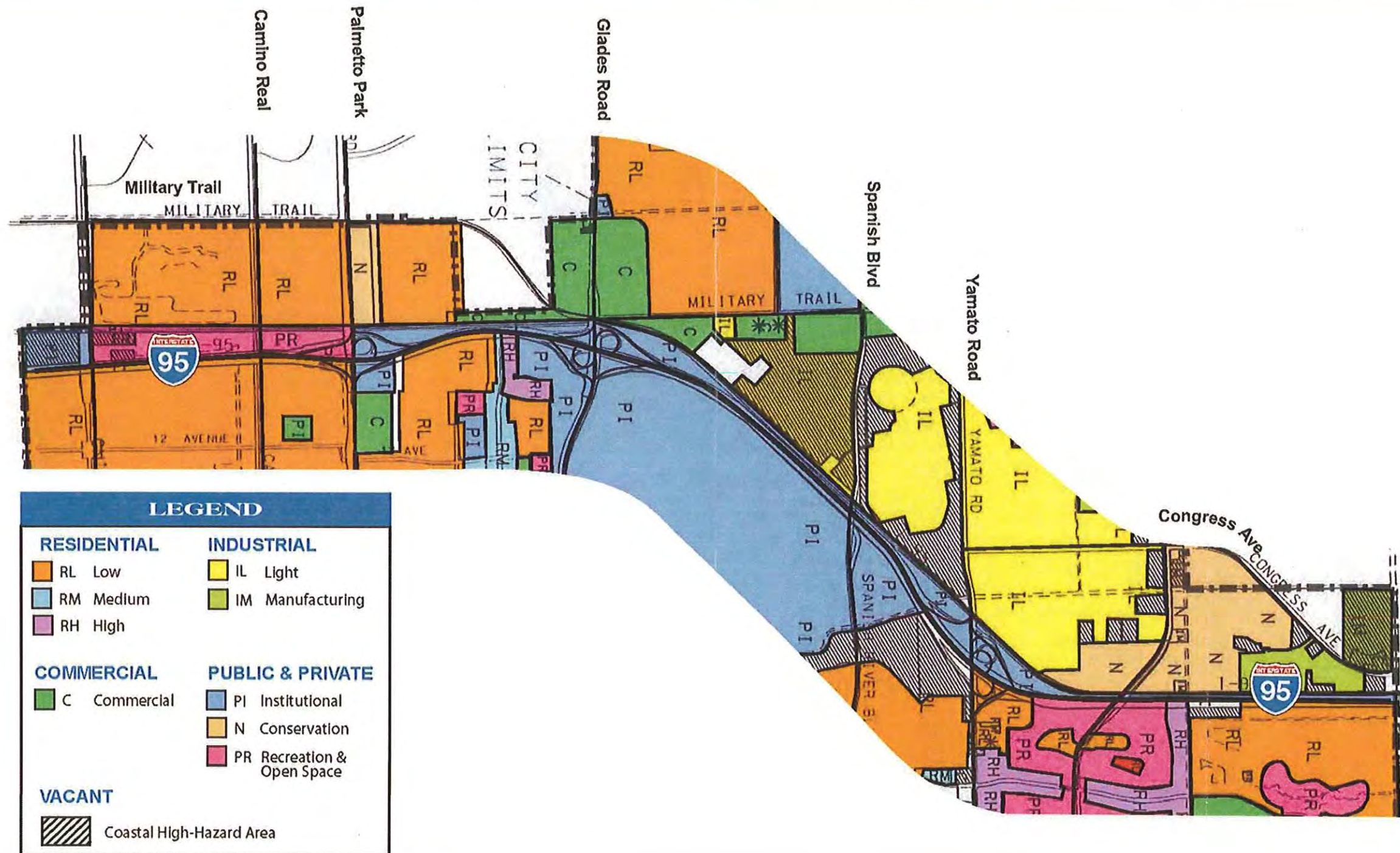
Existing and future land use for the project segment is shown in Figures 6-2 and 6-3, respectively.

6.3.3 Mobility

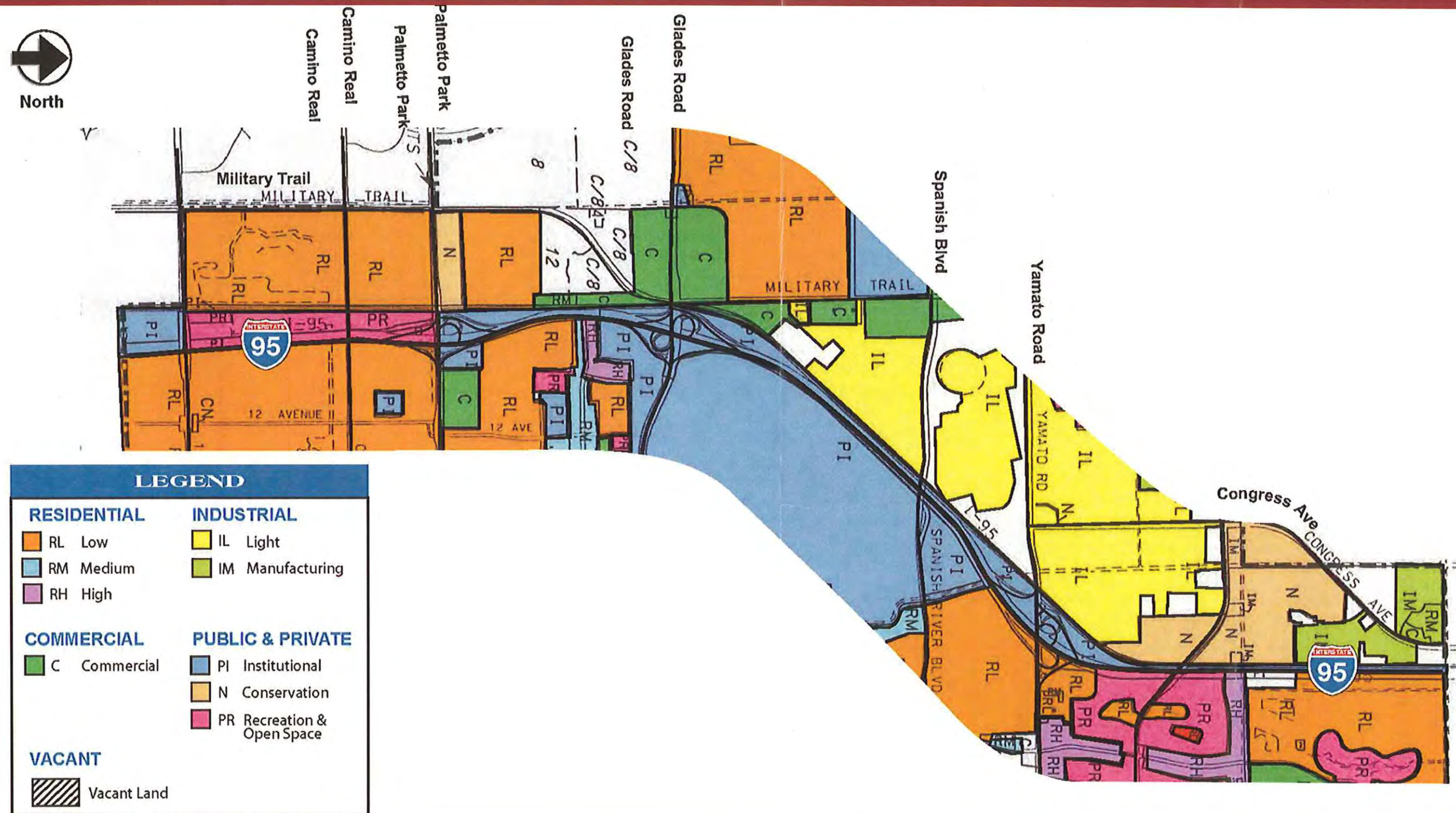
This project will enhance mobility for residents in southern Palm Beach County as populations increase. Due to Palm Beach County's substantial growth in population and employment the widening of I-95 is needed to improve the mobility of people and goods since I-95 is the major north-south transportation arterial within and beyond the region. The corridor is a hurricane evacuation route; therefore, the I-95 road project would also improve safety and emergency response. The new interchange between Glades Road and Yamato Road will improve access between I-95, the Boca Raton Airport, and the Florida Atlantic University.



I-95 PD&E STUDY



I-95 PD&E STUDY



**6.3.4 Relocation**

The acquisition of additional right-of-way for mainline improvements is not necessary, as the proposed mainline roadway typical section and all associated drainage needs can be accommodated within the existing right-of-way. Detention ponds are proposed within the footprints of the existing and proposed interchange areas. Acquisition of state-owned land for the proposed "Airport/FAU" interchange will be required. The majority of this property is owned by Florida Atlantic University. Therefore, it is anticipated that this land acquisition will not require eminent domain for the state-owned parcel. However, relocation of the FWC Fish Research Facility, located on FAU property will be required due to the new interchange. This property is leased from FAU by the FWC and they are currently on a month to month lease. In addition, a narrow sliver of right-of-way will also be required from two parcels (one owner) in the southeast quadrant of the I-95/Yamato Road interchange. These parcels are east of the El Rio Canal and south of Yamato Road, adjacent to the existing northbound off-ramp at Yamato Road. This property will be needed to accommodate the proposed "braided" ramps and the northbound-to-westbound loop ramp extension at the Yamato Road interchange. Additional right-of-way is also needed between Butts Road and Renaissance Way along both sides of Glades Road. Right-of-way will also be required near the Airport Road/Glades Road intersection on the north side of Glades Road to accommodate the Glades Road widening and an expanded intersection at this location. This property is publicly-owned by the City of Boca Raton. On the south side of Glades Road at this intersection (NW 15th Avenue), a narrow sliver of right-of-way will be required on the west side from the Boca Raton High School. Finally, additional right-of-way will be needed along Spanish River Boulevard on both sides in order to accommodate widening to six lanes from Florida Atlantic Boulevard to NW 6th Terrace, a distance of approximately 900'. This right-of-way includes narrow slivers from state-owned (FAU) land, one vacant private parcel, and from the Vistazo at Boca Raton Community.

The proposed project, as presently conceived, will not displace any residences or businesses within the community. Should this change over the course of the project, the Florida Department of Transportation will carry out a right-of-way and relocation program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 as amended by Public Law 100-17). The brochures that describe in detail the Department's relocation assistance program and right-of-way acquisition program are "Your Relocation: Residential", "Your Relocation: Business, Farms and Nonprofit Organizations", "Your Relocation: Signs" and "The Real Estate Acquisition Process". All of these brochures are distributed at all public hearings and made available upon request to any interested persons.

6.3.5 Social

a. Community Cohesion: The proposed widening of I-95 and Glades Road would reduce congestion and enhance safety and thus have a social benefit. The pattern of development has been established along these corridors. The widening of I-95 and Glades Road will not isolate or split existing neighborhoods/residential areas or impact any community facilities. Some minor business impacts will occur along Glades Road. These impacts are minor and include removal of landscaping and property takes that do not affect the operation of the business. Access to all businesses will be maintained. One median opening will be eliminated due to access management requirements. This existing closure is located on Glades Road just east of Broward Avenue and



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only provides eastbound access to an FPL facility although it also provides drivers with a U-turn capability. This could cause minor inconveniences but will not cause substantial impact. Sufficient locations for U-turns are available in the corridor. No other community concerns have been identified and no impacts to cultural facilities will occur.

The new "Airport/FAU" interchange will improve the existing road network. Existing interchanges to the south and north include Glades Road and Yamato Road, respectively. The new interchange will provide improved access to FAU, the Boca Raton Airport, residential communities to the east, and businesses, recreational and community facilities and the Tri-Rail Station to the west. This improved access to these facilities, and particularly FAU, will bring commuters closer to their destination and reduce congestion at the other interchanges (i.e., Glades Road). However, traffic on Spanish River Boulevard will increase and some residences along Spanish River Boulevard have expressed a concern over the increased traffic. With the "Build" alternative, traffic is predicted to increase by approximately 10,700 vehicles by the design year, which is a 32% increase over the "No-Build" alternative. Although this is a substantial increase, the neighborhood pattern of development has already been established along Spanish River Boulevard. It is also anticipated that current "cut-through" traffic in the Boca Raton Hills and Knob Hill neighborhoods (from Yamato Road to FAU) will be substantially reduced.

b. Community Services: Numerous community facilities have been identified within the project area. These include:

Medical/Hospital Facilities

No social service agencies, elderly/retirement/special needs facilities or community or senior centers are present in the project area except for Manor Care Nursing Home located off of Yamato Road just east of I-95. No hospital facilities are located within the project limits; however, the Boca Raton Community Hospital and associated medical facilities are located just east of the project area off of Glades Road. In addition, the Boca Raton Community Hospital is proposed to relocate their facilities to the FAU campus with access off of Glades Road. The widening along Glades Road will provide improved access to this proposed facility.

Public Facilities

A new City of Boca Raton Public Library has recently been constructed on the north side of Spanish River Boulevard west of I-95. The Boca Raton Fire Station #4 is located just west of I-95 on Yamato Road. No impact to these facilities will occur.

Public and Private Schools

Florida Atlantic University, Palm Beach Community College and Boca Raton Community High School are located within the project study area. Other schools located in close proximity to the project include Lynn University, Boca Raton Community High School, Pope John Paul High School, Don Estridge High Tech Middle School, Grandview Prep School, and Torah Academy of Boca Raton. One day care center is also present, Summit Day School.

No impact to any of the schools are anticipated with the exception of the Boca Raton Community High School, where an eight-foot strip of right of way will be required on the east side (i.e., along 15th Avenue). This narrow strip of right-of-way will not affect the operation of the school or its



**Project Development Summary Report**

facilities (i.e., stadium, athletic fields). The existing right-turn lane along 15th Avenue will be replaced in order to maintain the current access conditions into the school. Improved access to FAU will occur due to the new interchange and widening of Glades Road.

Churches

One church is present in the study area, the Boca Raton Church of Christ, located east of I-95 along the south side of Yamato Road. No impact is anticipated.

Privately Owned Facilities

Two large Corporate Centers/Parks are present including T-Rex Corporate Center located west of I-95 between Spanish River Drive and Yamato Road and Arvida Corporate Center located west of I-95 along the north side of Yamato Road. Major retail centers include Boca Raton Town Center Mall and University Commons.

Parks/Recreation Areas

As discussed above, several parks and recreation areas are located near the proposed project, including Blazing Star Preserve, Sugar Sand Park, Cypress Knee Slough Preserve, George Snow Park, Serenoa Glades Preserve, Countess de Hoernle Park, Yamato Scrub Natural Area, Delray Oaks Preserve, Pondhawk Natural Area, the FAU Preserve, the Patch Reef Trail, the Spanish River Boulevard Trail, the T-Rex Trail, and the El Rio Trail.

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

d. Controversy Potential: A Public Involvement Program (PIP) was conducted for this project in order to obtain comments/input from the public, government officials, and agencies. The major elements of this program to date consist of an Advanced Notification (AN) package, Public and Agency Kickoff Meetings, two Public Workshops, and several individual meetings with key stakeholders.

An Advanced Notification (AN) package was distributed to local, state and federal agencies and representatives on March 24, 2006. Responses from seven agencies were received including Florida Department of Environmental Protection (FDEP), Florida Fish and Wildlife Conservation Commission (FWC), South Florida Water Management District (SFWMD), Treasure Coast Regional Planning Council (TCRPC), Florida Department of State (DOS), U.S Fish and Wildlife Service (FWS) and US Department of Commerce - National Oceanic and Atmospheric Administration - National Marine Fisheries Service (NMFS).

A Public Workshop was held on April 20, 2006 to present preliminary information on the project and to obtain public input. A second Public Workshop was held on October 19, 2006. This meeting provided more detailed engineering information and allowed further public input. No adverse comments were received regarding the project however concerns were raised by one individual regarding the new interchange which is proposed as an at-grade intersection with Spanish River Boulevard. The purpose of this interchange is to reduce congestion at both the Glades Road and Yamato Road interchanges, as such traffic volumes will increase along Spanish River Boulevard.





Concern was expressed with this increase in traffic volumes on Spanish River Boulevard east of the interchange.

A public hearing was held on March 4, 2010 at Florida Atlantic University's Live Oak Pavilion, at 777 Glades Road, Boca Raton, FL 33431. The purpose of the hearing was to give interested persons an opportunity to express their views concerning the location, conceptual design, social, economic, and environmental effects of the proposed improvements of the I-95 PD&E Study. The 'Build' alternative was presented along with the 'No-Build' alternative. A public testimony period was held and all comments received during the hearing or by mail are part of the public record. An official public hearing transcript has been prepared.

6.4 Other

6.4.1 Noise

A noise study has been conducted for the project. The *Noise Study Report* (NSR) is on file at FDOT, District Four. The noise study evaluated the reasonable need for noise barriers along the project corridor.

Table 6-1 lists the existing and proposed noise barriers, and identifies the benefitted communities for each.

Barrier 1 is proposed to consist of a new noise barrier constructed between the railroad right-of-way and the Fairfield Gardens development. The recommended dimensions are proposed to be 22 feet in height and 1,065 feet in length.

Barriers 2 & 3 are existing and need no changes in length or height, as the Traffic Noise Model (TNM) analysis determined that the existing barriers are adequate.

All of the residences behind existing barriers 2 and 3 are receiving at least a 6.7 dBA reduction in noise, except for a few residences near a gap between the barriers associated with a canal. Several of these residences are not receiving a 5 dBA benefit from the existing walls. To address this, the District is proposing a 14' shoulder barrier to cover the gap and provide noise reduction to the homes near the gap.

The possibility of replacing the existing noise walls 2 and 3 with taller walls to achieve a 5 dBA reduction above and beyond the reduction provided by the existing walls was analyzed. Results of the analysis proved that any increase in wall height, even up to the maximum allowable 22 feet, would only provide a maximum of 3.7 dBA additional reduction to any of the receivers behind the existing walls. Therefore, there was not sufficient additional benefit to be gained by demolishing the existing walls to build taller ones, and new taller walls were not recommended for these locations.

Barrier 2A is proposed to be 14 feet in height and 215 feet in length, and is recommended to be positioned between Barriers 2 and 3. This 14-foot gap shoulder barrier is recommended for further consideration through cost averaging over the entire project based on the reduction of the very high 74.6 dB level at receiver 12, and also due to past public input regarding the high noise levels coming through the gap between Barriers 2 and 3 at this location.

Barrier 4 is existing and needs no changes in length or height.





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All of the residences behind wall 4 are receiving a noise reduction in excess of 5 dBA except one which is at 4.9 dBA. Similar to barriers 2 and 3, insufficient additional benefit would be achieved from a taller wall.

Proposed Barrier 5 is proposed to be a new 22-foot tall noise barrier 540 feet in length. The proposed barrier would be constructed along the east edge of the I-95 right-of-way.

Barrier 6 is proposed to be a new 18-foot tall noise barrier approximately 2,800 feet in length. The proposed barrier is recommended to be constructed along the east edge of the I-95 right-of-way from the drainage control ditch to the beginning of the Congress Avenue ramps.

Barrier 7 is an existing eight-foot tall wall located along the ramps at the Congress Avenue interchange. The TNM determined that the height is adequate. Extension of the eight-foot tall barrier across the C-15 Canal Bridge, a distance of 250 feet, is recommended.

Proposed Barrier 8 is to consist of a new 18-foot tall barrier approximately 3,900 feet in length located along the east edge of the I-95 right-of-way beginning at the C-15 Canal and extending northward toward Linton Boulevard.

The Min and Max Leq values were provided to simply display the range of the noise levels from project start to project end, listed by sub-sets of receivers associated with each existing and proposed barrier. The Max Leq represents the highest value in the range for any of the receivers "behind" the particular barrier, which when viewed independently of the full data can be misleading.

Construction of noise barriers would be considered reasonable and feasible to mitigate for traffic noise impacts at numerous residential developments. The total cost to construct all noise barriers recommended in this study is \$4,827,300. The TNM analysis indicates that 254 noise receiver sites would receive a 5 dBA or greater noise reduction resulting from construction of the six noise barriers. Therefore, the average cost per benefitted receiver would be approximately \$19,005, which is below the \$42,000 threshold. For that reason, the six noise barriers proposed for this project (five new walls, one extension) are considered feasible and reasonable.





TABLE 6-1
EXISTING AND PROPOSED NOISE BARRIERS

Scenario	No Barrier		14' Barrier		18' Barrier		22' Barrier	
Year	2033 Build		2033 Build		2033 Build		2033 Build	
	Min Leq	Max Leq	Min Leq	Max Leq	Max Leq	Max Leq	Min Leq	Max Leq
Barrier 1								
Fairfield Gardens	69.4	76.8	Not modeled (height maximized)				60.2	68.9
Barrier 2A								
Country Club Village	66.7	74.6	65.5	69.1	Not modeled (14' max height for shoulder)			
Barrier 2 (existing)								
Country Club Village	n/a	n/a	65.8*	69.7*	++	++	++	++
Barrier 3 (existing)								
Country Club Village	n/a	n/a	64.9*	69.3*	++	++	++	++
Barrier 4 (existing)								
San De Vance	n/a	n/a	n/a	n/a	59.7*	69.9*	n/a	n/a
Barrier 5								
Boca Teeca Condos	69.7	79.1	n/a	n/a	n/a	n/a	64.0	71.1
Barrier 6								
Hidden Lakes & Hidden Valley	64.6	67.6	n/a	n/a	56.2	60.4	n/a	n/a
Barrier 7 (Existing)								
Hidden Valley	n/a	n/a	54.6**	59.0**	n/a	n/a	n/a	n/a
Barrier 7 (Ext.)								
Hidden Valley	59.2	60.2	56.7**	57.6**	n/a	n/a	n/a	n/a
Tropic Palms	59.9	61.3	56.3**	57.4**	n/a	n/a	n/a	n/a
Barrier 8								
Tropic Palms	61.4	66.0	n/a	n/a	54.0	58.0	n/a	n/a
Bahia at Delray Beach Condos	58.9	68.9	n/a	n/a	54.4	60.8	n/a	n/a
Terra Verde Condos	62.9	69.5	n/a	n/a	57.2	61.5	n/a	n/a

*These decibels are measured for the existing barrier height. For additional information, see page 6-17.
**Not computed, 5 dBA or greater noise reduction achieved with existing height barriers.
**Actual height is 8 feet, not 14 feet as listed in the header.

6.4.2 Construction

Construction activities for the proposed project will have air, noise, water quality, visual and minor traffic flow impacts for those residents and travelers within the immediate vicinity of the project.

Construction activities will cause minor short-term air quality impacts in the form of dust from earthwork and unpaved roads, and diesel-powered construction equipment. Air pollution associated with the creation of airborne particulates will be effectively controlled through the use of watering or the application of other controlled materials in accordance with FDOT's *Standard Specifications for Road and Bridge Construction* as directed by the FDOT Project Engineer.





Noise and vibrations impacts will be from heavy equipment movement and construction activities such as vibratory compaction of roadway and embankments. Noise generated during construction will be controlled in accordance with the latest edition of the FDOT's *Standard Specifications for Road and Bridge Construction* and through the use of Best Management Practices (BPM). Adherence to local construction noise and/or construction vibration ordinances by the contractor will also be required where applicable.

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

Maintenance of traffic and sequence of construction will be planned and scheduled so as to minimize traffic delays throughout the project. Signs will be used as appropriate to provide notice of road closures and other pertinent information to the traveling public. The local news media will be notified in advance of road closings and other construction-related activities which could excessively inconvenience the community so that motorists, residents, and business persons can plan travel routes in advance.

A sign providing the name, address, and telephone of the Department contact person will be displayed onsite to assist the public in obtaining immediate answers to questions and logging complaints about project activity.

Access to all businesses and residences will be maintained to the extent practical through controlled construction scheduling. Traffic delays may occur, and will be controlled to the extent possible where many construction operations are in progress at the same time. The contractor will be required to comply with the Best Management Practices of FDOT.

For the residents living within the project area, some of the materials stored for the project may be displeasing visually; however, this is a temporary condition and should pose no substantial problem in the short term.

Construction of the roadway requires excavation of unsuitable material (muck), placement of roadway fill, and use of materials, such as limerock, asphaltic concrete, and portland cement concrete. Demucking will be controlled by Section 120 of the FDOT *Standard Specifications*. Disposal will be on-site in detention areas or off-site. The contractor is responsible for his methods of controlling materials from the project. Temporary erosion control features as specified in the FDOT's *Standard Specifications*, Section 104, will consist of temporary grassing, sodding, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms.





CHAPTER 7

Summary of Permits and Mitigation

7.1 Permits

This project is located within the jurisdiction of the South Florida Water Management District (SFWMD) and the Lake Worth Drainage District. These districts exercise control over all water management improvements within the limits of the project. Permits will be required from both of these districts.

Widening of the bridges over the El Rio Canal and the C-15 Canal will also require Dredge and Fill permits from the US Army Corps of Engineers (USACE). This permit application will be made jointly when the stormwater permit application with SFWMD is made.

Since the El Rio Canal Bridge is upstream of a salinity barrier and the C-15 Canal Bridge is upstream of a major control structure, the Canals are not considered navigable and navigation permits from the US Coast Guard are not required.

Lake Worth Drainage District will require that the bridges provide a minimum vertical clearance of 40" above the maintained water elevation or 24" above the ten year one day storm event, whichever is greater. Since the interstate bridges were designed to provide at least three-feet of vertical clearance for the 50 year storm, meeting the District's criteria will not be a concern.

South Florida Water Management District navigation clearances do not apply to any of the cross drains or structures on this project.

It is anticipated that the following permits will be required for this project:

- USACE Section 404 Dredge and Fill Permit
- SFWMD Environmental Resource Permit
- SFWMD Right-of-way Occupancy Permit modification
- SFWMD Water Use Permit
- Lake Worth Drainage District Bridge Permit
- Florida Department of Environmental Protection (FDEP) National Pollutant Discharge Elimination System General Permit

7.2 Minimization / Mitigation

Wetland impacts will be avoided and minimized to the maximum extent practicable. The only wetland impacts are to W-3a, a man-made pond that is not hydrologically connected to other surface waters (Waters of the US). W-4 is an existing stormwater treatment pond at the north end of the corridor east of I-95. While expansion of W-4 to the south is proposed, the existing pond is not being reworked in order to avoid and minimize wetland impacts. Temporary impacts at the southern end of the existing pond may occur but will be replaced with the expansion. Minor impacts to W-4, estimated at approximately 200 square-feet, may occur in the process of expanding the pond.





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Wetland mitigation for impacts to W-3a is not anticipated since this is a man-made wetland that is not hydrologically connected to waters of the US. However, the habitat lost in W-3a will be replaced with the expansion of W-4 as well as other stormwater treatment areas in the project. The area of expansion used to replace the loss of 0.05 acres of wetland is 1.39 acres. If it is determined that wetland mitigation is required during final design and permitting, wetland mitigation will occur pursuant to S. 373.4137 F.S. to satisfy all mitigation requirements of Part IV, Chapter 373, FL and 33 USC 1344.



CHAPTER 8

Summary of Public Involvement

8.1 Public Involvement

An agency kick-off meeting for the project was held on March 31, 2005, 9:00 A.M. at Florida Atlantic University (FAU) in Boca Raton with 11 attendees. The purpose of the agency kick-off meeting was to present the I-95 PD&E Study to the federal, state, and local agencies and receive their input regarding any ideas or recommendations for the project and help identify any issues. The following topics were discussed at the meeting:

- Widening of the I-95 mainline
- Reconstruction of the Spanish River Boulevard bridge
- Widening of Glades Road
- Yamato Road interchange options
- The proposed "Airport/FAU" interchange
- Federal Aviation Administration approach surfaces for the close proximity of the Boca Raton Airport
- Right-of-way acquisition for the "Airport/FAU" interchange
- Consideration for neighbourhood traffic east of FAU on Spanish River Boulevard

Two public workshops were held for the project. The purpose of the workshops was to afford interested persons the opportunity to express their views concerning the location, conceptual design, social, economic, and environmental effects of the project. The workshops were held in order to receive comments from the general public as well as to inform the public of the project's progress. The first public workshop was held on Thursday, April 20, 2006 at FAU from 5:00 P.M. to 8:00 P.M. and presented the various initial alternatives that were developed. The second public workshop was also held at FAU on Thursday, October 19, 2006 from 5:00 P.M. to 7:00 P.M. This workshop presented the "No-Build" and "Build" alternative which was developed at that time. Comments were received from the workshops and reviewed for feasibility and possible implementation. Any feasible comments were incorporated into the project.

8.2 ETDM Screening

The project has gone through the Efficient Transportation Decision Making (ETDM) process. Project information is listed below:

- ETDM #: 3333
- Planning Organization: Palm Beach County Metropolitan Planning Organization (MPO)
- ETDM Phase: Programming Screen
- Project Type: Widening
- Project County: Palm Beach County
- District #: FDOT District IV

The following information was reviewed during the ETDM screening process:

- Project Effects Overview
- Secondary and Cumulative Effects
- Project Description
- Purpose and Need Reviews
- Class Of Action Determination

8.3 Advance Notification

The Advance Notification (AN) package, consisting of a Transmittal Letter, Location Map, Federal Aid Assistance Form and Fact Sheet, was forwarded to the Florida State Clearinghouse – Florida Department of Environmental Protection and distributed to local, state and federal agencies and representatives on March 30, 2006 in accordance with Executive Order 95-359. Responses from eight agencies were received including Florida Department Of Environmental Protection (FDEP), Florida Fish and Conservation Commission (FWC), South Florida Water Management District (SFWMD), Treasure Coast Regional Planning Council (TCRPC), Florida Department of State (DOS), U.S Fish and Wildlife Service (FWS), US Department of Commerce – National Oceanic and Atmospheric Administration (National Marine Fisheries Service (NMFS) and Palm Beach County. No significant adverse responses were received.

8.4 Small Group Meetings

Several small, project specific meetings have also taken place during the course of the project. These meetings include the following:

- Homeowners Meeting (Nob Hill) – June 26, 2006
- Woolbright (property management) Meeting for owners of parcels between Butts Road and Renaissance Way on Glades Road regarding right-of-way acquisition – September 7, 2006
- Key Stakeholder Meeting – July 23, 2007
- School District Meeting for possible right-of-way acquisition at Boca Raton High School – August 23, 2007
- City Manager Meeting (Boca Raton) – August, 29, 2007

8.5 Public Hearing

A public hearing was held on March 4, 2010 at Florida Atlantic University's Live Oak Pavilion, at 777 Glades Road, Boca Raton, FL 33431. The purpose of the hearing was to give interested persons an opportunity to express their views concerning the location, conceptual design, social, economic, and environmental effects of the proposed improvements of the I-95 PD&E Study. The 'Build' alternative was presented along with the 'No-Build' alternative.

The public hearing began at 6:00 pm as an "open-house" format to allow the public to review the documents and exhibits that were on display and to answer any questions individuals had about the project. At 6:30, the District Project Development Engineer gave an introductory speech which was then followed by a formal video presentation. The presentation provided a description of the proposed 'Build' alternative as well as its associated environmental and socioeconomic impacts. A public testimony period was held after the presentation was given. Three individuals spoke at the hearing and one person gave a "one-on-one" comment to the Court Reporter that was present. The City of Boca Raton traffic engineer was one individual which spoke at the hearing on behalf of the City of Boca Raton which is in favor of the project. A ten day comment period was allowed after the public hearing. Responses were provided to all comments received from the 17 individuals that commented either at the public hearing or by letter during the allowed comment period. The majority of comments were related to the following issues.

- The need for noise walls at various locations along the project corridor.
- Connectivity to existing and proposed trails.
- Increased traffic on Spanish River Boulevard that may result from the connection of the proposed "Airport/FAU" interchange at Spanish River Boulevard.



Project Development Summary Report

The public hearing was adjourned at 7:09 pm. A total of 52 attendees (includes FDOT staff and consultants) were present. The content of the public hearing was transcribed and a transcript has been prepared that serves as an official public record. A copy of the official public hearing transcript is attached. Detailed information regarding the Public Involvement conducted for the project is contained in the Public Involvement Summary Report (PISR) which is part of the project file and available upon request.



Tab A
Public Hearing Transcript

PUBLIC HEARING TRANSCRIPT CERTIFICATION

I hereby certify that on March 4, 2010, beginning at 6:00 p.m., I presided over a Public Hearing for the following project:

I-95 PD&E Study

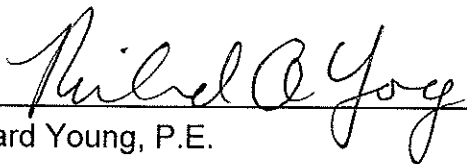
Project Development and Environment (PD&E) Study

from south of Glades Road to south of Linton Boulevard

Palm Beach County, Florida

Financial Project ID: 412420-1-22-01

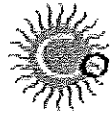
I further certify that the subject Public Hearing was conducted relative to the economic and social effects of the location and design concept for the subject project and its impact on the environment, that a transcript was made and the document attached herein is a full, true, and complete transcript of what was said at the Hearing, and that the Florida Department of Transportation has considered the social, economic, and environmental effects of the proposed improvement and is of the opinion that it is properly located and should be constructed.



Richard Young, P.E.
Project Development & Environment Engineer
Hearing Moderator

4/30/2010

Date



1 HIGHWAY LOCATION AND DESIGN CONCEPT PUBLIC HEARING

2 STATE ROAD 9 (I-95)

3
4
5
6 INTERSTATE I-95 PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
7 (PD&E)

8 From south of Glades Road to south of Linton Boulevard

9 Palm Beach County, Florida

10
11
12
13 Florida Atlantic University
14 Live Oak Pavillion
15 777 Glades Road
16 Boca Raton, FL 33431

17 Thursday, March 4, 2010

18 6:30 p.m. - 7:10 p.m.

19
20
21 **COPY**

22 Reported By:

23 Ruthanne Machson, Court Reporter

24 Notary Public, State of Florida

25 Consonor & Associates Reporting and Transcription

West Palm Beach Office

Phone - 561.682.0905

A P P E A R A N C E S

THE PANEL

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AUDIENCE SPEAKERS

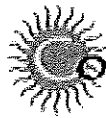
AT PODIUM:

DOUGLAS HESS
CHARLIE HELTON
CARTER VAN VORIS

IN PRIVATE:

ISABELLE GUMINA

- - -



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P R O C E E D I N G S

- - -

MR. YOUNG: Ladies and gentlemen, if you would take your seats please for the presentation to start. Please take your seats. We are beginning our presentation for tonight.

Good evening, ladies and gentlemen. Thank you for coming to the public hearing tonight. My name is Richard Young. I am the district project development engineer for the Fourth District of the State of Florida Department of Transportation.

This hearing is relevant to the potential widening of I-95 or State Road 9 from south of Glades Road to south of Linton Boulevard in Palm Beach County and a potential new interchange at Spanish River Boulevard.

Here with me tonight are, to my right, Mr. Patrick Glass, project manager with District Four DOT; Mr. John Scarlatos, consultant project engineer with Transystems, our consulting engineer on the project; and Mr. John Grow, our consultant project manager, and we have other representatives of our DOT consultant team here tonight.

At this time, we would like to recognize any Federal Highway Administration, state, county

1 or city officials who may be present here tonight.

2 Are there any officials who would like to
3 be recognized?

4 Seeing none, if we can have the lights
5 dimmed, we'll begin our PowerPoint Presentation.

6 *****

7 POWERPOINT PRESENTATION

8 *****

9 Welcome to the public hearing for the I-95
10 PB&E Study. I-95 is part of the Interstate
11 Highway System, serving as an Emergency Evacuation
12 Route, and playing a major role in the economy of
13 southeast Florida. This public hearing is being
14 conducted by the Florida Department of
15 Transportation, in cooperation with the Federal
16 Highway Administration.

17 The hearing is being conducted to afford
18 persons the opportunity to express their views
19 concerning the location and conceptual design of
20 the proposed improvements.

21 This project is currently in the Project
22 Development stage. Upon completion of this stage,
23 design and right-of-way acquisition will commence.

24 The purpose of this study is to identify
25 reasonable and feasible alternatives for both

1 widening I-95 and Glades Road and adding a new
2 interchange south of Yamato Road. This study will
3 evaluate the economic, environmental, and social
4 impacts associated with those improvements.

5 The project limits extend from south of
6 Glades Road to south of Linton Boulevard, a length
7 of approximately six miles. The proposed
8 improvements will follow the existing I-95
9 alignment, and will consist of widening I-95 from
10 its existing eight lanes to ten lanes plus two
11 auxiliary lanes from south of Glades Road to
12 Congress Avenue, and from eight lanes to ten lanes
13 from Congress Avenue to south of Linton Boulevard.
14 The two existing High Occupancy Vehicle, or HOV
15 lanes, will continue to operate, one in each
16 direction. Additionally, Glades Road is going to
17 be widened from a six lane roadway to an eight
18 lane roadway from Butts Road to Florida Atlantic
19 Boulevard.

20 Almost all of us use I-95. If you have
21 lived here for any length of time, you know that
22 traffic congestion on I-95 gets worse every year.
23 Current traffic projections show that traffic
24 volumes north of Glades Road will grow from nearly
25 200,000 vehicles per day in 2006 to over 290,000

1 vehicles per day in 2033. That's a growth of over
2 45 percent. In order to handle these traffic
3 volumes at an acceptable level of service, I-95
4 will need to be widened to 10 lanes plus auxiliary
5 lanes where needed.

6 This conclusion is primarily based on two
7 factors: One: The continued rapid growth of
8 southeast Florida, specifically Palm Beach County
9 and two: The traffic congestion trends on I-95 in
10 southeast Florida.

11 In 1996, the I-95 HOV Lane PB&E study was
12 prepared. This report recommended the extension
13 of two HOV lanes from Linton Boulevard to PGA
14 Boulevard, plus general use lanes and auxiliary
15 lanes where needed.

16 Between 1999 and 2001, the Florida
17 Department of Transportation undertook several
18 Reevaluations of the previous PD&E studies to
19 account for variations in the final design of I-95
20 as compared to the previously filed environmental
21 documents.

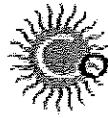
22 The results of these studies revealed that
23 I-95 will need at least ten lanes, including two
24 HOV lanes from Linton Boulevard to PGA Boulevard.
25 This minimum ten-lane system, including two HOV

lanes, is now proposed to extend from Ives Dairy Road in Miami-Dade County to Indiantown Road in Palm Beach County. This is consistent with the I-95 Master Plan conducted in 2002.

The environmental study performed for this project is from south of Glades Road to south of the Linton Boulevard and is called a Type Two Categorical Exclusion. The purpose of this current study is to determine the nature and extent of any environmental impacts that might be created by the proposed "Build" alternative and how any such impacts can be mitigated.

The project also involves an engineering study of I-95. Two alternatives have been included in this study. One, the "No-Build" alternative and, two, the "Build" alternative.

The "No-Build" alternative would allow I-95 to remain exactly like it currently is between south of Glades Road and south of Linton Boulevard. I-95 is currently an eight-lane divided freeway with paved shoulders on each side of both the northbound and southbound roadways. Congestion is measured on a scale of A to F with A being the best and F being the worst or failing. Currently I-95 is failing and will get worse if



1 capacity improvements aren't implemented.

2 The "No Build" alternative would allow I-95
3 to remain an eight-lane divided freeway with paved
4 shoulders on each side of both the northbound and
5 southbound roadways. Two of the existing eight
6 lanes are HOV lanes, one in each direction, and
7 the remaining six lanes are general purpose lanes,
8 three in each direction.

9 The "Build" alternative provides for
10 widening I-95 to ten lanes for the entire length
11 of the project from south of Glades Road to just
12 south of Linton Boulevard. In addition, two more
13 auxiliary lanes, one in each direction, are
14 proposed from Glades Road to the Congress Avenue
15 connector. Auxiliary lanes help traffic to get on
16 and off I-95 in between interchanges.

17 Two of these 12 lanes would be HOV lanes
18 with one lane in each direction. Eight lanes
19 would be general purpose lanes with four lanes in
20 each direction and two lanes would be axillary
21 lanes with one lane in each direction.

22 The "Build" alternative would provide for
23 widening the existing cross section of I-95 to at
24 least ten lanes from Palmetto Park Road to
25 Indiantown Road when all projects currently in

1 various stages of implementation are completed.

2 A detailed description of the "Build"
3 alternative is contained in the documents on
4 display this evening. You may comment on both the
5 "No Build" and the "Build" alternatives.

6 The principal advantage of the "Build"
7 alternative over the "No Build" alternative is the
8 relief of traffic congestion. Additional benefits
9 include the attended benefits of air quality
10 improvements and economic benefits in the form of
11 user travel time savings and operating cost
12 savings for the highway users. Public safety
13 would also improve from the standpoint of
14 hurricane evacuation, better emergency vehicle
15 response times and a reduction in vehicle crashes.

16 The main disadvantage is the inconvenience
17 to traffic during construction.

18 To construct the "Build" alternative, I-95
19 would be need to be widened to the outside from
20 south of Glades Road to just north of the Clint
21 Moore overpass. North of Clint Moore Road, the
22 widening would transition to the inside up to
23 south of Linton Boulevard.

24 This would involve 24 feet of widening on
25 the outside of both sides of and I-95 from Glades



1 Road to north of the Clint Moore Road Overpass.

2 From north of Clint Moore Road to south of
3 Linton Boulevard, the widening would transition to
4 the inside. Therefore, from a point approximately
5 100 feet north of the Clint Moore Road Overpass to
6 south of the Linton Boulevard interchange, all
7 widening would be accomplished to the inside.

8 The long-range transportation plan for Palm
9 Beach County calls for ten lanes on I-95 from
10 Glades Road to Linton Boulevard. Therefore, the
11 project is consistent with the county's long-range
12 plan.

13 Within the study area, interchanges exist
14 at Glades Road, Yamato road and Congress Avenue.
15 The Palm Beach County long-range transportation
16 plans contains a proposed new interchange south of
17 Yamato Road near Spanish River Boulevard.

18 The "Build" alternative includes a new
19 interchange just south of Yamato Road connecting
20 I-95 to the intersection of Florida Atlantic
21 Boulevard and Spanish River Boulevard. This
22 interchange would be a two-and-a-half or
23 three-level "directional T-type interchange" as
24 shown in this slide. This interchange would serve
25 the Boca Raton Airport and FAU. It would also

1 relieve traffic congestion at the Glades Road and
2 Yamato Road mainlines, intersections and
3 interchanges.

4 Here's a view of the new interchange
5 looking southeast with Yamato Road in the
6 foreground. This new interchange will not affect
7 the existing Tri-Rail Station or the proposed
8 Greenway along the El Rio Canal.

9 If the new interchange is implemented,
10 improvements to the Spanish River Boulevard will
11 likely be warranted. These improvements will be
12 addressed in a future PD&E Study and will be
13 coordinated with the Palm Beach County MPO, City
14 of Boca Raton, residents and any other concerned
15 stakeholders.

16 As mentioned previously, Glades Road will
17 be widened to eight lanes from Butts Road to
18 Florida Atlantic Boulevard, a distance of
19 approximately two miles. In addition to the
20 Glades Road widening, the Glades Road interchange
21 will also be improved.

22 In order to accommodate the high volume of
23 traffic projected on Glades Road, a "High Capacity
24 Partial Cloverleaf" Interchange Design was chosen.
25 This interchange allows for separate bridges to

1 carry I-95 on-ramp traffic using the two
2 interchange loops. This interchange provides the
3 best relief to heavy-peak hour Glades Road
4 traffic.

5 The Airport Road and Glades Road
6 intersections are already experiencing severe
7 operating deficiencies. The "Build" alternative
8 includes intersection improvements which add three
9 left-turn lanes from northbound N.W. 15th Avenue
10 to Glades Road and the I-95 on-ramps.

11 The existing loops at Yamato Road are
12 substandard and create a traffic "weaving" problem
13 for vehicles entering Yamato Road on the east loop
14 and trying to leave Yamato Road on the west loop.
15 To correct this, the "Build" alternative creates
16 three distinct intersections that utilize both of
17 the existing loops. The eastern loop, which will
18 now contain three lanes, will now accommodate all
19 I-95 northbound to westbound Yamato Road traffic,
20 but will now become signalized thereby eliminating
21 the "weaving" problem. The existing western loop
22 will be modified to accommodate operational
23 improvements at the interchange.

24 Here is a view of the new interchange
25 looking south from Yamato Road in the foreground.

1 No traffic interaction is allowed to occur between
2 the new interchange and the Yamato Road
3 interchange to avoid traffic "weaving" conflicts.

4 No improvements are contemplated under the
5 "Build" alternative for the Congress Avenue
6 Interchange. The improvements at this location
7 will be limited to widening the mainline and where
8 the ramp connections tie in to the mainline.

9 The "Build" alternative also includes
10 non-motorized modes and multimodal considerations
11 including direct access to FAU from Yamato Road,
12 Intelligent Transportation Systems and bike paths
13 and trails.

14 Direct access will be provided to and from
15 Yamato Road and Florida Atlantic University via a
16 new interchange ramp. This ramp will allow for
17 shuttle busses to go to and from the Tri-Rail
18 Station and Florida Atlantic University.

19 An Intelligent Highway System concept has
20 also been identified to help manage and direct
21 traffic during FAU stadium events for the upcoming
22 new FAU on-campus stadium. These concepts include
23 variable message signs, route diversions and
24 stadium event management.

25 Finally, a system of bike paths and trails

1 has been accounted for and appropriate connections
2 provided. A pedestrian/bicycle overpass is
3 proposed at Yamato Road on the El Rio Canal
4 alignment connecting to the proposed El Rio Trail
5 Greenway and to the Tri-Rail Station.

6 Protection of our natural environment is
7 always a priority for the Department.
8 Therefore, environmental evaluations are a major
9 part of the PD&E study.

10 In order to comply with various Executive
11 Orders and other federal requirements, engineering
12 and environmental information was reviewed to
13 determine if there were any changes in the social,
14 economic, physical and natural system impacts
15 which may result from construction of the proposed
16 improvements.

17 In accordance with Executive Order 11988
18 entitled "Floodplain Management," a floodplain
19 analysis was performed, and it was determined that
20 the proposed project will not constitute a
21 significant encroachment on floodplains. In
22 accordance with Executive Order 11990 entitled
23 "Protection of Wetlands," a wetland evaluation was
24 conducted for the project. Because very little
25 additional right-of-way is anticipated to be

1 acquired for the project, most wetland impacts
2 associated with construction will be limited to
3 the man-made systems found within the existing
4 right-of-way and within the one state-owned parcel
5 required for the new interchange.

6 In summary, temporary and permanent wetland
7 impacts are not expected to have long-term
8 significance to natural systems or the surrounding
9 environment. Because the proposed construction
10 will result in only minor encroachments to
11 artificial wetland systems dominated by nuisance
12 and exotic vegetation, no wetland mitigation is
13 currently proposed.

14 An Air Quality Screening Test was performed
15 and the project passed the Air Quality Screening
16 Test. No adverse air quality impacts will result
17 due to the project.

18 Threatened and endangered species are
19 afforded special protection under the Endangered
20 Species Act of 1973, as amended, and Florida
21 Statutes. An Endangered Species Biological
22 Assessment was conducted to evaluate the
23 corridor's potential to support species listed as
24 endangered, threatened or of special concern by
25 the US Fish and Wildlife Service and the Florida

1 Fish and Wildlife Conservation Commission. The
2 results of the assessment indicated that no
3 designated critical habitat is located within the
4 project limits. However, five Federally listed
5 species and nine state listed species were
6 identified as potentially occurring in the
7 corridor project. Minor impact to listed species
8 habitat will occur. However, with the
9 implementation of protection measures for the
10 Manatee, eastern indigo snake, burrowing owl and
11 the gopher tortoise and the replacement of lost
12 foraging habitat for wood stork and other wading
13 birds, no adverse impacts to protected species are
14 anticipated by the project.

15 The proposed stormwater facilities will be
16 designed to meet the current requirements of the
17 South Florida Water Management District.

18 In accordance with the current FDOT's
19 Standard Specifications for Road and Bridge
20 Construction, all Best Management Practices for
21 erosion control and water quality considerations
22 will be adhered to during the construction phase
23 of the project.

24 A traffic noise study determined that noise
25 abatement features were found to be reasonable and

1 feasible in reducing noise level changes for
2 residences adjacent to I-95. Additional detailed
3 information is available at this hearing.

4 Input has been received regarding the
5 public's desire for noise barriers. In addition
6 to the existing noise barriers, this table shows
7 the locations of proposed new noise barriers.

8 A contamination screening evaluation
9 identified sites along the project corridor which
10 contain or have the potential to contain hazardous
11 or regulated substances and which may require
12 further investigation and mitigation. There are
13 34 potential sites ranging from low risk to high
14 risk. Five high-risk, 12 medium-risk and 17
15 low-risk rated sites have been identified within
16 the project area. All of the environmental
17 reports are available for your review this
18 evening.

19 As currently envisioned, all of the
20 proposed mainline improvements will be confined to
21 the existing I-95 right-of-way envelope. New
22 right-of-way along I-95 will be acquired as a
23 result of this project at the new FAU/Airport
24 interchange which will require 12 acres owned by
25 the State of Florida, Florida Atlantic University,

1 plus two privately owned slivers of right-of-way
2 from the southeast quadrant of I-95 and the El Rio
3 Canal.

4 In addition, right-of-way will be needed
5 along Spanish River Boulevard on both sides in
6 order to accommodate widening to six lanes from
7 Florida Atlantic Boulevard to N.W. 6th Terrace, a
8 distance of approximately 900 feet.

9 Right-of-way is also required at two
10 locations on Glades Road. The first location is
11 near the Glades Road/Airport Road intersection.
12 This expanded intersection will require a narrow
13 piece of property on the north side of Glades Road
14 next to the Boca Raton Utility Plant. This
15 property is owned by the City of Boca Raton. Up
16 to 12 feet of right-of-way will also be required
17 on the west side of N.W. 15th Avenue near Boca
18 Raton Community High School. Preliminary meetings
19 have already occurred with the City of Boca, the
20 Palm Beach County School District executives and
21 the Boca Raton Utility Plant.

22 In order to accommodate the eighth laning
23 of Glades Road, two narrow slivers of property
24 will be required between Butts Road and
25 Renaissance Way as shown here. These slivers

1 affect five properties along Glades Road. The
2 property owners for these five properties have
3 already been identified and contacted by the FDOT.
4 No businesses or residences will be taken. Only
5 seven private property owners are affected by the
6 "Build" alternatives right-of-way requirements.

7 On this project, we anticipate no families
8 or businesses relocations. If, by any
9 circumstance, this changes at some time in the
10 future, and if you have required to make any type
11 of move as a result of a Department of
12 Transportation project, you can expect to be
13 treated in a fair and helpful manner and in
14 compliance with the Uniform Relocation Assistance
15 Act of 1970 and in accordance with Florida Statute
16 330.09.

17 If a change occurs that requires you to
18 relocate, you will be contacted by an appraiser
19 who will inspect your property. We encourage you
20 to be present during the inspection and provide
21 information about the value of your property. You
22 may also be eligible for relocation advisory
23 services and payment benefits. If you are being
24 moved and you are unsatisfied with the
25 Department's determination of your eligibility for

1 payment or the amount of that payment, you may
2 appeal that determination.

3 You will be promptly furnished necessary
4 forms and notified of the procedures to be
5 followed in making that appeal.

6 A special word of caution. If you move
7 before you receive notification of the relocation
8 benefits that you might be entitled to, your
9 benefits may be jeopardized. The relocation
10 specialists who are supervising this program will
11 be happy to answer your questions and will also
12 furnish you with copies of relocation assistance
13 brochures.

14 The brochures that describe in detail the
15 Department's relocation assistance program and
16 right-of-way acquisition programs are available
17 upon request to any interested persons here
18 tonight.

19 The estimated total cost for the proposed
20 improvements will be around 213 million dollars,
21 which includes 165 million dollars for
22 construction, 10 million for right-of-way
23 acquisition and 38 million for engineering.

24 Funding for this project will come from a
25 combination of federal and state transportation

1 trust fund revenues. \$10.4 million has already
2 been earmarked for the new interchange by federal
3 legislation.

4 This public hearing is part of the PD&E
5 Study Phase. This phase is scheduled for
6 completion in August 2010. The Design-Build
7 package is scheduled in the FDOT's Tentative
8 Five-Year Work Program for fiscal year 2011/2012.
9 Right-of-way acquisition is scheduled for fiscal
10 year 2012/2013. Funds are not currently
11 programmed in the FDOT's Tentative Work Program
12 for construction.

13 No final decision has been made regarding
14 the proposed widening or the proposed interchange,
15 and no decision will be made until after all
16 public comments have been received and analyzed.
17 At this time, the Florida Department of
18 Transportation has tentatively selected the
19 "Build" alternative as the "preferred
20 alternative." Once again, however, this decision
21 will not be finalized until after public comments
22 have been received and analyzed.

23 This is your opportunity to give us your
24 comments on the preliminary design plans on
25 display this evening. You can comment this

1 evening in one of four ways. First, you can make
2 an oral statement during the formal portion of the
3 hearing. Second, you can make an oral statement
4 to the court reporter in a one-on-one setting
5 after the formal portion of this hearing has
6 concluded. Some of you may have already done this
7 prior to this presentation. Third, you can
8 complete the comment form provided in your
9 brochure and submit it to the court reporter or
10 drop the form in the comment box. Four, you can
11 complete and mail the comment form to the address
12 shown here. This address is preprinted on the
13 back of the comment form. Please be sure to print
14 clearly if submitting a written comment. Any
15 written comments or exhibits will be accepted and
16 included as part of the hearing record if received
17 within the comment period. You do not have to
18 restrict yourselves to using the comment form.
19 You can also submit any form of written comment at
20 the public hearing.

21 The public comment period for this public
22 hearing will remain open for ten days. All
23 submittals must be postmarked by March 14, 2010 in
24 order to be included in the Official Public
25 Hearing Record. Comments submitted in any one of

1 these four ways will be included in the official
2 record of the public hearing proceedings. All
3 four types of comments carry the same weight and
4 will be considered equally as the final design
5 plans are completed.

6 On behalf of the Florida Department of
7 Transportation, we want to thank you for attending
8 tonight's public hearing. Your comments are an
9 important part of determining the design of the
10 proposed roadway improvements. We hope you find
11 tonight's hearing helpful and informative and we
12 look forward to your comments.

13 *****

14 MR. YOUNG: That concludes our
15 presentation. Anyone desiring to make a statement
16 or present written views and/or exhibits relative
17 to the location, conceptual design, structural and
18 economic effects or impact on the environment as a
19 result of this project will now have the
20 opportunity to do so.

21 This is an opportunity for you to formally
22 present your comments, opinions and ideas about
23 the project for the permanent record. We ask that
24 you limit your comments to five minutes and, if
25 you have additional comments, you may continue

1 after other people have had the opportunity to
2 comment.

3 We will have staff available after the
4 comment period to address any specific questions
5 one-on-one. If you are holding speaker cards,
6 please pass your cards to the aisle and our staff
7 will collect them. If you have not received your
8 card and wish to speak, please raise your hand and
9 our staff will provide you with one.

10 Are there any elected public officials that
11 would like to make a statement? Please come
12 forward to the microphone.

13 (No response from the audience.)

14 Are there any officials representing
15 federal, state or local government agencies who
16 would like to make a comment at this time?

17 (No response from the audience.)

18 Okay. I will now call on those who have
19 turned in cards. When you come forward, please
20 state your name and address. If you represent an
21 organization, municipality or other public entity,
22 we would appreciate that information as well.

23 Please use the microphone and our reporter
24 will be sure to get a complete record of your
25 comments. Just speak naturally. The volume will

1 be adjusted so that the rest of us can hear you.

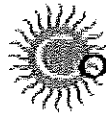
2 The first card I have is Douglas Hess.

3 MR. HESS: Good evening. I'm Douglas Hess
4 and I serve as traffic engineer for the City of
5 Boca Raton. This year marks the tenth year in
6 which city staff has been in discussions with FDOT
7 and the MPO regarding the over capacity situation
8 at I-95 and the interchanges at Glades Road and
9 Yamato Road in the FAU University area.

10 This area of Boca Raton has gone through an
11 intense period of growth, and the fast-growing FAU
12 campus is located just east of I-95 between these
13 two over capacity interchanges.

14 Since year 2000, the Palm Beach MPO has
15 also recognized the need for interchange
16 improvements and has had the auxiliary lane and
17 interchange modifications on their unfunded
18 priority list.

19 Every year, Boca Raton city staff meets
20 with the city council in a goal-setting workshop
21 to identify key issues and development of action
22 plans to address those key issues. For the past
23 three years, development and construction of the
24 new I-95 interchange has been identified as a
25 major goal.



1 In 2007, one of the major goals was
2 identified as FAU/I-95 Interchange. It read,
3 "Goal: Construction of I-95 interchange at Spanish
4 River Road, Yamato Road to improve traffic flow
5 and access to FAU."

6 In 2008, one of the major goals identified
7 was FAU strategy, hospital project, I-95
8 interchange. It read, "Goal: Coordinate with FAU
9 to approve a revised FAU master plan, campus
10 development agreement and with the Boca Raton
11 Community Hospital on proposed campus hospital to
12 ensure that the needs and interests of the
13 university and the hospital are balanced with
14 those of the city and that impact on the community
15 at large are mitigated, including the construction
16 of I-95 interchange at Spanish River Boulevard,
17 Yamato Road to improve traffic flow and access to
18 the FAU campus."

19 In 2009, one of the action plans identified
20 was Target FAU Strategy and Actions. It read:
21 The relationship of the city with FAU is one of
22 its key strategic partnerships. To ensure an
23 effective, ongoing relationship, the city must
24 establish the long-term planning strategy and
25 continue dialogue and enhance interaction with the

1 university.

2 To address the impact of campus growth on
3 the city, staff will prepare and present for city
4 council review and public discussion a revised
5 campus development agreement. Staff will also
6 monitor and provide reports on the I-95
7 interchange and associated impacts.

8 The city will identify and address the
9 long-term impacts of having the main FAU campus
10 within its jurisdiction.

11 I support the Florida Department of
12 Transportation and the Federal Highway
13 Administration's development and construction of
14 the I-95 interchange improvements to this area
15 including improvements to Glades Road, both of
16 which are currently operating severely over
17 capacity.

18 Further, construction of the pedestrian
19 bridge over Yamato Road connecting the southern
20 and northern section of the El Rio Trail will
21 provide increased safety for pedestrians and
22 bicyclists through the area.

23 Thank you.

24 MR. YOUNG: Thank you, Mr. Hess. The next
25 speaker card I have is Charlie Helton.

1 MR. HELTON: Hi. Good evening. My name is
2 Charlie Helton. I live at 4540 N.W. 5th Avenue in
3 Boca Raton Hills, the neighborhood most directly
4 affected by this project, particularly the what's
5 called the Airport/FAU interchange.

6 I read through most of those documents over
7 there. I didn't memorize every word, but I think
8 I got most of it.

9 In several places, in the introductions,
10 conclusions and whatever, which is consistent with
11 what I have been told for the last four to ten
12 years that we have been kind of looking at this
13 project.

14 It said things like the purpose of the
15 project is to enhance operation and safety on I-95
16 and provide a direct connection between I-95 and
17 the Boca Raton Airport thereby relieving traffic
18 from both Glades Road and Yamato Road and about
19 the interchange. As a matter of fact, it calls it
20 in most of these documents the FAU/Airport
21 interchange.

22 It says the new interchange will provide
23 and direct a direct route between I-95 and the
24 Boca Raton Airport and FAU thereby relieving
25 traffic from both Glades Road and Yamato. Seems

1 like a reasonable thing to do.

2 To accomplish this at that interchange, it
3 seems fairly obvious that to do that, what you
4 need at the ramp where it gets to Spanish River is
5 you need a bridge to go directly into FAU like its
6 intended purpose of the ramp and, of course, a
7 turn lane to go over to the airport. So do what
8 it's supposed to do.

9 There have been various issues brought up.
10 I think we can work with the FAA in regard to
11 clearances and this, that and the other. You can
12 always, you know -- well, you guys know how to do
13 this. So if we really wanted to do it, we
14 certainly can do it.

15 I've heard oh, we can't afford it. Give me
16 a break. On a project that's estimated at this
17 time at 213 million, which will probably grow to,
18 what, three, three and a quarter, three fifty, one
19 little 5 million-dollar bridge in addition to
20 another 13 or so would be quite insignificant or,
21 you know, erasure dust on a project this size.

22 If it's not possible to do that, which I
23 think it is, then what should be done with the
24 various proposals -- the proposal that we have
25 over here is to be changed such that traffic is



1 not dumped onto Spanish River eastbound from I-95.

2 Again, I have been to many, many meetings
3 over many years. I've never heard anyone from DOT
4 or the city or whatever say our main objective of
5 this project is to dump traffic through that
6 residential neighborhood.

7 We have several neighborhoods on that
8 street that are directly affected by this. I
9 noticed some comments that seemed to say that
10 residents would be negatively effected or
11 whatever, no quality of life issues. Believe me,
12 when you dump 20, 30,000 cars additional onto a
13 residential street, I think there's going to be
14 some negative impacts for us and our quality of
15 life.

16 So the neighborhoods in question are
17 Vistazo, Boca Raton Hills, Knob Hill, Sunset Ridge
18 and Cedar Ridge. I don't know how many people are
19 there, but it's somewhere in the neighborhood of
20 six to 800. I don't think they should be ignored.

21 And, of course, on that street within just
22 a few-block area -- I mean just a couple blocks
23 from this proposed interchange is three schools
24 where young children are there and a high school,
25 a Summit Private School and Grandview Prep.

1 So my suggestion is that we go back to what
2 we said we were going to do in the first place and
3 make that interchange the Airport/FAU interchange
4 and it should be designed to do that, and not to
5 disrupt, you know, our neighborhood of over 800
6 residents and endanger the life of our children.

7 Thank you very much.

8 MR. YOUNG: Thank you for your comments,
9 Mr. Helton.

10 The next speaker card I have is Carter Van
11 Voris.

12 MS. VAN VORIS: I am Carter Van Voris. I
13 manage the San De Vance Golf & Tennis Club
14 Community. I'm speaking on behalf of the
15 community tonight. We have a 15-year history in
16 the community of communicating with the DOT
17 regarding a sound wall for the community.

18 Our concern is that the sound issue whether
19 or not the "Build" or "No Build" option still is
20 taken into consideration and still comes to pass
21 as was indicated back in 1995 that it was changed
22 to a vegetation barrier in 1997. There was never
23 any additional vegetation planted by DOT in that
24 area as, of course, the vegetation that existed on
25 the San De Vance side of the line was pretty much

1 wiped out in the hurricane.

2 So we would like to request from the DOT an
3 additional sound study, a field test to be done,
4 not just a modeling test to be done, and we would
5 like the DOT to also consider erecting the sound
6 barrier wall whether or not the "Build" option or
7 the "No Build" option is approved.

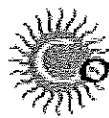
8 We would also like to ask the DOT if
9 there's any additional effort you need on behalf
10 of the community in terms of contacting
11 legislators or having petitions signed or anything
12 else in order to make this happen.

13 Thank you very much.

14 MR. YOUNG: Thank you. We have conducted
15 the noise study in accordance with all the state
16 and federal regulations. Unfortunately, we can
17 only construct a sound barrier with the "Build"
18 alternative and we hope that will come to pass.

19 MS. VAN VORIS: And can you just tell us
20 why -- we have a large group here. Why we can't
21 have a sound barrier if there is a "No Build"
22 alternative, why that is not still a feasibility?

23 MR. YOUNG: The State of Florida does not
24 have a retrofit noise wall policy and it has to be
25 included with a widening or a new road or an



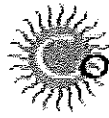
1 adjustment of an existing road and align it either
2 vertical or horizontal.

3 We do have a wall proposed for that
4 community and there are several other walls
5 proposed along the corridor and they are intended
6 to be constructed with this project.

7 MS. VAN VORIS: Okay. And what I
8 understood was from the presentation you said you
9 were going to widen everything and take it down
10 the center, but I'm also looking at some of the
11 facts and figures. It looks like the highway is
12 also moving another 12 feet in closer to the
13 property.

14 MR. YOUNG: In some areas we are widening
15 to the middle, but in other areas we don't have
16 room in the middle so we have to widen it to the
17 outside, yes.

18 MS. VAN VORIS: And is there any way to
19 keep it all on the left? We are only 50 feet away
20 from the edge of the highway now. Our concern is,
21 of course, we don't have a sound barrier. We are
22 only 50 feet now and then go down to 38 and,
23 hopefully, we get a sound barrier as far as the
24 project, but that's not a whole lot of space in
25 there.



1 MR. YOUNG: Thank you.

2 MS. VAN VORIS: Thank you.

3 MR. YOUNG: That's all the cards I have.

4 If anyone else has a card and would like to make a
5 comment?

6 (No response from the audience.)

7 Okay. Well, if no one else desires to
8 speak, I wish to remind you that written
9 statements and/or exhibits may be presented in
10 lieu of or as support to oral statements made here
11 tonight.

12 Written statements may be sent to the
13 attention of Mr. Patrick Glass at the Florida
14 Department of Transportation, District Four
15 Office, at 3400 West Commercial Boulevard, Fort
16 Lauderdale, Florida 33309, and if written
17 statements are received within ten days after the
18 date of this hearing, they will be included as
19 part of this hearing.

20 The transcript of tonight's oral
21 proceedings together with all the materials
22 displayed at this hearing will be available at the
23 District's office of Planning and Environmental
24 Management in Fort Lauderdale.

25 At 7:09, this hearing is adjourned. Thank

1 you very much for your attendance.

2 *****

3 STATEMENT TO THE COURT REPORTER

4 *****

5 MS. GUMINA: Isabelle Gumina, G-U-M-I-N-A.

6 I just want to reiterate what Carter said when she
7 was standing back there. We are economically
8 going to be hurt by coming 12 feet closer to our
9 property line, our clubhouse, our swimming pool.
10 Twelve feet closer. That means there's only
11 38 feet between us. Never mind the wall. We are
12 going to be closer to 95. Economically, that's
13 not going to help the value of our property.

14 We have a 172 units. We will be affected
15 economically. There seems to be an area west of
16 that. If they could move it westerly instead of
17 easterly, it would help us. I just don't think
18 that's fair. Okay.

19 (Thereupon, the proceedings were concluded
20 at 7:10 p.m.)

21

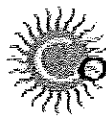
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CERTIFICATE OF REPORTER

- - -

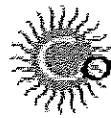
I, Ruthanne Machson, Court Reporter, State
of Florida at Large, certify that I was authorized to and
did stenographically report the foregoing proceedings and
that the transcript, pages 1 through 36, is a true and
complete record of my stenographic notes.

Dated this 17th day of March, 2010, in Palm
Beach County, Florida.

Ruthanne Machson

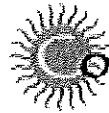
Ruthanne Machson, Court Reporter
Notary Public - State of Florida
Commission No. DD 774525
Expires: March 31, 2012

- - -



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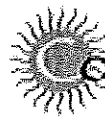
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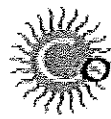
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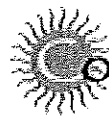
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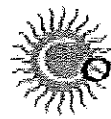
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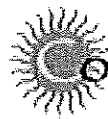
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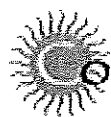
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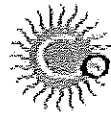
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Tab B
Typical Section Package

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

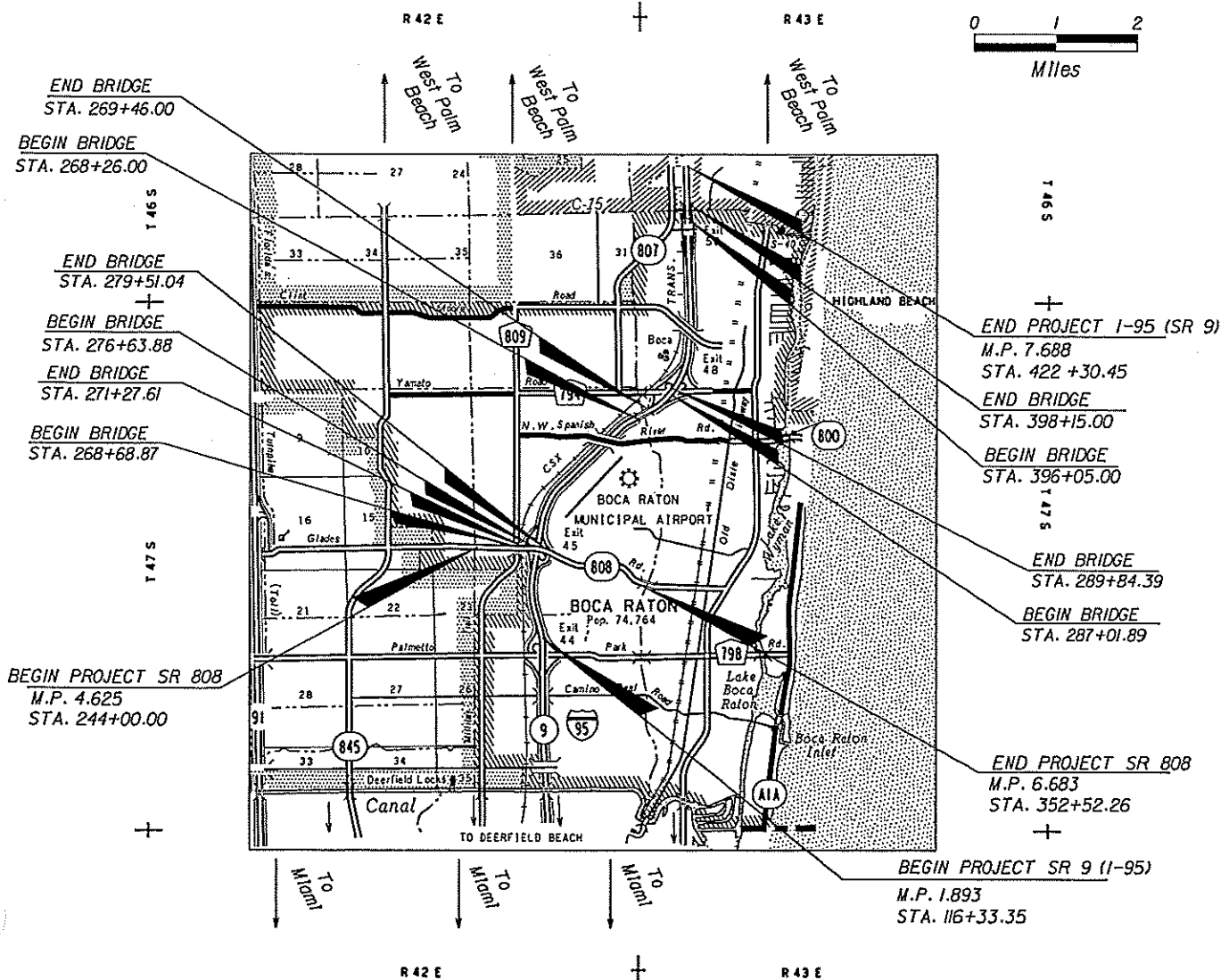
FINANCIAL PROJECT ID 412420-1-22-01
(FEDERAL FUNDS)

PALM BEACH COUNTY (93220)

STATE ROAD NO. 9 (I-95)

FROM SOUTH OF GLADES ROAD
TO SOUTH OF LINTON BOULEVARD
AND

GLADES ROAD (SR 808) FROM BUTTS ROAD
TO FLORIDA ATLANTIC BOULEVARD



PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 COUNTY PALM BEACH
 PROJECT DESCRIPTION WIDENING & RESURFACING I-95 (SR 9) FROM SOUTH OF GLADES ROAD TO SOUTH OF LINTON BOULEVARD, & GLADES ROAD FROM BUTTS ROAD TO FLORIDA ATLANTIC BLVD

PROJECT CONTROLS

FUNCTIONAL CLASSIFICATION

- ☐ RURAL
☒ URBAN
☒ FREEWAY/EXPWY. ☐ MAJOR COLL.
☐ PRINCIPAL ART. ☐ MINOR COLL.
☐ MINOR ART. ☐ LOCAL

HIGHWAY SYSTEM

- Yes No
☒ ☐ NATIONAL HIGHWAY SYSTEM
☒ ☐ FLORIDA INTRASTATE HIGHWAY SYSTEM
☒ ☐ STATE HIGHWAY SYSTEM
☐ ☒ OFF STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

- ☒ 1 - FREEWAY
☐ 2 - RESTRICTIVE w/Service Roads
☐ 3 - RESTRICTIVE w/660 ft. Connecting Spacing
☐ 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
☐ 5 - RESTRICTIVE w/440 ft. Connection Spacing
☐ 6 - NON- RESTRICTIVE w/1320 ft. Signal Spacing
☐ 7 - BOTH MEDIAN TYPES

TRAFFIC

	YEAR	AADT
CURRENT	2006	192,225
OPENING	2013	223,200
DESIGN	2033	281,500
DISTRIBUTION		
DESIGN SPEED	70	K = 8.3%
POSTED SPEED	65	D = 56.5%
		T ₂₄ = 15.65%


CRITERIA

- ☒ NEW CONSTRUCTION / RECONSTRUCTION
☐ RRR INTERSTATE / FREEWAY
☐ RRR NON-INTERSTATE / FREEWAY
☐ TDLC / NEW CONSTRUCTION / RECONSTRUCTION
☐ TDLC / RRR
☐ MANUAL OF UNIFORM MINIMUM STANDARDS
 (FLORIDA GREENBOOK) (OFF-STATE HIGHWAY ONLY)

DESIGN SPEED APPROVALS


 FDOT DISTRICT DESIGN ENGINEER

5/20/10
 DATE


 FDOT DISTRICT TRAFFIC OPERATIONS ENGINEER

5/20/10
 DATE

LIST ANY POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION ELEMENTS:

BORDER WIDTH, THREE LANES SLOPING IN THE SAME DIRECTION WITH SAME SLOPE (EXISTING CONDITION), VERTICAL CURVES, VERTICAL CLEARANCE, SHOULDER WIDTH, FOUR LANES SLOPING IN SAME DIRECTION TO CURB AND GUTTER, AND MEDIAN WIDTH.



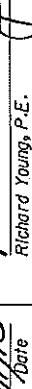

LIST MAJOR STRUCTURES LOCATION/DESCRIPTION - REQUIRING INDEPENDENT STRUCTURE DESIGN:
 GLADES ROAD INTERCHANGE I-95 OVERPASS AND CSX RAIL OVERPASS, I-95 OVERPASS AT YAMATO ROAD, SPANISH RIVER OVERPASS OVER I-95, CLINT MOORE ROAD OVER I-95

LIST MAJOR UTILITIES WITHIN PROJECT CORRIDOR:
 ADELPHIA BUSINESS SOLUTIONS, ADELPHIA-COMMUNICATIONS, CITY OF BOCA RATON-TRAFFIC, CITY OF BOCA RATON WATER NETWORK, CITY OF DELRAY BEACH WATER/SEWER NETWORK, PALM BEACH COUNTY FINANCE DEPARTMENT, MCI, EMERGIA USA, INC., FPL FIBERNET, FLORIDA PUBLIC UTILITIES CO, PALM BEACH COUNTY TRAFFIC OPERATIONS, BELL SOUTH, FIBERLIGHT LLC., PROGRESS TELECOM, FLORIDA POWER & LIGHT, FP&L DISTRIBUTION & TRANSMISSION

LIST OTHER INFORMATION PERTINENT TO DESIGN OF PROJECT:
 PROJECT INCLUDES NEW INTERCHANGE BETWEEN SPANISH RIVER BOULEVARD AND YAMATO ROAD.

FINANCIAL PROJECT ID	FEDERAL AID PROJECT NO.	COUNTY NAME	PALM BEACH
412420-1-22-01	0951-605-1		
SECTION NUMBER	ROAD DESIGNATION	LIMITS/MILEPOST	MP 1.993 TO MP 7.688
93220	SR 9 (1-95)		
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (1-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.		



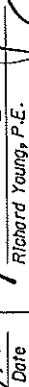

DESIGN SPEED = 70 mph

APPROVED BY  N. Craig Miller, P.E. #13147 Engineer of Record 2400 E. Commercial Blvd. Site 1000 Fort Lauderdale, FL 33308	FDOT CONCURRENCE  Howard Webb, P.E. FDOT District Design Engineer	RECOMMENDED BY  Richard Young, P.E. D-4 Project Development Engineer	FHWA CONCURRENCE  Deborah Farnsworth FHWA Transportation Engineer
Date 5-24-10	Date 6/1/10	Date 6/2/10	Date 9/3/10

FINANCIAL PROJECT ID	412420-1-22-01	FEDERAL AID PROJECT NO.	0951-605-1	COUNTY NAME	PALM BEACH
SECTION NUMBER	93220	ROAD DESIGNATION	SR 9 (1-95)	LIMITS/MILEPOST	MP 1.893 TO MP 7.688
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (1-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.				

[illegible]

DESIGN SPEED = 70 mph





APPROVED BY  Craig Miller, P.E. #3147 Engineer of Record 2400 E. Commercial Blvd Ste 1000 Fort Lauderdale, FL 33308	5-24-10 Date	FDOT CONCURRENCE  Howard Webb, P.E. FDOT District Design Engineer	6/1/10 Date	RECOMMENDED BY  Richard Young, P.E. D-4 Project Development Engineer	6/2/10 Date	FHWA CONCURRENCE  Deborah Finner FHWA Transportation Engineer	9/3/10 Date
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[illegible]

FINANCIAL PROJECT ID	412420-1-22-01	FEDERAL AID PROJECT NO.	0951-605-1	COUNTY NAME	PALM BEACH
SECTION NUMBER	93220	ROAD DESIGNATION	SR 9 (1-95)	LIMITS/MILEPOST	MP 1.893 TO MP 7.688
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (1-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.				

STA. 257+32.64 TO STA. 332+83.04

DESIGN SPEED = 45 MPH

APPROVED BY  N. Craig Miller, P.E. #13144 Engineer Of Record 2400 E. Commercial Blvd Ste 1000 Fort Lauderdale, FL 33308	5-19-10 Date	FDOT CONCURRENCE  Howard Webb, P.E. FDOT District Design Engineer	5/20/10 Date	RECOMMENDED BY  Richard Young, P.E. D-4 Project Development Engineer	5/20/10 Date	FHWA CONCURRENCE  David A. Finner FHWA Transportation Engineer	9/3/10 Date
---	-----------------	---	-----------------	---	-----------------	--	----------------

FINANCIAL PROJECT ID	412420-1-22-01	FEDERAL AID PROJECT NO.	0951-605-1	COUNTY NAME	PALM BEACH
SECTION NUMBER	93220	ROAD DESIGNATION	SR 9 (1-95)	LIMITS/MILEPOST	MP 1.893 TO MP 7.688
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (1-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.				

[illegible]

SR 808 (GLADES ROAD)
STA. 332+83.04 TO STA. 352+57.76

DESIGN SPEED = 45 MPH

APPROVED BY

FDOT CONCURRENCE

RECOMMENDED BY

FHWA CONCURRENCE

Date 11-10

5/20/18
Date

20/10
Date

9/3/10
Date

N. Craig Miller, P.E. #3347
Engineer Of Record
2400 E. Commercial Blvd Ste 1000
Fort Lauderdale, FL 33308

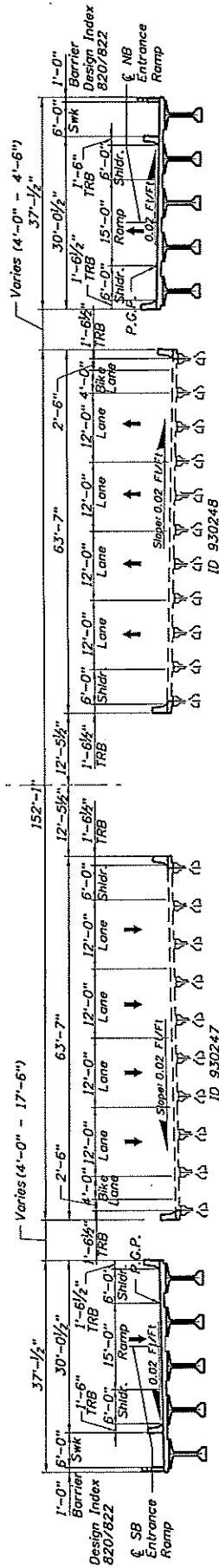
Howard Webb, P.E.
FDOT District Design Engineer

Richard Young, P.E.
D-4 Project Development

FHWA Transportation Engineer

FINANCIAL PROJECT ID	412420-1-22-01	FEDERAL AID PROJECT NO.	0951-605-1	COUNTY NAME	PALM BEACH
SECTION NUMBER	93220	ROAD DESIGNATION	SR 9 (1-95)	LIMITS/MILEPOST	MP 1.893 TO MP 7.688
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (1-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) From Butts Road to Florida Atlantic Boulevard.				

—C GLADES RD.



I-95 SB ENTRANCE RAMP
BRIDGE BOIA

GLADES ROAD OVER I-95
BRIDGE B01

I-95 NB ENTRANCE RAMP
BRIDGE BO1B

FDOT CONCURRENCE

Fred Ochoa, P.E.
FDOT District Structures Design Engineer

DESIGN SPEED = 45 mph


APPROVED BY

FDOT CONCURRENCE

RECOMMENDED BY

FHWA CONCURRENCE

Allen White
N. Craig Miller, Jr. E. #3147 Date 5-19-10
Engineer of Record
2400 E. Commercial Blvd. Ste 1000
Fort Lauderdale, FL 33308



 Howard Webb, P.E.
 FDOT District Design Engineer

Date 5/26/10

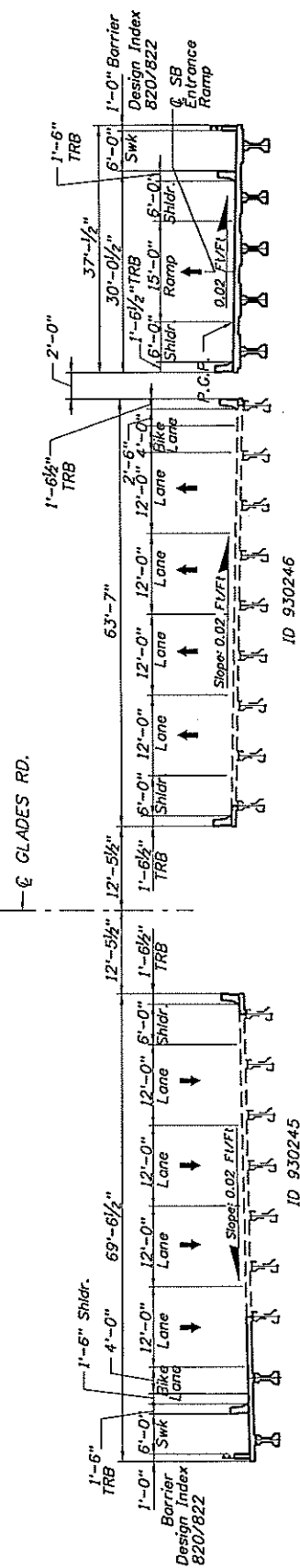
Richard Young
Richard Young, P.E.
D-4 Project Development Engineer
5/20/10 Date

Daniel Farrow 9/3/10
Date

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
 SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
 PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



GLADES ROAD OVER MILITARY TRAIL AND CSX R/R TRACKS
 BRIDGE B02

I-95 SB ENTRANCE RAMP
 BRIDGE B02A

DESIGN SPEED = 45 mph

FDOT CONCURRENCE

Fred Ochoa
 Fred Ochoa, P.E.
 FDOT District Structures Design Engineer

5/21/10
 Date

APPROVED BY

N. Craig Miller
 N. Craig Miller, P.E. #13147
 Engineer of Record
 2400 E. Commercial Blvd Ste 1000
 Fort Lauderdale, FL 33308

5-19-10
 Date

FDOT CONCURRENCE

Howard Webb
 Howard Webb, P.E.
 FDOT District Design Engineer

5/20/10
 Date

RECOMMENDED BY

Richard Young
 Richard Young, P.E.
 D-4 Project Development Engineer

5/20/10
 Date

FHWA CONCURRENCE

Daniel A. Tamm
 Daniel A. Tamm
 FHWA Transportation Engineer

9/23/10
 Date

David O. Tupper
FHWA Transportation Engineer

FINANCIAL PROJECT ID	FEDERAL AID PROJECT NO.	COUNTY NAME	PALM BEACH
412420-1-22-01	0951-605-1		
SECTION NUMBER	ROAD DESIGNATION	LIMITS/MILEPOST	MP 1.893 TO MP 7.688
93220	SR 9 (1-95)		
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (1-95) From south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 908) from Butts Road to Florida Atlantic Boulevard.		

Diagram illustrating the cross-section of a highway with a 4% slope. The total width is 47'-1". The cross-section includes:

- 1'-6 1/2" TRB (Top Right)
- 12'-0" Shoulder
- 12'-0" Lane
- 12'-0" Lane
- 8'-0" Shoulder
- 1'-6 1/2" TRB (Bottom Left)

The total width of the two lanes and shoulders is 44'-0". The slope is indicated as 4% and varies from 0.1% to 0.2%.

DESIGN SPEED = 35 mph

Fred Ochoa
Fred Ochoa, P.E.
FDOT District Structures Design Engineer
Date 5/21/10

Debra J. Finner 9/3/10
FHWA Transportation Engineer Date

Richard Young, P.E.
D-4 Project Development Engineer

5/20/10
Date

VP Webb
 Date 5/20/10
 Howard Webb, P.E.
 FDOT District Design Engineer

N. Craig Miller, P.E. #33467 Date 5-19-10
 Engineer Of Record
 2400 E. Commercial Blvd. Ste 1000
 Fort Lauderdale, FL 33308

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID

412420-1-22-01

FEDERAL AID PROJECT NO.

0951-605-1

COUNTY NAME

PALM BEACH

SECTION NUMBER

93220

ROAD DESIGNATION

SR 9 (I-95)

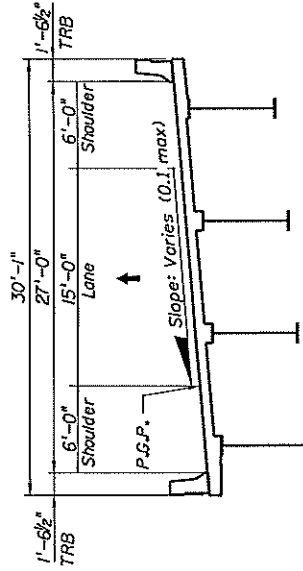
LIMITS/MILEPOST

MP 1.893 TO MP 7.688

PROJECT DESCRIPTION

Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Bufts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



NB FAU EXTENSION BRIDGE OVER I-95
BRIDGE B05

DESIGN SPEED = 35 mph

APPROVED BY

Chris Miller
N. Craig Miller, P.E. #3147
Engineer of Record
2400 E. Commercial Blvd Ste 1000
Fort Lauderdale, FL 33308

FDOT CONCURRENCE

Howard Webb
Howard Webb, P.E.
FDOT District Design Engineer

RECOMMENDED BY

Richard Young
Richard Young, P.E.
D-4 Project Development Engineer

FHWA CONCURRENCE

Dana Farnsworth
Dana Farnsworth
FHWA Transportation Engineer

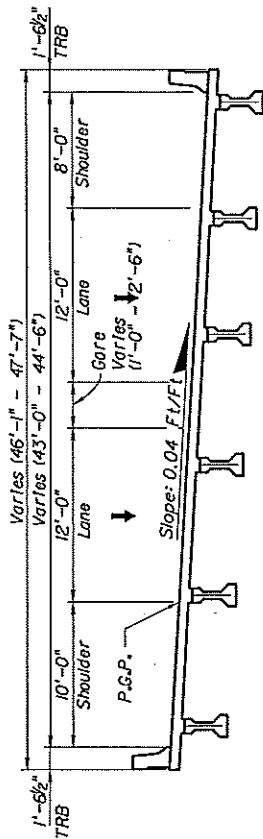
FDOT CONCURRENCE

Fred Ochoa
Fred Ochoa, P.E.
FDOT District Structures Design Engineer

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
 SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
 PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 80B) from Bufts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



EB YAMATO RD. RAMP TO SB I-95 OVER EL RIO CANAL
 BRIDGE B06

DESIGN SPEED = 45 mph

FDOT CONCURRENCE

Handwritten signature
 Fred Ochoa, P.E.
 FDOT District Structures Design Engineer
 Date 5/24/10

FHWA CONCURRENCE

Handwritten signature
 David A. Fawcett
 FHWA Transportation Engineer
 Date 9/3/10

RECOMMENDED BY

Handwritten signature
 Richard Young, P.E.
 D-4 Project Development Engineer
 Date 5/20/10

FDOT CONCURRENCE

Handwritten signature
 Howard Webb, P.E.
 FDOT District Design Engineer
 Date 5/20/10

APPROVED BY

Handwritten signature
 N. Craig Miller, P.E.
 Engineer of Record
 2000 E. Commercial Blvd. Ste 1000
 Fort Lauderdale, FL 33308
 Date 5-19-10

FINANCIAL PROJECT ID	412420-1-22-01	FEDERAL AID PROJECT NO.	0951-605-1	COUNTY NAME	PALM BEACH
SECTION NUMBER	93220	ROAD DESIGNATION	SR 9 (1-95)	LIMITS/MILEPOST	MP 1.693 TO MP 7.688
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (1-95) from south of Glades Road to south of Union Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.				

SB I-95 RAMP TO SB FAU EXTENSION OVER EL RIO CANAL
BRIDGE B07

DESIGN SPEED = 35 mph

FDOT CONCURRENCE

Fred Ochoa
Fred Ochoa, P.E.
Date 10/12/5

APPROVED BY

N. Craig Miller, P.E. #13147
 Engineer Of Record
 2400 E. Commercial Blvd. Ste 1000
 Fort Lauderdale, FL 33308

Date 5-19-10

FDOT CONCURRENCE

[Signature]
Howard Webb, P.E.
FDOT District Design Engineer

RECOMMENDED BY

RECOMMENDED BY:
Richard Young, P.E.
D-4 Project Development Engineer

DATE: 5/22/10

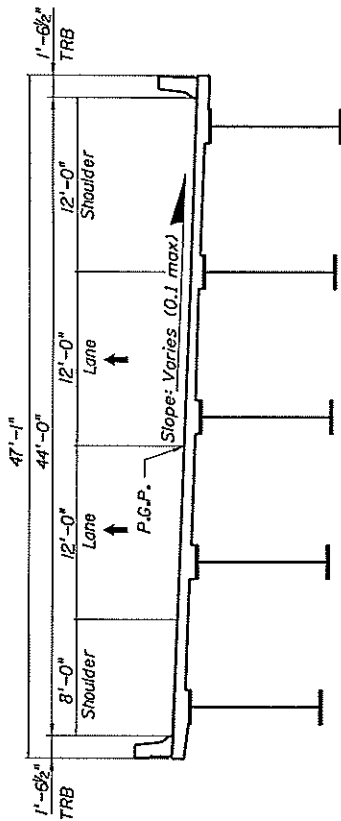
FHWA CONCURRENCE

Date 9/3/10
 FHWA Transportation Engineer
Debra Fries

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
 SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
 PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Bufts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



NB FAU EXTENSION RAMP TO NB I-95
 BRIDGE B08

DESIGN SPEED = 45 mph

FDOT CONCURRENCE

Fred Ochoa
 Fred Ochoa, P.E.
 FDOT District Structures Design Engineer
 Date 5/24/10

FHWA CONCURRENCE

Dan A. Farnsworth
 Dan A. Farnsworth
 FHWA Transportation Engineer
 Date 9/3/10

RECOMMENDED BY

Richard Young
 Richard Young, P.E.
 D-4 Project Development Engineer
 Date 5/20/10

FDOT CONCURRENCE

Howard Webb
 Howard Webb, P.E.
 FDOT District Design Engineer
 Date 5/20/10

APPROVED BY

Craig Millett
 N. Craig Millett, P.E. #3147
 Engineer of Record
 2400 E. Commercial Blvd Ste 1000
 Fort Lauderdale, FL 33308
 Date 5-19-10

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID

412420-1-22-01

FEDERAL AID PROJECT NO.

0951-605-1

COUNTY NAME

PALM BEACH

SECTION NUMBER

93220

ROAD DESIGNATION

SR 9 (I-95)

LIMITS/MILEPOST

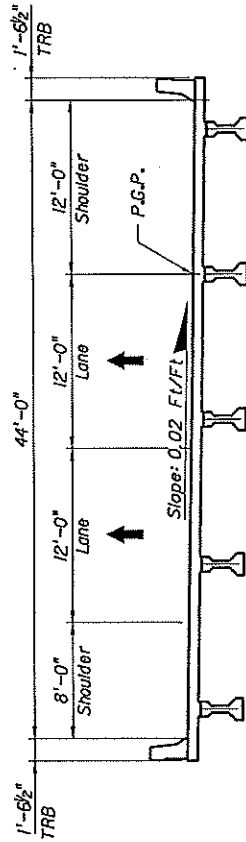
MP 1.893 TO MP 7.688

PROJECT DESCRIPTION

Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from

Butts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



NB I-95 RAMP TO YAMATO RD. OVER EL RIO CANAL
BRIDGE B09

DESIGN SPEED = 45 mph

FDOT CONCURRENCE

Fred Ochoa
Fred Ochoa, P.E.
FDOT District Structures Design Engineer
5/21/10
Date

FHWA CONCURRENCE

Daniel Farn
FHWA Transportation Engineer
9/3/10
Date

RECOMMENDED BY

Richard Young
Richard Young, P.E.
D-4 Project Development Engineer
5/20/10
Date

FDOT CONCURRENCE

Howard Webb
Howard Webb, P.E.
FDOT District Design Engineer
5/20/10
Date

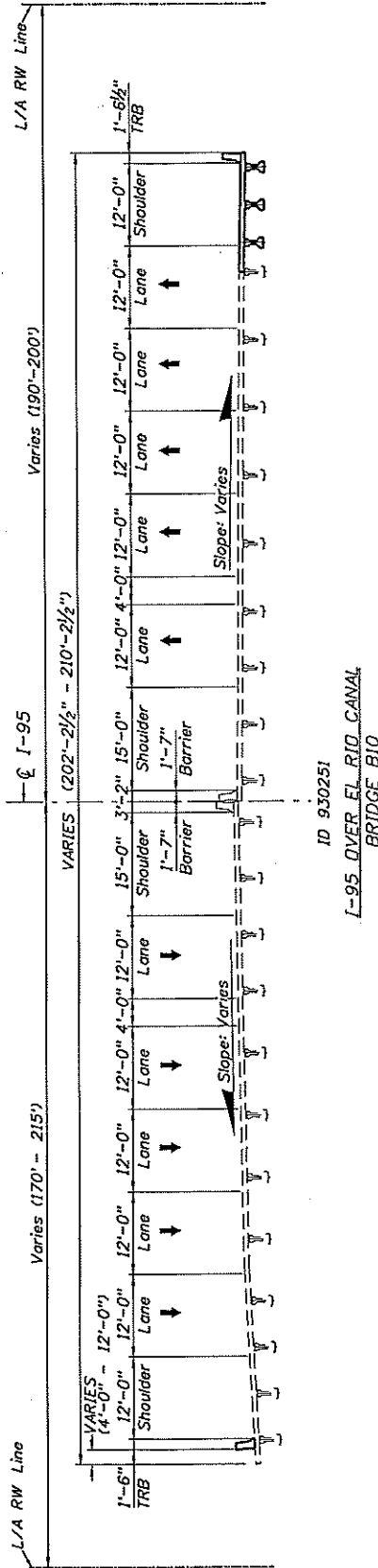
APPROVED BY

Chris Miller
Chris Miller, P.E. #13147
Engineer of Record
2400 E. Commercial Blvd Ste 1000
Fort Lauderdale, FL 33308
5-19-10
Date

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



FDOT CONCURRENCE

Fred Ochoa
Fred Ochoa, P.E.
FDOT District Structures Design Engineer

5/21/10
Date

FHWA CONCURRENCE

Dan A. Finner
Dan A. Finner
FHWA Transportation Engineer

9/3/10
Date

RECOMMENDED BY

Richard Young
Richard Young, P.E.
D-4 Project Development Engineer

5/20/10
Date

FDOT CONCURRENCE

Howard Webb
Howard Webb, P.E.
FDOT District Design Engineer

5/20/10
Date

APPROVED BY

Chris Miller
Chris Miller, P.E. #13147
Engineer of Record
2400 E. Commercial Blvd Ste 1000
Fort Lauderdale, FL 33308

5-19-10
Date

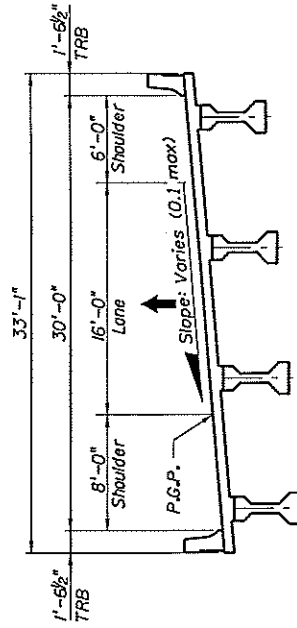
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH

SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688

PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Union Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



I-95 OVER YAMATO/NB FAU EXTENSION RAMP TO NB I-95
BRIDGE B11A

DESIGN SPEED = 45 mph

FDOT CONCURRENCE

Fred Ochoa
Fred Ochoa, P.E.
FDOT District Structures Design Engineer
5/24/10
Date

FHWA CONCURRENCE

Daniel A. Finner
FHWA Transportation Engineer
9/3/10
Date

RECOMMENDED BY

Richard Young
Richard Young, P.E.
D-4 Project Development Engineer
5/20/10
Date

FDOT CONCURRENCE

Howard Webb
Howard Webb, P.E.
FDOT District Design Engineer
5/20/10
Date

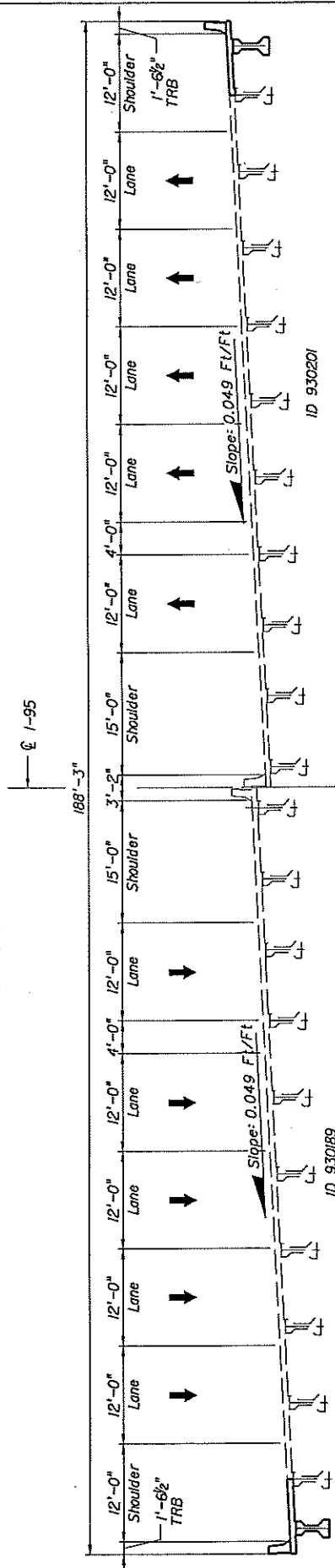
APPROVED BY

Greg Miller
Greg Miller, P.E. #13147
Engineer of Record
2400 E. Commercial Blvd Ste 1000
Fort Lauderdale, FL 33308
5-19-10
Date

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
 SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
 PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Bufts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



I-95 OVER YAMATO/NB FAU EXTENSION RAMP TO NB I-95
 BRIDGE BII

DESIGN SPEED = 70 mph

FDOT CONCURRENCE

Fred Ochoa
 Fred Ochoa, P.E.
 FDOT District Structures Design Engineer
 5/24/10
 Date

FHWA CONCURRENCE

Daniel A. Finner
 Daniel A. Finner
 FHWA Transportation Engineer
 9/2/10
 Date

RECOMMENDED BY

Richard Young
 Richard Young, P.E.
 D-4 Project Development Engineer
 5/24/10
 Date

FDOT CONCURRENCE

Howard Webb
 Howard Webb, P.E.
 FDOT District Design Engineer
 5/24/10
 Date

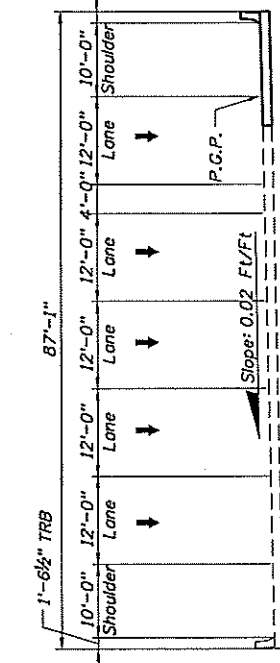
APPROVED BY

Craig Miller
 Craig Miller, P.E. #13147
 Engineer of Record
 2400 E. Commercial Blvd Ste 1000
 Fort Lauderdale, FL 33308
 5-19-10
 Date

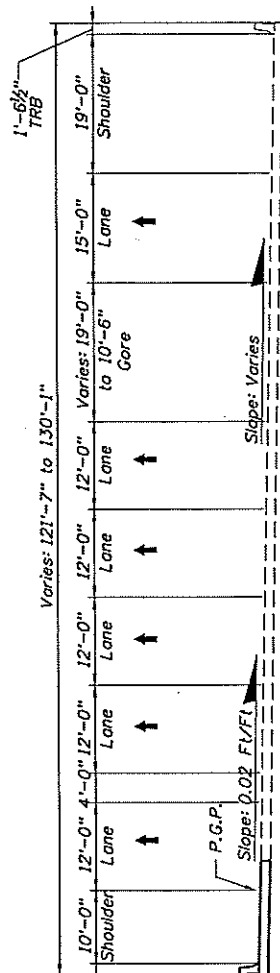
PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
 SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
 PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Buils Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



ID 930184



ID 930445

I-95 OVER C-15 CANAL
BRIDGE B14

FDOT CONCURRENCE

Fred Ochoa
Fred Ochoa, P.E.
FDOT District Structures Design Engineer
Date 5/21/10

APPROVED BY

Gregory Smith
Gregory Smith, P.E., #13147
Engineer of Record
2400 E. Commercial Blvd Ste 1000
Fort Lauderdale, FL 33308
Date 5-19-10

FDOT CONCURRENCE

Howard Webb
Howard Webb, P.E.
FDOT District Design Engineer
Date 5/20/10

RECOMMENDED BY

Richard Young
Richard Young, P.E.
D-4 Project Development Engineer
Date 5/20/10

FHWA CONCURRENCE

Dan A. Finner
Dan A. Finner
FHWA Transportation Engineer
Date 9/3/10

FINANCIAL PROJECT ID	412420-1-22-01	FEDERAL AID PROJECT NO.	0951-605-1	COUNTY NAME	PALM BEACH
SECTION NUMBER	93220	ROAD DESIGNATION	SR 9 (1-95)	LIMITS/MILEPOST	MP 1.893 TO MP 7.688
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (1-95) from south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) From Butts Road to Florida Atlantic Boulevard.				

WB YAMATO RD. RAMP TO SB I-95 OVER YAMATO RD.
BRIDGE B/5

FDOT CONCURRENCE

Fred Ochoa
Fred Ochoa, P.E.
FDOT District Structures Design Engineer
5/21/10
Date

FHWA CONCURRENCE

Dan A. Faser 9/3/00
FHWA Transportation Engineer

RECOMMENDED BY

Richard Young, P.E.
D-4 Project Development Engineer

FDOT CONCURRENCE

Howard Webb, P.E.
FDOT District Design Engineer

5/20/10 Date

APPROVED BY

[Signature]
N. Craig Miller, P.E. #3547
Engineer of Record

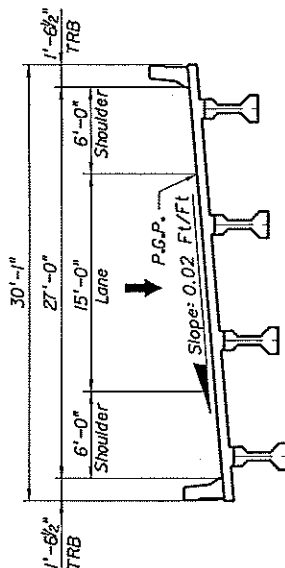
5-19-10 Date

Location	5/17/2000	2:55 PM	5/17/2000
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PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
 SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
 PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Union Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



EB YAMATO RD. RAMP TO SB FAU EXTENSION
 BRIDGE B16

DESIGN SPEED = 35 mph

FDOT CONCURRENCE

Frank Ochoa
 Frank Ochoa, P.E.
 FDOT District Structures Design Engineer
 5/21/10
 Date

FHWA CONCURRENCE

Dan A. Finner
 Dan A. Finner
 FHWA Transportation Engineer
 9/3/10
 Date

RECOMMENDED BY

Richard Young, P.E.
 Richard Young, P.E.
 D-4 Project Development Engineer
 5/20/10
 Date

FDOT CONCURRENCE

Howard Webb, P.E.
 Howard Webb, P.E.
 FDOT District Design Engineer
 5/20/10
 Date

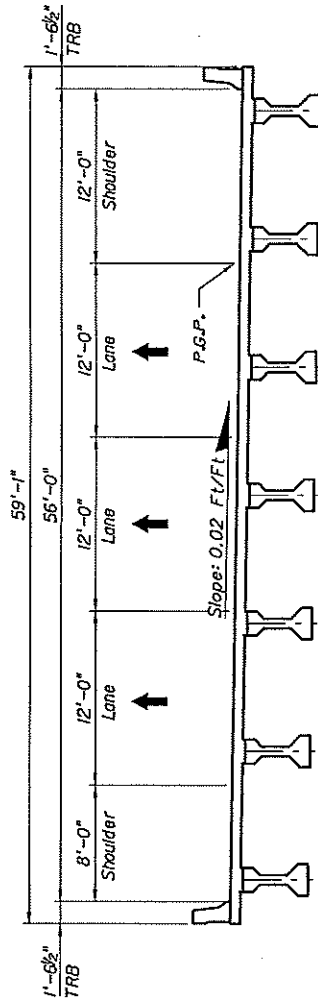
APPROVED BY

Chris Smith
 Chris Smith, P.E. #13147
 Engineer of Record
 2400 E. Commercial Blvd. Ste 1000
 Fort Lauderdale, FL 33308
 5/17/2010
 Date

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
 SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
 PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



NB I-95 OFF-RAMP TO WB YAMATO RD.
 BRIDGE B17

DESIGN SPEED = 30 mph

FDOT CONCURRENCE

Frederick Ochoa
 Fred Ochoa, P.E.
 FDOT District Structures Design Engineer
 Date 5/24/10

FHWA CONCURRENCE

Dan A. Finner
 Dan A. Finner
 FHWA Transportation Engineer
 Date 9/3/10

RECOMMENDED BY

Richard Young
 Richard Young, P.E.
 D-4 Project Development Engineer
 Date 3/20/10

FDOT CONCURRENCE

Howard Webb
 Howard Webb, P.E.
 FDOT District Design Engineer
 Date 5/20/10

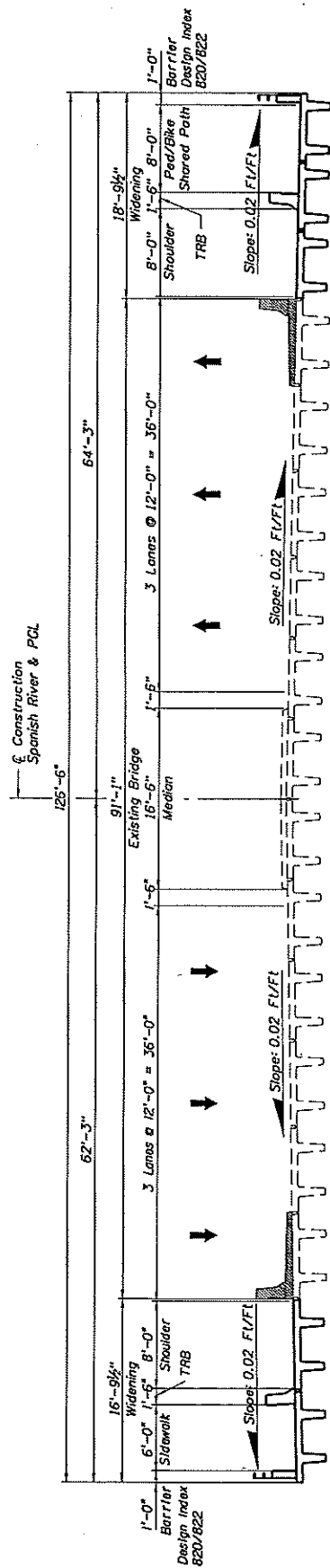
APPROVED BY

W. Craig Miller
 W. Craig Miller, P.E. #3147
 Engineer of Record
 2400 E. Commercial Blvd. Ste 1000
 Fort Lauderdale, FL 33308
 Date 5-19-10

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01 FEDERAL AID PROJECT NO. 0951-605-1 COUNTY NAME PALM BEACH
 SECTION NUMBER 93220 ROAD DESIGNATION SR 9 (I-95) LIMITS/MILEPOST MP 1.893 TO MP 7.688
 PROJECT DESCRIPTION Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Union Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED BRIDGE TYPICAL SECTION



SPANISH RIVER BLVD. OVER EL RIO CANAL
 BRIDGE 818
 ID 934409

FDOT CONCURRENCE

Fred Ochoa
 Fred Ochoa, P.E.
 FDOT District Structures Design Engineer
 Date 5/21/10

FHWA CONCURRENCE

Dan A. Finner
 Dan A. Finner
 FHWA Transportation Engineer
 Date 9/3/10

DESIGN SPEED = 45 mph

RECOMMENDED BY

Richard Young
 Richard Young, P.E.
 D-4 Project Development Engineer
 Date 5/20/10

FDOT CONCURRENCE

Howard Webb
 Howard Webb, P.E.
 FDOT District Design Engineer
 Date 5/20/10

APPROVED BY

N. Craig Miller
 N. Craig Miller, P.E. #13147
 Engineer Of Record
 2400 E. Commercial Blvd. Ste 1000
 Fort Lauderdale, FL 33308
 Date 5-19-10

Tab C
Conceptual Plans

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONCEPTUAL PLANS

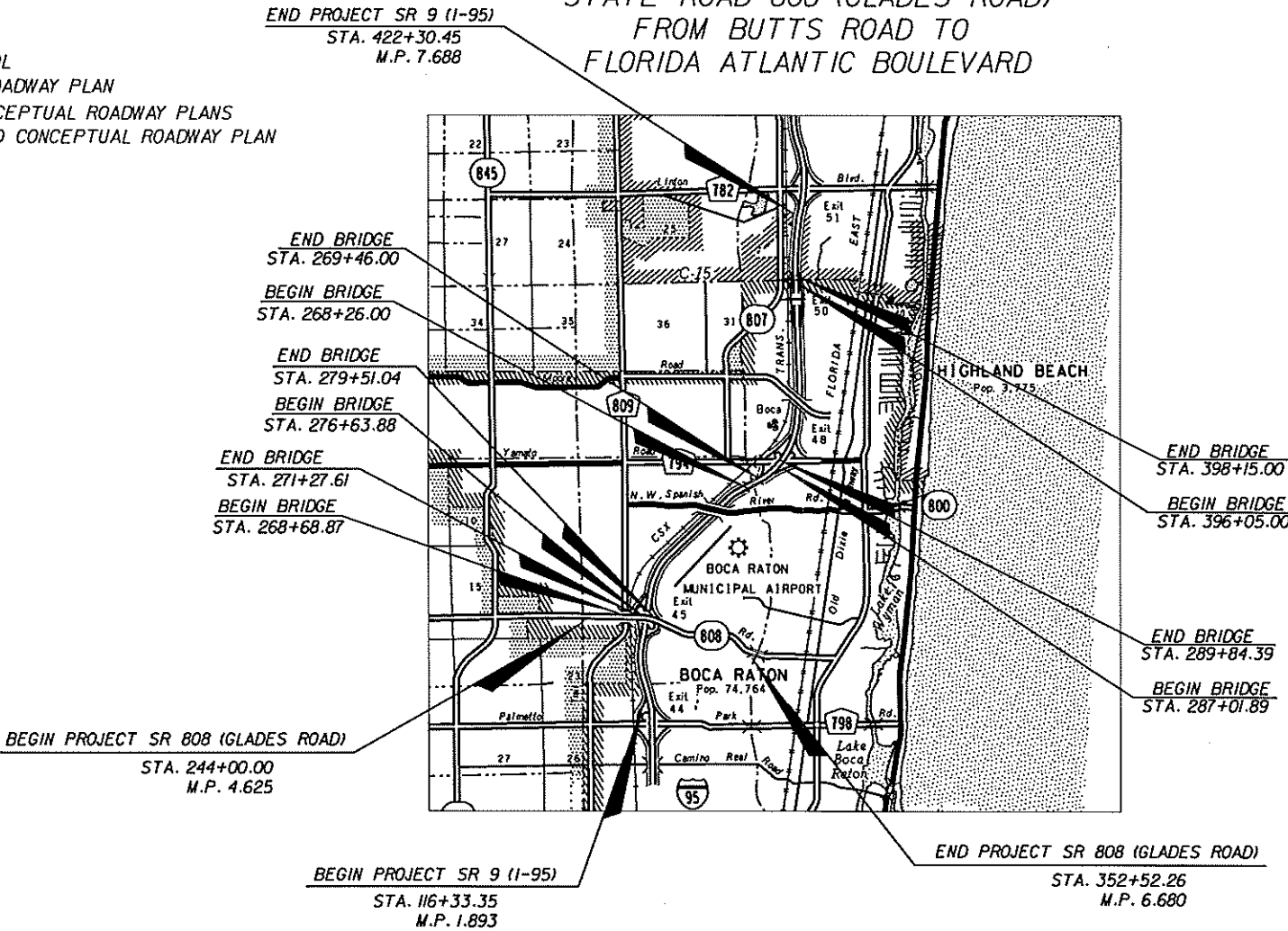
FINANCIAL PROJECT ID 412420-1-22-01
PALM BEACH COUNTY (93220)

STATE ROAD NO. 9 (I-95)
FROM SOUTH OF GLADES ROAD
TO SOUTH OF LINTON BOULEVARD
AND
STATE ROAD 808 (GLADES ROAD)
FROM BUTTS ROAD TO
FLORIDA ATLANTIC BOULEVARD

INDEX OF CONCEPTUAL ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-6	TYPICAL SECTIONS
7-8	PROJECT NETWORK CONTROL
9-20	SR 9 (I-95) CONCEPTUAL ROADWAY PLAN
21-24	SR 808 (GLADES ROAD) CONCEPTUAL ROADWAY PLANS
25	SPANISH RIVER BOULEVARD CONCEPTUAL ROADWAY PLAN

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED JANUARY 2010,
AND STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED 2004,
AS AMENDED BY CONTRACT DOCUMENTS.



REVISIONS

LENGTH OF PROJECT		
	LINEAR FEET	MILES
ROADWAY	40,290.96	7.63
BRIDGES	1,158.40	0.22
NET LENGTH OF PROJECT	41,449.36	7.85
EXCEPTIONS	0.00	0.00
GROSS LENGTH OF PROJECT	41,449.36	7.85

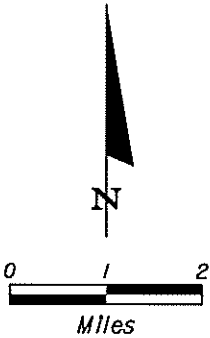
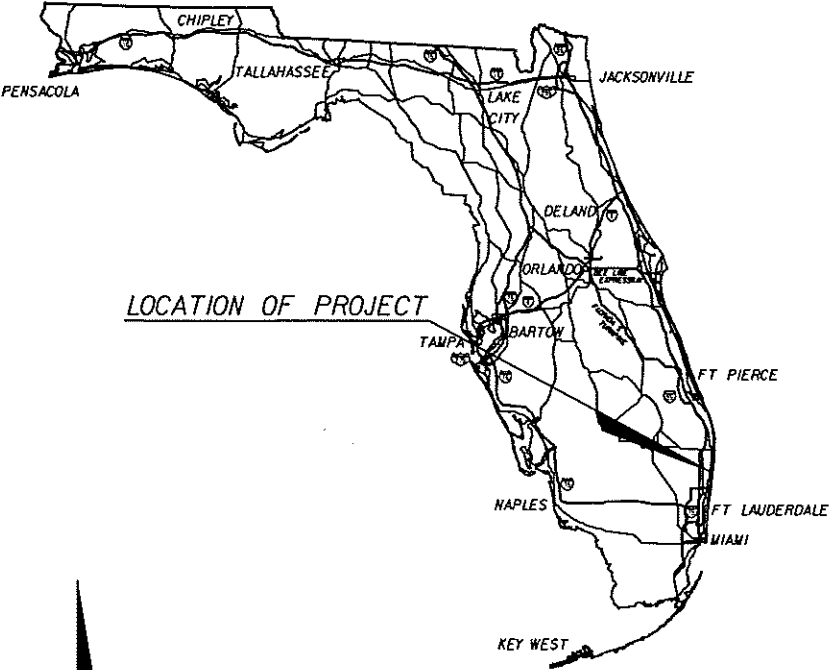
FDOT PROJECT MANAGER: PATRICK GLASS, P.E.

KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

ROADWAY PLANS
ENGINEER OF RECORD: N. Craig Miller, P.E.

P.E. NO. 13147

FISCAL YEAR	SHEET NO.
	1



PLANS PREPARED BY:
TranSystems Corporation
2400 East Commercial Boulevard
Fort Lauderdale, Florida 33308
(954) 979-1799
N. Craig Miller, P.E. 13147

NOTE: THE SCALE OF THESE PLANS MAY
HAVE CHANGED DUE TO REPRODUCTION.

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID

412420-1-22-01

FEDERAL AID PROJECT NO.

0951-605-1

COUNTY NAME

PALM BEACH

SECTION NUMBER

93220

ROAD DESIGNATION

SR 9 (I-95)

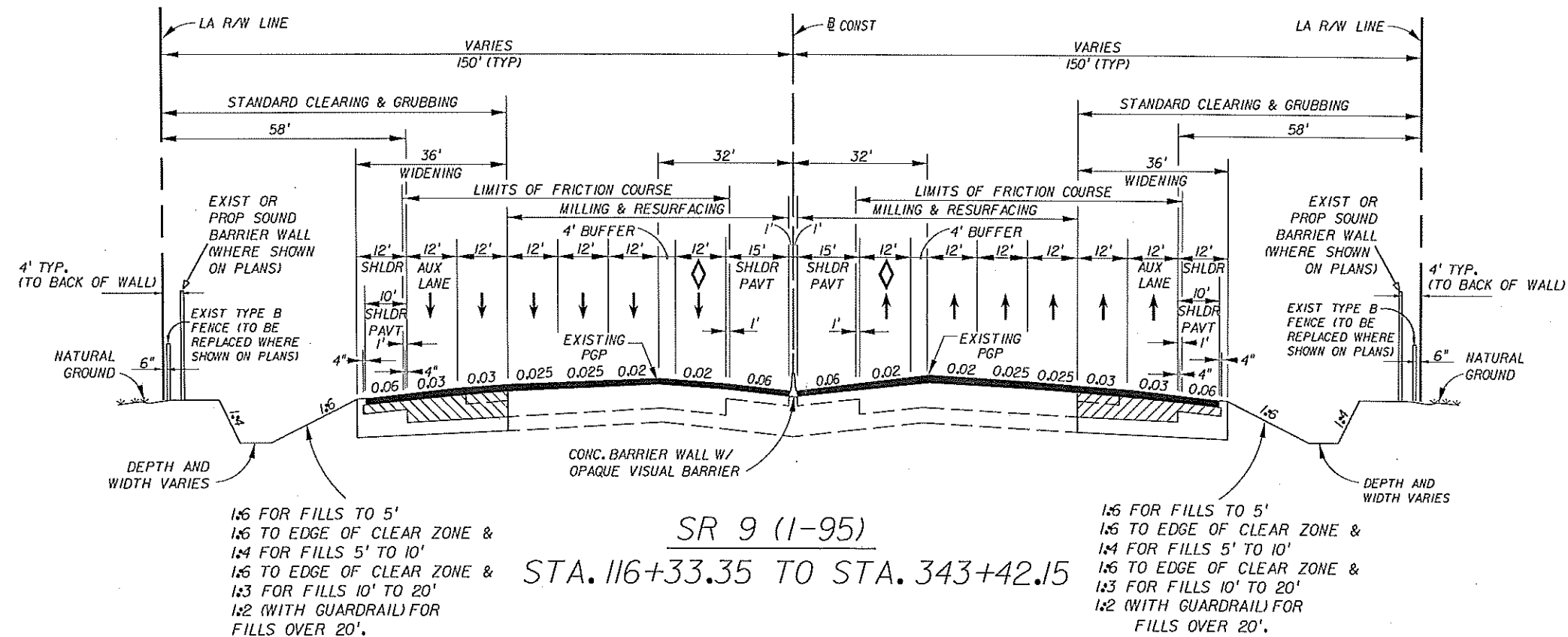
LIMITS/MILEPOST

MP 1.893 TO MP 7.688

PROJECT DESCRIPTION

Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED ROADWAY TYPICAL SECTION
TEN LANE SECTION WITH TWO AUXILIARY LANES



TranSystems

2400 E. Commercial Boulevard
Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

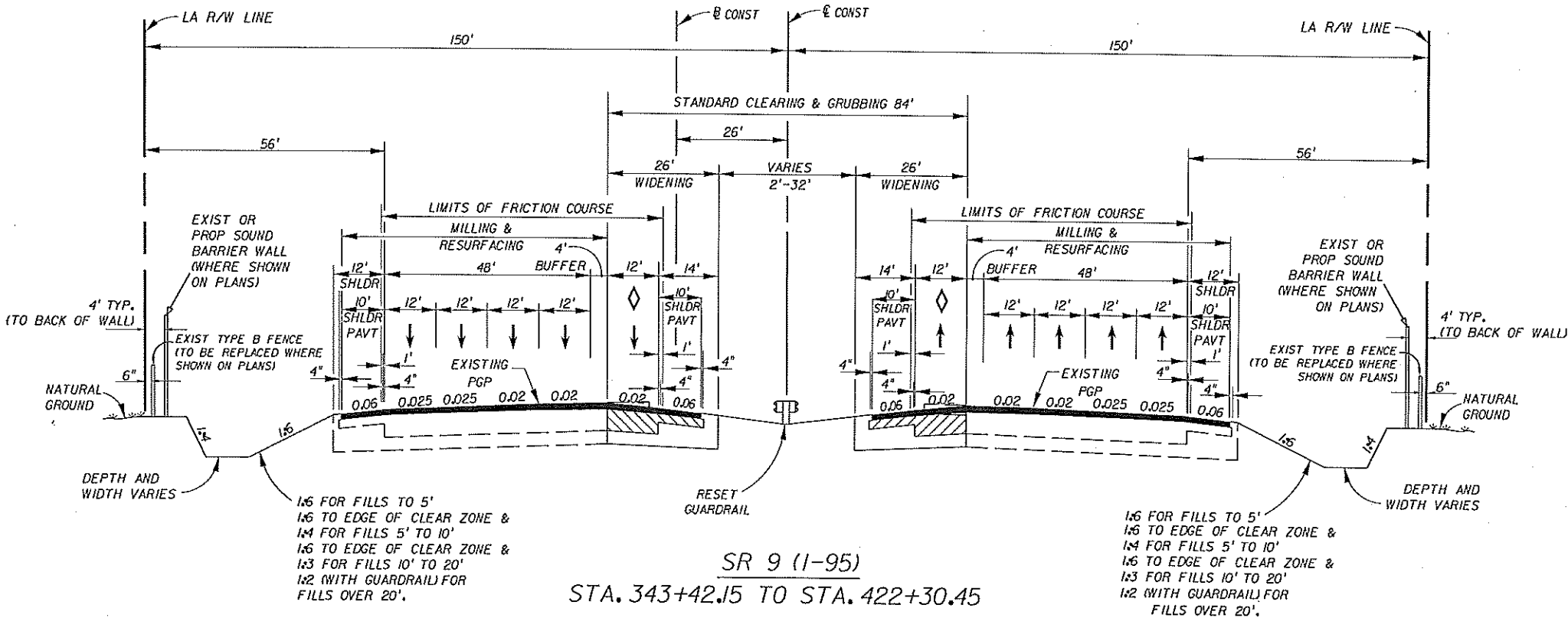
I-95 MAINLINE
TYPICAL SECTION

FIGURE
NO.
2

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID	412420-1-22-01	FEDERAL AID PROJECT NO.	0951-605-1	COUNTY NAME	PALM BEACH
SECTION NUMBER	93220	ROAD DESIGNATION	SR 9 (I-95)	LIMITS/MILEPOST	MP 1.893 TO MP 7.688
PROJECT DESCRIPTION	Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.				

PROPOSED ROADWAY TYPICAL SECTION
TEN LANE SECTION



SR 9 (I-95)
STA. 343+42.15 TO STA. 422+30.45

DESIGN SPEED = 70 mph



2400 E. Commercial Boulevard
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Fort Lauderdale, Florida 33308
(954) 653-4700

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

I-95 MAINLINE
TYPICAL SECTION

FIGURE
NO.

3

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID

412420-1-22-01

FEDERAL AID PROJECT NO.

0951-605-1

COUNTY NAME

PALM BEACH

SECTION NUMBER

93220

ROAD DESIGNATION

SR 808

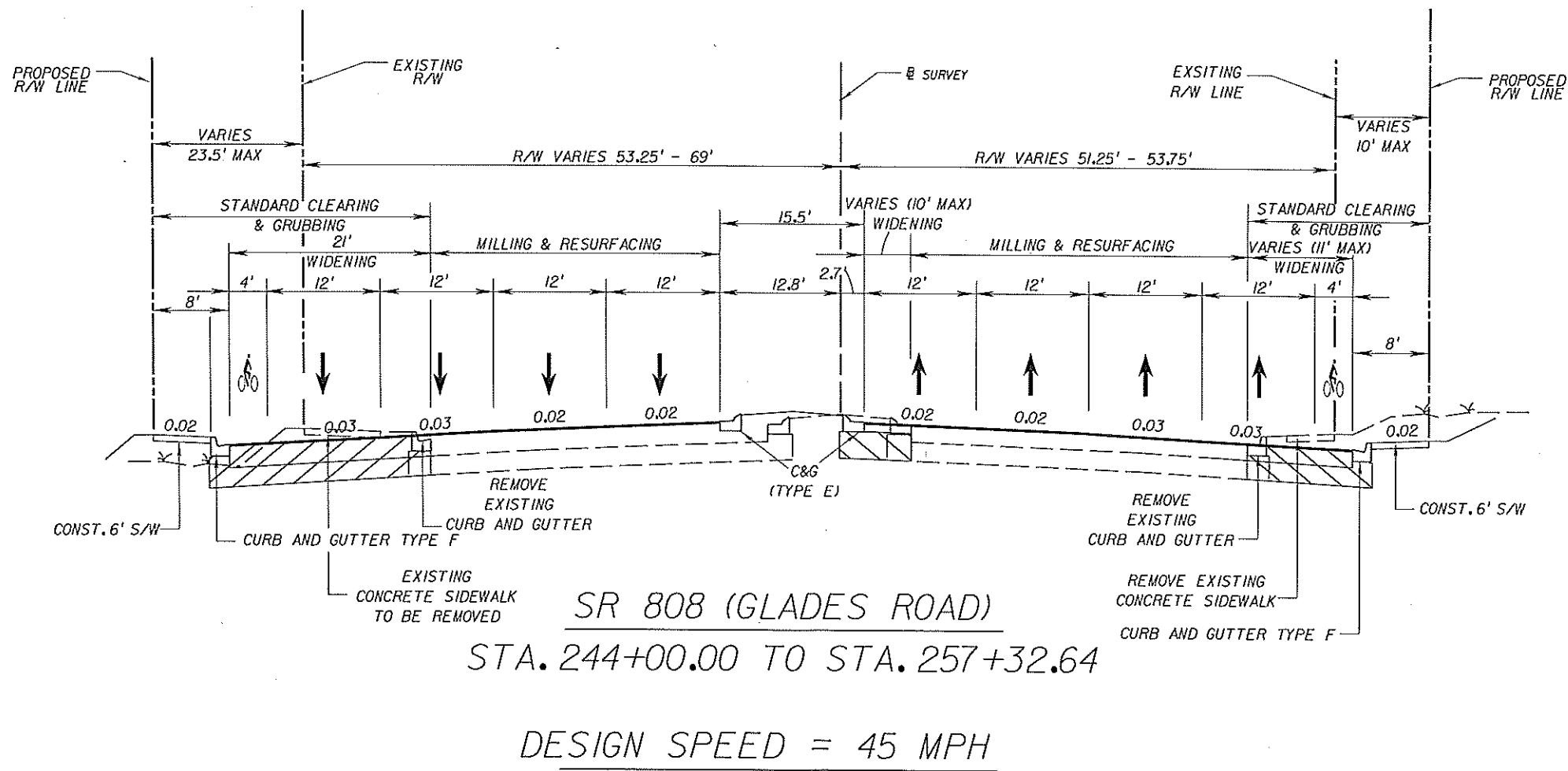
LIMITS/MILEPOST

MP 4.625 TO MP 4.879

PROJECT DESCRIPTION

Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED ROADWAY TYPICAL SECTION



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Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
808	PALM BEACH	412420-1-22-01

GLADES ROAD
TYPICAL SECTION

FIGURE
NO.

4

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 412420-1-22-01

FEDERAL AID PROJECT NO. 0951-605-1

COUNTY NAME PALM BEACH

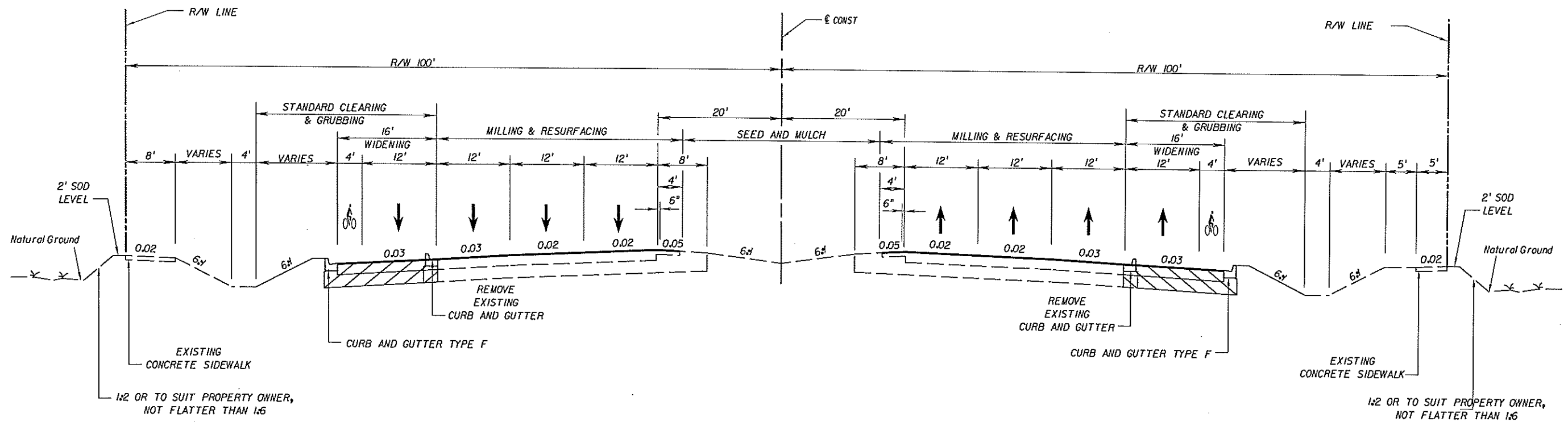
SECTION NUMBER 93220

ROAD DESIGNATION SR 808

LIMITS/MILEPOST MP 4.879 TO MP 6.309

PROJECT DESCRIPTION	<p>Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.</p>
---------------------	--

PROPOSED ROADWAY TYPICAL SECTION



SR 808 (GLADES ROAD)

STA. 257+32.64 TO STA. 332+83.04

DESIGN SPEED = 45 MPH



STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
808	PALM BEACH	412420-1-22-01

**GLADES ROAD
TYPICAL SECTION**

FIGURE
NO.

5

PROJECT IDENTIFICATION

FINANCIAL PROJECT ID

412420-1-22-01

FEDERAL AID PROJECT NO.

0951-605-1

COUNTY NAME

PALM BEACH

SECTION NUMBER

93220

ROAD DESIGNATION

SR 808

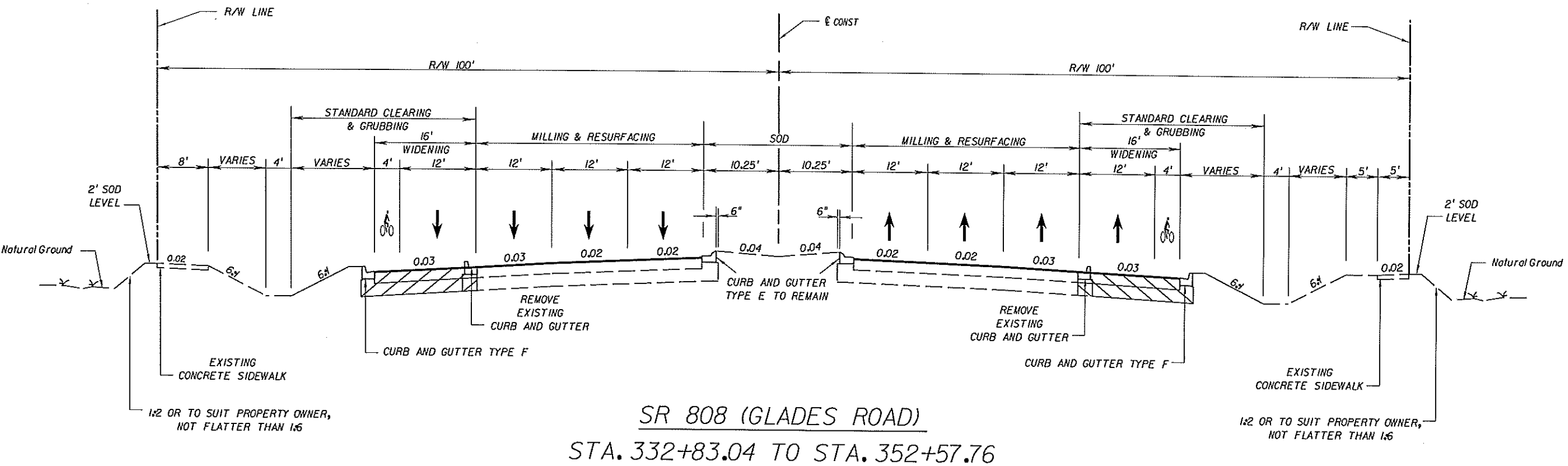
LIMITS/MILEPOST

MP 6.309 TO MP 6.680

PROJECT DESCRIPTION

Widening and Resurfacing of SR 9 (I-95) from south of Glades Road to south of Linton Boulevard, & widening/resurfacing of Glades Road (SR 808) from Butts Road to Florida Atlantic Boulevard.

PROPOSED ROADWAY TYPICAL SECTION



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Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
808	PALM BEACH	412420-1-22-01

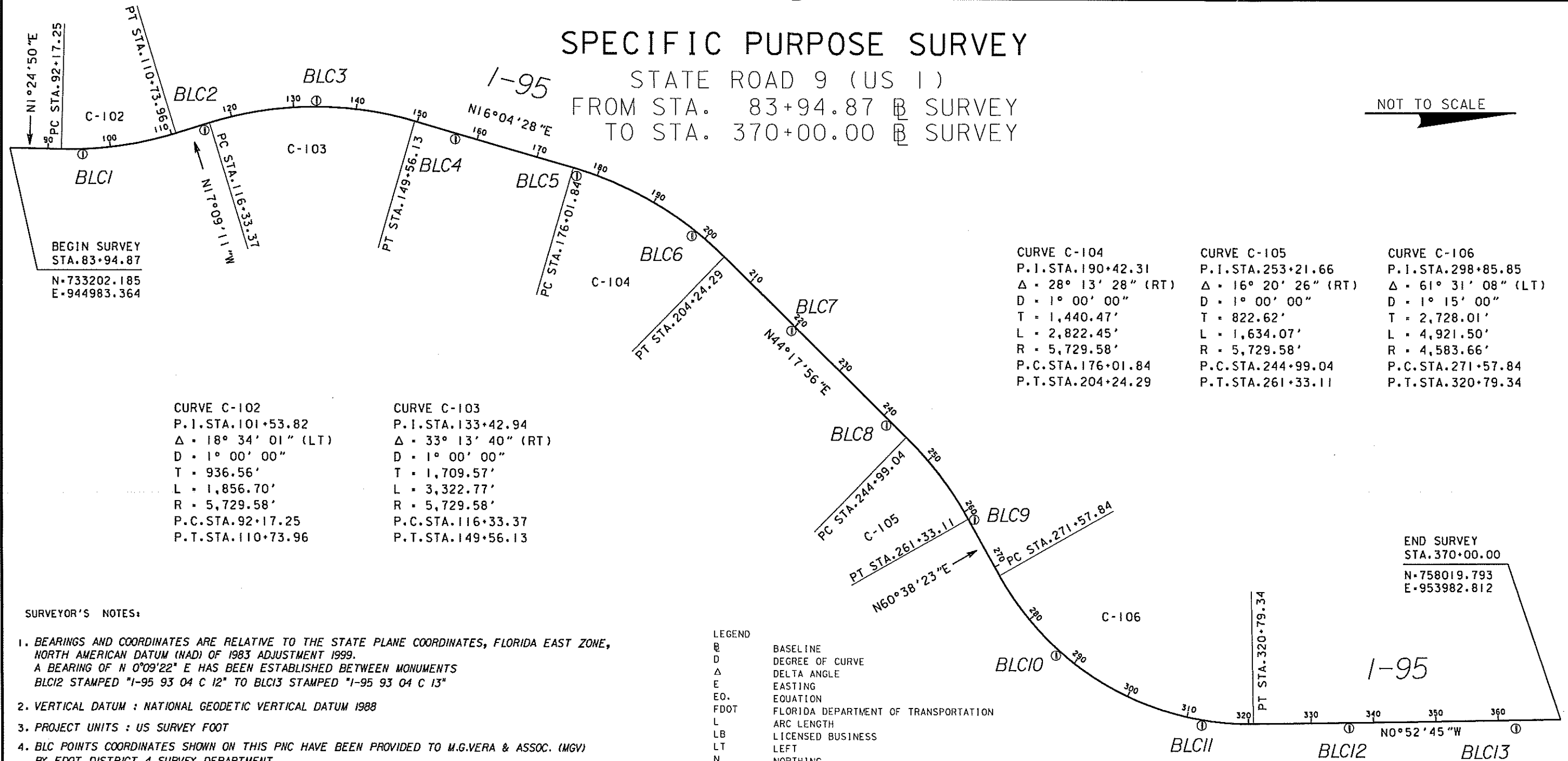
GLADES ROAD
TYPICAL SECTION

FIGURE
NO.
6

SPECIFIC PURPOSE SURVEY

STATE ROAD 9 (US 1)
FROM STA. 83+94.87 B SURVEY
TO STA. 370+00.00 B SURVEY

NOT TO SCALE



SURVEYOR'S NOTES:

- BEARINGS AND COORDINATES ARE RELATIVE TO THE STATE PLANE COORDINATES, FLORIDA EAST ZONE, NORTH AMERICAN DATUM (NAD) OF 1983 ADJUSTMENT 1999. A BEARING OF N 0°09'22" E HAS BEEN ESTABLISHED BETWEEN MONUMENTS BLC12 STAMPED "I-95 93 04 C 12" TO BLC13 STAMPED "I-95 93 04 C 13"
- VERTICAL DATUM : NATIONAL GEODETIC VERTICAL DATUM 1988
- PROJECT UNITS : US SURVEY FOOT
- BLC POINTS COORDINATES SHOWN ON THIS PNC HAVE BEEN PROVIDED TO M.G.VERA & ASSOC. (MGV) BY FDOT DISTRICT 4 SURVEY DEPARTMENT.

LIMITS: GLADES ROAD TO YAMATO ROAD

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THIS SPECIFIC PURPOSE SURVEY WAS MADE FOR THE PURPOSE OF SURVEYING, REFERENCING AND MAPPING THE PRIMARY NETWORK CONTROL OR BASELINE FOR THE TRANSPORTATION FACILITY DEPICTED HEREON AND THAT SAID SURVEY WAS DONE UNDER MY RESPONSIBLE CHARGE AND MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61 G 17 FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472.027 FLORIDA STATUTES. THIS MAP CONSISTING OF SHEETS ONE THROUGH THREE IS A TRUE, ACCURATE AND COMPLETE DEPICTION OF THE RESULTS OF A FIELD SURVEY PERFORMED UNDER MY DIRECTION AND COMPLETED ON 4-16-2007

SURVEYOR : MANUEL G. VERA, JR. PLS NUMBER : 5291

LEGEND

B	BASELINE
D	DEGREE OF CURVE
Δ	DELTA ANGLE
E	EASTING
EQ.	EQUATION
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
L	ARC LENGTH
LB	LICENSED BUSINESS
LT	LEFT
N	NORTHING
N/A	NOT APPLICABLE
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
PK	PARKER-KALON
P.O.T.	POINT ON TANGENT
P.R.C.	POINT OF REVERSE CURVE
P.T.	POINT OF TANGENCY
R	RADIUS
RGE.	RANGE
RT	RIGHT
SEC.	SECTION
S.R.	STATE ROAD
STA.	STATION NUMBER
T	TANGENT LENGTH
TWP.	TOWNSHIP
N.T.S.	NOT TO SCALE
⊙	FDOT BRASS DISK

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



MANUEL G. VERA & ASSOCIATES, INC.
ENGINEERS SURVEYORS MAPPERS
13980 S.W. 47th STREET
MIAMI, FL 33175-3516
TEL: (305) 221-6210 FAX: (305) 221-1295
CERTIFICATE OF AUTHORIZATION: LB2439
MANUEL G. VERA, JR. PSM 5291

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-9	PALM BEACH	412420-1-22-01

PROJECT NETWORK CONTROL

SHEET NO.

7

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G07-7.0025, F.A.C.

\$USER\$


10/12/2009

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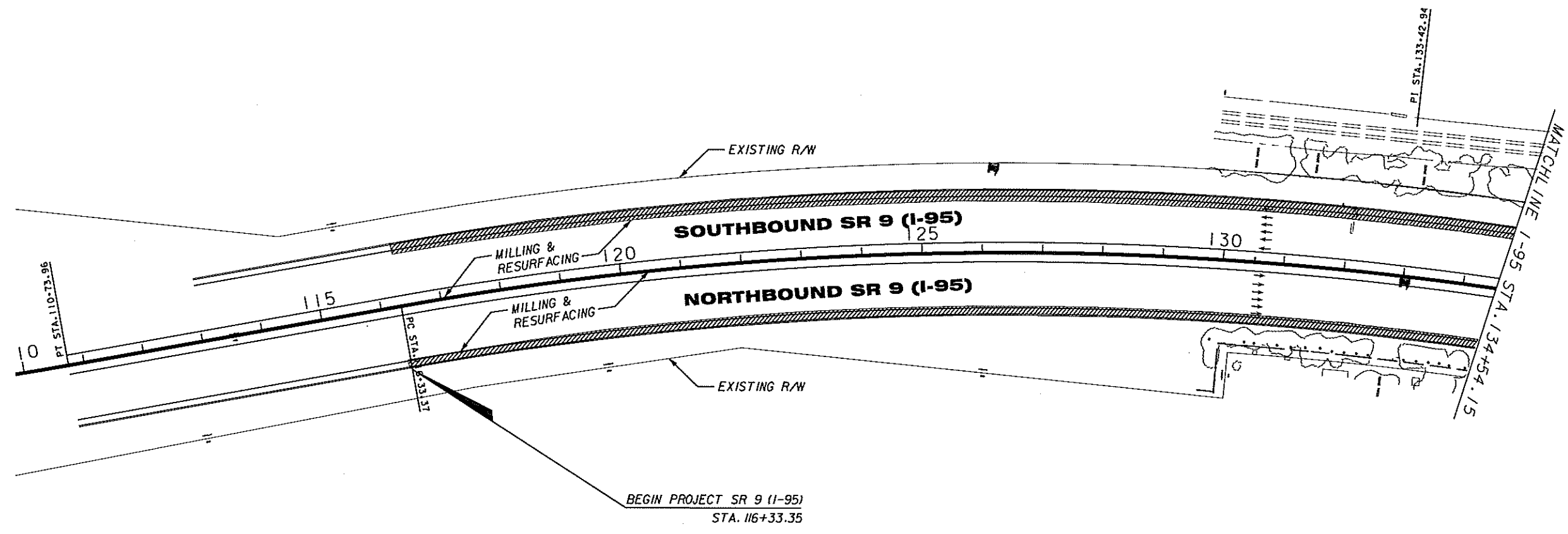
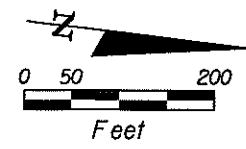
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PROJECT NETWORK CONTROL TABULATION SHEET DETAILS

[illegible]

REVISIONS						 MANUEL G. VERA & ASSOCIATES, INC. ENGINEERS SURVEYORS MAPPERS 13960 S.W. 47th STREET MIAMI, FL 33175-3616 TEL: (305) 221-6210 FAX: (305) 221-1295 CERTIFICATE OF AUTHORIZATION: LB2439 MANUEL G. VERA, JR. PSM 5291	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PROJECT NETWORK CONTROL	SHEET NO. 8
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							SR-9	PALM BEACH	412420-1-22-01		

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SR 9 (I-95)

 **WIDENING/NEW CONSTRUCTION**

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

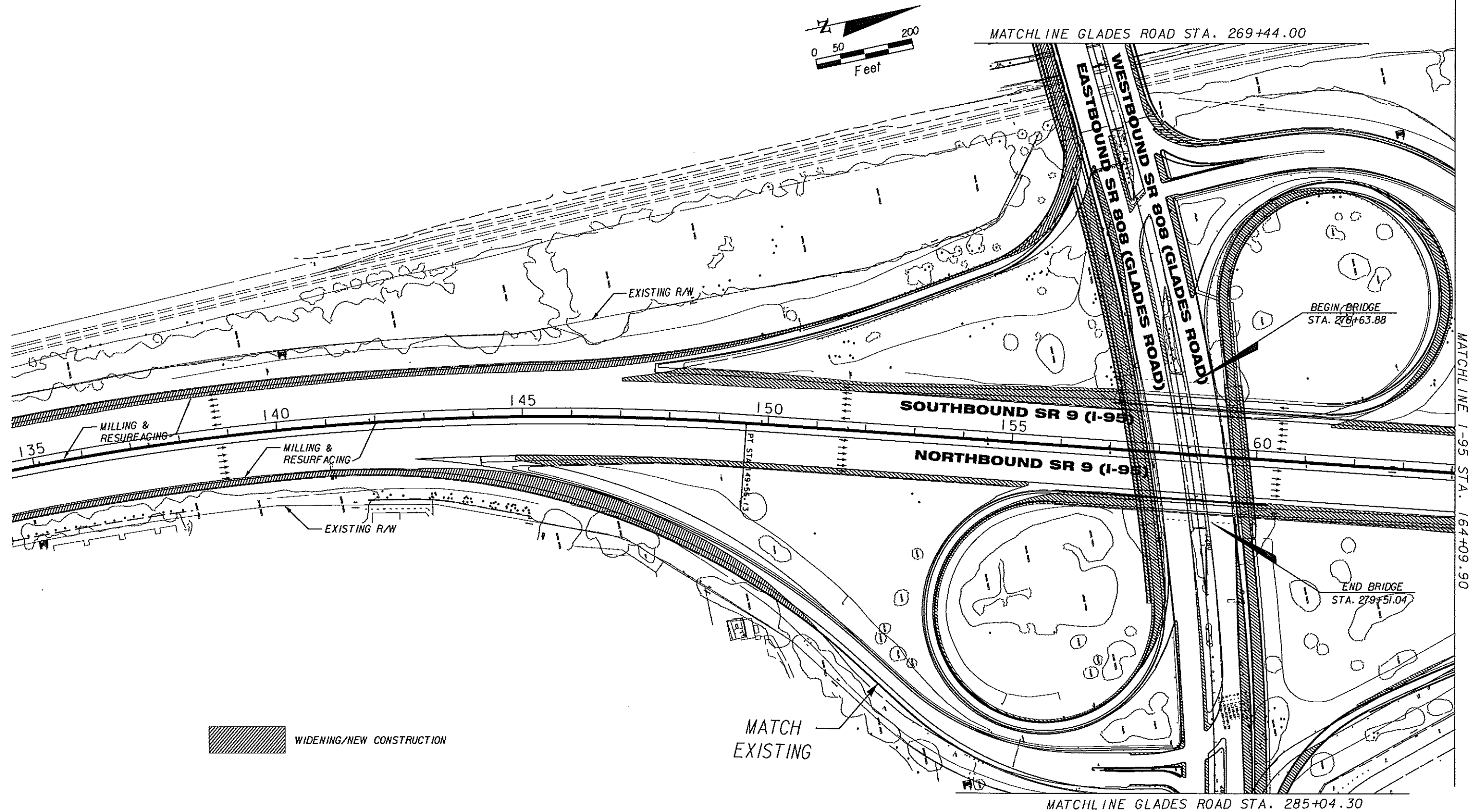


2400 E. Commercial Blvd. Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700
N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

**CONCEPTUAL
ROADWAY PLAN**

9



SR 9 (I-95)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



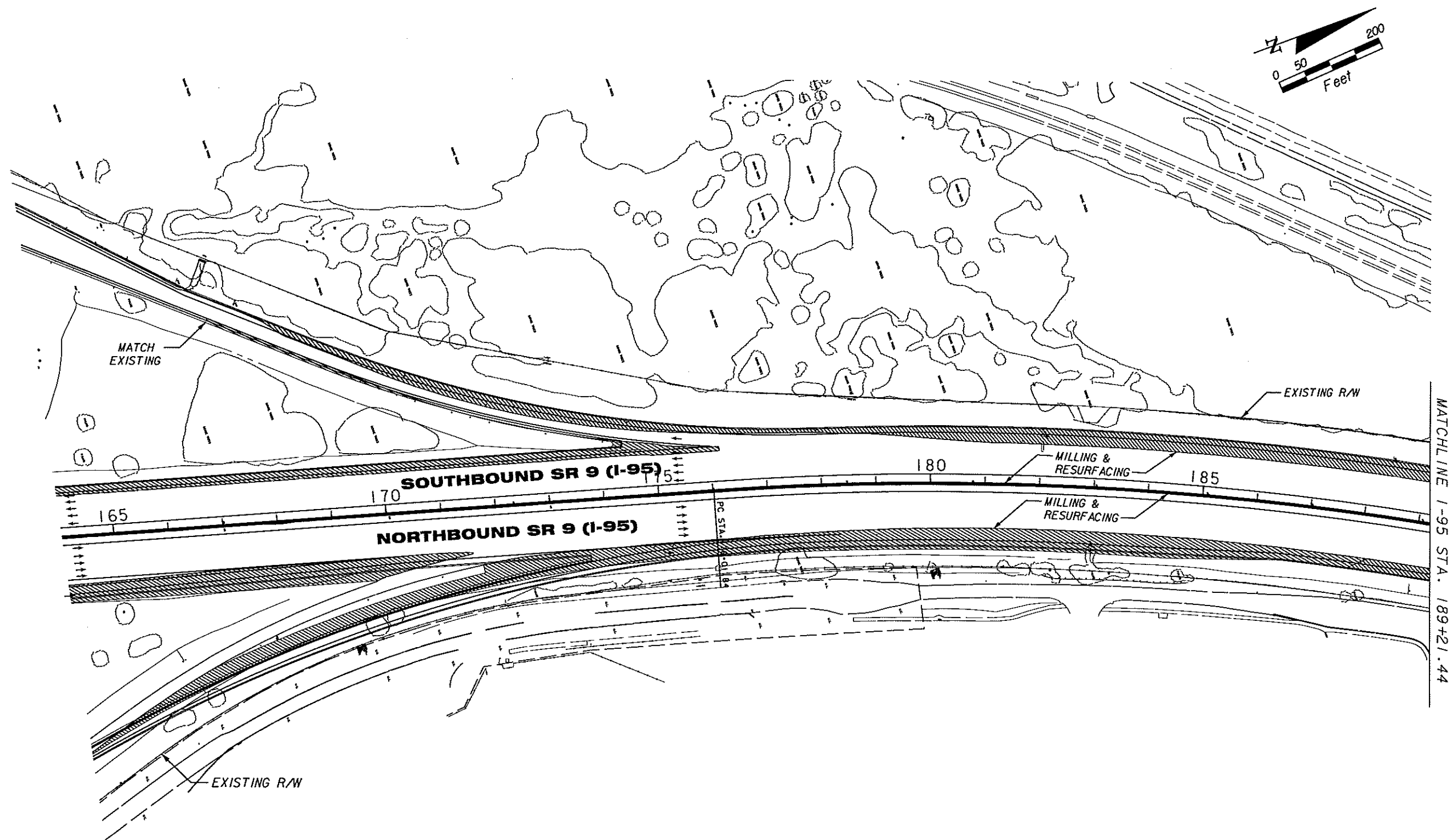
2400 E. Commercial Blvd. Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700
N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

**CONCEPTUAL
ROADWAY PLAN**

SHEET
NO.

10



SR 9 (I-95)



WIDENING/NEW CONSTRUCTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION



2400 E. Commercial Blvd. Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700
N. Craig Miller, P.E. 13147

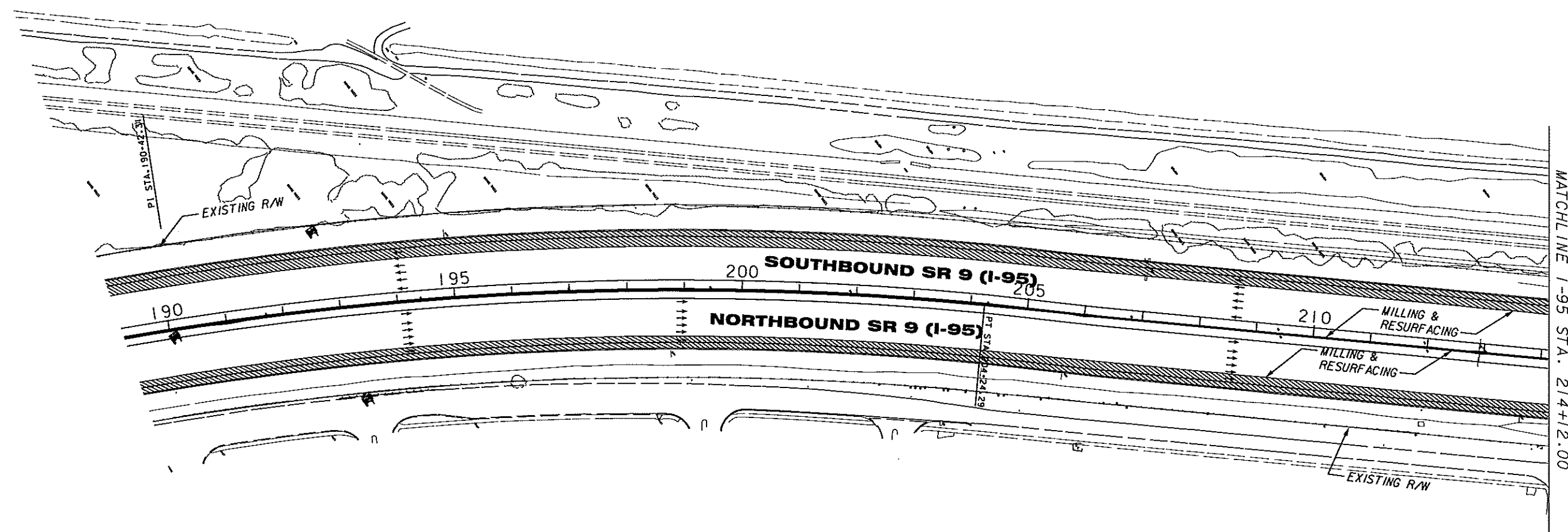
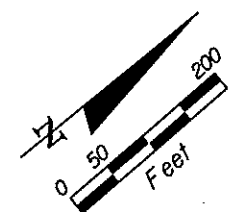
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

**CONCEPTUAL
ROADWAY PLAN**


SHEET
NO.

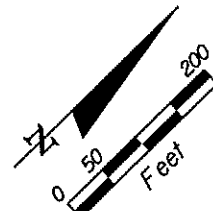
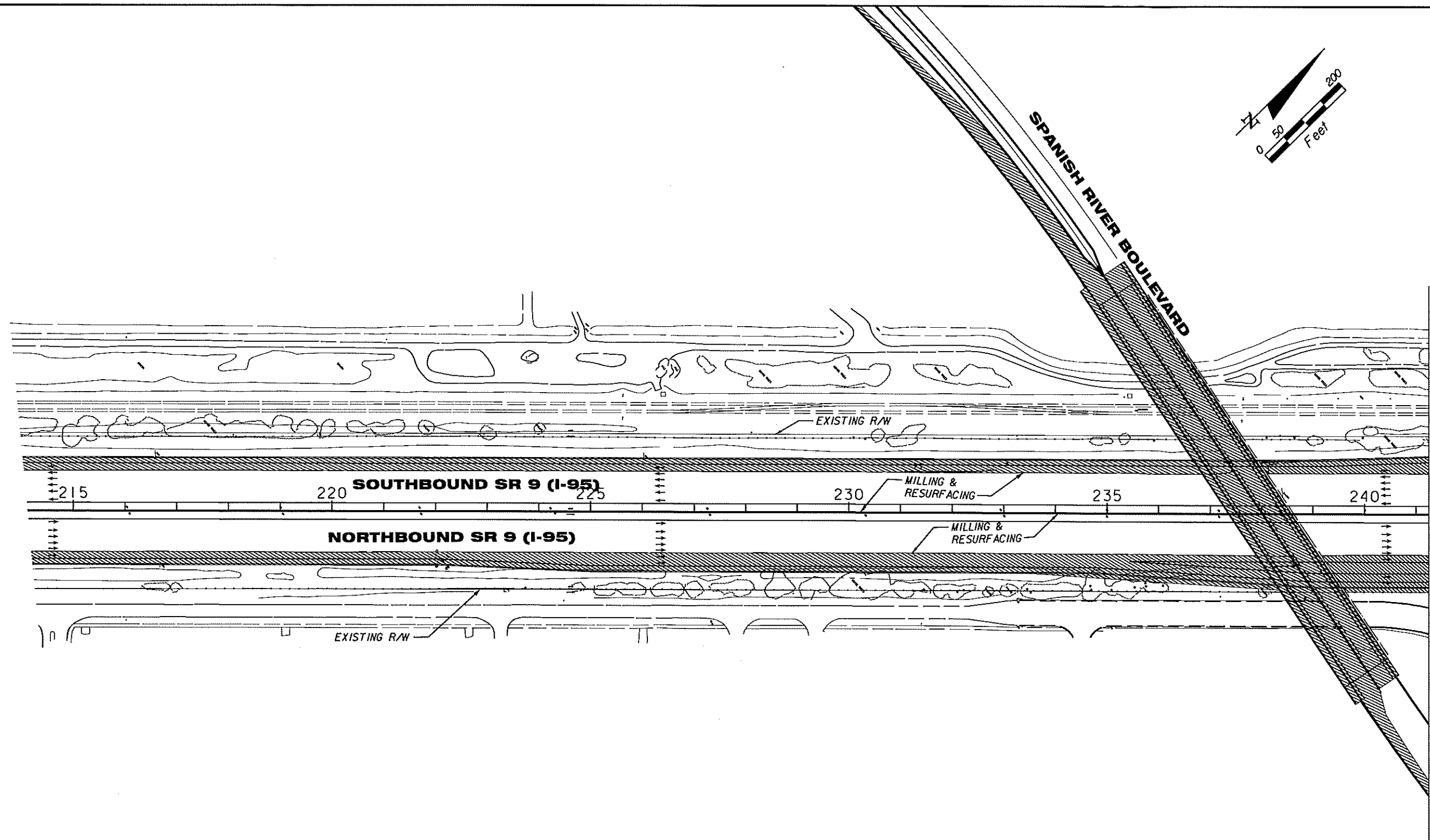
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 WIDENING/NEW CONSTRUCTION

SR 9 (I-95)

REVISIONS						 2400 E. Commercial Blvd, Suite 1000 Fort Lauderdale, Florida 33308 (954) 653-4700 N. Craig Miller, P.E. 13147	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CONCEPTUAL ROADWAY PLAN		SHEET NO. 12
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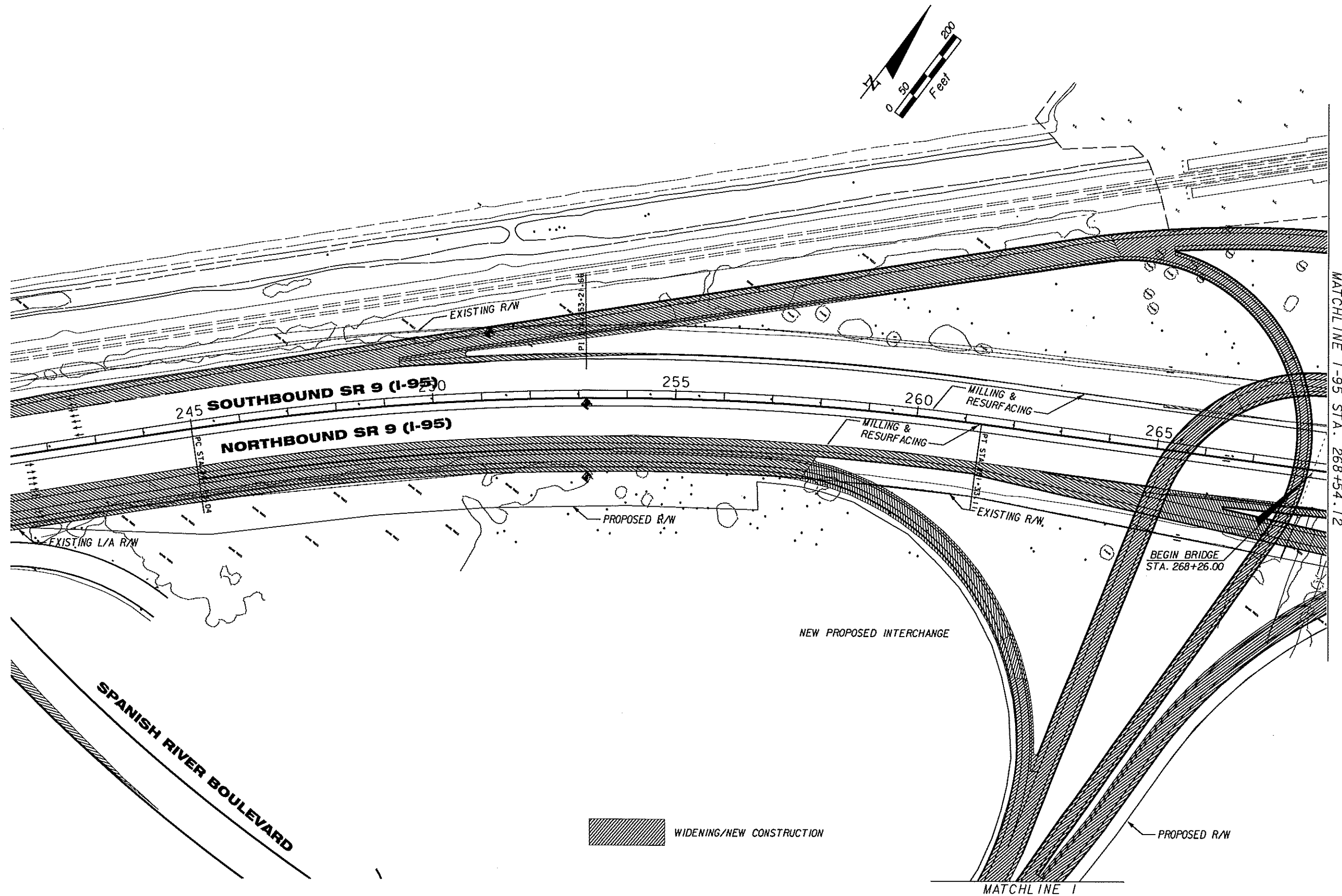


SR 9 (I-95)

 WIDENING/NEW CONSTRUCTION

REVISIONS						STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CONCEPTUAL ROADWAY PLAN	SHEET NO. 13
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						9	PALM BEACH	412420-1-22-01		

TranSystems
 2400 E. Commercial Blvd. Suite 1000
 Fort Lauderdale, Florida 33308
 (954) 653-4700
 N. Craig Miller, P.E. 13147



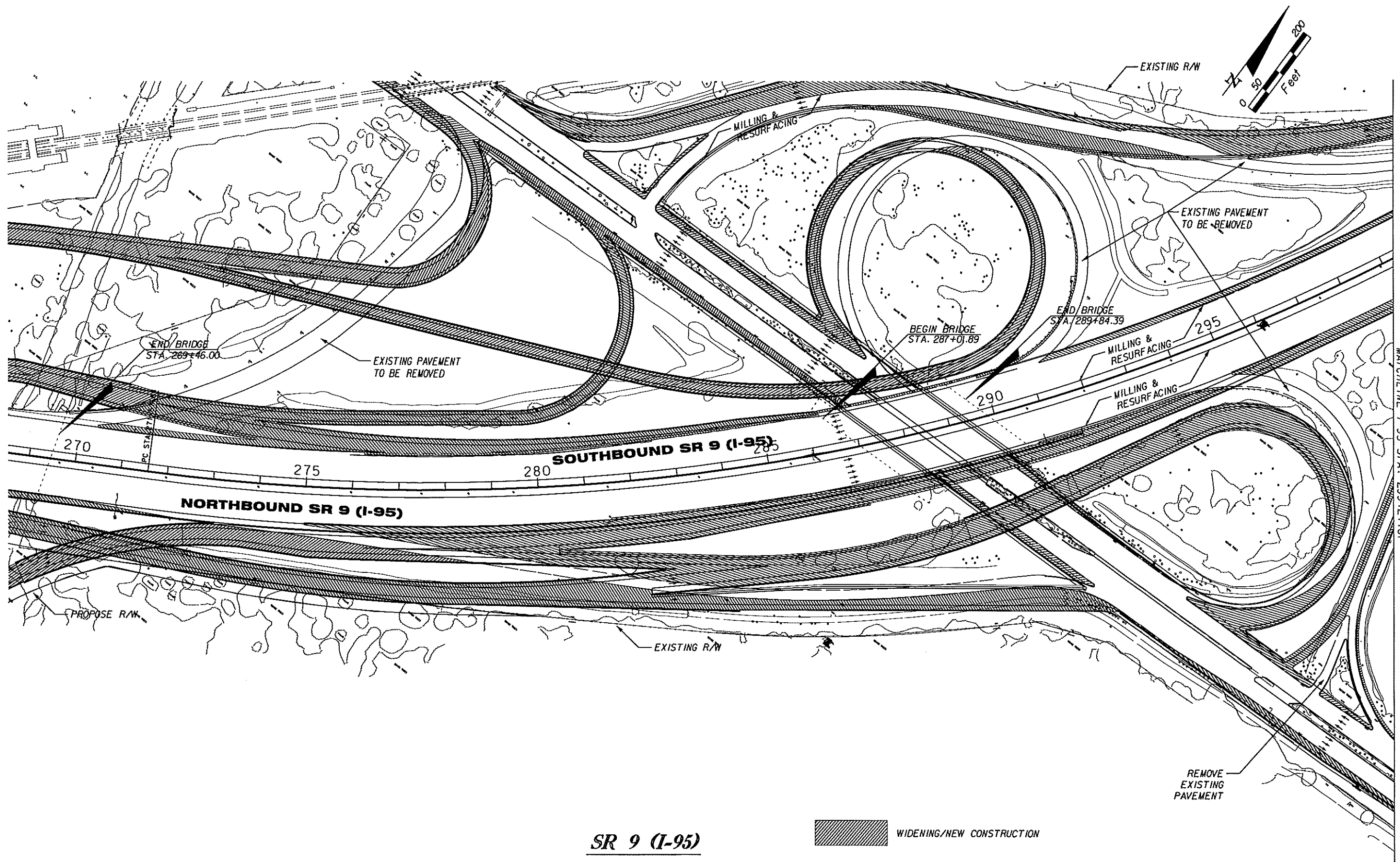
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

TranSystems
 2400 E. Commercial Blvd. Suite 1000
 Fort Lauderdale, Florida 33308
 (954) 653-4700
 N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

CONCEPTUAL ROADWAY PLAN

SHEET
NO.
14



SR 9 (I-95)



WIDENING/NEW CONSTRUCTION

REVISIONS					
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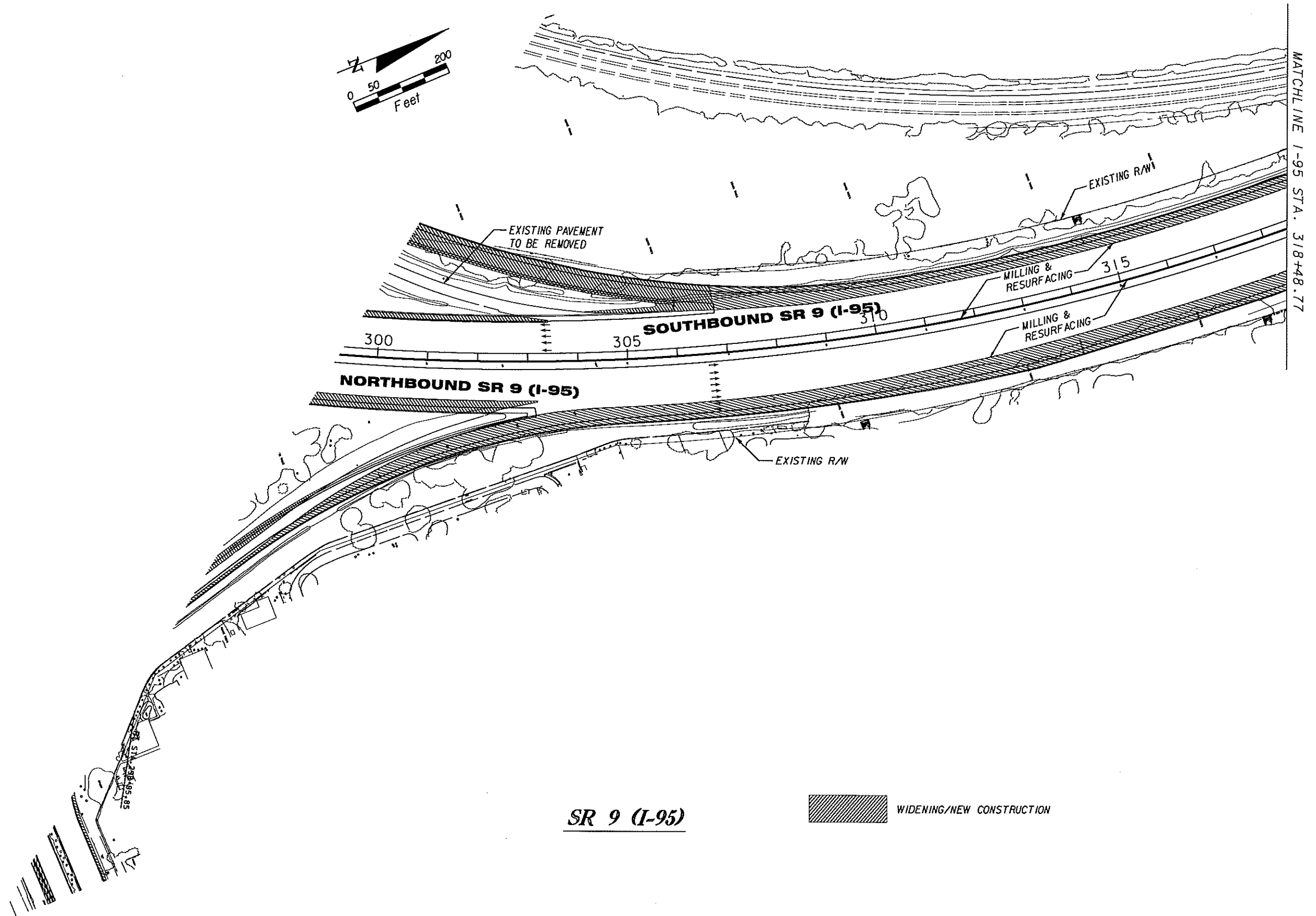
TranSystems
 2400 E. Commercial Blvd. Suite 1000
 Fort Lauderdale, Florida 33308
 (954) 653-4700
 N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

**CONCEPTUAL
ROADWAY PLAN**

SHEET
NO.

15



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

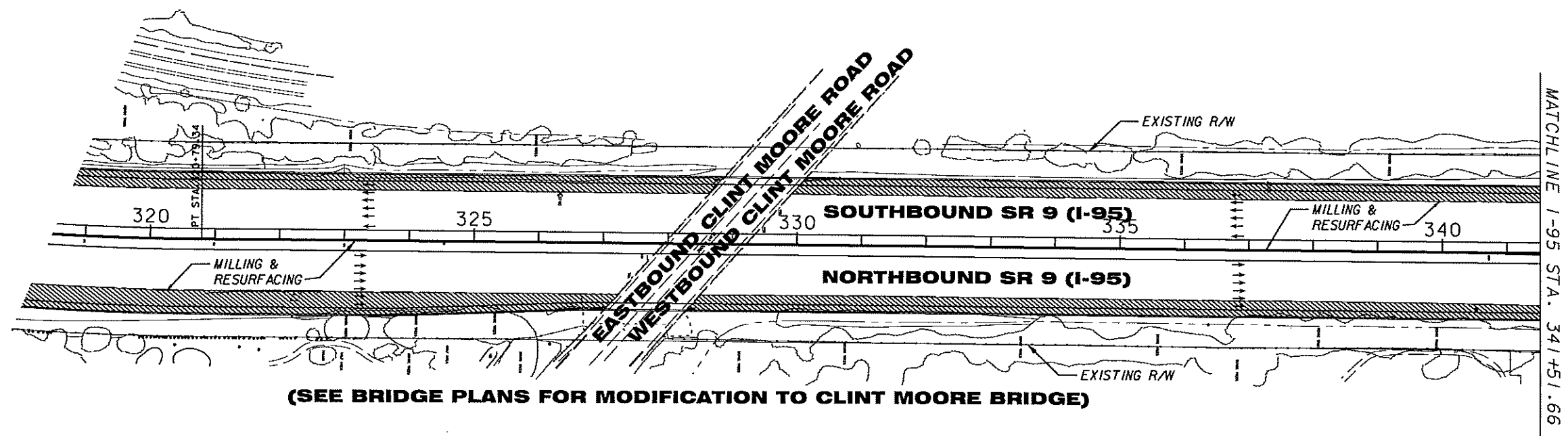
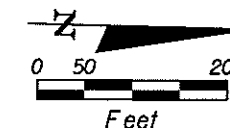
TranSystems
 2400 E. Commercial Blvd. Suite 1000
 Fort Lauderdale, Florida 33308
 (954) 653-4700
 N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	4I2420-I-22-01

CONCEPTUAL ROADWAY PLAN

SHEET
NO.

16



SR 9 (I-95)

 WIDENING/NEW CONSTRUCTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

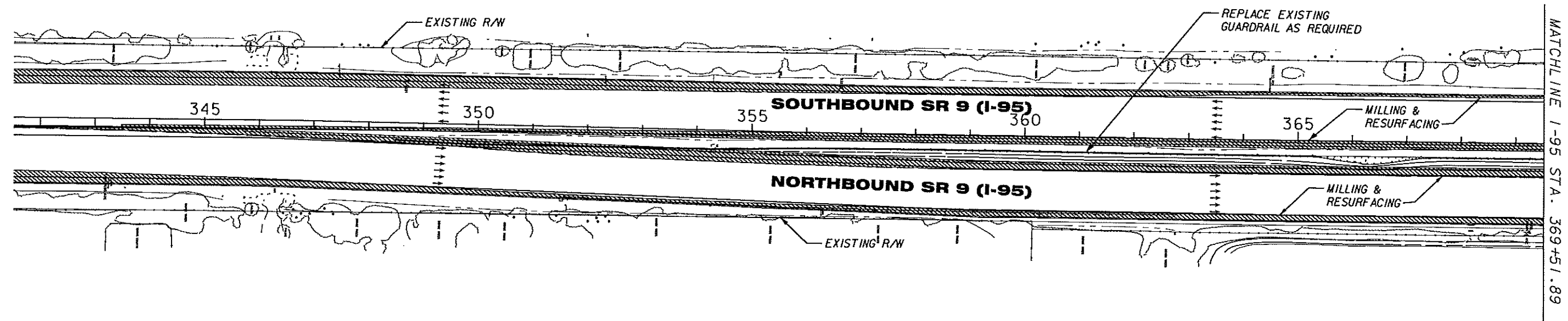
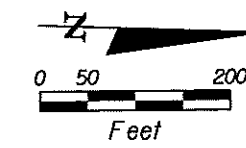


2400 E. Commercial Blvd. Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700
N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01


**CONCEPTUAL
ROADWAY PLAN**

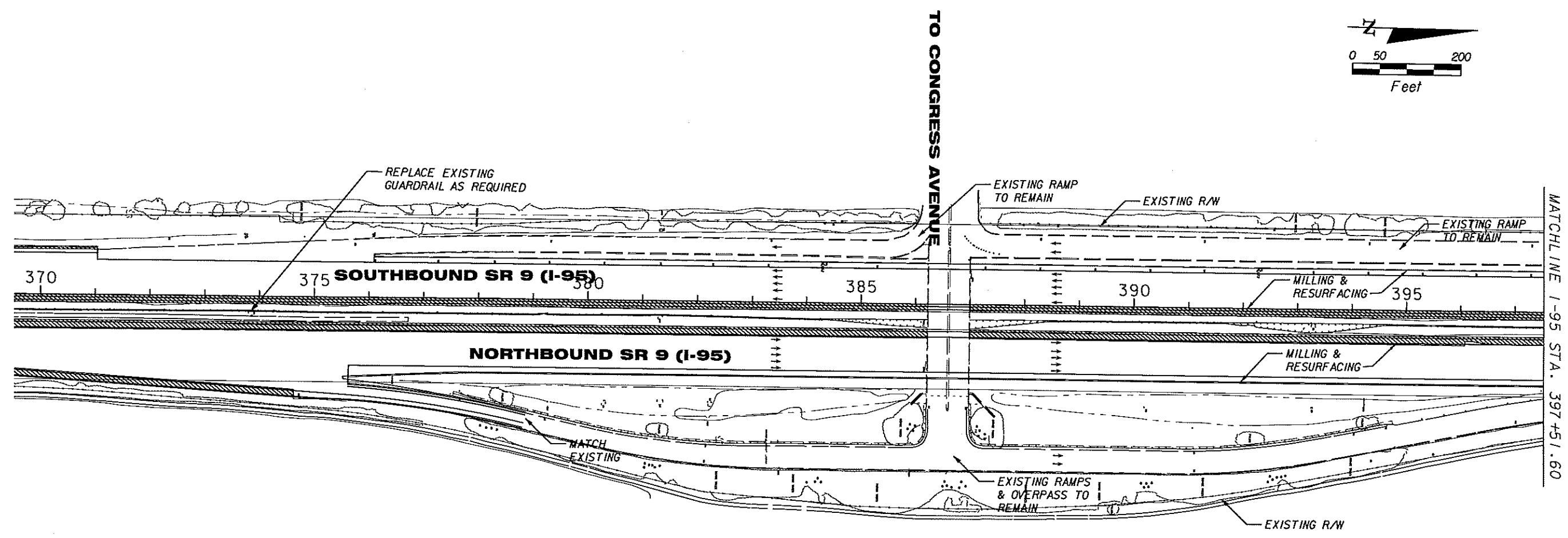
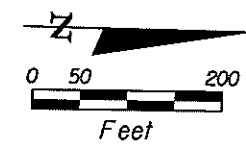
SHEET NO.
17



 WIDENING/NEW CONSTRUCTION

SR 9 (I-95)

REVISIONS						<div> 2400 E. Commercial Blvd. Suite 1000 Fort Lauderdale, Florida 33308 (954) 653-4700 N. Craig Miller, P.E. 13147</div>	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CONCEPTUAL ROADWAY PLAN	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		18
							9	PALM BEACH	4I2420-I-22-0I		



SR 9 (I-95)

 WIDENING/NEW CONSTRUCTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

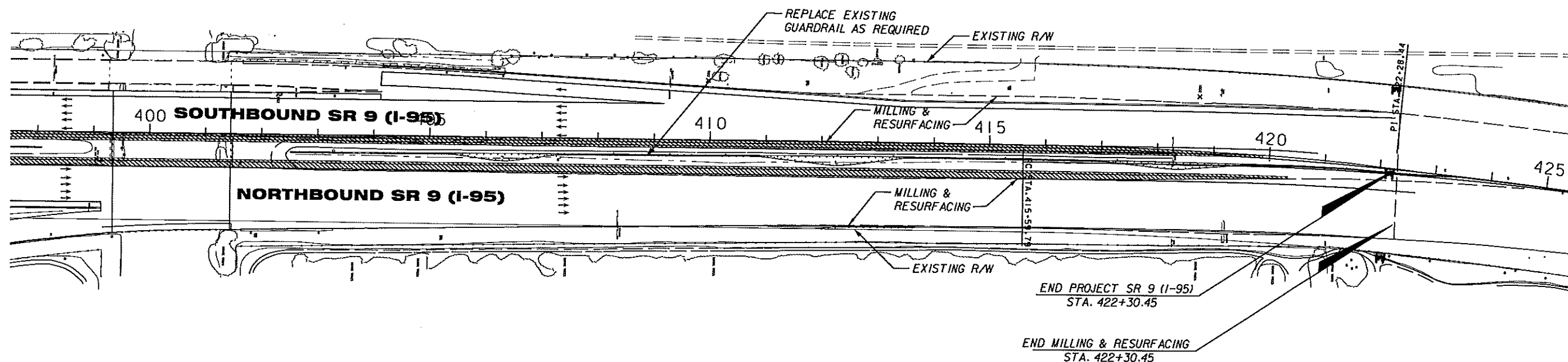
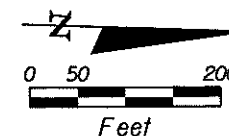


2400 E. Commercial Blvd. Suite 1000
Fort Lauderdale, Florida 33308
(954) 653-4700
N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

**CONCEPTUAL
ROADWAY PLAN**

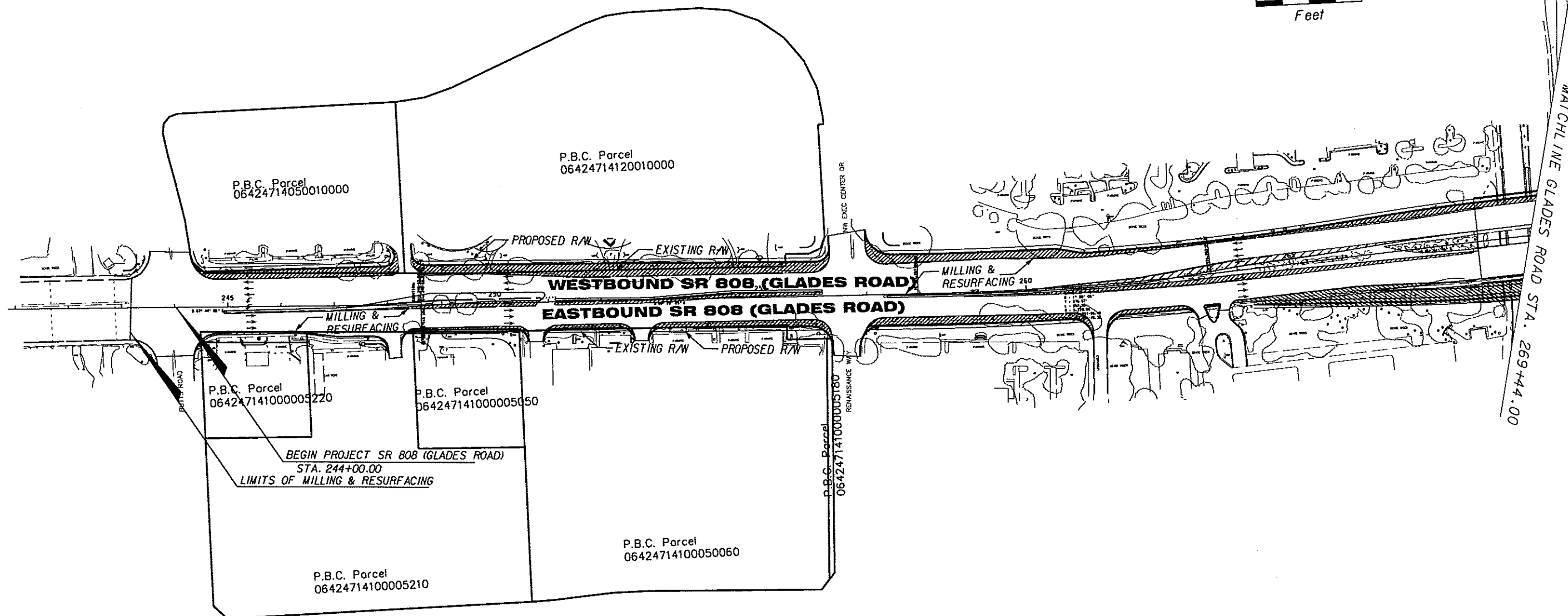
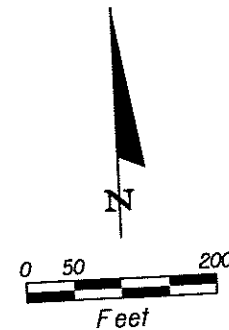
SHEET NO.
19



 WIDENING/NEW CONSTRUCTION


SR 9 (I-95)

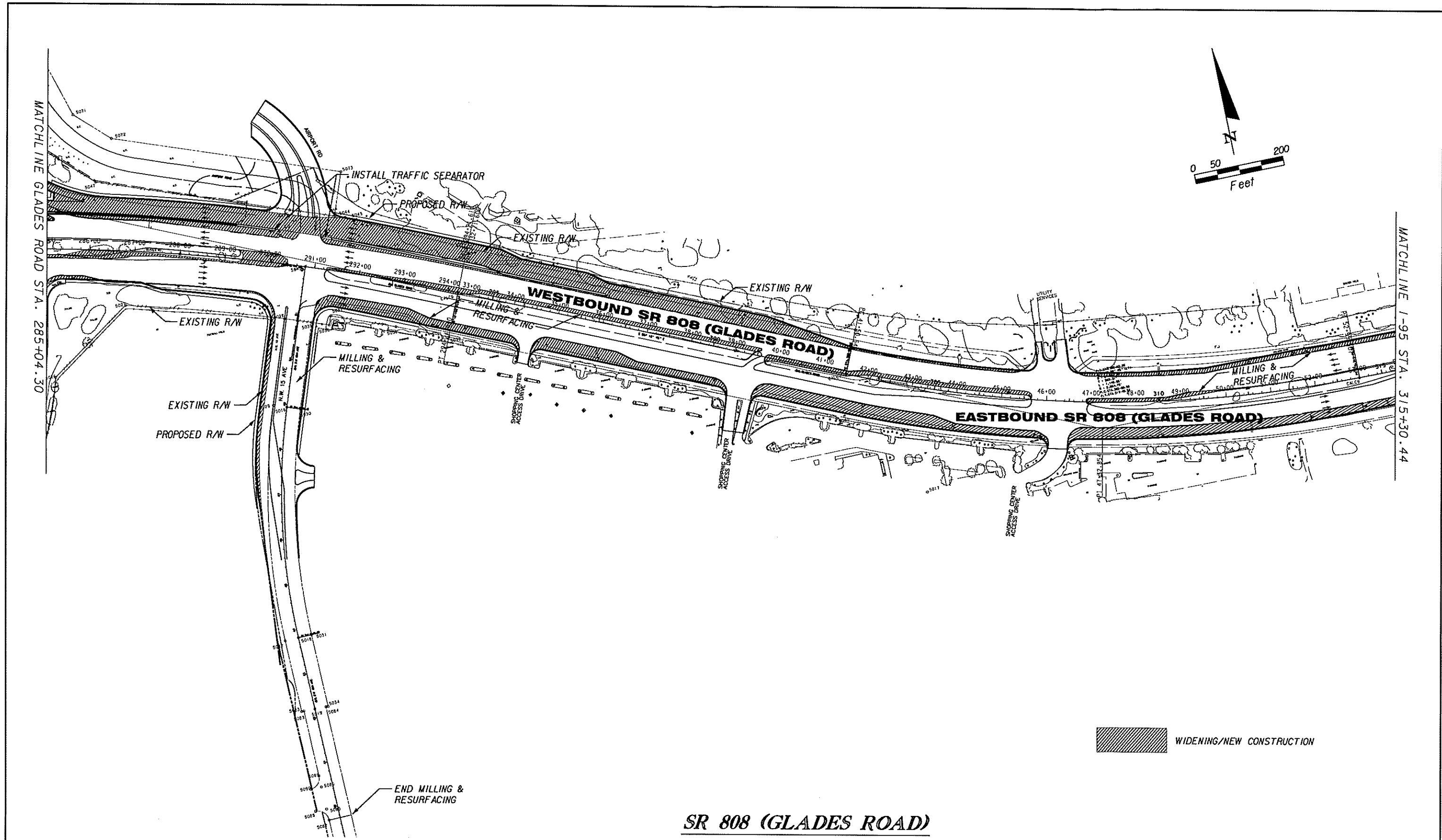
REVISIONS						<div><p>2400 E. Commercial Blvd. Suite 1000 Fort Lauderdale, Florida 33308 (954) 653-4700 N. Craig Miller, P.E. 13147</p></div>	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CONCEPTUAL ROADWAY PLAN	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		20
							9	PALM BEACH	412420-1-22-01		



SR 808 (GLADES ROAD)

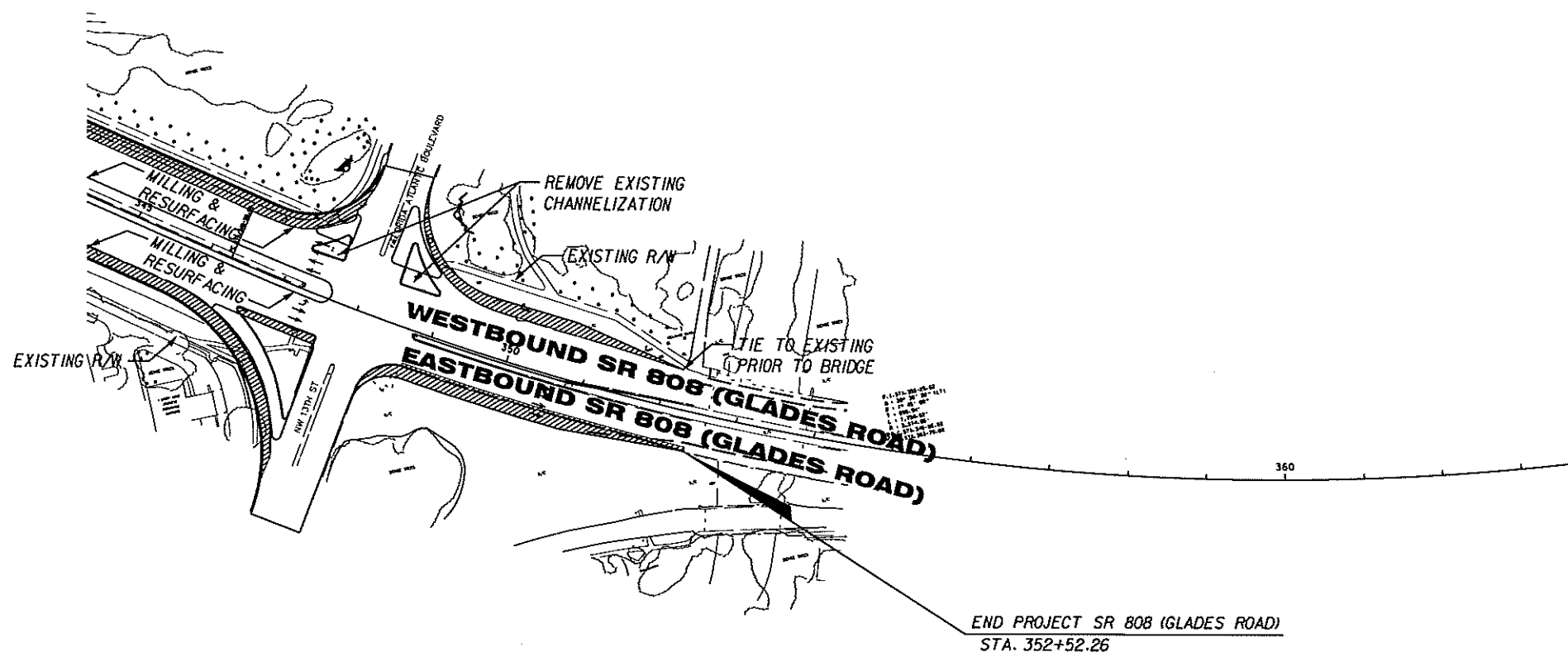
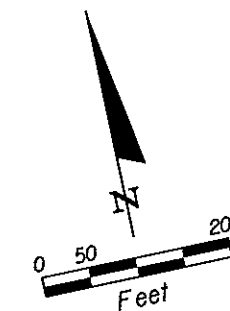
 WIDENING/NEW CONSTRUCTION

REVISIONS						 2400 E. Commercial Blvd. Suite 1000 Fort Lauderdale, Florida 33308 (954) 653-4700 N. Craig Miller, P.E. 13147	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CONCEPTUAL ROADWAY PLAN		SHEET NO. 21
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
							9	PALM BEACH	412420-1-22-01			



SR 808 (GLADES ROAD)

REVISIONS						<div>TranSystems</div> <div>2400 E. Commercial Blvd. Suite 1000 Fort Lauderdale, Florida 33308 (954) 653-4700 N. Craig Miller, P.E. 13147</div>	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CONCEPTUAL ROADWAY PLAN	SHEET NO. 22
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
							9	PALM BEACH	412420-1-22-01		



SR 808 (GLADES ROAD)



WIDENING/NEW CONSTRUCTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

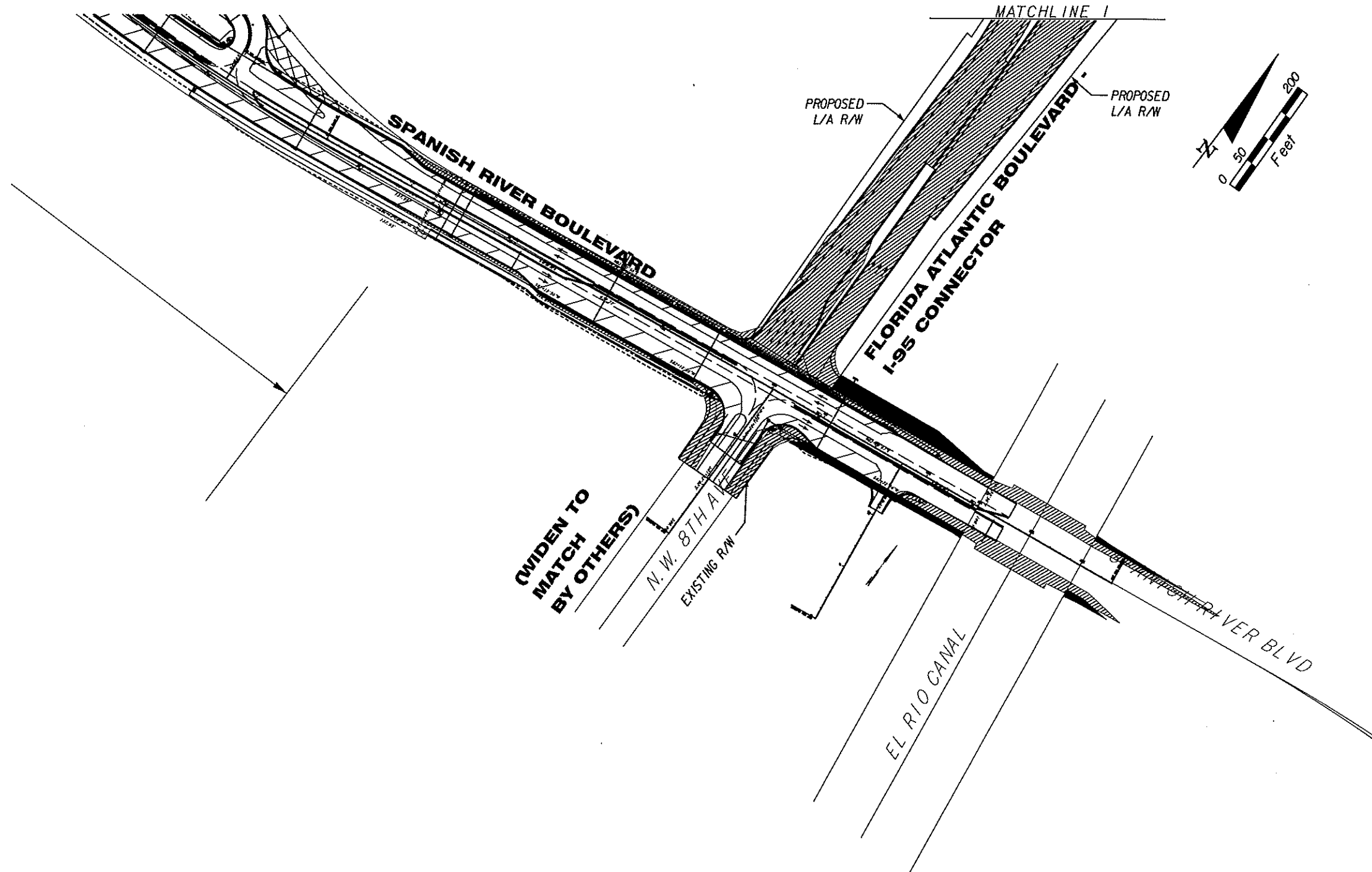
TranSystems
 2400 E. Commercial Blvd. Suite 1000
 Fort Lauderdale, Florida 33308
 (954) 653-4700
 N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

**CONCEPTUAL
ROADWAY PLAN**

SHEET
NO.
24

ROAD I-95
2A, REVISED 8-7-72



SR 9 (I-95)



WIDENING/NEW CONSTRUCTION

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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(954) 653-4700
N. Craig Miller, P.E. 13147

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
9	PALM BEACH	412420-1-22-01

**CONCEPTUAL
ROADWAY PLAN**

SHEET
NO.

25

Tab D
List of Supporting Documents

List of Supporting Documents

The following is a list of supporting documents that are in the project file and available upon request.

- System Interchange Justification Report (SIJR)
- Cultural Resources Assessment Survey (CRAS)
- Air Quality Report
- Noise Study Report
- Contamination Screening Evaluation Report (CSER)
- Wetlands Evaluation Report
- Endangered Species and Biological Assessment
- Drainage and Pond Siting Report
- Design Traffic Technical Memorandum (DTTM)
- Conceptual Bridge Report
- Public Involvement Summary Report (PISR)

Tab E
ETDM Programming Summary Report

ETDM Summary Report

Project #3333 - I-95 from Glades Rd to Linton Blvd.

Programming Screen - Published on 05/02/2008

Printed on: 5/26/2010

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.

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3333 - I-95 from Glades Rd to Linton Blvd. ** Most Recent Data

Review Start Date:	12/19/2007	Phase:	Programming Screen
From:	South of SR 808/Glades Rd.	To:	South of Linton Blvd., "Location not available."
District:	District 4	County:	Palm Beach County
Contact Name / Phone:	Patrick Glass (954) 777-4681	Contact Email:	patrick.glass@dot.state.fl.us

Project Re-Published 5/02/2008

Project Overview: Summary Degree of Effect Chart

		Evaluation of Direct Effects																				
		Natural										Cultural		Community								
Legend N/A N/A / No Involvement 1 Enhanced 0 None 2 Minimal (after 12/5/2005) 3 Moderate 4 Substantial 5 Dispute Resolution (Programming)		Air Quality	Coastal and Marine	Contaminated Sites	Farmlands	Floodplains	Infrastructure	Navigation	Special Designations	Water Quality and Quantity	Wetlands	Wildlife and Habitat	Historic and Archaeological Sites	Recreation Areas	Section 4(f) Potential	Aesthetics	Economic	Land Use	Mobility	Relocation	Social	Secondary and Cumulative Effects
Alternative #1 From South of SR 808/Glades Rd To South of Linton Blvd. - Reviewed from 12/19/2007 to 2/2/2008 - Published on 5/2/2008		0	0	3	0	2	2	N/A	2	3	2	2	3	2	2	2	1	2	1	2	2	3

Project Description Summary

The study area for this evaluation encompasses the segment of I-95 from south of Glades Road to south of Linton Boulevard. The length of the project is approximately 6.5 miles. The project is located within the limits of the City of Boca Raton except for a small segment at the north end of the project which is located within the City of Delray Beach.

The study will evaluate widening I-95 from eight to ten lanes from south of Glades Road to south of Linton Boulevard, including retaining the existing two (2) HOV lanes and the addition of auxiliary lanes between Glades Road and Congress Avenue. A new interchange will also be considered between Glades Road and Yamato Road to improve access between I-95, the Boca Raton Airport, and Florida Atlantic University, a major traffic generator in the area. In addition, widening Glades Road to eight lanes between Florida Atlantic Boulevard and Butts Road along with drainage and lighting improvements, and utility relocation will be evaluated.

Summary of Public Comments

Agency and Public Workshops have been conducted for the project. The public is generally supportive of improvements to I-95 to address traffic congestion. The public's greatest expressed concern is traffic noise. A detailed noise study will be conducted for the project and noise abatement measures will be implemented if they are warranted and reasonable and feasible.

Meetings have been held with all involved public agencies, the Palm Beach County MPO and TAC Committees, Boca Raton City Council, as well as a variety of other meetings.

Two public workshops were held, one on April 20, 2006 and one on October 19, 2006. The workshops were both well attended and very cordial, with approximately 32 written comments being received.

Below is a summary of the comments received categorized by issue:

Description of Comment Number of Comments

Noise Related Concerns 12
General Opposition 9
General Approval 6
Request for Information 3
Specific Property Concerns 2

Total 32

Most concerns were adjacent property owners wanting noise walls installed. There were no outright objections to a new connection to I-95. All parties realize that there is a need to reduce the amount of traffic along Glades Road by providing additional access to Florida Atlantic University. General Opposition and General Approval are based on whether or not the party involved agrees with our method of connection to I-95, and whether or not direct access to and from I-95 to eastbound Spanish River Boulevard should be allowed.

Community Desired Features

No desired features have been entered into the database. This does not necessarily imply that none have been identified.

Purpose and Need Statement

The demand for transportation services has grown along with the Tri-County area's population. Interstate 95 (I-95) serves an integral role in meeting those needs. Interstate 95 is the most important north-south freeway through southeast Florida and provides significant regional and local movements for people and goods as well as serving interstate and intrastate trips. The proposed I-95 project located from south of Glades Road to south of Linton Boulevard will satisfy several project needs and goals:

1. Operations - The proposed project will relieve operational shortcomings which have been identified within the corridor. These deficiencies include areas such as freeway operation, levels-of-service, ramp terminal design, and substandard pedestrian and bicycle designs on crossroads within interchanges.
2. Safety - The proposed project will enhance the safety of the project corridor by improving the facility to meet current

design standards and capacity needs.

3. Consistency - The proposed improvements along the I-95 mainline are consistent with the 2030 Long Range Transportation Plan Needs and Cost Feasible Plan of the Palm Beach County Metropolitan Planning Organization (MPO), approved by the MPO Board on December 17, 2004. The I-95 mainline Project Development and Environment study for the segment from Glades Road to Yamato Road is contained in the FY 07-11 Transportation Improvement Program (TIP) for the area. In addition, an interchange modification study is included in the FY 07-11 TIP for improvements to the Glades Road and Yamato Road interchanges. This will need to be modified to reflect an interchange justification study that is underway for a new interchange between Glades Road and Yamato Road. The proposed widening of I-95 is consistent with the City of Boca Raton approved Comprehensive Plan, as amended. The Comprehensive Plan is being updated to include the new interchange between Glades Road and Yamato Road.
4. Capacity - An upgraded mainline will provide for higher levels-of-service and this in turn will serve some existing latent demand. I-95 currently is an eight-lane Interstate with an existing Annual Average Annual Daily Traffic (AADT) of over 186,000 vpd. Projections indicate that mainline I-95 traffic volumes will be approaching 274,000 vehicles per day by year 2033. Trucks comprise 7.9% of vehicles traveling along this corridor. Southeast Florida comprises over 5.2 million people, and is recognized as one of the most traffic-congested regions in the country. Population is expected to grow 33 percent to 6.8 million people by 2020, and to 7.6 million people by 2030. Growth in both freight and tourist visitors is expected to increase just as substantially.
5. New Interchange - A new interchange is proposed immediately south of the existing Yamato Road interchange. The new interchange is situated so that there is no interaction between the new interchange and the Yamato Road interchange. The reason for the new interchange is to relieve traffic from Glades Road, which is approaching 1.5 times its theoretical capacity, and Yamato Road which is currently approaching capacity. The new interchange will provide a direct route between I-95, and the Boca Airport and Florida Atlantic University thereby relieving traffic from both Glades Road and Yamato Road. Major developments adjacent to the project segment include Florida Atlantic University (FAU), Boca Raton Community Hospital, the Boca Technology Center, and the Boca Town Mall. The FAU football program has experienced success in its first seven years and the school is planning to construct a football stadium. The commercial, retail, and education activities result in severe demand on the arterial network including Glades Road and Yamato Road, resulting in the need for a interstate connection between the two interchanges. A System Interchange Justification Report is being prepared, to be approved by the FDOT and FHWA.
6. Multimodal System - The proposed project is an important factor in a multi-modal, system-wide approach to solving the long-term north-south travel demands of Palm Beach County and Tri-County motorists. I-95 provides service to major area airports, sea ports and rail lines. The South Florida Rail Corridor, which handles both passenger (Tri-Rail) and freight traffic, borders I-95 on the west. Tri-Rail handles Mass Transit from Miami-Dade County to northern Palm Beach County.
7. System Linkage - The I-95 system is part of the designated Strategic Intermodal System, providing the major north south corridor along Florida's eastern seaboard. Since opportunities for parallel corridors are limited due to intense development in the area, I-95 is a critical link to major transportation facilities. I-95 is a major connector between Northern Broward County/Southern Palm Beach Counties and serves the Boca Raton Airport, Florida Atlantic University, Fort Lauderdale-Hollywood International Airport, Palm Beach International Airport, major shopping malls and business centers.
8. Emergency Evacuation - I-95 serves as part of the evacuation route network established by the Florida Division of Emergency Management. The I-95 corridor is a major hurricane evacuation route. Improvements to I-95 are expected to enhance evacuation capacity and traffic circulation which will lead to improved evacuation response times.

Purpose and Need Reviews

Natural Resources Conservation Service Comments

Agency	Acknowledgment	Review Date
Natural Resources Conservation Service	Understood	12/20/2007
Comments		
No Purpose and Need Comments Were Found.		

US Fish and Wildlife Service Comments

Agency	Acknowledgment	Review Date
US Fish and Wildlife Service	Understood	1/7/2008
Comments		

No Purpose and Need Comments Were Found.

National Marine Fisheries Service Comments

Agency	Acknowledgment	Review Date
National Marine Fisheries Service	Understood	1/24/2008
Comments		
none		

FL Department of Community Affairs Comments

Agency	Acknowledgment	Review Date
FL Department of Community Affairs	Understood	2/1/2008
Comments		
No Purpose and Need Comments Were Found.		

FDOT District 4 Comments

Agency	Acknowledgment	Review Date
FDOT District 4	Understood	2/4/2008
Comments		
No Purpose and Need Comments Were Found.		

FL Department of State Comments

Agency	Acknowledgment	Review Date
FL Department of State	Understood	1/28/2008
Comments		
No Purpose and Need Comments Were Found.		

South Florida Water Management District Comments

Agency	Acknowledgment	Review Date
South Florida Water Management District	Understood	1/28/2008
Comments		
No Purpose and Need Comments Were Found.		

FL Department of Environmental Protection Comments

Agency	Acknowledgment	Review Date
FL Department of Environmental Protection	Understood	1/24/2008
Comments		
No Purpose and Need Comments Were Found.		

US Army Corps of Engineers Comments

Agency	Acknowledgment	Review Date
US Army Corps of Engineers	Understood	1/16/2008
Comments		
No Purpose and Need Comments Were Found.		

FL Fish and Wildlife Conservation Commission Comments

Agency	Acknowledgment	Review Date
FL Fish and Wildlife Conservation Commission	Understood	1/31/2008
Comments		
No Purpose and Need Comments Were Found.		

Federal Highway Administration Comments		
Agency	Acknowledgment	Review Date
Federal Highway Administration	Accepted	2/1/2008
Comments		
No Purpose and Need Comments Were Found.		

Alternative #1

Alternative Description	
From	South of SR 808/Glades Rd
To	South of Linton Blvd.
Type	Widening
Status	ETAT Review Complete
Total Length	6.45 mi.
Cost	\$172,615,000.00
Modes	Roadway

Location and Length			
	Segment 1	Segment 2	Segment 3
Name	I-95 (SR 9)	I-95 (SR 9)	I-95 (SR 9)
Beginning Location	South of Glades Road		
Ending Location			South of Linton Blvd.
Length (mi.)	1.127	2.474	2.849
Roadway Id	93220000	93220000	93220000
BMP	??	??	??
EMP	??	??	??

Jurisdiction and Class			
	Segment 1	Segment 2	Segment 3
Jurisdiction	FDOT	FDOT	FDOT
Urban Service Area	In	In	In
Functional Class	URBAN: Principal Arterial - Interstate	URBAN: Principal Arterial - Interstate	URBAN: Principal Arterial - Interstate

Current and Future Conditions			
Base Conditions			
	Segment 1	Segment 2	Segment 3
Year	2006	2006	2006
AADT	\$198,500.00	\$186,000.00	\$197,500.00
Lanes	8	8	8
Config	Lanes Freeway	Lanes Freeway	Lanes Freeway

Interim Plan			
	Segment 1	Segment 2	Segment 3
Year			
AADT	unspecified	unspecified	unspecified
Lanes			
Config			

Needs Plan			
	Segment 1	Segment 2	Segment 3
Year	2030	2030	2030
AADT	\$274,000.00	\$274,000.00	\$274,000.00
Lanes	10	10	10
Config	Lanes Freeway	Lanes Freeway	Lanes Freeway

Cost Feasible Plan			
	Segment 1	Segment 2	Segment 3
Year	2030	2030	2030

AADT	\$274,000.00	\$274,000.00	\$274,000.00
Lanes	10	10	10
Config	Lanes Freeway	Lanes Freeway	Lanes Freeway
Funding Sources			
	Segment 1	Segment 2	Segment 3
FEDERAL funding amount:			\$155,000,000.00
FDOT funding amount:			\$17,615,000.00

Project Effects Overview				
Issue	Degree of Effect		Organization	Date Reviewed
Natural				
Air Quality	0	None	US Environmental Protection Agency	2/01/2008
Coastal and Marine	0	None	National Marine Fisheries Service	1/24/2008
Contaminated Sites	3	Moderate	US Environmental Protection Agency	2/01/2008
Contaminated Sites	2	Minimal	Federal Highway Administration	2/01/2008
Contaminated Sites	3	Moderate	FL Department of Environmental Protection	1/24/2008
Farmlands	0	None	Natural Resources Conservation Service	12/20/2007
Floodplains	2	Minimal	US Environmental Protection Agency	2/01/2008
Navigation	N/A	N/A / No Involvement	US Coast Guard	1/24/2008
Special Designations	2	Minimal	Federal Highway Administration	2/01/2008
Special Designations	0	None	US Environmental Protection Agency	2/01/2008
Water Quality and Quantity	3	Moderate	FL Department of Environmental Protection	1/24/2008
Water Quality and Quantity	2	Minimal	US Environmental Protection Agency	2/01/2008
Wetlands	2	Minimal	US Environmental Protection Agency	2/01/2008
Wetlands	0	None	National Marine Fisheries Service	1/24/2008
Wetlands	2	Minimal	US Fish and Wildlife Service	1/07/2008
Wetlands	2	Minimal	US Army Corps of Engineers	1/16/2008
Wetlands	2	Minimal	South Florida Water Management District	1/30/2008
Wetlands	2	Minimal	FL Department of Environmental Protection	1/24/2008
Wildlife and Habitat	2	Minimal	FL Fish and Wildlife Conservation Commission	1/31/2008
Wildlife and Habitat	2	Minimal	US Fish and Wildlife Service	1/07/2008
Cultural				

Historic and Archaeological Sites	2	Minimal	Federal Highway Administration	2/01/2008
Historic and Archaeological Sites	3	Moderate	Miccosukee Tribe of Indians of Florida	12/27/2007
Historic and Archaeological Sites	3	Moderate	FL Department of State	1/28/2008
Recreation Areas	0	None	US Environmental Protection Agency	2/01/2008
Recreation Areas	2	Minimal	FL Department of Environmental Protection	1/24/2008
Recreation Areas	2	Minimal	Federal Highway Administration	2/01/2008

Community

Aesthetics	2	Minimal	FDOT District 4	2/05/2008
Aesthetics	2	Minimal	Palm Beach County MPO	2/01/2008
Economic	1	Enhanced	FDOT District 4	2/05/2008
Economic	2	Minimal	Palm Beach County MPO	2/01/2008
Land Use	2	Minimal	Palm Beach County MPO	2/01/2008
Land Use	2	Minimal	FDOT District 4	2/05/2008
Land Use	2	Minimal	FL Department of Community Affairs	2/01/2008
Mobility	1	Enhanced	FDOT District 4	2/05/2008
Mobility	2	Minimal	Palm Beach County MPO	2/01/2008
Relocation	2	Minimal	Palm Beach County MPO	2/01/2008
Relocation	2	Minimal	FDOT District 4	2/05/2008
Social	0	None	US Environmental Protection Agency	2/01/2008
Social	1	Enhanced	FL Department of Community Affairs	2/01/2008
Social	2	Minimal	Palm Beach County MPO	2/01/2008
Social	2	Minimal	FDOT District 4	2/05/2008
Social	3	Moderate	Federal Highway Administration	2/01/2008

Secondary and Cumulative

Secondary and Cumulative Effects	3	Moderate	FL Department of State	1/28/2008
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ETAT Reviews: Natural

Air Quality

Coordinator Summary

0 Summary Degree of Effect

Air Quality Summary Degree of Effect: None

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

As stated in the Project Description, the project is consistent with Air Quality Conformity. Palm Beach County is not in an Air Quality Non-Attainment or Maintenance Area for any of the four pollutants - nitrogen oxides, ozone, carbon monoxide, and small particulate matter - specified by the USEPA in National Ambient Air Quality Standards. For these reasons, a Summary DOE of None for Air Quality has been assigned to this project.

ETAT Reviews for Air Quality

0 ETAT Review by Maher Budeir, US Environmental Protection Agency (02/01/2008)

Air Quality Effect: None

Coordination Document:To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:

Air Quality

Comments on Effects to Resources:

The potential added capacity impact may be offset by the positive impact of improved level of service.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Coastal and Marine**Coordinator Summary**

0 Summary Degree of Effect

Coastal and Marine Summary Degree of Effect: None

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to the EST GIS analysis results, there are no coastal or marine resources located within 200 feet of this alternative. For this reason and based on comments from the NMFS, a Summary DOE of None for Coastal and Marine has been assigned to this project.

ETAT Reviews for Coastal and Marine

0 ETAT Review by Brandon Howard, National Marine Fisheries Service (01/24/2008)

Coastal and Marine Effect: None

Coordination Document:No Involvement

Dispute Information:N/A

Identified Resources and Level of Importance:
none

Comments on Effects to Resources:
none

Additional Comments (optional):

The project would involve expanding I-95 from eight to ten lanes from south of Glades Road to south of Linton Boulevard, including retaining the existing two HOV lanes and the addition of auxiliary lanes between Glades Road and Congress Avenue. A new interchange will also be considered between Glades Road and Yamato Road to improve access between I-95, the Boca Raton Airport, and Florida Atlantic University. There are no wetlands within the existing right of way where the expansion from eight to ten lanes would take place. The two canal crossings are upstream of water control structures maintained by the South Florida Water Management District, which limits access to the project area by federally managed fishery species. If the new intersection is constructed at NW Spanish River Boulevard, it appears that the project could be constructed to avoid all impacts to wetlands. Based on the project location, conversations with FDOT staff, information provided in the ETDM website, and a GIS-based analysis, NOAA's National Marine Fisheries Service concludes the proposed work would not directly impact areas that support NOAA trust fishery resources. We have no comments or recommendations to provide pursuant to the essential fish habitat (EFH) requirements of the Magnuson-Stevens Fishery Conservation and Management Act (P.L. 104-297). 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.

CLC Commitments and Recommendations:

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the South Florida Water Management District

Contaminated Sites

Coordinator Summary

3 Summary Degree of Effect

Contaminated Sites Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to the EST GIS analysis results, five geocoded petroleum tanks exist within the 200-foot project buffer and ten are present within the project's 500-foot buffer. No geocoded dry cleaners, geocoded gas stations, solid waste facilities, Superfund hazardous waste sites, Brownfield locations, or Toxic Release Inventory Sites exist within the 500-foot project buffer. Based on agency comments, a Summary DOE of Moderate for Contaminated Sites has been assigned to this project.

Commitments and Responses: Preparation of a Contamination Screening Evaluation Report will be included in the scoping recommendations for this project.

ETAT Reviews for Contaminated Sites

3 ETAT Review by Maher Budeir, US Environmental Protection Agency (02/01/2008)

Contaminated Sites Effect: Moderate

Coordination Document:To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:

Groundwater and soils

Comments on Effects to Resources:

Based on data in the EST, several petroleum tanks are within the 200-foot buffer zone of this project. EPA recommends conducting field screening to identify tanks that may be impacted by construction and identify tanks that may have a history of releases. The field investigation should also identify monitoring wells associated with the tanks. This field study should be used to avoid impact on these systems and on potentially contaminated media nearby. Finding of the field study should be used in designing the specific alignment of the widening as well as planning for contingencies to avoid releasing or mobilizing of contaminants and to minimize impact to the groundwater and soils.

Coordinator Feedback:None

2 ETAT Review by Nahir Detizio, Federal Highway Administration (02/01/2008)

Contaminated Sites Effect: Minimal

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

Dispute Information:N/A

Identified Resources and Level of Importance:

The EST lists a 5 petroleum storage tanks within 200 feet of the project.

Comments on Effects to Resources:

Risk for contamination in the project area from these sources should be assessed to determine the need for special construction techniques that may substantially increase project costs.

Coordinator Feedback:None

3 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (01/24/2008)

Contaminated Sites Effect: Moderate

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

GIS data indicates that there are a significant number of geocoded petroleum tank sites within the project buffer zones.

Comments on Effects to Resources:

A Contamination Screening Evaluation (similar to Phase I and Phase II Audits) will need to be conducted along the project right-of-way in considering the proximity to potential petroleum and hazardous material handling facilities. The Contamination Screening Evaluation should outline specific procedures that would be followed by the applicant in the event drums, wastes, tanks or potentially contaminated soils are encountered during construction. Special attention should be made in the screening evaluation to historical land uses (such as solid waste disposal) that may have an affect on the proposed project, including storm water retention and treatment areas.

-- In the event contamination is detected during construction, DEP and Palm Beach County need to be notified and the FDOT may need to address the problem through additional assessment and/or remediation activities. Please note that revisions to Chapters 62-770, 62-782, 62-785, 62-777, F.A.C., and a new rule, Chapter 62-780, F.A.C., all involving contamination assessment and cleanup along with other notification requirements, took effect on April 17, 2005.

-- Groundwater monitoring wells (and possibly water production wells) are likely present at/near the project corridor. Arrangements need to be made to properly abandon (in accordance with Chapter 62-532, F.A.C.) and or replace any wells that may be destroyed or damaged during construction. These wells may also be used to gather data for the Contamination Screening Evaluation report.

-- Depending on the findings of the Contamination Screening Evaluation and the proximity to known contaminated sites, projects involving "dewatering" should be discouraged, since there is a potential to spread contamination to previously uncontaminated areas and affect contamination receptors, site workers and the public. Dewatering projects would require permits/approval from the South Florida Water Management District, Water Use Section and coordination with DERM.

-- Any land clearing or construction debris must be characterized for proper disposal. Potentially hazardous materials must be properly managed in accordance with Chapter 62-730, F.A.C. In addition, any solid wastes or other non-hazardous debris must be managed in accordance with Chapter 62-701, F.A.C.

-- Staging areas, with controlled access, should be planned in order to safely store raw material paints, adhesives, fuels, solvents, lubricating oils, etc. that will be used during construction. All containers need to be properly labeled. The project managers should consider developing written construction Contingency Plans in the event of a natural disaster, spill, fire or environmental release of hazardous materials stored / handled for the project construction.

Coordinator Feedback:None

- No review submitted from the South Florida Water Management District

Farmlands

Coordinator Summary

0 Summary Degree of Effect

Farmlands Summary Degree of Effect: None

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to the EST GIS analysis results, this alternative is not anticipated to impact any farmlands (including prime or unique farmlands). For this reason, a Summary DOE of None for Farmlands has been assigned to this project.

ETAT Reviews for Farmlands

0 ETAT Review by Rick Allen Robbins, Natural Resources Conservation Service (12/20/2007)

Farmlands Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

There are no agricultural lands within the boundaries of the project area. Therefore, no prime or unique farmlands.

Comments on Effects to Resources:

No effect to prime or unique farmlands.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Floodplains

Coordinator Summary

2 Summary Degree of Effect

Floodplains Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to the EST GIS analysis results, approximately 64.0 acres (17.5%) of the project's 200-foot buffer occurs within the 100-year floodplain: ~ 60.0 acres (16.2%) of FEMA FIRM Flood Zone AE - an area within the 100-year floodplain for which base flood elevations have been determined and ~ 4.0 acres (1.3%) of FEMA FIRM Flood Zone AH - an area inundated by 100-year flooding for which base flood elevations have been determined. Based on these results and agency comments, a Summary DOE of Minimal for Floodplains has been assigned to this project.

Commitments and Responses: A Floodplains Assessment, as per FDOT PD&E Guidance, will be included in the scoping recommendations for this project.

ETAT Reviews for Floodplains

2 ETAT Review by Maher Budeir, US Environmental Protection Agency (02/01/2008)

Floodplains Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:
Floodplain

Comments on Effects to Resources:

Portions of the project will be within the Flood Hazard zone. If any of the areas within the flood plain is to be filled, that will impact the capacity. It is necessary to address this impact and use design features and construction techniques that minimize the need to fill the flood plain.

Coordinator Feedback:None

- No review submitted from the FL Department of Environmental Protection
- No review submitted from the Federal Highway Administration
- No review submitted from the South Florida Water Management District

Infrastructure

Coordinator Summary

2 Summary Degree of Effect

Infrastructure Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

The EST GIS analysis results present the following infrastructure related features within the vicinity of the project: Boca Raton Airport (200-foot buffer); one wireless antenna structure (500-foot buffer); 24,010 linear feet of railway (500-foot buffer); Boca Raton High School (quarter-mile buffer); and Boca Raton Community Hospital (half-mile buffer). Infrastructure related features located within the one mile project buffer include: Boca Raton Fire Department, ten wireless antenna structures, one cellular antenna location, Florida Atlantic University, Lynn University, ten hazardous waste sites, and five solid wastes sites. Recommendations from the PD&E Study will be formed to avoid or minimize impacts to these features, including any proposed acquisition sites in the project area, to the greatest extent practicable. Appropriate mitigation will be provided for unavoidable impacts. Based on the foregoing, a Summary DOE of Minimal for Infrastructure has been assigned to this project.

ETAT Reviews for Infrastructure

No reviews found for the Infrastructure Issue.

- No review submitted from the Federal Highway Administration

Navigation

Coordinator Summary

N/
A

Summary Degree of Effect

Navigation Summary Degree of Effect: N/A / No Involvement

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to the EST GIS analysis results, there are no navigable waterways or any other navigation resources located within the project's 200-foot buffer. As such, this project will not require any agency coordination regarding navigation issues. Based on the foregoing, a Summary DOE of N/A / No Involvement for Navigation has been assigned to this alternative.

ETAT Reviews for Navigation

N
/
A

ETAT Review by Brodie E. Rich, US Coast Guard (01/24/2008)

Navigation Effect: N/A / No Involvement

Coordination Document:No Involvement

Dispute Information:N/A

Identified Resources and Level of Importance:

None found.

Comments on Effects to Resources:

None found.

CLC Commitments and Recommendations:

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the US Army Corps of Engineers

Special Designations

Coordinator Summary

2 Summary Degree of Effect

Special Designations Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to the EST GIS analysis results, the only special designation feature present within the project's 200-foot buffer is the Biscayne Aquifer (a designated Sole Source Aquifer). For this reason and based on agency comments, a Summary DOE of Minimal for Special Designations has been assigned to this project.

Commitments and Responses: During the PD&E phase, the special provisions chapter of the PD&E Manual for special designations will be consulted.

ETAT Reviews for Special Designations

2 ETAT Review by Nahir Detizio, Federal Highway Administration (02/01/2008)

Special Designations Effect: Minimal

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

Dispute Information:N/A

Identified Resources and Level of Importance:

Sole source aquifer area.

Comments on Effects to Resources:

Please see PD&E chapter for coordination requirements.

Coordinator Feedback:None

0 ETAT Review by Maher Budeir, US Environmental Protection Agency (02/01/2008)

Special Designations Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

None found.

Comments on Effects to Resources:

None found.

Coordinator Feedback:None

- No review submitted from the FL Department of Agriculture and Consumer Services

- No review submitted from the South Florida Water Management District

Water Quality and Quantity

Coordinator Summary

3 Summary Degree of Effect

Water Quality and Quantity Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to the EST GIS analysis results, there are no aquatic preserves or Outstanding Florida Waters located within the project's 200-foot buffer. The project will also be designed to meet state water quality and quantity standards. Due to agency comments, however, a Summary DOE of Moderate for Water Quality and Quantity has been assigned to this project.

Commitments and Responses: A Water Quality Impact Evaluation will be included in the scoping recommendations for this project.

ETAT Reviews for Water Quality and Quantity

3 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (01/24/2008)

Water Quality and Quantity Effect: Moderate

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

Stormwater runoff from the road surface may alter adjacent wetlands and surface waters through increased pollutant loading. Increased runoff carrying oils, greases, metals, sediment, and other pollutants from the increased impervious surface will 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 road project to prevent ground and surface water contamination. Stormwater treatment should be designed to maintain the natural predevelopment hydroperiod and water quality, as well as to protect the natural functions of adjacent wetlands. 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

2 ETAT Review by Maher Budeir, US Environmental Protection Agency (02/01/2008)

Water Quality and Quantity Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Water Quality and Flow

Comments on Effects to Resources:

The additional paved surface will generate higher volume of stormwater runoff. Stormwater management and treatment should be upgraded to minimize the impact of the project on water quality.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the South Florida Water Management District

Wetlands

Coordinator Summary

2 Summary Degree of Effect

Wetlands Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to the National Wetlands Inventory, only 3.17 acres (1.0%) of palustrine wetlands and 16.1 acres (0.5%) of riverine wetlands are located within the 200-foot project buffer. The Wetlands 2000 database does not indicate the presence of any wetlands within the project's 200-foot buffer. Based on the foregoing and agency comments, a Summary DOE of Minimal for Wetlands has been assigned to this project.

Commitments and Responses: Preparation of a Wetlands Evaluation Report will be included in the scoping recommendations for this project.

ETAT Reviews for Wetlands

2 ETAT Review by Maher Budeir, US Environmental Protection Agency (02/01/2008)

Wetlands Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Wetlands

Comments on Effects to Resources:

15 to 20 acres of wetlands were identified to be within the 500 foot buffer. Impact on these wetlands should be avoided. The design and construction techniques should be considered to avoid any impact on these wetlands. Unavoidable impact should be minimized and fully mitigated.

Coordinator Feedback:None

0

ETAT Review by Brandon Howard, National Marine Fisheries Service (01/24/2008)

Wetlands Effect: None

Coordination Document:No Involvement

Dispute Information:N/A

Identified Resources and Level of Importance:

none

Comments on Effects to Resources:

none

Additional Comments (optional):

The project would involve expanding I-95 from eight to ten lanes from south of Glades Road to south of Linton Boulevard, including retaining the existing two HOV lanes and the addition of auxiliary lanes between Glades Road and Congress Avenue. A new interchange will also be considered between Glades Road and Yamato Road to improve access between I-95, the Boca Raton Airport, and Florida Atlantic University. There are no wetlands within the existing right of way where the expansion from eight to ten lanes would take place. The two canal crossings are upstream of water control structures maintained by the South Florida Water Management District, which limits access to the project area by federally managed fishery species. If the new intersection is constructed at NW Spanish River Boulevard, it appears that the project could be constructed to avoid all impacts to wetlands. Based on the project location, conversations with FDOT staff, information provided in the ETDM website, and a GIS-based analysis, NOAA's National Marine Fisheries Service concludes the proposed work would not directly impact areas that support NOAA trust fishery resources. We have no comments or recommendations to provide pursuant to the essential fish habitat (EFH) requirements of the Magnuson-Stevens Fishery Conservation and Management Act (P.L. 104-297). 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.

CLC Commitments and Recommendations:

Coordinator Feedback:None

2

ETAT Review by John Wrublik, US Fish and Wildlife Service (01/07/2008)

Wetlands Effect: Minimal

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. If wetlands are found within the project area, we recommend that these valuable resources be avoided to the greatest extent practicable. If impacts to these wetlands are unavoidable, we recommend the FDOT provide mitigation that fully compensates for the loss of important resources.

Coordinator Feedback:None

2 ETAT Review by Alisa Zarbo, US Army Corps of Engineers (01/16/2008)

Wetlands Effect: Minimal

Coordination Document:To Be Determined: Further Coordination Required

Dispute Information:N/A

Identified Resources and Level of Importance:
Wetlands and waters of the United States - moderate level of importance

Comments on Effects to Resources:

The database shows no wetlands would be impacted as a result of the project. The Corps must also look at the ditches that are adjacent to the Interstate 95 that may be jurisdictional to the Corps. If jurisdictional ditches are present and they provide wood stork habitat, mitigation may be required to offset the loss of function and value.

Additional Comments (optional):
A jurisdictional determination is recommended.

Coordinator Feedback:None

2 ETAT Review by Trisha Stone, South Florida Water Management District (01/30/2008)

Wetlands Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

The proposed project may also impact wildlife and/or wildlife habitat utilized by threatened and/or endangered species(i.e. burrowing owls). The applicant may be required to provide results of wildlife surveys that have been conducted on the site and provide any comments pertaining to the proposed project, and coordinate with the Florida Fish and Wildlife Conservation Commission (FFWCC) regarding proposed impacts to wildlife and/or habitat.

Comments on Effects to Resources:

Based on a review of the information describing the proposed project, it appears as if no wetlands exist on the proposed site. The proposed project will require an Environmental Resource Permit (ERP) from the District, which must address both surface water management as well as any work in wetlands and/or other surface waters, including any impacts to wetlands/other surface waters, and mitigation to offset those impacts not addressed in the submittal. As part of an ERP application submitted for the proposed project, the applicant must also demonstrate reasonable assurances that the project meets all applicable conditions for issuance of an ERP, such as demonstrating that the project will not cause secondary impacts to the water resources, and will not violate applicable water quality standards. Please refer to Rule 40E-4.301 and 40E-4.302, Florida Administrative Code(F.A.C.)and the Basis of Review for ERP applications.

Coordinator Feedback:None

2 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (01/24/2008)

Wetlands Effect: Minimal

Coordination Document:Permit Required

Dispute Information:N/A

Identified Resources and Level of Importance:

The National Wetlands Inventory GIS report indicates that there are 15.31 and 4.02 acres of palustrine and riverine wetlands within 500 ft. of the project corridor area. The Wetlands 2000 data indicate that there are 70.92, 7.28, 7.92 and 15.37 acres of bay swamp, mangrove swamp, mixed wetland hardwoods and wetland forested mixed, respectively, within the 5,280-ft. project corridor.

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 highway 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. Significant attention is given to forested wetland systems, which are difficult to mitigate.
- The cumulative impacts of concurrent and future road improvement projects in the vicinity of the subject project should also be addressed.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Wildlife and Habitat

Coordinator Summary

2 Summary Degree of Effect

Wildlife and Habitat Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

The EST GIS analysis results indicate that the 200-foot project buffer is located within the South Florida Ecosystem Management Area. However, according to the FFWCC Habitat and Landcover GRID, the 200-foot project buffer contains approximately 228 acres (72.0%) of high impact urban uses and approximately 53 acres (17.0%) of low impact urban uses. In addition, the USFWS only identified two federally listed species with the potential to occur within or near the project corridor. For these reasons and based on agency comments, a Summary DOE of Minimal for Wildlife and Habitat has been assigned to this project.

Commitments and Responses: Preparation of an Endangered Species Biological Assessment will be included in the scoping recommendations for this project.

ETAT Reviews for Wildlife and Habitat

2 ETAT Review by Scott Sanders, FL Fish and Wildlife Conservation Commission (01/31/2008)

Wildlife and Habitat Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

No significant fish or wildlife resources were identified within or adjacent to the project area.

Comments on Effects to Resources:

Minimal impacts to fish or wildlife resources are anticipated to result from this project.

Coordinator Feedback:None

2 ETAT Review by John Wrublik, US Fish and Wildlife Service (01/07/2008)

Wildlife and Habitat Effect: Minimal

Confidential:Review will not be displayed on Public Access website

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 two active nesting colonies 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 now requires an 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 Services November 9, 2007, Eastern Indigo Snake and Wood Stork Key (Service Federal Activity Code Number 41420-2007-FA-1494) provided to the Corps to guide their effect determinations for these two species. The Methodology is also described in the Services August 28, 2007, Biological Opinion for the Terafina (G.L. Homes) development project (Service Federal Activity Code Number 41420-2007-FA-0653) located at <http://www.fws.gov/filedownloads/ftp%5Fverobeach/BIOLOGICAL%5FOPINIONS/TERAFINA/>.

The Service believes that the following federally listed species have the potential to occur in or near the project site: wood stork and West Indian manatee (*Trichechus manatus*). 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 FDOTs Project Development and Environment process.

Fish and Wildlife Resources: Wetlands provide important habitat for fish and wildlife. If wetlands are found within the project area, we recommend that these valuable resources be avoided to the greatest extent practicable. If impacts to these wetlands are unavoidable, we recommend the FDOT provide mitigation that fully compensates for the loss of important resources.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the US Forest Service

Historic and Archaeological Sites

Coordinator Summary

3 Summary Degree of Effect

Historic and Archaeological Sites Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

Based on the EST GIS analysis results and the comments received from the agencies, a cultural resource assessment survey will be conducted as part of this project to further identify any applicable resources that may exist within the project corridor. During the project development phase, the FDOT will focus on the avoidance and minimization of impacts to any cited resources. If the cultural resources survey shows that archaeological sites will be impacted by this project, then consultation with the Miccosukee Tribe will be conducted. Based on the foregoing, a Summary DOE of Moderate for Historic and Archaeological Sites has been assigned to this project.

Commitments and Responses: Preparation of a Cultural Resource Assessment Survey will be included in the scoping recommendations for this project.

ETAT Reviews for Historic and Archaeological Sites

2 ETAT Review by Nahir Detizio, Federal Highway Administration (02/01/2008)

Historic and Archaeological Sites Effect: Minimal

Confidential:Review will not be displayed on Public Access website

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

Dispute Information:N/A

Identified Resources and Level of Importance:

The EST indicates five sites within 200 feet that were determined to be ineligible for the NRHP.

Comments on Effects to Resources:

Given the urbanized nature of the area, there is less likelihood of significant cultural resources that have not already been substantially altered or affected being found in the area.

Coordinator Feedback:None

3 ETAT Review by Steve Terry, Miccosukee Tribe of Indians of Florida (12/27/2007)

Historic and Archaeological Sites Effect: Moderate

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

There are no recorded archaeological sites reported near this project. However, a Cultural Resources Survey will need to be done to ascertain if there are any archaeological sites within the project boundaries.

Comments on Effects to Resources:

Once a Cultural Resources Survey has been done, then effects, if any, to archaeological sites then can be ascertained.

Additional Comments (optional):

If the Cultural Resources Survey shows there are no archaeological sites that will be impacted by this project, then no further consultation is necessary. However, if the Cultural Resources Survey does show that archaeological sites will be impacted by this project, then further consultation with the Miccosukee Tribe should be done.

Coordinator Feedback:None

3

ETAT Review by Sherry Anderson, FL Department of State (01/28/2008)

Historic and Archaeological Sites Effect: Moderate

Confidential:Review will not be displayed on Public Access website

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Historic Standing Structures

NONE PREVIOUSLY RECORDED WITHIN 1320 FEET OF THE PROJECT

Florida Site File Archaeological or Historic Sites

Buffer distance: 100 feet

PB12918 LAND-TERRESTRIAL TWENTIETH CENTURY AMERICAN, 1900-PRESENT
INELIGIBLE FOR NRHP INELIGIBLE FOR NRHP

PB12920 LAND-TERRESTRIAL TWENTIETH CENTURY AMERICAN, 1900-PRESENT
INELIGIBLE FOR NRHP INELIGIBLE FOR NRHP

PB12921 LAND-TERRESTRIAL TWENTIETH CENTURY AMERICAN, 1900-PRESENT
INELIGIBLE FOR NRHP INELIGIBLE FOR NRHP

PB12923 LAND-TERRESTRIAL TWENTIETH CENTURY AMERICAN, 1900-PRESENT
INELIGIBLE FOR NRHP INELIGIBLE FOR NRHP

PB12924 LAND-TERRESTRIAL TWENTIETH CENTURY AMERICAN, 1900-PRESENT
INELIGIBLE FOR NRHP INELIGIBLE FOR NRHP

Buffer distance: 500 feet

PB12917 LAND-TERRESTRIAL TWENTIETH CENTURY AMERICAN, 1900-PRESENT
INELIGIBLE FOR NRHP INSUFFICIENT INFORMATION

PB12922 LAND-TERRESTRIAL TWENTIETH CENTURY AMERICAN, 1900-PRESENT
INELIGIBLE FOR NRHP INELIGIBLE FOR NRHP

Comments on Effects to Resources:

A portion of this project corridor was subjected to a cultural resource assessment survey in 1990. Within 100 feet of this project, several archaeological sites have been previously identified but all except one has been determined ineligible. One site, the Seaboard Air Line Railroad (8PB12917) is within the 500 foot buffer and was noted by SHPO as needing additional information to evaluate. No historic buildings have been previously recorded within 1320 feet of the project.

Given that a survey was conducted 18 years ago, our office recommends a cultural resource assessment survey. The area of potential effect for this project should take into consideration proposed interchanges in addition to the widening.

Coordinator Feedback:None

- No review submitted from the Seminole Tribe of Florida

Recreation Areas

Coordinator Summary

2 Summary Degree of Effect

Recreation Areas Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

Based on the EST GIS analysis results and agency comments, public conservation lands and recreational facilities are within the vicinity of the project. Given the urbanized nature of the area, however, this project is anticipated to have minimal impacts on the identified recreational features. Recommendations from the PD&E Study will be formed to avoid or minimize impacts to these features, including any proposed acquisition sites in the project area, to the greatest extent practicable. Appropriate mitigation will be provided for unavoidable impacts. Based on the foregoing, a Summary DOE of Minimal for Recreation Areas has been assigned to this project.

Commitments and Responses: A Section 4(f) Determination of Applicability will be required for this project.

ETAT Reviews for Recreation Areas

0 ETAT Review by Maher Budeir, US Environmental Protection Agency (02/01/2008)

Recreation Areas Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

None found.

Comments on Effects to Resources:

None found.

Coordinator Feedback:None

2 ETAT Review by Lauren P. Milligan, FL Department of Environmental Protection (01/24/2008)

Recreation Areas Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

The following public conservation lands and recreational facilities are located within 5820 ft. of the corridor study area: Yamota Scrub Natural Area, Pondhawk Natural Area, Florida Atlantic University Ecological Site, Delray Oaks Natural Area, Leon M. Weekes Environmental Preserve and Boca Raton Trails.

Comments on Effects to Resources:

These lands contain significant natural communities and numerous element occurrences of listed species, as indicated by the Florida Natural Areas Inventory. The Department is interested in preserving the area's natural communities, wildlife corridor functions, natural flood control, stormwater runoff filtering capabilities, aquifer recharge potential, contributions to regional spring complexes, and recreational trail opportunities. Therefore, future environmental documentation should include an evaluation of the primary, secondary, and cumulative impacts of the proposed highway construction on the above public lands and any proposed acquisition sites.

Coordinator Feedback:None

2 ETAT Review by Nahir Detizio, Federal Highway Administration (02/01/2008)

Recreation Areas Effect: Minimal

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

Dispute Information:N/A

Identified Resources and Level of Importance:

The EST identified 76 LF of Boca Raton Trails within 100 ft, and 234.2 LF within 200 ft.

Comments on Effects to Resources:

Project should be developed in a way that avoids impacts to the use of the trails.

Coordinator Feedback:None

- No review submitted from the National Park Service
- No review submitted from the South Florida Water Management District

Section 4(f) Potential

Coordinator Summary

2 Summary Degree of Effect

Section 4(f) Potential Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

Based on agency comments regarding Recreation Areas, a Summary DOE of Minimal for Section 4(f) Potential has been assigned to this project.

Commitments and Responses: A Section 4(f) Determination of Applicability will be required for this project.

ETAT Reviews for Section 4(f) Potential

No reviews found for the Section 4(f) Potential Issue.

- No review submitted from the Federal Highway Administration

ETAT Reviews: Community

Aesthetics

Coordinator Summary

2 Summary Degree of Effect

Aesthetics Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

Based on agency comments, this project is compatible with the designated highway corridor. No major aesthetic impacts to the area are anticipated. Recommendations from the PD&E Study will be formed to avoid, minimize, or mitigate impacts to community aesthetics, and specifically to noise sensitive areas. Based on the foregoing, a Summary DOE of Minimal for Aesthetics has been assigned to this project.

ETAT Reviews for Aesthetics

2 ETAT Review by Jorge Padron, FDOT District 4 (02/05/2008)

Aesthetics Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

The widening of I-95 from 8 to 10 lanes is compatible with this corridor and it is not anticipated to have any major aesthetic impacts to the area.

Comments on Effects to Resources:

Future community involvement and public input will indicate if other aesthetic issues exist and if additions or modifications are needed.

Coordinator Feedback:None

2 ETAT Review by Patricia Masterman, Palm Beach County MPO (02/01/2008)

Aesthetics Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Purpose and Need Statement
MPO 2030 Long Range Transportation Plan
Aerial maps of project location
Projected population data

Comments on Effects to Resources:

This project will enhance mobility for residents in southern PBC as populations increase. Additional laneage along the I-95 corridor and a new interchange between Glades Road and Yamato Road will enhance emergency evacuation in catastrophic weather or national security event.

Noise pollution will impact local residents along the corridor.

CLC Commitments and Recommendations:

Results of the noise study should be taken into consideration and solutions offered to abate the noise impact to local residents.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Economic

Coordinator Summary

1 Summary Degree of Effect

Economic Summary Degree of Effect: Enhanced

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

According to agency comments, this project is anticipated to enhance mobility, particularly during catastrophic weather and national security events, as well as support and enhance the continued economic development throughout the area. Based on the foregoing, a Summary DOE of Enhanced for Economics has been assigned to this project.

ETAT Reviews for Economic

1 ETAT Review by Jorge Padron, FDOT District 4 (02/05/2008)

Economic Effect: Enhanced

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

I-95 is a major connector between Northern Broward County/Southern Palm Beach Counties and serves the Boca Raton Airport, Florida Atlantic University, Fort Lauderdale-Hollywood International Airport, Palm Beach International Airport, major shopping malls and business centers. The area surrounded by the project has and will experience substantial growth in population and employment.

Comments on Effects to Resources:

This project is projected to support and enhance the continued economic development throughout this area.

Coordinator Feedback:None

2 ETAT Review by Patricia Masterman, Palm Beach County MPO (02/01/2008)

Economic Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Purpose and Need Statement
MPO 2030 Long Range Transportation Plan
Aerial maps of project location
Projected population data

Comments on Effects to Resources:

This project will enhance mobility for residents in southern PBC as populations increase. Additional

laneage along the I-95 corridor and a new interchange between Glades Road and Yamato Road will enhance emergency evacuation in catastrophic weather or national security event.

Noise pollution will impact local residents along the corridor.

CLC Commitments and Recommendations:

Results of the noise study should be taken into consideration and solutions offered to abate the noise impact to local residents.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Land Use

Coordinator Summary

2 Summary Degree of Effect

Land Use Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

The project is compatible with the designated highway corridor. As such, impacts on surrounding land uses are anticipated to be minimal. While this project is compatible with the Boca Raton Comprehensive Plan, the FDOT District 4 will work with both Palm Beach County and the Palm Beach County MPO to ensure this project is consistent with the county's comprehensive plan and long range transportation plan. Based on the foregoing, a Summary DOE of Minimal for Land Use has been assigned to this alternative.

ETAT Reviews for Land Use

2 ETAT Review by Patricia Masterman, Palm Beach County MPO (02/01/2008)

Land Use Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Purpose and Need Statement

MPO 2030 Long Range Transportation Plan

Aerial maps of project location

Projected population data

Comments on Effects to Resources:

This project will enhance mobility for residents in southern PBC as populations increase. Additional laneage along the I-95 corridor and a new interchange between Glades Road and Yamato Road will enhance emergency evacuation in catastrophic weather or national security event.

Noise pollution will impact local residents along the corridor.

CLC Commitments and Recommendations:

Results of the noise study should be taken into consideration and solutions offered to abate the noise impact to local residents.

Coordinator Feedback:None

2 ETAT Review by Jorge Padron, FDOT District 4 (02/05/2008)

Land Use Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Future Land Use within 100 ft. of the corridor consists of industrial and single family residential.

Comments on Effects to Resources:

The project is compatible with the land use plans and local growth management policies and should not have any significant Land Use issues for this corridor.

The proposed widening of I-95 is consistent with the City of Boca Raton approved Comprehensive Plan which is being updated to include the new interchange between Glades Road and Yamato Road.

Coordinator Feedback:None

2 ETAT Review by Gary Donaldson, FL Department of Community Affairs (02/01/2008)

Land Use Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

The Department has reviewed the referenced project and based on current information, this project is addressed within the local governments comprehensive plan. However, the interchange between Glades and Yamato Road referenced in the ETDM Project Description is not referenced in the Palm Beach County Future Transportation Map as contained within the Countys comprehensive plan.

Comments on Effects to Resources:

see above

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Mobility

Coordinator Summary



Summary Degree of Effect

Mobility Summary Degree of Effect: Enhanced

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

Comments from the agencies indicate that the widening of I-95 will improve the mobility of people and goods, improve access between key activity centers (i.e. Boca Raton Airport, Florida Atlantic University, etc.), improve emergency evacuation and response times, as well as enhance overall safety along the corridor. Based on the foregoing, a Summary DOE of Enhanced for Mobility has been assigned to this project.

ETAT Reviews for Mobility



ETAT Review by Jorge Padron, FDOT District 4 (02/05/2008)

Mobility Effect: Enhanced

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Interstate 95 is the most important north-south freeway through southeast Florida. The South Florida Rail Corridor, which handles passenger and freight traffic, borders I-95 on the west.

Comments on Effects to Resources:

Due to Palm Beach County's substantial growth in population and employment the widening of I-95 is needed to improve the mobility of people and goods since I-95 is the major north-south transportation arterial within and beyond the region. The corridor is a hurricane evacuation route; therefore, the I-95 road project would also improve safety and emergency response. The new interchange between Glades Road and Yamato Road will improve access between I-95, the Boca Raton Airport, and the Florida Atlantic University

Coordinator Feedback:None



ETAT Review by Patricia Masterman, Palm Beach County MPO (02/01/2008)

Mobility Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Purpose and Need Statement
MPO 2030 Long Range Transportation Plan
Aerial maps of project location
Projected population data

Comments on Effects to Resources:

This project will enhance mobility for residents in southern PBC as populations increase. Additional laneage along the I-95 corridor and a new interchange between Glades Road and Yamato Road will enhance emergency evacuation in catastrophic weather or national security event.

Noise pollution will impact local residents along the corridor.

CLC Commitments and Recommendations:

Results of the noise study should be taken into consideration and solutions offered to abate the noise impact to local residents.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration
- No review submitted from the Federal Transit Administration

Relocation**Coordinator Summary****2** Summary Degree of Effect

Relocation Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

Based on agency comments, additional right-of-way will be needed to accommodate the proposed interchange. However, residential and commercial relocations are not anticipated. Despite some potential noise impacts, overall project effects are anticipated to minimal. Recommendations from the PD&E Study will be formed to avoid or minimize impacts to any proposed acquisition sites in the project area, to the greatest extent practicable, and appropriate mitigation will be provided for unavoidable impacts. For these reasons, a Summary DOE of Minimal for Relocation has been assigned to this project.

ETAT Reviews for Relocation**2** ETAT Review by Patricia Masterman, Palm Beach County MPO (02/01/2008)

Relocation Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Purpose and Need Statement
MPO 2030 Long Range Transportation Plan
Aerial maps of project location
Projected population data

Comments on Effects to Resources:

This project will enhance mobility for residents in southern PBC as populations increase. Additional laneage along the I-95 corridor and a new interchange between Glades Road and Yamato Road will enhance emergency evacuation in catastrophic weather or national security event.

Noise pollution will impact local residents along the corridor.

CLC Commitments and Recommendations:

Results of the noise study should be taken into consideration and solutions offered to abate the noise impact to local residents.

Coordinator Feedback:None

2 ETAT Review by Jorge Padron, FDOT District 4 (02/05/2008)

Relocation Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

This project consists of widening I-95 from eight lanes to ten lanes and a new interchange between Glades Road and Yamato Road.

Comments on Effects to Resources:

Additional right of way will be needed for the new interchange, but residential or commercial relocations are not anticipated.

Coordinator Feedback:None

- No review submitted from the Federal Highway Administration

Social**Coordinator Summary**

2 Summary Degree of Effect

Social Summary Degree of Effect: Minimal

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

Based on agency comments, this project is compatible with the designated highway corridor. While additional right-of-way may be needed to accommodate the proposed interchange, impacts to community cohesion are anticipated to be minimal. Recommendations from the PD&E Study will be formed to avoid, minimize, or mitigate impacts to noise sensitive areas as well as to any proposed acquisition sites. Bicycle and pedestrian facility issues/improvements will also be considered during the PD&E Study. Based on the foregoing, a Summary DOE of Minimal for Social has been assigned to this project.

ETAT Reviews for Social

0 ETAT Review by Maher Budeir, US Environmental Protection Agency (02/01/2008)

Social Effect: None

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:
None found.

Comments on Effects to Resources:
None found.

Coordinator Feedback:None

1 ETAT Review by Gary Donaldson, FL Department of Community Affairs (02/01/2008)

Social Effect: Enhanced

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:
Though the proposed roadway improvement will ease traffic congestion in the region, additional traffic noise will affect existing homes and businesses. Construction of sound minimizing walls as applicable will assist in reducing noise. Additionally, the proposed improvement will assist in facilitating hurricane evacuation procedures throughout Miami-Dade, Broward and Palm Beach counties.

Comments on Effects to Resources:
see above

Coordinator Feedback:None

ETAT Review by Patricia Masterman, Palm Beach County MPO (02/01/2008)

2

Social Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

Purpose and Need Statement
MPO 2030 Long Range Transportation Plan
Aerial maps of project location
Projected population data

Comments on Effects to Resources:

This project will enhance mobility for residents in southern PBC as populations increase. Additional laneage along the I-95 corridor and a new interchange between Glades Road and Yamato Road will enhance emergency evacuation in catastrophic weather or national security event.

Noise pollution will impact local residents along the corridor.

CLC Commitments and Recommendations:

Results of the noise study should be taken into consideration and solutions offered to abate the noise impact to local residents.

Coordinator Feedback:None

2

ETAT Review by Jorge Padron, FDOT District 4 (02/05/2008)

Social Effect: Minimal

Coordination Document:No Selection

Dispute Information:N/A

Identified Resources and Level of Importance:

The proposed roadway improvement will relieve traffic congestion in the region but the additional traffic noise may affect existing homes and businesses.
A noise study and analysis will be conducted during the PD&E phase in order to address potential noise impacts to those residents and business owners within the project corridor. Construction of noise barrier walls will be recommended as warranted to reduce traffic noise.

Comments on Effects to Resources:

No negative social, community impacts or Title VI issues are anticipated with this project.

CLC Commitments and Recommendations:

As the project advances to project development, a more intense Public Involvement will be done to ensure that there are no other social issues related to this project.

Coordinator Feedback:None

3 ETAT Review by Nahir Detizio, Federal Highway Administration (02/01/2008)

Social Effect: Moderate

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

Dispute Information:N/A

Identified Resources and Level of Importance:

The EST analysis identified mid to high density housing within 100 feet of the project.

Comments on Effects to Resources:

Noise analysis needed per PD&E Manual to address potential noise impacts on noise sensitive receivers and to determine the reasonableness of possible mitigation actions.

Also, due to the proximity of high pedestrian traffic, the project should be developed to address bike and ped facilities and issues

Coordinator Feedback:None

ETAT Reviews: Secondary and Cumulative

Secondary and Cumulative Effects

Coordinator Summary

3 Summary Degree of Effect

Secondary and Cumulative Effects Summary Degree of Effect: Moderate

Reviewed By:

FDOT District 4 (3/24/2008)

Comments:

Based on comments received from the FDOS, a Summary DOE of Moderate for Secondary and Cumulative Effects has been assigned to this project.

ETAT Reviews for Secondary and Cumulative Effects

3 ETAT Review by Sherry Anderson, FL Department of State (01/28/2008)

Secondary and Cumulative Effects Effect: Moderate

Coordination Document:No Selection

Dispute Information:N/A

At-Risk Resource:Archaeological and Historic Resources

Comments on Effects:

Until a current cultural resource assessment survey is completed, it is difficult to determine the potential for secondary and cumulative impacts to significant resources. A systematic survey will identify those resources that may be vulnerable to secondary and cumulative impacts.

Recommended Avoidance, Minimization, and Mitigation Measures:

None found.

Recommended Actions to Improve At-Risk Resources:

None found.

Coordinator Feedback:None

General Project Commitments

Date	Description
5/2/2008	FDOT commits to the following technical studies: 1- Contamination Screening Evaluation Report 2- Floodplains Assessment, per FDOT PD&E Guidance 3- Water Quality Impact Evaluation 4- Wetlands Evaluation Report 5- Endangered Species Biological Assessment for the wood stork and West Indian manatee 6- Cultural Resource Assessment Survey 7- Section 4(f) Determination of Applicability 8- Noise Study and Analysis FDOT commits to developing this project to avoid, minimize, or mitigate impacts to infrastructure, to noise sensitive receptors, to public conservation lands and recreational facilities, and to proposed acquisition sites in the project area to the maximum extent practicable and to consult the PD&E Manual's special provisions chapter for special designations regarding the Biscayne Aquifer.

Permits

No Permits Found.

Technical Studies

Technical Study Name	Type	Review Org	Review Date
Contamination Screening Evaluation Technical Memorandum	Other	FDOT District 4	05/02/08
Noise Study Report	ENVIRONMENTAL	FDOT District 4	05/02/08
4 (f) Determination	Other	FDOT District 4	05/02/08
Wetlands Evaluation Report	ENVIRONMENTAL	FDOT District 4	05/02/08
Cultural Resource Assessment	ENVIRONMENTAL	FDOT District 4	05/02/08
Endangered Species Biological Assessment	ENVIRONMENTAL	FDOT District 4	05/02/08
WQIE	Other	FDOT District 4	05/02/08
Floodplains Assessment	Other	FDOT District 4	05/02/08

Class of Action

Class of Action	Other Actions
Categorical Exclusion	Endangered Species Assessment
Lead Agency	Cooperating Agency/Agencies
Federal Highway Administration	

Signatures

	Name	Review Status	Date
FDOT ETDM Coordinator	Richard Young (FDOT District 4)	ACCEPTED	4/30/2008
Comments	No comments were found.		
	Name	Review Status	Date
Lead Agency ETAT Member	Cathy Kendall (Federal Highway Administration)	ACCEPTED	4/30/2008
Comments	FHWA concurs with FDOT's determination that a Type II Categorical Exclusion is a suitable Class of Action for Project #3333, I-95 from Glades Rd. to Linton Blvd. Our decision is based upon the following factors: 1) The content of agency reviews suggests that there are no significant impacts associated with the project. 2) FDOT has committed to the following technical studies to identify significant impacts: Contamination Screening Evaluation Report Floodplains Assessment, per FDOT PD&E Guidance Water Quality Impact Evaluation Wetlands Evaluation Report Endangered Species Biological Assessment for the wood stork and West Indian manatee Cultural Resource Assessment Survey Section 4(f) Determination of Applicability A Noise		

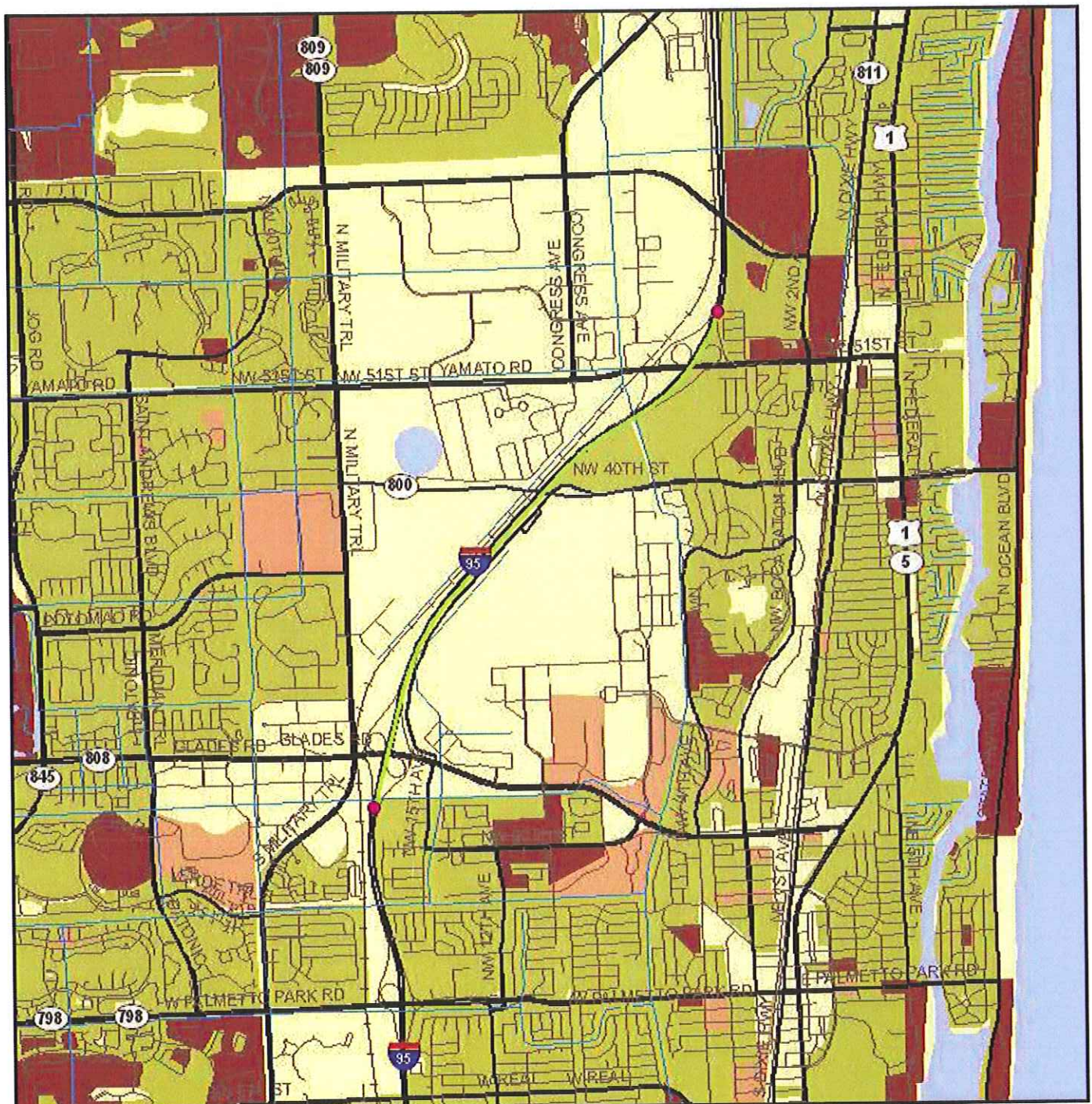
Study and Analysis 3) FDOT has committed to ??? avoid, minimize, or mitigate impacts to infrastructure, to noise sensitive receptors, to public conservation lands and recreational facilities, and to proposed acquisition sites in the project area ??? consult the PD&E Manual???'s special provisions chapter for special designations regarding the Biscayne Aquifer Please note that before the environmental action is signed, all inconsistencies of local and state plans must be reconciled with regard to the proposed new interchange between Glades road and Yamato Road, i.e., the Comprehensive Plan, the LRTP, the TIP, and the STIP. Please note that your response to agency comments in which you committed to the above technical studies and protective actions was not summarized in the ETDM Project Scope page under General Project Commitments or Required Technical Studies. We request that, in the future, commitments be summarized in Project Scope.

Dispute Resolution Activity Log

No Dispute Actions Found.

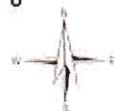
Hardcopy Maps: Alternative #1

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



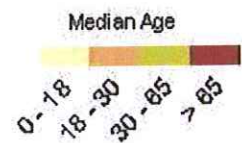
Population Age Distribution Map

0 1 Miles

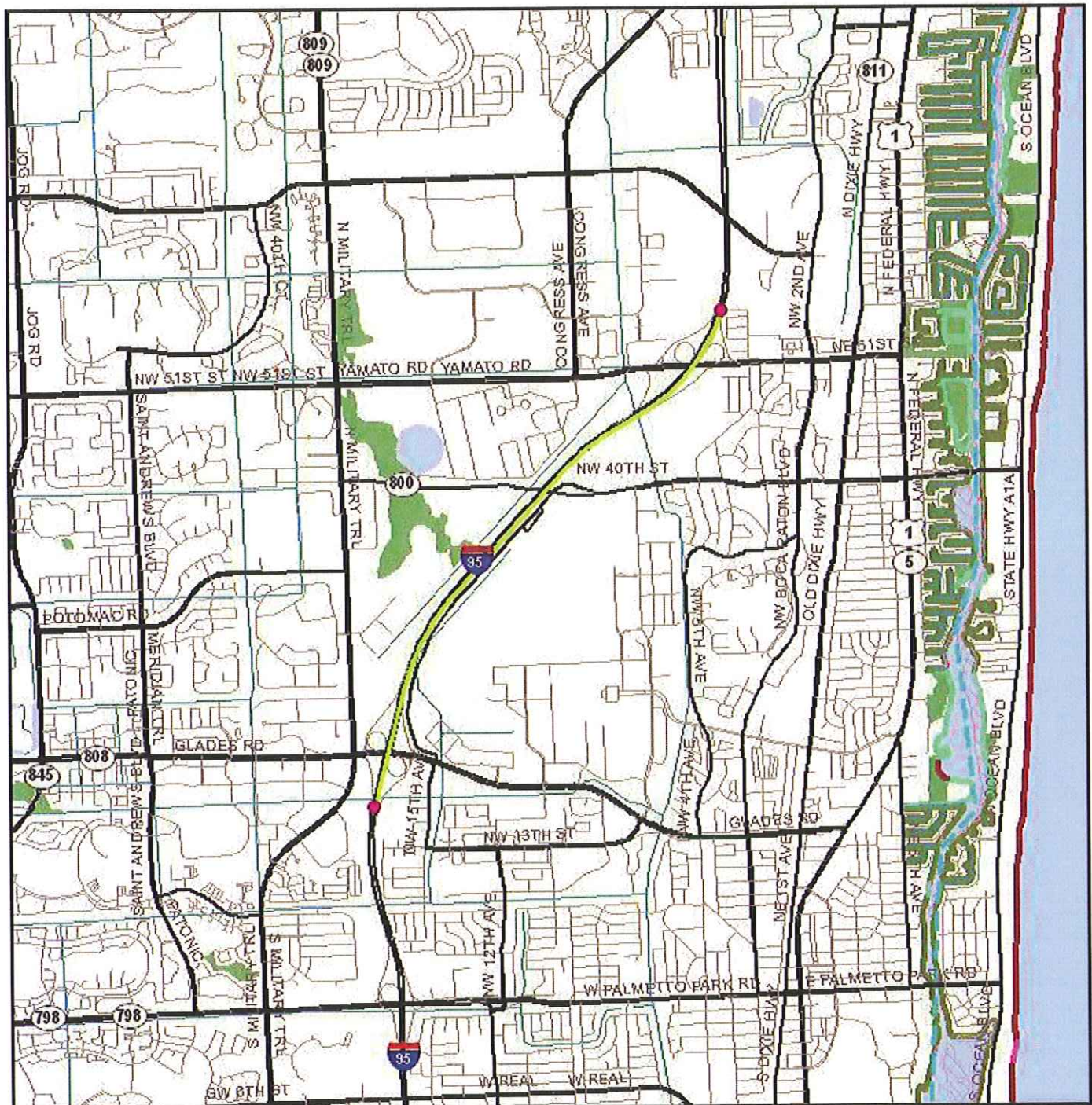


Data Sources:
US Geological Survey
FL Department of Transportation
Geographic Data Technology, Inc.
US Census Bureau

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body

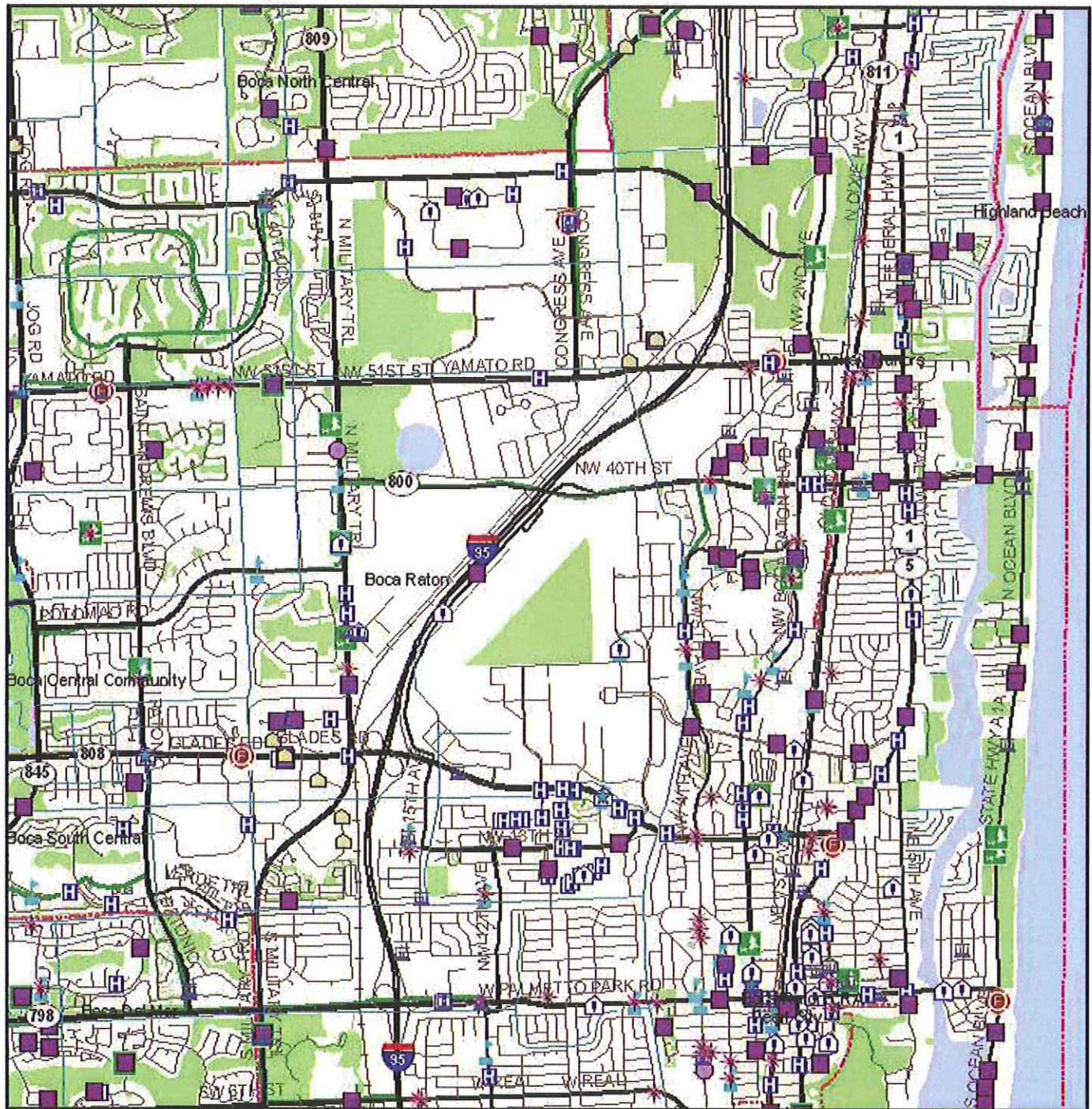


3333 I-95 from Glades Rd to Linton Blvd., Alternative #1
SR 808/Glades Rd to SR 794/Yamato Rd.



Data Sources: Geographic Data Technology, Inc.; US Geological Survey; Florida Marine Research Institute; Florida Department of Transportation; Florida Department of Environmental Protection; National Oceanic and Atmospheric Association; Florida Water Management Districts

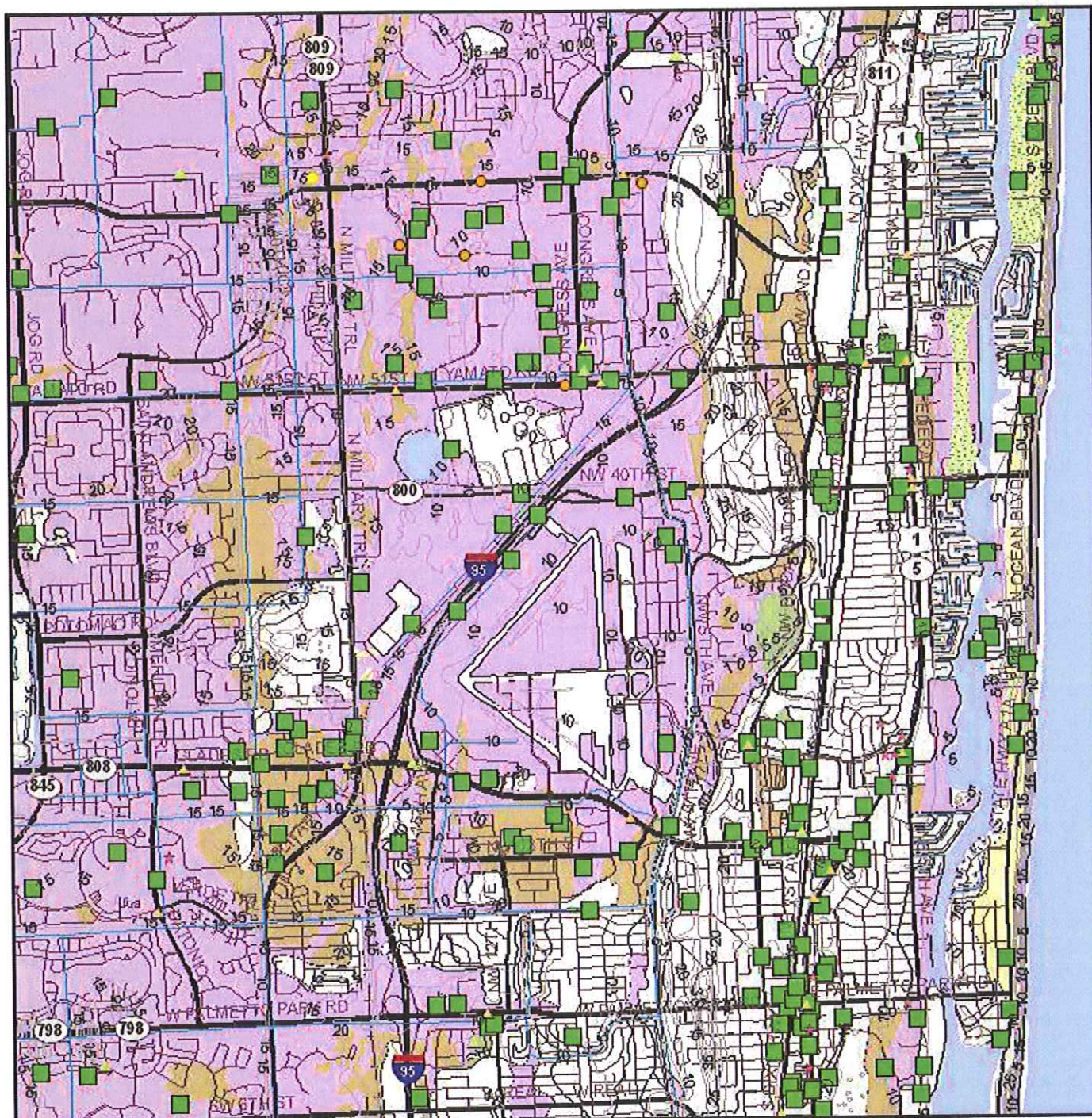
3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



- 0 1 Miles
- | | | | |
|---------------------------|------------------|------------------------|---------------------------------|
| ETDM Alternative Point | Cemetery | Fire Station | Major Road |
| ETDM Alternative Terminus | Social Service | Health Care | Local Road or Trail |
| ETDM Alternative Segment | Community Center | School | Railroad |
| ETDM Alternative Polygon | Law Enforcement | Park | Community Boundary |
| Government | Place of Worship | River, Stream or Canal | Water Body |
| Civic Center | Cultural Center | Recreational Trail | Conservation or Recreation Area |

Data Sources:
US Geological Survey; FL Department of Transportation; Geographic Data Technology, Inc.; FL Property Appraisers; FL Natural Areas Inventory

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



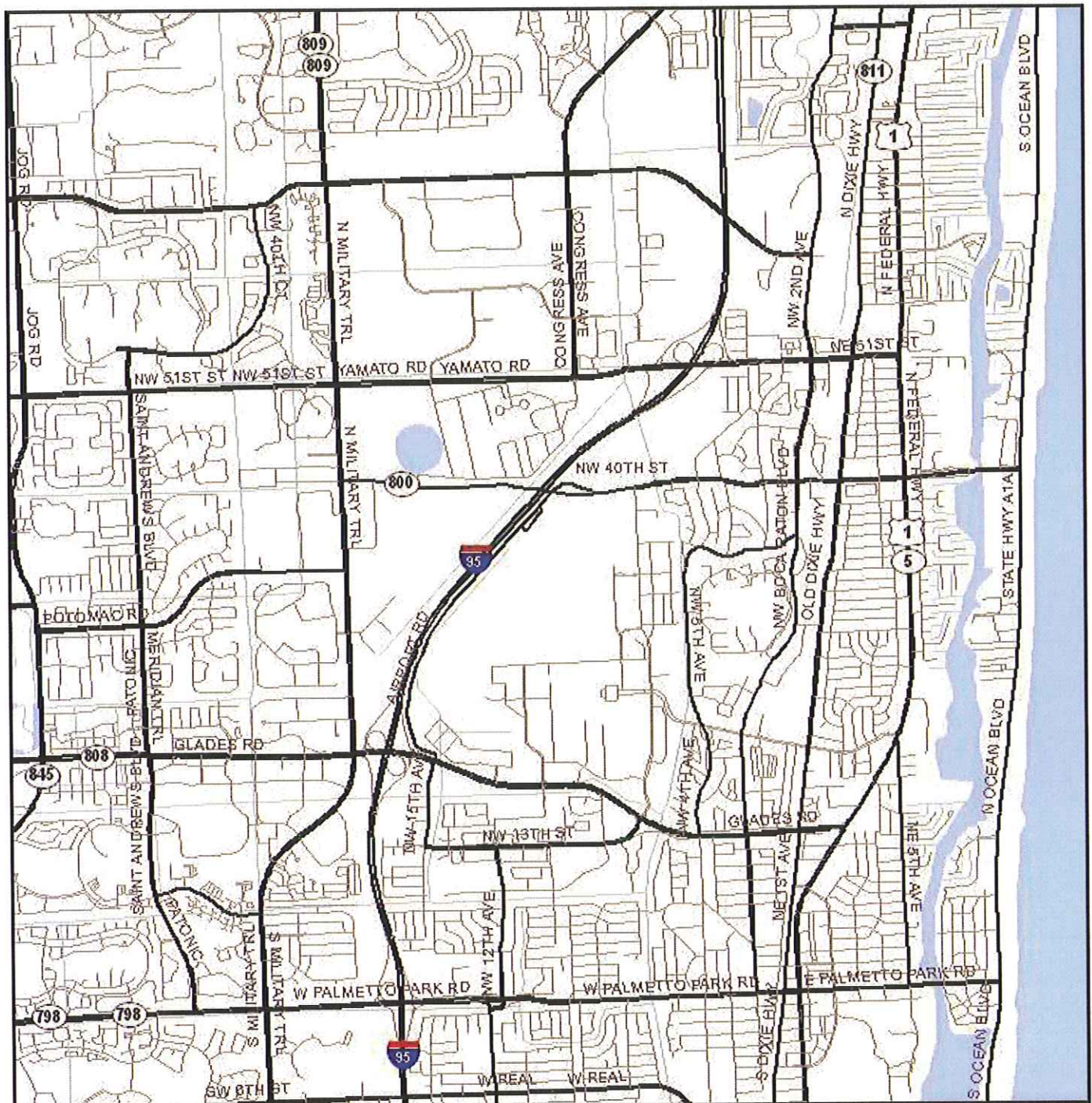
Potential Contamination Assessment Map

- | | | | | |
|-----------------------------|----------------------------|---------------------------|-------------------|-------------------------|
| ● ETDM Alternative Point | → Railroad | ■ NPL Remediation Site | ■ Petroleum Tank | ■ Soil Drainage |
| ● ETDM Alternative Terminus | — River, Stream or Canal | ▲ Hazardous Material Site | ■ Brownfield Area | ■ Excellent to Well |
| — ETDM Alternative Segment | ● Toxic Release Inventory | ■ Power Plant | — 5 FT Contour | ■ Well to Moderate Well |
| ■ ETDM Alternative Polygon | ★ Dry Cleaning Facility | ★ Superfund Site | ■ Water Body | ■ Moderate Well to Poor |
| — Major Road | ▲ Gasoline Service Station | ■ Nuclear Site | ■ Swamp/Marsh | ■ Poor to Very Poor |
| — Local Road or Trail | ● Solid Waste Facility | | ■ Unclassified | |

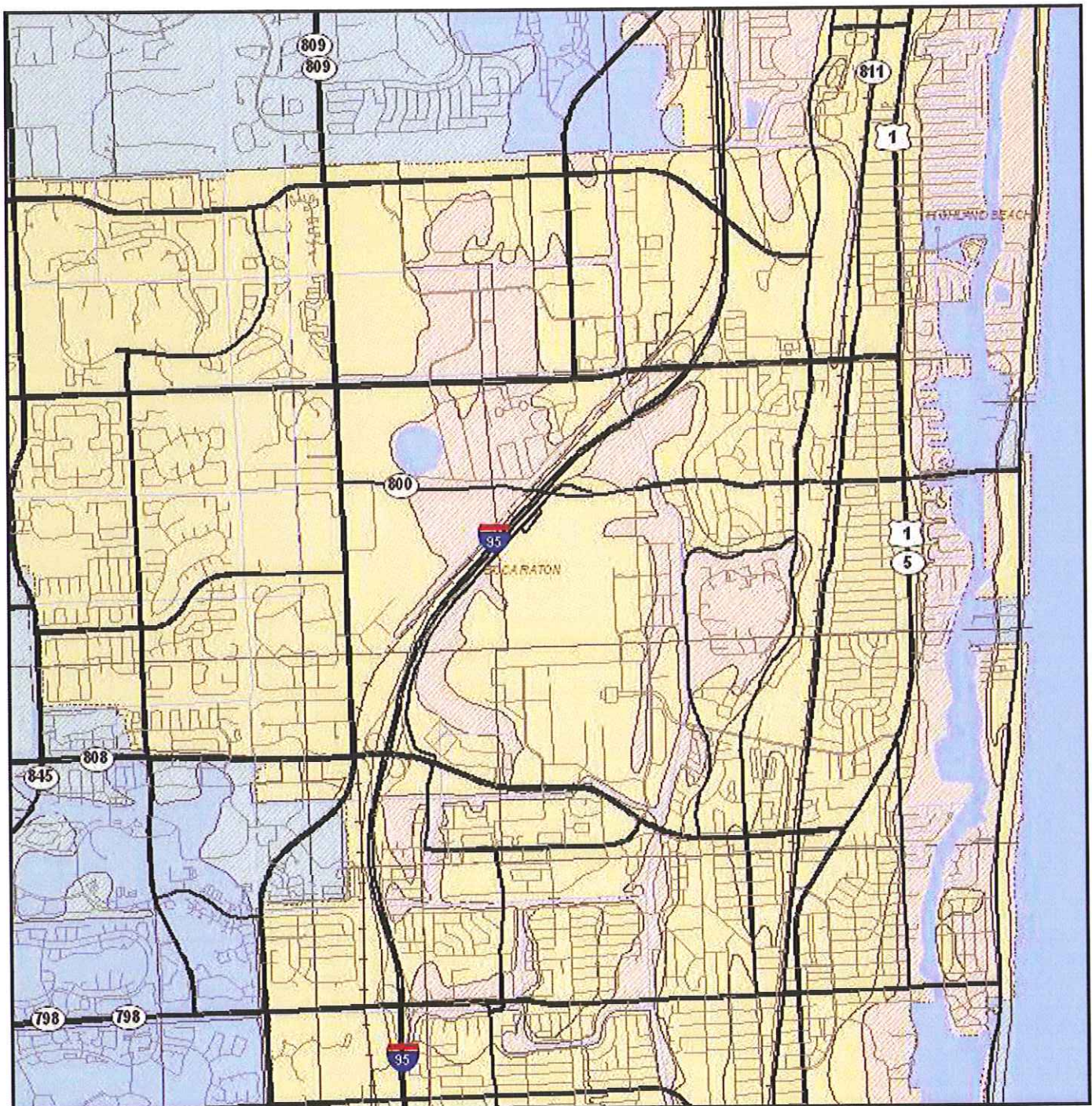
Data Sources:

Geographic Data Technology, Inc.; US Geological Survey; FL Department of Transportation; FL Department of Environmental Protection; FL Water Management Districts; US Environmental Protection Agency; Natural Resource Conservation Service

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



Floodplain Resource Map

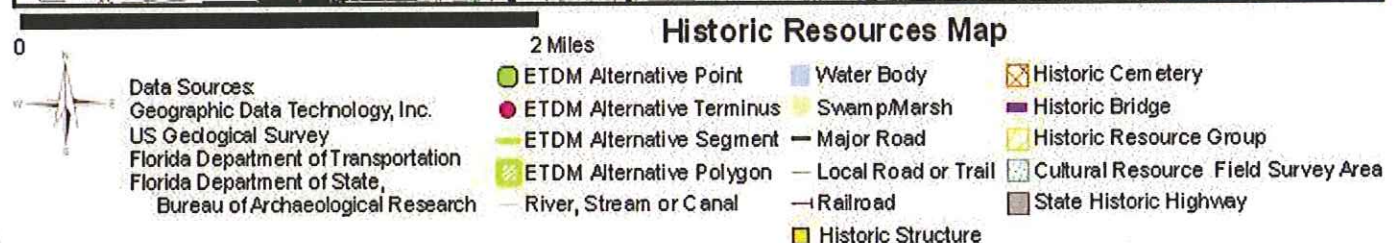
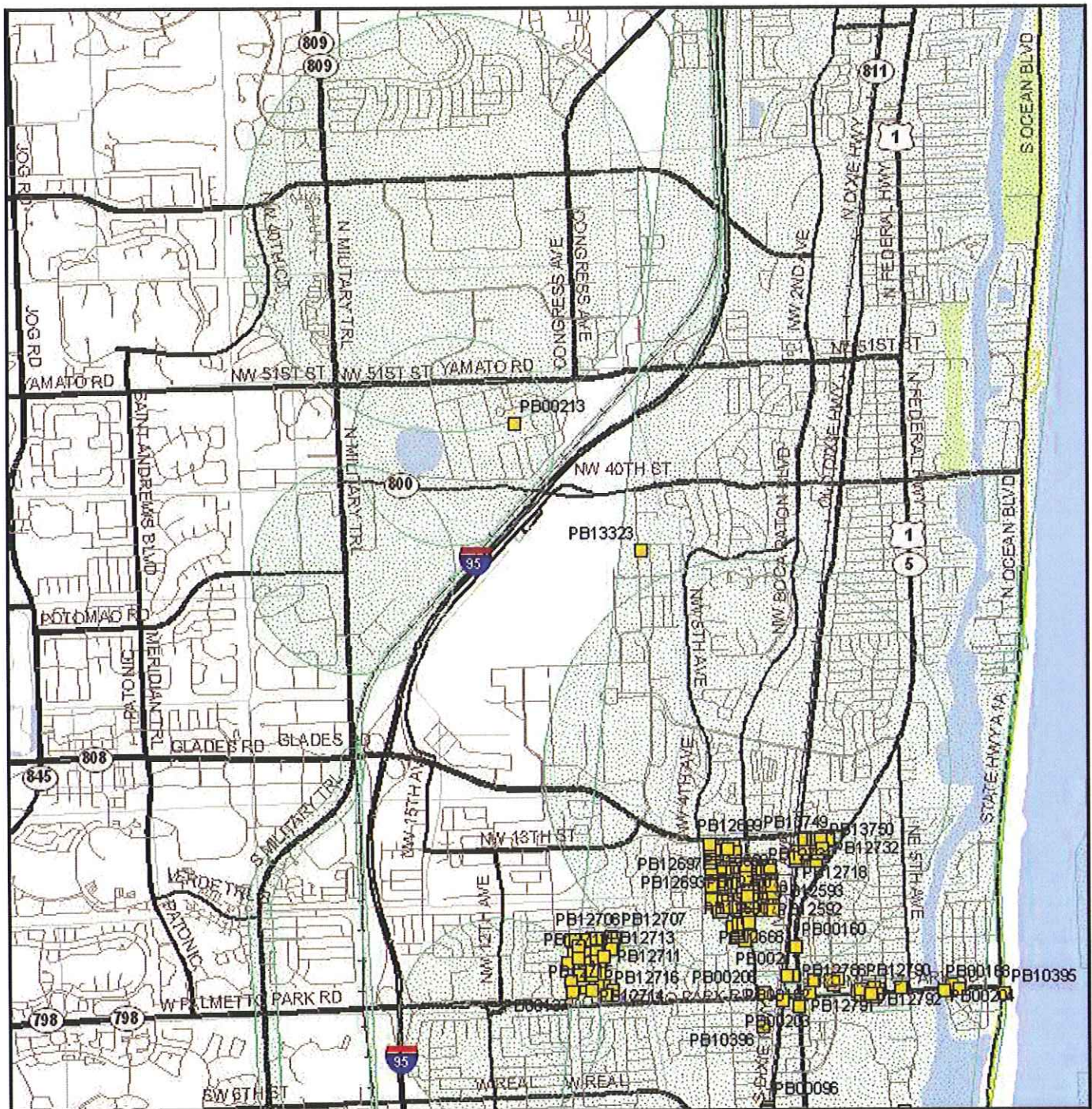
0 0.8 Miles



Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
Federal Emergency Management Agency

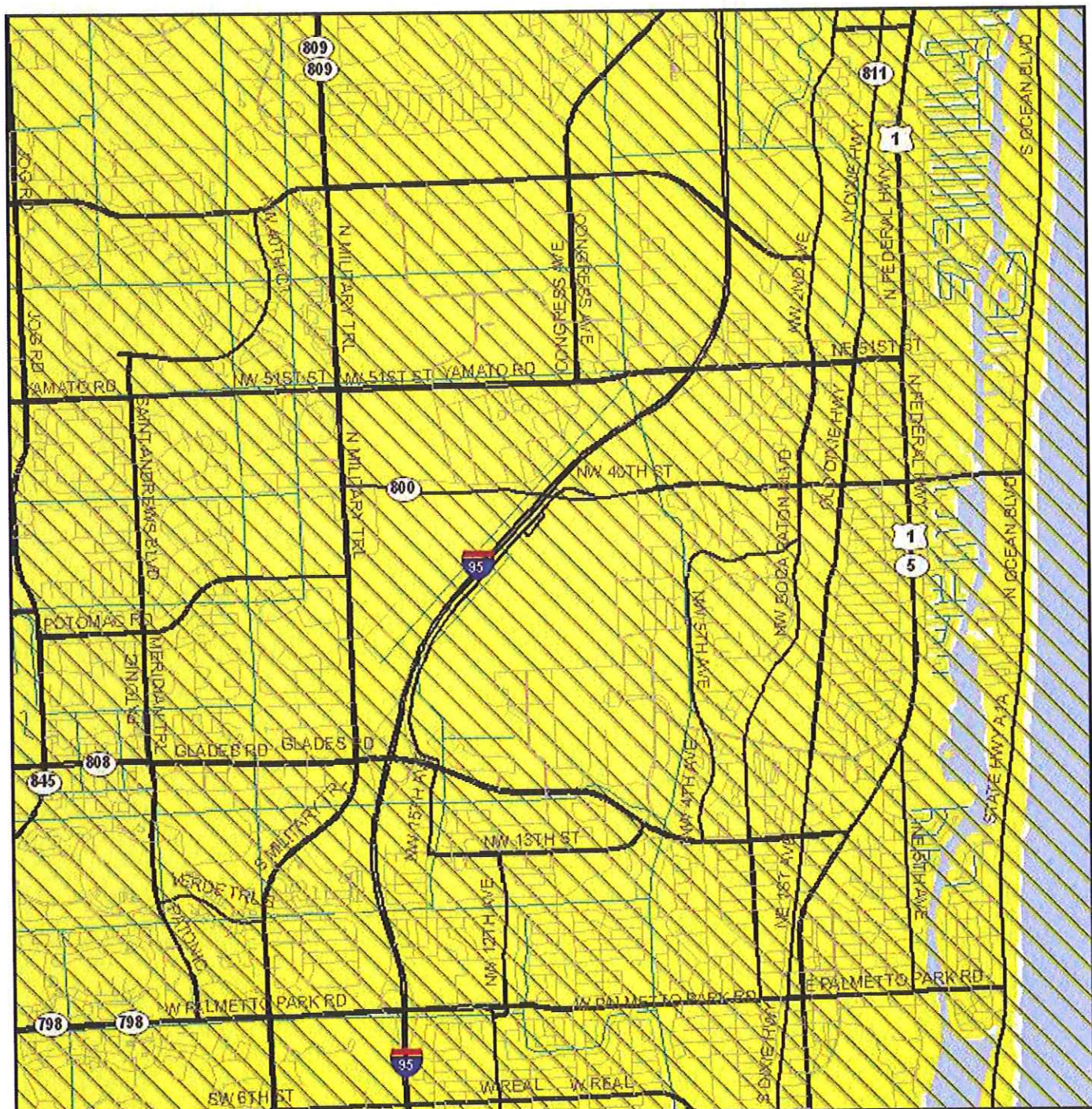
- | | | |
|--------------------------|------------------------|-----------------------------------|
| ETD Alternative Point | Major Road | City Limits |
| ETD Alternative Terminus | Local Road or Trail | County Boundaries |
| ETD Alternative Segment | Railroad | Inside Special Flood Hazard Area |
| ETD Alternative Polygon | River, Stream or Canal | Outside Special Flood Hazard Area |
| | Water Body | |

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 **SR 808/Glades Rd to SR 794/Yamato Rd.**



Note: Historic properties depicted on this map represent resources listed in the Florida Master Site File excluding archeological site locations, which, pursuant to Chapter 267.135, Florida Statutes, may be exempt from public record (Chapter 119.07, Florida Statutes). Absence of features on the map does not necessarily indicate an absence of resources in the project vicinity.

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.

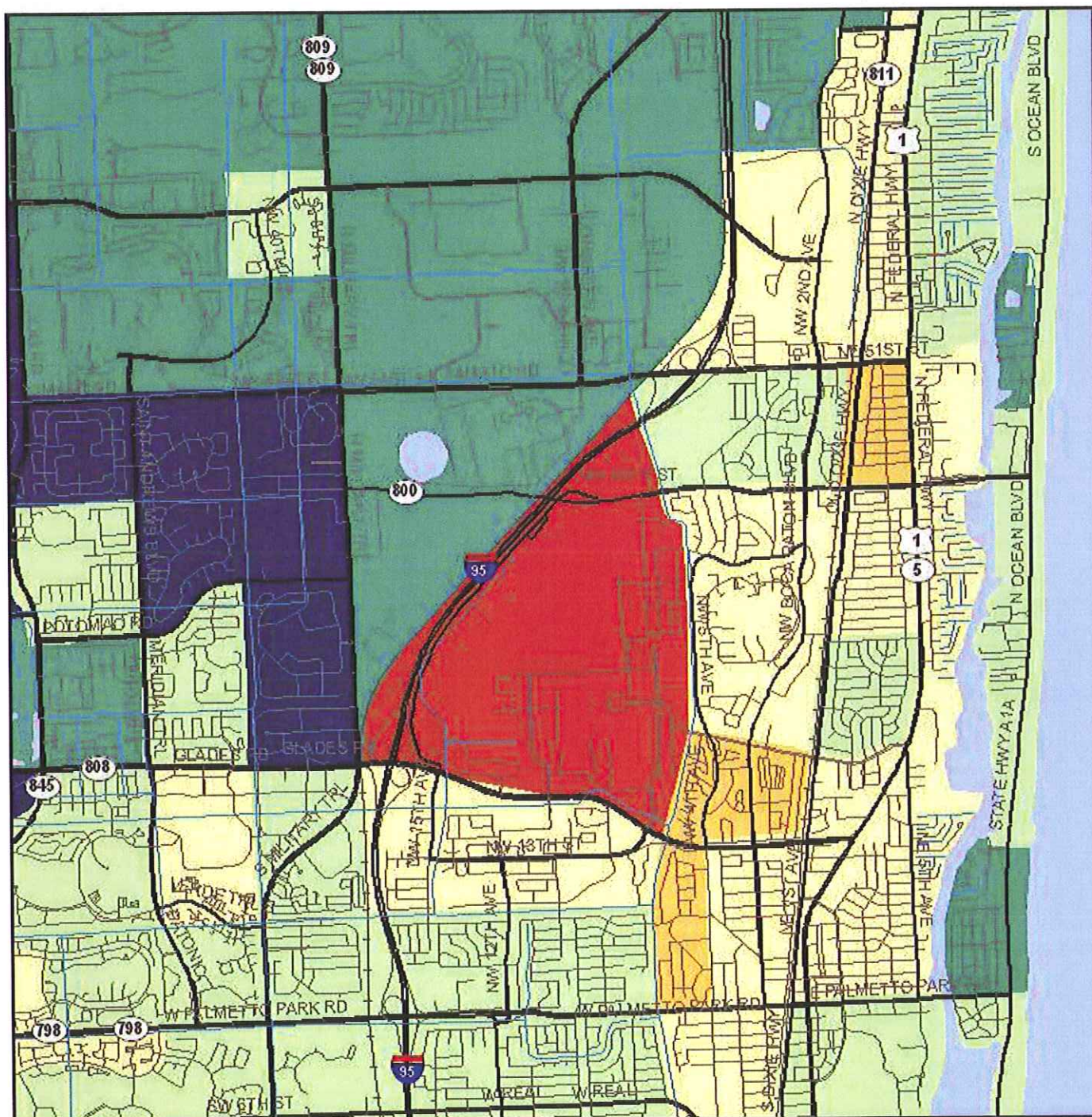


Hydrogeology Resource Map



Data Sources: Geographic Data Technology, Inc.; US Geological Survey; Florida Department of Transportation; South West Florida Water Management District; Florida Geological Survey

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



0 1 Miles

Income Distribution Map

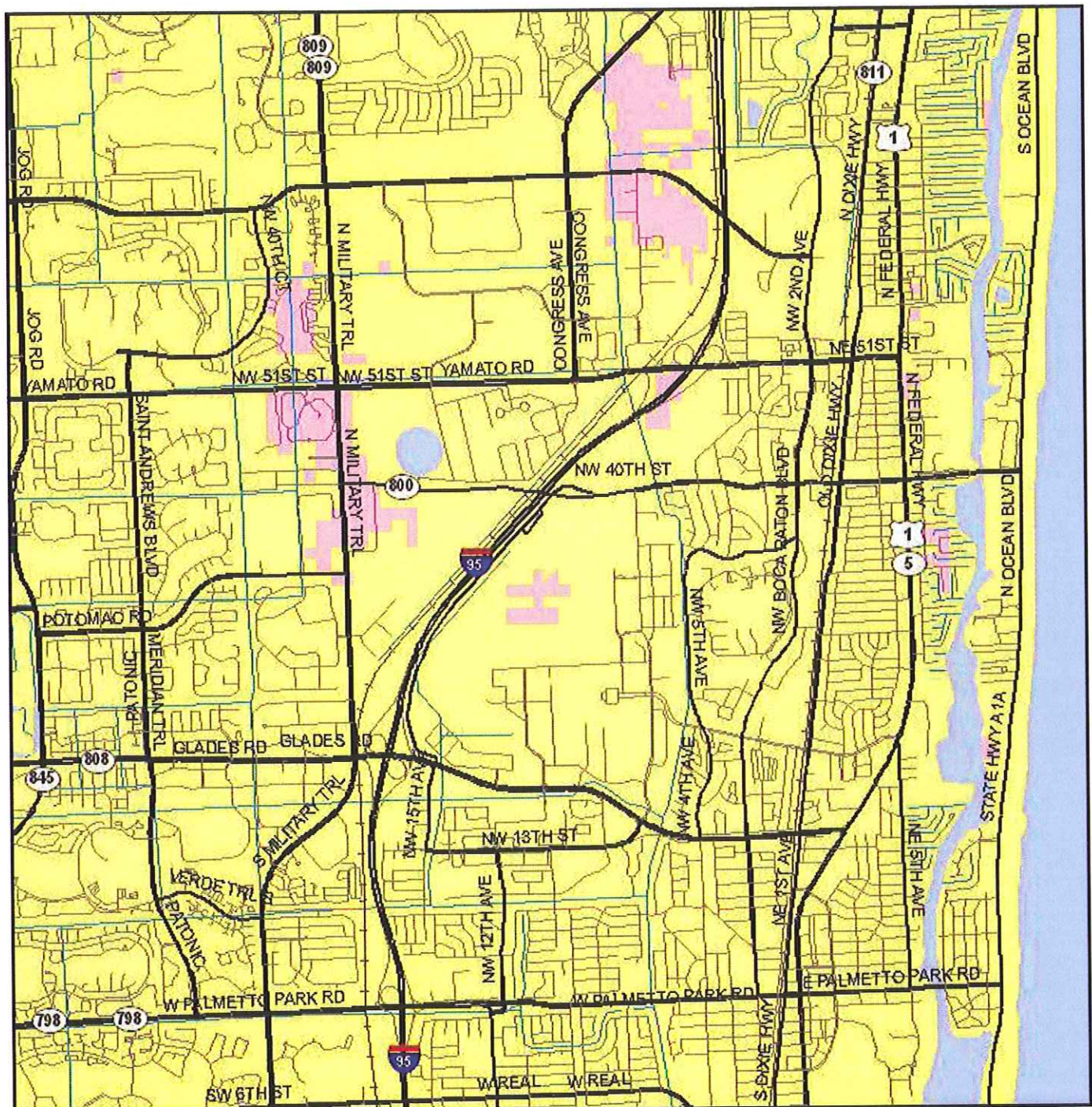


Data Sources:
US Geological Survey
FL Department of Transportation
Geographic Data Technology, Inc.
US Census Bureau

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- > 20% Below Poverty
- Water Body



3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



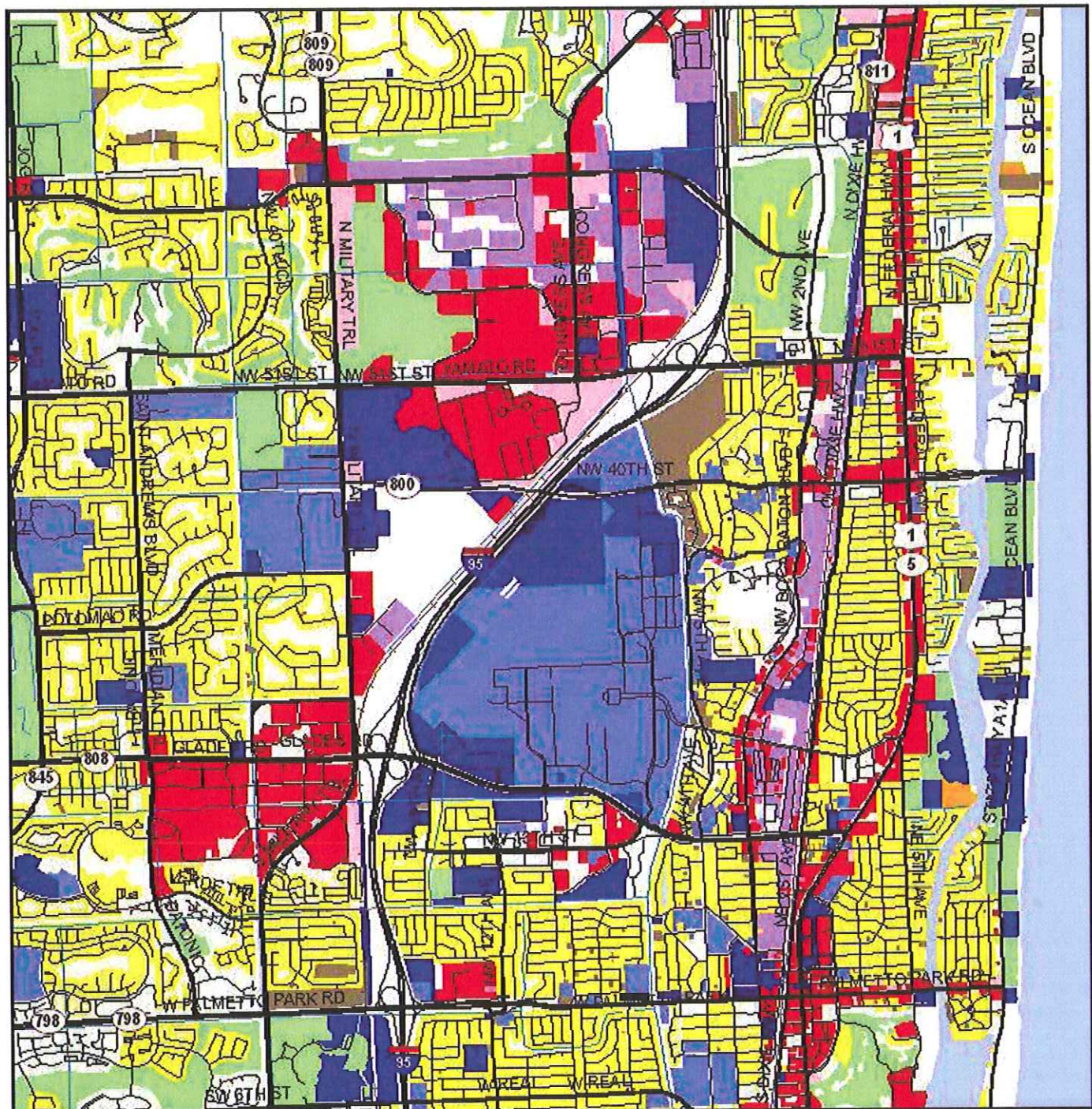
0 1 Miles

Integrated Wildlife Habitat Ranking System Map

Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
Florida Department of Transportation
Florida Fish & Wildlife Conservation Commission

- | | | |
|-----------------------------|--------------------------|--------------------------|
| ● ETDM Alternative Point | — Major Road | ■ Low Habitat Quality |
| ● ETDM Alternative Terminus | — Local Road or Trail | ■ Medium Habitat Quality |
| — ETDM Alternative Segment | — Railroad | ■ High Habitat Quality |
| ■ ETDM Alternative Polygon | — River, Stream or Canal | |
| | ■ Water Body | |

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1
SR 808/Glades Rd to SR 794/Yamato Rd.

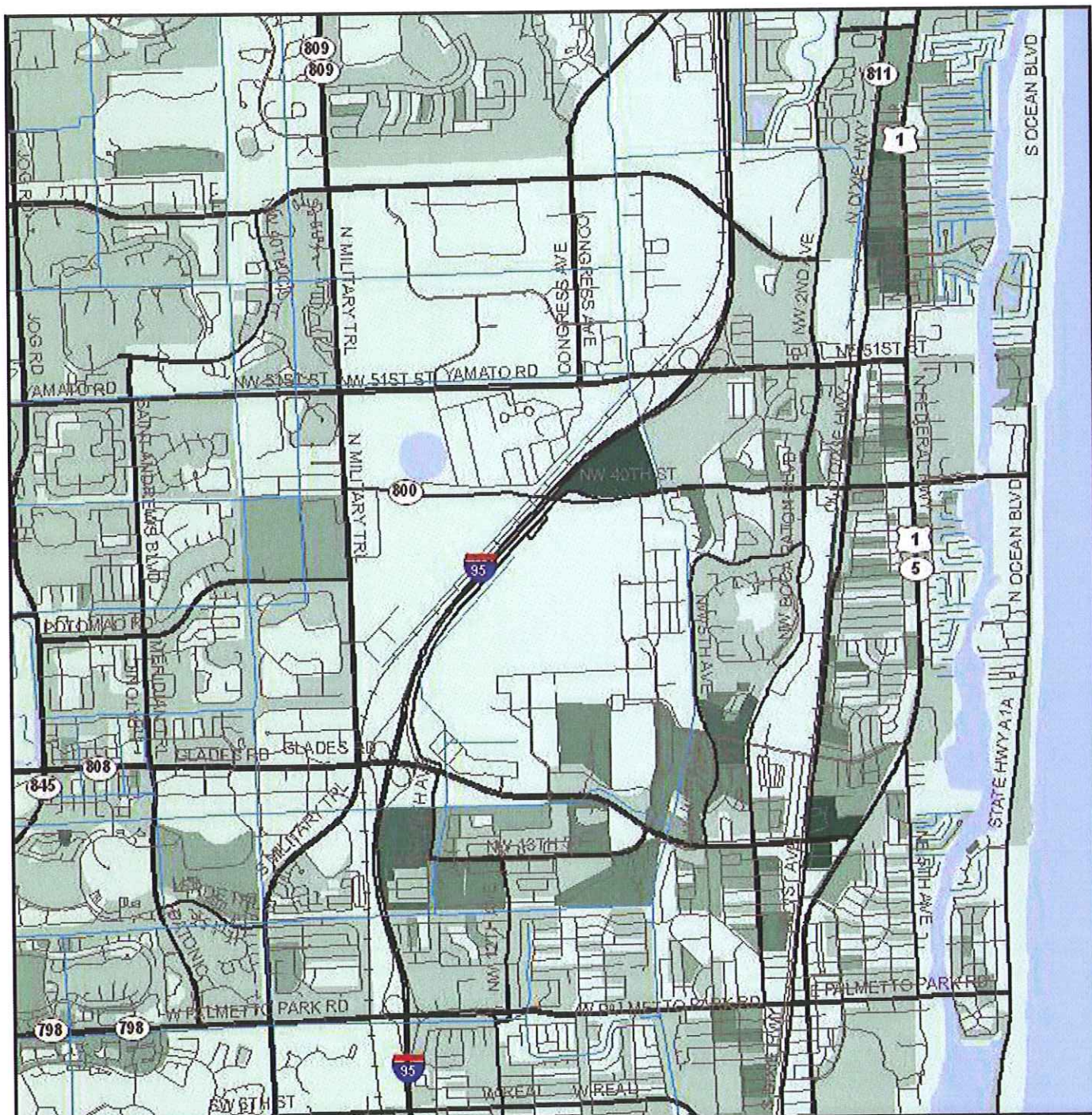


Land Use Map

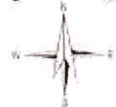
- | | | | |
|-----------------------------|--------------------------|---------------------------|---------------------------|
| ● ETDM Alternative Point | — Railroad | ■ Open (Not Agricultural) | ■ Retail/Office |
| ● ETDM Alternative Terminus | — River, Stream or Canal | ■ Other | ■ Vacant (Residential) |
| — ETDM Alternative Segment | ■ Agricultural | ■ Public | ■ Vacant (Nonresidential) |
| ■ ETDM Alternative Polygon | ■ Industrial | ■ Right-of-Way | ■ Water |
| — Major Road | ■ Institutional | ■ Recreational | □ No Data |
| — Local Road or Trail | ■ Mining | ■ Residential | |

Data Sources:
 Geographic Data Technology, Inc.
 U.S. Geological Survey
 Florida Department of Revenue
 Florida Department of Transportation
 Florida County Property Appraiser Offices

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



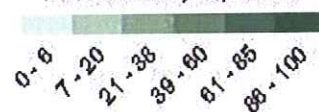
0 0.4 Miles



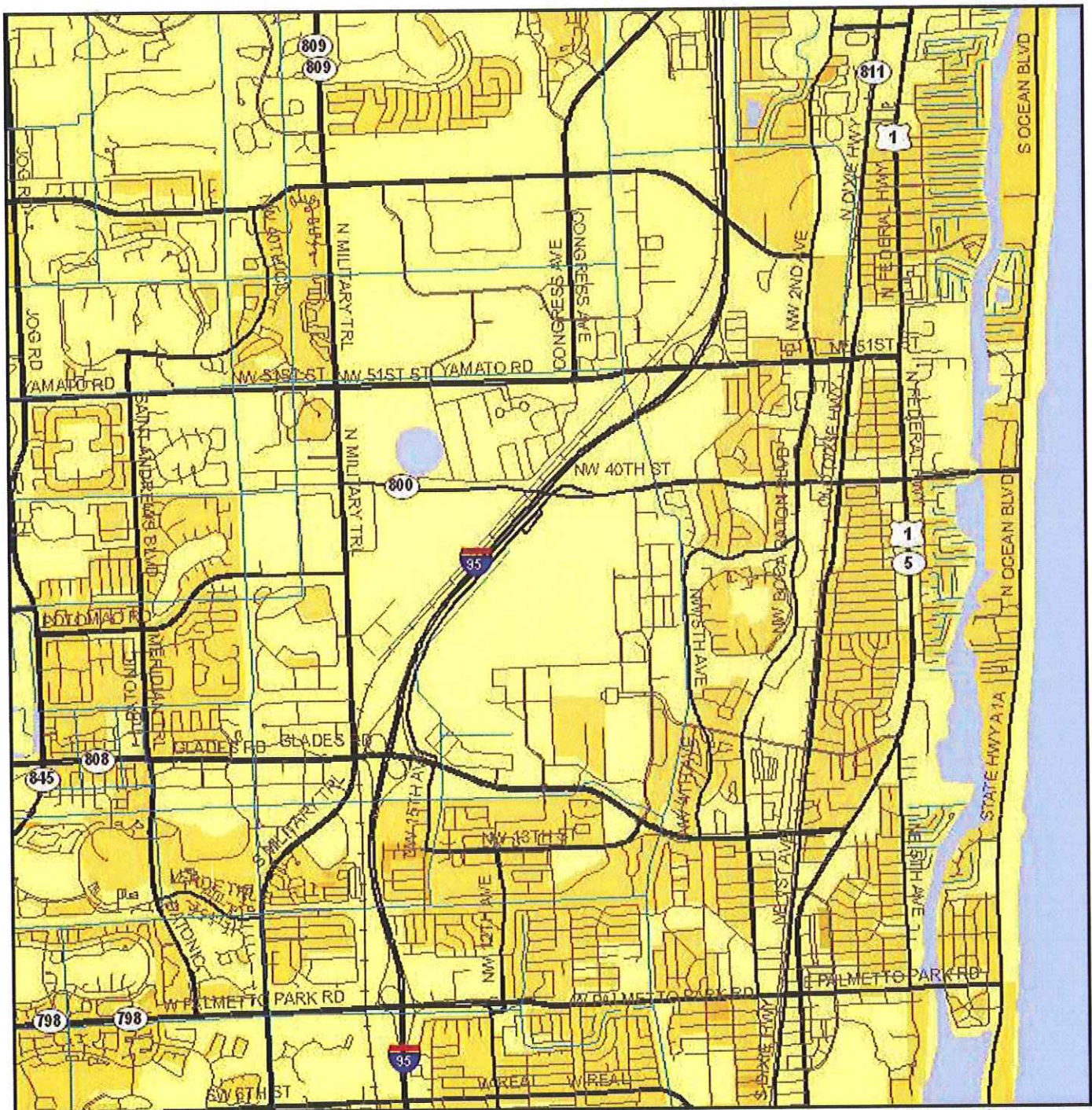
Data Sources:
US Geological Survey
FL Department of Transportation
Geographic Data Technology, Inc.
US Census Bureau

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body

Percent Minority Population



3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



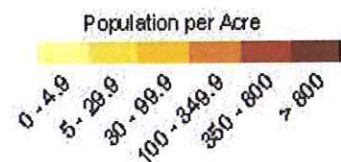
0 0.4 Miles



Data Sources:
US Geological Survey
FL Department of Transportation
Geographic Data Technology, Inc.
US Census Bureau

Population Density Map

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Major Road
- Local Road or Trail
- Railroad
- River, Stream or Canal
- Water Body



3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



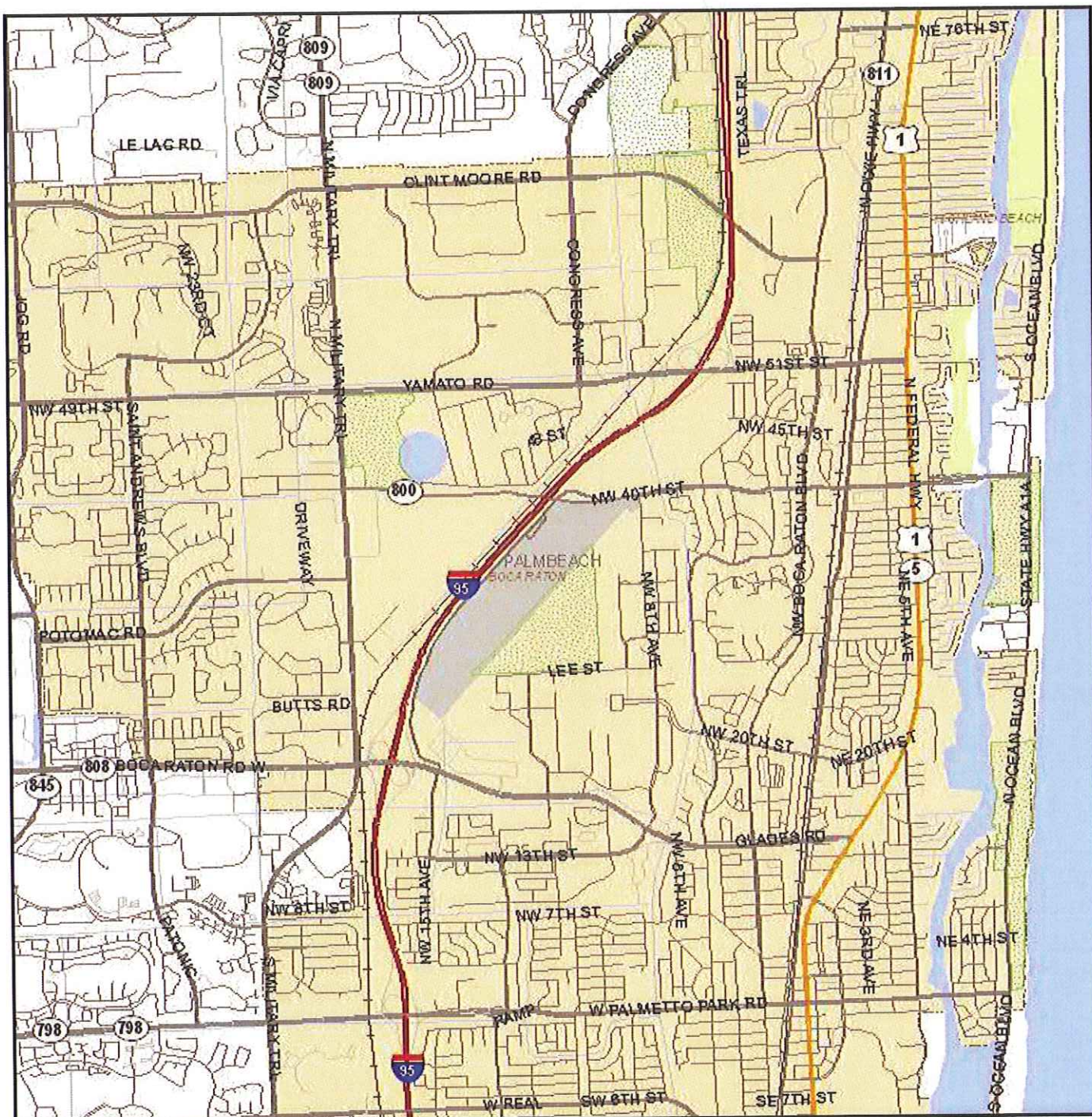
Project Aerial Map



Data Sources:
 Highways - Geographic Data Technology, Inc.
 Digital Orthophotograph - US Geological Survey

- ETDM Alternative Point
- ETDM Alternative Terminus
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Primary and Limited Access Highway
- Secondary, Unlimited Access Highway
- Other Highway Feature

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1
SR 808/Glades Rd to SR 794/Yamato Rd.



Project Location Map

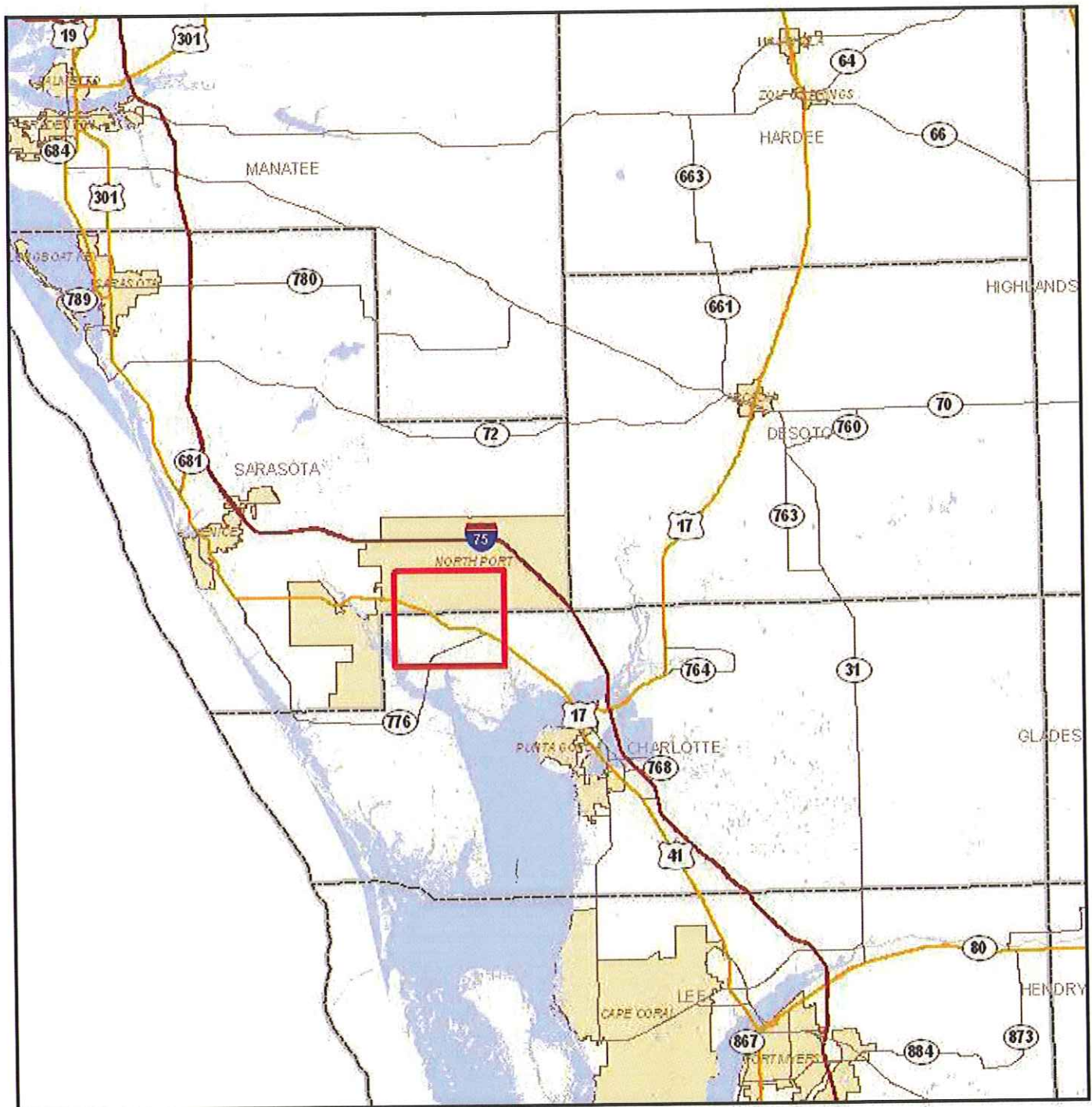
0 0.7 Miles



Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
US Census Bureau
County Property Appraisers
Florida Natural Areas Inventory

- | | | |
|---------------------------|-------------------------------------|-------------------|
| ETDM Alternative Point | Managed Conservation Lands | Toll Road |
| ETDM Alternative Terminus | Primary and Limited Access Highway | Railroad |
| ETDM Alternative Segment | Secondary, Unlimited Access Highway | Airport |
| ETDM Alternative Polygon | Connecting Road | City Limits |
| River, Stream or Canal | Local Road or Trail | County Boundaries |
| Water Body | Other Roadway Feature | |
| Swamp/Marsh | | |

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



County Location Map

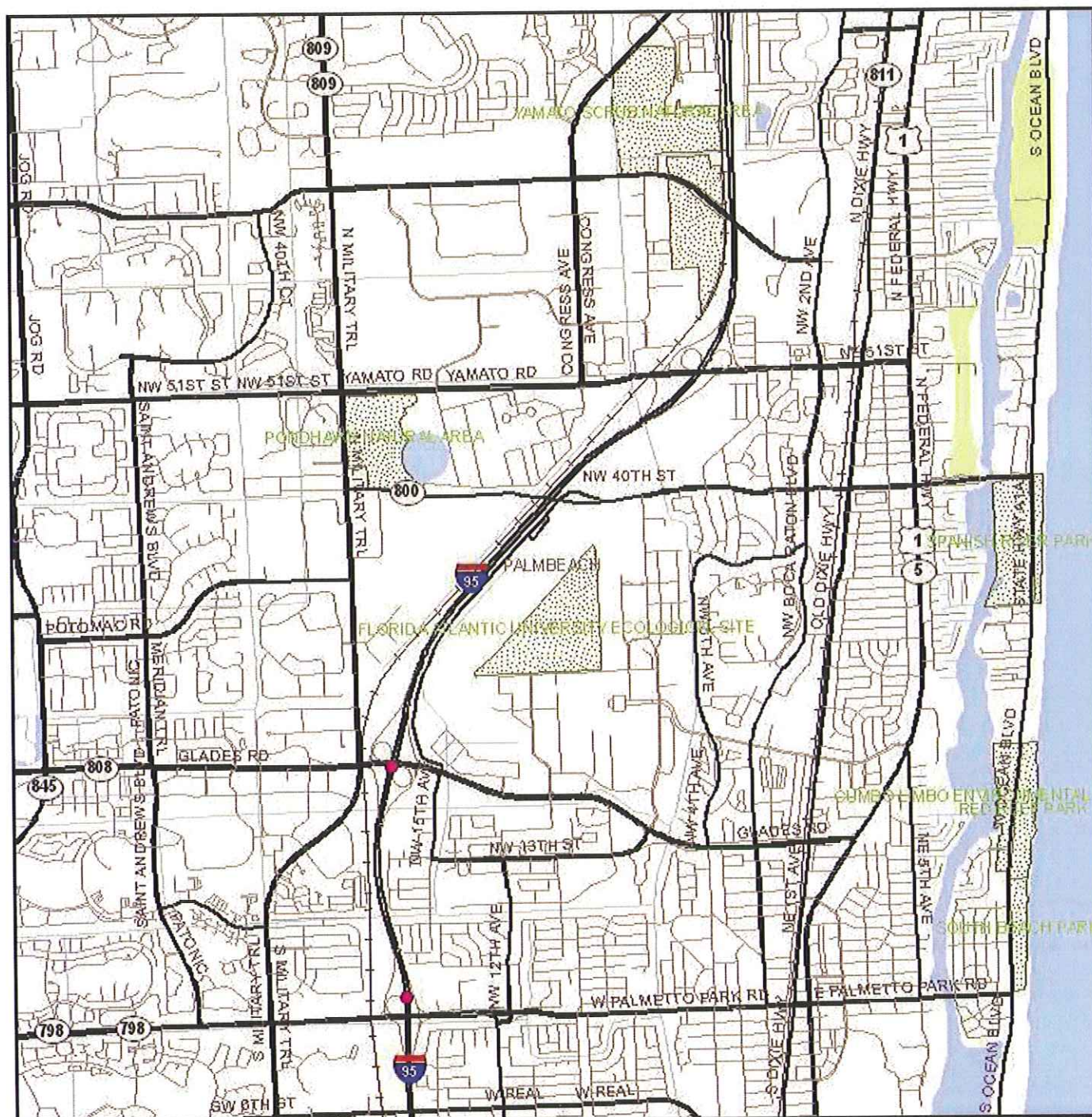
0 20 Miles



Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
US Census Bureau
County Property Appraisers

- ETDM Alternative Point
- ETDM Alternative Segment
- ETDM Alternative Polygon
- Primary and Limited Access Highway
- Secondary, Unlimited Access Highway
- Other Highway Feature
- Water Body
- City Limit
- County Boundary
- Project Extent

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



Conservation and Recreation Area Map

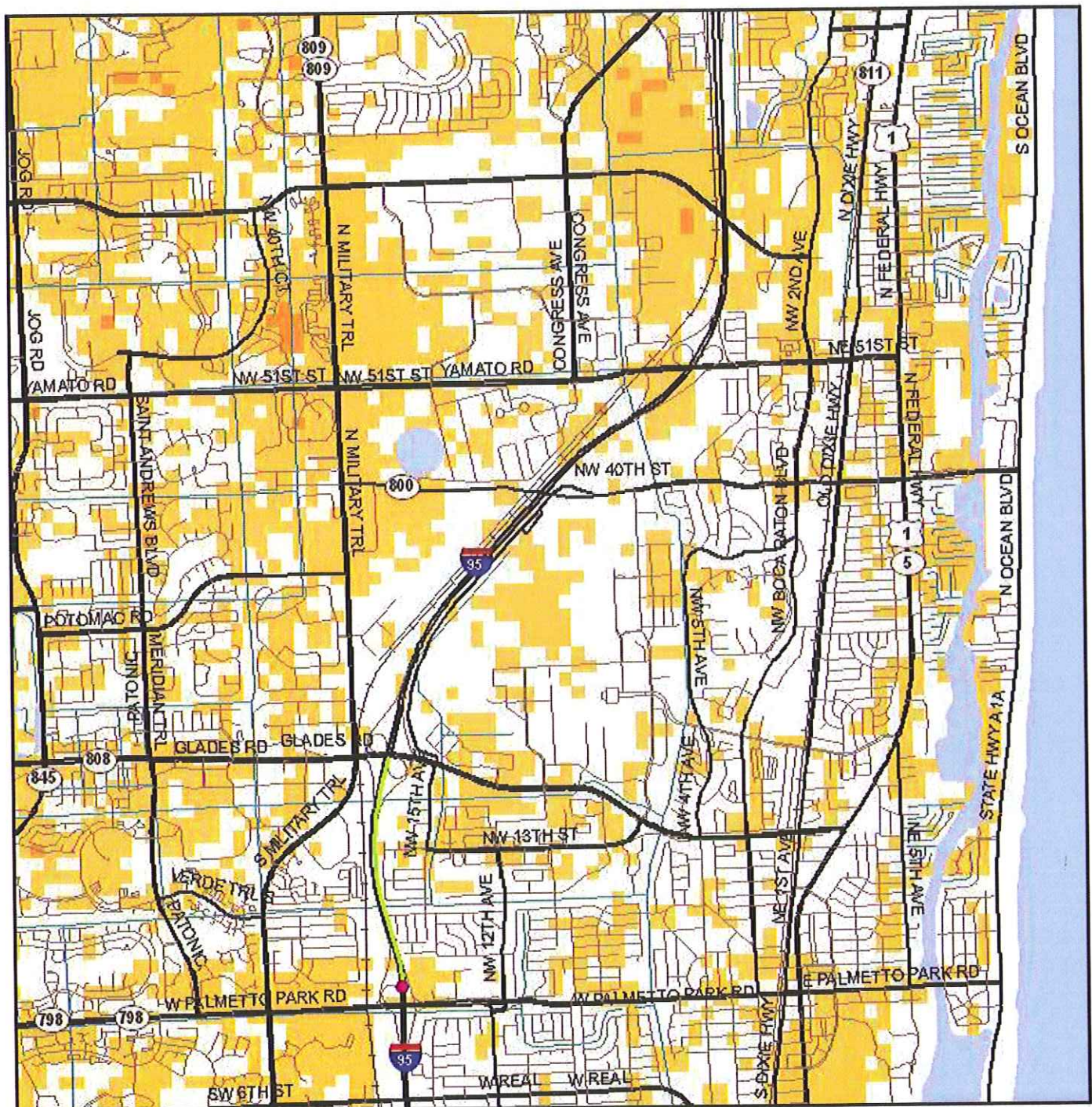
0 1 Miles



Data Sources:
Geographic Data Technology, Inc.
US Geological Survey
Florida Natural Areas Inventory

- | | | |
|-----------------------------|--------------------------|-----------------------------------|
| ● ETDM Alternative Point | — River, Stream or Canal | ▨ Conservation or Recreation Area |
| — ETDM Alternative Segment | ■ Water Body | — Major Road |
| ▨ ETDM Alternative Polygon | ■ Swamp/Marsh | — Local Road or Trail |
| ● ETDM Alternative Terminus | | — Railroad |
| | | ▨ County Boundary |

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1
SR 808/Glades Rd to SR 794/Yamato Rd.



Species Potential Habitat Model Map

0 0.9 Miles



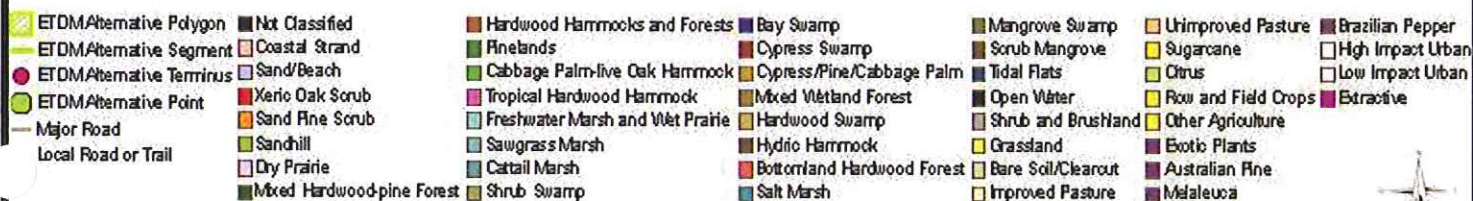
Data Sources:
 Geographic Data Technology, Inc.
 US Geological Survey
 Florida Department of Transportation
 Florida Fish & Wildlife Conservation Commission

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> ● ETD Alternative Point ● ETD Alternative Terminus — ETD Alternative Segment ■ ETD Alternative Polygon | <ul style="list-style-type: none"> — Major Road — Local Road or Trail — Railroad — River, Stream or Canal | <ul style="list-style-type: none"> ■ Water Body <p>Potential Habitat for Focal Species</p> <ul style="list-style-type: none"> ■ 1 - 6 Species ■ 7 - 12 Species ■ 13 - 18 Species ■ > 18 Species |
|---|---|--|

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.

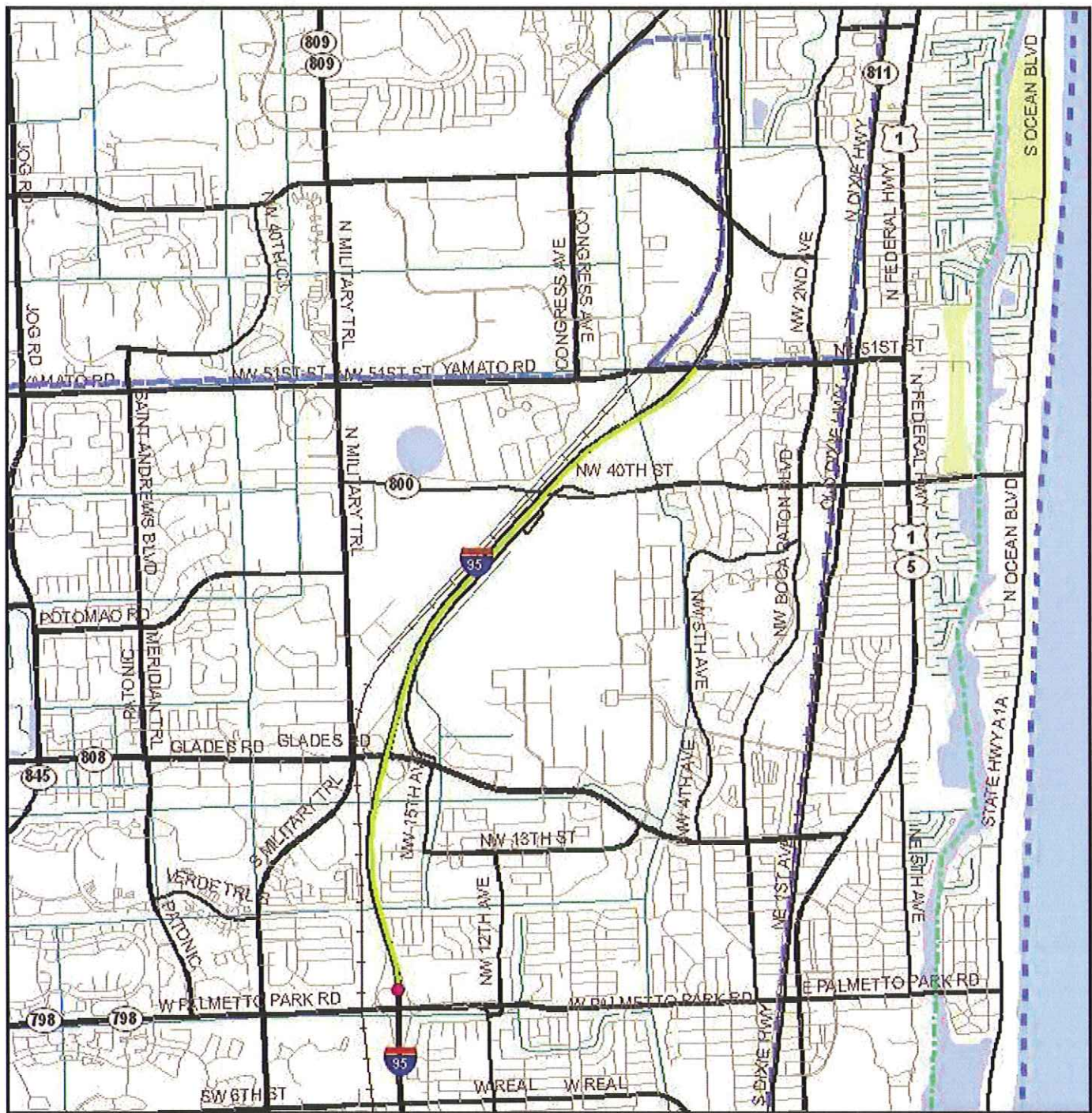


Vegetation and Land Cover Map



Data Sources:
Geographic Data Technology, Inc.; Florida Department of Transportation; Florida Fish and Wildlife Conservation Commission

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1 SR 808/Glades Rd to SR 794/Yamato Rd.



Water Resources Map



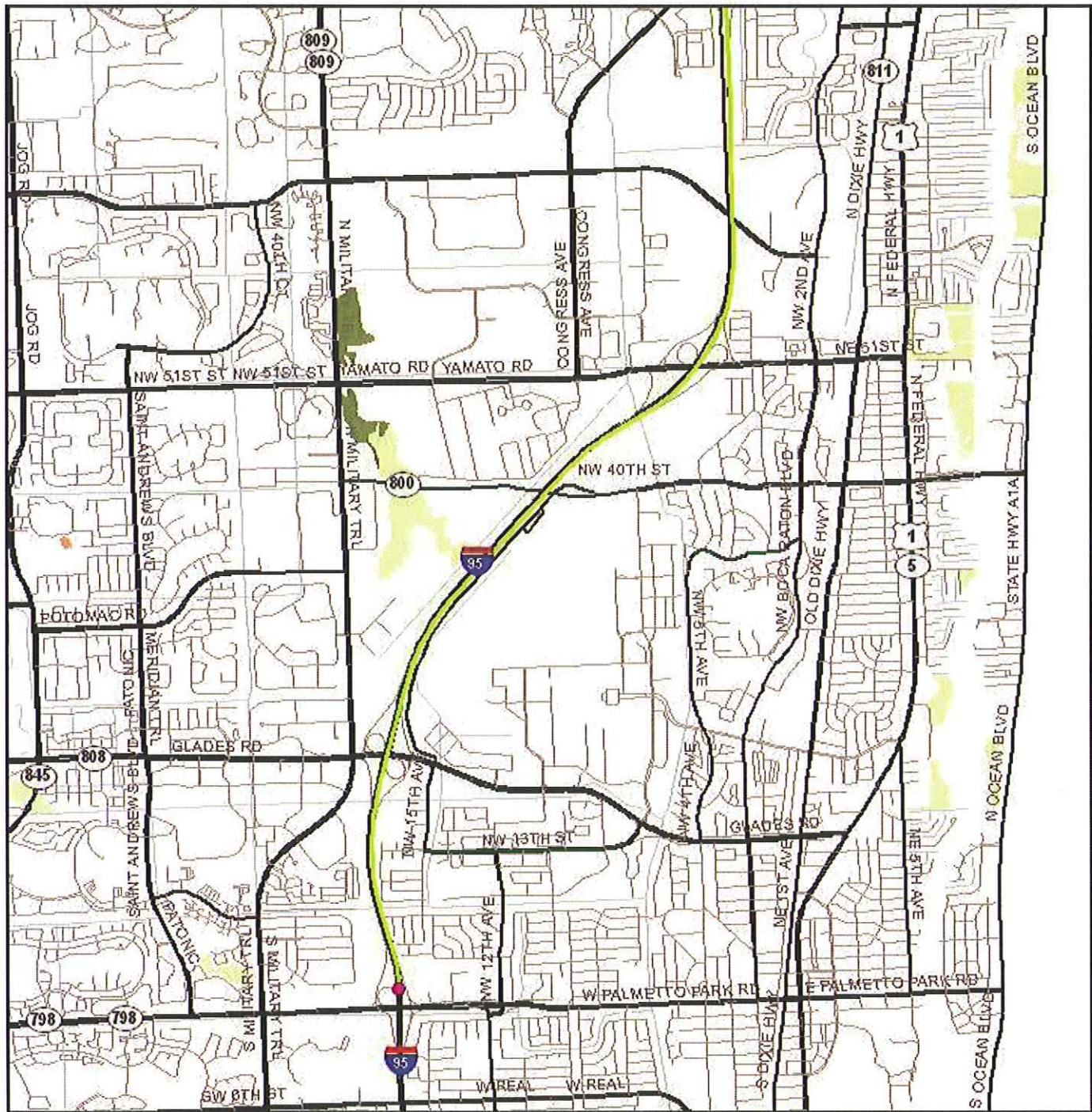
Data Sources:

Geographic Data Technology, Inc.
US Geological Survey

Florida Department of Transportation
Florida Department of Environmental Protection

Florida Geological Survey
US Bureau of Transportation Statistics

3333 I-95 from Glades Rd to Linton Blvd., Alternative #1
SR 808/Glades Rd to SR 794/Yamato Rd.



Wetland Resource Map

0 0.6 Miles



- | | | |
|---------------------------|---------------------------|--------------------------------|
| ETDM Alternative Polygon | River, Stream or Canal | Vegetated Non-forested Wetland |
| ETDM Alternative Segment | Water Body | Non-vegetated Wetland |
| ETDM Alternative Terminus | Wetland Hardwood Forest | Cut Over Wetland |
| ETDM Alternative Point | Wetland Coniferous Forest | Wetland Scrub Shrub |
| Major Road | Wetland Forested Mixed | |
| Local Road or Trail | | |

Data Sources: Geographic Data Technology, Inc.; Florida Water Management Districts; US Geological Survey

Appendices

Legend			
Color Code	Meaning	ETAT	Public Involvement
0	None	The issue is present, but the project will have no impact on the issue; project has no adverse effect on ETAT resources; permit issuance or consultation involves routine interaction with the agency.	No community opposition to the planned project. No adverse effect on the community.
1	Enhanced	Project has positive effect on the ETAT resource or can reverse a previous adverse effect leading to environmental improvement.	Affected community supports the proposed project. Project has positive effect.
2	Minimal to None	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low cost options are available to address concerns.	Minimum community opposition to the planned project. Minimum adverse effect on the community.
3	Moderate	Agency resources are affected by the proposed project, but avoidance and minimization options are available and can be addressed during development with a moderated amount of agency involvement and moderate cost impact.	Project has adverse effect on elements of the affected community. Public Involvement is needed to seek alternatives more acceptable to the community. Moderate community interaction will be required during project development.
4	Substantial	The project has substantial adverse effects but ETAT understands the project need and will be able to seek avoidance and minimization or mitigation options during project development. Substantial interaction will be required during project development and permitting.	Project has substantial adverse effects on the community and faces substantial community opposition. Intensive community interaction with focused Public Involvement will be required during project development to address community concerns.
5	Dispute Resolution	Project does not conform to agency statutory requirements and will not be permitted. Dispute resolution is required before the project proceeds to programming	Community strongly opposes the project. Project is not in conformity with local comprehensive plan and has severe negative impact on the affected community.
	No ETAT Consensus	ETAT members from different agencies assigned a different degree of effect to this project, and the ETDM coordinator has not assigned a summary degree of effect.	
	No ETAT Reviews	No ETAT members have reviewed the corresponding issue for this project, and the ETDM coordinator has not assigned a summary degree of effect.	

Supporting Documents

No attachments found